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VIA E-MAIL & E-FILING

Aida Camacho-Welch, Secretary
New Jersey Board of Public Utilities
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RE: I/M/O THE PETITION OF PSE&G 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, Inc. ("ChargePoint"), enclosed please find Rebuttal Testimony of Kevin George Miller in the above referenced matter.

Please contact me if you have any questions.

Thank you.

Very truly yours,

Murray E. Bevan

Enclosure

cc: Service List (via e-mail and e-filing)

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 REBUTTAL TESTIMONY

Rebuttal Testimony of
Kevin George Miller

October 16, 2020

I. INTRODUCTION AND SUMMARY

Q. Are you the same individual who submitted direct testimony on September 4, 2020, on behalf of ChargePoint?

A. Yes.

Q. Please summarize your rebuttal testimony.

A. My testimony addresses assertions in direct testimony from Zeco Systems, Inc. d/b/a Greenlots ("Greenlots"), as presented by Witness Joshua Cohen, and from Environment New Jersey, Environmental Defense Fund, Natural Resources Defense Council, and Sierra Club ("Environmental Intervenors"), as presented by Witness Kathleen Harris regarding PSE&G's CEF-EVES Program.

II. RESPONSE TO GREENLOTS WITNESS JOSHUA J. COHEN

Q. Do you agree with Witness Cohen that utility investment can accelerate the build-out of EV charging (15:324-326)?

A. In general, yes. However, it is critical that utility investment complements and supports the competitive market by ensuring that EV charging site hosts that participate in a utility's program select the charging solutions and pricing policies that align with their unique site operations. Absence of these features will limit site hosts' ability to find the best EV charging solution for their specific needs, and decrease competition between vendors.

Q. What is ChargePoint's position on Witness Cohen's opinion that there is a "lack of a sustainable private market business model for the ownership and operation of public charging stations based on revenues from charging activities" (14:302-303)?

A. ChargePoint disagrees. Mr. Cohen appears to take a narrow view of the public EV charging market. Site Hosts that choose to invest their own private capital in a charging station may do so for a multitude of reasons, many of which are not based on direct revenues from charging activities. (ChargePoint Exhibit 1, 6:23 – 7:15). In addition, Witness Cohen admits there has been and is "significant private investment in technology companies engaged in supporting transportation electrification" (15:320-321), which provides additional support that there is, in fact, a sustainable private business model for public charging stations.

Furthermore, there are eight charging networks utilizing standard connectors, including ChargePoint, that operate in New Jersey today (ChargePoint Exhibit 1, 6:5-6). These networks are continuously growing by installing new stations every month in states across the nation, including New Jersey, and there is nothing preventing additional charging networks from entering the market.

Q. Witness Cohen recommends, "modifying Offering 3 to…encourage Company ownership of DCFC units." Do you agree?

A. No, I do not. The competitive market has been successfully developing EV charging stations throughout New Jersey and it will continue to do so. In fact, according to the New Jersey Department of Environmental Protection, "New Jersey has a robust network of DC Fast Charging Stations spread throughout the state."[1] Any expansion of utility

[1] https://www.drivegreen.nj.gov/charging.html

ownership of EV charging stations is premature and potentially harmful to the competitive market.

It is also important to highlight the extent to which Witness Cohen's recommendation conflicts with the findings and directives of the Board of Public Utilities (the Board) on utility EV charging program design:

> The Board FINDS that ownership and operation of EV charging stations should be driven by the market, and, therefore, EVSE Infrastructure Companies, site owners, and property management companies are the preferred owners and operators of EVSE; however, there are occasional and narrow instances where it is appropriate for the utility to own and operate EV charging stations.
>
> The Board FINDS Staff's definition of areas of Last Resort to be reasonable and HEREBY PERMITS EDCs to own and operate EV Chargers and EVSE as a "Last Resort." EDC ownership and operating of charging infrastructure in areas of Last Resort is strictly contingent on Board approval pursuant to Staff's recommendations addressed in this Order. The Board therefore ORDERS any EDC seeking to own and operate EV Chargers and EVSE as a "Last Resort" to gain Board approval

before any work is conducted and comply with Staff's recommendations laid out herein.[2]

Q. Witness Cohen asserts that, "the major shortcoming of the proposed CEF-EVES Program is that PSE&G limits its ability to own and operate public DCFC units." (11:244-247). Do you agree?

A. I agree that modifications are necessary to improve PSE&G's program. However, I disagree with Greenlots' assertion that the major shortcoming of the proposed program is the limits on utility ownership of public charging stations. Rather, from ChargePoint's perspective, the proposed program has two shortcomings. First, PSE&G's Utility Ownership Model does not allow site host choice of charging equipment and network solutions. This will limit site hosts' ability to find the best EV charging solution for their specific needs, and decrease competition between vendors. Second, PSE&G proposes that for utility-owned charging stations, site hosts will not be able to set pricing for EV charging services. Site hosts are best suited to create incentives, through pricing, to ensure optimal utilization of the EV charging stations in a way that aligns with their own specific business models.

Q. Do you believe that PSE&G's proposed "Last Resort" ownership model will limit and/or delay the benefits of the CEF-EVES program, as Mr. Cohen asserts?

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[2] BPU Docket No. QO20050357. Effective September 23, 2020, at 25-26.

A. No, I do not. As previously discussed, the competitive market has been developing EV charging stations throughout New Jersey and it will continue to do so. PSE&G's proposal, where the Company would only own EV charging stations as a "Last Resort" is consistent with the Board's recent Order on Staff's Straw Proposal. It will be important that any EV charging stations deployed as a "Last Resort" provide site hosts the ability to choose among multiple vendors of EV charging hardware and network solutions and allow site hosts the ability to set pricing for EV charging services. Doing so will ensure utility investment in EV infrastructure does not duplicate, or conflict with, the private market.

Q. Witness Cohen cites a decision from the Maryland Public Service Commission ("Maryland Commission") as examples of commissions that react to "the value and market need for utility ownership" (23:492-495). What is your perspective on the Maryland Commission decision?

A. Witness Cohen fails to capture the nuance of the Maryland Public Service Commission's order. While the Maryland Commission approved utility ownership of charging stations, the Maryland Commission modified the original proposal from the utility to scale down the size of the deployment of utility-owned infrastructure. The Commission also limited the utility-owned charging deployments to public sector charging locations only, so as to avoid conflict with competitive market activities. In its decision in Order No. 88997, the Maryland Commission cited concerns "that a utility-owned EV charging network could limit private sector interest in investing in this marketplace." (*Petition of the Electric Vehicle Work Group*, 2019 WL 249400 at *39 (Md.P.S.C.)). In addition, the Maryland

Commission cited other policy involved with utility ownership of charging stations, "such as competitive access to charging infrastructure, cost impact, and ratepayer exposure to risks associated with sunk costs and stranded assets." (Id.). The Maryland Commission's decision clearly notes the risk of ratepayer investment in utility-owned infrastructure.

Q. Witness Cohen also addresses a Minnesota Public Utility Commission ("Minnesota Commission") decision in his testimony starting at 24:513. Please comment on that.

A. Certainly. Witness Cohen mischaracterizes the Minnesota Commission's orders to support his position that state commissions are recognizing the importance of utility owned charging infrastructure, in several ways. While it is true that the Minnesota Commission authorized Xcel Energy to own and maintain infrastructure in a pilot program, ownership and maintenance of the charging equipment is determined by the participant. Importantly, only at the participant's request would Xcel own and maintain the charging equipment.[3]

Furthermore, Witness Cohen omits from his testimony the fact that Xcel was not authorized by the Minnesota Commission from owning and maintaining public charging equipment: "Xcel would own install, own (*sic*), and maintain infrastructure but would not

[3] I/M/O *Xcel Energy's Petition for Approval of Electric Vehicle Pilot Programs,* MPUC Docket No. E-002/M-18-643 (Final Order July 17, 2019), at 3. Available at: https://www.edockets.state.mn.us/EFiling/edockets/searchDocuments.do?method=showPoup&documentId={D017016C-0000-CD10-8791-F2FF6B5C1546}&documentTitle=20197-154444-01.

own or maintain any charging equipment.[4] Accordingly, the Minnesota Commission order cited by Witness Cohen does not support his contention that state commissions are increasingly recognizing utility ownership is required for EV charging station buildout.

Q. Witness Cohen suggests that State commissions are readily supporting utility ownership and operation of charging infrastructure. Is utility ownership the most commonly approved model of utility investment in charging infrastructure?

A. No. Make ready and rebate programs account for the majority of state commission-approved programs across the country. Attachment KGM-1 to my testimony contains a list compiled under my direction and supervision of EV charging programs that are make ready and rebate models, which enable site host choice of charging infrastructure, site host control of charging infrastructure, and site host private investment in charging infrastructure.

III. RESPONSE TO ENVIRONMENTAL INTERVENORS WITNESS KATHLEEN HARRIS

Q. Witness Harris recommends that the Company "align with NIST standards" and suggests that four specific elements of such standards be required "at a minimum." Do you agree with this recommendation?

A. ChargePoint supports NIST standards but I disagree that the Company or the Board should selectively apply a subset of National Institute of Standards and Technology

[4] Id. At 4.

("NIST") standards. There are a wide variety of critically-important consumer protection standards in NIST Handbook Section 3.40, such as ensuring that EV charging stations maintain a high level of accuracy and provide consumers with clear information about prices for charging stations[5]. It would not be in the public interest to selectively apply these requirements.

To the extent that New Jersey considers how to address industry standards, I recommend that the Board convene a working group to avoid applying standards inappropriately.

Q. Witness Harris recommends that certain security features be included in minimum standards for EV charging equipment and networks. Do you agree with this recommendation?

A. No, I disagree with the following recommendation by Witness Harris:

> In addition, all communication that takes place between the EV and EVSE should include Transport Layer Security (TLS). If ISO 15118 is used as a standard – which incorporates TLS, but does not do so automatically – the utility and third party charging station provider, as appropriate, should be sure that TLS is used at all times to further protect sensitive customer information from cyber-attacks; in the alternative, if Commission staff require use of OCPP, this presents an ideal scenario, as the cyber security embedded automatically into OCPP meets industry standards. Harris at 42.

[5] https://www.nist.gov/system/files/documents/2019/12/03/3-40-20-hb44_final.pdf.

ChargePoint already supports TLS, which is an end-to-end encryption method that functions at a layer below communications protocols. However, the recommendation by Witness Harris as outlined above should not form the basis of the Company or the Board's approach to ensuring network security because it inaccurately characterizes TLS as it applies to different levels of communications between vehicles, charging stations, and the cloud.

In terms of communications protocols, it should be noted that OCPP does not include TLS. As a general matter of practice, communications standards should not specify end-to-end encryption methods as these methods are constantly evolving. Network operators must constantly enhance encryption methods to maintain industry certifications, such as the Payment Card Industry Data Security Standard ("PCI-DSS"). For example, updates to PCI-DSS requirements have led to the adoption of revised versions of TLS, which are then used to ensure the security of communications protocols.

In terms of EV-to-EVSE communication, it is important to note that the SAE J1772 standard Level 2 charging connector is incapable of incorporating TLS. While it may be possible to use TLS through the ISO 15118 and CHAdeMO protocols, implementing TLS in this manner hinges on addressing a number of technical issues that remain an ongoing topic of debate in the industry. Similar to the example above, TLS can be used to secure a 15118 connection; however, TLS itself should not be stipulated in the definition of a protocol or standard.

IV. CONCLUSION

Q. Please summarize you rebuttal testimony.

A. Certainly. ChargePoint supports expanding EV charging infrastructure and EV adoption in order to achieve the goals of N.J.S.A. 48:25-1.11 the New Jersey's Plug-In Vehicle Act. ChargePoint believes the testimony submitted by Greenlots fails to accurately depict regulatory decisions on utility EV charging program design. Further, the testimony submitted by the Environmental Intervenors recommends the Board adopt certain minimum standards and security features that would either be inappropriate or technologically impossible.

Q. DOES THIS CONCLUDE YOUR REBUTTAL TESTIMONY?

A. Yes it does.

Examples of Utility Programs

Utility	Program Name/Focus	Program Summary	Status
SCE	Urban DCFC[1]	Make-ready infrastructure plus rebates towards portions of the charging station costs for 25 DC fast chargers	Approved
SCE	Transit[2]	Make-ready infrastructure plus rebates towards portions of the charging station costs for DC fast chargers	Approved
SCE	Charge Ready 2[3]	Make-ready infrastructure for MUD, workplace, fleet and DCFC plus rebate towards portions of approx. 40,000 ports. SCE allowed to own up to 2,500 ports for MUD in DACs only. Site host choice hardware, network, pricing.	Approved
PG&E	EV Charge Network[4]	Make-ready infrastructure plus rebates towards a portion of the charging station costs. 7,500 MUD and workplace ports. PG&E can own and operate up to 35%. Rate to driver and rate to host pricing. Site host choice hardware, network and pricing.	Approved
PG&E	MD/HD Fleet[5]	Make-ready infrastructure plus rebates towards portions of the charging station costs for 10 DC fast chargers	Approved

[1] Decision on the Transportation Electrification, Priority Review Projects, CPUC, Docket No. A.17-01-020. CPUC Decision 18- 01-024 (January 11, 2018)

[2] Decision on the Transportation Electrification, Priority Review Projects, CPUC, Docket No. A.17-01-020. CPUC Decision 18- 01-024 (January 11, 2018)

[3] Decision Authorizing Southern California Edison Company's Charge Ready 2 Infrastructure and Market Education Programs, CPUC, Docket No. A.18-06-015 (August 27, 2020)

[4] Decision Directing PG&E to Establish an Electric Vehicle Infrastructure and Education Program, CPUC, Docket No. A.15-02-009, Decision D.16-12-065 (Dec. 21, 2016)

[5] Decision on the Transportation Electrification, Priority Review Projects, CPUC, Docket No. A.17-01-020. CPUC Decision 18- 01-024 (January 11, 2018)

Eversource (MA)	Commercial Charging[6]	Make-ready infrastructure for 4,100 L2 ports at long-dwell time locations and 67 DC fast chargers across ~500 commercial locations	Approved
AEP OH	EV Charging[7]	Rebate program covering a percentage of the total cost of installation plus the charging hardware for 300 L2 stations and 75 DC fast chargers	Approved
National Grid (MA)	Commercial Charging[8]	Rebate program covering the cost of installation/make-ready plus a portion of the L2 EVSE for 1,200 L2 ports and 80 DC fast charging stations at 140 sites	Approved
National Grid (RI)	EV Charging[9]	Make-ready infrastructure for 320 L2 and 46 DC fast chargers	Approved
SDG&E	Power Your Drive[10]	"Custodian" model for ~3,500 commercial ports at multi-unit dwellings and workplaces with a special rate that encourages off-peak charging	Approved
SDG&E	Highway/Shuttle[11]	"Custodian" model for 80 L2 commercial ports and 13 DC fast chargers at par-n-ride and shuttle locations	Approved
Duquesne Light	Public Charging[12]	$500k towards electric bus charging at Port Authority; $1.3M in rebates towards make-ready for public L2 charging	Approved

[6] Massachusetts Department of Public Utilities. Docket 17-05. "Order Establishing Eversource's Revenue Requirement." November 30, 2017.

[7] I/M/O the Application of Ohio Power Company for Authority to Establish A Standard Service Offer Pursuant to R.C. 4928.143, in the Form of an Electric Security Plan, PUCO Docket 16-1852-EL-SSO (April 25, 2018)

[8] Massachusetts Department of Public Utilities. "Petition of Massachusetts Electric Company and Nantucket Electric Company, each d/b/a National Grid, for Approval of its Electric Vehicle Market Development Program, and of its Electric Vehicle Market Development Program Provision, pursuant to G.L. c. 164, §§ 76, 94, and Acts of 2016, c. 448." Docket 17-13 (September 10, 2018)

[9] In Re: the Narragansett Electric Company d/b/a National Grid Proposed Power Sector Transformation Vision and Implementation Plan. RIPUC Docket No. 4780 (May 5, 2018)

[10] Decision Regarding Underlying Vehicle Grid Integration Application and Motion to Adopt Settlement Agreement, CPUC, Docket No. A.14-04-014 (January 28, 2016);

[11] Decision on the Transportation Electrification, Priority Review Projects, CPUC, Docket No. A.17-01-020. CPUC Decision 18- 01-024 (January 11, 2018)

[12] Opinion and Order. PA PUC Docket No. R-2018-3000124 (December 20, 2018)

Ameren	EV Charging[13]	Make-ready infrastructure plus rebates – estimated 1,700 ports with focus on DCFC corridor but also residential, MUD, commercial, fleet	Approved
BGE	EV Charging[14]	Rebates for 1,000 smart home chargers and 750 ports for multi-family; 450 L2 and 50 DCFC utility owned, public stations at local government locations	Approved
PEPCO MD	EV Charging[15]	Rebates for 1,000 smart home chargers and 250 ports for multi-family; 305 L2 and 45 DCFC utility owned, public stations at local government locations	Approved
Consumers Energy	EV Charging[16]	Make-ready rebates for infrastructure – estimated 3,220 ports – residential, workplace, multi-family, and DCFC – rebates treated as regulatory asset and planning to partner with industry	Approved
DTE	EV Charging[17]	Make-ready rebates for smart charging infrastructure – estimated 4,770 ports – residential, workplace, multi-family, and DCFC for corridors and urban hubs – rebates treated as regulatory asset and planning to partner with industry	Approved
Xcel Energy (MN)	Fleet and Public EV Charging[18]	Utility owned make-ready infrastructure – estimated 1,050 ports – fleet and public charging, DCFC and L2 – also offering on-bill financing for EVSE for fleets – smart charging preferred and only smart charging offered for utility EVSE	Approved

[13] Order Approving Second Stipulation and Agreement. MO Docket 2018-0132 (February 6, 2019)

[14] 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)

[15] 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)

[16] I/M/O the Application of Consumers Energy Company for the Authority to Increase its Rates for the Generation and Distribution of Electricity and for Other Relief. MI PSC Docket No U-20134 (January 9, 2019)

[17] I/M/O the application of DTE Electric Company for authority to increase its rates, rate schedules and rules governing the distribution and supply of electric energy, and for miscellaneous accounting authority. Docket U-20162 (May 2, 2019)

[18] Order Approving Pilots with Modifications, Authorizing Deferred Accounting, and Setting reporting Requirements. Docket 18-643 (July 17, 2019)

Xcel Energy (MN)	Residential EV Charging[19]	Residential smart charging pilot – total 100 ports – with commission approval for expanded pilot to include an estimated 2,800 ports	Approved
Dominion (VA)	EV Charging[20]	Make-ready rebates for smart charging infrastructure – estimated 930 ports – workplace, MUD, and DCFC.	Approved

[19] Order Approving Pilot with Modifications, and Setting Reporting Requirements. Docket 19-186 (June 21, 2019).

[20] Final Order. Petition of Virginia Electric and Power Company for approval of a plan for electric distribution grid transformation projects pursuant to § 56-585.1 A 6 of the Code of Virginia, and for approval of an addition to the terms and conditions applicable to electric service. Case No. PUR-2019-00154. (March 26, 2020).