



Portland General Electric Company
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September 19, 2017

Email

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Filing Center
Public Utility Commission of Oregon
201 High Street, SE Ste. 100
Salem, OR 97301

RE: UM 1811 – PGE Transportation Electrification Program Applications; PGE reply testimony to ChargePoint and Electric Vehicle Charging Association Objections

Attention Filing Center:

Enclosed for filing in the above referenced matter please find the following:

- **Reply Testimony of: Aaron Milano, Jacob Goodspeed (PGE / 200)**
 - **Appendix A – ChargePoint Response to PGE Data Request 2**

If you have any questions, please contact Jacob Goodspeed at (503) 464-7806. Please direct all formal correspondence and requests to the following email address: pge.opuc.filings@pgn.com.

Sincerely,

A handwritten signature in black ink that reads "Karla Wenzel". The signature is written in a cursive, flowing style.

Karla Wenzel
Manager, Pricing

**UM 1811 / PGE / 200
Milano – Goodspeed**

**BEFORE THE PUBLIC UTILITY COMMISSION
OF THE STATE OF OREGON**

UM 1811

Transportation Electrification

PORTLAND GENERAL ELECTRIC COMPANY

Reply Testimony of

*Aaron Milano
Jacob Goodspeed*

September 19, 2017

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I. Introduction and Summary

1 **Q. Please state your names and positions with Portland General Electric (“PGE” or**
2 **“Company”).**

3 A. My name is Aaron Milano. I am a Project Manager of Customer Energy Solutions for PGE.
4 My qualifications appear in Section IV of this testimony.

5 My name is Jacob Goodspeed. I am an analyst in Pricing and Tariffs for PGE. My
6 qualifications are included in Section VII of PGE/100.

7 **Q. Is Witness Jacob Goodspeed the same Jacob Goodspeed who testified in this docket on**
8 **behalf of PGE in PGE/100?**

9 A. Yes.

10 **Q. Does Witness Aaron Milano adopt the prior written joint testimony of Brian Spak and**
11 **Jacob Goodspeed as filed in PGE/100?**

12 A. Yes.

13 **Q. What is the purpose of your testimony?**

14 A. This testimony is in response to the testimonies of the Electric Vehicle Charging Association
15 (EVCA) and ChargePoint, filed on August 25, 2017. The design of our testimony is twofold:
16 1) we address ChargePoint’s claims made in ChargePoint/200 and ChargePoint/300
17 regarding how the proposed suite of pilots recommended for approval by Stipulating Parties
18 meet the legislative intent of Oregon Laws 2016, Chapter 028, Section 20 (hereafter referred
19 to as “SB 1547, Section 20”), and complies with Oregon Administrative Rules (OAR) 860-
20 087-0001 through 860-087-0040; and, 2) we provide clarity regarding the competitive
21 request for proposal (RFP) process in Oregon and the ability of RFPs to spur meaningful
22 competition, innovation, and customer choice.

II. The Stipulated Pilot Programs, Legislative Intent, and OAR Division

87

1 **Q. Please provide a summary of the PGE pilot programs recommended by approval by**
2 **Stipulating Parties.**

3 A. As filed in the June 27, 2017 Stipulation and supported in testimony by Stipulating
4 Parties/100, we are proposing the following three pilot programs to meet the overall
5 legislative goal of SB 1547 – to accelerate transportation electrification (TE) in Oregon:

- 6 • **Tri-Met Mass Transit** – a pilot that partners PGE with the transit agency in the
7 Portland Metropolitan area to study the feasibility and grid impacts of bus route
8 electrification.
- 9 • **Outreach and Education** – a pilot that directly addresses customer barriers to
10 purchasing an electric vehicle. This pilot will include demonstrations, ride and drives,
11 technical assistance for fleet and workplace charging installations, and community
12 education events.
- 13 • **Electric Avenue Network** – a pilot that provides modest, visible, and reliable public
14 charging infrastructure to customers in PGE’s service area. This pilot is intended to
15 pilot the less-common co-located charging station model (one in which there are
16 multiple direct current quick chargers [DCQCs or DCFCs]), while providing valuable
17 learnings on integrating public charging into PGE’s grid.
- 18 • **Future Pilot Proposals** – PGE will file within one year of Commission approval of
19 the stipulation (1) a residential home charging pilot which includes rebates and (2) a
20 workplace and/or fleet charging pilot.

1 **Q. ChargePoint witnesses Packard and Smart reference the legislation, specifically the**
2 **need for “stimulation of innovation, competition, and customer choice” throughout**
3 **their testimony (ChargePoint/200 and ChargePoint/300). Does PGE support the stated**
4 **intent of the Oregon State Legislature to see additional competition, innovation, and**
5 **choice in the transportation electrification space?**

6 A. Yes. PGE embraces innovation, competition, and customer choice as core principles for any
7 transportation electrification effort. We appreciate ChargePoint drawing attention to those
8 points in ChargePoint/200 and ChargePoint/300, providing an opportunity for PGE to show
9 again how the pilot programs align with these principles. The specific statutory language
10 ChargePoint refers to is:

11 “When considering a transportation electrification program and
12 determining cost recovery for investments and other expenditures related to a
13 program proposed by an electric company under subsection (3) of this section, the
14 commission shall consider whether the investments and other expenditures:… (f)
15 [a]re reasonably expected to stimulate innovation, competition, and customer
16 choice in electric vehicle charging and related infrastructure and services.”¹

17 PGE has worked to develop programs that demonstrate to the Commission a reasonable
18 expectation that they will stimulate innovation, competition, and customer choice, in the
19 following ways:

20 *Pre-filing engagement with providers of infrastructure and service* – Throughout 2016, PGE
21 held multiple, well-attended stakeholder events, presenting PGE’s ideas for pilot programs
22 and receiving feedback from attendees on how to best craft programs that complied with the
23 legislative intent of SB 1547 and the Commission’s Transportation Electrification Rules,
24 OAR Division 87. These workshops were attended by multiple Electric Vehicle Service

¹ Senate Bill 1547, Section 20.

1 Equipment (EVSE) providers, including ChargePoint. Additionally, PGE met individually
2 with parties upon request to receive feedback on the planned pilot programs that PGE was
3 considering and to solicit ideas on how to meet the six legislative criteria.

4 *Weaving competitive bidding into the proposed pilot programs* – Following the public
5 meetings and workshops, PGE filed a proposal for pilot programs and supporting testimony,
6 which specifically stated that procurement associated with the pilot programs proposed by
7 PGE would utilize competitive bidding through an RFP. This approach was chosen, in part,
8 to stimulate competition in EVSE. The RFP is a process that scores bids on both price and
9 non-price criteria, and is designed to meet the needs of customers through a mixture of
10 affordability, reliability, quality, and customer experience. This design will incentivize
11 competition and allow PGE’s modest pilot programs to invest in EVSE provider equipment,
12 software, maintenance, and design services that will be reliable and useful to customers.

13 *Piloting programs that act as platforms for innovation* – The three pilots recommended
14 for approval by the Stipulating Parties will all incentivize innovation, competition, and
15 customer choice in the broader transportation electrification space by actively working to
16 overcome barriers to electric vehicle adoption. By piloting a co-located fast charging model
17 (the existing Electric Avenue), PGE has provided a platform for Transportation Network
18 Company (TNC) charging in the downtown corridor, and has inspired and enabled Uber to
19 create an innovative “Uber Electric” service that allows Uber customers to choose an
20 electric vehicle when hailing a ride.² The proposed Electric Avenue Network will build off
21 the success already seen from Electric Avenue — and we anticipate this will spur further
22 innovation by car share companies, low income mobility advocates, municipal customers,

² <https://techcrunch.com/2017/04/12/uber-electric-vehicle-initiative-in-portland-oregon/>

1 and more. The TriMet pilot provides a modest demonstration of the efficacy of electrified
2 mass transit through depot and en-route charging, and will help the State’s largest transit
3 agency to inform future electrification strategy — the pilot will allow TriMet and other
4 transit agencies in the state to learn, plan, and innovate. The Outreach and Education pilot
5 provides information and education to potential EV drivers, funding for regional market
6 transformation, outreach to builders and facilities, as well as technical assistance to potential
7 site-hosts, all of which are aimed at creating business opportunities for EVSE providers –
8 including ChargePoint. Collectively, these pilots create a holistic opportunity to promote
9 transportation electrification across a variety of sectors, encouraging innovation in car
10 sharing, equal access to electric mobility, transit agencies, public and private fleets, and
11 workplace charging.

12 **Q. ChargePoint encourages PGE to review national examples of states that have provided**
13 **make-ready and rebate programs, rather than small utility-ownership pilots.³ Would a**
14 **make-ready or rebate program have satisfied all six legislative considerations?**

15 A. No. PGE’s Pilot programs were specifically designed to meet Oregon’s unique mix of
16 transportation electrification considerations: to stimulate innovation, competition, and
17 customer choice, **as well as** the five other considerations included in Oregon Law. PGE
18 proposed a suite of pilot programs that were created specifically for the State of Oregon, and
19 when considered as a group, were intended to meet all six considerations in SB 1547 that
20 Commissioners may consider when “determining cost recovery for investments.”
21 ChargePoint has repeatedly asserted that an RFP for any procurement is not competitive

³ ChargePoint/200, Packard/21

1 enough in their view, and that their preferred mechanism for public charging (the one pilot
2 they address in their testimony) is a “make-ready” or a rebate program.

3 Although a make-ready or rebate would allow EVSE providers to compete for business
4 (similar to the competition that would occur in an RFP), incentivizing ChargePoint to sell
5 their proprietary service to private site-hosts would not improve the ability of utilities to
6 “integrate variable generating resources,” “enable the electric company to support the
7 company’s electrical system,” or “improve system efficiency and operational flexibility.”
8 These are also considerations that the Oregon Legislature included in their instructions to
9 accelerate the transportation electrification market, and are among the criteria that SB 1547
10 instructs the Commission to consider regarding utility investments in transportation
11 electrification.

12 **Q. Does ChargePoint argue that the make-ready and/or rebate programs proposed in**
13 **Section V of ChargePoint/200 would comply with the six considerations outlined in**
14 **Oregon Law or OAR Division 87?**

15 A. No.

16 **Q. How do you explain ChargePoint’s many assertions⁴⁵⁶⁷⁸⁹¹⁰¹¹¹²¹³¹⁴¹⁵ that PGE’s pilot**
17 **programs “will not stimulate innovation, competition, and customer choice” with**

⁴ ChargePoint/200, Packard/5 at 10.

⁵ ChargePoint/200, Packard/6 at 11.

⁶ ChargePoint/200, Packard/6 at 22.

⁷ ChargePoint/200, Packard/7 at 1.

⁸ ChargePoint/200, Packard/7 at 7.

⁹ ChargePoint/200, Packard/7 at 20.

¹⁰ ChargePoint/200, Packard/8 at 7.

¹¹ ChargePoint/200, Packard/16 at 9.

¹² ChargePoint/200, Packard/21 at 9.

¹³ ChargePoint/300, Smart/7 at 12.

¹⁴ ChargePoint/300, Smart/8 at 3.

¹⁵ ChargePoint/300, Smart/8 at 16.

1 **PGE’s stated goal of developing pilots that meet the six legislative criteria – including**
2 **stimulating competition, innovation, and customer choice.**

3 A. PGE designed pilot programs to enable competition, innovation, and choice for a wide range
4 of potential “customers,” which we understand to include EV drivers, drivers who have not
5 yet chosen to drive an EV, site-hosts, fleet managers, transit agencies, municipalities,
6 homebuilders, TNCs, underserved communities, and businesses interested in offering
7 workplace charging opportunities. SB 1547, Section 20, and the resulting OAR Division 87,
8 both take a big-picture view regarding utility involvement in TE market transformation, and
9 we have taken the same approach in the way we define a customer. ChargePoint’s repeated
10 encouragement for more choice focuses almost exclusively on a much smaller subset of
11 customers in the transportation electrification space, as they admit in testimony.¹⁶ PGE has a
12 mandate to serve a much more inclusive and diverse set of customers, and has constructed
13 programs to do so in a way that the Commission can reasonably expect to stimulate
14 innovation, competition, and customer choice.

15 **Q. Given its concerns for the competitive market, is ChargePoint currently participating**
16 **in the Oregon public EV charging market?**

17 A. Yes. ChargePoint currently has both DCQCs and Level 2 chargers in the Portland Metro
18 Area.¹⁷¹⁸

¹⁶ ChargePoint/200, Packard/5 at 20: “In my opinion, the ‘customer’ intended by the statute is the entity that hosts a charging station and allows drivers to charge their vehicles at the station.”

¹⁷ ChargePoint response to PGE data request 2-a, included as Appendix A.

¹⁸ Testimony of Anne Smart to a September 18, 2017 joint meeting of the Interim House Energy and Environment Committee and the Senate Natural Resources Committee.

1 **Q. Could PGE’s piloting of a cost-limited and time-limited public charging program**
2 **comprised of six charging stations be interpreted as a competitive threat to**
3 **ChargePoint?**

4 A. No. According to testimony given by Anne Smart to the Oregon State Legislature on
5 September 18, 2017, ChargePoint currently has a network of over 520 charging ports in the
6 State of Oregon,¹⁹ and over 40,000 worldwide. It is difficult to understand how a company
7 with such strong market presence in Oregon could view six DCQC stations as a competitive
8 threat.

9 **Q. Have other EVSE or competitive market providers in this docket shared ChargePoint’s**
10 **view that a time-limited and cost-limited pilot by PGE will “do much more to dampen**
11 **competition than to stimulate it”?**²⁰

12 A. No. On the contrary, the competitive providers that have made their views known in this
13 docket – excluding ChargePoint – have been supportive of the Electric Avenue Pilot
14 recommended for approval by Stipulating Parties. A few notable examples:

- 15 • From Greenlots/100, Ashley/2: “This cycle of inadequate investment in
16 infrastructure to accelerate adoption, leading to inadequate adoption of electric
17 vehicles to attract investment in infrastructure, must be broken. Although just
18 a limited-scale pilot, PGE has identified a strategy of breaking this cycle in
19 metro Portland by proposing to install, own, and operate a modest backbone
20 of visible, available, and reliable charging infrastructure to accelerate electric
21 vehicle adoption, and thereby move the market forward.”
22
- 23 • From EVCA members EVConnect and SemaConnect:²¹ “The most important
24 factor in our industry’s success and continued innovation is the number of
25 electric vehicles on the road. We believe that PGE’s proposal [to own EVSE]
26 will create a much needed, highly visible backbone of fast charging that will
27 help drive rapidly increasing electric vehicle sales in the region.”

¹⁹ Testimony of Anne Smart to a September 18, 2017 joint meeting of the Interim House Energy and Environment Committee and the Senate Natural Resources Committee.

²⁰ ChargePoint/200 Packard/8 at 2.

²¹ Drive Oregon (now Forth)/100, Attachment 3.

- 1
- 2
- 3
- 4
- 5
- From General Motors: “Electric Avenue represented a first-of-a-kind demonstration that is now widely seen as best practice. More dense, reliable charging that includes substantial access to DC Fast Charging drives consumer awareness and confidence while meeting the need of multiple consumer segments...”²²

²² Drive Oregon (now Forth)/100, Attachment 1.

III. RFP and Competitive Bidding

1 **Q. ChargePoint claims that a competitive RFP process is not actually competitive because**
2 **“in an RFP, bidders compete almost exclusively on the basis of cost, which means that**
3 **competition will not lead to innovation or additional customer choices....” Is this a**
4 **correct assessment of PGE’s competitive bidding process?**

5 A. No. Witness Packard’s description of the RFP process reveals a deep misunderstanding of the
6 way that PGE conducts competitive bidding with potential suppliers. A market-competitive
7 price is just one aspect of PGE’s competitive bidding and evaluation process; PGE evaluates
8 proposals on a number of other criteria as well, including quality, experience of bidders,
9 effectiveness, efficiency, and creativity of proposed solution, market presence of the bidder,
10 financial stability of the bidder, safety performance, ability of the bidder to support current
11 and emerging technology, and the bidder’s willingness to assign and retain experienced
12 resources.

13 **Q. Please explain the criteria that PGE may use for competitive bidding for a non-**
14 **generation resource, and how those criteria may be established.**

15 A. PGE tailors each competitive RFP to meet the unique specifications of the solution being
16 envisioned, in addition to general criteria based on PGE’s commitment to diversity,
17 accessibility and fairness, and ethical business practices. PGE evaluates each bidder’s
18 proposal in multiple general areas, including, but not limited to:

- 19 • Experience and past performance of the bidder with similar clients;
- 20 • Effectiveness, efficiency, innovativeness, and creativity of a bidders response
21 for services;
- 22 • The ability of the bidder to provide a market-competitive rate to PGE;

- 1 • Financial stability of the bidder, and;
- 2
- 3 • Ability of the bidder to support current and emerging technology.
- 4

5 **Q. Will there be an opportunity for parties to assist PGE in developing minimum criteria**
6 **for the Electric Avenue pilot RFP?**

7 A. Yes. As public fast charging is a nascent industry and the pilot is designed to produce
8 learnings for the market, PGE will likely solicit input from Stipulating Parties – excluding
9 entities that plan to bid into the RFP – to help develop bid criteria for the RFP.

10 **Q. Within the PGE process, will there be an opportunity for RFP respondents to submit**
11 **alternate bid proposals in response to an RFP?**

12 A. Yes. The bidder must submit a proposal in full compliance with the RFP. However, a bidder
13 may also submit an alternate proposal, or propose alternate features, which the bidder
14 believes will meet the same objectives of the service described in the RFP. Therefore, if a
15 bidder is concerned that utilities “do not understand driver preferences,”²³ are “neophytes,”²⁴
16 or are otherwise unable to “brainstorm... acceptable minimum criteria,”²⁵ competitive
17 market providers are able to counter with alternate bid proposals that showcase the creativity
18 of the bidder.

²³ ChargePoint/200, Packard/6.

²⁴ ChargePoint objection to stipulation, p. 8.

²⁵ ChargePoint objection to stipulation, p. 8.

IV. Qualifications

1 **Q. Mr. Milano, please state your educational background and experience.**

2 A. I received a Bachelor of Science in Environmental Science with a concentration in Energy
3 and the Environment from the University of North Carolina at Chapel Hill. I accepted my
4 current position at PGE in 2015. Prior, I have nearly 10 years of experience in sustainable
5 energy project development with private renewable developers, municipal governments, and
6 utility program administrators. I previously oversaw the City of Durham's first procurement
7 and installation of electric vehicle charging infrastructure and supported the development of
8 the City and County's EV and Charging Station Plan.

9 **Q. Does this conclude your testimony?**

10 A. Yes.

ChargePoint Discovery Responses to Portland General Electric

- PGE-1. ChargePoint/200, Packard/20 at 19 reads: “PGE would lock-in one low-cost technology through an unimaginative RFP process for years to come.” ChargePoint/200, Packard/7 at 19 alleges “In an RFP, bidders compete almost exclusively on the basis of cost, which means that competition will not lead to innovation or additional customer choices...” ChargePoint/200, Packard/8 at 6 alleges that “Utilities procure through an RFP process that is designed to minimize product features so that they can purchase at commodity pricing.”
- a. Please describe the features of ChargePoint’s services and equipment that are used in marketing materials to differentiate ChargePoint from its competition in communications with potential and existing customers. Provide concrete examples.
 - b. Please provide any marketing materials that ChargePoint may provide to a prospective customer that uses the word(s) “cost”, “price”, “affordable”, “inexpensive”, or “reasonable”.
 - c. Please provide any analysis, workpapers, internal memorandum, or other documents that supports ChargePoint’s claim that the Oregon RFP process leads to “minimize[d] product features” and is “almost exclusively on the basis of cost.”

Response:

- a. Please see attachments A through D.
- b. Please see attachments A through D.
- c. Mr. Packard’s statement is based on his 19 years of experience in the EV charging industry.

Sponsor: Dave Packard

Response Date: September 18, 2017

ChargePoint Discovery Responses to Portland General Electric

- PGE-2. In ChargePoint/200, Packard/12 at 9, Witness Packard states “If PGE has the ability to offer site-hosts free charging stations located on rights-of-way that are subsidized by ratepayers, it will have a substantial impact on our consideration to make investments in Oregon and whether we consider other markets that are more competitive.”
- a. The Portland metropolitan area currently is estimated to have over 9,000 EV drivers. Please provide the number of ChargePoint Direct Current Fast Chargers installed in the Portland metropolitan area currently.
 - i. How many of those DCQCs are co-located with other DCQCs?
 - ii. How many of those are dual head (can serve SAE Combo and Chademo)?
 - iii. For each of those chargers, please provide any analysis demonstrating CP’s effort to site those chargers near low-income/disadvantaged communities.
 - b. Please provide the approximate level of financial investment that ChargePoint has dedicated to the State of Oregon from 2010 – present.
 - c. PGE understands that ChargePoint cannot reveal all future investment plans. Please provide a list of markets that ChargePoint has chosen to exit in the past due to utility investment in infrastructure or due to regulatory rules that ChargePoint has deemed “uncompetitive.”

Response:

- a. ChargePoint currently has 10 Direct Current Fast Chargers (DCFC) in the Portland metro area.
 - i. ChargePoint does not currently maintain this information regarding equipment from other vendors.
 - ii. Of the 10 DCFCs currently installed in the Portland metro area, 5 are dual head stations.
 - iii. ChargePoint objects to this request on the basis that the terms “low-income/disadvantaged communities” are vague and ambiguous. ChargePoint further objects to this request on the basis that it seeks information that is not relevant to this proceeding.
- b. ChargePoint objects to this question on the grounds that it requests proprietary, confidential, and competitively sensitive information, the release of which would cause competitive harm to ChargePoint.
- c. ChargePoint has never chosen to exit a market due to utility investment or regulatory rules, nor do we claim to have done so anywhere in testimony.

Sponsor: Dave Packard

Sponsor of objections: Scott Dunbar

Response Date: September 18, 2017

ChargePoint Discovery Responses to Portland General Electric

PGE-3. ChargePoint/200, Packard/10 begins a section labeled “Private Capital Investments,” which speculates that utility involvement in owning infrastructure will “discourage private capital investment.” Please provide any analysis, workpapers, internal memorandum, or other documents that led ChargePoint to this conclusion.

Response:

Please find the attached expert testimony of Charles J. Cicchetti, an economist, filed in 2015 regarding the “Application of Pacific Gas & Electric Company for Approval of its Electric Vehicle Infrastructure and Education Program” (Attachment E) (A.15-02- 009). In his testimony, Mr. Cicchetti addresses the issue of the negative impacts on the private market of utility involvement in owning infrastructure (Cicchetti, pgs. 29-38).

Sponsor: Dave Packard

Response Date: September 18, 2017

ChargePoint Discovery Responses to Portland General Electric

PGE-4. ChargePoint/200, Packard/20 beginning at 14, speculates that if PGE were allowed to pilot Electric Avenue, it may lead to a decrease in EV sales. “Rather than accelerating transportation electrification, would-be EV drivers might be so uninspired by the lack of options that they forego electric transportation options altogether.” Please provide any analysis, workpapers, internal memos, or other documents that led ChargePoint to this conclusion.

Response:

Mr. Packard’s statement is based on his 19 years of experience in the EV charging industry.

Sponsor: Dave Packard

Response Date: September 18, 2017