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 PROGRAMS ON A REGULATED BASIS

BPU Docket No. EO18101111

DIRECT TESTIMONY
OF
CARINE DUMIT
ON BEHALF OF
EVGO SERVICES LLC

September 4, 2020

Q. PLEASE STATE YOUR NAME AND BUSINESS ADDRESS.

A: My name is Carine Dumit. My business address is 11835 W. Olympic Blvd. Suite 900E Los Angeles, CA 90064

Q. PLEASE DESCRIBE YOUR EXPERIENCE AND QUALIFICATIONS.

A: I am Director of Market Development at EVgo Services, LLC for the Eastern U.S. In my role, I work with public utilities commissions, state legislatures, state agencies, and other entities across the country to advise on program design and rate design solutions to encourage transportation electrification. Prior to EVgo, I was Director of Policy and Electricity Markets at SolarCity where I led the company's policy and regulatory initiatives impacting customers' adoption of Distributed Energy Resources ("DER") in New England, and then Senior Policy Advisor at Tesla where I managed a portfolio of electric vehicle ("EV") and DER related policy initiatives in the Northeast. I have worked for more than a decade in the energy sector on issues pertaining to wholesale and retail power, large-scale renewable generation, DER and transportation electrification. Early in my career, I worked at the consultancy firm ICF International where I performed analyses on power markets. I was also a consultant in Booz Allen Hamilton's energy practice where I supported federal agencies on matters related to renewable energy programs and policies. I hold a Master of Science degree in engineering management and a Bachelor of Science degree in systems engineering, both from The George Washington University.

Since joining EVgo, I have participated in several stakeholder engagements addressing transportation electrification issues. In New Jersey specifically, I was one of the presenters at the BPU's public meeting convened earlier this year, on June 3rd, 2020, discussing the New Jersey Electric Vehicle Infrastructure Ecosystem 2020 Straw Proposal ("Straw Proposal)[1].

Q: ON WHOSE BEHALF ARE YOU APPEARING IN THESE PROCEEDINGS?

A: I am appearing on behalf of EVgo. EVgo owns and operates America's largest public EV fast charging network, with more than 800 direct current fast charging ("DCFC") locations across the nation. The owner-operator model aligns charging network interests with those of the customers, as reliability is key to the network's economics and the driver's ability to receive a charge. Accordingly, EVgo prides itself on its reliability, with a 98% uptime rate across our chargers.

In the first quarter of 2019, EVgo announced that it was the first U.S. public EV charging network to contract for 100% renewable energy. Today, more than 115 million Americans live within a 15-minute drive of an EVgo fast charger and roughly three quarters of New Jersey residents live within a 20-minute drive of one of EVgo's approximately 46 New Jersey fast chargers. In August 2020, EVgo announced a partnership with General Motors ("GM") whereby EVgo will triple its DCFC network across 40 metropolitan areas over the coming years and build more than 2700 fast chargers across the country.

[1] New Jersey Electric Vehicle Infrastructure Ecosystem 2020 Straw Proposal. BPU Docket No. QO20050357.

In New Jersey, EVgo is actively evaluating its expansion plans. EVgo's expansion in specific markets will depend on a number of factors, including consumer vehicle demand, utility rate designs, and programs that allow for successful private-public partnerships such as utility make-ready programs and/or programs run by state agencies such as New Jersey Department of Environmental Protection[2].

Q: WHAT IS EVgo's INTEREST IN THIS PROCEEDING?

A: EVgo is a commercial customer of Public Service Electric and Gas Company ("PSE&G") and has a direct interest in the issues to be decided in this case. As mentioned in EVgo's request for Intervenor Status, EVgo's participation in this docket is to provide testimony on PSE&G's CEF-EVES proposal specific to DCFC, based on its unique experiences as the nation's leading public DCFC network. EVgo believes that the outcome of this proceeding will have a substantial impact on the nature, growth, and economics of the competitive market for DCFC stations, a market in which EVgo is currently an active participant. In New Jersey, EVgo currently owns and operates 46 chargers, and as mentioned above, is actively expanding its DCFC network. EVgo aims to provide input that will support the Board in assessing the various approaches to implement, grow, and support of a competitive market for DCFC. EVgo's interest is that in the Board's

[2] In an e-mail announcement dated August 2, 2020 NJ DEP stated that it received over 123 applications requesting funding of $213 million, in addition to numerous applications for fast charging stations under the It Pay$ to Plug In program

evaluation of PSE&G's program, it ensures that deployment of DCFC stations in New Jersey is undertaken in a way that complements and encourages rather than hinders efforts underway to expand third-party EV charging networks by the competitive market. EVgo is also an active stakeholder in the BPU's docket pertaining to the Straw Proposal.

Q. WHAT IS THE PURPOSE OF YOUR TESTIMONY

A. In this testimony, EVgo provides the Commission, PSE&G and stakeholders in this matter a viewpoint on the CEF-EVES proposal from a private sector owner-operator of DCFC with nearly a decade of experience across the US, in 34 states, including New Jersey. EVgo hopes its input will aid the proceeding and BPU in assessing the various approaches to implement, grow, and catalyze investments in the competitive market for DCFC network in New Jersey and advance the state's transportation electrification commitments and objectives.

Q. PLEASE DESCRIBE THE DIFFERENT CHARGING TYPES

A. It is worth recognizing the different types of charging infrastructure and distinguish the capabilities of each.

- Level 1 chargers deliver electricity through a 120 Volt plug and are most often used in homes through an existing conventional outlet.
- Level 2 charging typically provides a full charge in 4 to 8 hours and is sought in longer duration, long dwell-time locations such as work, overnight at home, in amusement parks, or other destinations where drivers may spend several hours.

- Public DCFC is suited for quick charge needs both in and around cities and suburbs and along high-traffic transit corridors. DCFCs are located at or near places where drivers live, drive, and shop, including retail locations, restaurants, and grocery stores where an EV can receive up to 80% charge in 30-45 minutes so customers can charge their vehicles in the time it takes to run their errands. DCFC serves a variety of drivers' needs, as discussed below.

Q. PLEASE DESCRIBE THE DIFFERENT CHARGING BUSINESS MODELS

A. The EV charging sector is comprised of companies whose purposes and business models vary, but fundamentally there are vendors and operators. Vendors are the equipment manufacturers and information technology providers who design, produce, and sell hardware and software to enable EVs to charge. Owner-operators develop, finance, build, own, operate, and manage charger networks. At this nascent stage of market development, some companies focus on a single slice of that value chain—provision of network management software, for example—while others cover multiple pieces (e.g. hardware sales and network management services)[3]. As mentioned earlier, EVgo is an owner-operator. In addition to developing, financing, owning, and operating the charging network, EVgo works with site host partners the country to deploy EV charging solutions. EVgo also maintains the customer relationship with the EV driver and providers a

[3] "The Costs of EV Fast Charging Infrastructure and Economic Benefits to Rapid Scale-Up." May 18, 2020. By Jonathan Levy, Isabelle Riu, Cathy Zoi. EVgo. https://www.evgo.com/wp-content/uploads/2020/05/2020.05.18_EVgo-Whitepaper_DCFC-cost-and-policy.pdf

24/7 call center. EVgo is also responsible for operations and maintenance of its EV charging network, which has 98% uptime across the country.

Q. WHAT TYPES OF DRIVERS' NEEDS DOES DC FAST CHARGING AIM TO SERVE?

A. DCFC serves a variety of drivers' needs. In the earliest stages of EV infrastructure deployment, DCFC was viewed as purely a solution to assuage the range anxieties of single-family homeowners, especially on trips between cities or across the country. As a result, much early DCFC deployment focused on high-traffic transit corridors, service plazas and rest areas along interstates and along major highways.

DCFC, however, offers more than just a corridor use case. DCFC plays a critically important role in dense urban and suburban areas where not every home has a driveway, attached garage, or in many cases, any dedicated parking. In fact, according to the International Council on Clean Transportation, apartment dwelling EV drivers, living in MUDs rely on public charging for 50-80% of their charging[4] as they would typically not have access to dedicated parking or home charging. Siting DCFC in community locations around existing amenities (e.g. retail, groceries, restaurants) allows for charging to be integrated into everyday activities.

[4] International Council on Clean Transportation, *Quantifying the Electric Vehicle Charging Infrastructure Gap Across U.S. Markets* (January 2019), p. 9, https://theicct.org/sites/default/files/publications/US_charging_Gap_20190124.pdf

In addition to personal use drivers, DCFC also provide for fast and convenient charging for light duty fleets, especially in rideshare and delivery applications. Since light duty fleet drivers drive on average three to seven times more than a personal use driver, they need access to fast charging that is also located around amenities so that the time spent on charging aligns with breaks for food, rest, or restroom use to allow driver to quickly get back on the road.

Q. WHAT FACTORS ARE CONSIDERED IN THE EVALUATION AND DEVELOPMENT OF PUBLIC DC FAST CHARGING INFRASTRUCTURE BY PRIVATE SECTOR OWNER-OPERATORS?

A. Several factors play a role in identifying locations for DCFC, including but not limited to: traffic patterns, density of Battery Electric Vehicle (BEV) ownership, proximity to amenities, proximity to other fast chargers, distance to or location of major roadways, and utility tariffs, among others. Dense, urban populations of all income levels can be attractive factors in evaluating competitive DCFC investments. Third-party EVSPs like EVgo have sophisticated tools and models developed with over a decade of experience in EV charging development. Such tools are utilized in network planning to assess where maximum opportunity for use of DCFC and convenience for BEV drivers may exist, be it at commercial or government-owned properties. In terms of enabling market mechanisms, policies and regulatory initiatives to promote EV adoption in combination with make-ready infrastructure and EV-friendly tariffs provide for a supportive framework for third-party DCFC deployment.

Q: WHAT DOES PSE&G's EF-EVES PROGRAM PETITION PROPOSE IN REGARD TO THE ROLE OF THE UTILITY IN DEPLOYING EV INFRASTRUCTURE?

A: PSE&G is proposing "to commit up to $261 million of investment to implement four EV subprograms that will support the deployment of EV charging infrastructure and accelerate electrification of light, medium and heavy-duty vehicles across a wide range of customers and sectors". Specific to public DC charging, PSE&G proposes to deploy electrical infrastructure and either own or provide financial incentives towards the upfront cost of DCFC equipment and installation. PSE&G's EF-EVES petition targets 450 public DCFC stations. PSE&G also proposes to provide financial incentives to offset electricity costs.

Q. WHAT DOES PSE&G PROPOSE IN ITS THIRD SUB-PROGRAM TO ADDRESS THE DEVELOPMENT OF DC FAST CHARGING?

A. In its CEF-EVES filing, specifically in regards to the Public DCFC subprogram, PSE&G proposes to deploy Make-Ready electrical infrastructure and either own or provide financial incentives towards the upfront cost of DCFC equipment. PSE&G proposes two different ownership models:

> "In the first model, PSE&G will deploy the Make-Ready Infrastructure, while a third party will install, own, maintain and operate the DC Fast Charging stations ("Third-Party Ownership Model").

In the second model, PSE&G will deploy the Make-Ready Infrastructure and install, own, maintain and operate the DC Fast Charging stations ("Utility Ownership Model"). The second model will only be utilized if the competitive market is unable to support the DC Fast Charging station development using the Third-Party Ownership Model […] as a backstop in order to ensure subprogram success."

Q. DO YOU AGREE WITH PSE&G'S APPROACH PROPOSED IN THE THIRD-PARTY OWNERSHIP MODEL?

A. As a framework, EVgo supports PSE&G's approach to let the private sector third-party ownership model take the lead in the development of the state-wide network. In the U.S., the owner/operator model is responsible for close to three quarters of DCFC stations in the U.S.[5] and the overarching framework of PSE&G's proposal would continue to support the competitive DCFC market. Moreover, the make-ready model is consistent with the approach being taken by other utilities and public service commissions throughout the region and the country, as I will discuss below.

As stated above, providing for make-ready to third-party owned and operated DCFC supports private sector development and aligns with the "shared responsibility" model presented in the Straw Proposal. Indeed, utility make-ready

[5] US Department of Energy, Alternative Fuels Data Center July 2020 Data; https://afdc.energy.gov/stations/#/analyze?country=US&fuel=ELEC&ev_levels=dc_fast.

investments or line extension policies support the economics of siting DCFC by bringing rate-based distribution upgrades into the utility scope while leaving dispenser ownership, marketing, customer service, and charging network operation in the hands of experienced private operators. Across the country, commissions have approved proposals for utility make-ready infrastructure investments to support the competitive charging ecosystem. Most recently in New York, the Public Service Commission approved a $700M state-wide make-ready program for *all* investor-owned utilities in the state to help bolster the development of charging infrastructure to meet state ZEV goals[6].

PSE&G has not established why regular competitive solicitations are necessary[7]. Make-ready funding can be disbursed on a first-come first-serve basis with program criteria in place to ensure overall program objectives are met. Other programs across the region, including Pepco's make-ready program in Washington, D.C.[8], as well as National Grid's make-ready programs in the Northeast[9][10], are first come, first serve. Neither of these utilities have been authorized to own and operate DCFC.

[6] Order Establishing Electric Vehicle Infrastructure Make-Ready Program and Other Programs; July 16, 2020. CASE 18-E-0138 - Proceeding on Motion of the Commission Regarding Electric Vehicle Supply Equipment and Infrastructure.
[7] "To identify projects, PSE&G will conduct periodic competitive solicitations to gather proposed locations from third parties." P. 21, Testimony pf PSE&G Witness Karen Reif
[8] https://www.pepco.com/SmartEnergy/InnovationTechnology/Pages/ElectricVehicleProgramDC.aspx
[9] https://www.nationalgridus.com/RI-Business/Energy-Saving-Programs/Electric-Vehicle-Charging-Station-Program
[10] https://www.nationalgridus.com/MA-Business/Energy-Saving-Programs/Electric-Vehicle-Charging-Station-Program

If designed correctly, the make-ready model could also be an important first step for addressing equity concerns. EVgo believes equitable outcomes can be achieved through effective program design that prioritizes certain "Equity Areas" (per the term used in the Straw Proposal), in proposals or site applications. For example, in California, Pacific Gas & Electric was allocated $22.4MM for a make-ready DCFC program. The program has a goal to support 234 DCFC and has a stated requirement for a percentage of deployments to occur in disadvantaged communities. DCFC installations in disadvantaged communities also have access to a rebate from the utility in addition to the make-ready. Similarly, Southern California Edison's Charge Ready 2, approved by the California Public Utilities Commission on August 27, 2020[11], provides make-ready for 205 DCFC ports and includes rebates, with higher tiered rebates provided for locations in disadvantaged communities. The utility is not permitted to own and operate DCFC in either of these programs, but instead encourages third party investments through a mixture of make-ready and rebates.

Q. DO YOU AGREE WITH PSE&G'S APPROACH PROPOSED IN THE UTILITY OWNERSHIP MODEL FOR DC FAST CHARGING?

A. PSE&G indicated that after reviewing segments within the travel corridors in its service territory "of approximately 25 miles in length and community locations that, combined, would provide a minimum geographic coverage of charging stations to combat range anxiety", the Company estimated a percentage of the

[11] CA PUC Application 18-06-015,

locations that were likely to be sub-economic for private investors due to lower initial utilization in the five year period following program launch." [12] Based on this analysis, PSE&G added that it is "projecting to support private investment in approximately 2/3 of those locations and serving as provider of last resort ("POLR") in approximately 1/3 of those locations"[13].

While utilities could play an important role in helping to fill gaps in the market, especially in lower density or more rural areas where BEV deployment may be lower, it would be premature at this stage for PSE&G to pre-judge "locations that were likely to be sub-economic for private investors" and determine that one third of the market must be served by the utility as the POLR . As mentioned earlier, private sector market participants, especially owner-operators of DCFC, utilize sophisticated modeling tools and analyses in network planning and evaluation of potential sites; in addition to and through engagements with site hosts can make these determinations for themselves. There are a variety of business models in the DCFC space, all of which can serve different market segments. Third-party charging providers should first be provided the sufficient unencumbered opportunity to lead in the development of the network, both through the make-ready programs, as well as other charging infrastructure programs being administered by New Jersey Department of Environmental Protection. There are and will continue to be numerous opportunities for PSE&G

[12] Discovery Response CP-PSEG-2
[13] Id.

and other utilities to partner with third-party charging providers as the market continues to mature.

Q. WHAT POTENTIAL CHALLENGES DOES EVGO FORESEE WITH RESPECT TO THE ROLE OF THE UTILITY IN OWNING & OPERATING DC FAST CHARGING INFRASTRUCTURE?

A. Utility investments can complement rather than compete with third-party charging networks by facilitating private investment through make-ready, rebates, and tariff reform. One potential challenge with a utility owned & operated DCFC network in close proximity to a third-party operator's network is that the utility may consume the usage that the competitive market relies on to sustain its economics. If a third-party operator like EVgo does not see adequate usage to sustain its network, the lower usage will discourage future private sector investments and may undermine the economics of existing stations. For these reasons, as EVgo prioritizes its investments, it may deploy fewer charging stations in places where utility-ownership is prevalent.

Another challenge with utility owned & operated DCFC stations is that the utility may set its public pricing at rates too low for the private market to compete. This could also undercut competition and impact usage of third-party networks.

Q: ARE THERE ADDITIONAL ELEMENTS TOPICS THAT EVGO WISHES TO DISCUSS?

A. One thing I would like to clarify with respect to the Company's suggestion that "DCFC Utility Ownership Model would facilitate EV-based ride hailing companies in disadvantaged communities because it would meet the need for DC Fast Chargers where expected utilization is below the level that would attract a third-party provider of charging infrastructure."[14] PSE&G has not substantiated this claim. In reality, ride-sharing and other light duty fleets have played an important role in EVgo's nation-leading DCFC network. In fact, historically, of the 75 million electric vehicles traveled annually on the EVgo network, one third of those gigawatt-hours (GWh) consumed were from light duty fleet drivers such as ridesharing and carsharing. EVgo actively partners with Lyft, Uber, AAA Gig, and other carshare and rideshare companies, including past work with GM's Maven Gig in seven markets across the country. As discussed above, population density is an important factor in siting DCFC; income is not. EVgo supports Electric for All, including enabling EV-based ride hailing in *all* communities regardless of income[15]. Moreover, recent data from the California Energy Commission found no correlation between DCFC distribution across the state and income[16]. As such, EVgo would take exception to the assertion that "expected utilization is below the level that would attract a third-party provider of charging infrastructure,"

[14] Discovery Response S-PSE&G-DCE-21
[15] In California, where EVgo has more than half of its network, approximately 40% of chargers are in low income areas.
[16] CA PUC Docket Number 20-TRAN-02 SB 1000 Electric Vehicle Charging Infrastructure Deployment Assessment. Presentation on 6/4/2020, at pp. 16-22. Available at: https://efiling.energy.ca.gov/GetDocument.aspx?tn=233310&DocumentContentId=65800 .

which has not been substantiated with fact, especially in such a nascent EV infrastructure market such as New Jersey.

Q. IN WHAT OTHER WAYS CAN PSE&G ENABLE A COMPETITIVE CHARGING MARKET?

While make-ready is an important step, it is not sufficient. Rate reform is the most critical factor to enabling a competitive charging market. EVgo witness Tom Beach will discuss this in his testimony.

Q. DOES THIS CONCLUDE YOUR TESTIMONY?

A. Yes.