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September 4, 2020

VIA ELECTRONIC MAIL ONLY

Secretary Aida Camacho-Welch
New Jersey Board of Public Utilities
44 South Clinton Avenue, 9th floor
Post Office Box 350
Trenton, NJ 08625-0350
Board.secretary@bpu.nj.gov

RE: I/M/O 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,

On behalf of our client ChargePoint, please accept Intervenor ChargePoint's attached Direct Testimony and Exhibit A for filing in the above-referenced matter.

Pursuant to the Board's Order dated March 19, 2020, in Docket No. EO20030254 temporarily waiving certain requirements for non-essential obligations, we submit these documents via electronic filing only. Please do not hesitate to contact me if you have any questions.

Very Truly Yours,

Murray E. Bevan

Enclosure
cc: Service List (via email)

BEFORE THE
NEW JERSEY BOARD OF PUBLIC UTILITIES

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

INTERVENOR CHARGEPOINT'S DIRECT TESTIMONY

Direct Testimony of

Kevin George Miller

Re: Program Design, Demand Charges and Set Point Methodology

I. INTRODUCTION AND BACKROUND

Q. Please state your name and business address.

A. My name is Kevin George Miller and my business address is 254 E. Hacienda Avenue, Campbell, CA 95008.

Q. By whom are you employed and in what capacity?

A. I am employed by ChargePoint, Inc. as Director of Public Policy.

Q. Please describe your background, experience and expertise.

A. In my role at ChargePoint, I have overseen engagement in over twenty proceedings before public utility commissions, including proceedings in New Jersey, regarding the development of electric vehicle programs by states and utilities. I have drafted stakeholder comments regarding the design of electric vehicle programs in New Jersey and other states. I have supported and developed transportation electrification legislation and policy across the United States, as well as in Canada and Australia. I previously served as Acting Chief Financial Officer and Director of Capital and Federal Finance for the Massachusetts Executive Office of Energy and Environmental Affairs. I have served as a Member Representative on the New Hampshire Electric Vehicle Charging Infrastructure Commission; Legislative Chair of the Maryland Zero Emission Electric Vehicle Infrastructure Council; Infrastructure Co-Chair of the Massachusetts Zero Emission Vehicle Task Force; Infrastructure Co-Chair of Drive Electric Pennsylvania; and Infrastructure Expert Member of Canada's National Zero Emissions Vehicle Strategy Working Group.

Q. Have you previously testified before the New Jersey Board of Public Utilities?

A. No, I have not.

Q. Have you provided testimony in any formal hearings before regulatory commission?

A. Yes. I have testified before the Massachusetts Department of Public Utilities (Docket No. 1518-150), in which I evaluated and made recommendations to mitigate competitive market impacts stemming from National Grid's proposal to establish a regulated price for EV charging at charging stations deployed in its service territory; the New York Public Service Commission (Case Nos. 19-E-065 and 19-E-0378), in which I evaluated and made recommendations to ensure that the electric vehicle (EV) charging programs proposed by Con Edison and New York State Electric & Gas/Rochester Gas & Electric, respectively, complemented the competitive EV charging market; and the Rhode Island Public Utility Commission (Docket No. 4780), in which I evaluated and made recommendations to ensure that the EV charging programs proposed National Grid complemented the competitive EV charging market.

Q. Please provide a description of ChargePoint.

A. ChargePoint is the leading EV charging network in the world, with scalable solutions for every charging need and for all of the places that EV drivers go home, work, around town, and on the road. ChargePoint's network offers more than 115,000 places to charge, including more than 1,800 spots in New Jersey, and those numbers continue to grow. With thousands of customers in several segments including workplaces, cities, retailers, apartments, hospitals, and fleets, ChargePoint provides an integrated experience enabling consistent performance, efficiency and reliability at every touchpoint, whether one is using a mobile app, plugging into a charger, managing the station or analyzing charging data. On the network, drivers have completed more than 81 million charging sessions, saved

upwards of 96 million gallons of fuel, and driven more than 2.3 billion electric miles.

ChargePoint delivers scalable solutions that enable businesses to support more drivers, add the latest software features and expand their electric vehicle and fleet needs with minimal disruption to overall business. Hardware offerings include Level 2 ("L2") and DC fast charging ("DCFC") products, and ChargePoint provides a range of options across those charging levels for specific use cases, including light and medium duty and transit fleets, multi-unit dwellings, residential (multi-family and single family), destination, workplace, and more. ChargePoint's software and cloud services enable site hosts to manage charging on site with features like Waitlist, access control, charging analytics, and real-time availability. All products are UL-listed, ENERGY STAR® and CE (EU) certified, and the modular design minimizes downtime and makes maintenance and repair more seamless.

ChargePoint's primary business model consists of selling its smart charging solutions directly to businesses and organizations while offering tools that empower site hosts and station owners to deploy charging designed for their individual application and use cases. ChargePoint provides charging network services and data-driven and cloud-enabled capabilities that enable site hosts to better manage their charging assets and optimize services. For example, with those network capabilities, site hosts can view data on charging station utilization, frequency and duration of charging sessions, set access controls to the stations, and set pricing for charging services. These features are designed to maximize utilization and align the EV driver experience with the specific use case associated with the specific site host. Additionally, ChargePoint has designed its network to allow other parties, such as electric utilities, the ability to access charging data and

conduct load management to enable efficient EV load integration onto the electric grid.

II. PURPOSE OF TESTIMONY

Q. Please describe the purpose of your testimony.

A. The purpose of my testimony is to broadly support the goals, general program design and proposed outcomes of PSE&G's proposed CEF-EV program and to make recommendations for the Board's consideration to improve the program.

Q. Are you sponsoring any exhibits?

A. Yes. Exhibit A is a copy of comments filed by ChargePoint with the New Jersey Board of Public Utilities on June 17, 2020, regarding Board Staff's Straw Proposal on Electric Vehicle Infrastructure Build Out (BPU Docket No. QO20050357).

Q. Please summarize your recommendations.

A. ChargePoint recommends that PSE&G's CEF-EV program be approved by the Board with the following modifications:

- The Board should require that PSE&G's proposed Utility-Ownership Model allow for (1) site host choice of charging equipment and network solutions and (2) provide site host control over EV charging pricing and access.
- The Board should reject the proposed set point subsidy and should instead order PSE&G to develop and file one or more long-term commercial and industrial ("C&I") rate options that provide alternatives to traditional, demand-based C&I rates before the start of the program.

III. CURRENT MARKET FOR ELECTRIC VEHICLE CHARGING IN NEW JERSEY

Q. How many EVs are registered in the State of New Jersey?

A. According to IHS/Polk market data, there are approximately 32,285 electric vehicles registered in New Jersey.

Q. How is the New Jersey market for EVs growing?

A. According to IHS/Polk market data, the year-over-year growth rate for electric vehicle registrations in New Jersey is approximately 29%. Guidehouse Insights, forecasts the number of EVs on the road in New Jersey will climb to approximately 284,600 in 2030.[1]

Q. How many public EV charging stations are operating in New Jersey?

A. According to the Department of Energy's Alternative Fuels Data Center ("AFDC"), across New Jersey, there are 835 public charging ports utilizing a standard connector that enable charging of any model of EV. Each port is capable of charging a single vehicle, and some stations have two ports. Of those 835 ports, there are 122 DCFC and 713 Level 2 charging ports.[2] It is important to note that the AFDC total does not include essential, non-public charging locations, such as workplace and residential, which are often cornerstones of successful utility EVSE programs.

Q. Are public EV charging stations representative of the whole market of charging available in New Jersey?

A. No. There are many more private charging ports that are not included in AFDC's total figure, which may have limited access to the public or have exclusive use permissions,

[1] Navigant Research, Market Data: EV Geographic Forecast – North America. Published 4Q 2019.

[2] U.S. DoE Alternative Fuel Data Center; filtered by New Jersey, Electric Fuel, Level 2 and DC Fast, Standard Connectors J1772/CCS/CHAdeMO; Accessed September 4th, 2020. https://afdc.energy.gov/stations/widget#/analyze?region=US-NJ&fuel=ELEC

such as a fleet charging station. I have also omitted Tesla charging stations, which provide charging for Tesla drivers through a proprietary connector.

Q. How many networks of charging stations are available to all EV drivers in New Jersey's market?

A. According to AFDC, there are eight charging networks utilizing standard connectors operating in New Jersey: ChargePoint, Blink, Electrify America, EV Connect, EVgo, Greenlots, SemaCharge, and Volta.

Q. Would you describe the market for EV charging infrastructure in New Jersey as competitive?

A. Yes. In the current market for EV charging infrastructure, charging station providers approach site hosts with their unique products and features, competing with other providers to sell or install charging equipment. Site hosts have an open choice of several options for charging equipment and networks from different providers with different business models. Site hosts also compete for EV drivers in providing charging services and set their pricing and access features in ways that will attract drivers to their sites.

Q. Is there currently active private investment in charging stations in New Jersey?

A. Absolutely. ChargePoint continues to market and sell charging stations to a variety of site hosts in New Jersey, who own and operate those charging stations on their properties. Site hosts in New Jersey include municipalities, gas stations, convenience stores, car dealerships, retail establishments, and more.

Q. Why do charging station site hosts invest in EV charging solutions available in the competitive market?

A. The EV charging market is growing and dynamic, and there is not a single static business

case for the electric vehicle supply equipment ("EVSE") industry or for EV charging site hosts. The business case, or value proposition, for various entities to install and operate charging stations incorporates many different value streams and varies across use cases.

Our customers find that the provision of EV charging services can align with and augment their existing operations and core business goals. Site hosts balance costs against the value created by hosting a station, which are often beyond direct revenue that may be generated. Non-financial benefits include providing EV charging as an amenity to attract and retain employees, attract new customers and have them stay for longer periods of time for businesses, and appeal to new tenants for a multifamily property. In addition, EV charging helps to meet sustainability goals for local governments and businesses. Residential customers acquire L2 EVSEs for home use for convenience and to meet individual vehicle charging requirements within an overnight time frame. And across the US, many utilities now offer EV time of use ("TOU") rates which incent drivers to charge off-peak at significant cost savings, which creates grid benefits for utilities and all ratepayers.

Q. How will site hosts who do not desire to own EVSE be served?

A. ChargePoint and multiple other EVSE vendors are currently providing turnkey solutions for site hosts in New Jersey that do not wish to own the EVSE but still want to provide charging services for their customers or tenants. For example, ChargePoint offers customers a subscription solution for EV charging, "ChargePoint as a Service" ("CPaaS"), which is an easy way for customers that do not want to own EV charging stations to provide charging solutions. It is similar to "Software as a Service" ("SaaS") models, which offer access to smart solutions at a reduced cost through subscription pricing. Under the CPaaS

option, site hosts remain the customer of record with the utility and operates the station, including setting charging parameters (e.g., access and pricing,), while ChargePoint retains ownership of the station.

Site hosts should be engaged in the provision of these services, as they are with many other aspects of their business. It is desirable for them to have some "skin in the game" to drive efficiency and utilization of installed EV charging infrastructure.

Q. What are the capabilities of smart, connected EVSE?

A. "Smart" EV charging stations is a broad term that generally refers to the EVSE having connectivity and the ability to measure electricity passing through the unit, providing data and load management capabilities and scheduled charging features, providing for point of use payment and access control, and incorporating two-way communication from the EVSE to the driver through an app as well as with the station operator via a screen or other means. These capabilities can be of significant importance to a site-host to enable charging services at their facilities, as well as to their utility since the smart station provides a wealth of information related to charging behaviors and load profiles that can enable various demand side management programs. Those programs could include demand response or even a TOU rate specific to EV charging in the home through utilization of the embedded meter. The associated communication and cloud-based technology platform can also be leveraged to provide enhanced station management features like reservations or notifications for charge completion for an improved driver experience through greater visibility and interaction.

Q. Would you describe the EV charging market in New Jersey as a "market failure"?

A. No. This is an emerging market defined by natural demand and private investment across

a diversity of communities. As evidenced by the motions to intervene in this proceeding, multiple providers of EV charging equipment and services, in addition to ChargePoint, have been doing business with customers in New Jersey over the last few years and are interested in increasing their presence in New Jersey's competitive market. As EV adoption continues to grow and become more widespread in New Jersey, we will continue to see greater and increasing demand for EV charging solutions in new areas.

Q. Can incentives for EV charging stations help to accelerate competitive market activities?

A. Yes. Federal, state, local, and utility-funded incentives have been highly effective in increasing site host interest in charging infrastructure investments, and thereby increasing competition among multiple providers of EV charging equipment and services. For example, the Board of Public Utilities and the Department of Environmental Protection partnered to develop the initial *It Pay$ to Plug In* program, which is now supported by funds from New Jersey's Environmental Mitigation Trust Fund. The program provides grants to offset the cost of purchasing and installing electric vehicle charging stations.[3] In addition, in January 2020 Governor Murphy signed the Plug-In Vehicle Act ("PIV Act"), which laid the foundation for one of the most robust EV rebate programs in the country, including authorizing the Board to develop a residential EV charging rebate program, and setting long-term transportation electrification goals.[4] The BPU has already received over

[3] https://drivegreen.nj.gov/plugin.html

[4] *See* P.L. 2019, c. 362, N.J.S.A. 48:25-1-11. *See also* Governor Murphy Signs Legislation Establishing Statewide Goals and Incentives for Increased Use of Electric Vehicles and Charging Infrastructure (January 17, 2020), https://www.nj.gov/governor/news/news/562020/20200117b.shtml.

1,800 applications for its new residential EV purchase/lease incentive program, Charge Up New Jersey.[5]

Q. What utility investments in EV charging infrastructure further market development?

A. Utilities are well situated to assist in the growth of a competitive, sustainable EV charging ecosystem. ChargePoint believes the Board should authorize strategic, risk-averse activities and cost-effective, ratepayer-funded infrastructure investments that will help accelerate expansion of EV charging and EV adoption in New Jersey. In ChargePoint's experience in helping to shape and participate in the implementation of utility EV programs across the country, the most effective roles for utilities have been as follows:

- **Utility Make-Ready**: A utility installs, owns, and maintains the supporting electrical infrastructure necessary for installation of charging hardware.[6] By conducting this work, a utility prepares a site for installation of the charging station itself, which is purchased and operated by a site host. It is important to note that the make-ready costs for the customer are typically the majority of total project costs and align with the utility's key competency of installing and maintaining distribution assets.
- **Customer Rebates**: A utility provides rebate incentives to their customers to install and operate charging stations, which are used to offset the construction and installation and/or the purchase of qualifying electric vehicle charging stations. Qualification standards for EV charging stations can be determined to ensure capabilities that will

[5] https://chargeup.njcleanenergy.com; *see also* "New Jersey's new electric vehicle rebate draws 1,800 applications, despite COVID economy woes" (August 13, 2020), https://www.inquirer.com/science/climate/electric-vehicles-new-jersey-rebate-tesla-climate-change-fossil-fuels-greenhouse-gas-20200813.html

[6] Depending on program design, the utility make-ready investment can include infrastructure on both the utility side of the meter and on the customer side of the meter.

enable grid benefits.[7] Cost recovery for utility rebates can be approached by treating the rebate as a regulatory asset, thereby allowing both cost recovery and a rate of return on the investment similar to other capital investments.[8]

The investment models used by utilities have taken many forms, and some have included a portfolio of investment approaches. In ChargePoint's experience, the most successful programs combine make-ready investments by the utility along with rebates toward the EV charging stations or rebates toward both installation and construction costs in addition to the EV charging station.[9]

Critically, ChargePoint believes that there are three main components of effective utility investment in EV charging infrastructure to support a long-term sustainable

[7] Rebate programs have been utilized by investor owned utilities for years to support energy efficiency programs so there is already an administrative framework making it simple to add EV program incentives without driving up utility costs.

[8] *See, e.g.* In the Matter of the Petition of the EV Work Group for the Implementation of a Statewide EV Portfolio, Case No. 9478, Md PSC (January 14, 2019) (approving rate based rebates for three Maryland investor owned utilities); In the Matter of the Application of Consumers Energy Co for Authority to Increase its Rates, Case No. U-20134 , MI PSC (May 19, 2020) (approving rate based rebates for Consumers Energy); In the matter of the Application of DTE Electric Company for Authority to Increase its Rates, Case No. U-20162, MI PSC (May 2, 2019) approving rate based rebates for DTE);: Petition of Virginia Electric & Power Company, For approval of a Plan for Electric Distribution Grid Transformation Projects, Case No. PUR-2019-00154, VA SCC (March 26, 2020) (approving rate based rebates for Dominion).

[9] *See, e.g.*, Alternate Proposed Decision Regarding Southern California Edison Company's Application for Charge Ready and Market Education Programs, CPUC, Docket No. A.14-10-014, (Jan. 16, 2016), available at: https://docs.cpuc.ca.gov/PublishedDocs/Published/G000/M157/K682/157682806.PDF; Petition of the Electric Vehicle Work Group for Implementation of a Statewide Electric Vehicle Portfolio, Case No. 9478, Order No. 88997, (MPSC Jan. 14, 2019), available at: https://www.psc.state.md.us/wp-content/uploads/Order-No.-88997-Case-No.-9478-EV-Portfolio-Order.pdf; Decision Directing PG&E to Establish an Electric Vehicle Infrastructure and Education Program, CPUC, Docket No. 16-12-065 (Dec. 21, 2016); Massachusetts Department of Public Utilities. Docket 17-05. "Order Establishing Eversource's Revenue Requirement." November 30, 2017. (available at https://eeaonline.eea.state.ma.us/EEA/FileService/V1.4.0/FileService.Api/file/FileRoom/dehehcjj); New York Public Service Commission. Matter No. 17-00887. "Proceeding on Motion of the Commission as to the Rates, Charges, Rules and Regulations of Niagara Mohawk Power Corporation d/b/a National Grid for Electric Service." (available at http://documents.dps.ny.gov/public/MatterManagement/CaseMaster.aspx?MatterCaseNo=17-E-0238) (utility-provided make-ready coupled with EVSE rebates provided by New York State Energy Research and Development Authority).

competitive market:

1. The ability for site hosts to choose among multiple, qualified vendors of charging equipment and networks;
2. Site host operational control of EV charging infrastructure located on their properties, including control over pricing of the charging service provided to drivers; and
3. Private investment in EV charging infrastructure in the form of shared costs with incentive or supplemental project financing. (*i.e.* "skin-in-the-game")

Q. Why are these three components important to designing an effective utility investment in EV charging infrastructure?

A. All three components relate to the following core outcomes that will drive the competitive market for the long-term: (1) the variety of technology choices available to the market, (2) the degree to which site hosts can make choices about how to operate the charging stations, and (3) the impact of spurring private investment alongside the deployment.

IV. SUMMARY OF PSE&G PROPOSAL

Q. Please describe PSE&G's proposal.

A. PSE&G has proposed to invest $261 million over a six-year period to advance transportation electrification throughout its service territory. The program includes five related components:

- **Residential Smart Charging**, which consists of rebates for networked Level 2 EV chargers at residences and provide customer incentives to encourage off-peak charging;

- **Level 2 Mixed-Use Charging**, which consists of Company-owned "make-ready" investments and tiered customer rebates toward the costs of networked Level 2 charging equipment and installation;
- **Public DC Fast Charging**, which consists of Company-owned "make-ready" investments; potential utility ownership of DCFC stations, and customer rebates toward the cost of third-party owned DCFC equipment and installation. PSE&G is also proposing an off-bill subsidy to address demand charges;
- **Vehicle Innovation**, which consists of incentives for electric school buses and EV charging infrastructure to serve school districts throughout the Company's service territory and an open solicitation for customized medium- and heavy-duty electrification projects, and;
- **Cross-Subprogram Investment**, which consists of information technology ("IT"), administration, and education and outreach to support and implement the program.

V. EVALUATION OF PSE&G PROPOSAL

Q. Do you recommend the BPU approve PSE&G's CEF-EV program?

A. Yes, with modifications. ChargePoint generally agrees with the program goals and objectives which are to advance transportation electrification throughout PSE&G's service territory, and more broadly throughout New Jersey. The CEF-EV program is generally consistent with best practices for utility EV charging programs that encourage increased adoption and continued innovation, while ensuring continued growth of the competitive market. Through supporting "make-ready" infrastructure and providing customer rebates

for EVSE, PSE&G's proposal will appropriately lower market barriers, reduce costs, and increase benefits to ratepayers. The program also largely provides customer choice in charging equipment and network service which is a necessary feature to enable utility programs to catalyze sustainable and scalable growth in the EV and EV charging markets. The program as proposed underscores the need to holistically support EV charging with efforts that encourage charging at home, at work, and in public while also providing education and raising awareness on transportation electrification.

ChargePoint does, however, recommend two modifications to the program to increase its effectiveness in expanding the deployment of EV infrastructure in support of New Jersey's energy, environment, and electric transportation goals. PSE&G's proposed Utility-Ownership Model should be modified to allow for site host choice of charging equipment and network solutions and provide site hosts with control over EV charging pricing and access. In addition, the proposed set point subsidy should be replaced by one or more long-term C&I rate options that provide alternatives to traditional, demand-based C&I rates before the start of the program.

Q. **Will PSE&G's proposed CEF-EV program contribute to overcoming barriers to deploying EV charging infrastructure?**

A. Generally, yes. If ChargePoint's recommendations are incorporated into PSE&G's proposed CEF-EV program, PSE&G's program it primarily help to overcome barriers to deploying EV charging stations by reducing the total cost of charging stations and installation through a combination of utility-owned make ready investments, customer rebates for EV charging stations, as well as ensure non-discriminatory access to relief from demand charges in PSE&G's existing C&I rates.

Q. Will PSE&G's proposed CEF-EV program only create value for participating customers?

A. No. The program has the potential to create value for all customers in PSE&G's service territory, including those who do not participate in the program. Increased deployment of EV charging infrastructure can create sufficient new load to reduce unit energy costs, resulting in lower electricity rates and net benefits for all ratepayers, irrespective of EV ownership.[10] For example, a state-wide cost-benefit analysis of EV adoption in Michigan conducted by MJ Bradley and Associates found that net benefits (in the form of reduced electricity bills) to ratepayers would be $2.6 billion by 2050 if EV sales reach over 55% of new vehicle sales.[11] Furthermore, a cost-effectiveness analysis of EV charging investments proposed by four utilities in Maryland found that the proposed investments would generate net benefits to all ratepayers due to increased load.[12]

Managed charging and rate design, which PSE&G has proposed, can help ensure that EV charging takes place at times that are most beneficial to the grid. This can support

[10] *See, e.g.* M.J. Bradley & Associates (2016-2017), *State-Wide Costs and Benefits of Plug-in Vehicles in Connecticut, Maryland, Massachusetts, New York, and Pennsylvania, Colorado, Illinois, Michigan*, https://www.mjbradley.com/reports/mjba-analyzes-state-wide-costs-and-benefits-plug-vehicles-five-northeast-and-mid-atlantic; Submission to the Maryland Public Utilities Commission re: CASE NO. 9478(2018), https://webapp.psc.state.md.us/newIntranet/Maillog/content.cfm?filepath=C:%5CCasenum%5CAdmin%20Filings%5C200000-249999%5C221921%5CJointSignatoriesComments_FF.pdf; Gabel Associates, Inc. (2018), *Long Island Cost and Benefits*, https://www.psegliny.com/saveenergyandmoney/solarrenewableenergy/electricvehicles/-/media/2C0D0CC8E48648ECBB38463CD0405826.ashx.

[11] M.J. Bradley & Associates (2017), *State-wide Costs and Benefits of Plug-in Vehicles in Michigan*, https://mjbradley.com/sites/default/files/MI_PEV_CB_Analysis_FINAL_03aug17.pdf.

[12] Submission to the Maryland Public Utilities Commission re: CASE NO. 9478 (2018), https://webapp.psc.state.md.us/newIntranet/Maillog/content.cfm?filepath=C:%5CCasenum%5CAdmin%20Filings%5C200000-249999%5C221921%5CJointSignatoriesComments_FF.pdf. (Baltimore Gas and Electric Company found that revenue from residential charging would exceed program costs by two times through 2025, and Potomac Electric Power Company found that program costs would be exceeded by three times through 2025).

the creation of widespread grid benefits resulting from more efficient grid utilization and deferred capital upgrades. Some of the same studies referred to above note that benefits to all ratepayers increase when EV charging is shifted off-peak or intelligently managed (e.g. smart charging programs).[13] For example, a study analyzing the impacts of EV charging activity and time-of-use rates for the Salt River Project in Arizona found that time-of-use rates successfully shifted charging to off-peak hours, helping the utility defer future capital upgrade costs.[14] Further, a study commissioned by PSE&G Long Island found that managed charging could generate significant net benefits in the form of deferred and reduced grid impacts, and deliver an additional 30% saving to ratepayers.[15]

In addition, several studies highlight that the expected long-term electric sales from incremental EV load exceeds the marginal cost of grid infrastructure to support that load.[16] According to a NARUC report published in October 2019, EV load that charges during off-peak hours can provide positive net revenue flowing back to all customers due to the efficient use of the existing electric grid.[17] Further, a study by Synapse Energy Economics

[13] *E.g.* M.J. Bradley & Associates (2016-2017) and Gabel Associates, Inc. (2018).

[14] Utility Drive (2018), *Time of use rates can manage EV charging new report* says, https://www.utilitydive.com/news/time-of-use-rates-can-manage-ev-charging-new-report-says/515284/.

[15] Gabel Associates, Inc. (2018), *Long Island Cost and Benefits*, https://www.psegliny.com/saveenergyandmoney/solarrenewableenergy/electricvehicles/-/media/2C0D0CC8E48648ECBB38463CD0405826.ashx (and related presentation to the Long Island Power Authority Board of Trustees, https://www.lipower.org/wp-content/uploads/2018/10/EV-Study-LIPA-Board-Presentation-Oct-24-2018-FINAL.pdf).

[16] *See, e.g.*, E3, *Cost-Benefit Analysis of Plug-in Electric Vehicle Adoption in the AEP Ohio Service Territory*, April 2017. https://www.ethree.com/wp-content/uploads/2017/10/E3-AEP-EV-Final-Report-4_28.pdf.

[17] NARUC, Electric Vehicles: Key Trends, Issues, and Considerations for State Regulators, at 21 (Oct. 2019) ("NARUC EV White Paper"), available at https://pubs.naruc.org/pub/32857459-0005-B8C5-95C6-1920829CABFE (citing Jones et al. "The Future of Transportation Electrification: Utility, Industry and Consumer Perspectives," Lawrence Berkeley National Laboratory (2018), at http://eta-publications.lbl.gov/sites/default/files/feur_10_transportation_electrification_final_20180813.pdf).

found that in the territories of Pacific Gas & Electric and Southern California Edison, the incremental electrical sales enabled by EV programs exceeded the costs to the electric system by more than 3 to 1.[18] The addition of new dispersed load during off-peak hours can result in the wider distribution of fixed costs, leading to lower rates for all customers.[19] In effect, prudent investments in EV charging infrastructure result in increases in electric use, exerting downward pressure on retail rates that can benefit all utility customers regardless of EV ownership.

Electrification of the transportation sector will also advance New Jersey's emission reduction goals which will further benefit all residents of New Jersey regardless of EV ownership. The transportation sector accounts for nearly 50% of New Jersey's greenhouse gas emissions.[20] Electrification of the transportation sector can significantly reduce greenhouse gas emissions and other harmful air pollutants.[21] Even an electric vehicle charged with 100% coal-fired power will be cleaner than a gasoline-fueled internal combustion engine vehicle.[22] In New Jersey, the electricity system is substantially cleaner,

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[18] Synapse Energy Economics, Electric Vehicles Are Driving Rates Down, at 4 (Feb. 2019), available at https://www.synapse-energy.com/sites/default/files/EVs-Driving-Rates-Down-8-122.pdf.

[19] NARUC EV White Paper at 21.

[20] New Jersey Bureau of Public Utilities, *2019 New Jersey Energy Master Plan: Policy Vision to 2050* at 24 (June 10, 2019), available at https://www.nj.gov/emp/docs/pdf/2020_NJBPU_EMP.pdf.

[21] EPRI, *Environmental Assessment of a Full Electric Transportation Portfolio* (September 2015), available at https://www.epri.com/research/products/000000003002006875.

[22] Regulatory Assistance Project, "Regulatory Considerations for Transportation Electrification," at 11 (May 2017), available at https://www.raponline.org/wp-content/uploads/2017/06/RAP-regulatory-considerations-transportation-electrification-2017-may.pdf.

therefore the emissions benefits of electric vehicles are far greater.

Q. Are there other benefits from PSE&G's proposed CEF-EV program that you would like to discuss?

A. Yes. PSE&G has proposed including publicly accessible EVSE in the Pilot – whether that is publicly accessible EV chargers, or electrification of public fleets (school buses, public transit buses, municipal fleets, etc.). This means that all customers throughout PSE&G's service territory will directly or indirectly benefit including, but not limited to: (i) families with school children will benefit from the availability and use of electric school bus fleets; (ii) public transportation patrons will benefit from the availability and use of electric city bus fleets; (iii) fleet owners will benefit from lower total cost of ownership, and a healthier experience for drivers; and (iv) society will benefit from lower emissions and improved air quality.

Residential Smart Charging

Q. Does ChargePoint support PSE&G's proposed Residential Smart Charging Program?

A. Yes, ChargePoint supports the Residential Charging program as proposed by PSE&G. By reducing the cost of Level 2 charging infrastructure for residential customers, PSE&G will be facilitating more widespread adoption of electric vehicles by ensuring residential customers have the ability to charge their EVs at home where they are parked for long periods of time. PSE&G also proposes that residential customers will own the EV charger and each residential customer will have the ability to choose from a variety of EV charging hardware and network providers that have been pre-qualified by PSE&G based on

minimum technical capabilities.

ChargePoint appreciates that PSE&G has proposed to offer residential customers a choice among EV charging equipment and software providers that meet certain minimum specifications. Protecting customers' ability to choose their preferred solution – rather than providing a "one-size, fits-all" solution – is essential to protecting the competitive market for EV charging stations in New Jersey. When customers can choose the charging solution that works best for them, charging solution vendors will compete to make high-quality, innovative products that customers want. Creating ongoing competition between vendors through customer choice within utility programs is essential to ensuring that a competitive market can thrive within utility programs and sustainably continue after their conclusion.

PSE&G also proposes to incentivize customers participating in the Residential Charging program to charge their EVs during off-peak hours. Residential charging is perfectly suited for effective load management programs due to the long dwell times available for charging and the great deal of flexibility in when the vehicle must actually be charged. EV drivers tend to charge their vehicles at home over 80% of the time.[23] As such, drivers are often very willing, with the appropriate incentive, to defer charging to times that are more ideal and efficient for the grid.

Level 2 Mixed-Use Charging

Q. Does ChargePoint support PSE&G's proposed Level 2 Mixed-Use Program?

A. Yes, ChargePoint supports the Level 2 Mixed-Use program as proposed. PSE&G's

[23] *See*, U.S. Department of Energy, Office of Energy Efficiency & Renewable Energy, available at: https://www.energy.gov/eere/electricvehicles/charging-home.

proposal to provide make-ready investments combined with rebates toward the upfront costs of qualified networked Level 2 charging equipment will effectively reduce barriers to EV adoption in many use cases while leveraging private investment by site hosts. Similar to the Residential Smart Charging program, PSE&G proposes that the networked Level 2 EV charging stations be owned and operated by a third party,[24] and that where feasible, customers will not be required to request a new utility service connection and separately meter the EV charging station. Additionally, customers will have the ability to choose from a variety of EV charging hardware and network providers that have been pre-qualified by PSE&G based on minimum technical capabilities.

ChargePoint appreciates that PSE&G has proposed to offer customers a choice among EV charging equipment and software providers that meet certain minimum specifications. Protecting customers' ability to choose their preferred solution – rather than providing a "one-size, fits-all" solution – is essential to protecting the competitive market for EV charging stations in New Jersey. When customers can choose the charging solution that works best for them, charging solution vendors will compete to make high-quality, innovative products that customers want. Creating ongoing competition between vendors through customer choice within utility programs is essential to ensuring that a competitive market can thrive within utility programs and sustainably continue after their conclusion.

[24] This could be the property owner/site host, EV service provider, or other entity.

Public DC Fast Charging

Q. Does ChargePoint support PSE&G's proposed Public DC Fast Charging Program?

A. Generally, yes. ChargePoint supports the proposal to deploy utility-owned "make-ready" infrastructure and customer rebates to support broader deployment of DCFC stations throughout PSE&G's service territory. The potentially costly make-ready investments to support DCFC stations represent a significant investment by a site host and have proven to be a hurdle in adoption of EV charging infrastructure. In addition, the proposed customer rebates to cover a portion of the upfront costs of the DCFC stations will further incentivize deployment of EV infrastructure by reducing additional barriers faced by site hosts while still leveraging matching funds ("skin in the game"). Leveraging private investment supports a competitive market and reduces risk and costs for ratepayers. A key component of the Third-Party Ownership model is that site hosts will be able to select from a variety of EV charging hardware and network providers that have been pre-qualified by PSE&G based on minimum technical capabilities. Protecting customers' ability to choose their preferred solution – rather than providing a "one-size, fits-all" solution – is essential to protecting the competitive market for EV charging stations in New Jersey. When customers can choose the charging solution that works best for them, charging solution vendors will compete to make high-quality, innovative products that customers want. Creating ongoing competition between vendors through customer choice within utility programs is essential to ensuring that a competitive market can thrive within utility programs and sustainably continue after their conclusion.

As part of the DC Fast Charging Program, PSE&G has proposed to provide an off-bill incentive to offset the impact of demand charges on third party owned DCFC

stations deployed under this program. This aspect of PSE&G's proposal raises a number of significant issues that ChargePoint is concerned about. As such, I will address this proposed off-bill incentive and related issues in Section VI of my testimony below.

Q. Does PSE&G propose to own charging stations as part of the DC Fast Charging Program?

A. Yes. "To ensure the desired geographical coverage, PSE&G also proposes the Utility Ownership Model, where it will install, own, maintain, and operate the Make-Ready Infrastructure as well as the DC Fast Chargers, but only in the case where third-party interest falls short of subprogram goals."[25] PSE&G also states that utility ownership of charging stations will ensure that the charging facilities are reliably operated and maintained.[26]

Q. Does the proposed Utility Ownership Model provide for site host choice?

A. No. PSE&G states that it will, "source charging equipment…from a variety of vendors."[27] However, in response to ChargePoint Interrogatory (CP-PSEG-0007), PSE&G states that, "If the Company will be the owner/operator of the station, the Company, not the site host, will choose the hardware and network providers." Therefore, while PSE&G will pre-qualify multiple vendors of EV charging hardware and network services, the site host will not have a choice in what EVSE is ultimately deployed on the site host's property.

[25] PSE&G's Petition, Direct Testimony of Karen Reif ("Reif") at 43.

[26] Reif at 43.

[27] Reif at 43.

Q. Why is it important for the site host to choose which EV charging hardware and network services are deployed on their property even when the utility owns the EV charging station?

A. In the current EV charging market, there are charging hardware providers and national network providers – similar to mobile phones and cell carriers – and site hosts choose from both hardware and network providers to get the suite of features to fit their circumstances. Just like a customer chooses their preferred smart phone and carrier, the choice of both EV charging hardware and network makes for a cohesive customer experience.

As discussed previously, one of the main pillars of effective utility investment is the ability for site hosts to choose among multiple, qualified vendors of charging equipment and networks in order to find the best solution for their specific needs. Protecting customers' ability to choose their preferred solution – rather than providing a "one-size, fits-all" solution – is essential to protecting the competitive market for EV charging stations in New Jersey. When customers can choose the charging solution that works best for them, charging solution vendors will compete to make high-quality, innovative products that customers want. Creating ongoing competition between vendors through customer choice within utility programs is essential to ensuring that a competitive market can thrive within utility programs and sustainably continue after they cease.

Q. Does the Proposed Utility Ownership Model enable site hosts to set pricing for charging services to EV drivers?

A. No. PSE&G proposes that for utility-owned charging stations, drivers will be billed for their charging session according to a pricing structure consistent with local market fast

charging rates.[28]

Q. Why is site host control of charging stations located on their properties important?

A. As EV charging is a competitive service, the operation and pricing of the charging station is a direct reflection of a site host's goals for hosting that service: to attract drivers and encourage use of stations in a way that aligns with activities onsite.

Networked EV charging stations provide site hosts with the ability to set pricing for EV charging services in many ways. These dynamic pricing tools allow charging station site hosts to incentivize driver behavior, which is essential given that EV charging is a combination of vehicle refueling and parking. Flexibility in pricing allows site hosts to tailor pricing to the unique needs of the site, including, but not limited to:

- A free charging session;
- A fixed rate for the session, for which the driver pays a set fee for the entire session;
- An energy rate, for which the driver pays for the energy consumed on a per kilowatt-hour ("kWh") basis;
- An hourly rate, for which the driver pays per hour, similar to how a parking meter operates;
- Length-of-Stay pricing, for which one price is charged during the first x hours and another price is charged for every hour afterwards;
- Time-of-Day pricing, for which one price is charged during peak hours and another during off-peak hours;
- A minimum and/or a maximum fee per session;

[28] Reif at 43.

- A combination of the above, in which, for example, a flat session fee followed by an hourly rate, an hourly rate followed by per kWh pricing, a minimum session fee followed by an hourly rate, or a free period of time followed by per kWh pricing; and
- Driver groups, for which station owners may set unique policies for different classifications of drivers (e.g. employees vs. visitors) using the options above.

Q. What is ChargePoint's position regarding PSE&G's statement that utility ownership of charging stations will ensure that the charging facilities are reliably operated and maintained?

A. ChargePoint disagrees with PSE&G that utility ownership of DCFC stations is necessary to ensure they are reliably operated and maintained. PSE&G could ensure that stations deployed through its program are reliably operated and maintained by setting minimum requirements for station "uptime" and stipulating minimum maintenance requirements as conditions for receiving incentives or installing charging stations onsite.

Q. Do you have any recommendations for PSE&G's proposed DC Fast Charging Program?

A. Yes. ChargePoint recommends that the Utility-Ownership Model be modified to (1) provide site host choice of charging equipment and network solutions and (2) provide site host control over pricing and access. These features, which are intrinsic features of New Jersey's current competitive market, and every other subprogram proposed by PSE&G, should be included in the Utility Ownership Model to avoid any negative impacts on the competitive market.

Q. In order to accommodate these modifications, does PSE&G have to change its ownership model?

A. ChargePoint believes that incentive-based programs, like rebate and make-ready incentive programs, more easily and seamlessly accommodate site host choice and operation, as site hosts maintain ownership of charging stations in those models. That said, it is possible for a utility to own charging infrastructure in a manner that maintains site host choice and site host operation. This is the case in the San Diego Gas & Electric Power Your Drive Program and Pacific Gas & Electric's EV Charge Network in California.[29] Utility ownership of EV charging stations generally comes at greater risk and cost to ratepayers than incentive-based programs.

Q. Are there other actions PSE&G or the Board could undertake to incentivize deployment of DCFC stations in underutilized areas?

A. Yes. Prior to approving PSE&G's ownership and operation of DCFC stations, the BPU should first require exploration of alternative incentives or increased rebates for charging stations because these are less costly, less risky for ratepayers, and more flexible alternatives to accelerate the competitive market. In fact, PSE&G proposes to, "adjust the incentive amounts if necessary to attract more interest in multi-family locations and chargers designated for public use" under the proposed Level 2 Mixed-Use Charging program.[30] PSE&G should similarly consider adjusting incentive levels if necessary to

[29] *See* Decision Regarding Underlying Vehicle Grid Integration Application and Motion to Adopt Settlement Agreement, CPUC, Docket No. A.14-04-014 (January 28, 2016); Decision Directing PG&E to Establish an Electric Vehicle Infrastructure and Education Program, CPUC, Docket No. 16-12-065 (Dec. 21, 2016).

[30] Reif at 39.

further incentivize development in targeted areas.

ChargePoint recommends that the Board direct PSE&G to participate in a stakeholder working group within its ongoing Electric Vehicle Infrastructure stakeholder process (BPU Docket #QO20050357)[31] to determine whether additional financial incentives are necessary to support EVSE development at (i) strategic locations and (ii) underserved communities. Granting PSE&G flexibility to propose additional incentives in response to unique community needs will support wider and more equitable access to electric transportation. Authorization for additional incentives could be granted temporarily by the BPU and revisited periodically.

Vehicle Innovation

Q. Does ChargePoint support PSE&G's proposed Vehicle Innovation Program?

A. ChargePoint supports both components of the Vehicle Innovation program. PSE&G is proposing approximately $45 million in funding toward the purchase of electric school buses as well as deployment of make-ready infrastructure and EVSE. The second component of this program consists of approximately $12 million ($2 million annually) in funding for projects at ports, airports, and transit authorities, among others for medium and heavy-duty electrification.

As discussed earlier in my testimony, transportation electrification provides significant benefits to customers across PSE&G's service territory in the form of lower total cost of ownership, decreased emissions and improved air quality, among others. Medium and heavy-duty vehicle electrification further enables emission reduction by

[31] ChargePoint filed comments supporting Board Staff's Straw proposal with modifications. *See* ChargePoint's June 17, 2020, comments, attached as Exhibit A.

replacing higher emitting diesel vehicles with cleaner, more efficient electric vehicles. This is especially important for non-road fleets, which often operate in a manner that disproportionately impacts environmental justice communities.

The Vehicle Innovation Program is also consistent with New Jersey's 2019 Energy Master Plan:

> …State agencies will work with industry leaders and manufacturers to establish which kinds of vehicles (e.g., **buses, refuse trucks, delivery trucks, drayage trucks, jitneys, etc.)** should be incentivized as "first adopters" to further drive development and enable the technologies and efficiencies established in the early generations of vehicles to inform future vehicle manufacturing. NJEDA is finalizing a Request for Information aimed at commercial fleet owners, supply chain companies, and other related parties (e.g., truck leasing/financing), and **will offer electric truck purchase incentives beginning in the second half of 2020.** When this nascent market is more fully developed, the state will establish transition goals to EVs for the **medium- and heavy-duty fleet**. Further, the state will work with local industry to create incentives to encourage EV adoption for local delivery to reduce the emissions around warehouses and ports (see Goal 1.3). The strategy adopted should take account of opportunities that may exist for New Jersey to participate in the development of the supply chain for these vehicles by bringing relevant assembly and manufacturing jobs to the state. Finally, **the state will also work with school district-owned and commercially-owned school bus fleet operators to**

incentivize and encourage EV adoption as a means to upgrade fleets and reduce operating costs. Those may include, as an example, incentives for Boards of Education that prioritize contracting with bus companies that utilize EVs.

New Jersey should also consider **truck and bus rebate or grant programs** to reduce the incremental up-front cost of purchasing EVs over their conventional counterparts, or explore a state-wide procurement mechanism wherein the batteries in medium- and heavy-duty EVs are leased, thereby reducing the up- front cost of one comparable to a new diesel vehicle, and allowing the reduced operating costs (e.g., for fuel and maintenance) to cover the battery lease payments over time.[32]

Lastly, multiple medium and heavy-duty electric vehicles have been announced and will hit the market within the term of the program, including: Freightliner eM2 106 (medium duty delivery truck), Peterbilt Motors 220EV (medium duty truck), Navistar eMV (medium duty truck), Freightliner eCascadia (heavy duty highway tractor), Mack Trucks LR BEV (heavy duty refuse truck), Tesla Semi (heavy duty truck), and Volvo VNR (heavy duty regional-haul truck). The Vehicle Innovation program is designed to lay the foundation for operators interested in electrifying their medium and heavy-duty fleets, especially since upfront charging infrastructure is a core barrier in this sector.

[32] NJ 2019 EMP at 68, 74-75, 166 (emphasis added).

Q: Please discuss further how this program will reduce costs for medium and heavy-duty electrification?

A: A 2018 study conducted by UPS and GreenBiz identified the top barriers to medium and heavy-duty electrification as a lack of EV charging infrastructure at facilities, a lack of product availability, and prohibitive purchase prices.[33] The Program will directly help overcome two of these barriers by reducing the total cost of stations and installation. The program will indirectly help mitigate the third barrier (prohibitive purchase prices) by otherwise reducing total upfront cost with respect to EV charging infrastructure.

Cross Sub-Program Investment

Q. Does ChargePoint support PSE&G's proposed Cross Sub-Program Investment?

A. ChargePoint is supportive of the proposed investment to support the various program sub-components necessary to effectively implement and administer the overall CEF-EVES program. However, PSE&G should make every effort to leverage third party partnerships to carry out various aspects of the programs. For example, PSE&G should be encouraged to utilize the significant and thorough marketing materials of established EVSE suppliers to explain the benefits and functionality of the various EVSE included in the Program.

VI. DEMAND CHARGES FOR DCFC STATIONS

Q. Does PSE&G address how third-party owned DCFC could be affected by existing commercial and industrial ("C&I) rate structures under the PSE&G tariff?

A. Yes. Witness Reif states that a "barrier to entry in the DC Fast Charging market is the cost of electricity, especially in cases where demand charges apply, and station utilization is

[33] https://sustainability.ups.com/media/UPS_GreenBiz_Whitepaper_v2.pdf

low. Given the objective of DC Fast Charging stations – to deliver as much charge to drivers as possible in a short time window – they inherently face high levels of maximum demand under the existing PSE&G tariff. When coupled with low utilization overall, this can make the effective cost per kWh very expensive."[34]

Q. Is Witness Reif's description consistent with ChargePoint's experience in the EV charging market?

A. Yes. High demand charges represent one of the biggest financial challenges facing EV charging providers. Unsustainable demand charges can be triggered if multiple drivers plug into a bank of DC fast chargers at the same time, or if just one driver plugs into a higher-powered DC fast charger. Studies show that demand charges can increase EV charging station utility bills by thousands of dollars per month.[35] In some markets, demand charges can account for as high as 90% of total electricity costs.[36] The structural problems with traditional, demand-based C&I rates are not necessarily mitigated by higher utilization, as the total cost share of demand charges at DCFC that experience five charging sessions per day can still range from 30-to-80 percent relative to total energy costs.[37]

[34] Reif at 43-44.

[35] U.S. Department of Energy Vehicle Technologies Office, 2015. "Costs Associated with Non-Residential Electric Vehicle Supply Equipment." Available at: https://afdc.energy.gov/files/u/publication/evse_cost_report_2015.pdf.

[36] Rocky Mountain Institute, "EVgo Fleet and Tariff Analysis" (2017), available at https://rmi.org/wp-content/uploads/2017/04/eLab_EVgo_Fleet_and_Tariff_Analysis_2017.pdf.

[37] Great Plains Institute, "Overcoming Barriers to Expanding Fast Charging Infrastructure in the Midcontinent Region" (2019), available at https://scripts.betterenergy.org/reports/GPI_DCFC_Analysis_July_2019.pdf.

Q. How does PSE&G propose to mitigate demand charges in its existing C&I rates for third-party owned DCFC?

A. PSE&G proposes a short-term subsidy to its C&I rates that is intended to "address this challenge [of high demand charges]."[38] This short-term subsidy would lower the third-party owner/operator's overall cost of electricity to a known 'target rate' or 'set point' for a period of five years.

Q. Is ChargePoint supportive of PSE&G's proposed "set point" subsidy for third-party owned DCFC?

A. No. ChargePoint acknowledges that the set point subsidy would lower the cost to operate DC fast chargers for customers that are allowed to participate in this program, which would be preferable to the status quo. However, we are concerned that the set point subsidy is an unsuitable method to mitigate unintentional flaws in PSE&G's rates that lead to high demand charges for DCFC customers.

Q. How is the set point subsidy an unsuitable method to mitigate demand charges?

A. As proposed, the set point subsidy (i) ignores the root causes of unsustainable demand charges in PSE&G's C&I rates for DC fast charging customers, (ii) inappropriately seeks to regulate the price of DC fast charging services, and (iii) provides discriminatory relief to demand charges.

Q. How does the set point subsidy ignore the root causes of unsustainable demand charges in PSE&G's C&I rates?

A. Company Witness Reif claims that this barrier is due to situations where "station utilization

[38] Reif at 44.

is low," and that the set point subsidy would be "offered to participants in the Third-Party Ownership Model for a period of five years."[39] However, there is no evidence provided to substantiate that, at the end of five years, all stations operating under this program will experience sufficient utilization such that PSE&G's C&I rates are no longer a barrier. To the contrary, DCFC deployed in a less-traveled corner of PSE&G's service territory will consistently experience lower utilization than a high-volume corridor deployment, irrespective of statewide EV adoption. It would be short-sighted to assume that the unintended impacts of demand charges will be overcome at the conclusion of a short-term rate subsidy.

Q. Why would it be inappropriate to regulate the price of DC fast charging services?

A. PSE&G has proposed the set point subsidy to "offset electricity bill expenses"[40] and is based on benchmark data including equivalence with gasoline fueling costs and current DCFC pricing.[41] Reliance on these benchmarks to develop the set point subsidy is inappropriate.

It would be generally inappropriate for PSE&G to determine whether, and how, participants in this program set prices for competitive services provided on their premises. The set point subsidy is specifically designed to influence the price for EV charging, which is antithetical to a competitive market. The Legislature identified that EV charging is a competitive service in the New Jersey Plug-In Vehicle Act, N.J.S.A. § 48:25-10.

Even if the Board were to determine that the set point subsidy is a generally

[39] Reif at 44.

[40] Reif at 44.

[41] *See* Company response to Interrogatory TESLA-PSE&G-0001.

acceptable component of this program, it would be specifically inappropriate to calculate such a subsidy based on the price of gasoline. Gasoline prices are determined by market prices, not by the Board. In contrast, a site host's electricity costs are based in part on PSE&G's distribution and transmission costs, both of which have no relation whatsoever to the price of gasoline and fail to appropriately capture the cost to serve DCFC customers.

Q. In what way does PSE&G's proposed set point subsidy adversely affect the competitive market?

A. Although the set point subsidy would correct inherent flaws in PSE&G's C&I rates, it is problematic because PSE&G proposes to limit it to customers participating in this program. Participants in this program would then be able to set artificially-lower prices for DC fast charging services, and therefore have a competitive advantage over (i) existing C&I customers operating DC fast charging stations, (ii) customers that do not elect to participate in PSE&G's program, and (iii) customers who provide non-public DC fast charging to fleets of light-, medium-, and heavy-duty vehicles.

In addition, Company Witness Reif states that, "the subprogram target rate may be adjusted as market dynamics change, but changes will only affect new participants and not those already under a participation agreement."[42] Therefore, participants in this program could also face discriminatory treatment if and when PSE&G adjusts the subsidy.

Q. Did PSE&G consider alternatives to the set point subsidy?

A. While PSE&G considered alternatives to the set point subsidy, those alternatives would have similarly failed to create a sustainable C&I rate for customers with load profiles like

[42] Reif at 44.

DC fast charging site hosts. The alternatives that PSE&G considered included a demand charge holiday and a fixed-rate rebate offered for a fixed period of time.[43] The concerns that I have identified about the set point subsidy would equally apply to the alternatives considered by PSE&G.

Q. Are there examples of sustainable C&I rates that PSE&G could have considered?

A. Yes. There are many examples that have already successfully been implemented or are currently being developed in other jurisdictions, including (but not limited to):

- **Oregon, Pacific Power**: Schedule 45 which provides a demand charge transition discount paired with an on-peak energy charger transition discount.[44]
- **Oregon, Pacific Power**: Schedule 29 which combines a TOU rate with a demand charge based on utilization in which the average energy price declines as utilization increases.[45]
- **Pennsylvania, PECO**: EV DCFC Pilot Rider: A monthly bill credit representing a percentage of the nameplate demand associated with installed charging station's behind a commercial customer's metered service.[46]

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[43] *See* Company response to Interrogatory EVgo-PSEG-8.

[44] *See,* Pacific Power, Oregon Schedule 45, Public DC Fast Charger Optional Transitional Rate Delivery Service at https://www.pacificpower.net/content/dam/pcorp/documents/en/pacificpower/rates-regulation/oregon/tariffs/rates/045_Public_DC_Fast_Charger_Optional_Transitional_Rate_Delivery_Service.pdf. Approved in Oregon PUC Docket No. 485 on May 16, 2017.

[45] *See*, In the Matter of PACIFICORP, dba PACIFIC POWER, Request for a General Rate Revision. Oregon PUC Docket No. UE 374. (Proposed).

[46] *See,* EEI, *EV Trends and Key Issues* at 2 (Mar. 2019) ("On December 20, 2018... the Pennsylvania Public Utility Commission approved PECO's five-year EV DCFC Pilot Rider (EV-FC). This rider...will provide a demand credit to the customer's billed distribution demand. The credit...will be equal to 50 percent of the combined maximum nameplate capacity rating for all DCFCs connected to the service. Eligible customers will receive the credit for up to 36 months or until the pilot ends, whichever comes first. (Docket R-2018-3000164).)" at https://www.eei.org/issuesandpolicy/electrictransportation/Documents/EV_Trends_and_%20Key%20Issues_Mar2019_WEB.pdf. *See also* https://www.peco.com/SiteCollectionDocuments/ThirdPartyEV.pdf.

- **California, SCE**: TOU-EV-8, which provides TOU rates for the initial 5 years which demand charges phased back in years 6-10.[47]
- **California, SDG&E**: TOU-M an interim rate where sites can switch to a rate with $2.50/kW demand charge and the cap is waived.[48]
- **Connecticut, Eversource**: EV Rate Rider Pilot (EVRRP) which converts demand charges to an equivalent $/kWh charge.[49]
- **Virginia, Dominion**: GS-2 where low usage sites qualify for a non-demand general service rate.[50]
- **Wisconsin, Madison Gas & Electric**: Low Load Factor Provision where commercial customers on rate schedules Cg-4, Cg-2, or Cg-2A with an annual electric load factor <15% qualify for an on-peak demand reduction of 50%.[51]

Q. Does ChargePoint have recommendations relative to the set point subsidy for third-party owned DCFC stations deployed under PSE&G's program?

A. Yes. ChargePoint recommends that the BPU remove the set point subsidy and order PSE&G to develop and file one or more long-term C&I rate options that provide

[47] *See*, Southern California Edison Electric vehicle Rates for Businesses at https://www.sce.com/business/rates/electric-car-business-rates/business/rates/electric-car-business-rates.

[48] *See*, San Diego Gas & Electric, Interim Rate Waiver, at https://www.sdge.com/interim-rate-waiver.

[49] *See*, Eversource Rider EV.04-01-19, at https://www.eversource.com/content/docs/default-source/rates-tariffs/ct-electric/ev-rate-rider.pdf?sfvrsn=e44ca62_0. (Docket No. 17-10-46RE01).

[50] *See*, Virginia Electric and Power Company, ahttps://cdn-dominionenergy-prd-001.azureedge.net/-/media/pdfs/virginia/business-rates/schedule-gs2.pdf?la=en&rev=ca651fa03bb44ed4acf86a71547ba786&hash=6EF6530D86014E12AB2986EFCD0FDA9B.

[51] *See*, Madison Gas & Electric, at https://www.mge.com/customer-service/for-businesses/electric-rates/low-load-factor-provision. (Docket: 3270-TE-103, Approved June 6, 2019; PSC REF# 368677).

alternatives to traditional, demand-based C&I rates before the start of the program.

In the event that such options cannot be offered before the start of PSE&G's program, ChargePoint recommends that the Board:

- Amend the set point subsidy to allow non-discriminatory access for all of PSE&G's C&I customers; and
- Order PSE&G to develop and file one or more alternative to traditional, demand-based C&I rates by January 1, 2021, which must be made available to all customers before the conclusion of this program.

VII. CONCLUSION

Q. Please summarize your recommendations to the Board.

A. ChargePoint recommends that PSE&G's CEF-EV program be approved with the following modifications:

- PSE&G's proposed Utility-Ownership Model should allow for (1) site host choice of charging equipment and network solutions and (2) provide site host control over EC charging pricing and access.
- The BPU should not approve the set point subsidy and instead order PSE&G to develop and file one or more long-term C&I rate options that provide alternatives to traditional, demand-based C&I rates before the start of the program.

Q. Based on the foregoing discussion, please provide your overall opinion on PSE&G's proposed electric vehicle programs.

A. ChargePoint believes PSE&G's proposed CEF-EV Program can play a critical role in lowering barriers to more widespread adoption of electric vehicles and related charging technology in New Jersey. The Program will achieve its objectives more efficiently and

effectively with the recommended modifications outlined here, while preserving and fostering an open and competitive market for EVSE products and services for the benefit of the State's consumers.

Q. Does this conclude your direct testimony?

A. Yes.

APPENDIX - QUALIFICATIONS OF KEVIN MILLER

KEVIN GEORGE MILLER

PROFESSIONAL EXPERIENCE

ChargePoint, Campbell, CA 2016 – Present

Director, Public Policy

- Plan, direct and implement state and US federal policy and business development focused on company priorities.

Executive Office of Energy and Environmental Affairs (EEA), Boston, MA 2014 – 2015

Acting Chief Financial Officer

- Lead for fiscally related issues to Governor's Office and House and Senate Ways & Means committees.
- Senior advisor to Cabinet Secretary on policies of seven agencies, 2,600 FTEs, and $500M+ annual spending.

Executive Office of Energy and Environmental Affairs, Boston, MA 2012 – 2015

Director of Capital and Federal Finance

- Developed and managed $250M+ in annual capital investment programs to support the Commonwealth's energy and environmental priorities.
- Oversaw the Commonwealth's federally-funded initiatives related to energy and the environment.

Executive Office for Administration and Finance, Boston, MA 2011 – 2012

Fiscal Policy Analyst

- Analyst in charge of $2.6B portfolio for Governor's budget office including statewide collective bargaining, Environmental Affairs, Public Safety, Sheriffs, and Health and Human Services agencies.
- Appointed Secretary's designee on the Regional Greenhouse Gas Initiative Auction Trust Committee.

New Hampshire Democratic Party, Manchester, NH 2008

Field Organizer

- Responsible for organization and training in Portsmouth, Rye, and Greenland, NH.

Office of State Senator Marian Walsh, Boston, MA 2006 – 2008

Press Secretary

- Developed and executed communications, public strategy, and stakeholder engagement.

UTILITY REGULATION & GOVERNMENT APPOINTMENTS

Utility Regulation Expert Witness Massachusetts DPU: Docket No. 18-150

- New Hampshire PUC: Docket No. DE 19-057
- NYPSC: Case Nos. 19-E-0065 & 19-E-0378
- Rhode Island PUC: Docket Nos. 4770/4780
-

Statewide Commissions and Working Groups

- Member Representative, New Hampshire Electric Vehicle Charging Infrastructure Commission
- Legislative Chair, Maryland Zero Emission Electric Vehicle Infrastructure Council
- Infrastructure Co-Chair, Massachusetts Zero Emission Vehicle Task Force
- Infrastructure Co-Chair, Drive Electric Pennsylvania
- Infrastructure Expert Member, National Zero Emissions Vehicle Strategy Working Group (Canada)

EDUCATION

Harvard Kennedy School of Government, Cambridge, MA 2011

Master of Public Policy - International Trade and Finance

Tufts University, Medford, MA 2005

Bachelor of Arts (Political Science and Drama), *cum laude*

United Nations International School, NY, NY 2001

International Baccalaureate Diploma

EXHIBIT A

COMMENTS FILED BY CHARGEPOINT ON JUNE 17, 2020, REGARDING BOARD STAFF'S STRAW PROPOSAL ON ELECTRIC VEHICLE INFRASTRUCTURE BUILD OUT (BPU DOCKET NO. QO20050357)

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VIA ELECTRONIC FILING

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

Re: I/M/O the Straw Proposal on Electric Vehicle Infrastructure Build Out
BPU Docket No. QO20050357

Dear Secretary Camacho-Welch:

On behalf of ChargePoint, Inc. ("ChargePoint"), we appreciate the opportunity to offer the enclosed comments of ChargePoint in the matter referenced above.

Thank you.

Very truly yours,

Murray E. Bevan

Enclosure

I. Introduction & Background on ChargePoint

A. Introduction

On May 18, 2020, the New Jersey Board of Public Utilities ("BPU") Staff ("Staff") released its *New Jersey Electric Vehicles Infrastructure Ecosystem 2020 Straw Proposal* ("Straw Proposal").

ChargePoint applauds BPU Staff for the proposed EV Ecosystem ("Ecosystem"). We appreciate the opportunity to offer these comments in response to the proposed program design, as well as related issues raised in the Straw Proposal. In addition to our comments below, ChargePoint respectfully requests stakeholders be afforded an opportunity to submit reply comments. ChargePoint recommends reply comments be submitted no later than July 2, 2020.

In summary, our comments are as follows:

- The shared responsibility model proposed in Staff's Charger Ready Straw Proposal is a key first step to build out New Jersey's EV infrastructure;
- Customer rebates, combined with make-ready incentives, are among the most effective tools to incentivize EVSE deployment;
- The Straw Proposal should expressly recognize that the EV charging market is growing and dynamic and that there is no one business case for the EVSE industry or for EV charging site hosts;
- The Straw Proposal should be expanded to incentivize transportation electrification across the entire EV Ecosystem to include medium and heavy-duty electric vehicle charging applications and commercial fleets;
- The BPU should establish a Charger Ready Advisory Council to inform program evaluation;
- It is premature to request EDCs submit proposals to establish a process and timeframe for EDCs to provide a "Last Resort" function by owning and operating EV charging stations;
- The Straw Proposal should not restrict the manner in which a site host may price EV charging services to customers;
- The Straw Proposal should allow for EVSE Infrastructure Companies to develop appropriate locations and for independent site hosts to directly participate in the Charger Ready program;
- It is not necessary to create a new process to identify 'Poor Performing EVSE Infrastructure Companies;'
- The BPU should initiate a separate proceeding to consider EV tariffs that present alternatives to traditional demand-based rate structures; and,
- We recommend certain modifications to Staff's proposed terminology.

B. Background on ChargePoint

ChargePoint is the leading electric vehicle (EV) charging network in the world, with scalable solutions for every charging need and for all of the places that EV drivers go: home, work, around town, and on the road. ChargePoint's network offers more than 113,000 places to charge, including more than 1,696 spots in New Jersey, and those numbers continue to grow. With thousands of customers in several verticals including workplaces, cities, retailers, apartments, hospitals, and fleets, ChargePoint provides an integrated experience enabling consistent performance, efficiency and reliability at every touchpoint whether one is using a mobile app, plugging into a charger, managing the station or analyzing charging data. On the network, drivers have completed more than 78 million charging sessions, saved upwards of 93 million gallons of fuel, and driven more than 2.2 billion electric miles.

ChargePoint delivers scalable solutions that enable businesses to support more drivers, add the latest software features and expand their electric vehicle and fleet needs with minimal disruption to overall business. Hardware offerings include Level 2 (L2) and DC fast charging (DCFC) products, and ChargePoint provides a range of options across those charging levels for specific use cases including light and medium duty and transit fleets, multi-unit dwellings, residential (multi-family and single family), destination, workplace, and more. ChargePoint's software and cloud services enable site hosts to manage charging onsite with features like Waitlist, access control, charging analytics, and real-time availability. All products are UL-listed, ENERGY STAR® and CE (EU) certified, and the modular design minimizes downtime and makes maintenance and repair more seamless.

ChargePoint's primary business model consists of selling its smart charging solutions directly to businesses and organizations while offering tools that empower site hosts and station owners to deploy charging designed for their individual application and use case. ChargePoint provides charging network services and data-driven and cloud-enabled capabilities that enable site hosts to better manage their charging assets and optimize services. For example, with those network capabilities, site hosts can view data on charging station utilization, frequency and duration of charging sessions, set access controls to the stations, and set pricing for charging services. These features are designed to maximize utilization and align the EV driver experience with the specific use case associated with the specific site host. Additionally, ChargePoint has designed its network to allow other parties, such as electric utilities, the ability to access charging data and conduct load management to enable efficient EV load integration onto the electric grid.

II. Comments on Charger Ready Program Design

A. The Straw Proposal provides the necessary foundation for building a robust EV Ecosystem in New Jersey, however, ChargePoint recommends several enhancements to Staff's Proposal to ensure its effectiveness

1. The Shared Responsibility Model proposed in Staff's Charger Ready Straw Proposal is a key first step to build out New Jersey's EV infrastructure

Staff explains that the Charger Ready Straw Proposal is based on a "shared responsibility" model in which, "*EDCs invest in (and earn on) the wiring and backbone infrastructure necessary to enable a robust EV Ecosystem and the private sector owns, operates and advertises the EVSE. Even though under normal circumstances, private investors will install, operate, and market the charging stations, making sites across the state Charger Ready represents an extension of EDC responsibility*."[1]

The shared responsibility model is generally consistent with approaches taken in the majority of utility EV charging programs around the country and plays to the strengths of utilities as well as competitive market site hosts,[2] vendors, and EV Infrastructure Companies. A cohesive partnership between regulated utilities and competitive market actors will be critical to meeting New Jersey's ambitious energy, environmental, and transportation goals.

However, as discussed further below, while the Charger Ready proposal as currently structured is a key first step to deploying EV infrastructure throughout New Jersey, ChargePoint recommends several enhancements to Staff's proposal.

2. Customer rebates, combined with make-ready incentives, are among the most effective tools to incentivize EVSE deployment

In the Straw Proposal, Staff broadly endorses utility and customer side "make-ready" but proposes, "*that charging station infrastructure, or EVSE, costs will be generally borne by private investors, with no recourse to ratepayer funds.*"[3] ChargePoint interprets this statement to eliminate the possibility of customer rebates for EVSE.[4] However, rebates toward EVSE purchase costs, combined with make-ready incentives, have been utilized by utilities across the country to successfully incentivize deployment of EV infrastructure while minimizing overall program costs.[5] As discussed further below, the BPU has the authority to authorize rebates for EVSE.

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[1] EV Straw Proposal at 7

[2] Site host means the entity that owns, leases, manages, or otherwise possesses the premises upon which the electric vehicle charging station is or is planned to be located for the purpose of charging an electric vehicle. The site host may also be the utility customer of record and responsible for operation and maintenance of, and paying for the energy delivered to the electric vehicle charging station.

[3] EV Straw Proposal at 7.

[4] It is unclear to ChargePoint if this prohibition would apply to all EV charging use cases, or only public/MUD deployments.

[5] *See, e.g.*, Alternate Proposed Decision Regarding Southern California Edison Company's Application for Charge Ready and Market Education Programs, CPUC, Docket No. A.14-10-014, (Jan. 16, 2016), available at: https://docs.cpuc.ca.gov/PublishedDocs/Published/G000/M157/K682/157682806.PDF; Petition of the Electric Vehicle Work Group for Implementation of a Statewide Electric Vehicle Portfolio, Case No. 9478, Order No. 88997, (MPSC Jan. 14, 2019), available at: https://www.psc.state.md.us/wp-content/uploads/Order-No.-88997-Case-No.-9478-EV-Portfolio-Order.pdf; Decision Directing PG&E to Establish an Electric Vehicle Infrastructure and Education

Customer rebates should apply to costs associated with private businesses or entities deploying EVSE that meet functional requirements of the utility program to ensure that grid benefits are created. Under this program design, participating EV charging site hosts receive a utility incentive to support the purchase and installation of smart EV charging hardware and software that meet core functional requirements, such as collecting data and providing the ability for load management. Rebate programs have been utilized by investor owned utilities for years supporting energy efficiency programs so there is already an administrative framework making it simple to add EV program incentives without driving up utility costs.

ChargePoint urges the BPU and Staff not to prejudge the ability for utilities to offer customer rebates for EVSE, regardless of use case or market segment. Prematurely eliminating the ability for customer rebates to play a vital role in incentivizing EVSE will impair the State's ability to meet its ambitious transportation electrification goals. Therefore, ChargePoint recommends the Charger Ready proposal be expanded to include customer rebates for EVSE, particularly for priority market segments and Equity Areas. In the alternative, ChargePoint recommends that any rebate program proposed by an EDC be evaluated by the BPU, with input from stakeholders, on a case by case basis through individual utility applications.

ChargePoint recommends that in many cases rebate levels be "partial," meaning something less than the full cost of the EVSE and thus still requiring site host investment ("skin in the game"). These partial rebates should be based on guidelines that are supported by the BPU and Staff with broad stakeholder input and should target residential, workplace and other commercial locations. Higher levels of rebates should be considered for segments that have been traditionally harder to reach due to market barriers, e.g., DCFC or Equity Areas (including LMI communities).

Finally, cost recovery for utility rebates can be approached by treating the rebate as a regulatory asset, thereby allowing both cost recovery and a rate of return on the investment similar to other capital investments.[6]

Program, CPUC, Docket No. 16-12-065 (Dec. 21, 2016); Massachusetts Department of Public Utilities. Docket 17-05. "Order Establishing Eversource's Revenue Requirement." November 30, 2017. (available at https://eeaonline.eea.state.ma.us/EEA/FileService/V1.4.0/FileService.Api/file/FileRoom/dehehcjj); New York Public Service Commission. Matter No. 17-00887. "Proceeding on Motion of the Commission as to the Rates, Charges, Rules and Regulations of Niagara Mohawk Power Corporation d/b/a National Grid for Electric Service." (available at http://documents.dps.ny.gov/public/MatterManagement/CaseMaster.aspx?MatterCaseNo=17-E-0238) (utility-provided make-ready coupled with EVSE rebates provided by New York State Energy Research and Development Authority).

[6] *See, e.g.* In the Matter of the Petition of the EV Work Group for the Implementation of a Statewide EV Portfolio, Case No. 9478, Md PSC (January 14, 2019) (approving rate based rebates for three Maryland investor owned utilities); In the Matter of the Application of Consumers Energy Co for Authority to Increase its Rates, Case No. U-20134 , MI PSC (May 19, 2020) (approving rate based rebates for Consumers Energy); In the matter of the Application of DTE Electric Company for Authority to Increase its Rates, Case No. U-20162, MI PSC (May 2, 2019) approving rate based rebates for DTE);: Petition of Virginia Electric & Power Company, For approval of a Plan for

a) The BPU has a long history of authorizing customer rebates to further New Jersey's clean energy goals

On many prior occasions during the last 30 years, the BPU has exercised its broad regulatory authority to approve similar customer rebate and incentive programs offered by utilities for purchases of equipment that would not be owned by the utilities and has allowed those utilities to recover their associated costs from ratepayers. Several of these BPU orders approving utility rebate and incentive programs pre-dated New Jersey's passage of the Regional Greenhouse Gas Initiative Act ("RGGI Act"), which was enacted in January 2008, the Clean Energy Act ("CEA"), which was enacted in May 2018, and the New Jersey Plug-In Vehicle Act ("PIV Act"), which was enacted in January 2020.

For example, in 1994, five years prior to New Jersey's enactment of the Electric Discount and Energy Competition Act ("EDECA") and long before the RGGI Act, Clean Energy Act, and PIV Act were enacted, the BPU approved utility rebates for the purchase of compressed natural gas-powered vehicles ("NGVs") by utility customers and allowed PSE&G to recover from ratepayers the partial cost of providing these rebates.[7,8] This NGV incentive program, like the current proposals for electric vehicle charger rebates by utilities, was intended to jump start the market for this transportation technology.

Furthermore, for over a decade the BPU has been approving New Jersey electric utility customer rebate programs for the purchase of energy efficient equipment for residential customers (such as smart thermostats) and incentives for the installation of energy efficient equipment for hospital customers, local government customers, and multi-family building owners.[9] The BPU also has a long history of approving gas utility customer rebates, including:

Electric Distribution Grid Transformation Projects, Case No. PUR-2019-00154, VA SCC (March 26, 2020) (approving rate based rebates for Dominion).

[7] *Re Public Service Electric and Gas Company*, 1994 WL 534983 (N.J.B.P.U.), 155 P.U.R. 4th 441 (Sept. 8, 1994).
[8] *Id.*
[9] *See, e.g., I/M/O Petition of Public Service Electric and Gas Co. Offering and Energy Efficiency Economic Stimulus Program in Its Service Territory On a Regulated Basis And Associated Cost Recovery Mechanism*, B.P.U. Docket No. EO09010056, (Decision and Order Approving Stipulation, August 1, 2009) ("EEE Program); *I/M/O Petition of Public Service Electric and Gas Co. for Approval of Its Energy Efficiency 2017 Program and Recovery of Associated Costs*, B.P.U. Docket No. EO17030196 (Order Adopting Stipulation, August 23, 2017) (including Smart Thermostat rebate program). The EEE Program was extended via B.P.U. Docket No. EO11010030 (July 14, 2011) ("EEE Extension I"), and B.P.U. Docket No. EO14080897 (April 15, 2015) ("EEII Program").

- a 2009 order authorizing South Jersey Gas to implement, among other programs, an enhanced residential heating, ventilation, and air conditioning ("HVAC") rebate program which was renewed by the BPU several times;[10]
- a 2018 order authorizing the New Jersey Natural Gas "SAVEGREEN" program that provides, among other things, rebates to customers for energy efficient products, home energy assessments, and HVAC incentives.[11]

In addition, the BPU has over multiple years approved PSE&G's recovery from ratepayers for "Solar Loan" programs that involved the utility's investment of capital in loans to developers of solar generation facilities that are not owned by the utility.[12]

The BPU's June 10, 2020, Order Regarding the Establishment of Energy Efficiency and Peak Demand Reduction Programs ("EE Order") continues its long history of allowing utility rebates and incentives to achieve New Jersey's energy goals by directing each electric and gas public utility to establish energy efficiency and peak demand reduction programs pursuant to the EE provisions of the Clean Energy Act of 2018, and approving BPU Staff's recommendations for utility administered rebates and incentive programs for residential, multi-family, and commercial and industrial customers.[13]

As noted by the BPU in its June 10, 2020, EE Order, "[m]any of New Jersey's electric and gas public utilities offer a variety of EE programs that serve specific markets or customers not explicitly addressed by NJCEP programs or that enhance NJCEP offerings through additional incentives or alternative payback options", and "[t]he State also administers the Comfort Partners program in conjunction with the utilities, working to offer free energy efficient upgrades to qualified low-income customers".[14]

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[10] *I/M/O THE PETITION OF SOUTH JERSEY GAS COMPANY FOR APPROVAL OF AN ENERGY EFFICIENCY PROGRAM ("EEP") WITH AN ASSOCIATED ENERGY EFFICIENCY TRACKER ("EET") PURSUANT TO N.J.S.A. 48:3-98.1*, BPU Docket No. GO12050363 (June 21, 2013) (discussing its original approval of the rebate program in its July 24, 2009, order).

[11] *I/M/O Petition of New Jersey Natural Gas Company for Approval of Existing and New Energy Efficiency Programs and a Class I Renewable Energy Program and the Associated Cost Recovery Mechanism Pursuant to N.J.S.A. 48:3-98*, BPU Docket No. GO18030355 (September 17, 2018) at 4, ¶ 13.

[12] *I/M/O Petition of Public Service Electric and Gas Co. for Approval of a Solar Loan III Program and Associated Cost Recovery Mechanism*, B.P.U. Docket No. EO12080726 (Decision and Order Approving Stipulation, May 29, 2013) ("Solar Loan III); *I/M/O Petition of Public Service Electric and Gas Co. for Approval of a Solar Loan II Program and an Associated Cost Recovery Mechanism*, B.P.U. Docket No. EO09030249 (Decision and Order Approving Stipulation, November 10, 2009) ("Solar Loan II); *I/M/O Petition of Public Service Electric and Gas Co. for Approval of a Solar Energy Program and an Associated Cos Recovery Mechanism*, B.P.U. Docket No. EO07040278 (Decision and Order Approving Settlement, April 8, 2008) ("Solar Loan I"). Notably, the BPU conducted a full evidentiary proceeding regarding the merits of the Solar Loan I program during 2007 (pursuant to the BPU's general ratemaking authority) prior to the enactment of the RGGI Act.

[13] *I/M/O the Implementation of P.L. 2018, C. 17 Regarding the Establishment of Energy Efficiency and Peak Demand Reduction Programs*, NJ BPU Docket Nos. QO19010040, QO19060748, QO17091004 (Agenda Item 8D - June 10, 2020) ("EE Order") at 10, 50, 86.

[14] EE Order at 5-6.

Moreover, the BPU emphasized in the recent EE Order the long history of utility involvement in demand side management ("DSM") incentive programs for energy conservation, which the BPU began approving as early as the 1980s.[15]

New Jersey law defines "demand side management" as "the management of customer demand for energy service, through the implementation of cost effective energy efficiency technologies, including, but not limited to installed conservation, load management, and energy efficiency measures on and in the residential, commercial, industrial, institutional and governmental premises and facilities in this state."[16] The PIV Act amended EDECA to include "plug-in vehicles and plug-in electric vehicle charging infrastructure" programs as demand side management programs eligible for funding through the Societal Benefits Charge ("SBC"), which is a charge that appears on ratepayers' utility bills.[17] Electric vehicle charging infrastructure can serve as a very effective demand side management tool for grid load management if EV charging is incentivized to occur during off peak time periods. New Jersey's 2019 Energy Master Plan ("EMP") emphasizes the following demand side management benefits of electric vehicle charging infrastructure:

> "Electrified transportation can provide grid benefits such as better utilizing the distribution grid, shaving peak load, and providing power back to the grid. With managed charging, battery EVs can charge when there is excess capacity or reduced demand, better utilizing the distribution grid during off-peak times. Further, as Vehicle-To-Grid technology matures, electrified vehicles on the grid can provide mobile battery storage and load balancing power, which will further reduce or shift energy demand to avoid increased capacity costs."[18]

The NJ 2019 EMP also clarifies that programs designed to increase the use of electric vehicles are energy conservation measures because "[v]ehicle electrification reduces total final energy demand. EVs are more efficient than gasoline-powered vehicles in terms of energy used per mile traveled, and allow New Jersey's final energy demand to decrease in the Least Cost scenario, even as electricity load increases".[19] Therefore, in addition to the BPU's general regulatory authority to approve utility customer rebates and incentives, section 13 of New Jersey's RGGI Act authorizes the BPU to approve rate recovery for utilities that offer customer rebates for EV charging infrastructure since such infrastructure is an energy conservation measure.[20] The RGGI

[15] EE Order at 4 ("The Board began approving utility demand side management ("DSM") programs for energy conservation in the 1980s and adopted DSM regulations in 1991 that (1) required electric and gas public utilities to offer conservation, EE, and load management programs, known collectively as DSM programs; (2) provided incentives to initiate and implement programs; and (3) permitted cost recovery of the programs and recovery of the fixed cost portion of lost revenues due to the programs.").
[16] N.J.S.A. § 48:3-51.
[17] N.J.S.A. § 48:3-60(a)(3).
[18] New Jersey 2019 EMP at 62, available at: https://nj.gov/emp/docs/pdf/2020_NJBPU_EMP.pdf.
[19] 2019 EMP at 61.
[20] N.J.S.A. § 48:3-98.1(a)(1).

Act defines "energy efficiency and energy conservation programs" to include both programs that conserve energy and programs for making the use of electricity "more efficient".[21]

Moreover, the 2019 EMP emphasizes that the importance of developing financing for clean energy projects, including instructing the BPU to "work with utilities, third-party providers, and other industry actors to develop mechanisms to provide rebates at the point of sale. This lessens administrative overhead and lowers barriers to entry for those who otherwise wouldn't be able to afford waiting for a rebate check."[22] Specifically with respect to electric vehicles, the 2019 EMP repeatedly emphasized the BPU's authority to facilitate the growth of electric vehicle infrastructure in New Jersey and instructed the Board to explore "both rate-based and non-rate based solutions" to ensure that "utility providers and other stakeholders can offer a significant opportunity for widespread charging deployment across multiple transportation modes and sectors."[23] The PIV Act should be read in parallel with New Jersey's 2019 Energy Master Plan because the New Jersey Legislature expressly referenced the Energy Master Plan and its "objectives" as being synonymous with the goals of the PIV Act.[24] The PIV Act further states: "The Legislature therefore determines that it is in the public interest to establish goals for the increased use of plug-in electric vehicles in the State, to support the increased use of plug-in electric vehicles by providing incentives for the purchase or lease of such vehicles and for related charging equipment."[25] The PIV sets forth ambitious goals for the development of electric vehicle charging infrastructure in New Jersey, and the New Jersey Legislature expressly provided in the PIV Act that the Board may "pursuant to P.L.2019, c.362 (C.48:25-1 et al.) **and any other existing statutory authority**, adopt policies and programs to accomplish the goals established pursuant to this section."[26] The phrase "any other existing statutory authority" clearly includes the BPU's general ratemaking and regulatory authority over utilities[27] as well as the RGGI Act, Clean Energy Act, and EDECA. As discussed above, the BPU has a long history of exercising its broad authority under all of these statutes to approve utility customer rebates for equipment that will not be owned by the utility. There is absolutely no legal basis or policy justification for the Board to treat utility customer rebates for electric vehicle charging infrastructure differently.

B. The Straw Proposal should expressly recognize that the EV charging market is growing and dynamic and that there is no one business case for the EVSE industry or for EV charging site hosts

In developing the "shared responsibility" model to deploy EV infrastructure, the Straw Proposal appears to take the position that only EVSE Infrastructure Companies will be site hosts. For

[21] N.J.S.A. § 48:3-98.1(d).
[22] 2019 EMP at 222.
[23] *See* 2019 EMP at 68.
[24] N.J.S.A. § 48:25-1.
[25] *Id.*
[26] N.J.S.A. § 48:25-3(b) (emphasis added).
[27] See, e.g., N.J.S.A. § 48:2-13(a) ("The board shall have general supervision and regulation of and jurisdiction and control over all public utilities…").

example, the Straw Proposal states that EVSE Infrastructure Companies would be primarily responsible for, "*Installing, owning, maintaining and marketing the EVSE…*"[28] Further, the Straw Proposal assumes that, "*EVSE Infrastructure Companies could charge customers either based on the time of charging or the amount of electricity the customer consum[es]*."[29] As discussed below, the Straw Proposal oversimplifies the current market for EV infrastructure.

The EV charging market is growing and dynamic, and there is no one static business case for the EVSE industry or for EV charging site hosts. For example, currently charging station providers approach site hosts with their unique products and features, competing with other providers to sell or install charging equipment. Site hosts have an open choice of several options for charging equipment and networks from different providers with different business models. Site hosts also compete for EV drivers in providing charging services and set their pricing and access features in ways that will attract drivers to their sites. In most cases, it is the site host, not the EVSE Infrastructure Company, that owns and operates the charging equipment.

The business case, or value proposition, for various entities to install and operate charging stations incorporate many different value streams and varies across use cases. As an example, for DCFC, a significant driver of value for site hosts are the ancillary transactions that take place while a driver is charging up an EV. The assumed EVSE Infrastructure Company model in the Straw Proposal only considers a model which primarily depends on driver revenues or subscriptions and are unable to account for other value streams associated with the site host. Site hosts balance costs against the value created by hosting a station, which are often beyond direct revenue that may be generated. Non-financial benefits include providing fringe benefits to attract and retain employees, attracting new customers and have them stay for longer periods of time for businesses, meeting sustainability goals for local governments and businesses, appealing to new tenants, amongst many others. Additionally, the vast majority of EV charging does not take place at public charging stations.[30] Residential customers acquire EVSEs for use at home in order to take advantage of faster charging and provide for a connected user interface to support scheduling and tracking of charging at home.

According to the Department of Energy's Alternative Fuels Data Center ("AFDC"), across New Jersey, there are 791 public charging outlets,[31] or ports, utilizing a standard connector that enable charging of any model of EV deployed by nine EV charging companies. Of those 791 outlets, there are 122 DC fast ports and 669 Level 2 charging ports. It is important to note that the AFDC total does not include essential, non-public charging locations, such as workplace and residential, that

[28] EV Straw Proposal at 9.
[29] EV Straw Proposal at 9, FN 4.
[30] See, e.g., DoE at, https://www.energy.gov/eere/electricvehicles/charging-home, (most plug-in electric vehicle drivers do more than 80% of their charging at home.)
[31] U.S. DoE Alternative Fuel Data Center; filtered by New Jersey, Electric Fuel, Level 2 and DC Fast, Standard Connectors J1772/CCS/CHAdeMO; Accessed June 8th, 2020. Despite the best efforts of this database to include all public chargers, it is likely this number is undercounting the total numbers simply due to a delay in registering new installations.

are often cornerstones of successful utility EVSE programs. The vast majority of these public charging stations have been the result of site host investment, in whole or in part. This is an emerging market defined by natural demand and private investment across a diversity of communities. As EV adoption continues to grow and become more widespread in New Jersey, we will continue to see greater and increasing demand for EV charging solutions in new areas. ChargePoint and its competitors will continue to market and sell charging stations to a variety of site hosts in New Jersey, who own and operate those charging stations on their properties. As such, the Straw Proposal's assumption that all charging stations will be owned and operated by an EVSE Infrastructure Company does not accurately reflect the market, and New Jersey's EV Ecosystem should be developed with a recognition of all business models.

The Straw Proposal also assumes there are two methods for site hosts to price charging services. However, networked EV charging stations provide site hosts with the ability to set pricing for EV charging services in many ways. These dynamic pricing tools allow charging station hosts to incentivize driver behavior, which is essential given that EV charging is a combination of vehicle refueling and parking. Flexibility in pricing allows site hosts to tailor pricing to the unique needs of the site, including, but not limited to:

- A free charging session;
- A fixed rate for the session, for which the driver pays a set fee for the entire session;
- An energy rate, for which the driver pays for the energy consumed on a per kilowatt-hour (kWh) basis;
- An hourly rate, for which the driver pays per hour, similar to how a parking meter operates;
- Length-of-Stay pricing, for which one price is charged during the first x hours and another price is charged for every hour afterwards;
- Time-of-Day pricing, for which one price is charged during peak hours and another during off-peak hours.
- A minimum and/or a maximum fee per session;
- A combination of the above, in which, for example, a flat session fee followed by an hourly rate, an hourly rate followed by per kWh pricing, a minimum session fee followed by an hourly rate, or a free period of time followed by per kWh pricing; and
- Driver groups, for which station owners may set unique policies for different classifications of drivers (e.g. employees vs. visitors) using the options above.

ChargePoint recommends the Straw Proposal be revised to not restrict the manner in which a site host may price EV charging services to customers.

C. The Straw Proposal should not require DCFC chargers to simultaneously charge two vehicles

The Straw Proposal establishes "*certain performance requirements*"[32] that an EVSE Infrastructure Company must accept in order to use an EDC-funded Charger Ready location. One requirement is that an EVSE Infrastructure Company, "*Commits to using chargers capable of handling more than one EV, such as dual-port chargers, wherever technically feasible*."[33] ChargePoint interprets this requirement to mean that each EV charger deployed under the Charger Ready program must be capable of charging two vehicles *simultaneously*.

ChargePoint recommends that Staff allow site hosts more flexibility in selecting the appropriate charging solution when participating in the Charger Ready program given the wide array of charging solutions provided by the EVSE industry.

For L2 stations, many EVSE manufacturers offer both single and dual-port stations. Dual-port stations allow up to two vehicles to charge simultaneously. This can be supported by dedicated electrical circuits for each connector, or by sharing a single circuit between the two connectors.

For DC fast charging, EVSE manufacturers generally provide multiple ports to allow drivers whose vehicles use different connector standards to plug in. Typically, publicly accessible DCFC provide both an SAE Combo Charging System (CCS) or CHAdeMO connector. Due to the design considerations for DC fast charging, most solutions on the market allow for only one of the connectors to be in use at any time at a given station.

We respectfully recommend that Staff remove the requirement that charging solutions be able to charge two vehicles simultaneously, to allow EVSE Infrastructure Companies to deliver the best charging solution for the site host.

D. The Straw Proposal should be expanded to incentivize transportation electrification across the entire EV Ecosystem to include medium and heavy-duty EV charging applications and commercial fleets

As recognized in the Straw proposal, "*New Jersey needs to create a comprehensive EV Ecosystem that provides consumers with easy access to electric vehicle charging infrastructure where they work and play*."[34] However, Staff has limited the Charger Ready Straw Proposal to publicly available light duty and MUD charging infrastructure. By only considering a small subset of the EV Ecosystem, Staff may have inadvertently limited the effectiveness of the Charger Ready proposal. The Charger Ready program, as currently constructed, will lead to an over-deployment of EVSE at public locations and under-deployment of EVSE at workplaces. More importantly, this

[32] EV Straw Proposal at 10.
[33] EV Straw Proposal at 11.
[34] EV Straw Proposal at 1.

program would fail to account for the significant value for ratepayers and the public created by deploying workplace and residential EVSE.

ChargePoint recommends the Straw Proposal be expanded to incentivize transportation electrification across the entire EV Ecosystem by including public and non-public EVSE locations. Making all charging locations eligible to receive Charger Ready incentives will increase effectiveness of the program and increase benefits for all ratepayers:

- Over 90% of EV charging takes place at home and work.[35] The EVSE-related load at residential and workplace locations is flexible and responsive to price signals, as drivers at these locations typically park for extended periods of time.
- Workplace and residential charging load profiles are good matches to support increased volumes of variable energy resources like wind and solar on the grid, because it can be moved to times when variable renewable energy resources are more prevalent.[36]
- Supporting the deployment of EVSE at workplaces, where availability thereof makes employees six times more likely to buy an EV, would accelerate the achievement of New Jersey's EV goals.[37]
- Multiple medium and heavy-duty vehicles have been announced and will hit the market within the term of the Charger Ready Program, including: Freightliner eM2 106 (medium duty delivery truck), Peterbilt Motors 220EV (medium duty truck), Navistar eMV (medium duty truck), Freightliner eCascadia (heavy duty highway tractor), Mack Trucks LR BEV (heavy duty refuse truck), Tesla Semi (heavy duty truck), and Volvo VNR (heavy duty regional-haul truck). The Charger Ready Program should be designed to ensure support for operators interested in electrifying their medium and heavy-duty fleets, especially since upfront charging infrastructure is a core barrier in this sector.

States across the country, including Wisconsin,[38] Ohio[39] and Michigan[40] are moving forward to incentivize fleet and workplace transportation electrification and we urge the BPU to similarly address these vital transportation segments. New Jersey's 2019 Energy Master Plan supports

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[35] Smart, John, *Lessons Learned About Workplace Charging in the EV Project*, Idaho National Labs (2015), available at https://www.energy.gov/sites/prod/files/2015/07/f24/vss170_smart_2015_p.pdf.

[36] Regulatory Assistance Project, "Beneficial Electrification of Transportation," at 37 (Jan. 2019) ("RAP 2019 Electrification Report"), available at https://www.raponline.org/wp-content/uploads/2019/01/rap-farnsworth-shipley-sliger-lazar-beneficial-electrification-transportation-2019-january-final.pdf.

[37] U.S. DOE, Workplace Charging Challenge, available at: https://www.energy.gov/sites/prod/files/2017/01/f34/WPCC_2016%20Annual%20Progress%20Report.pdf.

[38] Application of Northern States Power, as an Electric Utility, for Approval of Electric Vehicle Service Programs, Wisconsin PSC Docket 4220-TE-104 (Proposed).

[39] I/M/O the Application of uke Energy Ohio, Inc. for Authority to Adjust its Power Forward Future Initiatives Rider, Ohio PUC Docket 19-1750-EL-UNC (Proposed).

[40] I/M/O the Application of Consumers Energy Company for Authority to Increase its Rates for the Generation and Distribution of Electricity and for Other Relief, Michigan PSC Case U-20697 (Proposed).

ChargePoint's recommendations regarding incentivizing fleet and workplace transportation electrification:

> [T]his shared responsibility model ensures that utility providers and other stakeholders can offer a significant opportunity for widespread charging deployment across multiple transportation modes and sectors (i.e., residential, multifamily, **workplace**, **fleets**, and public DC fast charging), using both rate-based and non-rate-based solutions, and resulting in diminished consumer "range anxiety" and increased EV adoption rates.
>
> …..State agencies will work with industry leaders and manufacturers to establish which kinds of vehicles (e.g., buses, refuse trucks, delivery trucks, drayage trucks, jitneys, etc.) should be incentivized as "first adopters" to further drive development and enable the technologies and efficiencies established in the early generations of vehicles to inform future vehicle manufacturing. NJEDA is finalizing a Request for Information aimed at commercial fleet owners, supply chain companies, and other related parties (e.g., truck leasing/financing), and **will offer electric truck purchase incentives beginning in the second half of 2020**. When this nascent market is more fully developed, the state will establish transition goals to EVs for the **medium- and heavy-duty fleet**. Further, the state will work with local industry to create incentives to encourage EV adoption for local delivery to reduce the emissions around warehouses and ports (see Goal 1.3). The strategy adopted should take account of opportunities that may exist for New Jersey to participate in the development of the supply chain for these vehicles by bringing relevant assembly and manufacturing jobs to the state. Finally, the state will also work with school district-owned and commercially-owned school bus fleet operators to incentivize and encourage EV adoption as a means to upgrade fleets and reduce operating costs. Those may include, as an example, incentives for Boards of Education that prioritize contracting with bus companies that utilize EVs.
>
> New Jersey should also consider **truck and bus rebate or grant programs** to reduce the incremental up-front cost of purchasing EVs over their conventional counterparts, or explore a state-wide procurement mechanism wherein the batteries in medium- and heavy-duty EVs are leased, thereby reducing the up-front cost of one comparable to a new diesel vehicle, and allowing the reduced operating costs (e.g., for fuel and maintenance) to cover the battery lease payments over time. In addition, agencies such as NJEDA should work with private lenders and trucking industry participants to develop longer term loan products that can enable the lower projected operating costs for EV trucks and buses to more effectively provide for the payback of the high upfront investment in electric versions of vehicles. The state could also help facilitate financing for bulk purchases to drive down capital procurement costs. New Jersey will work with transportation network companies, as discussed earlier, to advance the

> deployment of public charging infrastructure along busy transportation corridors and within urban areas and to ensure private sector support for an electric fleet transition.
>
> ….New construction offers New Jersey the most cost-effective opportunities to incorporate modern technologies into buildings. As discussed earlier in Strategy 1: Reduce Energy Consumption and Emissions from the Transportation Sector, a common barrier to electric vehicle (EV) adoption is the lack of charging opportunities, **particularly at the workplace** and at multi-unit dwellings. The state should consider mechanisms, such as new legislation or incentives, to ensure that new commercial and multi-unit dwelling construction are built to EV-ready standards. Development of these mechanisms should be done in conjunction with stakeholders and local municipalities.[41]

E. EV chargers deployed pursuant to the Charger Ready Program should meet minimum specifications

ChargePoint understands that in developing the Straw Proposal, Staff focused largely on the Charger Ready aspects of the Ecosystem, rather than the EV charging infrastructure that will be deployed. However, in doing so, Staff misses an opportunity to set minimum functional requirements that any EVSE installed under the Charger Ready program must meet.

ChargePoint recommends that any EVSE installed under the Charger Ready program shall require advanced charger capabilities in order to future-proof any investments, and reduce Staff's concerns with EVSE obsolescence. Advanced, or smart, chargers will be vital to ensuring that EV charging benefits New Jersey's grid by enabling the EDCs, or third-parties, to have advanced remote load management controls to facilitate off-peak charging and other managed charging strategies.[42] An advanced charger can also collect interval data to inform usage patterns, and provide enhanced network communication capabilities between the EV driver and the utility, or third-party systems. Specifically, ChargePoint recommends that chargers have the ability to connect to a network, be UL certified, have smart energy management and data storage capabilities, and low standby power consumption (which may be demonstrated by ENERGY STAR certification). By requiring advanced chargers from the outset, the BPU and Staff will enable program administrators, vendors, and customers to reap significant benefits from increased functionality, wider program design options, and ultimately a more successful program deployment. In addition, networked charging would obviate the need for installation of AMI meters in many use cases thereby lowering the overall cost for a customer to install EV charging infrastructure.

[41] NJ 2019 EMP at 68, 74-75, 166 (emphasis added).

[42] ChargePoint notes that managed charging may be appropriate for residential charging for Level 2 stations but may not be appropriate for public DC fast charging stations, where it is more difficult for drivers to plan their routes or change charging behavior.

Furthermore, ChargePoint recommends that EDCs should be required to develop a methodology to qualify EVSE equipment and to regularly update the list of qualified charging solutions to keep up with the pace of innovation and allow site hosts to best meet the evolving needs of drivers, site hosts, and grid operators.

F. Establish a Charger Ready Advisory Council to inform program evaluation

The Straw Proposal is silent on program evaluation and reporting guidance. ChargePoint requests that Staff and the BPU consider providing guidance on these topics as part of this proceeding. The Charger Ready program is a complex program with many interrelated activities and market players. Regular review and check-ins on the efficacy of its various elements will ensure it swiftly adapts to technological and market developments and takes advantage of valuable insights from participating stakeholders.

In order to increase program transparency and accountability, we recommend establishing a Charger Ready Advisory Council ("CRAC") that would meet quarterly to review pertinent metrics and evaluate program options. The CRAC would also inform a formal bi-annual program review by the BPU.

We recommend that the CRAC be comprised of representatives from relevant constituencies, including Staff, municipalities, public agencies and authorities, the EDCs, EV charging industry, environmental justice advocates, labor and installation partners, environmental stakeholders, and the automotive industry.

We further recommend that each EDC, in consultation with the CRAC, be directed to file annual reports detailing the status of its individual program implementation, lessons learned, and potential enhancements to the program to ensure full deployment is achieved. The reports should include, at minimum: number of sites made Charger Ready; number of Charger Ready sites operational; location of each deployment; average time to make locations Charger Ready and, how many Charger Ready sites are in Equity Areas.

III. Comments on Ensuring Equitable Distribution of EVSE

ChargePoint applauds the Straw Proposal's focus on ensuring, "*equitable geographic diversity, particularly with respect to ensuring a viable EV ecosystem in low-income, urban, environmental justice communities, or rural communities [collectively Equity Areas] …If the market is not delivering EV services to a particular Equity Area, within a given timeframe, the EDCs would be eligible to act in lieu of an EVSE Infrastructure Company, meaning that it could directly own and operate the EVSE."*[43] The Straw Proposal refers to this as a "Last Resort" function by the EDCs. Staff is seeking stakeholder comment on proper criteria to implement any "Last Resort" function by the EDCs.

[43] EV Straw proposal at 11-12.

A. EDC "Last Resort" function

ChargePoint understands Staff's concern that the market may not deploy charging equipment when and where desired. However, ChargePoint stresses that the BPU must provide sufficient time for the market to meet customer needs. As stated in the EV Stakeholder Workshop on June 3rd, "a Last Resort must mean last resort".[44] As such, ChargePoint believes it is premature to request EDCs submit proposals to establish a process and timeframe for EDCs to provide a "Last Resort" function by owning and operating EV charging stations.[45] Specifically, combining Charger Ready with EVSE rebates for these "Equity Areas" should first be tested, given these are less costly, less risky for ratepayers, and more flexible alternatives to accelerate the market. Further, ChargePoint argues that it is premature to determine the "Last Resort" function can only be met by an EDC owning and operating EV Charging stations.

Prior to authorizing EDCs to own and operate EV charging stations, ChargePoint encourages the BPU to carefully consider whether and under what circumstances supplemental EVSE incentives can be made available. We recommend that prior to considering utility ownership and operation of EV charging stations, the BPU should establish a stakeholder working group to determine whether additional financial incentives (i.e., rebates covering EVSE and related operating costs) are necessary to support EVSE deployment at (i) strategic locations and (ii) underserved communities. Granting EDCs the flexibility to propose additional incentives in response to unique community needs will support wider and more equitable access to electric transportation. Authorization for additional incentives could be granted temporarily by the BPU and revisited at the bi-annual review.

Should the BPU feel it necessary to determine a timeframe for when the market is not delivering EV services to Equity Areas in this proceeding, ChargePoint recommends a period of not less than 24 months from the commencement of provision of make-ready and EVSE rebate incentives to provide the market appropriate time to respond.

B. EDC ownership of EVSE

ChargePoint believes it is premature to consider EDC ownership and operation of EV charging stations. However, should the Board consider direct ownership of EVSE by utilities in this proceeding, ChargePoint respectfully recommends that the Board identify program requirements associated with such ownership to avoid any unintended market impacts.

For example, the Board should ensure that such utility-owned EVSE include local site host choice of at least two vendors for both hardware and software and choice over whether to flow through the applicable EV rate charged by the utility to the driver or to flow through alternative pricing

[44] Stephanie Brand, NJ Rate Counsel, EV Workshop, available at: www.njcleanenergy.com/ev, at 1:15:51.
[45] EV Straw Proposal at 13.

to the driver (with the site host responsible for the applicable EV rate in both circumstances). In doing so, market forces can still be in play, private market actors will be encouraged to invest their own capital and local site hosts will be able to maximize station utilization and optimize the driver experience. Examples of such programs that include utility ownership with local site host choice and control include San Diego Gas & Electric "Power Your Drive" and Pacific Gas & Electric's EV Charge Network in California.[46]

In addition, the Board should develop appropriate procedural valves/gates to avoid prematurely authorizing utilities to directly own and operate publicly-available EV charging stations. For example, in response to National Grid's proposal to own & operate public EVSE, the Rhode Island Public Utility Commission ("RIPUC") required that the Company first pursue non-ownership incentives (i.e., make ready and rebate) for at least one year before returning to the RIPUC with a proposal to own and operate EVSE. Requiring a "waiting period" was an important factor in ensuring the prudency of ratepayer investments.[47] Indeed, National Grid identified in its first annual filing that it would defer consideration of ownership for an additional year.

IV. Comments on The Proposed EV Mapping Effort

The Staff Straw proposal establishes a process combining an 'EV Mapping Effort,' which refers to an effort, "*to map existing and proposed EV Ecosystem investments, under the lead of the Department of Environmental Protection ("DEP"), in conjunction with the Board and other Agencies,"* [48] with a 'Charger Ready Map Proposal,' which "*is a proposal from an EDC which pre-identifies areas that are suitable for Level Two or DC Fast Charging based on the EV Mapping Effort."*[49] ChargePoint understands Staff's desire to coordinate the deployment of resources to create a robust EV Ecosystem, however the proposal provides few guidelines regarding how the mapping efforts will be conducted, the timeframe in which the efforts will be completed, or who will participate in the mapping efforts.

Utilities and regulatory agencies can, and should, play a central role in supporting the deployment of EVSE in New Jersey. However, ChargePoint is concerned that the proposed process would (a) inadvertently exclude critically important locations and participants and (b) unduly burden utilities with the responsibility of designing comprehensive EV charging networks without the assistance of third-parties with significant industry experience. ChargePoint requests clarification from Staff and the BPU that site hosts and EVSE Infrastructure Companies can request sites be made Charger Ready whether or not the site has been identified via either mapping effort.

[46] See, Decision Regarding Underlying Vehicle Grid Integration Application and Motion to Adopt Settlement Agreement, CPUC, Docket No. A.14-04-014 (January 28, 2016); Decision Directing PG&E to Establish an Electric Vehicle Infrastructure and Education Program, CPUC, Docket No. 16-12-065 (Dec. 21, 2016);

[47] In Re: The Narraganset Electric Company d/b/a national Grid Proposed Power Sector Transformation Vision and Implementation Plan, Rhode Island PUC Docket No. 4780. (Order Issued may 5, 2020), Available at: http://www.ripuc.ri.gov/eventsactions/docket/4770-4780-NGrid-Ord23823%20(5-5-20).pdf

[48] EV Straw Proposal at 5.

[49] EV Straw Proposal at 4.

Additionally, a site not being identified during the mapping processes should not impede, in any way, the work necessary to make the location Charger Ready.

A. Encourage site host recruitment without restricting participation

Staff's Straw Proposal establishes that EDCs will, "*Develop hosting maps in conjunction with the EV Mapping Effort that identify where to prioritize making sites Charger Ready…while avoiding lengthy and costly distribution upgrades."*[50] ChargePoint recommends that the Charger Ready proposal allow for a variety of participants and avoid imposing strict eligibility criteria based on load capacity and/or site host business models.

Load serving capacity data is critically important to inform developers and site hosts and should be an important consideration when deploying EVSE. However, installation and interconnection costs are not the sole consideration. Other key site considerations include, but are not limited to: safe and well-lit access; access to key locations and amenities (workplaces, dining, restrooms, shopping); and wi-fi and cell connectivity.

As stated previously, EV charging stations are not only operated by entities whose sole business is the provision of charging services. The EV charging market is growing and dynamic, and there is not a uniform business model for the industry or for EV charging site hosts. The business case, or value proposition, for various entities to install and operate charging stations incorporate many different value streams and varies across use cases.

Should Staff prefer to impose strict eligibility criteria, we recommend delaying such implementation until the first bi-annual program review to allow for collaborative development of criteria through the CRAC process.

B. Recruit program participants through multiple channels

We recommend against making utilities bear the sole responsibility for identifying priority Charger Ready locations. Instead, we recommend that the Straw Proposal allow for EVSE Infrastructure Companies to develop appropriate locations and for independent site hosts to directly participate in the Charge Ready program.

Allowing for broad customer engagement by third-party vendors, and by independent site hosts themselves, would be in both customers' and the public interest. There are no one-size-fits-all charging solutions, and EVSE providers often work closely with site hosts to provide customized infrastructure and equipment deployment solutions that meet their specific needs, which reduces the risk of stranded assets.

[50] EV Straw Proposal at 8-9.

Including third-parties in developing locations and recruiting site hosts would not prevent utility engagement with potential program participants, nor would it delay the program. Utilities should, of course, freely engage with their customers about the Charger Ready program, provided that such utility engagement does not inadvertently limit third-party participation.

V. The Straw Proposal Inappropriately Directs EDCs to Identify "Poor Performing EVSE Infrastructure Companies"

In the Straw Proposal, Staff, "*proposes that the EDCs will jointly establish and file for Board approval* ***criteria for identifying Poor Performing EVSE Infrastructure Companies*** *(i.e., not adequately maintaining operational equipment)"*[51]

ChargePoint supports ensuring robust consumer protection mechanisms for EV charging in New Jersey, which are critical to drivers, site hosts, and the general public. However, we are concerned that requiring EDCs to carry out consumer protection functions would be inconsistent with state law and prematurely impose requirements that should otherwise be administered through existing state agency channels.

The New Jersey Legislature recently found that the provision of EV charging is "a service and not a sale of electricity by an electric power supplier or basic generation service provider."[52] As the provision of competitive services is outside the BPU's jurisdiction, it would be more appropriate for related consumer protection issues to be overseen by the Office of Weights and Measures within the New Jersey Division of Consumer Affairs.[53] Similar offices around the country have begun to implement the *Tentative Code for Electric Vehicle Fueling Systems*, which is included in Section 3.40 of the National Institute of Standards and Technology's (NIST) Handbook 44.[54]

To the extent that the Board would seek to ensure ongoing operations and maintenance of stations deployed under the auspices of the Straw Proposal, ChargePoint recommends including a requirement that participants commit to keeping EV charging equipment maintained and operational with a 95% annual uptime guarantee for a minimum term (e.g., five years).

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[51] EV Straw Proposal at 11.
[52] N.J.S.A. § 48:25-1 .
[53] NJ Division of Consumer Affairs website, https://www.njconsumeraffairs.gov/OWM/Pages/default.aspx ("The New Jersey Office of Weights and Measures tests and inspects all commercially used devices from prescription pharmacy balances to large capacity truck scales. In addition, the office is responsible for testing fuel meters, airplane fuel trucks located in area airports, laser guns and radar tuning forks used for speed enforcement and portable vehicle scales used in highway safety programs. This is just a small sample of the devices tested and inspected annually by the New Jersey Office of Weights and Measures….The New Jersey Office of Weights and Measures core mission is to protect consumers from unscrupulous business practices and maintain equity in the marketplace.").
[54] See Appendix A.

VI. Comments on Rate Reforms Designed to Encourage Adoption of Electric Vehicles

A. New Jersey should develop alternatives to traditional, demand-based rates

As Staff correctly notes, "*DC Fast Chargers, have a large instantaneous draw, which can create large demand charges, particularly when such stations are combined into "banks" of chargers. This problem is particularly acute in the early days of EV adoption, where some stations may have relatively few monthly charging sessions over which to recoup a high demand charge.*"[55]

ChargePoint appreciates Staff's acknowledgement of the burden traditional demand charges place upon DCFC stations and we support the recommendation to consider alternatives to traditional demand-based rates to sensibly address this challenge. However, ChargePoint believes it is premature to limit the potential solutions to, "*either wave demand charges associated with EV charging or develop a rebate methodology that ensures that the effective $/kW-hour rate (i.e., the demand charge averaged over the number of kW-hours used in a given month added to the standard $/kW-hour rate) remains below a specified "setpoint.*""[56]

While short-term subsidies like those identified in the Straw proposal can offset burdensome demand charges, as stated at the workshop, multiple approaches to rate design are necessary because there is not a singular use case for EV charging.[57] ChargePoint believes that it is critical for the Board to ensure the development of long-term, sustainable, tariff-based solutions that reflect actual costs and benefits to the grid of EV load, rather than short-term subsidies. We urge the BPU to initiate a separate proceeding to consider such long-term sustainable rate designs that more precisely allocate costs and benefits of EV load. This type of long-term, sustainable tariff-based EV rate design is necessary to attract private investment in EV charging infrastructure, especially at the DCFC level. Many examples have already successfully been implemented or are currently being developed in other jurisdictions. For example:

- Charging stations can be separately metered with unique "EV Charging" rates, reflective of marginal costs and benefits to serve the EV charging use case in question.[58]
- Replacing or pairing demand charges with higher volumetric pricing to provide greater certainty for charging station operators with low utilization. This rate could be scaled based on utilization or load factor as charging behavior changes over time.[59]

[55] EV Straw Proposal at 12.
[56] EV Straw Proposal at 13.
[57] Adam Benshoff, Edison Energy Institute, EV Workshop, available at: www.njcleanenergy.com/ev, at 4:58:11.
[58] Alternative rate structures have been recently approved in California by Pacific Gas & Electric (PG&E) and Southern California Edison (SCE) to the California Public Utilities Commission.
[59] Pacific Power has implemented such a rate in Oregon, providing for a demand charge transition discount of 90% and an on-peak energy charge transition discount of 10%, and reducing the demand charge transition discount gradually each year to 0% while increasing the on-peak energy charge transition discount gradually each year to 100%. *See* Pacific Power, Oregon Schedule 45, Public DC Fast Charger Optional Transitional Rate Delivery Service at

- Implement a "rate limiter" as EV adoption increases, in which the average cost equivalent of a customer's demand charges would be limited to no more than a set cents/kWh value.[60]
- Forgive a portion of billed demand when the customer has a low load factor.[61]

B. New Jersey should avoid short-term subsidies, like the set point method, to fix long-term problems

1. The set point subsidy is designed to solve a different problem than that which is faced by DC fast charging site hosts

Traditional, demand-based commercial and industrial electricity rates are misaligned with low load-factor use cases like DC fast charging. The most appropriate and sustainable solution to this problem would come in the form of non-discriminatory electricity rates that reflect cost-causation, send appropriate price signals to customers, and avoid artificially subsidizing otherwise misaligned electricity rates on an ongoing basis.

In contrast, the set point method has been described by Atlantic City Electric as a short-term "incentive to offset the customer's demand charges" in the form of a "monthly rebate to reduce the effective cost of electricity."[62] As envisioned in the Straw Proposal, Staff suggest that the "*actual level of the set point would be agreed to by the EDCs, in conjunction with interested stakeholders, and then filed with the Board*," and would "*be benchmarked so that electric vehicle charging remains below the equivalent cost of diesel or gasoline on a per-mile traveled basis.*"[63]

ChargePoint is generally supportive of proposals that mitigate the significant cost of demand charges that are borne by EVSE site hosts, be they operators of highway corridor chargers, municipal electric fleets, or state agencies like NJ Transit. We acknowledge that the set point method would likely lower the cost to operate DC fast chargers for customers that are allowed to participate in the program. However, we are concerned that the set point subsidy is an unsustainable and inappropriate method to mitigate unintentional flaws in rate design.

Specifically, the set point subsidy:

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https://www.pacificpower.net/content/dam/pcorp/documents/en/pacificpower/rates-regulation/oregon/tariffs/rates/045_Public_DC_Fast_Charger_Optional_Transitional_Rate_Delivery_Service.pdf. Approved in Oregon PUC Docket No. 485 on May 16, 2017.

[60] Ameren implemented such a rate in Illinois, which was designed to limit the average monthly cost for customers who limited their total kWh usage during the four summer billing periods of June through September to 20% or less of their annual kWh consumption. *See* https://www.ameren.com/-/media/rates/files/illinois/aiel14rtds4.pdf. (Docket No. 16-0387).

[61] Xcel Minnesota's general service rate offers an example of this approach, see https://www.xcelenergy.com/staticfiles/xe/Regulatory/Regulatory%20PDFs/rates/MN/Me_Section_5.pdf.

[62] Petition by ACE at 18.

[63] EV Straw Proposal at 13.

- **Fails to address geographic variability in DCFC load factor**. DCFC utilization will continue to vary greatly based on a number of different factors beyond light-duty EV adoption. For example, DCFC deployed in a less-traveled corner of an EDC's service territory will consistently experience lower utilization than a high-density corridor deployment, irrespective of statewide EV adoption. It would be short-sighted to assume that the unintended impacts of demand charges will be overcome at the conclusion of a short-term rate subsidy.
- **Pegs the price of electricity to the price of gasoline**. The Straw suggests that set point subsidies would depress the cost of EV charging at a DCFC enrolled in a C&I electricity rates below the market price of gasoline. This would be an inappropriate use of ratepayer funds. Gasoline prices are determined by market prices, not by the Board. In contrast, a site host's electricity costs are based in part on the Company's distribution and transmission costs, both of which have no relation whatsoever to the price of gasoline and fail to appropriately capture the cost to serve DCFC customers.
- **Provides discriminatory relief from demand charges**. Electricity rates are made available to customers on a nondiscriminatory basis, and so subsidies that offset structural problems with C&I should similarly be made available without discrimination We are concerned that, in practice, this would not take place. For example, ACE proposed to limit set point subsidy eligibility to new customers that participate in an infrastructure make ready program, thereby excluding existing C&I customers and customers that do not elect to participate in an infrastructure deployment program.

We respectfully urge the Board to require utilities to develop alternatives to traditional, demand-based tariffs to provide customers in New Jersey with sustainable, cost-based, long-term solutions reflective of actual marginal net costs to serve EV chargers. Such a long-term sustainable rate design is necessary to attract private capital investment in the long-term.

C. EV TOU rates

ChargePoint supports the Staff straw proposal requirement, "*that each EDC offer a time-of-use rate for EV chargers designed to reward customers who charge during periods where electricity is cheap*."[64] Incentivizing EV charging to take place during off-peak periods through TOU rates can lead to increased utilization of existing utility assets and avoid the need for additional capacity and grid infrastructure. However, TOU rates may not be a perfect application for public DCFC stations since these stations are often used by EV drivers that cannot adjust their usage to avoid the impact of higher priced TOU time periods. This user group may include drivers traveling longer distances on highways unable to schedule their stops to align with changes in pricing or charger availability caused by higher priced TOU time periods. Therefore, any rates should be

[64] EV Straw Proposal at 13.

developed with careful consideration of the needs of both site host utility customers and EV drivers, and with an express goal of avoiding unintended consequences.

VII. Recommended Changes to Charger Ready Terminology

Based on the comments above, ChargePoint recommends the following modifications, deletions and/or additions to Staff's proposed terminology (Section III of the Straw proposal).

- "EVSE Infrastructure Company" refers to an entity that offers EVSE and/or associated software/cloud and other services in support of operating EV charging stations. ~~using private capital to deploy Electric Vehicle Service Equipment (i.e., "charging station infrastructure").~~ An EVSE Infrastructure Company cannot be an EDC, affiliated with an EDC, or controlled by an EDC, unless otherwise approved by the Board.

- "Operational" means a charging location that an EVSE Infrastructure Company, or site host, would be required to maintain and promptly fix, in accordance with industry standards, in the event of malfunctioning hardware or software that would impede the use of the equipment by a consumer.

- ~~"Poor Performing EVSE Infrastructure Companies" means EVSE Infrastructure Companies that fail to regularly maintain or promptly fix malfunctioning locations in accordance with industry practices, i.e., EVSE Infrastructure Companies that fail to maintain Operational charging locations, as defined above.~~

- "Site Host" means the entity that owns, leases, manages, or otherwise possesses the premises upon which the electric vehicle charging station is or is planned to be located for the purpose of charging an electric vehicle. The site host may also be the utility customer of record and responsible for operation and maintenance of, and paying for the energy delivered to the electric vehicle charging station.

VIII. Conclusion

ChargePoint appreciates the opportunity to provide comment on Staff's Straw Proposal, which would establish a comprehensive statewide EV Ecosystem to support the deployment of EV charging stations throughout New Jersey. Our recommendations would strengthen the proposed EV Ecosystem by accelerating the achievement of New Jersey's statewide energy and environmental goals, minimizing costs and maximizing benefits for ratepayers, and ensuring that New Jersey builds out a robust electric transportation network. ChargePoint reserves its rights to provide additional comments as this process develops, and additional stakeholders weigh in.

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 REGUALTED BASIS
BPU DOCKET NO. EO18101111

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