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October 16, 2020

VIA E-MAIL

Aida Camacho-Welch, Secretary
Board of Public Utilities
44 South Clinton Ave., 9th Floor
P.O. Box 350
Trenton, NJ 08625-0350

Re: In the Matter of the Petition of Public Service Electric and Gas Company for Approval of its Clean Energy Future - Electric Vehicle and Energy Storage ("CEF-EVES") Program on a Regulated Basis
BPU Docket No. EO18101111

Dear Secretary Camacho-Welch:

This firm represents Electrify America, LLC ("Electrify America") in the above-captioned proceeding. We are submitting herewith the Prepared Rebuttal Testimony of Jigar J. Shah on behalf of Electrify America.

Given current circumstances, we are making this filing electronically only, and serving copies on the service list electronically.

Respectfully,

COZEN O'CONNOR, PC

By: William Lesser

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Attachments

BEFORE THE
STATE OF NEW JERSEY
BOARD OF PUBLIC UTILITIES

IN THE MATTER OF THE PETITION OF PUBLIC SERICE ELECTRIC AND GAS COMPANY FOR APPROVAL OF ITS CLEAN ENERGY FUTURE-ELECTIC VEHICLE AND ELECTRIC STORAGE ("CEF-EVES") PROGRAM ON A REGULATED BASIS	: : : : : : :	BPU DOCKET NO.: EO18101111

PREPARED REBUTTAL TESTIMONY OF JIGAR J. SHAH ON BEHALF OF ELECTRIFY AMERICA, LLC.

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October 16, 2020

I. INTRODUCTION AND SUMMARY

Q. PLEASE STATE YOUR NAME AND BUSINESS ADDRESS.

A. My name is Jigar J. Shah. My business address is 2003 Edmund Halley Drive, 2nd Floor, Reston, Virginia 20191.

Q. ARE YOU THE SAME JIGAR J. SHAH WHO FILED DIRECT TESTIMONY IN THIS PROCEEDING ON SEPTEMBER 4, 2020?

A. Yes, I am.

Q. WHAT IS THE PURPOSE OF YOUR REBUTTAL TESTIMONY?

A. The purpose of my rebuttal testimony is to respond to the direct testimony of the Division of Rate Counsel's witnesses, Ezra D. Hausman, Ph.D., Dante Mugrace, and David E. Peterson, and to respond to the direct testimony of Zeco Systems Inc. d/b/a Greenlots' ("Greenlots") witness Joshua J. Cohen. With respect to the direct testimony of the Division of Rate Counsel's witnesses, I discuss Electrify America's position that Public Service Electric and Gas Company's ("PSE&G") petition should be granted with certain modifications set forth in my direct testimony and that the Board should implement demand charge reform to incentivize and encourage continued development and investment in EV infrastructure in New Jersey that will allow the State to meet its goals of electrification of the transportation sector in order to reduce greenhouse gas emissions. With respect to the testimony of Greenlots' witness, I discuss Electrify America's position that the Board should adopt the shared responsibility approach in this proceeding and that PSE&G's role as an owner or operator of EV infrastructure should be limited to a last resort measure.

II. REBUTTAL TO DIVISION OF RATE COUNSEL DIRECT TESTIMONY

Q. PLEASE SUMMARIZE THE RECOMMENDATIONS OF THE DIVISION OF RATE COUNSEL'S WITNESSES.

A. The Division of Rate Counsel's Witness Ezra D. Hausman, Ph.D. testifies that the Board should not approve PSE&G's proposals at this time. Among other reasons, Dr. Hausman finds the proposals premature as the Board has not yet issued a ruling on Staff's Straw Proposal recommendations or established guidelines for utility involvement in the Electric Vehicle ecosystem. (Hausman Direct Testimony 5:1-13). The Division of Rate Counsel's Witness Dante Mugrace similarly testifies that PSE&G's proposals do not benefit ratepayers as a whole and that the costs of the proposals should not be recovered by all ratepayers but rather by those that will benefit from these programs. (Mugrace Direct Testimony 9:17-10:14). The Division of Rate Counsel's Witness David E. Peterson also has an unfavorable view of PSE&G's proposals program based on principles of ratemaking policy and recommends that any subsidization of PSE&G's proposals by ratepayers should be rejected by the Board. (Peterson Direct Testimony 6:1-8, 8:17-9:4).

Q. DO YOU AGREE WITH THE RECOMMENDATION THAT PSE&G'S PETITION SHOULD BE DENIED IN ITS ENTIRETY?

A. No. As stated in my direct testimony, the Board should approve PSE&G's petition with certain modifications, including: (i) exempt public charging stations from the Technology Innovation Charge ("TIC") in order to not exacerbate the adverse effects of PSE&G's existing demand charges; (ii) approve a modified Public DC Fast Charging Make-Ready incentive program that allows EVSE infrastructure companies flexibility to develop infrastructure that meets customer needs without an onerous solicitation process or data sharing obligations that may introduce technology integration, privacy, cybersecurity, and administrative burdens; (iii) approve a marginal cost, permanent EV rate or incentive that provides effective utility rates for electricity delivered to public charging stations that are commensurate with if not lower than those for residential charging in order to create equitable incentives for adopting electric transportation between those that have access to charging at home and those that do not; (iv) implement sufficient incentives now which address undue barriers to the private sector investing in the build out of a competitive EV charging marketplace in New Jersey; and (v) defer consideration of ratepayer subsidized, utility-owned and operated charging infrastructure until after those incentives have been put into place and have taken effect. (Shah Direst Testimony 6:4-7:14). Further, the contention that ruling on PSE&G's proposals would be premature is no longer an issue as the Board issued an Order Adopting the Minimum Filing Requirements for Light-Duty, Publicly-Accessible Electric Vehicle Charging, in *In the Matter of Straw Proposal on Electric Vehicle Infrastructure Build Out*, Docket No. QO20050357, on September 23, 2020 (the "Straw Proposal Order"). This Order, among other things, requires EDCs to file EV proposals that incorporate the minimum requirements contained in the Order and provides that "[a]ny electric vehicle proposal currently filed with the Board on or before this Order need not be refiled; however, the Board **DIRECTS** Staff to use this Order to inform its position on any current or future proposals." (Straw Proposal Order at 26).

Q. WHY DOES THE DIVISION OF RATE COUNSEL FAVOR DENIAL OF PSE&G'S PROPOSALS?

A. The Division of Rate Counsel finds that the proposals suggested by PSE&G are weighed toward subsidizing a small set of higher-income customers who can afford EVs at the expense of all of PSE&G's ratepayers, what Dr. Hausman calls a "reverse Robin Hood effect." (Hausman Direct Testimony 18:1-5); (*see also* Mugrace Direct Testimony 9:17-10:14) ("Requiring all Company customers to pay for the entire program is not equitable. To ask all ratepayers to subsidize the Company's proposed program is not reasonable.");

(Peterson Direct Testimony 7:23-9:4) ("A false economic savings will result if the prospective buyer relies on a subsidized costs of electric vehicle charging, as will occur under PSE&G's EVES Program. The false economic savings occur because PSE&G's general body of non-electric vehicle customers have been forced to subsidize the EVES Program, conferring a non-cost-based benefit on a select few customers that are able to purchase an electric vehicle.").

Q. DO YOU AGREE THAT SUBSIDIZATION WOULD BE NECESSARY FOR DEMAND CHARGE REFORM OR IN ORDER TO IMPLEMENT A DEMAND CHARGE REBATE PROPOSAL?

A. No. As discussed above, Electrify America recommends that PSE&G incorporate demand charge reform and a DCFC make-ready incentive program into its proposals, and it is Electrify America's position that this would not involve an additional cost requiring subsidization. The proper establishment of rates on a marginal cost basis would incentivize greater commercial EV adoption and recruitment of incremental load during the critical developing years of the commercial EV market. It would also better reflect the true cost of serving new commercial EV load on the system. Electrify America submits that there is no substantiated 'additional cost' to support high volume, short duration loads at public charging stations once respective line extension costs have been paid. Electrify America relies on Great Plains Institute, *Overcoming Barriers to Expanding Fast Charging Infrastructure in the Midcontinent Region* (2019), which states the following regarding demand charge limiter provisions, with an emphasis on how such provisions reflect cost-causation: "There is a widely recognized cost basis for the limiter provision. At the charging session lengths and utilization levels studied in the analysis for this white paper, DCFC stations load factors reached a maximum of 11.5 percent while having relatively high peak demands. As customer load factors progressively decline from an average level across the customer base, the probability of a customer peak demand occurring during a system peak times drops at a faster rate than the load factor. This relationship is known as the 'Bary Curve' in the electric utility industry." Thus it is my position that rates for EV charging should be set at marginal cost, which has historically been done for economic development and business attraction rates. Application of the "Bary Curve" provides that demand charges in their current form do not appropriately reflect cost-causation for low-load factor EV charging infrastructure. Because PSE&G's revenue requirements are based upon historical expenditures (embedded costs), its rates are set to recover these embedded costs and load factors that do not reflect the unique low-load factor nature of DC fast charging. However, the historical investments in PSE&G's system exist regardless of this new EV charging load and were not incurred because of it, so setting rates at marginal cost better reflects the actual cost new commercial EV load imposes on PSE&G's system. Instead of questioning ratepayer subsidization, and thereby assuming it to be necessary in order to implement demand charge reform, one should ask instead why low-load factor EVSE providers should be subsidizing electric public utility customers through an antiquated demand charge framework when such a framework inhibits electric vehicle adoption in the state.

Q. PLEASE DESCRIBE THE DIVISION OF RATE COUNSEL'S CONCERNS WITH PSE&G'S COST RECOVERY PROPOSAL.

A. The Division of Rate Counsel's concern with PSE&G's cost recovery proposal is that it exceeds the scope of an electric utility's franchise in New Jersey and "[e]ven if the costs of EV infrastructure were to be incurred by a utility and recovered in rates, these costs should be borne by EV drivers and not socialized to other ratepayers who do not own, and cannot afford, these premium products." (Hausman Direct Testimony 29:2-30:10); (*see also* Mugrace Direct Testimony 9:17-10:14) ("I believe that if the Board were to approve this filing, then these costs should not be fully recovered by all ratepayers, but rather recovered from ratepayers that will benefit from these programs. In other words, the cost of these programs should not be socialized but, rather, targeted to certain customer classes."); (Peterson Direct Testimony 8:10-15) ("[I]f any of PSE&G's EV programs are approved by the Board, Rate Counsel supports pricing those programs on a cost of service basis though a separate EV rate schedule. In that way, EV loads and associated costs can be identified separately in a class cost of service study and rates for EV services can be appropriately priced based on a cost of service basis.").

Q. DO YOU HAVE A RESPONSE TO THESE CONCERNS?

A. Yes. As provided in my direct testimony, the nascent nature of the public charging network and EV industry in New Jersey, which will grow to meet the goals of the New Jersey Energy Master Plan and the Clean Energy Act, requires a rate that will encourage investment in that network. Electrify America consistently advocates that fixed charges and demand charges present a barrier to expanded DCFC investment and therefore widespread transportation electrification. (Shah Direct Testimony 4:19-5:21). New Jersey has made it a goal to increase widespread plug-in vehicle adoption based largely on the associated environmental benefits. As stated in the Straw Proposal Order, "New Jersey's transportation sector accounts for 42% of the state's net greenhouse gas emissions, making it the largest emissions source in the state and a critical place to start when tackling the issue of reducing emissions." (Straw Proposal Order at 1). In 2020, the State enacted the PIV Act, finding that "vehicle electrification offers a wide range of benefits, such as improved air quality, reduced greenhouse gas emissions, and savings in motor vehicle operating costs for vehicle owners." N.J.S.A. 48:25-1. The PIV Act makes it a goal for there to be at least 330,000 light-duty plug-in EVs registered in New Jersey by December 31, 2025, and at least 2 million EVs registered in New Jersey by December 31, 2035. The PIV Act also seeks to have at least 400 DC fast chargers available for public use at no fewer than 200 charging locations in the State by December 31, 2035. Given these goals, the Board recognizes that a circular problem exists where "the private sector has not made a business case to install EV chargers without a critical mass of EVs on the road, and consumers are hesitant to purchase EVs without the ability to charge away from home." (Straw Proposal Order at 3). In Electrify America's National ZEV Investment Plan: Cycle 2, dated February 4, 2019 ("Cycle 2 Plan"), we explain that "[a]n EV-focused utility environment, with utility infrastructure support (such as make-readies), DCFC specific energy rates, and lower or non-existent demand charges, can have a significant impact on the economics of the station. … Metro areas where these same conditions are not as positive, especially those with high demand peak charges, can make the economics of owning and operating DCFC stations over the long-term particularly challenging." (Cycle 2 Plan at 34). Therefore, utility infrastructure support and a regulatory environment that promotes EV infrastructure development is critical to end the circular problem and allow the State of New Jersey to meet its EV goals and reduce greenhouse gas emissions. Further, Electrify America supports addressing environmental justice concerns that are exacerbated by the lack of public charging infrastructure. Lower-income Americans are more likely to reside in multi-unit dwellings where access to home charging is more difficult to obtain. Current electric vehicle adoption is concentrated with households that have access to charging at home.

This means that a large demographic of the population that rents property or otherwise resides in multi-unit dwellings will be dependent on public charging stations. In order to increase EV adoption, the need for available, convenient, and ultra-fast EV charging to populations that cannot easily install a home charger will be of greater importance. The BPU recognized this in its Straw Proposal Order, in which the Staff identified that "EV adoption at multi-family dwellings is critical to achieving widespread and equitable adoption of EVs" and recommended that "EV Chargers located at multi-family dwellings utilize the same rate as residential customers are charged for EV charging," which was approved by the Board. (Straw Proposal Order at 23, 26). Electrify America agrees with PSE&G that the cost of electricity "especially in cases where demand charges apply" present a barrier to investment, however PSE&G's time-limited approach is insufficient to enable increased investment within PSE&G's service area. (Shah Direst Testimony 19:22-20:13).

Q. PLEASE DISCUSS THE DIVISION OF RATE COUNSEL'S POSITION ON DEMAND CHARGES.

A. The Division of Rate Counsel finds that "PSE&G has proposed solutions to encourage off-peak charging, to address the demand charge obstacle." (Hausman Direct Testimony 12:13-18). Rate Counsel generally supports "[i]nnovative rate design that encourages off-peak charging" and finds this to be an appropriate utility role. (Hausman Direct Testimony 22:6-13). Given the Division of Rate Counsel's general position that PSE&G's proposals involve ratepayer subsidization, a position Electrify America disagrees with as explained above, it would nonetheless appear that the Division of Rate Counsel generally opposes demand charge reform and would oppose incentives or rebates to reduce the impact of demand charges.

Q. DO YOU AGREE WITH THE DIVISION OF RATE COUNSEL'S POSITION ON DEMAND CHARGES?

A. No. As discussed in my direct testimony, demand charge frameworks create a disincentive for investments in customer-friendly, high-powered charging, and induce investments towards low-powered (and thus significantly slower) charging where such demand charges can be somewhat managed without curtailing charging sessions. This adversely affects transportation electrification. (Shah Direct Testimony 11:14-12:20). Many other jurisdictions have approved rates that reduce or eliminate demand charges for low-load commercial customers and EV charging infrastructure in order to meet state policy goals. (Shah Direct Testimony 23:9-24:22). High demand charges present a significant barrier toward increased investment in EVSE infrastructure in New Jersey and therefore an impediment toward achievement of the State's EV goals through the PIV Act, Clean Energy Act, and Energy Master Plan. The Board recognizes the obstacle of demand charges in its Straw Proposal Order, in which Staff agreed that "demand charges are an obstacle to EV adoption," acknowledged "that tariff demand charges remain a hurdle to private investment," and therefore "urge[d] each EDC to propose a method to address the burden caused by demand charges in the emerging market." Therefore, the Board Order requires that EDC filings include a proposal to address how to minimize the barriers to EV adoption created by demand charges. (Straw Proposal Order at 10, 23, 26). The Division of Rate Counsel itself recognizes the obstacle demand charges impose in promoting EV adoption throughout the State: "The [Energy Master Plan] also identified rate reform as an important part of the State's strategy, to address the risk that demand charges would make charging at low-utilization locations prohibitively expensive, 'particularly in multi-family dwellings or at small-to-medium size commercial businesses.'" (Hausman Direct Testimony 9:1-7) (quoting State of New Jersey, "2019 New Jersey Energy Master Plan, Pathway to 2050," *available at* https://www.nj.gov/emp/docs/)). Further, Electrify America has considered and implemented alternative strategies to mitigate the effect of high demand charges, including through use of on-site energy storage, but such strategies have a limited impact on reducing the high cost of demand charges. Given real estate constraints, on-site energy storage is not possible at every charging location, and the cost associated with on-site energy storage detracts from additional investment and Electrify America's ability to expand charging infrastructure in more locations. The amount of energy storage available only mitigates a fraction of the risk caused by high demand charges. For example, Electrify America's on-site energy storage planned for its East Brunswick charging station is a 210 kW system, which will result in only approximately 10% of the risk being practically viable to mitigate. This results in a large risk that cannot be mitigated by on-site storage. In short, high demand charges present a significant barrier toward increased investment and development in EV infrastructure and in particular the consumer-friendly fast charging stations. For this reason, demand charges should not be utilized and should be minimized, and as the Staff recommended, "EV Chargers located at multi-family dwellings [should] utilize the same rate as residential customers are charged for EV charging" (Straw Proposal Order at 23).

III. REBUTTAL TO GREENLOTS DIRECT TESTIMONY

Q. PLEASE SUMMARIZE THE TESTIMONY OF GREENLOTS' WITNESS.

A. Greenlots' Witness, Joshua J. Cohen, suggests that utility ownership, operation, and procurement of charging infrastructure and stations is vital to support competition in the industry and grow the market. "Far from harming the EV charging market in New

Jersey, Greenlots firmly believes that utility investment in charging—including ownership of charging stations—will increase EV adoption. This will in turn increase demand for charging station and services, thereby supporting the growth and maturation of the private competitive market." (Cohen Direct Testimony 20:421-24:429).

Q. DO YOU AGREE WITH GREENLOTS THAT UTILITY OWNERSHIP AND INVESTMENT IN CHARGING STATIONS WILL BENEFIT THE COMPETITIVE MARKET?

A. No. As stated in my direct testimony, PSE&G's proposed utility ownership of charging facilities (other than make-readies) in the public DCFC subprogram is premature, as efforts to address barriers to private sector investment should be addressed first before considering whether such utility-ownership and operation is necessary. The competitive advantage of utilities owning and operating stations could encourage EVSE infrastructure companies to seek investments in other states or other service areas where charging volume will not be compromised by a competitor with a BPU supported rate of return. Electrify America supports the shared responsibility approach of utility investment in make-ready infrastructure and private investment in the DCFC charger and customer experience to meet infrastructure policy goals for the State of New Jersey. In the event that such measures are not sufficient, Electrify America holds that additional, targeted incentives to offset further capital and operational costs may be a path forward, especially in disadvantaged communities. Such an approach would continue to promote and develop private, competitive EVSE infrastructure company investment while reducing costs to ratepayers and risk of stranded assets compared to the rate of return that PSE&G would derive for utility owned and operated DCFC. (Shah Direct Testimony 26:17-28:8). This is consistent with the position of the Division of Rate Counsel, which notes that Staff recommended that utility ownership should be very limited and apply "only *after* the market fails to produce a competitive supplier in a location identified as important for establishing adequate geographic coverage." (Hausman Direct Testimony 25:3-26:14). Moreover, Staff recommended that the Board adopt the "shared responsibility" model for EV infrastructure. The EDCs' role would be primarily to "Make-Ready" a site for publicly-accessible EV infrastructure. Each EDC would be responsible for the wiring and backbone infrastructure necessary to enable a robust number of Charger-Ready locations. Non-utility entities, including EVSE Infrastructure Companies, would be responsible for installing, owning, operating, and marketing EVSE using private capital. EDCs may own and operate EV Chargers and EVSE as a "Last Resort"—Areas of Last Resort are locations that have not generated private investment interest for a minimum of 12 months after the EDC program has begun, for overburdened communities, or 18 months for other areas. Overburdened communities mean any census block group in which at least half of the households qualify as low-income households and either at least 40% of the residents identify as Black, African American, Hispanic or Latino, Asian, Pacific Islander, or as members of a State-recognized tribal community or at least 40% of the households have limited English proficiency. "Last Resort" is intended to apply to areas where installation of publicly-accessible EV chargers has not yet materialized. The Board adopted these recommendations and found that EVSE Infrastructure Companies, site owners, and property management companies are the preferred owners and operators of EVSE, however EDCs may own and operate EV chargers as a "Last Resort" with Board approval required before any work is conducted constructing the charging infrastructure. (Straw Proposal Order at 12-13, 18-22, 26). Electrify America agrees with this approach by the Board and continues to contend that competition should spur best outcomes.

Q. DOES THIS CONCLUDE YOUR REBUTTAL TESTIMONY AT THIS TIME?

A. Yes.