

October 16, 2020

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 (“CEFEVES”) 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

1 **I. INTRODUCTION AND SUMMARY**

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

4 **A.** Yes.

5 **Q. Please summarize your rebuttal testimony.**

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

11 **II. RESPONSE TO GREENLOTS WITNESS JOSHUA J. COHEN**

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

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

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

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

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

14 Q. **Witness Cohen recommends, “modifying Offering 3 to...encourage Company**
15 **ownership of DCFC units.” Do you agree?**

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

¹ <https://www.drivegreen.nj.gov/charging.html>

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

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

6 The Board FINDS that ownership and operation of EV charging stations
7 should be driven by the market, and, therefore, EVSE Infrastructure
8 Companies, site owners, and property management companies are the
9 preferred owners and operators of EVSE; however, there are occasional
10 and narrow instances where it is appropriate for the utility to own and
11 operate EV charging stations.

12 The Board FINDS Staff’s definition of areas of Last Resort to be
13 reasonable and HEREBY PERMITS EDCs to own and operate EV
14 Chargers and EVSE as a “Last Resort.” EDC ownership and operating of
15 charging infrastructure in areas of Last Resort is strictly contingent on
16 Board approval pursuant to Staff’s recommendations addressed in this
17 Order. The Board therefore ORDERS any EDC seeking to own and
18 operate EV Chargers and EVSE as a “Last Resort” to gain Board approval

1 before any work is conducted and comply with Staff’s recommendations
2 laid out herein.²

3 **Q. Witness Cohen asserts that, “the major shortcoming of the proposed CEF-EVES**
4 **Program is that PSE&G limits its ability to own and operate public DCFC units.”**
5 **(11:244-247). Do you agree?**

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

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

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

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

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

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

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

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

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

15 Furthermore, Witness Cohen omits from his testimony the fact that Xcel was not
16 authorized by the Minnesota Commission from owning and maintaining public charging
17 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.>

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

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

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

13 **III. RESPONSE TO ENVIRONMENTAL INTERVENORS WITNESS KATHLEEN**
14 **HARRIS**

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

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

⁴ Id. At 4.

1 (“NIST”) standards. There are a wide variety of critically-important consumer protection
2 standards in NIST Handbook Section 3.40, such as ensuring that EV charging stations
3 maintain a high level of accuracy and provide consumers with clear information about
4 prices for charging stations⁵. It would not be in the public interest to selectively apply
5 these requirements.

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

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

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

12 In addition, all communication that takes place between the EV and EVSE
13 should include Transport Layer Security (TLS). If ISO 15118 is used as a
14 standard – which incorporates TLS, but does not do so automatically – the
15 utility and third party charging station provider, as appropriate, should be
16 sure that TLS is used at all times to further protect sensitive customer
17 information from cyber-attacks; in the alternative, if Commission staff
18 require use of OCPP, this presents an ideal scenario, as the cyber security
19 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.

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

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

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

21 **IV. CONCLUSION**

1 **Q. Please summarize your rebuttal testimony.**

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

9 **Q. DOES THIS CONCLUDE YOUR REBUTTAL TESTIMONY?**

10 **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).