Jersey Central Power & Light
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Via email to EVStakeholder.Group@bpu.nj.gov

Michael Winka
New Jersey Board of Public Utilities
Office of Clean Energy
44 South Clinton Avenue
P.O. Box 350
Trenton, New Jersey 08625

Re: Request for Comments – New Jersey Electric Vehicle Infrastructure

Dear Mr. Winka:

Jersey Central Power & Light Company ("JCP&L" or the "Company") is pleased to submit comments on the Board of Public Utilities ("BPU") Staff's ("Staff") request for comments regarding "New Jersey Electric Vehicle Infrastructure" issued September 6, 2017. JCP&L thanks the BPU for allowing the EDCs as well as other interested parties to have the opportunity to comment on this important emerging innovative issue. The Company supports the deployment of electric vehicles and electric vehicle supply equipment ("EVSE"), including charging infrastructure development.

The Company provided its formal comments in response to Staff's Task 1 questions on October 16, 2017. This document represents JCP&L's comments regarding the questions identified as Task 2 which were as follows:

1. What goals for EV infrastructure should be established?

2. What role should the Board, other government agencies; electric utilities, non-governmental organizations and the private market have in addressing EV infrastructure/adoption?

3. What is the present status of EVs and EV infrastructure in New Jersey?

4. What EV/EV infrastructure developments can be expected in the short/medium term under a Business as Usual scenario?

1.) What goals for EV infrastructure should be established?

The Company suggests that before specific numerical goals be set, such as number of installed chargers and locations, the opportunities and challenges for infrastructure build-out should first

be identified. As is currently in progress, policies that support electric vehicle infrastructure must be clarified. In addition, the industry and policymakers must recognize and support that distribution platform enhancements are necessary to enable increased penetration of PEVs on the utility electric system while maintaining reliability and resiliency. Large scale deployment of EV infrastructure is expected to result in significant intermittent load for which the utility electric system must be adequately planned. Optimal siting of EV chargers may not be in locations in which sufficient capacity and capability in the utility electric system may presently exist, necessitating coordination with PEV infrastructure build-out. With that being said, PEV promotion and customer requirements must be satisfied while maintaining integrity of the utility electric system. A well-planned build-out of EV infrastructure will help foster economic development, as well as support the economic and environmental benefits of PEVs for the state, the industry and the utilities and their customers. Appropriate recovery mechanisms must be in place to support utility efforts to extend and enhance the utility infrastructure necessary to support a growing EV infrastructure presence. As charging technology continues to evolve, there should be support for the development of advanced charging technologies that enable further integration of EVs into the utility electric system.

2.) What role should the Board, other government agencies; electric utilities, non-governmental organizations and the private market have in addressing EV infrastructure/adoption?

Utilities, government agencies and the private sector should create a sustainable partnership to support the expansion of the electric vehicle market. At this juncture, more can be accomplished collaboratively rather than positioning to carve-up the market. JCP&L does not believe that utility involvement is adverse or counter to private sector development; but, quite to the contrary, utility involvement could provide the stability needed in the market for private sector manufacturers and investors to make the necessary commitments and investments to bring EVs into the mainstream. To accelerate EV infrastructure development, policymakers, such as the BPU, should consider the positions of and potential contributions of all stakeholders in developing its plans to further EV adoption in NJ. JCP&L believes that the electric utilities' role in EV infrastructure development is obvious and represents the catalyst needed to make real and measurable progress for EV adoption. Regulated electric utilities are well positioned to develop public electric vehicle charging infrastructure, particularly in early market transportation development phases. Utility engagement from the beginning of the process is essential, and not only until deployment has reached "critical mass." Utilities can plan and manage regular maintenance to avoid long EV service equipment downtime, optimize EV charging retail rates, and plan and commit to long-term infrastructure build-outs. Electric utilities also can identify EV charging stations sites in optimal locations across the service territory, taking into account low income/disadvantaged neighborhoods, travel corridors (which can help induce tourism) and optimal placement for grid interconnections. When the electric utilities have the opportunity to receive full and timely cost recovery, planning for and installation of public infrastructure is more likely to be where it is most suitable to enable greater EV adoption and thus, maximize deployment and environmental benefits.

Utilities engage with technology research experts and policymakers to better understand how electric vehicles impact the electric grid. System impacts and customer requirements related to PEVs need to be better understood. Any grid enhancements must then be implemented to support the roll-out and adoption of PEVs. Utilities can inform policymakers and customers on the

integration and transition of PEVs and the challenges and benefits of incorporating PEVs into their vehicle fleets. If the desire is to accelerate the development of an EV infrastructure as quickly and as broadly as possible, EDCs are uniquely situated to ensure there are no geographic gaps in the charging system that could lead to underserved populations. For these reasons, utility ownership of and cost recovery for charging infrastructure should be permitted.

3.) What is the present status of EVs and EV infrastructure in New Jersey?

According to a recent EPRI study done for JCP&L about EVs and Infrastructure in New Jersey, there are approximately 11,000 electric vehicles registered in New Jersey as of January 2017. This places the state at 10th in the nation for the number of EVs and 13th when measuring as EVs per capita. The public charging infrastructure supporting electric vehicles is located primarily along main commute routes, with most of the DC Fast public charging infrastructure is located along the I95/I295 corridor. The public DC Fast network consists mainly of Tesla Superchargers, EVgo, ChargePoint and non-networked locations. The non-networked stations are located at Nissan Dealerships, schools and public workplace charging. Tesla Supercharger locations are usually spaced between 100- 200 miles apart. EPRI reports that there are 42 DC Fast charging locations with a total of 114 individual connectors. Public Level 2 chargers are at 248 locations with 481 total connectors. Between 20% and 25% of these are located at car dealerships, followed by workplace chargers and parking garage/lot locations.[1]

4.) What EV/EV infrastructure developments can be expected in the short/medium term under a Business as Usual scenario?

The "business as usual" approach perpetuates the "catch-22" that exists with furthering EV adoption. The public is reluctant to purchase EVs due to range anxiety (i.e., insufficient charging facilities) and the manufacturers and entrepreneurs are unwilling to invest in charging facilities in hopeful expectation that EVs will be more widely adopted. Therefore, without departure from "business as usual" there is unlikely to be an acceleration in EV adoption. Utilities are well-positioned to implement state policy objectives, with Board oversight, and to invest in and develop this electric infrastructure, efficiently and economically.

The EPRI report did not present a projection for the short/medium term under a business as usual scenario. Instead they publish bounding scenarios for vehicle sales based on a number of continually updated models. EPRI projects a lower, middle and upper bound for New Jersey based on its models, and updates these projections each year based on the current number of EVs in the state. At the upper-end of the range, estimates place approximately 340,000 EVs in the New Jersey by 2025 while estimates at the lower-end of the range project only 31,000.[2] The majority of PEV charging will occur at home at either Level 1 or Level 2 capacity and some will occur at non-home locations either by Level 2 or DCFC.

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1 Electric Vehicles in New Jersey: Current and Future Vehicles Sales and Charging Infrastructure; Electric Power Research Institute - Electric Transportation; August 31, 2017 Report for JCP&L: Jamie Dunckley, Dan Bowermaster, Marcus Alexander

2 Electric Vehicles in New Jersey: Current and Future Vehicles Sales and Charging Infrastructure; Electric Power Research Institute - Electric Transportation; August 31, 2017 Report for JCP&L: Jamie Dunckley, Dan Bowermaster, Marcus Alexander.

In closing, as suggested in earlier comments, the regulated EDCs are well positioned to develop public electric infrastructure in support of state policy objectives. In order to promote this development, the BPU should consider the advantages and societal benefits for EDCs to identify locations and install the infrastructure required to support EV operation, including ownership of EV charging stations, while providing cost recovery through a non-bypassable rider mechanism on a full and current basis.[3] When the EDCs have the opportunity to receive adequate and timely cost recovery, planning for and installation of public infrastructure is more likely to be where most suitable to enable greater EV adoption and thus, maximize attainment of the associated energy efficiency and environmental benefits cited above.

The Company appreciates the opportunity to provide these comments, and hopes to continue to work with and be helpful to Staff as it works toward further development of electric vehicle infrastructure in New Jersey. If there are any questions, please contact me.

Very Truly Yours,

Thomas R. Donadio

3 JCP&L envisions rider recovery with rider related rate base moved into base rates during future rate cases.