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VIA ELECTRONIC FILING

Public Utility Commission of Oregon Attn: Filing Center 201 High Street SE, Suite 100 Salem, OR 97301-3398

Re: UM 2056—Initial Comments of ChargePoint on PacifiCorp's Draft 2023 Oregon Transportation Electrification Plan and Program Applications

ChargePoint, Inc. (ChargePoint) submits for filing with the Public Utility Commission of Oregon (Commission) its comments regarding PacifiCorp's draft TEP in the above-mentioned proceeding. This filing includes:

- Initial Comments of ChargePoint
- Appendix A New Jersey Board of Public Utilities Order, In the Matter of Straw Proposal on Electric Vehicle Infrastructure Buildout
- Appendix B Scott Hempling, No Anticompetitive Conduct, No Unearned Advantage: Effective Competition Depends on Merit
- Appendix C Carl Pechman, NRRI, Regulation and the Monopoly Status of the Electric Distribution Utility
- Appendix D South Carolina Office of Regulatory Staff's Reply Comments to Responsive Comments
- Appendix E PacifiCorp's response to ChargePoint Data Request 4.

<u>/s/ Matthew Deal</u>

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BEFORE THE PUBLIC UTILITIES COMMISSION OF THE STATE OF OREGON

IN THE MATTER OF PACIFICORP, d/b/a PACIFIC POWER, OREGON TRANSPORTATION ELECTRIFICATION PLAN

Docket No. UM 2056

IINITIAL COMMENTS OF CHARGEPOINT, INC.

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I. Introduction

On February 14, 2023, PacifiCorp d/b/a Pacific Power (PacifiCorp or the Company) filed its draft 2023-2025 Transportation Electrification Plan (TEP or TE Plan) for acceptance by the Public Utility Commission of Oregon (Commission). PacifiCorp's TEP is the first plan filed by the utility since the Commission adopted Oregon Administrative Rule 860-087-0020 (Division 87 rules), which established new guidance for the electric companies to apply for and report activities to support transportation electrification.¹ ChargePoint, Inc. (ChargePoint) appreciates the opportunity to file these comments regarding the TE Plan and respectfully requests their consideration by the Commission.

PacifiCorp's TEP proposes a variety of new activities for the Company to invest in transportation electrification, including applications for a Public Utility-Owned Infrastructure Pilot Program, a Fleet Make Ready Pilot Program, a Residential Managed Charging Pilot Program, and a Municipal and Community Grant Program as well as the continuation of the Outreach and Education Pilot Program and the EV Supply Equipment (EVSE) Rebate Pilot Program. The total budget for the TEP is \$30.1M, to be funded through the System Benefits Charge and Clean Fuels program, with some additional support from base rates. ChargePoint submitted stakeholder feedback directly to PacifiCorp on elements of the TEP throughout its development.

II. About ChargePoint

ChargePoint is a world leading EV charging network with a comprehensive set of charging solutions available to customers. Since 2007, ChargePoint has been creating the new fueling network to move all people and goods on electricity. ChargePoint is committed to making it easy for businesses and drivers to go electric. ChargePoint's cloud subscription platform and software-defined charging hardware is designed internally and includes options for every charging scenario from home and multifamily to workplace, parking, hospitality, retail, corridor, and fleets of all kinds. ChargePoint's primary business model is to sell our integrated charging software and hardware solutions directly to site hosts and provide services that enable them to provide charging services that align with their specific needs. Today, one ChargePoint account provides access to hundreds of thousands of places to charge in North America and Europe. To date, more than 133 million charging sessions have been delivered, with drivers plugging into the ChargePoint network on average every second.

III. Summary of recommendations

With respect to the four new program applications that accompany PacifiCorp's TE Plan, ORS § 757.357(6) lists six criteria that the Commission must consider when evaluating new transportation electrification program proposals. Specifically, the statute provides that the Commission "shall consider whether the investments and other expenditures:

¹ Oregon Administrative Rule 860-087-0020, as adopted by the Commission in Order No. 22-336 issued on September 8, 2022

(a) Are within the service territory of the electric company;

(b) Are prudent as determined by the commission;

(c) Are reasonably expected to be used and useful as determined by the commission;

(d) Are reasonably expected to enable the electric company to support the electric company's electrical system;

(e) Are reasonably expected to improve the electric company's electrical system efficiency and operational flexibility, including the ability of the electric company to integrate variable generating resources; and

(f) Are reasonably expected to stimulate innovation, competition and customer choice in electric vehicle charging and related infrastructure and services."

As a competitive provider of EV charging equipment and network services, criterion (f) is particularly important to ChargePoint. As discussed in more detail below, PacifiCorp's proposed Public Utility-Owned Infrastructure Pilot would stifle rather than stimulate innovation, competition, or customer choice and should therefore be rejected. ChargePoint recommends that the Commission direct PacifiCorp to reallocate the budget it proposed for this pilot to a make-ready pilot program that supports the ongoing efforts of customers and competitive market players to deploy public EV chargers.

PacifiCorp has also proposed a variety of technical requirements that would discourage rather than stimulate innovation, competition, and customer choice. These proposed requirements should be modified for all TE programs and, in particular, PacifiCorp should not impose any payment requirements on fleet chargers that are not for public use.

For the reasons discussed in more detail in these comments, ChargePoint respectfully recommends that the Commission take the following actions, which will align the TEP to focus on incentivizing make-ready infrastructure as the method of utility investment in transportation electrification:

- Reject the Public Utility-Owned Infrastructure Pilot, on the basis that the utility did not adequately consider the anticompetitive impacts of its proposal and because it will stifle and not "stimulate competition, innovation, and customer choice."²
- Direct PacifiCorp to reallocate the funds appropriated for the Public Utility-Owned Infrastructure Pilot to a public make-ready pilot program.
 - If the Commission does not reject the program and reallocate funding to makeready infrastructure as ChargePoint recommends, it must at the very least require PacifiCorp to qualify multiple vendors for the program and provide site hosts with a choice in the type of charging equipment deployed on their property to be consistent with Oregon statute.³

² ORS § 757.357(6)(f).

³ ORS § 757.357(7).

- Approve the Fleet Make Ready Pilot Program, but direct PacifiCorp not to require payment capabilities at fleet chargers.
- Require PacifiCorp to modify its proposed technical requirements across all programs to better deliver payment accessibility and reliability to EV drivers by aligning with the final NEVI requirements and not requiring credit card chip readers.

IV. PacifiCorp's Public Utility-Owned Infrastructure Pilot proposal will stifle and not stimulate innovation, competition, and customer choice, which it is required to do by Oregon statute

Attached to PacifiCorp's TEP is PacifiCorp's application, filed pursuant to ORS § 757.357(3)(a)(A), for a Public Utility-Owned Infrastructure Pilot program. PacifiCorp proposes to spend a total of \$19.2M over five years to own and operate 40-50 direct current fast charger (DCFC) ports and approximately 100-130 Level 2 (L2) ports in its service territory.⁴

For the reasons ChargePoint discusses in detail below, PacifiCorp's proposed \$19.2M Public Utility-Owned Infrastructure Pilot program will not only fail to "stimulate innovation, competition and customer choice in electric vehicle charging and related infrastructure and services,"⁵ but can be expected to stifle competition and reduce the number of EV charging choices available to EV drivers in PacifiCorp's service territory.

PacifiCorp has already implemented a pilot program to study the impacts of utility-owned public EV chargers: namely, the Public Charging Pilot the Commission approved in 2018. PacifiCorp has failed to justify its proposal to effectively expand the existing pilot into a full-fledged \$19.2M program. Allowing PacifiCorp to become one of the dominant providers of public EV charging through the proposed Public Utility-Owned Infrastructure Pilot program would threaten the long-term viability of the competitive EV charging market in PacifiCorp's service territory, to the detriment of EV drivers and Oregon's EV adoption goals. In order to "stimulate innovation, competition, and customer choice" in EV charging infrastructure and services, the Commission should direct PacifiCorp to invest its proposed \$19.2M budget in make-ready infrastructure incentives for public chargers, similar to its proposed Fleet Make-Ready Pilot Program.

A. <u>The EV charging market in Oregon is competitive, and preserving competition will lead to</u> <u>better outcomes for EV drivers and ratepayers.</u>

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. In the absence of regulatory authorization for the utility to own and operate chargers, public EV charging services

⁴ Public Utility-Owned Infrastructure Pilot Application at 33-34, Table 11. \$19.2M is the sum of each of the capital budget figures for years 1-5 and each of the "total pilot program costs" budget figures for years 1-5. In other words, \$19.2M is the sum of the capital and O&M expenditures PacifiCorp proposes to make over a five-year period for this proposed program.

⁵ ORS § 757.357(6)(f).

are provided by a variety of competitive industry players, including site hosts⁶ with existing businesses such as shopping centers, fueling centers, hotels, retail stores, and restaurants, as well as dedicated EV service providers (EVSPs). Notably, existing businesses are also utility customers, so when a monopoly utility enters the EV charging market it is competing against many of its own customers. 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. ChargePoint's customers find that the provision of EV charging services can align with and augment their existing operations and core business goals. For example, a retail store or restaurant that installs EV chargers may increase their sales as a result of attracting EV drivers to their business, in addition to revenue they receive from the chargers themselves.

Site hosts balance costs against the value created by hosting a station, which are often beyond the direct and indirect revenues generated by the chargers. Non-financial benefits include providing EV charging as an amenity to attract and retain employees, attracting new customers and have them stay for longer periods of time for businesses, and helping companies meet sustainability goals, among others.

In the absence of direct utility ownership and operation of chargers in the EV charging market, market participants compete on a relatively level playing field and strive to compete for EV drivers' business on factors such as price, location, convenience, amenities, and innovation. The economics of operating charging stations in the competitive market are dependent on several factors, including utilization. Highly utilized stations are more likely to allow market actors to recover the value of their investment, which may include upfront infrastructure costs, as well as ongoing operations and maintenance costs. Because utilization is a driver of economic viability, owner-operators of public EV charging sites compete for and earn EV drivers' business by setting competitive pricing, offering amenities, or otherwise providing value in ways that will attract drivers to their sites. Direct utility ownership of public EV chargers can result in utility-owned chargers siphoning utilization away from existing chargers owned by competitive providers, particularly if the prices the utility charges are below market, as will be discussed more later. For the same reason, competitive providers can be discouraged from deploying their own chargers in the vicinity of utility-owned chargers based on the rational concern that EV drivers will be more likely to purchase charging services at below-market prices than the prices they need to charge to recoup their investments. Additionally, site hosts may be reluctant to invest their private capital to install EV charging if there is a threat that the monopoly utility could develop a charger nearby.

In the absence of direct utility ownership of chargers, the competitive EV charging market provides the benefits of robust competition, including innovative products and services, a wide variety of customer choices, and competitive prices. These benefits are the hallmarks of a healthy competitive market and ORS § 757.357(6)(f) appropriately requires the Commission to consider

⁶ "Site host" refers to the owner or lessor of the property on which an EV charging station is located. Site hosts include residential customers; owners of multifamily housing units (MFH); commercial customers that offer charging to the public, their customers, and/or their employees; fleet owners; and government entities.

whether PacifiCorp's proposal can be expected to stimulate innovation, competition, and customer choice. However, as discussed next, a competitive market cannot provide these benefits when competition is distorted by a market participant that has an unfair competitive advantage that is unavailable to other market participants.

B. <u>The utility has unearned competitive advantages as a provider of EV charging services</u> <u>derived from its ability to recover costs from ratepayers.</u>

In February 2021, Scott Hempling, a well-known thought-leader on utility regulation, and now an Administrative Law Judge at the Federal Energy Regulatory Commission, issued an essay that describes how a monopoly utility can exercise market power through its unearned advantage.⁷ In his essay, Judge Hempling defines unearned advantage as follows: "unearned advantage is government-assisted advantage: the advantages accrued from decades of government protection from competition, plus decades of government price-setting calculated to produce reasonable returns. When the utility (or its affiliate or successor) enters a competition, these advantages act as entry barriers—differences in market entry cost between the incumbent and a new entrant." In examining whether PacifiCorp's Public Utility-Owned Infrastructure Pilot can be "reasonably expected to stimulate innovation, competition and customer choice" as required by ORS § 757.357, it is essential that the Commission consider the impact of PacifiCorp's unearned advantages on the competitive market and the long-term viability of the competitive EV charging market in Oregon.

As Judge Hempling explains, determining whether a regulated monopoly is exercising market power requires an analysis of areas where "government-assisted advantages enable the utility to beat its competitor for reasons other than merit."⁸ The utility has several unearned competitive advantages by virtue of its position as a regulated monopoly, which translate to anticompetitive conduct in areas outside the sectors traditionally regulated by the PUC, such as EV charging stations, including:

(a) in-house knowledge, financed by decades of captive ratepayer payments;

(b) economies of scale, derived from monopoly service territory boundaries drawn by state law;

(c) low-cost access to capital markets, attributable in part to the government's continuing role of limiting competition and setting reasonable rates; and

(d) surplus capacity (a utility must build capacity in "lumps," ahead of demand, to be ready always to meet that demand).7

The utility's competitive advantages derive primarily from its ability to recover its costs from ratepayers, which allow it to install chargers at no cost to site hosts and to charge below-market

⁷ Scott Hempling, "No Anticompetitive Conduct, No Unearned Advantage: Effective Competition Depends on Merit" available in Appendix B and at: <u>https://www.linkedin.com/pulse/anticompetitive-conduct-unearned-advantage-effective-depends-scott/</u>

⁸ Id.

prices for charging. Non-utility charging providers, by contrast, must recover the cost of providing charging services from EV drivers, either directly through charging fees or indirectly through increased sales of another product or service, such as a coffee shop that expects to sell more coffee to EV drivers by providing free or discounted public charging. As another example, a convenience store along a major highway corridor may choose to offer charging to attract customers to buy snacks while travelling long-distance – this is already the business model for gas stations, as two-thirds of a gas station/convenience store's profits come from in-store sales.⁹

As described by the National Regulatory Research Institute (NRRI), utilities can exercise market power through "discriminatory pricing, exploitation of asymmetric information, and deprioritizing the needs of providers of competitive technologies and services."¹⁰ NRRI's work describes several examples of utility attempts to expand the monopoly business model to respond to the emergence of new energy technologies— a response that has "increased costs for customers and thwarted the growth of new energy services, including DERs offering bidirectional power flow and demand flexibility."¹¹

By virtue of its status as a regulated monopoly, the utility may disregard the economics of operating each EV charging station and utilize its access to capital via customer rates to expand its business model to the provision of charging services. The status of regulated monopoly allows the investor-owned utility to earn a rate of return on the value of the assets it owns and operates regardless of charger utilization, a business model unavailable to any unregulated competitor in the EV charging market. In a literature review to assess a utility-owned charger program proposal submitted by an investor-owned utility in South Carolina, the Office of Regulatory Staff (ORS) noted:

[The opportunity to earn a return on their rate base] serves as both a means and incentive for utilities to own charging infrastructure, as well as to offer charging services at prices below those of rivals in the competitive market – even if they lose money on the sale.¹²

Simply put, PacifiCorp's ability to recover the cost of providing EV charging services from ratepayers rather than from EV drivers is an unearned advantage that is unavailable to every other provider of EV charging services. The utility cannot "stimulate innovation, competition, and

⁹ National Association of Convenience Stores, "Consumer Behavior at the Pump" Report, March 2019, at pg. 9, available at: <u>https://www.convenience.org/topics/fuels/documents/how-consumers-react-to-gas-prices.pdf</u>

¹⁰ Carl Pechman, "Regulation and the Monopoly Status of the Electric Distribution Utility," NRRI Insights (June 2022) at pg. 7, available in Appendix C and at: <u>https://pubs.naruc.org/pub/B284311B-1866-DAAC-99FB-C52B7A570087</u>

¹¹ Id.

¹² South Carolina Office of Regulatory Staff's Reply Comments to Responsive Comments, *Joint Applications of Duke Energy Carolinas, LLC, and Duke Energy Progress, LLC for Approval of Electric Vehicle Supply Equipment Program (2022-158-E) and Electric Vehicle Supply Equipment Program (2022-159-E),* Docket No. 2022-158E/2022-159E, The Public Service Commission of South Carolina (October 31, 2022), available in Appendix D and at: <u>https://dms.psc.sc.gov/Attachments/Matter/9b506f63-ad31-4aea-9fa7-984ddc2ca583</u>

customer choice" by simply entering the market as a competitor with an unearned advantage that is unavailable to all other market players.

C. <u>The utility's competitive advantage is likely to suppress private investment and distort</u> prices for EV drivers.

PacifiCorp intends to install utility-owned chargers at off-corridor areas, secondary roadways in need of infrastructure, and current PacifiCorp-owned recreational zones.¹³ To offer charging at off-corridor areas and secondary roadways, PacifiCorp will need to identify property owners with an interest in making their land available for utility-owned chargers.

PacifiCorp's ability to provide EV chargers to site hosts for free would make it very difficult for other EV charging market players to sell EV charging equipment and network services to site hosts. That is, if a site host can ask PacifiCorp to install EV chargers at no cost to them, they would have little motivation to invest their own capital to host EV chargers. Referencing the South Carolina ORS's work again:

While customers may technically be permitted to purchase and operate EV chargers outside of [the utility's] program, they are incentivized to remain a captive customer to avoid the initial capital costs of installing EV charging equipment.¹⁴

The anticompetitive impacts of installing utility-owned EV chargers at a particular location would also spill over to nearby locations because site hosts would be understandably reluctant to install their own EV chargers if PacifiCorp has just installed one across the street or on the next block.

Further, utility ownership of chargers distorts customer and site host expectations at a time the market is still developing. For example, Schedule 60, the pricing schedule offered by PacifiCorp at Company-owned stations, bills EV drivers at a lower per-kWh cost than what site hosts must pay to the utility just for the electricity needed to operate an independently owned charging station.¹⁵ In other words, PacifiCorp's ability to recover its costs from ratepayers instead of EV drivers allows it to engage in predatory pricing behavior that makes it extremely difficult for non-utilities to compete. Any site host that needs to recover its costs of providing EV charging services directly from EV drivers would be unable to compete with PacifiCorp's utility-owned chargers on prices, which will divert utilization away from independently owned chargers and discourage many prospective site hosts from investing in public chargers in the first place. PacifiCorp's below-

¹³ Public Utility-Owned Infrastructure Pilot Program Application at pg. 6

¹⁴ South Carolina Office of Regulatory Staff's Reply Comments to Responsive Comments, *Joint Applications of Duke Energy Carolinas, LLC, and Duke Energy Progress, LLC for Approval of Electric Vehicle Supply Equipment Program (2022-158-E) and Electric Vehicle Supply Equipment Program (2022-159-E),* Docket No. 2022-158E/2022-159E, The Public Service Commission of South Carolina (October 31, 2022), available in Appendix D and at: <u>https://dms.psc.sc.gov/Attachments/Matter/9b506f63-ad31-4aea-9fa7-984ddc2ca583</u>

¹⁵ See ChargePoint's comments in Docket No. ADV 1480 in response to PacifiCorp's proposed update to Schedule 60, submitted on February 23, 2023.

market pricing also causes EV drivers to expect charging to cost less than what it costs the competitive market to provide charging services, leading to driver confusion and frustration. Prospective site hosts are unlikely to invest in hosting public chargers if they believe that charging is a service that the utility provides, or if pricing at utility-owned stations is so low that they cannot compete.

D. <u>Utility ownership of charging stations at the scale proposed by PacifiCorp will have</u> <u>negative long-term impacts on the EV charging market.</u>

The EV charging market is nascent, and state climate goals mean that the EV charging infrastructure must develop on an accelerated timeline to reduce greenhouse gases. It is entirely reasonable for PacifiCorp to make prudent investments to *support* the deployment of public charging infrastructure to accelerate the development of the EV charging market.

However, far from jumpstarting the charging market, the Public Utility-Owned Infrastructure Pilot would *create* a market failure that reduces the likelihood that PacifiCorp's service territory is able to realize the benefits of a mature and competitive market for EV infrastructure. If the utility is allowed to own and operate a significant number of chargers at this early-stage of EV adoption, it would establish a self-fulfilling cycle where utility ownership of EV charging stations is justified due to insufficient private investment, which shuts non-utility actors out of the market and rationalizes utility-ownership, until the provision of charging services simply becomes part of the regulated monopoly model in Oregon.

E. <u>PacifiCorp's proposal is an unreasonable expansion of the current utility-owned Public</u> <u>Charging Pilot and risks resulting in continued utility investment.</u>

In 2018, PacifiCorp received authorization from the Commission to install 25 DCFC ports and 10 L2 ports at 5 sites as a pilot.¹⁶ Though the TEP proposal describes the Public Utility-Owned Infrastructure Program as a pilot, it is effectively a significant expansion of the original pilot, increasing the existing number of utility-owned ports seven-fold. In approving the existing pilot, the Commission made several observations relevant to PacifiCorp's proposal to greatly expand the number of utility-owned chargers. First, the Commission observed that the existing "Public Charging Pilot is *only a pilot program* and that the stipulation does not contemplate further expansion of PacifiCorp's role in the public charging market."¹⁷ Further, the Commission was not persuaded by ChargePoint's concerns with direct utility ownership of chargers in part due to "the modest scope of the pilot."¹⁸ Finally, the Commission stated: "we emphasize that our decision to adopt PacifiCorp's Public Charging Pilot is based on the state of the EV charging market as it exists today, and acknowledge the continuing need to monitor that marketplace to examine the proper role of utility participation."

¹⁶ Public Utility-Owned Infrastructure Pilot Program Application at pg. 6.

¹⁷ Docket No. UM 1810, Order No. 18-075 at pg. 8 (italics added).

¹⁸ Id.

In other words, when the Commission approved the existing utility-owned Public Charging Pilot in early 2018, it did so in large part because the program was a small pilot and represented a rather modest investment of \$1.85M¹⁹ at an early stage of EV adoption and EV charger deployment. The circumstances of this proceeding are very different. PacifiCorp itself acknowledges that: "From 2019 to 2022, Oregon saw a large increase in public charging ports throughout the state...."²⁰ Further, the proposed scope of the Public Utility-Owned Infrastructure Pilot is not "modest." As discussed earlier, the total five-year cost of the proposal is \$19.2M, a significant investment by any measure. As of July 2022, PacifiCorp found that there were 173 DCFC ports in its service territory, including ports that are only compatible with Tesla vehicles. If PacifiCorp were to build an additional 50 DCFC ports, that would bring the total number of DCFC ports (not counting ports that have come online since July 2022) to 223, of which PacifiCorp would own 70²¹, or 31 percent market share. Excluding Tesla chargers from this analysis would result in a much higher market share of the DCFCs that can charge any vehicle for PacifiCorp. Simply put, it is inaccurate to characterize an investment proposal that would result in a DCFC market share of over 30 percent for PacifiCorp as a "pilot."

PacifiCorp has also not explained why it needs to "test the waters" of utility-owned chargers with another "pilot" that is nearly identical to the existing pilot except that it is much larger in scope and cost. Further, as discussed above, PacifiCorp's efforts to monitor the competitive EV charging market and examine the proper role of the utility consisted of a cursory literature review that included many resources completely unrelated to the issue. ChargePoint also questions the accuracy of characterizing a program with a \$19.2M budget as a "pilot" and is concerned that PacifiCorp has done so specifically because the Commission approved the existing Public Charging Pilot in part because it was a pilot.

The Commission should view PacifiCorp's proposal to invest in 40-50 DCFC ports and 100-130 Level 2 ports as a "pilot" in name only. The Public Utility-Owned Infrastructure "Pilot" is a full-fledged program and is essentially PacifiCorp's proposal to fully enter the competitive public charging market with ratepayer backing. Accordingly, the Commission should scrutinize the proposal carefully under the listed criteria in ORS § 757.357 and find that it fails to meet the requirement that all utility investments be reasonably expected to stimulate innovation, competition, and customer choice.

The fact that this is PacifiCorp's second request to own and operate public chargers indicates that PacifiCorp may continue to increase the total cost of its investment in EV charging by requesting Commission authorization to invest in more DCFCs in the future. However, in the long-term,

¹⁹ *Id*. at pg. 3.

²⁰ Public Utility-Owned Infrastructure Pilot Application at pg. 9.

²¹ There are four DCFC ports at each of PacifiCorp's existing Public Charging Pilot sites, for a total of 20 DCFC ports. *See* TE Plan at pg. 35.

anticompetitive behavior and the expansion of the utility's business model eliminates the pressure to innovate and will permanently socialize the cost of public EV charging across PacifiCorp's customer base in perpetuity, leading to higher electricity rates overall.

Since the utility can operate charging stations at a loss, "customers of the regulated products are paying prices higher than they should because they are making up for the losses of the competitive products division."²² In other words, the operation and maintenance of the EV charging market will be on the backs of ratepayers, increasing the cost of deploying and maintaining EV charging infrastructure and ultimately the cost of electricity. Further, as the number of utility-owned stations grows, there is an additional risk that ratepayers are stranded with the ongoing costs of underutilized assets; it is for this reason that many economists, antitrust practitioners, and industry stakeholders warn against expanding the scope of regulated activities.²³

F. <u>PacifiCorp's large population of underserved customers does not justify utility ownership</u> <u>as a first resort.</u>

PacifiCorp proposes to construct, own, and maintain public charging infrastructure within underserved communities throughout its service area. Although the term "underserved" is not explicitly defined by HB2165, the legislation states that approaches to support transportation electrification in underserved areas may include actions to support the use of EVs in areas overburdened by air pollution, tribal, rural, frontier, and coastal areas, and by residents living in multi-family housing, low-income residents, and people of color. 97% of PacifiCorp's service territory is considered underserved according to PacifiCorp's interpretation of the definition established by Oregon state law.²⁴

ChargePoint agrees that additional or targeted investment is appropriate to ensure equitable access to transportation electrification. However, the utility ownership model is a blunt tool for deploying EV charging infrastructure, particularly when PacifiCorp considers nearly all its service territory underserved. Within the state's definition of underserved communities, some areas will face larger barriers to transportation electrification than others. For example, areas designated as underserved due to income status may experience different or increased barriers to the deployment of charging stations than areas designated as underserved because they are located on the coast. By categorizing all the target investment areas under a blanket label of

²² Peter Fox-Penner, Power After Carbon: Building a Clean, Resilient Grid, Harvard University Press (2020), pg. 250.

²³ South Carolina Office of Regulatory Staff's Reply Comments to Responsive Comments, *Joint Applications of Duke Energy Carolinas, LLC, and Duke Energy Progress, LLC for Approval of Electric Vehicle Supply Equipment Program (2022-158-E) and Electric Vehicle Supply Equipment Program (2022-159-E),* Docket No. 2022-158E/2022-159E, The Public Service Commission of South Carolina (October 31, 2022), available at: https://dms.psc.sc.gov/Attachments/Matter/9b506f63-ad31-4aea-9fa7-984ddc2ca583

²⁴ TE Plan at 40.

"underserved," the term "underserved" loses meaning and serves only to justify utility ownership of charging infrastructure almost anywhere in the service area.

PacifiCorp's proposal seems to conflate "underserved" with "cannot be served by the competitive market," which is not supported by the law. The fact that 97% of the utility's service territory meets one of the criteria listed in HB2165 does not inherently justify utility ownership as a first resort, and PacifiCorp provides no evidence that private investment in the underserved areas could not be incentivized with other utility investment models. Because PacifiCorp's interpretation of "underserved communities" under HB2165 is so broad, it is even more important to ensure the utility's investments are targeted to areas with the most need, are sustainable in order to meet 2025 port deployment goals, and remain as cost-effective as possible. A different investment model for public charging infrastructure, such as a make-ready model, would be more effective to provide the tiered levels of utility investment that align with community needs.

G. <u>The anticompetitive issues associated with utility ownership of EV charging stations have</u> <u>been recognized by regulatory commissions across the country.</u>

To prevent the expansion of the regulated monopoly into the EV charging market, regulators in other states have adopted principles to limit the negative consequences associated with utility-owned chargers and focus utility investment on activities consistent with the development of the competitive market. A summary of such examples is listed below.

- As referenced earlier, in South Carolina, the Office of Regulatory Staff (ORS) conducted an analysis on the anticompetitive impacts of regulated monopolies' participation in the EV charging market as part of a review of a transportation electrification proposal submitted by Duke Energy.^{25,26} South Carolina ORS found that utility-owned EV charging proposals ignore the utilities' unearned advantage as a regulated monopoly and increase risk and costs for customers. ORS recommended complete rejection of the proposed utility-owned program.
- In Massachusetts, the Department of Public Utilities (DPU) opened an investigation to determine the role of electric distribution companies in EV charging.²⁷ The DPU found that distribution utilities have a competitive advantage to own and operate EV charging, and

²⁵ South Carolina Office of Regulatory Staff's Reply Comments to Responsive Comments, *Joint Applications of Duke Energy Carolinas, LLC, and Duke Energy Progress, LLC for Approval of Electric Vehicle Supply Equipment Program (2022-158-E) and Electric Vehicle Supply Equipment Program (2022-159-E),* Docket No. 2022-158E/2022-159E, The Public Service Commission of South Carolina (October 31, 2022), available at: https://dms.psc.sc.gov/Attachments/Matter/9b506f63-ad31-4aea-9fa7-984ddc2ca583

²⁶ Duke Energy refers to both Duke Energy Carolinas, LLC and Duke Energy Progress, LLC.

²⁷ Order On Department Jurisdiction Over Electric Vehicles, The Role Of Distribution Companies In Electric Vehicle Charging And Other Matters, D.P.U. 13-182-A at pg. 13 (August 4, 2014), available at: https://fileservice.eea.comacloud.net/FileService.Api/file/FileRoom/9233599

that the utilities' primary responsibility is to deliver safe and reliable distribution service, not own and operate charging stations. Subsequently, utility proposals associated with ownership and operation of EVSE must: be in the public interest; meet a need regarding the advancement of EVs in the Commonwealth not likely to be met by the competitive EV charging market; and not hinder the development of the competitive EV charging market. In December 2022, the DPU approved a \$400M make-ready program and denied a utility's request to own 100 L2 chargers.²⁸

- In Connecticut, the Department of Energy & Environmental Protection (DEEP) issued an EV Roadmap, a whitepaper intended to guide the State's policy actions to meet its EV adoption goals.²⁹ The EV Roadmap weighed the benefits and disadvantages of several investment strategies to accelerate EV charger deployment, including utility make-ready, third-party profit sharing, and utility-owned models. DEEP ultimately determined that a multi-phase, competitive approach for expanding publicly accessible charging infrastructure, open to a variety of investment models, would maximize competition and, thus, ratepayer value. Subsequently, the Public Utilities Regulatory Authority cited the EV Roadmap as motivation for approval of a nine-year make-ready program without plans for any utility-owned public stations.³⁰
- In California, the Public Utility Commission (CPUC) ruled that utility-ownership of EV chargers would not result in advantages benefits to ratepayers that outweigh competitive limitations. When assessing the merits of utility-owned stations, the CPUC found that regulators must use a "balancing test" to weigh unfair competitive advantages against the benefits for utility ownership. The balancing test must, among other considerations, examine the degree to which the market is competitive and has been invoked multiple times to limit anticompetitive behavior. For example, in 2016, Pacific Gas & Electric (PG&E) proposed to deploy, own, and maintain 25,000 Level 2 stations and 100 DCFC stations in its service territory. The CPUC ordered PG&E to modify the program on the basis that PG&E has an "unfair advantage by allowing it to cherry-pick the most profitable charging opportunities within its region, all while being backed by ratepayer recovery options that are not available to private competitors."³¹ More recently, in establishing a statewide transportation and electrification framework, the CPUC found it "appropriate to eliminate"

²⁸ See Order, D.P.U. 21-90, 21-91, and 21-92 (December 30, 2022), available at: <u>https://fileservice.eea.comacloud.net/FileService.Api/file/FileRoom/16827694</u>

²⁹ Connecticut Department of Energy and Environmental Protection, Electric Vehicle Roadmap for Connecticut: A Policy Framework to Accelerate Electric Vehicle Adoption (EV Roadmap) at pg. 45, 2020, available at: https://www.dpuc.state.ct.us/DEEPEnergy.nsf/c6c6d525f7cdd1168525797d0047c5bf/f7ed4932eec438d085258552 0001c81b/\$FILE/EV%20Roadmap%20for%20Connecticut.pdf

³⁰ Final Decision, "Annual Review of the Electric Vehicle Charging Program – Year 1," Public Utilities Regulatory Authority, Docket No. 21-08-06 (December 15, 2021)

³¹ Decision Directing Pacific Gas and Electric Company to Establish an Electric Vehicle Infrastructure and Education Program, Decision 16-12-065 of the Public Utilities Commission of the State of California (December 21, 2016) at 35, available at: https://docs.cpuc.ca.gov/PublishedDocs/Published/G000/M171/K539/171539218.PDF

all IOU ownership of BTM infrastructure..." and that doing so "allows for technology and construction flexibility, while reducing the cost burden that capitalized IOU expenditures impose on ratepayers."³²

 In New Jersey, the Board of Public Utilities (BPU) established minimum filing requirements for utility filings regarding light-duty, publicly accessible EV charging infrastructure. The BPU's 2020 Order restricted utility ownership of EV chargers to very limited circumstances as an option of last resort, stating "Staff recognizes the need to mitigate costs to the ratepayers, which can be reflected in the underlying structure of the program, which rewards investment of private capital and attempts to direct ratepayer funds to areas where they are necessary."³³ A copy of the BPU's Order is provided in Appendix A.

Consistent with each of these findings from other states, PacifiCorp's proposed Public Utility-Owned Infrastructure Pilot cannot "reasonably expected to stimulate innovation, competition and customer choice in electric vehicle charging and related infrastructure and services."³⁴

H. <u>PacifiCorp's named actions to address anticompetitive impacts are insufficient.</u>

In a purported effort to mitigate the anticompetitive impacts of its proposal, PacifiCorp proposes specific actions, including hosting a qualified products list, developing reliability statistics that vendors must adhere to, and adopting nationwide and global EVSE standards that "can be considered to limit impacts on competitiveness due to utility involvement." ³⁵

While the listed actions may be prudent efforts to ensure ratepayer-supported programs are used to deploy chargers that offer desired functionality and deliver on performance expectations, they do not address the core issues with utility ownership – that as a regulated monopoly, the utility has unearned competitive advantages that are unavailable to competitive market players, and these competitive advantages will squelch the nascent non-utility market for EV charging, leading to higher costs and risks to ratepayers.

The Commission's rules require PacifiCorp to provide in its TEP "a discussion of the electric company's potential impact on the competitive electric vehicle supply equipment market, including consideration of alternative infrastructure ownership and business models, and identification of a sustainable role for the electric company in the transportation electrification

³² Decision on Transportation Electrification Policy and Investment, Decision 22-11-040 of the Public Utilities Commission of the State of California (November 21, 2022) at pg. 103, available at: <u>https://docs.cpuc.ca.gov/PublishedDocs/Published/G000/M499/K005/499005805.PDF</u>.

³³ Order Adopting the Minimum Filing Requirements for Light-Duty, Publicly-Accessible Electric Vehicle Charging, Docket No. QO20050357 of the State of New Jersey Board of Public Utilities, In the Matter of Straw Proposal on Electric Vehicle Infrastructure Buildout (September 23, 2020), available at: https://www.nj.gov/bpu/pdf/boardorders/2020/20200923/8F%20-%20ORDER%20Electric%20Vehicle%20MFRs.pdf

³⁴ ORS § 757.357(6).

³⁵ TE Plan at pg. 54

market."³⁶ PacifiCorp states in the TEP that a "literature review conducted on the impact of utility incentive programs, as well as experts surveyed, did not turn up any research finding on the specific negative impacts on the competitive market for such equipment."³⁷ PacifiCorp has clarified that its literature review did not consider decisions made by other public utility commissions on the topic, nor did it consider any comparison between different investment models to maximize competition and public value.³⁸ ChargePoint finds that none of the cited literature provided by PacifiCorp directly addresses the question of whether PacifiCorp's proposal to directly own and operate public chargers – without providing any utility support for public chargers deployed by customers or third-party providers – can reasonably be expected to stimulate innovation, competition, or customer choice.

Further, none of the experts interviewed by PacifiCorp included representatives with experience in the EV service provider or EV equipment manufacturer industry. PacifiCorp justifies this decision by stating that outreach "focused on U.S. national laboratory, academic, and non-profit research organization personnel," and associated interviews focused on "published research."³⁹ However, this justification is insufficient for several reasons.

First, PacifiCorp provides no evidence that any of the interviewed experts or authors of the cited papers and reports have relevant experience in economics or monopoly utility regulation. Second, E-Source is listed several times both in the literature and the experts list, but E-Source is a consulting firm (not a non-profit) that is well-known to serve the interests and needs of the utility sector.⁴⁰ Third, one of the resources listed in the literature review, titled "Subsidies and Puppies" is not an academic paper but a blog post and does not discuss utility programs at all (the word "utility" is not used in the blog post). Another resource, titled "The True Costs of PEV Ownership in California between 2010-2020" could not be found online at the URL PacifiCorp provided and, in any case, appears from the title to focus on plug-in electric vehicles and not utility investments in EV charging. Another resource, titled "Heat Pumps: A Comparative Assessment of Innovation and Diffusion Policies in Sweden and Switzerland," is about heat pumps and does not mention electric vehicles, EV chargers, or even utilities. Another resource, the "Arizona Statewide Transportation Electrification Plan: Phase II," is not a research paper but was prepared by a consultant for two utilities, Arizona Public Service and Tucson Electric Power. Finally, the resource titled "Why US States Should Adopt California's Zero-Emission Vehicle Program" is about ZEV regulations and does not mention EV chargers or utilities.

PacifiCorp appears to have avoided review of any literature or expert interviews that possibly could have raised concern regarding the anticompetitive impacts of utility-owned charging

³⁶ Oregon Administrative Rule 860-087- 0020, as adopted by the Commission in Order No. 22-336 issued on September 8, 2022

³⁷ TE Plan at pg. 54.

³⁸ Appendix E, PacifiCorp's response to ChargePoint Data Request 4 and associated attachment.

³⁹ Id.

⁴⁰ <u>https://www.esource.com/about-e-source</u>

stations. ChargePoint, as both a hardware manufacturer and EVSP, has directly voiced concerns to PacifiCorp regarding negative market impacts associated with the expansion of utility-owned chargers in Oregon in stakeholder comment opportunities through the TEP process.⁴¹ ChargePoint also provided extensive advocacy on these same concerns in Docket UM 1810, in which PacifiCorp proposed and received approval to deploy its existing utility-owned chargers, as well as Docket UM 1811, in which Portland General Electric received approval to expand its utility-owned Electric Avenue chargers.⁴² Several final orders ruling on utility TE plans by public utility commissions in other jurisdictions warn of the anticompetitive utility-owned EV chargers. There are many academic papers regarding the negative consequences of the extension of the regulated monopoly into non-regulated markets.

One such paper published by the National Regulatory Research Institute (NRRI) in June 2022, which was not listed in PacifiCorp's literature review, examines the growing risk of anticompetitive behavior by electric distribution companies in the context of the transition to new energy technologies, such as EVs:

"State regulation can immunize monopoly behavior on the part of utilities and therefore authorize what might be prohibited under anti-trust laws. Such an authorization is important for two reasons. First, monopoly displaces competition, thereby limiting the downward pressure on prices to consumers and relying on government price regulation. Second, because authorized monopoly limits competitive entry, it forgoes the competitive incentive to develop and provide innovative offerings to electric service customers. Evaluating the role of the state in empowering the utility as a monopolist is particularly important at this time, given the pressure to electrify the economy (in particular, transportation) and to decarbonize the production of electricity, as well as the tremendous technical change in the electric industry that the achievement of such goals requires."⁴³

The multitude of omissions in PacifiCorp's assessment regarding its potential impacts on the competitive charging market indicate insufficient consideration of the issue and failure to meet the Division 87 requirements for the 2023-2025 TEP.

⁴¹ See TE Plan at pg. 123, which includes the following from ChargePoint's stakeholder comments: "As both a regulated electric utility and a provider of EV charging services in a competitive market, Pacific Power has a unique advantage in that it may earn a regulated return on its investments in EV charging infrastructure, regardless of the economics of operating each station."

⁴² See Docket UM 1810, ChargePoint's Post-Hearing Reply Brief, filed January 9, 2018; Docket UM 1811, ChargePoint's Post-Hearing Reply Brief, filed November 17, 2017.

⁴³ Carl Pechman, "Regulation and the Monopoly Status of the Electric Distribution Utility," NRRI Insights (June 2022) at 7. Available at: https://pubs.naruc.org/pub/B284311B-1866-DAAC-99FB-C52B7A570087

I. <u>PacifiCorp's proposal fails to provide site hosts with a choice of charging equipment as</u> required by ORS § 757.357(7).

Oregon statute requires PacifiCorp to allow site hosts to choose the type of EV charging equipment that is installed on their property in any utility program that supports charger deployment, including a utility-owned charger program such as the Public Utility-Owned Infrastructure Pilot program PacifiCorp has proposed. Specifically, ORS § 757.357(7) provides: "In undertaking infrastructure measures that involve the installation of one or more electric vehicle charging stations, an electric company must allow for customer choice in the selection of the type of electric vehicle charging station to be installed, subject to equipment eligibility as determined by the electric company. An electric company may prequalify multiple types of eligible electric vehicle charging stations based on criteria determined by the electric company." As indicated in the statutory language, PacifiCorp may prequalify multiple types of equipment, but customers must be provided with a choice.

PacifiCorp's Public Utility-Owned Infrastructure Pilot does not meet this statutory requirement. PacifiCorp briefly describes its proposed EVSE procurement process on pages 29-30 of the application and makes no mention of any plan to prequalify more than one type of charging equipment. Further, in the flow chart diagram it provides on page 30 of the application, the third step is "award of contract or contracts," indicating that PacifiCorp will potentially only qualify charging equipment from a single vendor. PacifiCorp cannot "allow for customer choice in the selection of the type of electric vehicle charging station to be installed" if it has only qualified a single vendor. The Commission should find that PacifiCorp's proposal fails to meet the clear requirement for customer choice at ORS § 757.357(7).

As will be discussed next, ChargePoint recommends that the Commission reject PacifiCorp's proposed Public Utility-Owned Infrastructure pilot because it will hamper and not stimulate innovation, competition, and customer choice, as it is required to do by ORS § 757.357(6)(f). However, if the Commission does not reject the program as ChargePoint recommends, it should at the very least require PacifiCorp to qualify multiple vendors for the program and provide site hosts with a choice in the type of charging equipment deployed on their property. While such a directive will not mitigate the impact of PacifiCorp's ability to charge below-market prices at utility-owned chargers, providing customers with a choice of charging equipment will inject some competitive dynamics into the utility program.

J. <u>The Commission should reject the Public Utility-Owned Infrastructure Pilot.</u>

PacifiCorp's Public Utility-Owned Infrastructure Pilot sits at the heart of Judge Hempling's concern about monopoly utilities engaging in anticompetitive activity in competitive markets. PacifiCorp's position as the utility would allow it to dominate the public EV charging market not based on its merits or its ability to offer superior charging services to EV drivers, but rather, through the exercise of market power via its unearned advantage as a monopoly.

In this instance, PacifiCorp has a captive customer base that allows it to recover costs as approved by the Commission, has the ability to charge lower prices for charging due to both its captive ratebase and access to capital markets, and the ability to invest ahead of need since its costs are recoverable and its assets can sit un- or under-utilized without consequence.

PacifiCorp's TEP has failed to adequately consider the impacts of the Public Utility-Owned Infrastructure Pilot on the competitive market for EV charging, as required by Division 87 rulemaking. Failure to satisfy the requirements of Division 87 warrants non-acceptance of the TE Plan by the Commission.

Further, for the reasons discussed, it would be unreasonable to expect that the Public Utility-Owned Infrastructure Pilot would "stimulate innovation, competition and customer choice in electric vehicle charging and related infrastructure and services." To the contrary, it is reasonable to expect that the proposal would hamper competition and discourage non-utility entities from deploying EV chargers in PacifiCorp's service territory, to the detriment of customers and the state's EV adoption goals. While the Commission has not previously required transportation electrification pilots to meet each of the criteria listed at ORS § 757.357(6), the Public Utility-Owned Infrastructure Pilot is a full-fledged program that proposes \$19.2M in spending over five years and runs directly contrary to one of the criteria, which justifies rejection. Just as it would be unreasonable for the Commission to approve a program in spite of a finding that the program's investments are not within the utility's service territory⁴⁴ or are not used and useful,⁴⁵ it would be unreasonable and contrary to explicit statutory directive for the Commission to approve a program that can be expected to reduce rather than stimulate competition, innovation, and customer choice.

Further, by crowding out other potential providers of public EV charging, PacifiCorp's proposal would also undermine the legislature's intent that widespread transportation electrification should "attract private capital investments."⁴⁶

The Commission may find it appropriate to suggest modifications to accelerate public L2 and DCFC charging in PacifiCorp's service territory in a manner that would not hamper competition or reduce customer choice. Actions that may limit the negative impacts of utility-owned charger could include: giving private site hosts the right of first refusal to develop chargers; allowing customers to choose between utility-owned and "charging as a service" options offered by the competitive market, with incentives to ensure upfront cost does not present a barrier for either

⁴⁴ ORS § 757.357(6)(a).

⁴⁵ ORS § 757.357(6)(c).

⁴⁶ ORS § 757.357(2)(d)

option; and shifting the public investment model to offer make-ready incentives to encourage public site hosts to own and operate chargers.

Regarding efforts to reduce the competitive advantage of the utility, ChargePoint agrees with the South Carolina ORS's assessment, which states "It is unrealistic to expect the [utility] to act as unbiased promoters of all third-party alternatives and to facilitate effective competition given the Companies' inherent incentive to add EVSE to rate base."⁴⁷ ChargePoint recommends that the Commission require PacifiCorp to shift its support of public chargers to a make-ready investment model, the many benefits of which are discussed in the next two sections.

V. <u>To stimulate innovation, competition, and customer choice in the public charging</u> market, the Commission should direct PacifiCorp to use the proposed \$19.2M budget for the Public Utility-Owned Infrastructure Pilot Program to provide make-ready infrastructure for public chargers.

Perhaps the most effective way for a utility to support the competitive market's ongoing efforts to deploy public EV chargers is for the utility to invest in or incentivize the make-ready infrastructure needed to supply electricity to chargers. In a make-ready program, the utility provides (either directly or through an incentive payment) all of the wiring, conduit, trenching, and civil construction work on both the customer-side and the utility-side of the meter needed to provide power to the EV chargers, which are owned and operated by the site host. ChargePoint strongly support PacifiCorp's proposal to use a make-ready model for its Fleet Make Ready Pilot program and recommends that the Commission direct PacifiCorp to use the make-ready model for public chargers, as well, instead of its proposed utility own-and-operate proposal.

A make-ready program avoids all of the concerns discussed above with PacifiCorp's proposal to directly own and operate chargers through its Public Utility-Owned Infrastructure Pilot Application. By requiring site hosts to share in the cost of deployment, a make-ready program avoids the market distortions that occur when the utility installs utility-owned chargers for free. By empowering site hosts to operate chargers and set pricing in a manner that best supports their business model, a make-ready program avoids the predatory pricing concerns that arise when a utility charges below-market prices as a result of its ability to recover its costs from ratepayers instead of from EV drivers. A make-ready program also relies on a utility's core competencies of deploying electrical facilities and managing incentive programs, leaving the operation of high-tech EV chargers and charging networks to companies that specialize in doing so. Finally, at a high level, a make-ready program supports the competitive market by simply reducing the cost of deploying chargers and avoids the market distortions that occur when a monopoly with unearned competitive advantages – advantages that are unavailable to any other market participants –

⁴⁷ South Carolina Office of Regulatory Staff's Reply Comments to Responsive Comments, *Joint Applications of Duke Energy Carolinas, LLC, and Duke Energy Progress, LLC for Approval of Electric Vehicle Supply Equipment Program (2022-158-E) and Electric Vehicle Supply Equipment Program (2022-159-E),* Docket No. 2022-158E/2022-159E, The Public Service Commission of South Carolina (October 31, 2022), available at: https://dms.psc.sc.gov/Attachments/Matter/9b506f63-ad31-4aea-9fa7-984ddc2ca583

competes directly in the competitive market. For these reasons, a make-ready program can reasonably be expected to "stimulate innovation, competition and customer choice in electric vehicle charging and related infrastructure and services," as well as each of the other criteria listed in ORS § 757.357(6).⁴⁸

A. <u>A public make-ready program would be a more cost-effective use of transportation</u> <u>electrification program funds.</u>

Because PacifiCorp has proposed an own-and-operate model, ratepayers will be responsible for the entire cost of the make-ready infrastructure needed to install chargers, the charging equipment itself, installation costs, network fees, site maintenance, and other ongoing maintenance and administration costs.

The TEP reports \$1.7M as the "total pilot program costs" subject to cost recovery for the Public Utility-Owned Infrastructure Program. However, \$1.7M does not reflect the total expenditures that will be made by PacifiCorp within the program, only the annual revenue requirements associated with the program's capital costs for 2023-2025. The actual proposed spend associated with 40-50 DCFC ports and 100-130 Level 2 ports is budgeted as \$19.2M,⁴⁹ a figure which includes capital costs, lifetime operations and maintenance, program administration, marketing, and evaluation, which will be subject to cost recovery over the lifetime of the assets and ultimately borne by ratepayers.⁵⁰

Other program models, such as the make-ready model,⁵¹ involve cost sharing between the utility and the site host or EVSP, which both stimulates private investment and reduces the cost of the program to ratepayers. Simply put, PacifiCorp could reduce its expenditures to support the same number of L2 and DCFC ports by shifting to an investment model where a third-party operator is responsible for a portion of capital and operating costs. Alternatively, PacifiCorp could support more ports with the same budget, if a make-ready model is implemented.

B. <u>A make-ready investment model better aligns with ORS § 757.357(6)(f)'s directive that TE</u> programs should stimulate innovation, competition, and customer choice and with TEP <u>Objective 4 - Reduce Costs to Customers.</u>

PacifiCorp's TEP rightfully identifies high costs as a barrier to both EV adoption and EV charger deployment. A primary objective of the TEP is to minimize costs for drivers to accelerate EV

⁴⁸ ORS § 757.357(6)(f).

⁴⁹ Public Utility-Owned Infrastructure Pilot Application at pg. 33

⁵⁰ PacifiCorp's Response to ChargePoint Discovery Request 1

⁵¹ In the context of EV infrastructure, make-ready programs broadly refer to an investment strategy in which customers receive incentives to cover all or a portion of utility-side and/or customer-side infrastructure costs. They are so named because investments in equipment such as on-site transformers, conduit, and switchgear are typically needed to "make a site ready" to host EV charging.

adoption, including: incentives to lower cost of the EVSE; make-ready programs to reduce service-upgrade costs; and rewards for good charging behavior.⁵²

Objective 4 of the TEP is an effective framework that would likely address the cost barrier for site hosts without enabling anticompetitive behavior and its associated downsides, as discussed earlier. However, the framework of cost-reduction for customer-owned charging stations seems to only have been applied to the residential segment and commercial fleet segment. The objective of cost-minimization should be applied more broadly by expanding the make-ready investment model to public charger deployment.

ChargePoint appreciates that PacifiCorp already offers a non-residential EVSE pilot to support commercial and MUD customers with a per-port rebate of \$1,000-\$3,000, depending on the use case.⁵³ In addition, PacifiCorp's existing line extension policies offer a credit that may range from \$5,200-\$9,700 for L2 and \$10,000-\$23,000 for DCFC for utility-side (front-of-meter) infrastructure.⁵⁴

While these incentives provide value to site hosts interested in hosting public chargers, customerside (behind-the-meter) make-ready infrastructure presents the largest cost barrier for site hosts interested in installing EV charging. PacifiCorp reports that the average behind-the-meter or customer-side make ready costs may range from \$10,000-13,000 for L2 and \$118,000-\$127,000 for DCFC.⁵⁵ Make-ready incentives that cover all or a portion of customer-side infrastructure for public chargers would therefore address the biggest impediment to public charger deployment without committing to utility expenditures to support the operating costs of hundreds of charging ports in perpetuity. By supporting site hosts and EVSPs in their ongoing efforts to deploy public chargers rather than participating in the competitive EV charging market directly, a make-ready incentive program would "stimulate innovation, competition and customer choice in electric vehicle charging and related infrastructure and services," as required by ORS § 757.357(6)(f).

C. <u>Public utility commissions across the country have approved utility make-ready and rebate</u> programs to support investment in EV charging, particularly in underserved communities.

Compared to the utility-ownership model, make-ready programs are advantageous because they leverage private investment. As site hosts are expected to contribute to some portion of the total cost of deploying chargers, the utility can spread investment dollars more broadly to support a larger number of ports or to support the same number of ports with a smaller investment and smaller impact on ratepayers. While PacifiCorp is not obligated by Division 87 to propose a TE Plan that delivers charging infrastructure at least cost to ratepayers, it is a matter of good policy

⁵² TE Plan at pg. 45-46

⁵³ TE Plan at pg. 46

⁵⁴ Fleet Make-Ready Draft Pilot Application at pg. 10

⁵⁵ TE Plan at pg. 36

to pursue an EV charging infrastructure investment strategy that supports port deployment as cost-effectively as possible.

While make-ready programs rely on market actors to have some "skin in the game" to contribute their own capital to the operation and maintenance of charging infrastructure, the model can be designed to ensure that no communities are left behind by private investment. Make-ready programs may ensure investment in PacifiCorp's underserved communities by providing incentive tiers that provide higher levels of support for areas that face multiple barriers.

For example, a recently approved \$400M statewide make-ready program in Massachusetts offers the following incentives for customers installing charging at workplaces, public sites, and multi-unit dwellings, with additional support for environmental justice communities (EJCs):^{56,57}

- 100% of actual utility-side (FTM) costs
- 100% of average customer-side (BTM) costs, up to \$6,000 per-port for L2 and \$60,000 perport for DCFC, not to exceed actual cost; site hosts in disadvantaged communities may receive incentives of up to 150% of average BTM costs on a case-by-case basis.
- EJCs may receive incentives up to 100% for charging equipment (hardware), as well as annual stipends to cover networking costs (software).
- A minimum number of ports supported by the program must be deployed in EJCs to ensure equitable investment across the state.

While ChargePoint considers Massachusetts' make ready model to be best practice to balance cost-minimization, competition, and equitable access to charging infrastructure, there are similar programs in effect across the country. Many of these programs have surpassed the pilot stage and represent the dominant investment strategy for utilities to support transportation electrification.

⁵⁶ Order, D.P.U. 21-90, 21-91, and 21-92 (December 30, 2022), available at: <u>https://fileservice.eea.comacloud.net/FileService.Api/file/FileRoom/16827694</u>

⁵⁷ Massachusetts law defines "environmental justice communities" as neighborhoods where one or more of the following criteria are true: (1) the annual median household income is 65 percent or less of the statewide annual median household income; (2) minorities make up 40 percent or more of the population; (3) 25 percent or more of households identify as speaking English less than "very well"; (4) minorities make up 25 percent or more of the population and the annual median household income of the municipality in which the neighborhood is located does not exceed 150 percent of the statewide annual median household income.

| | | | Program |
|---------------|---------------------------|---|---------------|
| Utility and | Program Name/ | | Budget |
| State | Focus | Program Summary | (\$ Millions) |
| | | Rebate program covering a percentage of the | \$10 |
| | | total cost of installation plus the charging | |
| | | hardware for 300 L2 stations and 75 DC fast | |
| AEP (OH) | EV Charging ⁵⁸ | chargers | |
| National Grid | | Make-ready infrastructure for 320 L2 and 46 | \$9 |
| (RI) | EV Charging ⁵⁹ | DCFC | |
| | | Statewide program to provide make-ready | \$701 |
| Con Edison, | | infrastructure incentives for 53,773 L2 ports | |
| Central | | and 1,500 DCFC ports across public, | |
| Hudson, | | workplace, and multi-unit dwelling (MUD) | |
| National | | sites. Incentives cover 100% of costs for L2- | |
| Grid, RG&E, | New York | MUDs and DCFC in disadvantaged | |
| Orange & | Statewide Make | communities, 90% of costs for public, non- | |
| Rockland | Ready | proprietary ports, 50% of costs for private | |
| (NY) | Program ⁶⁰ | access or proprietary ports. | |
| | | "Custodian" model for ~3,500 commercial | \$45 |
| | | ports at multi-unit dwellings and workplaces | |
| | Power Your | with a special rate that encourages off-peak | |
| SDG&E (CA) | Drive ⁶¹ | charging | |
| | | "Custodian" model for 80 L2 commercial | \$18.6 |
| | Highway/ | ports and 13 DC fast chargers at park-n-ride | |
| SDG&E (CA) | Shuttle ⁶² | and shuttle locations | |
| | | 2026-2030 funding cycle will cover all BTM | \$1,000 |
| PG&E, | Statewide | make-ready infrastructure costs for MUDs, | |
| SDG&E, SCE, | behind-the- | MUD-serving public locations, and fleet | |
| Liberty, Bear | meter (BTM) | charging for medium-heavy duty vehicles | |
| Valley, | Program ⁶³ | statewide | |

⁵⁸ 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)

⁵⁹ 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)

⁶⁰ Order Establishing Electric Vehicle Infrastructure Make-Ready Program and Other Programs. NYPSC Case 18-E-0138. (July 16, 2020)

⁶¹ Decision Regarding Underlying Vehicle Grid Integration Application and Motion to Adopt Settlement Agreement, CPUC, Docket No. A.14-04-014 (January 28, 2016)

⁶² Decision on the Transportation Electrification, Priority Review Projects, CPUC Docket No. A.17-01-020, Decision 18-01-024 (January 11, 2018)

⁶³ Decision on Transportation Electrification Policy and Investment, CPUC Rulemaking 18-12-006, Decision 22-11-040 (November 21, 2022)

| PacifiCorn | | | |
|--------------------------|----------------------------------|---|--------|
| (CA) | | | |
| Duquesne Light (PA) | Public Charging ⁶⁴ | \$500k towards electric bus charging at Port Authority; \$1.3M in rebates towards make- ready for public L2 charging | \$1.5 |
| Ameren (MO) | EV Charging ⁶⁵ | Make-ready infrastructure plus rebates – estimated 1,700 ports with focus on DCFC corridor but also residential, MUD, commercial, fleet | \$10 |
| Consumers Energy (MI) | EV Charging ⁶⁶ | 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 | \$10 |
| Consumers Energy (MI) | Fleet Charging ⁶⁷ | Utility-owned make ready combined with rebates for L2 & DCFC charging stations. | \$12.2 |
| DTE (MI) | EV Charging ⁶⁸ | 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 | \$13.1 |
| Dominion (VA) | EV Charging ⁶⁹ | Make-ready rebates for smart charging infrastructure – estimated 930 ports – workplace, MUD, and DCFC. | \$22 |
| Georgia Power (GA) | EV Charging ⁷⁰ | Make-ready incentives for public locations (i.e., convenience stores, groceries, gas | \$52.7 |

⁶⁴ Opinion and Order. PA PUC Docket No. R-2018-3000124 (December 20, 2018)

⁶⁵ Order Approving Second Stipulation and Agreement. MO PSC Docket 2018-0132 (February 6, 2019)

⁶⁶ 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 Case No U-20134 (January 9, 2019)

⁶⁷ 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. MI PSC Case No. U-20697 (December 17, 2020)

⁶⁸ 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. Case No. U-20162 (May 2, 2019)

⁶⁹ 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).

⁷⁰ Order Adopting Settlement Agreement as Modified, "2022 Georgia Power Rate Case," Georgia Public Service Commission, Docket 44280 (December 20, 2022)

| | | stations) and fleet charging for public fleets (i.e., transit and school buses) | |
|--|--|--|--------|
| Eversource and United Illuminating Co. (CT) | Statewide EV Charging ⁷¹ | Nine-year statewide make-ready program to cover all make-ready costs for 550 DCFC ports and ~12,000 L2 ports for destination, workplace, and fleet sites by 2029; \$72.5M budget reflects 2022-2024 investment cycle | \$72.5 |

For all of the above reasons, the Commission should direct PacifiCorp to reallocate the funds appropriated for the Public Utility-Owned Infrastructure Pilot to a public make-ready pilot program.

VI. The Fleet Make Ready Pilot should be approved, with modifications.

PacifiCorp requests \$3.8M to support a Fleet Make Ready Pilot Program. PacifiCorp's program would provide customer-owned make-ready incentives to support 267 L2 ports and 133 DCFC ports for 49 customers.

A. <u>PacifiCorp's proposed fleet make-ready program design effectively addresses the barrier</u> of cost.

While fleets make up only about 3% of all vehicles registered in the United States, they can have an "outsized influence on the successful electrification of the entire transportation sector."⁷² Fleet electrification is influential because its acceleration can help streamline permitting and utility interconnection processes, as well as influence broader trends towards electrification.

The cost of customer and utility-side make-ready are a significant barrier to fleet electrification, particularly for sites that intend to take a systemic, long-term approach to planning. When a fleet operator prepares for electrification, they not only consider the upfront and operational costs for the EV, but also the onsite investments needed at the depot, garage, or parking lot to support fleet EV charging. The long lead-times for charger installation mean that a fleet manager must consider the economics and logistics of charger installation long before they acquire the EV itself. Fleet managers that intend to replace dozens of gas-powered vehicles with EVs over many years likely want to limit total costs and maximize efficiency by conducting make-ready work all at once, rather than undertaking an expensive piecemeal approach to add more capacity and upgrade electrical equipment every time they purchase a new EV.

⁷¹ Final Decision, "Annual Review of the Electric Vehicle Charging Program – Year 1," Public Utilities Regulatory Authority, Docket No. 21-08-06 (December 15, 2021)

⁷² Lynn Daniels and Chris Nelder, Steep Climb Ahead: How Fleet Managers Can Prepare for the Coming Wave of Electric Vehicles, Rocky Mountain Institute, 2021, available at: <u>https://rmi.org/insight/steep-climb-ahead/</u>

The cost of customer-side infrastructure (such as electrical panels, switchgear, and conduit) is typically the biggest hurdle to the transition to EVs for fleet operators, as well as site hosts who intend to offer public charging. ChargePoint expects the make-ready program design proposed by PacifiCorp, when aligned with the Company's existing line extension policies to address both utility-side infrastructure costs, will accelerate the ability of fleets to prepare for electrification. It is crucial that the customer retains ownership of the customer-side infrastructure and charging equipment, as proposed by PacifiCorp.

B. <u>Technical requirements for specific payment methods should not apply to fleet customers.</u>

PacifiCorp proposes to require that all Level 2 EVSE stations meet the following standards to qualify for the Company's Level 2 non-residential EVSE qualified products list (QPL): Level 2 EVSE stations must have OpenADR, offer a hardwired EVSE option, be compliant with OCPP V1.6 or later and offer radio frequency identification (RFID), contactless payment hardware, credit card reader with chip technology and have Ethernet or Wi-Fi capabilities.⁷³

Charging stations owned and operated by businesses or organizations for the purpose of refueling fleet vehicles do not require payment terminals. While fleets may choose to require authorization to unlock a charging station serving a fleet vehicle, authorization does not require credit or debit card-based payment from the driver, employee, or fleet manager plugging the vehicle in to charge. For example, ChargePoint has a partnership with global commerce platform company WEX to provide sufficient functionality to fleet customers to unlock chargers via RFID or contactless authentication. Since the fleet operator would pay for electric fuel for their fleet through a regular utility bill, payment processing at the station is not necessary.

The requirement for fleet customers participating in the Fleet Make-Ready Program to select equipment with external payment terminals will also increase the cost of equipment for fleet operators. External payment terminals on charging stations may increase the total costs of the charging equipment by up to \$3,000 through additional upfront and maintenance costs, a lifetime increase of 50-100% over the life of the charger.⁷⁴ Since fleet operators would not directly benefit from payment terminal hardware required on the chargers, the added costs serve only to undermine the value of the incentives provided by the Fleet Make Ready Pilot.

For the above reasons, ChargePoint recommends that the Commission approve PacifiCorp's Fleet Make Ready Pilot, but direct PacifiCorp not to require payment capabilities for chargers installed through the fleet program.

⁷³ Fleet Make Ready Program Application at pg. 15

⁷⁴ Chris Nelder and Emily Rogers, Reducing EV Charging Infrastructure Costs, Rocky Mountain Institute, 2019, available at: <u>https://rmi.org/ev-charging-costs</u>

VII. <u>PacifiCorp's required technical standards for reliability and accessibility across all TEP</u> programs should align with NEVI.

Throughout the TEP, PacifiCorp reaffirms its dedication to align programmatic requirements for utility-funded chargers with the final rules established for the federal National Electric Vehicle Infrastructure Program (NEVI). ChargePoint strongly supports the alignment between NEVI and utility-funded programs. However, several technical requirements in PacifiCorp's proposed TEP are misaligned with the guidance established for NEVI. While utility-funded public chargers are not directly subject to NEVI guidelines, aligning standards for reliability and payment with the nation's largest investment in EV charging infrastructure will provide a more consistent charging experience for EV drivers and streamlined program participation for site hosts.

A. <u>The final guidelines for the NEVI Program provide guidance on key matters related to</u> <u>customer experience, including payment and reliability.</u>

The NEVI Program was established and funded by the federal Infrastructure Investment and Jobs Act (IIJA) to invest \$6.5 billion nationwide and at least \$52 million in Oregon to build the nationwide DCFC network to enable long-distance travel in an EV along designated interstate corridors. NEVI is the largest investment of public money in EV charging in history. Additionally, NEVI is subject to Justice40, a federal commitment which requires at least 40% of benefits from the IIJA flow directly to environmental justice (EJ) communities.

In February 2022, final program guidelines for NEVI were published by the Federal Highway Administration (FHWA) to provide guidance to ensure interoperability, network connectivity, consistent pricing information, reliability, and accessibility.⁷⁵

B. <u>EMV-chip readers should not be required on public stations.</u>

Convenient and accessible payment methods at EV charging stations are crucial elements of the EV drivers' experience refueling an EV. When drivers plug into networked EV chargers that require a fee, they can pay in a variety of ways, including: credit and debit cards; radio frequency identification (RFID) cards; "tap-to-charge," which involves an app-based payment; 24/7 phone support lines operated by EV charging networks; and payment through a third party network with roaming agreement, which allow drivers from one network to initiate charging sessions on EVSE operated through another network.

Thanks to roaming agreements among major EV charging networks, including ChargePoint, an EV driver that is not a member of the ChargePoint network can pay for a charging session at a ChargePoint charger using the app or RFID card of any of the following networks, and vice versa:

⁷⁵ The final NEVI standards and requirements (NEVI rules) were posted on the Federal Register on February 28, 2022, and are available at: <u>https://www.federalregister.gov/documents/2023/02/28/2023-03500/national-electric-vehicle-infrastructure-standards-and-requirements</u>

EVBox, Greenlots, FLO, and EVgo. If a driver wishes to use their smartphone, they can pay with the ChargePoint app, which is free to everyone and stores the driver's preferred payment method, or Apple or Google Pay, which are also free to use.

The final NEVI rules establish a requirement that charging stations must provide a contactless payment method that accepts major credit and debit cards and accept payment through either an automated toll-free phone number or by text message. Payment methods must be accessible to persons with disabilities, not require a membership, not affect the power flow to vehicles, and provide access for those that are limited English proficient.⁷⁶

In addition to the contactless and toll-free number payment methods, PacifiCorp proposes that utility-funded public chargers accept payment via EMV chip cards as well.⁷⁷ ChargePoint recommends that the technical requirements be amended to eliminate the mandate for EMV chip readers and instead adopt NEVI's language directly:

Unless charging is permanently provided free of charge to customers, charging stations must: (1) Provide for secure payment methods, accessible to persons with disabilities, which at a minimum shall include a contactless payment method that accepts major debit and credit cards, and either an automated toll-free phone number or a short message/messaging system (SMS) that provides the EV charging customer with the option to initiate a charging session and submit payment.⁷⁸

C. <u>EMV chip readers are a legacy payment technology and quickly becoming obsolete.</u>

Payment terminals that require a card to be physically inserted into a reader, such as EMV chip readers, are a legacy technology that is quickly being replaced by contactless payment technologies, which includes contactless cards and app-based payments. EMV chip readers have only been widely available since 2016, when they replaced magnetic stripe readers as the primary method of payment at payment terminals by federal regulation. Since 2018, contactless payment technology has evolved and proliferated to provide faster, more secure, and more reliable transactions than either EMV or stripe-readers can provide. Subsequently, the payment industry is rapidly shifting away from EMV chip readers for processing card-based payments:

- Over 80% of consumers have used contactless payments in the past 12 months.⁷⁹
- 94% of debit cards are expected to be contactless by the end of 2023.⁸⁰
- Virtually every major issuer bank is offering contactless cards.⁸¹

⁷⁶ Id.

⁷⁷ Public Utility-Owned Infrastructure Pilot Application at pg. 31

⁷⁸ NEVI rules at § 680.106(f)

⁷⁹ <u>https://www.raydiant.com/blog/state-of-contactless-payments</u>

⁸⁰ <u>https://content.pulsenetwork.com/debit-issuer-study/2021-debit-issuer-study-white-paper</u>

⁸¹ <u>https://finicalholdings.com/us-contactless-payment-statistics/</u>

 Nearly 70% of card issuers have converted all their debit cards from magnetic stripe and contact EMV chip to contactless, with the number of magstripe-only cards down to 1% of the cards in the market.⁸²

According to Visa, "Tapping to pay will soon become the default way that U.S. consumers choose to pay with cards in the physical world."⁸³ A requirement to offer EMV chip readers, therefore, locks EV charging stations into an obsolete payment technology and diminishes the industry's ability to respond to improvements in payment technology and changes in consumer preferences.

D. <u>The experience of using and paying for EV charging should be better than the typical</u> <u>experience of refueling at a gas station.</u>

ChargePoint appreciates PacifiCorp's desire to offer a payment experience at EV charging stations that mimics the experience at gas stations to help ease the transition to EVs. However, drivers' payment experience at gas stations is far from a "gold standard" of convenience or accessibility that the EV charging industry or the Commission should strive to achieve. ChargePoint, as well as many of our industry peers, strives to offer a superior, more seamless fueling experience than what is provided by traditional gasoline and diesel fueling stations. Contactless payments present a faster, better, more convenient payment processing method that EV drivers are adopting anyway. Just like owning (and charging) an EV will be a different and better experience for drivers than owning and refueling a gas car, paying for charging will be a different and ideally, better experience than fueling a gas-powered vehicle.

Further, EV charging stations are long lived assets that are designed to be in operation for ten years or longer and during most of that time, contactless payments will be the dominant form of payment methods for in-person transactions. Charging station networks such as ChargePoint, as well as site hosts, have every motivation to make it as easy and convenient as possible for EV drivers to use their stations. As an industry leader, ChargePoint has seen no evidence that EV drivers are unable to initiate charging sessions through the multiple payment methods ChargePoint offers and that are in widespread use today.

Physical chip readers are more vulnerable to environmental conditions (e.g., rain, snow, ice, sand, etc.), which poses concerns for EV charging stations that are exposed to the elements and can be located in remote areas. By contrast, contactless credit cards and smartphone/app payments use an internal Near-Field Communication (NFC) reader that is housed within the charger, making the payment processor more secure, reliable, and durable. Any complex system, whether it be a lightbulb or an aircraft, is only as reliable as its least reliable component. In the case of charging

⁸² 2022 PULSE Debt Issuer Study at pg. 16, available at: <u>https://www.pulsenetwork.com/public/debit-issuer-study/</u>

⁸³ Contactless in the U.S.: Tapping into the Future of Payments, available at: <u>https://navigate.visa.com/na/spending-insights/tapping-into-the-future-of-</u>

payments/#:~:text=The%20rise%20of%20mobile%20payments,factors%20at%20traditional%20POS%20devices.

stations, an external payment terminal introduces a new point of failure that is exposed to the hazards of weather conditions and tampering.

E. <u>EMV chip readers are likely to increase fraud risk.</u>

Consumer protection groups and federal agencies have long warned that gas pumps are notoriously vulnerable for "skimming" scams, where fraudsters attach illegal card readers to payment terminals to steal card data.⁸⁴ Identify theft affects 7% of American adults annually and is most likely to cause severe distress to those with the lowest incomes, people of color, and women.⁸⁵ Though EMV chip readers initially provided greater transaction security than magnetic stripe readers, devices known as "shimmers" can now exploit vulnerabilities in EMV chip technology and put drivers at risk of fraud and theft.

Gas pumps are one of the most common sites for crimes related to skimming and shimming. According to a report by the Digital Citizens Alliance, EV charging stations with contact-based credit card readers are likely to become high-value targets for fraudsters. Whereas gas stations typically employ attendants to monitor gas pumps to discourage identify theft, charging stations are often unmonitored and therefore will attract more tampering than gas pumps.⁸⁶ Contactless payment technology as the standard debit and credit card payment on charging stations deters fraud risk at fuel stations by eliminating the physical contact between the payment terminal and debit/credit card that enables fraud.

While EMV chip readers are not disallowed by NEVI, the final rule directs funding recipients to "implement physical and cybersecurity strategies consistent with their respective State EV Infrastructure Deployment Plans. Physical security strategies may include... Strategies to prevent tampering and illegal surveillance of payment devices."⁸⁷ Considering the significant reliability and fraud risks associated with EMV readers, ChargePoint expects that most recipients of NEVI funding will opt not to accept EMV-chip-enabled payment as a measure to limit risks to EV drivers paying for charging services.

https://www.ncbi.nlm.nih.gov/pmc/articles/PMC8699092/

⁸⁴ Federal Trade Commission Consumer Alert, "Watch out for card skimming at the gas pump," available at: <u>https://consumer.ftc.gov/consumer-alerts/2018/08/watch-out-card-skimming-gas-pump</u>

⁸⁵ Marguerite DeLiema, et al., "The Financial and Psychological Impact of Identity Theft Among Older Adults," 2021, available at:

⁸⁶ April C. Wright, "How EV Drivers Could Become Cyber Criminals' New Target," Digital Citizens Alliance, available at: <u>https://www.digitalcitizensalliance.org/clientuploads/pdf/Charging in the Crosshairs.pdf</u>

⁸⁷ NEVI rules at 680.106(h)

F. <u>EMV chip readers are not the only or best way to ensure unbanked and underbanked</u> <u>Oregonians can pay for EV charging stations.</u>

ChargePoint recognizes that the requirement to offer EMV chip readers at charging stations is partly an effort to ensure that low-income, unbanked, and underbanked EV drivers can access and pay for charging services. ChargePoint supports this goal and agrees that charging services must be accessible to all EV drivers, both now and as EV adoption grows. For this reason, ChargePoint and other EV charging networks offer ways to pay for charging that many gas stations do not offer, including app-based payments using a preferred-payment method, mobile payments through Apple Pay and Google Pay, and contactless credit and debit cards. Providing numerous options promotes accessibility by giving drivers choices.

Offering mobile payment capabilities also provides more options to unbanked individuals, for several reasons.

- Many cash cards without chips can be linked to mobile wallets such as Apple Pay and Google Pay.
- In addition to working with credit, debit, and cash cards, Apple Pay and Google Pay are also peer-to-peer payment platforms, allowing an unbanked individual that receives direct electronic payments (e.g., a handyman or a babysitter) to use these mobile wallets to pay for charging without the need for a credit or debit card.
- Other peer-to-peer payment platforms like Venmo and Paypal can issue users physical debit cards tied to their peer-to-peer account, and these cards are contactless-capable.

App-based payments already align with the experience of charging an EV because EV drivers use the ChargePoint app (or the app of another EV charging network) to locate charging stations, manage a charging session remotely, and track charging data such as cost and state of charge. Accordingly, if an EV driver is using a public charging station, it is very likely the driver has a smartphone and does not need there to be a chip card reader to pay for their charging session. However, for Oregonians that are both underbanked and do not own a smartphone, there are more effective ways to ensure access to charging without accepting the reliability and security risks associated with EMV readers.

For example, a joint effort by Valley Clean Air Now and the California Department of Transportation (CalTrans) issued preloaded, reloadable, contactless debit cards for low-income EV owners to use at any charging station.⁸⁸ The explicit goal of the program, according to CalTrans, is "to unlock this market, helping set the standard that contactless bank cards can be the payment method for all, including 10.3 million unbanked and underbanked California residents."⁸⁹

⁸⁸ California Air Resources Board, "Valley CAN, State of California issue preloaded, reloadable contactless debit cards for low-income EV owners to use at any charging station," 2022, available at: HYPERLINK "https://ww2.arb.ca.gov/news/valley-can-state-california-issue-preloaded-reloadable-contactless-debit-cards-lowincome-ev"<u>https://ww2.arb.ca.gov/news/valley-can-state-california-issue-preloaded-reloadable-contactless-debitcards-low-income-ev</u>

ChargePoint encourages PacifiCorp to explore more targeted solutions to address the challenges that unbanked or underbanked Oregonians face.

G. <u>Public reporting of uptime by station is not necessary to ensure reliability.</u>

Robust reliability standards are critical in ensuring excellent driver experience and supporting increased consumer adoption of EVs. The NEVI final rules define a standard formula for uptime and require funding recipients to achieve a minimum uptime performance of 97%. FHWA expects to enforce the 97% uptime requirement for NEVI-supported stations via regular reporting.⁹⁰ ChargePoint supports PacifiCorp's proposal to adopt the standard definition of uptime established by NEVI, as well as a reporting requirement to ensure that utility-funded stations meet the 97% uptime requirement.

However, PacifiCorp's proposal not only intends to adopt new metrics on adequacy, reliability, affordability, and access, but also aggregate this information for public display on an "EV data dashboard." According to PacifiCorp, "...the EV dashboard is intended to be a single location to pull together the reporting statistics on charging stations (EVSE) that the transportation electrification portfolio has provided incentives for, as well as the charging infrastructure owned by the utility, to provide better reporting to stakeholders and ensure adherence to uptime and reliability requirements."⁹¹ The TEP does not provide an estimate for the costs expected to be incurred related to the development or maintenance of the EV dashboard.

ChargePoint agrees that utility-funded stations must deliver a high degree of reliability. While the NEVI Program requires funding recipients to collect and report a standard definition of uptime for accountability to ensure compliance with the 97% uptime requirement, the rule does not require publicizing this information in a public dashboard. EV drivers are intended to experience the benefits of the uptime requirement through high-performing, more reliable stations.

Uptime should be reported to regulators to hold the utilities accountable to the value of their investments, rather than publicly on an online dashboard. Contrary to PacifiCorp's proposal, a public "name and shame" of stations that do not meet the performance standard will reduce the public's faith in the charging market at a time it is still developing. Therefore, the Commission should reject PacifiCorp's proposal to develop an EV dashboard at this time, and instead look to require non-public reporting of uptime to the Commission.

VIII. <u>Conclusion</u>

ChargePoint thanks the Commission for the opportunity to submit these comments on PacifiCorp's draft 2023-2025 TEP. In conclusion, ChargePoint recommends that the Commission:

⁹⁰ NEVI rules at 680.116

⁹¹ PacifiCorp's Response to ChargePoint Discovery Request 2

- Reject the Public Utility-Owned Infrastructure Pilot, on the basis that the utility did not adequately consider the anticompetitive impacts of its proposal and because it will stifle and not "stimulate competition, innovation, and customer choice."⁹²
- Direct PacifiCorp to reallocate the funds appropriated for the Public Utility-Owned Infrastructure Pilot to a public make-ready pilot program.
 - If the Commission does not reject the program and reallocate funding to makeready infrastructure as ChargePoint recommends, it must at the very least require PacifiCorp to qualify multiple vendors for the program and provide site hosts with a choice in the type of charging equipment deployed on their property to be consistent with Oregon statute.⁹³
- Approve the Fleet Make Ready Pilot Program, but direct PacifiCorp not to require payment capabilities at fleet chargers.
- Require PacifiCorp to modify its proposed technical requirements across all programs to better deliver payment accessibility and reliability to EV drivers by aligning with the final NEVI requirements and not requiring credit card chip readers.

Although our recommendations, if adopted, would result in several substantial changes in PacifiCorp's TEP, ChargePoint believes the resulting TEP will better deliver on the desired outcome that stakeholders share – to equitably, reliably, sustainably, and quickly meet Oregon's EV charging infrastructure needs in a manner consistent with the requirements of ORS § 757.357. We look forward to continuing to engage with Commission Staff, PacifiCorp, and other stakeholders on the finalization and execution of the TEP.

⁹² ORS § 757.357(6)(f).

⁹³ ORS § 757.357(7).



Philip D. Murphy Governor

Sheila Y. Oliver Lt. Governor State of New Jersey BOARD OF PUBLIC UTILITIES Post Office Box 350 Trenton, New Jersey 08625-0350 www.nj.gov/bpu/

October 20, 2020

Joseph L. Fiordaliso President

> Mary-Anna Holden Commissioner

Dianne Solomon Commissioner

Upendra Chivukula Commissioner

> Bob Gordon Commissioner

To the Service List:

Re: IN THE MATTER OF MINIMUM FILING REQUIREMENTS FOR LIGHT-DUTY, PUBLICLY-ACCESSIBLE ELECTRIC VEHICLE CHARGING DOCKET NO. QO20050357

Agenda Date: September 23, 2020 – Agenda Item: 8F

Please be advised that the Board of Public Utilities is reissuing the Order for the above-referenced agenda item that was approved by the Board of Public Utilities ("Board") at the September 23, 2020 Board agenda meeting to correct a typographical error.

On page seventeen, the definition of "Publicly-accessible charging" omitted EVSE companies from the definition, despite including them on the following page as permissible owners of publicly accessible charging stations.

As a consequence, the re-issued Order clarifies the definition:

"Publicly-accessible charging" means a charger located on public land, a community location, or a travel corridor. Such chargers are owned and operated by site owner, property manager or management company, EVSE Infrastructure Company or, in limited cases, an EDC that is accessible to the public 24 hours a day, seven days a week; however, generic parking restrictions or requirements, such as in a commercial garage, or emergency restrictions, including construction, street cleaning, etc., are not applicable. Such chargers may charge the EV owner a fee for charging; such fees will be clearly displayed to the user.

This is the only change to the Order, which will be re-distributed to the parties of record and the attached service list.

Sincerely,

de Camacho Welch

Aida Camacho-Welch Secretary of the Board

/ac
IN THE MATTER OF STRAW PROPOSAL ON ELECTRIC VEHICLE INFRASTRUCTURE BUILD OUT

DOCKET NO. QO20050357

SERVICE LIST

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Appendix A ChargePoint Initial Comments UM 2056

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Agenda Date: 9/23/20 Agenda Item: 8F

STATE OF NEW JERSEY Board of Public Utilities 44 South Clinton Avenue, 9th Floor Post Office Box 350 Trenton, New Jersey 08625-0350 www.nj.gov/bpu/

CLEAN ENERGY

IN THE MATTER OF STRAW PROPOSAL ON ELECTRIC VEHICLE INFRASTRUCTURE BUILD OUT ORDER ADOPTING THE MINIMUM FILING REQUIREMENTS FOR LIGHT-DUTY, PUBLICLY-ACCESSIBLE ELECTRIC VEHICLE CHARGING

DOCKET NO. QO20050357

Parties of Record:

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BY THE BOARD:

This Order implements provisions of the Electric Vehicle Act of 2020 ("PIV Act"), <u>P.L.</u> 2019, <u>c.</u> 362; N.J.S.A. 48:25-1 <u>et seq.</u>, which directs the New Jersey Board of Public Utilities ("Board" or "BPU") to adopt policies and programs to advance the adoption of electric vehicles ("EVs") and the development of EV charging infrastructure. By this Order, the Board establishes the minimum filing requirements for utility filings regarding light-duty, publicly-accessible EV charging infrastructure.

I. <u>BACKGROUND</u>

New Jersey's transportation sector accounts for 42% of the state's net greenhouse gas emissions, making it the largest emissions source in the state and a critical place to start when tackling the issue of reducing emissions, as documented in the 2019 Energy Master Plan ("2019 EMP").¹

¹ 2019 New Jersey Energy Master Plan: Pathway to 2050, available at <u>https://www.bpu.state.nj.us/bpu/pdf/publicnotice/NJBPU_EMP.pdf</u>.

The 2019 EMP found that the State can cost-effectively reach its legislative and gubernatorial goals on climate largely through a single approach—the electrification of the transportation sector. 2019 EMP at 12. In order to address these critical and urgent consequences, the 2019 EMP provides that the transportation sector should be almost entirely decarbonized by 2050, primarily through electrification. More so, the 2019 EMP urges that the State must take "concrete steps to start to phase out motor gasoline and conventional diesel consumption as quickly as possible." 2019 EMP at 60. The goal is clear: rapid and widespread EV adoption. One of the concrete steps to achieve this goal is the rapid expansion of the number of publicly-accessible locations to charge electric vehicles.

New Jersey has long recognized that climate change, caused by increased greenhouse gas emissions, will result in catastrophic effects on human, animal, and plant life. Despite the enormity of the climate change problem, the New Jersey Legislature understood that solutions exist to halt emissions of greenhouse gases, and "as a State, there are specific actions that can be taken to attack the problem of global warming," as noted by the Global Warming Response Act, <u>P.L.</u> 2007, <u>c.112</u> (C.26:2C-37 <u>et seq.</u>) ("GWRA").

More generally, the Legislature reflected this sentiment when it provided the Board with the authority to "require any public utility to furnish safe, adequate and proper service, including furnishing and performance of service in a manner that tends to conserve and preserve the quality of the environment and prevent the pollution of the waters, land and air of this State...." N.J.S.A. 48:2-23.

Governor Murphy continued these efforts to combat greenhouse gas emissions when he released the 2019 EMP, which provides a roadmap for the State to reach 100% clean energy and 80% emission reductions from 2006 levels by 2050. The 2019 EMP begins by stating, "[t]here is near unanimous scientific consensus that the global threat of climate change is grave and that it demands swift local action and focused state leadership." 2019 EMP at 11. The threats reach beyond environmental risks and include economic and health-related impacts. With this understanding, Governor Murphy's 2019 EMP seeks to provide steps so that the residents of New Jersey may avoid the increasing consequences of climate change impacting public health, infrastructure, and the overall economy.

In 2020, the State took another step to effectuate the goals of the GWRA and the 2019 EMP by enacting the PIV Act. Finding that "vehicle electrification offers a wide range of benefits, such as improved air quality, reduced greenhouse gas emissions, and savings in motor vehicle operating costs for vehicle owners," the PIV Act sets aggressive goals and specific steps to increase widespread plug-in vehicle ("PIV") adoption. N.J.S.A. 48:25-1. Some of these goals include:

- 1. At least 330,000 light-duty, plug-in EVs shall be registered in New Jersey by December 31, 2025, and at least 2 million EVs shall be registered in New Jersey by December 31, 2035.
- 2. At least 85% of all new light-duty vehicles sold or leased in New Jersey shall be plugin EVs by December 31, 2040.
- 3. At least 25% of State-owned non-emergency light-duty shall be plug-in EVs by December 31, 2025.
- 4. At least 400 DC Fast Chargers shall be available for public use at no fewer than 200 charging locations in the state by December 31, 2035.
- 5. At least 1,000 Level Two chargers shall be available for public use across the state by December 31, 2025.

- 6. At least 15% of all multi-family residential properties in the state shall be equipped with Electric Vehicle Service Equipment ("EVSE") for routine charging of EVs by December 31, 2025.
- 7. The Department of Environmental Protection ("DEP"), in consultation with the Board, shall establish goals for vehicle electrification and infrastructure development for medium and heavy duty vehicles by December 31, 2020.

The PIV Act also mandated that the Board establish incentive programs for both EVs and EV charging and provided that the Board may "adopt policies and programs to accomplish the goals established pursuant to this section." N.J.S.A. 48:25-3(b).

The Legislature and the Governor have made it clear that in order to combat the consequences of climate change, the electrification of the transportation sector is in the public interest. All of New Jersey — its residents, its businesses, its economy, its environment — will benefit from the widespread adoption of EVs.

With the directives and authority provided by the GWRA, 2019 EMP, and the PIV Act, the Board built on its efforts to assist in electrifying the state's transportation sector when it released its Electric Vehicle Infrastructure Ecosystem 2020 Straw Proposal ("Straw Proposal") on May 18, 2020.

II. ELECTRIC VEHICLE INFRASTRUCTURE ECOSYSTEM STRAW PROPOSAL

BPU Staff ("Staff") drafted and released the Straw Proposal and solicited comments for a pathway forward to an EV public charging infrastructure build-out and the roles of private and public entities in this endeavor. The Straw Proposal highlighted the need to create a comprehensive EV Infrastructure Ecosystem – that is, a network of different players who simultaneously work together towards the goal of widespread EV adoption. These players include New Jersey consumers, employers, property owners, electric distribution companies ("EDCs"), and investors.

A robust EV Infrastructure Ecosystem includes all the physical equipment necessary to charge a vehicle, including the EVSE, the pre-wiring of electrical infrastructure at a parking space to facilitate future installation of chargers on a "plug and play" basis, which this Order refers to as the "Make-Ready" portion of the electrical system, as well as distribution upgrades on the utility-side of the meter.

On June 3, 2020, Staff held a stakeholder meeting to solicit comments on the Straw Proposal. Comments were due on June 17, 2020. The Board received 34 comments from individuals, coalitions, and businesses. All comments were posted to the Board's website.

Through a holistic approach, the proposed EV Infrastructure Ecosystem seeks to address range anxiety and obstacles to EV adoption. Range anxiety is the concern that there will not be enough publicly available locations to charge an EV to make it a reliable transportation option beyond a local radius and the EV owner's home charger.

To date, the private sector has not made a business case to install EV chargers without a critical mass of EVs on the road, and consumers hesitate to purchase EVs without the ability to charge away from home. As a result, the adoption of EVs has lagged. The circular problem continues as the EVSE Infrastructure Companies are disinclined to develop publicly available charging sites where there is an uncertain amount of demand for their services.

Since the competitive market has not yet provided the investment necessary to spur adoption, concerted action from all parties — consumers, private infrastructure companies, and the EDCs — is necessary. Staff's proposed EV Infrastructure Ecosystem calls these parties into action in order to jumpstart widespread EV adoption. While New Jersey ranks near the bottom of EV adoption, stakeholders generally agree that an investment in charging infrastructure to address range anxiety coupled with the BPU's new EV incentives will serve to spark EV adoption and confidence in the emerging technologies.

After considering the stakeholder comments, input from the panelists at the stakeholder meeting, and internal deliberation, Staff recommends that the Board help advance an EV Infrastructure Ecosystem by adopting the shared responsibility model laid out in the Straw Proposal. These steps, in coordination with investment and participation from key players, are necessary so that New Jersey may uphold its stated goals within the desired timeframe.

III. <u>COMMENTS</u>

Public Charging

Stakeholders suggested that programs that utilize ratepayer dollars for Make-Ready investments should require that chargers be able to be utilized by all EVs on the market. Commenters point out that nearly 40% of all households are in multi-family dwellings and that public charging is needed in order to support EV adoption across the state. Commenters also point to New Jersey's low ranking in comparison to other states' regarding EV adoption as a reason to rapidly invest in EV charging infrastructure. Stakeholders also suggested that incentivizing fleet chargers in addition to publicly-accessible chargers would speed adoption.

Response

Staff concurs with the importance of public charging, and this Board Order requires that publiclyaccessible chargers and Make-Ready investments funded through utility investment must be accessible to all mass-market EV users.

Additionally, as discussed in more detail below, the Board is keenly aware of the practical and equity concerns presented regarding enabling residents of multi-family dwellings to have access to the cost savings and environmental benefits potentially provided by EV ownership on an equal basis as residents living in single-family houses. To accomplish this, charging infrastructure must accommodate EV owners living in multi-family dwellings, including addressing the rate design issues that currently cause residents in multi-family dwellings to pay more for charging services than those living in single-family households.

Staff also understands the importance of fleets to adoption and commits to initiating a stakeholder proceedings on this question in the future. However, the scope of this Board Order is to address publicly-accessible, light-duty charging.

Expansion of Site Owner Definition

Several stakeholders suggested an expansion of who can own and operate EVSE chargers across the state. The Straw Proposal defines EVSE Infrastructure Companies as the owner and operators of the charging systems in most cases. Commenters suggested that in many areas it is the property owners or management companies of a specific location that become owners and operators and that traditional EVSE Infrastructure Companies supply the equipment and

technology for the charging. Other stakeholders suggested that, while property owners should be able to own and operate charging equipment, EVSE Infrastructure Companies should also be able to be owners and operators.

Commenters suggested that utilities allow a variety of ownership structures to best address needs in different areas of the state.

Response

Staff recommends that charger ownership be open to market forces, including site owners, property management companies, and other private investment. The Board Order provides clarification on this matter.

EV Incentives and Fleets

Stakeholders presented a variety of perspectives on the electric vehicle incentive program, Charge Up New Jersey, administered by the Board. Many recommended the expansion of the program to include fleet vehicles, while others made suggestions regarding the most effective way to electrify the state as a whole. One comment called for incentivizing hydrogen- fueled vehicles as well.

Response

Staff appreciates the variety of comments received in reference to the Charge Up New Jersey Program. At this time, the program is set by parameters set by the PIV Act, as well as the terms and conditions established by the FY20 Compliance Filing for Phase One of the Program. The Board anticipates implementing the point-of-sale incentive and addressing the EV charger incentive in separate proceedings, at which point stakeholders will have the opportunity to provide comments and recommendations. Staff also notes that the PIV Act authorizes the Board to review and amend the program in years two through 10 of the program.

Impact on Ratepayers

The viewpoints of stakeholders varied greatly with regard to the impact of the EV ecosystem buildout on ratepayers in the state of New Jersey. Some expressed concern regarding the legislation that provided the Board with the statutory authority to require utilities to establish a comprehensive EV ecosystem. Due to the current EV market, some commenters suggested that the build-out of charging infrastructure is unnecessary since it does not have the ability to benefit the majority of New Jersey's ratepayers. Others supported the collaborative approach taken by the Board and urged consideration of ratepayer impact but recognized that ratepayer support is needed in order to move the EV market in any meaningful way and reach the state's goals.

Stakeholders suggested that ratepayer impacts could be minimized by encouraging partnerships between local chambers of commerce and business groups to develop sites for charging infrastructure. In addition, some suggested that the Board could create a system whereby ratepayers may provide the upfront costs for a Make-Ready solution, but the costs would be returned to the ratepayers at a later date via an equitable mechanism. Furthermore, stakeholders called upon the Board to assess the financial impact of utility EV programs on ratepayers by considering both the costs and savings through a whole-house lens that takes into account overall energy consumption and spending.

Response

Staff recognizes the need to mitigate costs to the ratepayers, which can be reflected in the underlying structure of the program, which rewards investment of private capital and attempts to direct ratepayer funds to areas where they are necessary, consistent with meeting the statutory goals established by the Legislature. This commitment can be seen, for example, in the requirement that the utilities' role in ownership and operation of charging infrastructure using ratepayer dollars are limited to areas of "Last Resort," which is discussed in more detail herein.

Staff further recognizes that, in the nascent days of adoption, residents in overburdened communities will be less likely to purchase an EV. The Board has sought to address these issues by requiring EDCs to create programs to provide programs that ensure equitable access.

Utility Cost Recovery

Comments from stakeholders regarding utility cost recovery maintained that the Board should take a flexible approach and consider the broad-based benefits that EV charging infrastructure delivers to the entire state. Multiple stakeholders called for a flexible approach and maintained that limiting cost recovery may limit utility participation. Some commenters requested that the Board permit full and timely cost recovery for all costs associated with utility programs. In addition, they stated that cost recovery should include a return on, and of, all capital investments. A suggested mechanism was that revenues received from the use of utility-owned chargers could be credited back as an offset of program costs.

Response

Staff agrees that EDCs may recover costs that are permitted by the overall policy and encourages each EDC to file their own cost-recovery proposal. Staff also agrees that any revenues earned should offset program costs.

Equity – EV Owners and the Community

On the issue of equity, some stakeholders cautioned against populating overburdened communities with EV charging stations when other options may provide greater emissions reductions for a lower cost. In addition, stakeholders requested that investment in overburdened communities include not only low-income communities but also multi-family dwellings. The comments expressed some consensus that utilities may be best suited for equity-based work, but suggestions regarding the timing and mechanisms for such work varied. These options ranged from dedicating a portion of program funds to deploying infrastructure in low-income communities to investing a certain portion of funds to the electrification of transit or school buses in urban areas. Stakeholders further stated that density, rather than a community's income level, is a more likely indicator of areas where utility intervention may be most appropriate to ensure equity.

Overall, there was agreement from stakeholders that utilities and the Board needed to establish and maintain relationships with community leaders, organizations, businesses, and other stakeholders who can provide a necessary, locally-informed perspective on the unique risks created by EVSE build-out in overburdened communities.

Response

Staff agrees that multiple approaches are required to ensure that overburdened communities are included in EV adoption measures. The current Board Order addresses publicly-accessible, light-duty charging and does require that filings include programs designed to address overburdened communities.

In addition, Staff recognizes that equity is closely tied to the electrification of the medium- and heavy-duty sector. As a result, there will be a separate straw proposal, currently scheduled for Fiscal Year 2021, on medium- and heavy-duty electrification, which may address electric transit and school buses, as well as other methods to ensure equitable electrification.

Transportation Trust Fund

Stakeholders expressed concerns regarding the proper funding of the Transportation Trust Fund ("TTF"), resulting from increased EV adoption and overall transportation electrification. The commenters stated that a lack of contribution to the TTF for maintenance and roadway repairs will place an undue burden on New Jersey residents unless a mechanism is established to ensure that EV drivers pay their fair share. The consensus was to develop a user fee for EV drivers, with caution against overly burdensome fees which could negatively impact EV adoption.

Response

Staff has been aware of the issue regarding EV adoption and the associated impact on the TTF. It is Staff's view that this issue will be of increased importance as EV adoption grows and that the Board should continue to work with the New Jersey Department of Transportation and other relevant stakeholders to address this issue.

Subscription versus Pay per Use

Commenters stated that the subscription, or pay-per-use method, for charging seemed to exclude multi-family dwellings and workplace chargers. Stakeholders also suggested several different business models and the need for flexibility in the nascent days of EV adoption.

Response

The PIV Act was clear that the sale of electricity at an EV charger is a service, not a regulated sale of energy. As such, Staff recommends providing private entities with the flexibility to adopt payment methods that meet their specific use-case. For example, Staff anticipates that this will provide charging companies addressing the multi-family dwelling market to adopt payment mechanisms that meet their specific needs. It is also Staff's assumption that, as the market develops, preferred methods will emerge. While Staff does not at this time recommend establishment of any specific payment methodology, Staff recommends that the Board keep a close eye on marketing practices as they develop to ensure transparency, fairness, and access.

Charger Incentives

Perspectives from stakeholders regarding charger incentives varied greatly. Some commenters suggested that EV charger incentives would increase rates on ratepayers in overburdened communities. In addition, they stated that the PIV Act created incentives for chargers and

maintained that ratepayer dollars should not expand upon, nor duplicate, that initiative. Other stakeholders suggested that supportive programs for home chargers would be a beneficial mechanism to assist with EV adoption. These stakeholders requested that the Board provide flexibility by allowing for utility charger incentives that are synergistic, rather than duplicative, with offerings by the Board through the Charge Up New Jersey Program.

Response

As previously stated, Staff is sensitive to the fact that ratepayer dollars must be utilized for the benefit of all users. As such, Staff believes that offering additional residential charger incentives on top of those offered through the Charge Up New Jersey program is not advisable. Residential charging incentives should not duplicate state incentives, but proposals may include programs to address targeted areas of need. Residential and multi-family dwelling charging incentives should promote managed charging, which may encompass software or hardware solutions.

Staff additionally suggests that charger incentives should address particular obstacles in EV adoption, but notes that they are not part of the minimum requirements of a utility filing.

Smart Chargers and Managed Charging

There was a general consensus from the stakeholder comments that managed charging is necessary in order to reap the benefits of EV charging on the grid and that it should be encouraged wherever possible. Commenters were split regarding the mechanism to promote smart and managed charging. Some commenters stated that Advanced Metering Infrastructure ("AMI") offers increased functionality, but has significant drawbacks in its ability to effectively enable managed charging. In addition, commenters stated that AMI is an additional expense and that the timeframe for deploying AMI to all utility customers would be too long. As such, many of the stakeholders suggested that smart chargers could be a viable option for this initiative instead of AMI. In addition, stakeholders suggested that there be minimum requirements for EVSE installed Charger-Ready program. methods that stakeholders under the Additional recommended for managed charging were direct load control and dynamic, real-time pricing, which exist as software-based solutions. Stakeholders noted that managed charging options, like software-based solutions, may be better equipped to utilize and dispatch flexible EV loads at charging stations with longer dwell times, but also adapted for faster charging at Direct Current Fast Chargers ("DCFCs").

Response

Staff recognizes that managed charging eases the impact on the grid, increasing reliability and decreasing total costs. Staff notes that, as stated above, duplicative residential charging incentives are discouraged; however, in proposed tailored charging incentives, managed charging should be a minimum requirement.

Vehicle-to-Grid

Stakeholders noted that vehicle-to-grid ("V2G") pilots and programs should be included in the minimum filing requirements due to the technology's synergy with rate design. The comments also stated that time-of-use ("TOU") rates and active managed charging with one-way power flow ("V1G") are a foundational component of V2G integration and cited significant potential grid benefits for the state. The benefits cited by stakeholders included: (1) improved reliability; (2) a lower cost of electrical service by avoiding adverse grid impacts from on-peak

charging; (3) lowering the costs of integrating increasing levels of variable renewable generation; and (4) increasing the utilization of existing assets, thereby putting downward pressure on electricity prices to the benefit of all utility customers.

Response

Staff appreciates the recommendation to include V2G pilots and programs in the minimum filing requirements. Staff views V2G as most promising in connection with fleets and medium- and heavy-duty electrification. As indicated above, Staff intends to recommend that the Board conduct similar stakeholder processes in the future on both issues, with V2G addressed in those processes. While these matters are largely outside the scope of this proceeding, Staff does see V2G and TOU rates as important to the grid of the future and encourages utilities to include such options in their specific filings to allow consumers the option of enrolling in these programs and further reducing their electric bills.

Demand Charges

Stakeholders shared a variety of approaches for managing demand charges, which ranged from the set point approach to simply waiving demand charges for DCFC chargers, as well as phased incentives and EV-specific tariffs. The consensus among the commenters was that demand charges need to be reduced in a meaningful way to support the build-out of an EV charging network across the state, since one major barrier to the deployment of DCFC is high demand charges. Stakeholders recognized that longer term solutions exist but, due to the short-term need for DCFC build-out, an innovative approach is needed. Some stakeholders stressed the need for coincident demand charges that offer more precise time signals to the market as a means of managing charging behaviors and costs. Stakeholders also suggested the utilization of term and megawatt ("MW")-limited demand rate discounts that could help EV public charging stations overcome low utilization rates in the early years of deployment.

Stakeholders noted broadly that set points are one option to manage the issue of demand charges. Some indicated that the immediate need for charging solutions makes set points a short-lived but viable solution due to the urgent need to act quickly and ensure that private capital will work synergistically with utility Make-Ready investments. Due to the short-lived nature of set points, other stakeholders maintained that the approach is unsustainable and that the Board should instead focus on long term, sustainable options to manage demand charges. Other stakeholders supported simply waiving demand charges.

Stakeholders in favor of the set point approach requested that the set point be benchmarked, such that commercial EV charging remains competitive with liquid fuels on a per-mile-traveled basis. In addition, stakeholders noted that the set point needs to be based on something within the Board's or utility's control, such as average commercial class rates. The consensus was that basing set point factors on anything outside of the electric sector, such as retail gasoline price equivalencies, would be volatile and difficult to administer. For this reason, some stakeholders favored waivers instead of set points due to the short term nature and instability of the solution.

Some commenters suggested establishing EV tariffs, as an alternative to the traditional demandbased rate structure. Since it is a newer approach, stakeholders suggested a separate proceeding to consider EV tariffs, which could be utilized in place of demand charges. In addition, stakeholders recommended a two-year EV tariff pilot, wherein tariffs would be applied statewide for consistency. When weighing the options to manage demand charges, some commenters viewed waiving demand charges as a favorable approach, since it serves as a direct means to reduce demand charges and lower the per-unit cost of charging. This is seen as an essential step in minimizing the demand charge barrier that currently exists. Stakeholders suggested establishing a waiver for approximately five to 10 years, with a potential phase-in structure in later years, to provide a significant degree of long-term certainty in the rate structure applicable to charging stations. Commenters emphasized that the waiver should be designed such that the resulting rate is competitive with liquid fuels, even at relatively low station utilizations, but that the rate should not be indexed to liquid fuel prices, to avoid the problems associated with a set point approach.

Stakeholders acknowledged that demand charge waivers are neither a permanent nor long term solution but would provide time for the state to develop rebate methodology. Conversely, other stakeholders stated that time limited waivers for demand charges should be avoided since they do not provide sufficient certainty for investments in infrastructure or commercial fleets.

Response

Staff agrees that demand charges are an obstacle to EV adoption, and this Board Order requires that EDC filings include a proposal to address how to minimize the barriers to EV adoption created by demand charges.

Time of Use Rates

Some stakeholders favored TOU rates as a mechanism to manage EV charging. This group of stakeholders recommended coupling TOU rates with policies and programs that encourage off-peak charging. There were different viewpoints regarding how TOU rates could be designed, with a split between whole-house TOU rates versus EV-specific TOU rate design.

Conversely, some stakeholders viewed TOU rates as a useful first step but not a sustainable, long-term solution to managing EV load. The commenters stated that rates should be cost-based and minimize demand charges, as well as maximize the use of TOU volumetric rates. In addition, some commenters viewed TOU rates as a blunt approach that fails to effectively optimize EV load. Those who were against TOU rates as a long-term option stated that software could be leveraged to manage charging via direct load control and dynamic, real-time pricing.

Overall, the commenters stated that TOU rates are viable in some areas, since they have the potential to accelerate EV adoption more than eliminating or reducing demand charges. Some stakeholders cautioned against using TOU rates for public areas that have DCFC.

Some stakeholders suggested using a whole-house TOU rate, and others advocated for an EVspecific rate. The consensus among one stakeholder group was that rate design should be for the whole-house and that it should be voluntary. The consensus for this group in favor of wholehouse TOU rates was that TOU rates is an effective tool which empowers customers to manage their own energy consumption and, as such, should include the whole-house rather than being technology-specific and only affecting EV charging. Other stakeholders supported this viewpoint and maintained that whole-house TOU rates allow for easier load management but that EVspecific rates could be viable and appropriate in some cases. Those who supported EV-specific rates cited the success of 48 utilities from over 26 states who utilized this approach and noted that it worked better in specific use cases.

Response

Staff believes that the conflicting perspectives on whole-house versus EV-specific TOU rates represent an area wherein EDCs may wish to coordinate on a statewide approach or develop their own approach. Staff recognizes that an expedient solution to EV rates is necessary and that TOU rates are a viable first step in accelerating EV adoption in the state while more sustainable and long-term options are developed. Staff acknowledges that additional work can be done to explore how best to approach this area.

The Role for Utilities in the EV Ecosystem

Stakeholders complimented the BPU's efforts to mitigate impacts to ratepayers by focusing on private investment in charging infrastructure before utility ownership. Nearly all comments supported the Make-Ready role for utilities. Commenters were more divided when it came to when utilities should own charging stations. Some suggested that utilities should have a larger role early on with a plan to move to private investment later. Others suggested that a larger utility role would reduce private investment and slow market growth.

Some commenters urged an expanded role for utilities, claiming that the Straw Proposal limited involvement and thus reduced the state's ability to meet the aggressive timelines that have been set. Similarly, other commenters suggested that, because EDCs are able to recover costs, they are uniquely equipped to invest in areas where market barriers exist. Other commenters suggested that ratepayer dollars should not be used for anything more than Make-Ready improvements.

Some commenters believed that the current competitive market for charging infrastructure is strong enough to not require additional ratepayer subsidies. Commenters urged quick investment in Make-Ready infrastructure investment as an investment in economic recovery. They pointed out that infrastructure investment has historically been a proven job creator in economic downturns, such as the one caused by COVID-19.

Many commenters suggested that, rather than using the term Charger-Ready, the BPU should utilize the more common Make-Ready terminology.

Commenters suggested that creating consistent standards is necessary for EV adoption and should include communication and data format standards for metering. Commenters also suggested that chargers located where utilities have supplied Make-Ready infrastructure have minimum technology standards, including open design and architecture to ensure interoperability and reduce risk of stranded assets.

Stakeholders suggested that, prior to Make-Ready work commencing, the application process should require firm commitments from the site owners and EVSE Infrastructure Companies to bring chargers online quickly. Commenters suggested that, in certain cases, EVSE Infrastructure Companies should not have to wait for EDCs to commence Make-Ready work but should be permitted to do it themselves, and some commenters suggested that such projects would be eligible for reimbursement for Make-Ready work.

Many stakeholders suggested that utilities should not have oversight over privately owned EVSE performance. These commenters suggested that utilities have no criteria by which to judge performance and also may have a conflict in determining which EVSE sites are underperforming and thus should be taken over by the utility. Commenters suggested that a

Charger-Ready Advisory Council should be created to provide oversight and review performance, while other commenters suggested oversight by the Department of Community Affairs' Office of Weights and Measures to create parity regarding oversight of retail gasoline providers.

Response

Staff believes that the conflicting perspectives on utility involvement are an indication that the balanced approach offered in the Straw Proposal will provide the necessary inducement to invest in EV infrastructure while encouraging market investment. However, Staff takes special note of the widespread agreement from virtually all parties that the EDCs have a critical role to play in installing Make-Ready sites.

In response to concerns over utility ownership, Staff likewise recommends a middle path that allows for utility ownership of charging stations where the private sector has not shown the willingness to invest. Specifically, Staff recommends that utility ownership of chargers be allowed in very limited circumstances, known as "Last Resort" areas. Staff further recommends that the Board should require case-by-case determinations of whether a utility may own chargers in an area of Last Resort, based on the following criteria:

- Whether the proposed charging site is more than 25 miles from another charging station;
- For overburdened communities, whether the utility has had a minimum of 12 months of no expressions of interest from private owners of EVSE;
- For non-overburdened communities, whether the utility has had a minimum of 18 months of no expressions of interest from private owners of EVSE;
- Density of the area; and
- Other factors that the EDC may determine are relevant to why utility ownership is appropriate.

While no one factor is determinative, Staff recommends that the Board weigh these considerations to ensure that private investment is preferred over ratepayer investment, where possible, but also keep in mind the fierce urgency of meeting our climate goals. For determinations on Last Resort, Staff views "no expression of interest" as no applications for a Make-Ready from a private EVSE Infrastructure Company within the allotted period of time. Additionally, Staff recommends that, once a utility triggers the Last Resort process and begins constructing a Make-Ready, it must publicly advertise the location and offer private EVSE owners with the opportunity to own the charger, with an incentive of up to 50% of the utility's capital costs for installing the charger.

Staff concurs that standardization across the state is essential and strives to provide that guidance through its recommendations to the Board in this Order. Furthermore, Staff understands that the advancement of technology changes the minimum requirements for this standardization, which include the capacity to provide data to the EDC, to be networked, allow for interoperability, and encourage managed charging.

Staff understands that individual EDCs will create their own processes for Make-Ready approvals and will determine payment methods, but Staff recommends that EDCs establish consistent standards and contracts when creating those processes. Staff concurs that there is a conflict and potential cost to the ratepayers in requiring the EDCs to oversee privately owned EVSE site performance, but does not believe that additional committees or the Office of Weights and Measures is the appropriate mechanism. Staff recommends that the Board require EVSE Infrastructure Companies to produce an independent audit of chargers operating in the state each year.

Finally, Staff recommends that this Board Order recognizes the term "Make-Ready" as synonymous with "Charger-Ready," which was the term used in the PIV Act.

Mapping

Some stakeholders suggested that all mapping efforts should define areas for investment, rather than specific sites or properties. Commenters also suggested that the EDCs provide regular updates to the maps. Commenters suggested that mapping should not specifically direct EVSE deployment or prioritization as market forces and their own demand prediction models. They further suggested that mapping should not be the only criteria considered in placement and that customer accessibility be considered as well.

Stakeholders suggested that the mapping process include more than just the EDCs and be a more collaborative process, including the EVSE Infrastructure Companies, the DEP, and others. They also suggested that the work the EDCs do on mapping should be able to be included in cost recovery.

Commenters suggested that, in addition to mapping, EDCs should be required to perform a distribution grid impact study to evaluate long term impacts and needed build outs. Commenters also suggested that EDCs develop reverse hosting capacity maps.

Response

Mapping is an important guide to understanding where EV charging infrastructure can be easily deployed and where investment needs to be made. The DEP mapping process takes several factors into consideration, such as traffic flows, commuting patterns, and population density and will act as a starting point. In addition, up to date EDC mapping of existing capacity will play an important role in ensuring the effective and timely build out of the EV Ecosystem.

Zoning and Planning Issues

Some stakeholders suggested that the 12 month timeline for Make-Ready to reach completion was too short given the local requirements. These commenters suggested that, in order to encourage investment and development of charging sites, local land use needs to be amended to permit charging stations in certain zones. The length of time and amount of capital required to go through a zoning board hearing deter many from investing in EV charging stations. Other commenters suggested that the 12 month timeline to go from Make-Ready to completion was too long for industry adoption and suggested shortening it to six months.

Response

Staff understands that local review can create delays in the process. The 2019 EMP identified this obstacle. Staff, DEP and the New Jersey Department of Community Affairs are working to craft model ordinances to provide local governments with the ability to appropriately address this issue.

Outreach and Education

Several stakeholders suggested that the Straw Proposal lacked any reference to the EDCs' role in outreach and education to help provide customers with information about EV charging and the benefits of EV adoption. Commenters also suggested that the Board integrate information about EVs and chargers into the statewide utility marketplace. Commenters suggested that EDC outreach and education plans must include proactive marketing campaigns across multiple platforms.

Response

Staff agrees with commenters that the EDCs have unique opportunities to provide outreach and education to consumers. The minimum filing requirements include requirements for outreach and education.

Current Filings

Many commenters urged the Board to not delay the two EV filings that have been submitted to the Board from Atlantic City Electric ("ACE") and Public Service Gas and Electric ("PSE&G").

Response

Staff is currently working on both filings, and a schedule for each of proceeding has been produced. While Staff is not recommending that these utilities re-file or amend their existing filings, Staff does recommend that the requirements in this Board Order inform the Board's position on all current and future EV filings.

Straw Proposal Process

Commenters suggested that there is a need for more time in the stakeholder process and requested additional opportunities for input. Commenters suggested that the timelines are too aggressive and do not provide enough time to properly achieve goals.

Commenters stated that the Board has no authority to require incentives for school buses.

Response

The Legislature through the PIV Act and the Governor through the goals established in the 2019 EMP have signaled that it is necessary to address these issues on an accelerated schedule. Staff also points out that this Board Order is specifically focused on light-duty, publicly-accessible charging. Staff is not recommending a requirement regarding school buses.

IV. STAFF RECOMMENDATIONS

As the State speeds towards 2025 yet lags in reaching its EV targets for those dates, Staff appreciates the need for compelling action. As such, Staff recommends that the Board make some "pragmatic adjustments" which are "called for by particular circumstances." <u>Atl. City Sewerage Co. v. Bd. of Public Util. Comm'rs</u>, 128 N.J.L. 359, 368 (Sup. Ct. 1942). In understanding what type of specific scenarios may call for the Board to act, there "is no formula making for certainty in the exercise of this authority." <u>Id.</u> at 366. Instead, the Board must use its "reasonable judgement" grounded "in a proper consideration of all relevant facts." <u>Id.</u>

Staff appreciates that the Board's involvement in the advancement of EVs is a holistic exercise, but one entirely within its statutory authority to require public utilities to provide "service in a manner that tends to conserve and preserve the quality of the environment and prevent the pollution of the waters, land and air of this State." N.J.S.A. 48:2-23. Applied here, the Board must consider not only the goals, but also the current status of those goals and where we are currently in the timeline, as well as the need for further development of the record on issues such as heavy-duty electric vehicle charging and fleet vehicle infrastructure.

After careful consideration of comments received, Staff proposes a "shared responsibility" model for EV infrastructure that promotes appropriate roles for the Board, consumers, EVSE Infrastructure Companies, EDCs, and private investors. Staff believes that this approach will assist the State in reaching its stated goals by the desired deadlines.

One of the Board's roles in this collaborative effort is to supervise and regulate the EDCs in promoting EV adoption. N.J.S.A. 48:2-13. Although achieving the charging infrastructure necessary to support 330,000 vehicles is a large undertaking, the Board is provided a "sweeping grant of power . . . 'intended to delegate the widest range of regulatory powers over utilities.'" <u>Matter of Valley Rd. Sewerage Co.</u>,154 N.J. 224, 235 (1998) (quoting <u>Township of Deptford v.</u> <u>Woodbury Terrace Sewerage Corp.</u>, 54 N.J. 418, 424, 255 A.2d 737 (1969)). While the PIV Act calls upon the BPU to establish EV incentive programs, the Board's authority "extends beyond powers expressly granted by the statute to include incidental powers that the agency needs to fulfill its statutory mandate." <u>Id.</u> More specifically, the PIV Act provides the Board the authority to adopt additional policies and programs to accomplish the established goals. N.J.S.A. 48:25-3(b). Nothing in the PIV Act forecloses the Board's ability to implement minimum EV filing requirements for the EDCs.

The EDC's role in the electrification of the transportation sector is multifaceted. Addressed in more detail below, close coordination and cooperation from the electric utility companies is required to reach New Jersey's aggressive climate change goals. Further, EDC involvement will foster improved reliability and ensure that EV load growth is supported by the electric grid through proper planning. The 2019 EMP highlights that EDC involvement under a shared responsibility model provides "significant opportunity for widespread charging deployment across multiple transportation modes and sectors (i.e., residential, multi-family, 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." 2019 EMP at 68.

With clear targets and the authority to act in order to reach those targets, Staff recommends that the Board adopt EV minimum filing requirements for the EDCs as proposed below.

Staff recommends that the following definitions be used to ensure consistency in approach, both statewide and to align with standard industry practices:

Electric Vehicle Definitions

Staff appreciates the comments from all parties on the definitions included in the Straw Proposal and proposes adopting the following definitions:

"Charger-Ready Map Proposal" is a proposal from an EDC which pre-identifies areas that are suitable for installation of Level Two or DC Fast Chargers. These maps must be as up to date as possible in order to ensure the timely and effective build out of charging infrastructure.

"Community location" means a charging location that is not a travel corridor location and that is established in a town center, commercial area, or retail center or near concentrations of multi-family dwellings to provide vehicle charging services to local plug-in electric vehicle drivers near where they live and work.

"DC Fast Charger" means EVSE that provides at least 50 kilowatts of direct current electrical power for charging a plug-in electric vehicle through a connector based on fast charging equipment standards and which is approved for installation for that purpose under the National Electric Code through an Underwriters Laboratories Certification or an equivalent certifying organization.

"Demand charges" are an existing feature of many rates whereby large users of the electric system pay for their contribution to the fixed costs of operating the electric system. In most cases, Demand Charges are set at a customer's peak annual usage.

"Density of an area" refers to the quantity of people in a given area or space and the impact that population has on the EV charging needs of an area and the proximity of the EV charging necessary.

"Electric Vehicle Service Equipment" or "EVSE" means the equipment, including the cables, cords, conductors, connectors, couplers, enclosures, attachment plugs, power outlets, switches and controls, network interfaces, and point of sale equipment and associated apparatus designed and used for the purpose of transferring energy from the electric supply system to a plug-in electric vehicle. EVSE may deliver either alternating current or direct current electricity consistent with fast charging equipment standards. "Electric Vehicle Service Equipment" is synonymous with "Charging Station Infrastructure."

"EV Ecosystem" or "Ecosystem" refers to all of the physical equipment necessary to charge a vehicle, which includes the Electric Vehicle Service Equipment (i.e., "Charging Station Infrastructure"), the Make-Ready portion of the electrical system, as well as distribution upgrades on the utility-side of the meter.

"EV Mapping Effort" refers to the effort to map existing and proposed EV Ecosystem investments, under the lead of the New Jersey Department of Environmental Protection in conjunction with the Board and other Agencies.

"EVSE Infrastructure Company" refers to an entity 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.

"Low-income household" means a household with adjusted gross income at or below 200% of the federal poverty level.

"Make-Ready" means the pre-wiring of electrical infrastructure at a parking space, or set of parking spaces, to facilitate easy and cost-efficient future installation of Electric Vehicle Service Equipment, including, but not limited to, Level Two EVSE and DC Fast Chargers. Making a site Charger-Ready includes expenses related to service panels, junction boxes, conduit, wiring, etc., necessary to make a particular location able to accommodate Electric Vehicle Service Equipment on a "plug and play" basis. "Make-Ready" is synonymous with the term "Charger-Ready."

"Operational" means a charging location that the operator of an EV charging station 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.

"Overburdened community" means any census block group, as determined in accordance with the most recent United States Census, in which at least one half of the households qualify as low-income households and either: (1) at least 40% of the residents of the census block group identify as Black, African American, Hispanic or Latino, Asian, Pacific Islander, or as members of a State-recognized tribal community; or (2) at least 40% of the households in the census block group have limited English proficiency. Overburdened community is synonymous with the previously used term "Equity Area."

"Poorly 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.

"Publicly-accessible charging" means a charger located on public land, a community location, or a travel corridor. Such chargers are owned and operated by site owner, property manager or management company, EVSE Infrastructure Company or, in limited cases, an EDC that is accessible to the public 24 hours a day, seven days a week; however, generic parking restrictions or requirements, such as in a commercial garage, or emergency restrictions, including construction, street cleaning, etc., are not applicable. Such chargers may charge the EV owner a fee for charging; such fees will be clearly displayed to the user.

"Site owner and operator" means site host, property manager, an EVSE Infrastructure Company, or an EDC with Board approval that is responsible for installing EVSE.

"Travel corridor" means heavily used public roads in the state, as designated by the New Jersey Department of Environmental Protection, which shall include, but need not be limited to, the Garden State Parkway, the New Jersey Turnpike, the Atlantic City Expressway, federal interstate highways, and the subset of federal or State roads which collectively support the majority of long distance travel through and within the state, as well as the majority of daily travel by local drivers.

The above definitions will be utilized throughout Staff's recommendations to achieve the goals established by the 2019 EMP and the Legislature.

MINIMUM FILING REQUIREMENTS

Light-Duty, Publicly-Accessible Charging

Light-duty, or passenger, vehicles are any two-axle, four-wheel vehicle, primarily designed for passenger travel or light-duty commercial use. N.J.S.A. 48:25-2. The 2019 EMP provides that light-duty EVs are "three to five times more efficient per mile traveled than their gas-fueled counterparts." 2019 EMP at 60. While a robust EV Infrastructure Ecosystem will eventually involve all types of EVs including light-, medium- and heavy-duty, in an effort to advance the policy objectives in the desired timeline, Staff recognizes that focusing on light-duty vehicles initially is sensible.

Publicly-accessible charging stations must be accessible to the general public 24 hours a day, seven days a week. Sites may be on public land, community locations, or travel corridors. Examples include, but are not limited to, charging stations in downtown areas, public parking lots and garages, hotels, transit centers, destinations and attractions, colleges and universities, retail parking areas, and public parks. The owner operators of these publicly-accessible chargers can be site owners, property managers or management companies, EVSE Infrastructure Companies, or, in areas of Last Resort, as prescribed below, EDCs. Chargers must be listed on the U.S. Department of Energy ("USDOE") Alternative Fueling Station Locator. Chargers must provide all EV users, regardless of make and model, with the ability to charge their vehicle and must allow network interoperability.²

In curing range anxiety, public confidence is necessary in the availability and functionality of public chargers. In order to ensure such confidence and to access the functionality of the EV Ecosystem, Staff proposes that EVSE Infrastructure Companies operating within the state of New Jersey shall provide the Board with a yearly independent audit report on areas of service and operability updates.

Make-Ready Locations

One of the core functions of EDCs is to site, design, and build-out electric infrastructure, making them a critical partner in creating a robust EV Infrastructure Ecosystem. Traditional utility function includes ensuring that the EDCs string wire and conduit, provide adequate distribution system infrastructure to serve their customers, and otherwise facilitate end-use electrification.

Under the "shared responsibility" model, the EDCs' role would primarily be to "Make-Ready" a site for publicly-accessible EV infrastructure. This means that EVSE Infrastructure Companies or Site Hosts would notify the appropriate EDC of their intent to install EVSE at a specific location. The EDCs would then develop and own the traditional utility infrastructure, such as transformers, utility services, and meters necessary for the charging stations, which are largely, but not necessarily, located on land owned or controlled by the utility, as well as the panels, conduits, and wiring which would support the charging station, which may often be located on land not generally owned by the utility and available for use through easement. More generally, each EDC would be responsible for the wiring and backbone infrastructure necessary to enable a robust number of Charger-Ready locations. Non-utility entities, including site owners, property management companies, and EVSE Infrastructure Companies, would be responsible for installing, owning and/or operating, and marketing EVSE using private capital.

In determining what a utility may place in its rates, the Board must ensure that New Jersey EDCs provide safe, adequate, and proper service at just and reasonable rates to their customers. N.J.S.A. 48:2-23 and N.J.S.A. 48:3-1. Based on the comments received, Staff notes that there is almost universal support for allowing the EDCs to construct Make-Ready sites. Staff agrees with most commenters that utility investment in Make-Ready work is "used and useful in the public service," since Make-Ready infrastructure is specifically designed to facilitate publicly-accessible charging services. See <u>Atl. City Sewerage Co. v. Bd. of Pub. Util. Comm'rs</u>, 128 N.J.L. 359, 365 (Sup. Ct. 1942) ("Atlantic City Sewerage"); *accord* In re the Petition of Pub. Serv. Coordinated <u>Transp.</u>, 5 N.J. 196, 217 (1950); In re N.J. Power & Co., 9 N.J. 498, 509 (1952); <u>Verizon</u>

² To meet the "network interoperability" requirement, a charging station must be able to share and readily use information securely and effectively with two or more networks, systems, devices, applications, or components with little or no inconvenience to the user.

<u>Communications v. Fed. Communications Comm'n.</u>, 535 U.S. 467, 484 (2002). An EDC may recover only the fair value of prudent investments in utility property that is used and useful in providing public utility service. This determination includes viewing the infrastructure as "an integral and unitary whole, considering all the elements properly entering into the ascertainment of a reasonable return for supplying the public need." <u>Atl. City Sewerage</u>, 128 N.J.L. at 366. There must also be "'an honest and intelligent forecast' of probable future values," considering all the circumstances relevant to the particular inquiry. <u>Id.</u> An informed estimate of future values, however, is "at best an approximation" and in every instance there exists "a reasonable margin of fluctuation and uncertainty." <u>Dayton Power & Light Co. v. Public Util. Com.</u>, 292 U.S. 290, 310 (1934).

While, as noted above, certain investments related to Make-Ready infrastructure may involve investments located on private land. In these instances, the utility is expected to own the equipment installed on the private land through easements, comparable to the way electric meters in a house remain utility equipment. These factors make the situation here different from, for example, the issues recently litigated before the Board regarding utility rate-basing of lead service lines or upgrades on the customer-side of the meter related to the installation of Advanced Metering Infrastructure, particularly since the EVSE Charging Infrastructure discussed in this Order is designed to be open to the public. See In the Matter of the Petition of SUEZ Water Company New Jersey, Inc. for Approval of a Pilot Program to Facilitate the Replacement of Lead Service Lines and a Related Cost Recovery Mechanism, BPU Docket No. WO19030381 (September 9, 2020) and, respectively, In re the Petition of Rockland Electric Co. for Approval of an Advanced Metering Program: and for Other Relief, BPU Docket No. EM16060524 (August 23, 2017).

The PIV Act sets forth goals which demonstrate the anticipated widespread adoption of EVs and publicly-accessible EV charging. In consideration of these goals and the comments received, Staff believes that the Make-Ready infrastructure will, in the near future, increasingly be used by EV owners. Further, the 2019 EMP indicates that this infrastructure will not only serve EV owners, but all New Jersey residents due to known benefits associated with the electrification of our transportation system. Having the EDCs conduct Make-Ready work on infrastructure, which will provide benefits to ratepayers, is consistent with the traditional utility function of ensuring adequate physical support for its customers, as well as the Board's statutory authority "to conserve and preserve the quality of the environment and prevent the pollution of the waters, land and air of this State." N.J.S.A. 48:2-23.

Staff notes that the Board is always required to balance the rights of the ratepayers and the rights of regulated utilities. See In re N.J. Power & Co., 9 N.J. 498, 508-509 (1952). In particular, the Board has traditionally applied the "used and useful" principle to ensure that utilities only earn on investments that benefit ratepayers. See, e.g., Duquesne Light Co. v. Barasch, 488 U.S. 299, 307-308 (1989) (disallowing investments in a planned nuclear power plant because the plant was never used). Here, Staff recommends that the Board adopt a clearly delineated approach where a utility making a site Charger-Ready at the request of an unaffiliated EVSE Infrastructure Company shall be deemed "used and useful," even if the Make-Ready site is not immediately used. While this does not exempt the utility from showing that it was prudent in the manner in which it made the site Charger-Ready, the utility should not be at financial risk for putting in an installation that was duly authorized pursuant to this Order.

Staff recognizes the costs associated with reaching the stated goals. While the Legislature seeks to electrify the transportation sector, ratepayer costs must nonetheless be kept at the forefront of those efforts. As such, Staff proposes that, while the EDCs shall make a site Charger-Ready

upon request from a qualified EVSE Infrastructure Company or Site Host, any location where the total cost of making the site ready is anticipated to exceed \$100,000, the EDC shall notify Staff and New Jersey Division of Rate Counsel ("Rate Counsel") of the cost estimate before any work is conducted, as described in more detail below. In its notification to Staff and Rate Counsel, the EDC will also provide commentary on why the site warrants the expense, with additional input from the EVSE Infrastructure Company and/or Site Host. Unless Staff or another Party objects to the expenditures within 60 days from the Staff being notified, the Make-Ready work may continue provided the costs do not exceed the estimate previously provided to Staff. Otherwise, the EDC may file a petition with the Board.

Staff further recommends that any Make-Ready installation anticipated to cost more than \$250,000 must seek Board approval before any work is conducted. Staff will refer to the notification process triggered by Make-Ready work costing \$100,000-\$249,999 as the "soft cap," while any work over \$250,000 and requiring Board approval will be referred to as the "hard cap."

Further, Staff recommends that Staff review Make-Ready costs and recommend adjustments to these limits as reasonably needed. Staff recommends that the Board require each EDC to make an informational filing every year, including total Make-Ready expenditures.

In order to ensure that any Make-Ready infrastructure funded by ratepayers is indeed available to the public, Staff recommends that any ratepayer-funded Make-Ready work be conditioned on:

- 1. Public access to the EVSE seven days a week, 24 hours a day, provided, however, that generic parking restrictions or requirements, such as in a commercial garage, or emergency restrictions, including construction, street cleaning, etc., do not disqualify a site;
- 2. Network interoperability to enable data sharing; and
- 3. Chargers being listed on the United States Department of Energy Fueling Station Locator.

Staff maintains that ownership and operation of EV charging stations should be driven by the market. As such, EVSE Infrastructure Companies, site owners and property management companies are the preferred owners and operators of EVSE.

Staff recommends that the utilities create an application and administrative process that includes a standard set of criteria for owners/operators, a standard contract for owners/operators, a queue, and an available map of all requests currently in process. Staff also recommends that EDCs include in their filings requirements for applicants to show good faith in the construction of sites, including commitments from the location, permit applications and approvals, and the expectation that projects be fully operational within 18 months of their approval. If applicants cannot complete the project within 18 months, the EDCs should establish an extension process. EDCs are encouraged to harmonize their processes so that New Jersey has consistent rules governing the process across the state.

Finally, Staff notes that, in rare instances, certain requested Make-Ready sites may involve the extension of electrical service to locations that are not currently served by the utility, possibly implicating the Board's Main Extension Rule at N.J.A.C. 14:3-8.1 <u>et seq.</u> The potential

applicability of this rule is still unknown, and will not be known, until the EDC receives a request to a make a site ready.

In the likely infrequent instance where the Main Extension Rule may be implicated, Staff recommends that the Board grant a waiver of the rule to allow such new service. Staff notes that application of the Main Extension Rule here will likely result in added barriers and delays in the broad deployment of EVs and EV infrastructure, particularly in underserved areas. As such, Staff notes that a waiver of the Main Extension Rule to allow for the utility to make a site ready is in the interest of the general public. N.J.A.C. 14:1-1.2. While Staff recommends a waiver of the Main Extension Rule, Staff also recommends that the utility notify Staff if or when the Main Extension Rule applies before any work is conducted.

Further, given that Make-Ready projects will be subject to the soft-cap of \$100,000 or the hard cap of \$250,000, Staff does not expect that waiving the Main Extension Rule will result in excessive costs. For the soft-cap of \$100,000, Staff recommends a 60-day period wherein, after the EDC has submitted a written description of the proposed costs and the rationale for the proposed costs, any party may object in writing. If a party objects, the proposed costs will not take effect unless and until the Board has approved the work to be done. Accordingly, Staff recommends that, in the event the Main Extension Rule applies in a specific Make-Ready location, the Board waive application of N.J.A.C. 14:3-8.1 <u>et seq.</u> to advance widespread EV adoption, which it has been told is in the public interest by the Legislature. *Areas of Last Resort*

In areas where installation of publicly-accessible EV chargers has not yet materialized, EDCs may then, and only then, own and operate EV Chargers and EVSE as a "Last Resort." Areas of Last Resort are locations that have not generated private investment interest for a minimum of 12 months after the EDC program has begun, for overburdened communities, or 18 months for other areas. This approach bridges Staff's desire to maximize the investment of private capital into the EV Ecosystem, while also ensuring that areas within the State are not forced to languish without EV infrastructure.

In looking at New Jersey's current EV market in areas of Last Resort, it is evident that "sufficient competition is no longer present." N.J.S.A. 48:3-56. In fact, by definition, areas of Last Resort have no competitive presence. Private EVSE Infrastructure Companies have not yet established a robust network of publicly-accessible chargers in these areas, presumably, due to the lack of demand, excess costs, unfavorable demand charge structures, or some combination of these factors. Applying the circular predicament as previously discussed, demand will not materialize until there are EV chargers.

What Staff is recommending is a very narrow application where utilities may own and operate EVSE in order to prompt competition only in areas where there is currently none. Drawing upon the same discussion of used and useful above in the discussion of Make-Ready Infrastructure, Staff notes that many of the same factors that are present in the utility ownership Make-Ready infrastructure applies to possible utility ownership of charging infrastructure as well. In particular, the utility will be required to show that any chargers it owns and operates in areas of Last Resort are held open to the same open-access requirements that apply to EVSE Infrastructure Companies seeking a Make-Ready site.

Staff also appreciates that in involving EDCs in the ownership and operating of EV charging infrastructure, even for short period of time, cannot be unbridled without damaging the underlying investment thesis for private entities to build out privately owned public charging networks. As

such, Staff recommends requiring that EDCs seek Board approval, on a case by case basis, to own and operate EVSE chargers in areas of Last Resort. Additionally, Staff proposes to include the following additional limitations:

- No applications may be made until 12 months after the EDC's program is approved for chargers proposed for overburdened communities and 18 months after the EDC's program is approved for all other areas;
- An EDC may file an application to locate a charger in a given area by filing a petition with the Board, approval of which will allow the EDC to begin the process of siting the charger;
- The EDC will make public quarterly informational updates on its progress identifying locations and making the site Charger-Ready, including identifying any lease or other arrangements;
- The EDC must offer an incentive of up to 50% of the expected capital cost of the charging station for an approved Last Resort location to induce private sector investment;
- After the EDC application is filed with the Board, but prior to the installation of a charger, a private owner may opt to become the owner/operator of the equipment, under comparable terms and conditions to those that the EDC had negotiated, or may notify the Board that it intends to request a Make-Ready in a comparable location such that the utility ownership is obviated; and
- EDCs may not petition the Board for Last Resort locations after December 31, 2025.

An EDC's application to have a potential charger location designated as an area of Last Resort, and therefore eligible for EDC ownership, the application must address the following criteria:

- Whether the proposed charging site is more than 25 miles from another charging station;
- For overburdened communities, whether the utility has had a minimum of 12 months of no expressions of interest from private owners of EVSE;
- For non-overburdened communities, whether the utility has had a minimum of 18 months of no expressions of interest from private owners of EVSE;
- Density of the area; and
- Other factors that the EDC may determine are relevant to why utility ownership is appropriate.

For determinations on Last Resort, "no interest" is defined as no applications from non-utility actors for a Make-Ready to install a DC Fast Charger within a three-mile radius.

Given the 2025 deadline, after which the EDCs cannot petition the Board for Last Resort locations, the goal of this program is purely to jumpstart EV adoption in underserved areas.

Ratepayer Costs

N.J.S.A. 48:2-27 provides that the Board may require utilities to "establish, construct, maintain and operate any reasonable extension of its existing facilities where, in the judgment of the board, the extension is reasonable and practicable." Based on the comments received, Staff believes that permitting EDCs to own and operate EV chargers solely in areas of Last Resort is reasonable. Further, Staff believes that by encouraging EV adoption through this Board Order, the Charge Up New Jersey program and other related programs, use of the chargers in Last Resort locations will only increase. The expectation is of increased usage as these chargers will, eventually, "furnish sufficient business to justify the construction and maintenance of the same." N.J.S.A. 48:2-27. In developing an EV Ecosystem, charging infrastructure may not see use in the nascent days of adoption. As many comments indicated, this lack of use may create burdensome demand charges that may slow adoption. Staff acknowledges that tariff demand charges remain a hurdle to private investment and urges each EDC to propose a method to address the burden caused by demand charges in the emerging market. Each EDC may propose its own method to address demand charges concerns, and those solutions should:

- Incorporate managed charging solutions, either through hardware or software; and
- In determining which method best addresses demand charges in their area, EDCs must consider:
 - A strong preference that there be parity between single-family and multi-family dwelling rates for EV charging;
 - That charging should remain competitive between publicly- and privately-held assets, but also with liquid fuels on a per-mile-traveled basis to the best extent possible;
 - If utilizing a benchmarking method, the utility should explain how the benchmark promotes savings against a publicly-accessible fuel index; and
 - If a temporary solution such as set-point or waivers is utilized, that solution must show meaningful reductions over a length of time and include a sunset provision.

As indicated in the PIV Act goals, EV adoption at multi-family dwellings is critical to achieving widespread and equitable adoption of EVs. Commenters focused on concerns about the impact of demand charge and on the disparity between residential rates and rates for multi-family dwellings, which are characterized as commercial and industrial uses. Staff recommends that EV Chargers located at multi-family dwellings utilize the same rate as residential customers are charged for EV charging.

Residential Charging

Stakeholders explored several options regarding residential charging, including EV Tariffs, TOU EV rates, and whole-house TOU rates. Each rate type aims at encouraging managed charging and off-peak charging times. Each of these rates are used by various EDCs across the country, and there is much debate as to which is most suitable for encouraging changes in EV charging behavior. Staff recommends that each EDC filing should include its own proposal on which rate options would best suit their customer base, and such proposals should include inducements to encourage managed charging.

Additionally, several stakeholders commented on the need for incentives to encourage managed residential charging. Staff acknowledges that the PIV Act allows the BPU to establish a residential charger program and recommends that EDCs should be prohibited from offering programs that would duplicate the Board's program. Staff also understands that EDCs may include proposals in their filings for residential programs in specific areas, including overburdened communities and multi-family dwellings, which seek to address a specific need.

Overburdened Communities

There is a commitment that all communities, including overburdened communities, within the state of New Jersey have equitable access to the EV Ecosystem. Proposals should include plans for equitable distribution of both charging infrastructure, as well as support for electrified transportation modes to serve all communities.

Mapping

To ensure the effectiveness of publicly-accessible EV charging infrastructure, the public must know where these charging stations are located. The DEP EV Mapping Effort seeks to identify areas that need EV charging infrastructure in order to address range anxiety and travel needs. In addition to these efforts, site owners and EVSEs need to understand which locations are well suited for installation due to underutilization of the grid, as well as upgrades to support the additional supply required for EV charging. These three pieces of information are vital for generating private investment in the proper locations to encourage EV adoption.

Staff recommends that EDCs execute and provide up-to-date maps which illustrate areas in which EV charging equipment is well suited for installation due to underutilization of the grid, as well as areas in need of upgrades to support the additional supply required for EV charging. These EDC maps must be as current as possible.

Outreach

As EV adoption grows, so do the questions about vehicles and charging options. In this regard, there was nearly universal agreement that the EDCs have a unique opportunity and role to play in educating the public about this nascent technology. Staff recommends that the EDCs provide outreach and education on EVs and EV charging in a variety of consumer-friendly and comprehensible formats.

Rulemaking

While EV technology and adoption has slowly unfolded in New Jersey, the Board has not yet taken formal steps to advance EDC involvement. EDC involvement in EV adoption is still a novel concept. In promulgating these minimum filing requirements, Staff's goals are threefold: 1) to retain flexibility so that it may swiftly respond to changing needs and technology; 2) to create a program designed for a case-by-case, utility-by-utility analysis, rather than sweeping applicability; and 3) to take immediate action in reaching widespread EV adoption. The Board must continue to monitor and supervise "for the correction of inequities and a means of adjustment to shifting circumstances." <u>Atl. City Sewerage</u>, 128 N.J.L. at 367.

In tandem with promulgating these minimum filing requirements, Staff recommends that the Board initiate a rulemaking proceeding.

V. <u>DISCUSSION AND FINDINGS</u>

The Board **<u>FINDS</u>** that the process utilized in developing Staff's recommendations was appropriate and provided stakeholders and interested members of the public with adequate notice and opportunity to comment.

The Board has reviewed the stakeholder comments and Staff's recommendations. The Board **<u>FINDS</u>** that Staff's recommendations will benefit New Jersey's residents, energy users, ratepayers, and electric and gas public utilities and are consistent with the goals of the Clean Energy Act, the 2019 EMP, the PIV Act, and the Governor's goals. Therefore, the Board <u>**HEREBY**</u> **<u>APPROVES</u>** Staff's recommendations, with specific directives included below.

The Board is committed to upholding the Legislature and the Governor's goal to combat the consequences of climate change through the electrification of the transportation sector. The Board understands that all of New Jersey — its residents, its businesses, its economy, its environment — will benefit from the widespread adoption of EVs. In reviewing that current status of EV deployment in New Jersey, the Board **FINDS** that the competitive market has not yet provided the investment necessary to spur the level of EV adoption required for the State to reach its goals. As such, the Board **FINDS** that immediate action is appropriate and necessary to achieve the stated goals.

In accordance with the PIV Act and the authority granted to the Board by the Legislature, the Board **<u>FINDS</u>** that it has the authority and obligation to advance the widespread adoption of EVs through the "shared responsibility" model proposed by Staff.

Having reviewed the comments received and Staff's recommendations, the Board **<u>FINDS</u>** that publicly-accessible charging stations will advance the widespread adoption of EVs. Therefore, the Board <u>**HEREBY ORDERS</u>** that these chargers must be accessible to the general public 24 hours a day, seven days a week, be listed on the USDOE Alternative Fueling Station Locator, provide all EV users, regardless of make and model, with the ability to charge their vehicles, and allow for network interoperability. The Board **<u>ORDERS</u>** all EVSE Infrastructure Companies operating within the state of New Jersey to provide the Board with an annual independent audit report on areas of service and operability updates.</u>

Additionally, the Board **<u>FINDS</u>** that Staff's proposal under the "shared responsibility" model, where the EDC's role would primarily be to "Make-Ready" a site for publicly-accessible EV infrastructure, is reasonable. The Board <u>**HEREBY**</u> <u>**ADOPTS**</u> Staff's "Make-Ready" recommendations and <u>**ORDERS**</u> that any ratepayer-funded Make-Ready work be conditioned on the requirements for publicly-accessible chargers.

Understanding that the electrification of the transportation sector benefits all of New Jersey residents, the Board **FINDS** that the EDCs may recover the costs associated with making a site ready, provided the EDC owns the equipment installed regardless of whether it is located on private land. The Board also **FINDS** that, where a utility is making a site Charger-Ready at the request of an unaffiliated EVSE Infrastructure Company, that infrastructure shall be deemed "used and useful," even if the Make-Ready is not immediately used. The Board, however, **ORDERS** the utility to show that it was prudent in the manner in which it made the site Charger-Ready.

The Board **<u>FINDS</u>** Staff's recommendations that application of the Main Extension Rule here will likely result in added barriers and delays in the broad deployment of EVs and EV infrastructure, particularly in underserved areas, to be reasonable and in the public interest. Therefore, in the rare instance where a request for a Make-Ready site involves the extension of electrical service to locations that are not currently served by the utility, the Board <u>**HEREBY GRANTS**</u> a waiver of the Main Extension Rule at N.J.A.C. 14:3-8.1 <u>et seq.</u> in accordance with Staff's proposed requirements. The Board further <u>**ORDERS**</u> in any instance where the Main Extension Rule waiver is applied, the utility notify Staff before any work is conducted.

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.

Having reviewed the comments received and Staff's recommendations, the Board **<u>FINDS</u>** Staff's proposed approach to ratepayer costs, residential charging, underserved communities, mapping, and outreach to be reasonable and in the interest of the public. As such, the Board <u>**HEREBY**</u> <u>**APPROVES**</u> Staff's recommendations and <u>**ORDERS**</u> the EDCs to file EV proposals that incorporate the minimum requirements contained herein, including, but not limited to:

- A shared responsibility model with respect to Publicly-Accessible EV Charging Infrastructure with:
 - EDCs funding the Make-Ready investments for EV chargers;
 - Private ownership and operation of EV chargers; and
 - Last Resort options for EDC ownership based on Board approval, as defined within this Board Order.
- Proposed rate structure to address:
 - Demand charges;
 - Residential EV charging; and
 - Multi-family dwellings rates.
- Proposed rate structures that encourage networked, managed charging;
- Proposals that provide equitable access to the EV Ecosystem in overburdened communities;
- Mapping that details areas which are best suited for EV infrastructure build-out on a regular basis;
- Outreach and education plans; and
- A list of Make-Ready investments made to date and all pending applications.

The Board <u>HEREBY DIRECTS</u> all EDCs to file electric vehicle proposals by February 28, 2021, which must include the minimum requirements for publicly-accessible EV charging outlined herein.

Any electric vehicle proposal currently filed with the Board on or before this Order need not be refiled; however, the Board **DIRECTS** Staff to use this Order to inform its position on any current or future proposals.

In reviewing Staff's recommendations and comments received, the Board <u>FINDS</u> that the minimum filing requirements set forth herein represent another significant step forward in the Board's efforts to achieve widespread EV adoption. While these requirements provide the Board with flexibility to review the EV proposals on a case-by-case basis, the Board <u>HEREBY</u> <u>DETERMINES</u> that EV minimum filing requirements should eventually be codified for broad applicability. Therefore, the Board <u>HEREBY</u> <u>DIRECTS</u> Staff to take necessary steps to immediately initiate a rulemaking process to adopt the framework contained herein through administrative rules in order to ensure equity and consistency throughout the state.

Appendix A ChargePoint Initial Comments UM 2056 Agenda Date: 9/23/20 Agenda Item: 8F

The effective date of this order is September 30, 2020.

DATED: September 23, 2020

BOARD OF PUBLIC UTILITIES BY:

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Appendix A ChargePoint Initial Comments UM 2056 Agenda Date: 9/23/20 Agenda Item: 8F

IN THE MATTER OF STRAW PROPOSAL ON ELECTRIC VEHICLE INFRASTRUCTURE BUILD OUT - DOCKET NO. QO20050357

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Appendix A ChargePoint Initial Comments UM 2056 Agenda Date: 9/23/20 Agenda Item: 8F

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Appendix B **ChargePoint Initial Comments** UM 2056



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No Anticompetitive **Conduct, No Unearned Advantage: Effective Competition Depends** on Merit



Scott Hempling

Administrative Law Judge at Federal **Energy Regulatory Commission**



20 articles

January 1, 2021

For 40 years, regulation has struggled with this question: How do we bring effective competition to industries dominated for decades by government-protected monopolies? The struggle persists, because no one loses his monopoly lightly: not only in the traditional sectorstelephone service; natural gas transportation; and electricity generation, transmission, and retail services;- but in new areas like internet content and delivery, distribution-level electricity resources, and electric vehicle charging stations. We want competition to produce diversity, yet the major players remain the same. One reason: We address only anticompetitive conduct while ignoring unearned advantage. The competition that results is not competition on the merits.

"Effective" competition: The adjective "effective" forces factual analysis into a topic too often discussed

rhetorically. Effective competition is not mere rivalry. It is competition on the merits, competition won through performance.

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Scherer and Ross describe effective competition in terms of market structure and seller conduct. They identify three structural characteristics: (a) The number of sellers is "at least as large scale economies permit"; (b) there are no "artificial inhibitions on mobility and entry"; and (c) the products offered have "moderate and price-sensitive quality differentials." Within that market structure, the conduct among competitors should have these six characteristics: (a) Competitors have "some uncertainty... as to whether one rival's price moves will be followed by the others"; (b) the competitors are not colluding; (c) there are no "unfair, exclusionary, predatory, or coercive tactics"; (d) inefficient suppliers are not somehow protected from competition; (e) "sales promotion should be informative, or at least not be misleading"; and (f) there is no "no persistent, harmful price discrimination."[1]

An effectively competitive market structure produces pro-competitive conduct, which in turn produces proconsumer performance. Consumers shop based on merits, sellers strive to succeed on the merits, costs decline, quality improves, breakthroughs happen. Structure forces conduct, conduct produces performance.

For industries historically dominated by governmentprotected monopolies, effective competition is achievable only if we remove both their market power and their unearned advantages, discussed next.

Market power and anticompetitive conduct: A market is not effectively competitive if any seller has "market power": the "ability profitably to maintain prices above competitive levels for a significant period of time." [2] Excessive price is not the only harm; market power can also cause reduced output, inefficient operations, declines in quality, and dulled incentives for innovation.

With market power, a seller can engage in anticompetitive conduct. Four major forms of anticompetitive conduct are: (a) refusing to deal (such as

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refusing to sell competitors a monopoly product essential for competition and not economically duplicable); (b) tying (requiring buyers of a monopoly product to also **ChargePoint Initial Comments** buy the seller's competitive product); (c) price squeeze (raising the price of an essential upstream product so that the buyer cannot compete successfully with the seller in the downstream market); and (d) predatory pricing (charging prices "below an appropriate measure of cost for the purpose of eliminating competitors in the short run and reducing competition in the long run").[3]

How does anticompetitive conduct differ from aggressive, pro-competitive conduct? The answer is not that someone wins and someone loses; win-loss outcomes are inherent in any competition. Anticompetitive conduct weakens competitive forces, so that the losers lose for reasons unrelated to their merits. Effective competition is competition on the merits; anticompetitive behavior seeks to prevent competition on the merits.

Unearned advantage: In the context of utility regulation, unearned advantage is government-assisted advantage: the advantages accrued from decades of government protection from competition, plus decades of government price-setting calculated to produce reasonable returns. When the utility (or its affiliate or successor) enters a competition, these advantages act as entry barriersdifferences in market entry cost between the incumbent and a new entrant. These advantages come in two categories.

The first category concerns customer behavior. The utility's name recognition and its government imprimatur create brand loyalty. Brand loyalty combines with normal human inertia to increase the likelihood that a busy customer will choose the utility (or its affiliate) over a newcomer-unless the new entrant spends a lot of money to change the customer's mind.

The second category concerns the utility's internal characteristics, four in particular: its (a) in-house knowledge, financed by decades of captive ratepayer payments; (b) economies of scale, derived from monopoly service territory boundaries drawn by state law; (c) low-cost access to capital markets, attributable in part to the government's

continuing role of limiting competition and setting reasonable rates; and (d) surplus capacity (a utility must build capacity in "lumps," ahead of demand, to be ready always to meet that demand). Those internal characteristics help the utility (or its affiliate) price below its competitors. And because these advantages flow from government conduct rather than performance merits, their presence precludes competition on the merits.

I have focused on government-sourced advantage because not every unearned advantage warrants regulatory concern. Unearned advantage is inherent in human society. People born to wealthy families, people of races or ethnicities not subject to systemic discrimination, people born with gratification-deferral wiring, hockey players born early in the year, children whose middle school had an unused computer[4]—all have life-long advantages not attributable to their personal merits. It is impossible to have markets in which no company has an unearned advantage. But regulation can address the unearned advantages created by regulation.

No anticompetitive conduct does not mean no unearned advantage: Anticompetitive conduct is competitor conduct. It is prohibited by antitrust law. Unearned advantage comes from government conduct. Competing with government-assisted advantage does not violate antitrust law. Antitrust law prohibits anticompetitive behavior in a given market; it does not remove government-assisted advantages from that market.

Yet government-assisted advantages enable the utility to beat its competitor for reasons other than merit. Some utilities obscure that fact. Their witnesses argue that if utilities engage in no anticompetitive conduct, they should be allowed to "compete" as they wish. When regulators accept that argument, they misunderstand the term "compete." Effective competition means not merely "competing;" it means competing on the merits. Competition means winners and losers. Winning for reasons other than merit means displacing competitors with more merit. That makes consumers worse off—an outcome precisely opposite to competition's purpose.

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No hardworking white male, with his Harvard Appendix **B** Business School degree and his McKinsey job, wants to **ChargePoint Initial Comments** admit it. No utility affiliate with its dominant market position wants to admit it. But they both got where they are thanks in part to unearned advantage. To ensure effective competition, eliminating anticompetitive conduct is necessary but not sufficient. Advantages created by government can be removed by government. Only by doing so can we have real competition, effective competition, competition on the merits-competition whose purpose is to help the consumer, not entrench the incumbent.

[1] F.M. Scherer and David Ross, Industrial Market Structure and Economic Performance 53-54 (1990). For anyone working in regulated industries, this landmark text is required reading.

[2] U.S. Dep't of Justice & Fed. Trade Comm'n, Horizontal Merger Guidelines § 0.1 (1992), rev. 1997). The Guidelines were revised in 2010, but the 2010 version does not expressly define "market power."

[3] Cargill, Inc. v. Monfort of Colo., Inc., 479 U.S. 104, 117-18 n.12 (1986).

[4] The last two items come from Malcom Gladwell, Outliers: The Story of Success (2011). A disproportionate fraction of Canadian professional hockey players were born early in the year. At age 4, when league play starts, they were bigger than their peers, and so got more coach-attention. Bill Gates's middle school had a spare computer.

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For 40 years, regulation has struggled with this guestion: How do we bring effective competition to industries dominated for decades by governmentprotected monopolies? The struggle persists, because no one loses his monopoly lightly: not only in the traditional sectors-telephone service; natural gas transportation; and electricity generation, transmission, and retail services;- but in new areas like internet content and delivery, distribution-level electricity resources, and electric vehicle charging stations. We want competition to produce diversity, yet the major players remain the same. One reason: We
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JUNE 2022

Regulation and the Monopoly Status of the Electric Distribution Utility

Carl Pechman, PhD

This paper addresses the growing risk of anti-competitive behavior by electric distribution utilities as a result of their transformation from a simple provider of homogeneous distribution services to an integrator and gatekeeper of new service opportunities. Given this transformation, state public utility commissions (PUCs) will have a growing role in determining what economic functions are provided by franchised monopoly companies or by competitive markets.

State regulation can immunize monopoly behavior on the part of utilities and therefore authorize what might be prohibited under anti-trust laws. Such an authorization is important for two reasons. First, monopoly displaces competition, thereby limiting the downward pressure on prices to consumers and relying on government price regulation. Second, because authorized monopoly limits competitive entry, it forgoes the competitive incentive to develop and provide innovative offerings to electric service customers. Evaluating the role of the state in empowering the utility as a monopolist is particularly important at this time, given the pressure to electrify the economy (in particular, transportation) and to decarbonize the production of electricity, as well as the tremendous technical change in the electric industry that the achievement of such goals requires.

The relationship between regulated monopoly and price is a long-standing concept. In 1670, Lord Hale articulated the definition of what is now known as the "Regulatory Compact," the relationship between a regulated monopoly provider and the price that it charges:

If the king or subject have a public wharf unto which all persons that come to that port must come as for the purpose to unlade or lade their goods, because they are the wharfs only licensed by the queen, ... there cannot be undertaken arbitrary and excessive duties or cranage, wharfage, pesage (fee for weighing), and so forth, neither can they be enhanced to an immoderate rate, but the duties must be reasonable and moderate ... For now the wharf and crane and other convenience are affected with a public interest.¹

The basis for price regulation in the United States was established by the Supreme Court in *Munn v. Illinois* (1876). Munn and his partners owned a third of grain elevator capacity in Chicago in the 1860s. Grain elevator owners were known to collude on price. When the state of Illinois passed legislation regulating the maximum price of storage, Munn ignored the price regulation and challenged the ability of the state to regulate privately owned enterprises. The Supreme Court upheld the state's authority to regulate prices of industries "affected with a public interest," finding that "when private property is devoted to a public use, it is subject to public regulation."²

Vertically integrated investor-owned utilities have had

¹ M. Hale, Ports of the Sea, 1 Harg. L. Tr. 17. cited from, Smith, E.G., "Price Regulation by Legislative Power," The Virginia Law Register, New Series, Vol. 7, No. 6 (Oct., 1921), p. 405, https://www.jstor.org/stable/1105906.

² Munn v. Illinois, 94 U.S. 113 (1876)

a long history as regulated monopolies.³ In this role, the regulated monopoly is required by law to provide a good, in this case electricity, imbued with the public interest to all within a franchised service area at just, reasonable, and not unduly discriminatory rates, terms, and conditions.

The roles of the electric distribution utility and state regulation are changing. The utility regulator is faced with the new challenge of how to determine whether or not the particular services are affected with the public interest and warrant monopoly status. The distribution utility is becoming an integrator of multiple technologies and pricing mechanisms that facilitate the reliable operation of the electric distribution grid. Customers increasingly have choice about how they buy and use electricity. The electric distribution utility will play a pivotal role in determining the terms and nature of the services provided to customers in conjunction with its state PUC and in accordance with applicable law.

Technological and institutional innovation are necessary to foster the United States' efforts to decarbonize its economy. Society's challenge is to incent innovation that benefits customers while providing entrepreneurs with adequate reward for inventiveness and financial support for widespread deployment. Because of its monopoly power, and absent government mandates, the utility can support or thwart this innovation. Every state has a PUC empowered by state statute. The underlying legislation in each state determines the nature and scope of PUC decision-making and thus may yield a range of state specific outcomes. To a large extent, the electric distribution utility's ability to exercise monopoly power will depend on its regulatory treatment and whether it is authorized to inhibit or preclude threats to its monopoly.

This paper further explores the role of the regulator in defining the extent to which the electric distribution utility can exercise monopoly power. Of particular importance is the PUC's role in identifying and supervising monopoly behavior on the part of the investor-owned distribution utility.

Regulatory Support for Electric Utility Monopolies

Before Thomas Edison's successful lighting of Wall Street with power from the Pearl Street Generating Station, electric lighting was provided by individual "isolated plants" directly wired to electric arc lamps. Edison's genius was inventing and organizing the technology that allowed lighting to be provided to many customers simultaneously from "central-station" generation. Edison's assistant, Samuel Insull, understood that central station generation provided "(s)triking economies in the production, distribution, and sale of electricity that have permitted a general and widespread reduction in selling price."⁴ This led to the development of the investor-owned utility business model, based on the concept of natural monopoly. A natural monopoly exists when the "entire demand within a relevant market can be satisfied at lowest cost by one firm rather than by two or more."5

Electric utilities were historically characterized by natural monopoly attributes, including economies of scale in generation, transmission, and distribution, "economies of coordinating and integrating the operations of dispersed generation facilities," and complementarities between generation and transmission.⁶

The ability to capture these economies of scale led Insull to promote the regulatory bargain espoused in his 1898 Presidential Address to the National Electric Light Association:

- 5 R.A. Posner, Natural Monopoly and Its Regulation, 50th anniversary edition, Cato Institute, 1968, p. 1.
- 6 Baumol, W., Joskow, P., and Kahn, A., "The Challenge for Federal and State Regulators: Transition from Regulation to Efficient Competition in Electric Power," Edison Electric Institute – Industry Structure Monograph Series – Number 1, 1995.

³ There are three fundamental ownership patterns in the electric utility industry: investor-owned, cooperatives under the REA, and municipal utilities. Investor-owned electric distribution utilities deliver power to more than 220 million Americans in all 50 states and the District of Columbia. The paper focuses on investor-owned utilities. The author recognizes that there may be monopoly issues with municipal utilities and co-ops, but these entities typically are not regulated by state public utility commissions.

⁴ Samuel Insull, "Some Advantages of Monopoly" in Public Utilities in Modern Life: Selected Speeches (1914–1923), Chicago: Private Printing, 1924, 3.

While it is not supposed to be popular to speak of exclusive franchises, it should be recognized that the best service at the lowest price can only be obtained...by exclusive control of a given territory being placed in the hands of one undertaking....In order to protect the public, exclusive franchises should be coupled with the conditions of public control, requiring all charges for services fixed by public bodies to be based on cost plus a reasonable profit.⁷

This regulatory bargain, along with similar structures for municipal utilities and rural electric cooperatives, provided the security of investment that enabled the electrification of the United States. Utility stocks were so secure that they were historically referred to as investments for "widows and orphans."

Regulation provided support for the monopoly capture of economies of scale. At the dawn of regulation in the early 20th century, utilities faced competition from large customers who self-generated using isolated plants. The electric utility industry had leverage over the isolated plant owners who relied upon the utility for back-up power in the event of the isolated plant failing. Given this reliance, competitive issues rather than the cost of service became the driver for the regulation of customer pricing. In this scenario, the regulator determined that the exercise of market power without undo price discrimination was warranted to reduce overall costs by taking advantage of economies of scale.

One tool used for such price discrimination was the implementation of the demand charge and the way that it was calculated. Isolated plant owners would interconnect and use the utility system for backup power in the event of an outage on their isolated plant generating units. The demand charge went into effect when the customer needed to use the utility's capacity as a backup. It ratcheted up the customers' bills, not only for the period in which it took power from the utility, but typically for a year. Charging each customer as though it alone were responsible for building generation to provide backup power and ignoring the diversity of the larger body of users with diverse peak loads resulted in a "sophisticate[d] mechanism which institutionalized profit-maximizing price discrimination given the competition from isolated plants."⁸

The Loss of Economies of Scale and the Restructuring of Power Markets

The structure of the investor-owned electric utility that developed under the supervision of state PUCs is demonstrated in **Figure 1.** Historically, investor-owned utilities were vertically integrated, generating power, transmitting power, and distributing power to customers. **Figure 1**° can be thought of as a template for what



- 7 Samuel Insull, "Standardization, Cost System of Rates, and Public Control," in *Central-Station Electric Service*, Chicago: Privately Printed, 1915, 45.
- 8 Neufeld, J., "Price Discrimination and the Adoption of the Electricity Demand Charge," *Journal of Economic History*, Vol 47, No.3, September 1987, pp. 693-709.
- 9 U.S. Department of Energy, Quadrennial energy Review: Energy, Transmission, Storage, and Distribution Infrastructure, April 2015, p. 3-3, https://www.energy.gov/sites/prod/files/2015/04/f22/QER-ALL%20FINAL_0.pdf.

a typical utility would look like. As described in the graphic that follows, with the loss of economies of scale in electric generation, that template has changed.

It is important to take note of the success of the PUC/ Investor-owned utility structure. This structure enabled the electrification of the United States, providing power to its people and industries. Regulatory attorneys from the 1960s have remarked to the author that adversarial rate proceedings did not exist during this period, and that that began to change in the early 1970s. Economies of scale in generation peaked in the early 1970s, leading to scale diseconomies. The real cost¹⁰ of generation declined until this period. "The cost of building a new plant on a per-unit basis decreased until the late 1960s, despite increases in the cost of almost all materials and labor. Exploitation of larger (more thermodynamically efficient) units that demonstrated scale economies was responsible for the drop."¹¹ The exhaustion of these economies was largely the result of the tremendous complexity of building ever-larger, technically sophisticated plants, whereas the interest accrued from the debt required to finance the plants became an increasingly larger portion of the plant's in-service (rate base) cost. In 1974, Con Edison skipped its guarterly dividend for the first time since 1885, because of the financing costs of building generation.¹² As a result, Con Edison only recovered financially by selling two generator units under development, the Astoria 6 oil-fired generator and the Indian Point 3 reactor, to the New York Power Authority pursuant to enabling state legislation.

The search for alternatives to costly, large-scale, monopoly-owned generation led to the passage of the *Public Utilities Regulatory Act of 1978* (PURPA), a still surviving part of the first National Energy Act passed in response to OPEC's exercise of market power over world oil prices. PURPA enabled the financing of non-utility generation by requiring utilities to purchase power from unregulated merchant generators, at the utility's avoided cost (the cost the PUC determined the utility would have incurred "but for" the purchase of that power). The method for determining avoided costs varied from state to state, with Maine setting avoided costs at the cost of completing the Seabrook II Nuclear Power Plant, whereas other states, like New York, based avoided costs on short-run marginal cost principles.¹³ The power system's ability to accommodate merchant generation receiving avoided-cost based rates demonstrated that it was possible to coordinate and supply utility load requirements through non-utility generation and enabled the formation of the organized power markets.

In the 1980s combined-cycle gas-fired generation provided the technology breakthrough that effectively neutralized economies of scale for generation and enabled the development of non-utility generation. Combined-cycle plants increased power plant efficiency from approximately 40 percent to more than 60 percent.¹⁴ These new power plants tended to be small and standardized, and used natural gas, allowing for rapid siting and construction, which greatly reduced financing and development costs.

The concept of independent generation was furthered by the introduction of a new paradigm for market-based generation. The Energy Policy Act of 1992 (EPACT) created exempt wholesale generators (EWGs) that freed generator owners from certain legal and financial ownership restrictions that had been in place under the Public Utility Holding Company Act of 1935 (PUHCA). In addition, the Federal Energy Regulatory Commission (FERC) implemented a regime of competitive generation by establishing market-based rate authority, which

¹⁰ Nominal dollars adjusted for inflation

¹¹ Richard Hirsh, Technology and Transformation in the American Electric Utility Industry, Cambridge, UK: Cambridge University Press, 1989, 70.

¹² R. Stuart, "Improved Outlook Eases Con Ed's Financial Woes," *New York Times.*, May 17, 1975, <u>https://www.nytimes.com/1975/05/17/ar-chives/improved-outlook-eases-con-eds-financial-woes-con-edisons-financial.html.</u>

¹³ Carl Pechman, Whither the FERC: Overcoming the Existential Threat to Its Magic Pricing Formula through Prudent Regulation, NRRI Research Report, 2021, https://www.naruc.org/nrri/nrri-library/research-papers/whither/.

¹⁴ David L. Chase, *Combined-Cycle Development Evolution and Future*, Schenectady, NY: GE Power Systems, 2000, GER-4206, http://physics.oregonstate.edu/~hetheriw/energy/topics/doc/elec/natgas/cc/combined%20cycle%20development%20evolution%20 and%20future%20GER4206.pdf.

allows competitive generators to sell at market-based rather than cost-of-service-based rates. These new market mechanisms have enabled smaller scale generation, such as combined cycle units with their high efficiency, relative ease of siting, and short construction times to successfully compete with large central station steam generators.

One of the lessons from PURPA was that it was possible to coordinate independent generation into the reliable operation of electric systems. This led to a transformation in the way that the industry was structured. The process of generation dispatch, the coordination of generating units to meet the real-time load requirements of customers, moved from utilities to the newly formed Independent System Operators (ISOs). To provide open access to the transmission system on a comparable basis, FERC created Regional Transmission Organizations (RTOs) that typically operate in conjunction with ISOs. Seeing the loss of the rationale for maintaining generation as a regulated monopoly function, combined with the potential for market efficiencies, many, although not all, states required utilities to divest their generation. For example, the member utilities in the Mid-Continent System Operator (MISO) remain largely vertically integrated with generation subject to traditional rate regulation. Under this scenario with vertically integrated utilities, the ISO/RTO increases the efficiency of operating those generating units and provides a focal point for the real-time information sharing required to operate a reliable system.

The transformation of wholesale power markets was guided by concern over the exercise of market power. This provided the rationale for the formation of ISO's typically formed as 501c)(3) nonprofits with boards of directors representing diverse economic interests. It also led to the regime of open access to transmission facilities and the development of Open Access Sametime Information Systems (OASIS), and a system of market power screens and market surveillance overseen by FERC.

The Challenge of the Distribution Utility as a Monopolist

The distribution utility, as demonstrated in **Figure 1**, links the electric power producers, the transmission system, and the customers who use that electricity. It operates the system that provides end-use service to customers by building and coordinating reliable energy flows over the distribution system. The on-going energy transition is transforming the distribution utility into an integrator/operator that will determine the service options available on the customer's side of the meter and on the distribution grid, as well as establishing the business model by which customers may acquire those services (from the interconnection to pricing).

In contrast to the exhaustion of economies of scale in generation, economies of scale in distribution continue to support the notion of a single service provider in a particular area, because

[A]s the number of customers on the network or the total power demand on the network increases, given a particular geographic area served by the distribution system, unit distribution costs can be expected to decline. These apparently pervasive economies of density imply that it would be inefficient to serve the same geographic area with more than one distribution system.¹⁵

As part of the clean energy transformation, the distribution utility is evolving from a pipe delivering electricity from generators to the customers that consume it to a complex operation with both one-way and two-way power flows. It is becoming the platform that supports the transformation of customers from simply consumers of energy to prosumers,¹⁶ who actively participate in the operation of the grid by producing power and having flexible demand. The modern distribution system will be a key entity in providing the infrastructure that will support decarbonization efforts through electrification.

New technologies lead to the creation of new entities

¹⁵ Paul L. Joskow and Richard L. Schmalensee, *Markets for Power: An Analysis of Electric Utility Deregulation*, Cambridge, MA: MIT Press, 1983, 59.

¹⁶ The word "prosumer" was introduced by Alvin Toffler in his book, *The Third Wave* (1981) to describe the merging of the roles of consumers and producers in the information age—the third wave (agriculture was the first wave and industrialization was the second wave).

whose business models are directly affected by the way that the utility operates the distribution system. Each of these new models for providing service has important implications for the ability to decarbonize the electric system while electrifying the economy.

New technologies and institutional arrangements are increasingly part of an overall portfolio to reduce GHG emissions and increase resilience. These include:

- Community solar
- Aggregators
- Demand response
- Customer-sited storage
- Microgrids
- Distributed energy resources
- Energy efficiency
- Distribution level storage (both short- and long-duration)
- Electric vehicles, the need for charging infrastructure and their potential as system storage
- Electrification with appliances that improve efficiency and displace fossil fuels.

In addition, new technologies are being developed that will further expand the integration role that the distribution utility performs.

- Virtual power plants
- Carbon capture and sequestration
- Modular nuclear
- Long duration storage

These are a mix of supply-side and demand side activities. They are all disruptive technologies and organizations that will "transform the way we live and work, enable new business models, and provide an opening



for new players to upset the established order."¹⁷ Importantly for the role of the regulator, these technologies do not fit neatly into the existing relationship between regulators and the electric distribution utilities.

Figure 2¹⁸ demonstrates the increasing complexity of the distribution system, which has changed from a one directional flow from generators to customers to a two-way flow - from the bulk power system to the customer and from the customer back to the bulk power system. Accommodating the entry of new technologies increasingly involves creating new retail pricing mechanisms that reflect the value of power both locally and in the wholesale market, coordinating the flow of power from the wholesale power market, balancing the frequency of the distribution system, and maintaining and operating physical infrastructure. Managing this physical infrastructure will not only involve constructing the necessary distribution system but ensuring interconnection and access to distribution facilities.

Accommodating these options for providing service to customers while decarbonizing will need to be coordinated at the distribution level. Just as the development

¹⁷ James Manyika et al., "Disruptive technologies: Advances that will transform life, business, and the global economy," McKinsey and Company, May 2013, accessed November 7, 2014, http://www.mckinsey.com/insights/business_technology/disruptive_technologies.

¹⁸ U. S. Department of Energy, "Quadrennial Energy Review: Transforming the Nation's Electricity System (The Second Installment of the QER)," January 2017, p. S-5. https://www.energy.gov/sites/prod/files/2017/01/f34/Transforming%20the%20Nation%27s%20Electricity%20 System-The%20Second%20Installment%20of%20the%20Quadrennial%20Energy%20Review--%20Full%20Report.pdf.

of smaller, economically efficient units helped transform the industry and led to the development of organized power markets (ISO/RTOS), this coordination will require new distribution service business models. Distribution markets demonstrate economies of scope in areas where it is less costly to have a single system operator coordinating the market and ensuring the reliability of the electric grid over a fixed area, rather than two or more operators. Therefore, there is a legitimate argument that the coordination of distribution resources should be performed by a regulated monopoly. Given that, there is an issue over whether that monopoly function should be carried out by the local electric distribution company or some third party, such as found in the wholesale power markets with ISOs.

As the distribution energy ecosystem becomes more complex, it becomes increasingly necessary to have a Distribution System Platform (DSP, also frequently referred to as a Distribution System Operator- DSO). The DSP

... be the integrator of distributed generation and other DERs, including energy efficiency, demand response, energy storage, and electric vehicles. The DSP will also provide the interface between the wholesale bulk power system and increasingly diverse retail markets that are a mix of customer load as well as new sources of supply and energy services.¹⁹

States interested in energizing the role of the customer have begun evaluating the role and ownership of DSO's. The New York Public Service Commission (NYPSC) examined the role and monopoly concerns associated with the DSO in the Reforming the Energy Vision (REV) process, a multi-year study with a wide array of stakeholders. It issued its "Order Adopting a Ratemaking and Utility Revenue Model Policy Framework,²⁰ in 2016. In that order, the NYPSC

set in motion the establishment of a distributed

system platform (DSP) structure by which utilities will facilitate distributed resources; limited utility ownership of distributed resources to mitigate market-power concerns; required utilities to create required utilities to create distributed system implementation plans (DSIPs) outlining relevant system information and investment plans; and established interim energy efficiency targets. distributed system implementation plans (DSIPs) outlining relevant system information and investment plans; and established interim energy efficiency targets.²¹

The New York REV is a landmark proceeding in which the NYPSC directly evaluated which functions are monopoly functions at the distribution level and which could be provided by the competitive market.

The Monopoly Concern

Given the evolving role of the electric distribution utility, an important concern for the regulator is whether a service could be better provided to customers by competitive entities rather than the utility and the potential for the impacts of market power to forestall this competition. Because the electric distribution utility can exercise monopoly control over the operation of the distribution system, there are many structural ways in which it could exercise market power, including discriminatory pricing, exploitation of asymmetric information, and deprioritizing the needs of providers of competitive technologies and services.

The exercise of monopoly power has been a concern for the innovators of solar power since the 1970s. This concern was reflected in a paper published by the Solar Energy Research Institute (the predecessor to the National Renewable Energy Laboratory) in 1979:

As a matter of public policy, facilitation of solar energy commercialization by utility and energy companies-with their capital resources, managerial expertise, and technological knowledge-must be

¹⁹ RMI, "Bringing a Distribution System Operator to Life. Blog September 8, 2014, <u>https://rmi.org/</u> blog_2014_09_08_bringing_a_distribution_system_operator_to_life/.

²⁰ New York Public Service Commission, "Order Adopting a Ratemaking and Utility Revenue Model Policy Framework," Case 14-M-0101, May 19, 2016.

²¹ Hansen, L and Lacey, V., "New York's Next Steps in the REV-olution," RMI, May 20, 2016 https://rmi.org/new-yorks-next-steps-rev-olution/.

weighed against the possibility that such involvement by those firms will retard the commercialization process because interchangeability between end uses of renewable and nonrenewable energy resources creates opportunities and motives for market manipulation.²²

The investor-owned electric distribution utilities have a financial incentive to exercise monopoly power. The new technologies present a financial threat. The Edison Electric Institute (EEI) alarmed both the financial community and the utility industry in 2014 when it drove this point home when it published "Disruptive Challenges: Financial Implications and Strategic Responses to a Changing Retail Electric Business." The paper warned that "the threat to the utility model from disruptive forces is now increasingly viable."23 This EEI paper explained the threat that disruptive technologies would create a "vicious cycle from disruptive forces" that pointed to lost revenues for the investor-owned utilities. The paper focused on distributed energy resources (customer production) and energy efficiency/ demand response (customers changing load patterns), opining that with the adoption of either distributed energy resources or energy efficiency/demand response/DER. lost revenues would necessitate a rate increases, thereby encouraging more distributed energy resources and energy efficiency/demand response.²⁴ Ultimately, this pattern could lead to what some call the "Utility Death Spiral." To resolve this problem, it will be important to identify those services for which a monopoly provider would be beneficial and provide revenue streams from customers that would enable the utility to continue providing essential services.

The financial community understood the implications

of the EEI study and responded. In 2014, Barclays Bank downgraded the entire electric utility industry, stating that competitive challenges from solar power represented a clear and present danger:

In the 100+ year history of the electric utility industry, there has never before been a truly cost-competitive substitute available for grid power. We believe that solar + storage could reconfigure the organization and regulation of the electric power business over the coming decade. We see near-term risks to credit from regulators and utilities falling behind the solar and storage adoption curve and long-term risks from a comprehensive re-imagining of the role utilities play in providing electric power.²⁵

Utilities recognized the threat of financial loss from solar and other disruptive technologies and started taking action to shore up their monopoly status. In 2015, the Salt River Project (SRP) instituted a rate for customers with rooftop solar that increased their utility bills by an average of \$600 a year. A group of customers filed antitrust litigation against SRP that was rejected by the federal trial court.²⁶ In January 2022, a three-judge panel of the U.S. Court of Appeals for the 9th Circuit reversed that lower court's ruling, allowing the plaintiffs to proceed with their antitrust claim against the utility for discriminatory pricing policies. The plaintiffs alleged that the new price plan SRP had put in place could increase the rate at which solar customers were charged by up to 65 percent and for that reason "unlawfully discriminates against customers with solar-energy systems and was designed to stifle competition in the electricity market."27 The panel found that "[n]ot surprisingly, applications for solar-energy systems in SRP territory decreased by between 50 and 96 percent."28

22 Gross, J., "Impact of the Antitrust Laws on the Commercialization of Solar Heating and Cooling," Solar Energy Research Institute, SERI/ TR-62-272, June 1979, pg. 47

28 Ibid., 1267.

²³ P. Kind, "Disruptive Challenges: Financial Implications and Strategic Responses to a Changing Retail Electric Business" Edison Electric Institute, January 2013, p. 4, https://www.ceaa.gc.ca/050/documents/p63919/96988E.pdf.

²⁴ Ibid., p. 12.

²⁵ Michael Aneiro, "Barclays Downgrades Electric Utility Bonds, Sees Viable Solar Competition," Income Investing (blog), Barron's, May 23, 2014, http://blogs.barrons.com/incomeinvesting/2014/05/23/barclays-downgrades-electric-utility-bondssees-viable-solar-competition/.

²⁶ Drisoll, W., "Appeals court ruling could bring {Phoenix solar market back to life," *Pv* magazine, February 2, 2022, Appeals court ruling could bring Phoenix solar market back to life – pv magazine USA (pv-magazine-usa.com).

²⁷ Ellis v. Salt River Project Agric. Improvement & Power Dist., 24 F.4th 1262, 1266 (9th Cir. 2022).

The Salt River Project provides a telling example of the way in which the utilities' market power can impact the growth of new decarbonization programs and methods.

Recently, 235 consumer and anti-monopoly advocates, public interest and environmental organizations, and rooftop solar companies petitioned the U.S. Federal Trade Commission (FTC) to commence an investigation into the electric utility industry's practices that are negatively impacting renewable energy competition and consumer electricity pricing. Among the alleged harmful activity is "unfair competitive actions that harm clean energy competitors, including consumers generating their own renewable electricity."²⁹ It is unclear how the FTC will respond to these allegations.

That is not to say that monopoly has no beneficial role, or that it is never in the public interest to grant monopoly status. The historic rationale for utility monopoly is that it is an entity affected with a public interest. To further the goal of electrifying the United States, the initial focus of the industry and regulators was on the capture of economies of scale for the benefit of the customer. Because it is still less expensive to provide distribution in a given area through a single utility, that function remains a monopoly. The issue going forward is whether the public interest will be best served by new services provided by a regulated utility or by competitive entities. If these services are to be provided by a regulated utility, should it be the incumbent or a new monopoly entity?

There may be economies of scope with utility ownership and control of some new technologies that will enhance the reliability and resilience of distribution system operation. One example of economies of scope might be the ability to plan and operate the system in a cybersecure manner. Another example, long-term storage, can be provided competitively, but when owned by the distribution operator may offer economies of scope in the operation of the distribution system that would facilitate its resilient operation. For that reason, regulators may find it in the public interest for some functions to be provided by the distribution

Appendix C ChargePoint Initial Comments UM 2056

utility as a monopolist.³⁰ When making such a determination, the regulator must be careful to avoid providing the utility with additional market power from its role as integrator. New York's approach of providing a utility integration role, while limiting activities that could benefit from information asymmetry, demonstrates the critical role of regulators in managing the terms of monopoly service by utilities.

Excluding Competition at the Grid Edge

Regulation has a history of adaptation, and it is time to recognize that there are hard choices ahead. The post WW II regulation of electric utilities was a fairly simple task. The country was electrifying. There were economies of scale in generation. Costs of providing service were declining because of those economies of scale. That ended with the exhaustion of economies of scale in developing generation in the early 1970s. Regulation became more difficult. There were oil embargoes and nuclear power plant cost over-runs. PUCs sought new mechanisms to improve utility performance. These incentives were either targeted (e.g., the sharing of energy efficiency savings) or utility wide.

Now, every PUC will need to take on the added task of determining and explicitly supervising which utility activities are competitive and which can (or should) be provided by the regulated monopoly. There are three actions that PUCs can take that define the utility's role as monopolist. The first is the interpretation of legislation establishing utilities; the second is oversight of tariffs; and the third is through the supervision of behavior subject to state action immunity.

State legislatures and state courts can authorize anticompetitive behavior.

The PUC's authority to regulate generation, transmission, distribution and sale of electricity by electric utilities is generally authorized by state statute or is in some cases in state constitutions. Thus, public utility commissions have commonly been held by courts to be authorized by the state to enforce a policy that allows anti-competitive

²⁹ Petition to the Federal Trade Commission to Commence Article 6(B) Investigation Re: The Electric Utility Industry's Abusive Practices that Stifle Renewable Energy Competition and Harm Consumer Protection," May 18, 2022.

³⁰ Carl Pechman, "Determining the Scope of the Electric Distribution Utility of the Future" Smart Electric Power Alliance, 51st State Initiative, 2017, https://sepapower.org/resource/51st-state-ideas-determining-scope-electric-distribution-utility-future/.

conduct by electric utilities that are monopolies in their service territories.³¹

A critical question, therefore, is "what is a utility?" PUCs have interpreted this question in different ways. For example, in the discussion that follows, a number of states have reviewed the issue of whether Purchase Power Agreements (PPAs) are a utility service that would prohibit third-party provision of that service. A PPA is a commonly used contractual mechanism that enables property owners to install photovoltaic (PV) installations on their property without owning it. The customer enters a PPA with an independent entity, that installs the PV. The customer pays for the PV output at a fixed contract price. The customer then uses that power to earn a bill credit in the utility's net metering program.

North Carolina determined that PPAs are a utility service based on its review of its enabling statute, which defines a public utility as:

any entity which owns and operates "equipment and facilities" that provides electricity "to or for the public for compensation."

It further found:

North Carolina law precludes retail electric competition and establishes regional monopolies on the sale of electricity based on the premise that the provision of electricity to the public is imperative and that competition within the marketplace results in duplication of investment, economic waste, inefficient service, and high rates.³²

In contrast to North Carolina, New Hampshire found that "in offering solar power purchase agreements or

solar leases to customers in New Hampshire, neither Vivant nor any of its affiliates should be regulated by the Commission as a "public utility." In doing so, the NH PUC accepted the solar providers' argument that it should be deemed a "public utility," as defined in RSA 362:2, subject to the Commission's broad regulatory jurisdiction, because it does not provide "service to the public without discrimination."³³

The filed rate doctrine also provides a defense by utilities against anti-trust claims. In *Keogh v. Chi.*³⁴ the U.S. Supreme held that when a tariff or rate schedule is filed with the state's PUC, private plaintiffs cannot recover anti-trust damages. This protection is not dependent upon PUC review or any finding that the tariff is just and reasonable. "This protection extends only to suits brought by customers or purchases of rate regulated goods from the regulated firm and not generally to suits brought by customers."³⁵

The limitation of immunity associated with the filed rate doctrine is important. The Supreme Court's decision in *FERC v. EPSA*³⁶ established the precedent that demand-side options, such as demand response, are functionally equivalent to generation. In doing so, it recognized the role of the customer as a resource for maintaining system reliability and issued and established the consumer's right to participate in wholesale markets with behind-the-meter resources. Building on *FERC v. EPSA*, FERC Order 2222³⁷ further expands the service options that can be delivered through the distribution utility.

Limiting the reach of FERC orders to develop cost effective options for customer service, utilities such as Evergy in Kansas have tariff language that limits the customers freedom to participate in the growing market options.

31 M. Wara, "Competition at the Grid Edge: Innovation and Antitrust Law in the Electricity Sector," <u>NYU Environmental Law Journal, Vol. 25, No.</u> 2, 2016, p. 215.

32 State ex rel. Utilities Commission v. North Carolina Waste..., 805 S.E.2d 712, 2017.

33 Vivint Solar, Inc., 2016 WL 224170, NH Pub. Util. Comm'n, January 15, 2016.

34 Keogh v. Chi. & Nw. Ry. Co., 260 U.S. 156, 161, 1922.

- 35 Op.cit., Wara, p.. 215.
- 36 136 S. Ct. 760, 2016.
- 37 U.S. Federal Energy Regulatory Commission, Participation of Distributed Energy Resource Aggregations in Markets Operated by Regional Transmission Organizations and Independent System Operators, Docket No. RM1809-000; Order No. 2222, September 17, 2020, Accessed April 14, 2021, 3 FERC clarified in Order 2222.

<u>Customer participation in Integrated Market or</u> <u>Demand Response:</u> Company's express written consent is necessary for a customer to participate in the SPP's Integrated Market or Demand response program regardless of the customer's service taken from Company (i.e., firm or interruptible).³⁸

This language appears in a filed tariff approved by the Kansas Corporation Commission. It prohibits an Evergy customer from participating in the SPP market without the explicit written permission of Evergy. Language such as this clearly discourages customer participation in new markets established by the FERC. Because of the filed rate doctrine, Evergy's customers are powerless to pursue antitrust action against it, although aggregators seeking to provide service to an Evergy customer could potentially pursue such claims. In the latter case, the issue will be whether the anti-competitive behavior is immunized by the state action doctrine.

The U.S. Supreme Court decision in Parker v. Brown³⁹ established the doctrine of state action immunity, the ruling that the state can immunize business conduct from antitrust prosecution. This doctrine provides immunity from federal antitrust lawsuits for anti-competitive behavior if the action meets a two-pronged test. The behavior must be "(1) undertaken pursuant to a clearly articulated state policy to displace competition with regulation and (2) actively supervised by state regulators."⁴⁰

In the first prong of the test, "state government may be able to immunize from federal antitrust prosecution by clearly declaring a policy of monopoly for its franchised companies."⁴¹ The importance of the first prong is demonstrated by the 9th Circuit's decision in the SRP antitrust case. In its decision, the court held "that SRP was not entitled to state-action immunity because the State of Arizona had not articulated a policy to displace competition, but rather had clearly expressed a policy preference for competition in electricity generation and supply."⁴²

Even if a state authorizes anticompetitive conduct "there is the also the risk that the court could conclude that state supervision of the conduct was insufficiently "active" to merit protection from antitrust liability."⁴³ State PUCs therefore have an affirmative role to determine the scope of monopoly services and to assess the types of allegations included in the FTC petition. There is no single standard for active supervision. Therefore, it may be reasonable for PUCs to adopt the "prudence standard," to guide their regulatory review of which utility activities should be provided as a monopoly service. This standard provides the analytical framework that PUCs use to determine whether utility behavior is just and reasonable and whether the costs incurred may be recovered from ratepayers.

The concept of prudence is used throughout the law as a description of a standard of conduct owed to others. In the law of torts, the "ordinary reasonably prudent man" is well known for the careful conduct ... both with respect to his actions and with respect to the foreseeability of their consequences.⁴⁴

The prudence standard is an information-intensive standard that requires active investigation and decision making.

[A utility's] actions should be judged by asking whether they were prudent at the time, under all the circumstances, considering that the Company had to operate at each step of the way prospectively rather than in reliance on hindsight. Accordingly, the department will base its findings on how

38 Evergy Kansas Central, Inc & Evergy Kansas South d.b.a. Envergy Kansas Central, "Tariff, section 7, sheet 12," September 27, 2018.

^{39 317} U.S. 341 (1943).

⁴⁰ D. Turetsky, "Antitrust Enforcement in the Electric Industry," Address by the Deputy Assistant Attorney General, Antitrust Division U.S. Department of Justice - Before the Edison Electric Institute Chief Executive Conference. Remarks made January 11, 1996, Text Published February 2, 1996, https://www.justice.gov/atr/speech/antitrust-enforcement-electric-industry.

⁴¹ C. Zielinski, "The Big Bang," Public Utilities Fortnightly, March 15, 1994, p. 23.

⁴² Ellis v. Salt River Project Agric. Improvement & Power Dist., 1277.

⁴³ Op. cit. Wara, p. 219.

⁴⁴ Burns, R.E. et al., "The Prudent Investment Test in the 1980's," The National Regulatory Research Institute, April 1985, p., 21, NRRI-04-16.

reasonable individuals would have responded to the particular circumstances and whether the Company's actions were prudent in light of all conditions and circumstances which were known or which reasonably should have been known at the time the decisions were made.⁴⁵

The prudence standard not only provides a framework for evaluating utility behavior, but also sets a standard for active supervision on the part of the regulator. Prudent regulation would continually involve re-evaluating the role of the utility in light of changing technology given new information. The prudent regulator must be proactive. The role of the regulator, as both an arbiter and an information facilitator, is to provide a forum in which it can remain informed on these issues. As society moves forward with decarbonization, decisions made by state regulators will determine the utility's exposure to antitrust claims. If there are allegations that antitrust laws have been violated, the electric distribution utility will need to defend its claims of state action immunity. The filing and resulting acceptance of a tariff by a PUC does not necessarily confer State Action Immunity; additional information and proof may be required.

Providing and articulating the basis for state action immunity is the responsibility of the prudent regulator. Elements of regulatory review that would fulfill the the two prong test include the following:

- 1. Articulation of legislative mandates that define the role of the utility.
- Overview of the policy context in which the technology is being incorporated into the distribution utility's service territory, with citations to legislation, policy pronouncements, and regulatory decisions that support that policy.
- 3. Regulatory determination of the way in which to incorporate new technology into the distribution system, i.e., whether such services would be better provided by a monopoly or competition. If competition is best, what rules should be provided?

- 4. Have customers or competitive providers approached the utility to deploy a new technology or market mechanism? What was the outcome?
- 5. Analysis of the customer impact of incorporating a new technology will be best performed as a monopoly fuction or by the competitive market.
- 6. Whether the PUC has explicitly granted state-action immunity, including documenting that the state had articulated that each monopoly provision is consistent with state policy, and citing proceedings in which active supervision is demonstrated.
- 7. Explanation of the reason monopoly provision is affected with the public interest.
- 8. Report of the analytical basis of the PUC's decisions, including why the determination to provide state action immunity minimizes the cost of providing service to consumers, as well as any other rationale provided to support immunizing monopoly behavior.

Prudent regulation would have the PUC provide information on these elements to the market and request feedback about its determinations on a regular basis. The PUC is in a unique position to provide this information to help guide the entry of new entities and services. Doing so will help clarify roles. As an example, a number of states participating in the Midcontinent Independent System Operator (MISO) have banned aggregators from delivering all available demand response.⁴⁶ For this case, the prudent regulator would at a minimum report the reasons demand response was not competitively provided and require either citations to legislation or to regulatory decisions that provide support for the institution of the ban. Doing so would enable market participants to evaluate whether they believe that both the policy rationale and supervision were adequate to support a claim of state action immunity and determine whether the distribution utility would be at risk for antitrust claims.

45 Re Boston Edison Co, 46 PUR4th 438 (Mass. DPU, 1982).

⁴⁶ J. Moore, "Major Barrier to Demand Response Needs to End," NRDC Expert Blog, August 25, 2021, <u>https://www.nrdc.org/experts/john-moore/major-barrier-demand-response-needs-end.</u>

Conclusion

The nature of the electric distribution utility is changing rapidly. It is increasingly taking on the role of integrator of different services provided by a wide array of market participants. Designing that new role will require determining whether services are provided by the electric distribution company as a monopoly or by competitive market entities and whether the incumbent utility can participate (and on what terms). The PUC will have an increasingly important role in guiding that determination through the grant of State Action Immunity. To do so effectively, the PUC must adopt the practice of prudent regulation, continually re-evaluating the role of the utility with information that is known and knowable and learning lessons from within its jurisdiction and other PUCs around the country. Actively providing the results of its ongoing inquiry will facilitate the market transformation, enabling efficient

electrification and decarbonization.

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BEFORE

THE PUBLIC SERVICE COMMISSION OF

SOUTH CAROLINA

DOCKET NO. 2022-158-E DOCKET NO. 2022-159-E

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Joint Applications of Duke Energy Carolinas, LLC and Duke Energy Progress, LLC for Approval of Electric Vehicle Supply Equipment Program (2022-158-E) and Make Ready Credit Program (2022-159-E) SOUTH CAROLINA OFFICE OF REGULATORY STAFF'S REPLY COMMENTS TO RESPONSIVE COMMENTS

I. Executive Summary

The South Carolina Office of Regulatory Staff ("ORS") provides these comments in response to comments filed by Duke Energy Carolinas, LLC ("DEC") and Duke Energy Progress, LLC ("DEP") (collectively "Duke Energy" or the "Companies"), ChargePoint, Incorporated ("ChargePoint"), and the Southern Alliance for Clean Energy and Coastal Conservation League ("SACE/CCL") in the Joint Applications for Approval of Electric Vehicle Supply Equipment ("EVSE") and Make Ready Credit ("MRC") Programs in Docket Nos. 2022-158-E and 2022-159-E, respectively.

In summary, ORS's analysis and recommendations related to the Companies' proposed EVSE and MRC Programs follow the general framework below:

- 1. Verify the utility provides and will continue to provide reliable and high-quality utility services at the least cost to customers in compliance with all applicable state and federal rules and regulations.
- 2. Verify utility programs are accessible to customers regardless of socioeconomic status.
- 3. Verify utility investment and program cost recovery reflects applicable cost causation principles and mitigates cross subsidization to the greatest extent practicable.¹ This includes, but is not limited to, costs of programs, incentives provided to participants, impacts to the overall cost of service and to individual customer classes, changes in system electric loads and emissions, and impacts on the private-sector marketplace for electric vehicles ("EV") (includes, but is not limited to, EV adoption, EVSE, manufacturers/vendors).
- 4. Verify utility investments and programs adequately address timing and costs associated with the utility's interconnection process. This includes changes in system load conditions that would require broader investments in transmission and distribution systems to serve the load.
- 5. Verify utility investments and programs yield quantifiable net customer benefits and are demonstrably cost-effective using industry standard cost-effectiveness testing.

¹ S.C. Code Ann. 58-40-20(A)(3).

- 6. Verify utility investments and programs align with the utility's core business and leverage the utility's economies of scale to the benefit of all customers.
- 7. Verify utility investments and program costs are identified, tracked, and recorded in a clear and transparent manner that can be easily reviewed and compared to initial estimates. This would include an evaluation process that would track costs, EV adoption, system loads and conditions, etc.

Any electrification programs proposed by the utility should contain the following characteristics and best practices:

- 1. The utility should accommodate electrification driven by customer demand, as illustrated by objective and reliable data. Such data would include, but is not limited to, rates of EV participation/adoption, system load conditions, impacts to integrated resource planning ("IRP") models, and identifiable and quantifiable system participant benefits and costs.
- 2. The utility should install the necessary distribution infrastructure.
 - a. Utility investments and programs should facilitate market competition and minimize ratepayer risks and costs.
 - b. Establish a clear definition of "point of delivery" such that the customer and utility cost responsibility is identified clearly.
- 3. The utility should have a robust load management plan before committing ratepayer funds to build the infrastructure.² This would include development of demand side management ("DSM") resources, time-of-use ("TOU") or critical peak pricing rate designs and automated load management.
- 4. The utility should pursue and exhaust all available state and federal funding sources for infrastructure construction prior to the commitment of ratepayer funds.
- 5. The proposed utility investments and programs should strive to:
 - a. Enable customer choice of EVSE, technology, and rate options.
 - b. Reflect the utility's comprehensive electrification and load management plan and be consistent with the most recent Commission-approved IRP.
 - c. Focus on all applicable state and federal electrification program goals.
 - d. Facilitate improved grid management.
 - e. Allow for the integration of distributed energy resources ("DER") to maintain or improve the reliability and resiliency of the electric grid.
 - f. Be transparent, measurable, flexible and future proof to minimize customer risk.
 - g. Benefit the total system through the downward pressure on electric rates through increased volumetric kilowatt hour ("kWh") sales.
 - h. Utilize rate design as an effective tool to mitigate potential system capacity issues.
 - i. Be consistent with electric industry trends and best practices and incorporate learnings from previously administered or ongoing electrification pilot programs.

II. MRC Programs

Summary of Duke Energy's Responsive Comments

ORS's initial comments recommended approval of the Companies' proposed MRC Programs subject to several modifications. Specifically, ORS recommended the Company be required to:

- 1. Submit an annual update to the Commission to validate non-standardized load assumptions and compare load estimates with load actuals used to calculate MRCs.
- 2. Establish a timeline and process to migrate to South Carolina specific load data and refresh the data annually.
- 3. Track and report all revenue and associated MRC Program costs in a transparent manner to allow for verification and validation that the MRC Programs yield quantifiable net customer benefits.³

In the Companies' Responsive Comments, the Companies accepted and agreed to all three (3) of the conditions recommended by ORS and stated that each recommendation "may improve the program overall related to tracking and reporting."⁴

Summary of Intervenor Initial and Responsive Comments

The Southern Alliance for Clean Energy and the South Carolina Coastal Conversation League ("SACE/CCL") expressed support for the design and objectives of the MRC Programs and recommended the Companies:

- 1. Ensure equity and access through the Contractor Credit Option for residential customers by ensuring that the Companies' contractor network extends into lower-income communities, rural areas, and communities of color.
- 2. Ensure equity and access through the Consumer Credit Option for residential customers by making upfront credit estimates available before customers commit to the investment and by providing the credits within one billing cycle.
- 3. Remove cost uncertainty for non-residential customers by providing the customer usage form used to calculate the MRC, along with a transparent explanation of the Companies' calculations, up-front so that potential applicants can understand the potential MRC before applying. In addition, SACE/CCL recommended the Companies inform potential customers applying for Direct Current Fast Charging ("DCFC") and Level 2 ("L-2") installations that will trigger demand charges and the impact such charges could have on their monthly bill.
- 4. Consider site-specific features of non-residential customers to reduce future costs by evaluating whether inexpensive, incremental increases in the capacity of customer-sited upgrades (panel capacity, transformer, and conduit) would allow for additional EV chargers and avoid the need for more expensive upgrades in the future.

³ SC ORS Initial Comments p. 5.

⁴ Joint Responsive Comments of Duke Energy Carolinas, LLC and Duke Energy Progress, LLC, (September 23, 2022) ("Joint Responsive Comments of DEC and DEP") p. 15.

- 5. Incorporate managed charging incentives into the MRC Programs for customers who commit to participating in EV-specific rate designs and other options.
- 6. Require Evaluation, Measurement and Verification ("EM&V") of the MRC Programs through a third-party evaluation after an initial period of three (3) years.⁵

ChargePoint similarly expressed support for the goals and objectives of the MRC Programs and recommended the Companies:

- 1. Establish minimum functional standards for qualified EVSE, including that chargers be networked, that L-2 chargers be ENERGY STAR certified, and all ESVE are certified for safety and reliability through a third-party Nationally Recognized Testing Laboratory.
- 2. Establish pricing and pricing policies for EV charging services by clarifying that site hosts receiving an MRC have the ability under South Carolina statute to establish such policies for EV charging services located on their property.⁶

ORS Recommendations

ORS recommends approval of the MRC Programs with the proposed modifications as agreed to by Duke Energy:

- 1. Submit an annual update to the Commission to validate non-standardized load assumptions and compare load estimates with load actuals used to calculate MRCs.
- 2. Establish a timeline and process to migrate to South Carolina specific load data and refresh the data annually.
- 3. Track and report all revenue and associated MRC Program costs in a transparent manner to allow for verification and validation that the MRC Programs yield quantifiable net customer benefits.⁷

In addition, ORS recommends the Commission require Duke Energy:

4. File an updated tariff incorporating each of these modifications.

ORS supports the recommendations to modify the MRC Program offered by SACE/CCL and ChargePoint as stated above subject to the following revisions to SACE/CCL's fifth recommendation and ChargePoint's first recommendation. These recommendations align with the ORS framework where utility investments and programs should (1) strive to be transparent, measurable, flexible, and future proof to minimize customer risk and (2) facilitate improved grid management.

1. Load management requirement: The Companies should require, rather than only incent (as proposed by SACE/CCL), participation in a load management program. In practice, this could mean that EV customers are, at a minimum, on a TOU tariff/rate or in other circumstances take more advanced rate or programmatic options.

⁵ SACE/CCL Initial Comments (August 11, 2022) pp. 4-7.

⁶ ChargePoint Initial Comments (August 11, 2022) pp. 12-15.

⁷ SC ORS Initial Comments p. 5.

2. Minimum functional standards: The Companies should require that Commercial and Industrial ("C&I") customers purchase managed charging technology to qualify for the MRC Programs, which may include networked chargers (as proposed by ChargePoint) *or* smart EV platforms capable of supporting vehicle telematics. Providing customers with the flexibility to choose the managed charging technology of their choice will equip customers to provide demand flexibility at the lowest cost.

III. EVSE Programs

Summary of Duke Energy's Responsive Comments

The Companies disagreed with ORS that their proposed EVSE Programs discourage market competition and argued the Programs would facilitate competition by allowing customers to choose their EVSE manufacturer at prices set by the market.⁸ The Companies also suggested that, because customers would be able to rent EVSE owned by the Companies rather than purchase the EVSE themselves, the Programs would foster competition by removing capital barriers to EVSE access.⁹ According to the Companies, the Programs would preserve the EVSE manufacturer's ability to market their products directly to customers, and would not undermine competitive markets because the Programs are voluntary and do not preclude customers from contracting directly for EVSE.¹⁰ However, the Companies stated that customers that purchase or rent EVSE equipment directly from the manufacturer or third-party cannot participate in the proposed EVSE programs.¹¹

According to the Companies, the creation of a separate rate schedule would ensure that only participants bear the costs of the program, shielding non-participants from these costs including associated risks, insurance, and other operational expenses. ¹² The Companies further argued the Companies' proposals would not create "new and novel risks" by likening EVSE to the Companies' experience owning and operating "load-control devices within approximately 80,000 customer homes under EE/DSM programs."¹³

The Companies suggested EVSE-ownership falls within the bounds of a traditional utility business model.¹⁴ According to the Companies, because utilities have historically owned the transformers that convert voltage to the levels appropriate for powering a customer's home, they should also be permitted to own EVSE because it is akin to a "vehicle-specific transformer" that enables customers to power their vehicles.¹⁵

The Companies stated that "similar utility programs have been approved in other states" and cite EVSE-rental programs approved for Xcel Minnesota and Duke Energy Indiana. In response to the numerous examples of other jurisdictions opposing utility-ownership, the Companies stated, for

⁸ Joint Responsive Comments of DEC and DEP pp. 6 and 8-9.

⁹ Joint Responsive Comments of DEC and DEP pp. 8-9.

¹⁰ Joint Responsive Comments of DEC and DEP pp. 7, 9.

¹¹ Joint Responsive Comments of DEC and DEP p. 5.

¹² Joint Responsive Comments of DEC and DEP pp. 9-13.

¹³ Joint Responsive Comments of DEC and DEP p. 10.

¹⁴ Joint Responsive Comments of DEC and DEP p. 6.

¹⁵ Joint Responsive Comments of DEC and DEP pp. 6-7.

reasons that remain unclear, that "the primary policy concerns at play in the proceedings cited by the ORS are largely inapplicable to the EVSE Program."¹⁶

Regarding EV load management, the Companies acknowledged that additional rate design and load management options can enhance the EVSE Programs and deliver increased benefits.¹⁷ As a result, the Companies proposed modifications to their EVSE proposals including (1) to require that residential customers participating in the EVSE Programs also participate in one of the Companies' load management options¹⁸ and (2) that the Companies will make a series of filings with this Commission beginning in early 2023, that will convert the current off-peak credit pilot to a permanent program and propose additional load management offerings.¹⁹ The Companies advocated for making the EVSE program available now "because certain customers planning to purchase a vehicle in the near-term might abandon their desire to purchase an EV without options like the EVSE Program in place."²⁰

Regarding the Companies' EVSE technology plan to support load management, the Companies proposed to eliminate the non-networked charging option under the EVSE Programs and only provide networked charging options.²¹ However, the Companies continued to recognize the value in the pricing flexibility provided by non-networked charging, and Duke Energy plans to develop load management options for these chargers such that these less-costly options will be available where appropriate under other programs.²²

Summary of Intervenor Initial and Responsive Comments

SACE/CCL "agree that providing customers with more choice and enabling competition serves the public interest"²³ and recommended altering the EVSE Programs to provide a path to ownership following completion of the minimum contract term.²⁴ ChargePoint "recommends that the Commission direct the Companies to modify their proposal to expressly allow for customer ownership and third-party turnkey solutions as options available to customers under the EVSE tariffs."²⁵

Regarding load management, both SACE/CCL and ChargePoint recommended removing the nonnetworked charging option and only offer networked chargers as part of the EVSE tariffs. ChargePoint recommended the Companies and the Commission require any EV chargers installed through the EVSE Tariffs to be networked.²⁶ SACE/CCL strongly recommended the Companies offer only networked EVSE options for those participating in the programs.²⁷ SACE/CCL also

²⁶ ChargePoint Initial Comments, p. 17.

¹⁶ Joint Responsive Comments of DEC and DEP p. 8.

¹⁷ Joint Responsive Comments of DEC and DEP p. 13.

¹⁸ Joint Responsive Comments of DEC and DEP p. 13.

¹⁹ Joint Responsive Comments of DEC and DEP p. 13.

²⁰ Joint Responsive Comments of DEC and DEP p. 13.

²¹ Joint Responsive Comments of DEC and DEP p. 13.

²² Joint Responsive Comments of DEC and DEP p. 13.

²³ SACE/CCL Responsive Comments (September 23, 2022) p. 3.

²⁴ SACE/CCL Initial Comments, p. 9.

²⁵ ChargePoint Initial Comments, p. 16.

²⁷ SACE/CCL Initial Comments, p. 8.

recommended the Commission ensure the Companies' EVSE Programs incentivize networked charging.²⁸

ORS Analysis and Recommendations

After review of the Companies' responsive comments and the Intervenors' initial and responsive comments, ORS's position remains unchanged. ORS recommends the EVSE Programs proposed and modified by the Companies be rejected without prejudice. The Companies' proposals to expand the utility business model to EVSE ownership does not align with the characteristics of utility investment as outlined in ORS's framework for electrification programs. The following analysis supports ORS's recommendation.

The utility should focus their efforts towards installation of the necessary distribution infrastructure to facilitate market competition.

i. The Companies mischaracterize the impacts of the proposed EVSE Programs on EV markets and ignore the Companies' unearned advantage as a regulated monopoly.

The Companies claim the proposed EVSE Programs would facilitate competition by allowing customers to choose their EVSE manufacturer at prices set by the market. This statement oversimplifies and mischaracterizes the conditions necessary for effective competition, which include eliminating artificial barriers to market entry.²⁹ Regulated monopoly entrance into competitive markets undermines effective competition because a monopoly has significant market power and unearned advantage. As described in the National Regulatory Research Institute ("NRRI") article cited in ORS's initial comments, utilities can exercise market power through "discriminatory pricing, exploitation of asymmetric information, and deprioritizing the needs of providers of competitive technologies and services."³⁰ The article details numerous instances of utilities responding to the "market entry of new products and services by attempting to shore up their monopoly status — a response that has increased costs for customers and thwarted the growth of new energy services, including DERs offering bidirectional power flow and demand flexibility." ³¹ A utility's unearned advantage, as described by Federal Energy Regulatory Commission ("FERC") attorney Scott Hempling, comes in two (2) forms:

The first category concerns customer behavior. The utility's name recognition and its government imprimatur create brand loyalty. Brand loyalty combines with normal human inertia to increase the likelihood that a busy customer will choose

²⁸ SACE/CCL Responsive Comments, p. 1-2.

 ²⁹ Scott Hempling, "No Anticompetitive Conduct, No Unearned Advantage: Effective Competition Depends on Merit" (2021). www.linkedin.com/pulse/anticompetitive-conduct-unearned-advantage-effective-depends-scott
 ³⁰ Carl Pechman, "Regulation and the Monopoly Status of the Electric Distribution Utility," *NRII Insights* (June 2022) at 7. Available at: https://pubs.naruc.org/pub/B284311B-1866-DAAC-99FB-C52B7A570087. Cited in ORS Initial Comments p. 12.

³¹ ORS Initial Comments at 12, summarizing: Carl Pechman, "Regulation and the Monopoly Status of the Electric Distribution Utility," *NRII Insights* (June 2022). Available at: https://pubs.naruc.org/pub/B284311B-1866-DAAC-99FB-C52B7A570087.

the utility (or its affiliate) over a newcomer—unless the new entrant spends a lot of money to change the customer's mind.

The second category concerns the utility's internal characteristics, four in particular: its (a) in-house knowledge, financed by decades of captive ratepayer payments; (b) economies of scale, derived from monopoly service territory boundaries drawn by state law; (c) low-cost access to capital markets, attributable in part to the government's continuing role of limiting competition and setting reasonable rates; and (d) surplus capacity (a utility must build capacity in "lumps," ahead of demand, to be ready always to meet that demand). Those internal characteristics help the utility (or its affiliate) price below its competitors. And because these advantages flow from government conduct rather than performance merits, their presence precludes competition on the merits.³²

The Companies' mischaracterization of competitive markets omits ORS's central concern: the Companies, both natural monopolies, propose exclusive ownership of infrastructure for which competitive markets already exist, meaning that monopoly provision of EVSE is not the most efficient option. Customers' ability to choose who manufacturers the infrastructure owned by a monopoly does not address this underlying issue or the negative consequences that it will cause. As described in ORS's initial comments, these consequences include limiting entry into competitive markets, "potentially hamper[ing] innovation and the pace of EVSE adoption" and thereby "reduc[ing] private investment by EVSE companies and economic development in South Carolina," as well as raising costs for consumers who are "unable to benefit from innovation among suppliers or downward pressure on prices."³³ As further described by Scott Hempling:

An effectively competitive market structure produces pro-competitive conduct, which in turn produces pro-consumer performance. Consumers shop based on merits, sellers strive to succeed on the merits, costs decline, quality improves, breakthroughs happen. Structure forces conduct, conduct produces performance...

Yet government-assisted advantages enable the utility to beat its competitor for reasons other than merit. Some utilities obscure that fact. Their witnesses argue that if utilities engage in no anticompetitive conduct, they should be allowed to "compete" as they wish. When regulators accept that argument, they misunderstand the term "compete." Effective competition means not merely "competing;" it means competing on the merits. Competition means winners and losers. Winning for reasons other than merit means displacing competitors with more merit. That makes consumers worse off—an outcome precisely opposite to competition's purpose.³⁴

 ³² Scott Hempling, "No Anticompetitive Conduct, No Unearned Advantage: Effective Competition Depends on Merit" (2021). www.linkedin.com/pulse/anticompetitive-conduct-unearned-advantage-effective-depends-scott
 ³³ ORS Initial Comments p. 11.

³⁴ Scott Hempling, "No Anticompetitive Conduct, No Unearned Advantage: Effective Competition Depends on Merit" (2021). www.linkedin.com/pulse/anticompetitive-conduct-unearned-advantage-effective-depends-scott

In addition, as discussed below in Section III.ii., monopoly provision of services already provided in competitive markets can lead to cross-subsidization, thus limiting the level of protection from cost shifts that the creation of a new rate class for EVSE participants is intended to provide.

The Companies' suggestion that the EVSE Programs do not undermine competitive markets because the EVSE Programs are voluntary and do not preclude a customer from contracting directly for EVSE also fails to acknowledge the Companies' substantial competitive advantage as natural monopolies with access to every potential customer in the Companies' service territories. Additional conditions for competitive markets cited by Scott Hempling include eliminating collusion among competitors and uninformative or misleading sales information. ³⁵ The Companies state they will provide their customers with a broad set of EVSE suppliers. However, it may be to the Companies' advantage to tilt the playing field whenever possible not towards those EVSE manufacturers with the highest merits, but towards those EVSE investments that maximize the Companies' additions to rate base. There is an inherent misalignment between the Companies' proposals to own EVSE and promote third-party solutions, and it is unrealistic to expect the Companies to act as unbiased arbiters and facilitate effective competition under such a model. While customers may technically be permitted to purchase an EVSE outside of the Companies' programs, they are incentivized to remain a captive customer because the EVSE program enables customers to avoid the initial capital costs of EVSE purchases.

The ORS Initial Comments stated that the Companies' proposed EVSE Programs should demonstrate consistency with the public interests and cost minimization when compared to the similar services provided by competitive markets.³⁶ The Companies do not address how the proposed EVSE Programs are consistent with the public interest or result in the lowest cost to the EV customer.

ii. The Companies' proposals increase risk and costs for customers.

The Companies' emphasis on creating a separate rate class for EVSE Program participants does not address ORS's concerns regarding the risk of cost shifts to non-participants or of increased costs for participating EV owners under the Companies' proposals.

Although introducing a rate class for EVSE Program participants may increase transparency, it does not resolve the underlying risk of cross-subsidization that can occur when regulated utilities begin to sell products provided in the competitive market. Regulated utilities are provided an opportunity to earn a return on their rate base; this serves as both a means and incentive for utilities to price products already provided in competitive markets at prices below those of rivals in the competitive market – even if they lose money on the sale. Utilities are willing to lose money on the sale because "regulators will allow [utilities] to recoup their losses by raising prices on regulated products, for which 'captive' customers have no alternatives."³⁷ As explained by Dr.

³⁵ Scott Hempling, "No Anticompetitive Conduct, No Unearned Advantage: Effective Competition Depends on Merit" (2021). www.linkedin.com/pulse/anticompetitive-conduct-unearned-advantage-effective-depends-scott ³⁶ ORS Initial Comments p. 12, summarizing: Carl Pechman, "Regulation and the Monopoly Status of the Electric Distribution Utility," *NRRI Insights* (June 2022). Available at: https://pubs.naruc.org/pub/B284311B-1866-DAAC-99FB-C52B7A570087.

³⁷ Peter Fox-Penner, *Power After Carbon: Building a Clean, Resilient Grid*, Harvard University Press (2020), p.250.

Peter Fox-Penner, Senior Fellow of the Boston University Institute for Global Sustainability, "[t]his phenomenon, known as cross-subsidization, is doubly harmful." As explained in Section III.i. above, "[t]he competitive market is hurt by one seller who can sell below cost and force efficient, competitive rivals out of the market. Competition is harmed, along with all of its benefits to customers." There is an additional problem with cross-subsidization: "customers of the regulated products are paying prices higher than they should because they are making up for the losses of the competitive products division. For these reasons, many economists, antitrust practitioners, and industry stakeholders warn against expanding the scope of regulated firm activities."³⁸ Utility entrance into competitive markets can thus lead to cost shifts even if a new rate schedule is created for participating customers. Once the utility has sufficiently undermined competitive markets it would then be able to raise the costs for EVSE Program participants without risking loss of sales to competitors.

In addition, the Companies have not addressed the risk of cost shifts should new front of the meter ("FTM") infrastructure be required to handle growing system peaks – a particularly pertinent risk given that the Companies have not proposed a load management plan. If direct assignment is not used in the Companies' cost of service study, infrastructure costs due to unmanaged load growth could be shifted to other customer classes.³⁹ The Companies did not address how or what "safeguards" could be put in place to address this issue, stating only that the Commission could disallow recovery if the Companies act imprudently.⁴⁰

As noted in ORS's Initial Comments, there is an inherent conflict between the Companies' proposals to own EVSE and their economic interest in unmitigated increases in electric demand peaks, which would trigger subsequent utility capital investment additions to rate base. ORS's Initial Comments highlighted the town of Nashua, New Hampshire's efforts to transition from utility-ownership to city-ownership of streetlights, given that misalignment between utility incentives and customer interests thwarted city efforts to reap the benefits of "smart LED" load flexibility. The Companies did not respond to the fact that, because EVSE is a significantly more dynamic load source than smart LED lighting, utility ownership of EVSE could lead to outcomes that are substantially more inefficient and costly for all customers.

The increased costs and risk for participating EV owners includes the cost, borne by customers, of foregone innovation and downward price pressure in the competitive market. In addition, under the Companies' proposals to add EVSE to rate base, customers would be expected to pay an annual return. Unlike the financing costs in a personal loan for customer-purchased equipment, the customers will contribute to the Companies' annual return indefinitely while under the EVSE Programs, without a path to ownership.

The Companies argued the EVSE Proposals would not create "new and novel risks" because they have experience owning and operating "load-control devices within approximately 80,000

⁴⁰ Joint Responsive Comments of DEC and DEP p. 10.

³⁸ Peter Fox-Penner, *Power After Carbon: Building a Clean, Resilient Grid*, Harvard University Press (2020), p.250.
³⁹ A cost of service study assigns "direct costs (e.g. a dedicated service extensions or dedicated substations), that may be associated with providing service to a particular customer from a specific class of service." Source: Guide to the Class Cost of Service Study (CCOSS), Xcel Energy, puc.sd.gov/commission/dockets/electric/2014/EL14-058/volume2/jpg1schedule2.pdf

customer homes under EE/DSM programs."⁴¹ This is not an apples-to-apples comparison. The Companies' workforce is designed to produce and distribute energy, not to provide ongoing maintenance and customer service on EVSE, which as stated in the ORS Initial Comments, carries unique and potentially costly technology risks.⁴² The cost of establishing a separate division to respond to ongoing maintenance requests and/or to subcontract the maintenance work is likely to be high. The Companies did not provide a plan or estimate the cost of establishing a division, or procuring third-party contracts, to address ongoing EVSE maintenance.

iii. Equating the ownership of transformers with EV chargers is not a reasonable justification for EVSE ownership.

The Companies' argument that "[t]he EVSE Program falls squarely within the traditional utility business model" is based on the Companies' flawed comparison of EVSE to transformers.⁴³ EVSE is not akin to a transformer. Transformers are typically FTM infrastructure which utilities have historically owned for decades and that are a necessary component of the Companies' electric distribution system used to furnish electricity. EVSE is a modern technology that is typically located Behind-the-Meter ("BTM") and which, importantly, is already served by competitive markets outside of utility-ownership structures. EV owners may be captive to a utility's FTM distribution infrastructure, but they are not captive customers in the BTM equipment and EVSE market in which ample choice and competitive markets already exist. The Companies' claims that EVSE "falls squarely within the traditional utility business model" ignores this reality.

Ameren Missouri made a similar argument that EVSE fell under the category of "electric plant" during a proposal to own and operate EV charging stations. This argument, and proposal, was soundly rejected by the Missouri Public Service Commission ("Missouri Commission"). The Missouri Commission's decision has been quoted at length because it illustrates the numerous flaws in the Companies' comparison. For example, the Missouri Commission found that equating EVSE with "electric plant" would set a dangerous precedent that would improperly assert Commission jurisdiction over other products and services already offered in competitive markets:

The Commission finds that EV charging stations are not "electric plant" as defined in the statute because they are not used for furnishing electricity for light, heat, or power. EV charging stations are facilities that use specialized equipment, such as a specific cord and vehicle connector, to provide the service of charging a battery in an electric vehicle. The battery is the sole source of power to make the vehicle's wheels turn, the heater and air conditioner operate, and the headlights shine light. The charging service is the product being sold, not the electricity used to power the charging system. By analogy, a laundromat uses electricity to provide clothes drying services, but that does not mean the laundromat's dryers are electric plant, or that the laundromat should be regulated by the Commission. EV charging stations are not "electric plant" and, therefore, the Commission lacks statutory authority to regulate their operation. To rule otherwise would conceivably assert jurisdiction over other similar battery-charging services, such as smart phone

⁴¹ Joint Responsive Comments of DEC and DEP p.10.

⁴² ORS Initial Comments p. 16.

⁴³ Joint Responsive Comments of DEC and DEP p.6.

charging stations or kiosks, RV parks that allow vehicles to connect to the park's electricity supply, or airports that connect planes to a hangar's electricity supply while parked...⁴⁴

The Missouri Commission elaborated on how, if utilities were to provide products for which a competitive market already exists, this would contradict the definition of a "natural monopoly" and thus a key policy justification for regulating public utilities. Just as an unregulated natural monopoly would create a public burden, so too would subjecting competitive markets to the type of monopoly regulation typically reserved for public utilities:

This conclusion is further buttressed by an understanding of the Commission's organic act, the statutes establishing the Commission and its mission, which illuminate the fundamental difference between a monopoly and a business operating in a competitive economic environment. Natural monopoly industries have high fixed costs and capital investment costs that serve as barriers to entry of new competition. Even if new competition was able to surmount these barriers, the costs of doing so would be significant. The Commission was established to prevent this unnecessary duplication of service on the theory that such over-crowding of the field will eventually be a burden on the public...

The Commission concludes that Ameren Missouri has not demonstrated that the business of EV charging stations needs to be regulated in order to protect the public. Currently, EV drivers are not captive customers being served by a single utility but have a choice among several providers of EV charging services. Ameren Missouri may own and operate EV charging stations in Missouri, but may only do so on an unregulated basis without including those charging stations in its rate base or seeking recovery from rate payers for any of the costs associated with the construction or generation of those charging stations.⁴⁵

As recognized by the Missouri Commission, EVSE is not "electric plant."⁴⁶ EVSE is sufficiently served by competitive markets, and thus does not fall under the category of "natural monopoly"⁴⁷ by definition. The fact that the Companies have historically owned their FTM distribution infrastructure is, simply, not a compelling reason to allow the Companies to expand into and thus undermine existing EVSE markets, as this would be an "unnecessary duplication of service" that will "eventually be a burden on the public."⁴⁸

South Carolina 2021 Act No. 46 ("Act 46") depicts a similar stance in which the legislature tasked the Commission to identify regulatory challenges and opportunities associated with electrification

⁴⁴ Report and Order, In the Matter of the Application of Union Electric Company d/b/a Ameren Missouri for Approval of a Tariff Setting a Rate for Electric Vehicle Charging Stations, File No. ET-2016-0246, Tariff No. YE-2017-0052, Public Service Commission of the State of Missouri (April 19, 2017). psc.mo.gov/CMSInternetData/ON/Orders/2017/041917246.pdf

⁴⁵ *Id*.

⁴⁶ Id.

⁴⁷ Id.

⁴⁸ Id.

of the transportation sector.⁴⁹ Act 46 also expressly allowed third-party ownership of EV charging stations⁵⁰ further enhancing EV charging competition.

iv. Ample alternatives are available to potential customers for EVSE.

As demonstrated in ORS's Initial Comments, utility ownership of EVSE is a controversial practice which has been limited in numerous jurisdictions, including Connecticut, New York, New Jersey, Pennsylvania, Missouri, and Virginia.⁵¹ An historic alternative to accelerate EVSE deployment, prior to the introduction of substantial federal funds for EVSE in 2022, is to provide incentives to customers to support an EVSE purchase. This approach is employed by utilities across the country including Ameren Corporation in Missouri; ⁵² Consumers Energy in Michigan; ⁵³ Dominion Energy in Virginia; ⁵⁴ Duquesne Light Company and PECO Energy Company in Pennsylvania; ⁵⁵ Entergy Corporation in Arkansas, Louisiana, Mississippi, and Texas; ⁵⁶ Eversource Energy in Connecticut; ⁵⁷ Jersey Central Power and Light Company in New Jersey; ⁵⁸ Pacific Power (PacifiCorp) in Oregon; ⁵⁹ and Rocky Mountain Power in Utah. ⁶⁰ Several utilities require participation in a managed charging program to receive an EVSE incentive. For example, PacifiCorp Oregon requires automatic enrollment in a TOU program⁶¹ while Dominion Virginia requires that customers permit the utility to directly control their load.⁶² It is ORS's position that

⁵² Ameren Missouri, "Charging Station Incentives," https://www.ameren.com/missouri/business/electric-vehicles/charging-stations/incentives.

⁵³ Consumers Energy, "PowerMIDrive Rebates," https://www.consumersenergy.com/residential/programs-and-services/electric-vehicles/powermidrive

⁵⁴ Dominion Energy, "EV Charger Rewards," https://www.dominionenergy.com/virginia/save-energy/ev-chargerrewards (Visited October 19, 2022); Dominion Energy, "Smart Charging Infrastructure Pilot Program," https://www.dominionenergy.com/virginia/save-energy/electric-vehicles/powering-smart-transportation

⁵⁵ Duquesne Light Company, "Fleet Charging Program Guide" at 6, https://www.duquesnelight.com/docs/defaultsource/default-document-library/fleet_programguide_final.pdf?sfvrsn=c5fa942_0; Duquesne Light Company, "Community Charging Program Guide" at 7, https://www.duquesnelight.com/docs/default-source/default-documentlibrary/community_programguide_final.pdf?sfvrsn=185ca942_0; Order, Docket No. R-2021-3024601, Pennsylvania Public Utilities Commission (November 18, 2021). www.puc.pa.gov/pcdocs/1725544.docx; Recommended Decision, Docket No. R-2021-3024601, Pennsylvania Public Utilities Commission (October 12, 2021) at 61-65. www.puc.pa.gov/pcdocs/1722005.pdf

⁵⁶ Entergy eTech, "Electric Vehicles," https://entergyetech.com/electric-vehicles/

⁵⁷ Eversource, "Rebates for Connecticut Home Charging," https://www.eversource.com/content/ctc/residential/save-money-energy/clean-energy-options/electric-vehicles/charging-station-rebates; Eversource, "Fueling EV Adoption in Connecticut," https://www.eversource.com/content/ct-c/business/save-moneyenergy/clean-energy-options/business-ev-charging

⁵⁸ First Energy Corporation, "Jersey Central Power & Light EV Driven Program,"

https://www.firstenergycorp.com/help/saving_energy/electric-vehicles/nj-ev/new-jersey-ev/jcpl-ev-driven-program.html

⁵⁹ Pacific Power, "Oregon rebates for home EV chargers," https://www.pacificpower.net/savings-energychoices/electric-vehicles/home-charger-rebates.html

⁶⁰ Rocky Mountain Power, "Utah incentives for EV charging and make-ready projects,"

https://www.rockymountainpower.net/savings-energy-choices/electric-vehicles/utah-incentives.html.

⁶¹ Pacific Power, "Oregon rebates for home EV chargers," https://www.pacificpower.net/savings-energy-choices/electric-vehicles/home-charger-rebates.html.

⁶² Dominion Energy, "EV Charger Rewards," https://www.dominionenergy.com/virginia/save-energy/ev-charger-rewards.

⁴⁹ S.C. Code Ann. 58-27-265.

⁵⁰ S.C. Code Ann. 58-27-1060.

⁵¹ ORS Initial Comments pp. 12-14.

if a utility chose to offer incentives to reduce customer upfront costs, the incentives must be targeted and demonstrably cost-effective to all customers.⁶³

As stated in ORS's Initial Comments, state legislators in Florida and Georgia have experienced and proposed legislation to ameliorate the same negative consequences that ORS has described under a utility-ownership model. The Companies stated that "the primary policy concerns at play in the proceedings cited by the ORS are largely inapplicable to the EVSE Program."⁶⁴ It is unclear why the Companies categorically dismiss ORS's concerns, which are specific to the Companies' proposals and draw from the experiences of several jurisdictions. The Companies stated "[t]he [proposed] EVSE Program is largely focused on privately-operated charging stations and allows customers to select from several charging manufacturers" and that "participants will fund the program" through the creation of a specific rate class for participants.⁶⁵ As demonstrated above, customers' ability to choose a manufacturer and the creation of a separate rate class does not address the numerous consequences associated with a utility-ownership model, ranging from increased costs for participants, decelerated EV adoption and economic development in South Carolina, and potential cost shifts to non-participants if load growth is not managed. The experiences of other jurisdictions demonstrate the salience of the concerns ORS has raised and should be elevated as cautionary tales rather than dismissed for reasons that remain unclear.

The Companies cite an example in which, contrary to the experiences of the numerous jurisdictions ORS has provided, the Indiana Commission ruled that a Duke Energy Indiana proposal to own EVSE "does not restrict customer choice' and 'neither undercuts other market participants nor overburdens EV drivers."⁶⁶ Fortunately, given that this ruling appears to be an isolated incident that contradicts the experiences of numerous other jurisdictions and economic theory, this ruling is not controlling in South Carolina.

The Companies state the proposed EVSE Program would foster competition in the EV charger marketplace. ⁶⁷ Competition is naturally occurring within the EV charger market and many automakers have detailed plans to electrify large portions of their fleets over the next decade. ⁶⁸ In order to facilitate the transition to electric vehicles, automakers are helping customers install L-2 EV chargers at the customer's home. In addition, to incentivize the customer to transition from gas-powered to electric-powered vehicle, several automakers, such as Chevrolet with the purchase of a 2022 or 2023 Bolt, will pay for the cost of installation of the EV charger. ⁶⁹ Other automakers, like Ford, BMW and others, provide an EV charger as an accessory option and will connect the customers with certified EV charger installers. ⁷⁰ South Carolina customers that desire to obtain an

8vNRCLxuAjCEY76SsU47k7MzemFkxHA-McyYS-Pc3BoCs5MQAvD_BwE

⁶³ ORS Initial Comments p. 5.

⁶⁴ Joint Responsive Comments of DEC and DEP p. 8.

⁶⁵ Joint Responsive Comments of DEC and DEP p. 8.

⁶⁶ Joint Responsive Comments of DEC and DEP p. 8.

⁶⁷ Id.

⁶⁸ https://www.forbes.com/wheels/news/automaker-ev-plans/

⁶⁹ https://www.chevrolet.com/electric/previous-year/bolt-ev

⁷⁰ https://qmerit.com/ev-charger-installation/?gclid=CjwKCAjw79iaBhAJEiwAPYwoCEmCPUXQmis-

electric vehicle have access to EV charging solutions and attractive third-party options such as Viable Energy Solutions, LLC⁷¹ and Orka EV.⁷²

The Companies state that "certain customers planning to purchase a vehicle in the near-term might abandon their desire to purchase an EV without options like the EVSE Program in place."⁷³ However, this assertion by the Companies is overstated and inaccurate. As discussed above, customers today already have several EVSE options to choose from in the private market and are unlikely to be deterred from purchasing an EV simply because their electric utility does not offer an EVSE Program. As of September 2021, there were nearly 100 EV charging companies in North America⁷⁴ including EV automakers and standalone EVSE providers. For example, automakers Tesla⁷⁵ and Ford⁷⁶ sell custom EV chargers directly to the consumer in addition to their EV offerings. Customers also have the option to purchase EV chargers directly from standalone EVSE vendors including established brands such as ChargePoint, EVGo, Shell, Siemens, Schneider Electric etc. Moreover, even if the Companies' proposed rental programs are appealing to customers, third-party, non-utility EVSE providers also offer similar pricing structures. For example, ChargePoint offers customers a subscription solution for EV charging, "ChargePoint as a Service" ("CPaaS"), that is similar to "Software as a Service" ("SaaS") models, which offer access to smart solutions at a reduced cost through subscription pricing.⁷⁷

v. The South Carolina EV Stakeholder Initiative Report did not recommend utility ownership of EVSE.

The Companies state that, because the recent South Carolina EV Stakeholder Initiative Report ("Report") "specifically recommended that utilities continue to engage in the EV space such that utility-assets and capabilities can be leveraged to accelerate deployment of EV infrastructure in South Carolina," this demonstrates that the proposed EVSE Program "reflects recent stakeholder recommendations, which encourage utility involvement in the EV space."⁷⁸ The ORS framework to evaluate utility EV investments and proposals states that utilities "should install the necessary distribution infrastructure" to support vehicle electrification. The Report broadly notes the importance of leveraging existing utility assets and engaging with utilities to support vehicle electrification. ⁷⁹ The Report does not recommend utility <u>ownership</u> of EVSE infrastructure.

https://ors.sc.gov/sites/ors/files/Documents/Energy%20Host%20Docs/EVSI%20Stakeholder%20Intiative.pdf

⁷¹ https://viableenergysolutionsllc.com/electric-vehicle-

chargers/?gclid=CjwKCAjw79iaBhAJEiwAPYwoCN02Z2QvJrcXwxSLU9dvumoPHtXlAu3VDdCXdoxSNOZxY2 RsnqiyCxoCkPAQAvD_BwE

⁷² https://orkaev.com/our-customers-cars/

⁷³ Joint Responsive Comments of DEC and DEP, p.13.

⁷⁴ https://www.reuters.com/world/us/five-facts-state-us-electric-vehicle-charging-network-2021-09-01/

⁷⁵ https://www.tesla.com/charging

⁷⁶ https://www.ford.com/trucks/f150/f150-lightning/features/ev-charging/ford-charge-station-pro/

⁷⁷ ChargePoint Comments, August 11, 2022, p.16.

⁷⁸ Joint Responsive Comments of DEC and DEP p.7.

⁷⁹ South Carolina Electric Vehicle Stakeholder Initiative Report (September 2022) pp. 13 and 14.

vi. EVSE proposals should prioritize facilitating EVSE growth in competitive markets.

ORS reaffirms the position asserted in its Initial Comments that EVSE proposals by the Companies should prioritize stimulating EVSE growth through competitive markets. The Companies largely neglected to address ORS's concerns regarding utility ownership in their Responsive Comments, which include hampered innovation and pace of EVSE adoption, reduced private investment by EVSE companies and economic development in South Carolina, increased costs for EV owners, potential cost shifts to non-EV owners, and as discussed below, misalignment with federal incentives. Many of these negative consequences have already been experienced in other jurisdictions across the country.

The Initial Comments of the other Intervenors recommend alternatives to the Companies' EVSE Proposals, such as a path to ownership and that the Companies educate customers on options provided by third parties. However, from ORS's perspective, there are many negative consequences associated with each alternative proposed by the other Intervenors. Providing a pathway to customer ownership would not prevent erosion of competitive markets as such erosion is inherent in a Company-ownership model even if pathways to ownership are provided. In addition, as SACE/CCL noted, "EV charging equipment only has about a 5–7-year life,"⁸⁰ so providing a pathway to ownership after a 5-year term would provide customers with only minimal benefits. The alternative proposal made by SACE/CCL to have the utilities educate customers on third-party models fails to address the inherent negative consequences of utility ownership. It is unrealistic to expect the Companies to act as unbiased promotors of all third-party alternatives and to facilitate effective competition given the Companies' inherent incentive to add EVSE to rate base.

It is ORS's position that the "[u]tility investment and programs should facilitate market competition and minimize ratepayer risks and costs."⁸¹

The utility should pursue and exhaust all available state and federal funding sources.

i. The emergence of federal funding demonstrates that EVSE investments by the Companies is unnecessary.

In 2021 and 2022, the federal government under the Biden Administration deployed substantial federal funding to stimulate EVSE deployment in the United States. The Infrastructure Investment and Jobs Act ("IIJA") (2021) established the National Electric Vehicle Infrastructure ("NEVI") Formula Program, which makes \$5B available over five (5) years "to provide funding to States to strategically deploy EV charging infrastructure and to establish an interconnected network to facilitate data collection, access, and reliability."⁸² In addition, the Inflation Reduction Act ("IRA") provides tax credits for EVSE purchases of up to 30% (up to \$1,000 and \$100,000 for

⁸⁰ SACE/CCL Initial Comments p. 9.

⁸¹ ORS Initial Comments p. 4.

⁸² "National Electric Vehicle Infrastructure Formula Program," US Department of Transportation Federal Highway Administration. www.fhwa.dot.gov/bipartisan-infrastructure-law/nevi_formula_program.cfm

residential and commercial uses, respectively), among various other incentives for EVs and batteries.⁸³

On September 27, 2022, the Federal Highway Administration ("FHWA") completed the review of the South Carolina Electric Vehicle Infrastructure Deployment Plan required under the NEVI formula program. After the FHWA's review, with recommendations provided by the Joint Office of Energy and Transportation, the South Carolina Electric Vehicle Infrastructure Deployment Plan was approved for implementation.⁸⁴ Duke Energy will be tasked to deploy transmission and distribution infrastructure to support the EVSE required by IIJA funding.

ORS's position it that "[t]he utility should pursue and exhaust all available state and federal funding sources for infrastructure construction prior to the commitment of ratepayer funds."⁸⁵ However, the Companies' EVSE Proposals focused on utility owned EVSE appears at odds and lacks coordination with the substantial new federal and automotive incentives for EVSE that encourage customer ownership. A common policy justification for public subsidies is that they can stimulate markets when a positive externality is present, meaning that social or public benefits exceed private benefits. By undermining competitive markets, the Companies' proposals would mute the innovation that could otherwise be stimulated by federal funds.

In addition, DEP recently proposed a rate increase of \$89M or 14.5%.⁸⁶ Electricity rates, of course, impact the customer economics of electrification. Given that EV owners will experience higher electricity rates, it appears to be an inopportune time to introduce an EVSE Program that may be costly for customers versus stimulating competitive markets.

The utility should have a robust load management plan and be made available to customers upon implementation of an EVSE program and should strive to enable customer choice of EVSE, technology, and rate options.

i. The Companies should make EV Load Management programs available to customers upon implementation of an EVSE Program.

There are several program design elements in the proposed Companies' EVSE Programs that are applicable regardless of the EVSE ownership model, in particular, EV Load Management and an associated EVSE technology plan. As recommended by ORS in its Initial Comments, both of these elements are essential to prioritize enabling and facilitating private investment in innovative, cost-effective EVSE solutions in the competitive market.

The Companies' request to make the proposed EVSE Programs available without load management programs limits the ability of EV customers to make informed decisions about what

⁸³ "The Inflation Reduction Act—What it Is and What it Means for EV Adoption," Zero Emission Transportation Association. www.zeta2030.org/insights/the-inflation-reduction-act-what-it-is-and-what-it-means-for-ev-adoption ⁸⁴ https://www.fhwa.dot.gov/environment/nevi/ev_deployment_plans/sc_approval_letter.pdf

⁸⁵ ORS Initial Comments p. 4.

⁸⁶ Docket No. 2022-254-E, Application of Duke Energy Progress, LLC for Authority to Adjust and Increase its Electric Rates and Charges, p. 4.

type of EVSE to purchase and whether managed charging technologies are in their best interests. For example, if an EV customer was provided with load management options, the EV customer (or the EVSE vendor on behalf of the customer) would likely model their load and flexibility to determine whether networked charging would be economically beneficial. The substantially higher costs of networked chargers and absence of any utility load management programs to take advantage of networking capabilities will provide a strong disincentive for EV customers, especially residential customers, to purchase networked EVSE. When customers invest in EVSE, they are typically committed to the EVSE for its useful lifetime. While EV customers may be able to participate in simple load management programs with a non-networked EV charger, they will be unable to participate in advanced load management programs the Companies may introduce in the future without additional capital costs and upgrades to facilitate a transition to networked EV chargers.

ORS affirms its recommendation that the Companies develop a comprehensive EV Load Management Plan such that load management programs are available to EV customers upon implementation of any proposed EVSE Programs.

ii. EV Load Management program participation should be required of both residential and C&I customers.

The Companies state they will "require that residential customers participating in the EVSE Programs must also participate in one of the Companies' load management options"⁸⁷ but make no mention of any requirements for C&I customers. C&I EV customers typically consume significantly more load and have a greater impact on system peak demand. The Companies miss a significant opportunity to require C&I customers to participate in load management programs because C&I customers will be a majority of the EV load in South Carolina.

While we recommend residential customers be required to participate in load management programs, it is premature for the Companies to require smart managed charging technologies such as networked chargers and EV telematics for all residential customers. Some low-income customers, even with incentives, may not be able to afford smart managed charging technologies but could still participate in simple load management programs with less sophisticated EV chargers as described in detail below. Instead, the Companies should incent smart managed charging technologies which could include incentives for both networked chargers and for low-income communities provided the incentives satisfy industry standard cost-effectiveness testing and cost-benefit analyses as recommended in ORS's Initial Comments.⁸⁸

It is important to note that while residential EV customers should be required to participate in load management programs, this is only feasible if the Companies offer a diverse set of EV rates to accommodate different customer needs and sophistication of technologies as described below.

In future EVSE proposals, the Companies should require both residential and C&I customers to participate in load management programs.

⁸⁷ Joint Responsive Comments of DEC and DEP p. 13.

⁸⁸ ORS Initial Comments p. 5.

iii. A diverse set of EV Load Management programs should be available to customers coincident with implementation of an EVSE Program.

The Companies state they will make a series of filings with this Commission beginning in early 2023 that will convert the current off-peak credit pilot to a permanent program and propose additional load management offerings.⁸⁹ However, the Companies' statement lacks specificity and does not provide details on what "additional load management offering" will be proposed. Offering an off-peak credit on its own is insufficient because it only incentivizes charging during off-peak periods and creates no price signals to disincentivize charging during peak periods.

Different EV customers have different charging needs as well as different abilities to manage their EV charging use. A utility's suite of managed charging programs and rate offerings should strive to accommodate as wide a range of EV customers as possible, based on the grid services that each customer is able to provide. Thus, the Companies' initial EV load management proposals should include a baseline set of EV rate options from which residential and C&I customers may choose.

The Companies completed the evaluation of rates which can be used to inform a comprehensive EV load management plan. On April 1, 2022, the Companies filed a "Comprehensive Rate Design Study Roadmap" ("CRDS") with the Commission.⁹⁰ The CRDS was performed to evaluate how "as the Company and customers adopt new technologies and uses of the electric system change, rate design must evolve in order to maximize the efficiency and effectiveness of these new technologies and ensure usage of the electric system that is consistent with the public interest."⁹¹ The North Carolina Utilities Commission ("NCUC") explicitly referenced EV rate considerations in its order establishing the CRDS, and several stakeholder participants were focused on improving offerings for this growing customer segment.⁹² The CRDS considered several potential EV rate options including EV-only TOU charging, modernized TOU periods with restructured demand charges, revised hourly pricing and critical peak pricing.⁹³

Recently, DEP also proposed new TOU periods in its general base rate case in South Carolina stating "the Company's existing TOU periods, established decades ago, are no longer appropriate and increasingly do not align with the Company's current and anticipated system needs. Furthermore, the desire for this refresh of TOU periods emanates from the evolving needs of the electric system and its ability to provide superior price signals, which can enable cost effective customer adoption of new technologies, such as smart energy management devices, energy storage, and EVs."⁹⁴ The new periods could be used to inform the development of TOU rates for customers as part of future EVSE proposals.

The Companies already pilot load management offerings which can be used to inform a comprehensive EV Load Management Plan. The NCUC recently approved a managed charging pilot where participants would agree to allow the Companies to actively manage the charging of

⁸⁹ Duke Responsive Comments, p. 13.

⁹⁰ Docket No. ND-2021-12-E.

⁹¹ Duke Energy, Comprehensive Rate Design Study Roadmap p. 2.

⁹² Duke Energy, Comprehensive Rate Design Study Roadmap, pp. 15-17.

⁹³ Duke Energy, Comprehensive Rate Design Study Roadmap pp. 15-17.

⁹⁴ Docket No. 2022-254-E, Application of Duke Energy Progress, LLC for Authority to Adjust and Increase its Electric Rates and Charges, Direct Testimony of Jonathan Byrd, pp. 8-9.

their EVs, with the Companies permitted to schedule up to three (3) managed charging events per month.⁹⁵ The Companies are conducting a Residential EV charging pilot in South Carolina as well. The SC Pilot includes a component by which the Companies request customers to curtail charging during peak periods as determined by the Companies; this "influenced charging" component has been very successful thus far, with a greater than 94% compliance rate each day since February 2021. ⁹⁶ This indicates that customers would be ready and willing to participate in load management programs if they were available upon the implementation of an EVSE program.

In future EVSE proposals and the Companies' 2023 load management filings,⁹⁷ the Companies' initial EV load management plans should specify what additional load management offerings will be proposed, and at a minimum, should include the following:

- 1. TOU Rates: The Companies should propose whole house and/or EV-specific TOU rates for residential customers designed to provide appropriate price signals to encourage customer behavior that will contribute to reducing system peak demand.
- 2. Critical Peak Pricing ("CPP"): The Companies should propose CPP rates in which participants pay higher prices during the few days or hours when demand is the highest or when the power grid is severely stressed.
- 3. Active Control: The Companies should propose active managed charging options in which the Companies can take direct control of the customers' EVSE and adjust load based on system conditions.
- 4. Demand Charge Alternatives ("DCA"): The Companies should evaluate demand charge alternatives to reduce financial barriers for C&I customers to deploy public EV charging stations for L-2 and/or DCFC stations. Demand charges can be a significant initial barrier to the deployment of public EV charging stations, which often have low initial utilization rates. The combination of low energy use and high charging power can cause demand charges to comprise the majority of a charging site host's monthly bill.

iv. An EVSE Technology Plan for load management programs should support different customer needs and managed charging technologies.

The Companies proposed to eliminate the non-networked charging option under the EVSE programs and only provide networked charging options.⁹⁸ However, the Companies state they continue to recognize the value in the pricing flexibility provided by non-networked charging, and the Companies plan to develop load management options for these chargers such that these less-costly options will be available where appropriate under other programs.⁹⁹

To implement an EVSE program that requires only one (1) type of managed charging technology fails to consider a number of factors that should be incorporated into a comprehensive EVSE Technology Plan. Specifically, the Companies' EVSE proposals (1) do not consider the diverse capabilities, needs and impacts of residential and C&I customers, (2) create financial barriers to

⁹⁵ Docket No. E-2, Sub 1291, Order Approving Electric Vehicle Managed Charging Pilot Programs, p. 2.

⁹⁶ Annual Electric Transportation Pilot Report Pursuant to Order Nos. 2020-645 and 2020-646, p. 4.

⁹⁷ Joint Responsive Comments of DEC and DEP p. 13.

⁹⁸ Joint Responsive Comments of DEC and DEP p. 13.

⁹⁹ Duke Responsive Comments, p. 13.

customers adopting EVSE and (3) limit customer choice when it comes to choosing from different managed charging technologies.

When developing an EVSE Technology Plan, it is important to consider the different capabilities, needs and impacts of residential and C&I customers. Specifically, there are multiple combinations of technologies residential and C&I customers can use to participate in load management programs. Residential customers could use a networked charger but could also purchase a non-networked charger and EV telematics – onboard computers and communications technology inside EVs, leveraging the telematics capabilities in the EV to participate in load management programs. In addition, even if incentives were available, it is expected that some low-income customers will not be able to afford a networked charger or an EV with onboard telematics. Thus, any EVSE program should also support residential customers' use of cheaper alternatives such as Level 1 and non-networked chargers to participate in load management programs even if these rates are less sophisticated as described above.

Given the different types of C&I customers, different managed charging technologies may be more appropriate depending on the specific use case for the C&I customer. If a C&I customer owns and has control over the EVSE, such as public charging stations, it is likely preferrable that the managed charging capabilities are available in the charger hence a preference for a networked charger. However, given that fleet C&I customers own their EVs, there may be a preference to use an EV telematics platform that aggregates and collectively manages the load of their EV fleet.

It is important to further highlight the capabilities of EV telematics platforms to support the longterm management of EV load, given our initial comments primarily focused on networked chargers. EV telematics platforms can provide additional visibility into the EVs compared to EV chargers including the state of the charge, how long it will take to charge and the size of the battery. These capabilities enable customers to use EV telematics platforms to not only participate in managed charging programs but additional load management programs including backup power and vehicle-to-grid ("V2G") services.

For managed charging programs, both Weavegrid and BMW partner with utilities to use EV telematics. Weavegrid's utility customers include Baltimore Gas & Electric¹⁰⁰, Xcel Energy in Colorado¹⁰¹ and Oregon's Portland General Electric.¹⁰² BMW customers include Pacific Gas and Electric Company ("PG&E")¹⁰³ and San Diego Municipal Utility District ("SMUD").¹⁰⁴ General Motors has also partnered with PG&E on a pilot to use customer's EVs to provide backup power services. The pilot will include the use of bidirectional hardware coupled with software-defined

¹⁰² https://landing.portlandgeneral.ev-pulse.com/

¹⁰⁴ https://www.smud.org/en/Corporate/About-us/News-and-Media/2022/2022/Customer-Perks-Through-Multi-Automaker-Pilot-Program

¹⁰⁰ https://www.weavegrid.com/news/baltimore-gas-electrics-telematics-based-ev-smart-program-wins-the-plma-program-pacesetter-award

¹⁰¹ https://www.weavegrid.com/news/weavegrid-expands-work-with-xcel-energy

¹⁰³ https://www.press.bmwgroup.com/usa/article/detail/T0328209EN_US/bmw-group-and-pg-e-plug-in-to-leverage-renewable-energy-and-sustainably-power-electric-vehicles

communications protocols that will enable power to flow from a charged EV into a customer's home, automatically coordinating between the EV, home, and PG&E's electric supply.¹⁰⁵

The Companies acknowledged the potential benefit of EV telematics platforms in the recently approved managed charging pilot in North Carolina. As part of the pilot, the Companies will test the Open Vehicle Grid Integration Platform ("OVGIP") which establishes a two-way utility interface that applies utility industry communications standards and provides interoperability with the Original Equipment Manufacturers' vehicle telematics application.¹⁰⁶ According to Duke Energy, the OVGIP allows utilities to see charging activity and battery percentage charged status, and to call demand response events.¹⁰⁷

In future EVSE proposals, the Companies' EVSE Technology Plans for load management programs should support a variety of different managed charging technologies to accommodate the diverse needs of customers.

v. An EVSE Technology Plan for load management programs should incentivize the purchase of managed charging technologies.

ORS's Initial Comments noted that the Companies did not incent networked charging,¹⁰⁸ proposed substantially higher prices for each customer segment to rent networked chargers, ¹⁰⁹ and recommended the Companies offer incentives to encourage networked EVSE installation.¹¹⁰ In the Companies' responsive comments Duke Energy proposed to remove the cheaper, non-networked charging alternatives, but did not provide any cost-effective incentives to offset the costs of networked chargers.

DEC conducts a Residential EV charging pilot in South Carolina to evaluate whether EV adoption can be encouraged by providing a rebate to support the installation of smart, networked Level II EVSE.¹¹¹ In DEC's October 22, 2021, Annual Electric Transportation Pilot Report, approximately a year after the pilot was approved, DEC stated that "of the 400 customers that may participate, thus far, 289 customers have joined the program."¹¹² A 72% participation rate within a year indicates the initial effectiveness of incentives for networked EVSE.

In future EVSE proposals, the Companies should propose technology-agnostic incentives to encourage residential and C&I customers to adopt managed charging technologies of their choice whether it be networked chargers, an EV telematics platform etc. If incentives are offered, the incentives must be targeted and demonstrably cost-effective to all customers. Any proposed incentive for EVSE should be carefully evaluated to ensure the proposal satisfies industry standard cost-effectiveness testing and benefit-cost analyses.

¹⁰⁵ https://www.pgecurrents.com/articles/3410-pg-e-general-motors-collaborate-pilot-reimagine-use-electric-vehicles-backup-power-sources-customers

¹⁰⁶ Docket No. E-2, Sub 1291, Order Approving Electric Vehicle Managed Charging Pilot Programs, p. 2.

¹⁰⁷ Docket No. E-2, Sub 1291, Order Approving Electric Vehicle Managed Charging Pilot Programs, p. 2.

¹⁰⁸ ORS Initial Comments, p. 18.

¹⁰⁹ ORS Initial Comments, p. 18.

¹¹⁰ ORS Initial Comments, p. 21.

¹¹¹ Docket No. 2018-321-E, Order No. 2020, p. 4.

¹¹² Annual Electric Transportation Pilot Report Pursuant to Order Nos. 2020-645 and 2020-646, pp. 3-4.

IV. Conclusion

ORS appreciates the opportunity to provide comments to the Commission on the Companies' proposed MRC and EVSE Programs. In summary, ORS finds the proposed MRC Programs to be reasonable and recommends several modifications outlined below to ensure that the MRC Programs lead to net benefits for all customers, aligns with cost causation, and avoids the potential for cross-subsidization. ORS recommends the Companies' proposals for EVSE ownership be rejected without prejudice. Finally, ORS recommends several practices to be included as part of any future EV or EVSE proposals that would facilitate EVSE provision and innovation in competitive markets while maximizing ratepayer benefits through comprehensive load management.

ORS recommendations regarding the Companies' Joint Applications, as reflected in its Initial Comments and Responsive Comments, are summarized below:

MRC Programs

Subject to the following conditions and requirements, ORS recommends approval of the Companies' MRC Programs:

- 1. The Companies file updated tariffs incorporating each of the modifications proposed to adopt ORS's initial recommendations as follows:
 - a. Submit an annual update to the Commission to validate non-standardized load assumptions and compare load estimates with load actuals used to calculate MRCs.
 - b. Establish a timeline and process to migrate to South Carolina specific load data and refresh the load data annually.
 - c. Track and report all revenue and associated MRC Program costs in a transparent manner to allow for verification and validation that the MRC Programs yield quantifiable net customer benefits.

ORS supports aspects of ChargePoint and SACE/CCL's comments and recommends the Company include the following items as part of the MRC Programs:

- 1. Require customer participation in load management programs as a requirement of receiving the MRC.
- 2. Require C&I customers purchase managed charging technologies to qualify for the MRC.
- 3. Adopt SACE/CCL's recommendations as follows:
 - a. Ensure Equity and Access through the Contractor Credit Option
 - b. Ensure Equity and Access through the Consumer Credit Option
 - c. Remove Cost Uncertainty for Non-Residential Customers
 - d. Consider Site-Specific Features of Non-Residential Customers to Reduce Future Costs
 - e. Incorporate Managed Charging Incentives into the MRC Programs
 - f. EM&V of the MRC Programs
- 4. Adopt ChargePoint's recommendations to establish pricing and pricing policies for EV charging services.
EVSE Programs

ORS recommends the Companies' proposed EVSE Programs be rejected without prejudice. In addition, should the Companies request approval of revised or new EVSE Programs, the Companies should prioritize enabling and facilitating private investment in innovative, cost-effective EVSE solutions in the competitive market while minimizing the need for system upgrades. ORS recommends the following best practices be included in developing any future proposed EVSE programs:

- 1. If incentives are offered to reduce EV customer upfront costs, the incentives must be targeted and demonstrably cost-effective to all customers.
- 2. Customer access to load management programs to manage upfront and long-term costs.
- 3. Customer tools, such as hosting capacity maps and standardized EVSE interconnection processes, to ease the siting and interconnection process.

Future EV Programs

ORS recommends the Companies include the following best practices in future EVSE and EV program proposals to ensure the programs will be managed cost-effectively in the long term.

- 1. A comprehensive EV Load Management plan such that EV load management programs are available to customers upon implementation of any proposed EVSE programs and integrated into IRP processes to include the following items:
 - a. A diverse suite of EV load management programs should be available to customers upon implementation of an EVSE program.
 - b. Residential and C&I customers should be required to enroll in an EV load management program.
- 2. An EVSE Integration Technology Plan to ensure the Companies demonstrate the capabilities to effectively and efficiently implement load management programs to include the following items:
 - a. An EVSE technology plan for load management programs should support different customer needs and managed charging technologies.
 - b. An EVSE technology plan for load management programs should incentivize the purchase of managed charging technologies.
 - c. An EVSE technology plan for load management programs should require C&I customers to purchase managed charging technologies.
- 3. An EVSE Evaluation Plan to ensure all EV programs are reviewed on a periodic basis, implemented as designed and modified, if necessary.

Charge Point Data Request 4

PacifiCorp's Draft 2023 Oregon Transportation Electrification Plan (TEP) - On p. 54, there is a discussion of the potential for competitive interference. PacifiCorp states that a literature review conducted on the impact of utility incentive programs by the Company did not turn up specific negative impacts on the competitive market for such equipment.

- (a) Please provide any written descriptions or summaries of the referenced literature review.
- (b) Please provide citations, including weblinks for any online resources, to all resources reviewed in the referenced literature review.
- (c) Did the literature review referenced above include a review of investment frameworks adopted by other states, such as California, Connecticut, New York, and Massachusetts, to guide utility investment in transportation electrification? If not, why not?
- (d) Did the Company's literature review include a comparison of public investment models for EV charging, including utility-owned incentive programs and non-utility owned models (such as make-ready incentive programs)? If not, why not?
- (e) Did the Company's literature review compare approaches that leverage private investment to maximize competition and public value? If not, why not?
- (f) Did the list of experts surveyed on this issue include any representatives of EV Service Providers (EVSPs)? If so, whom? If not, why not?
- (g) Did the list of experts surveyed on this issue include any representatives of EV charging equipment providers? If so, whom? If not, why not?

Response to Charge Point Data Request 4

Pacific Power's Transportation Electrification Plan (TEP) has identified four objectives. One of the main objectives of the TEP is to electrify equitably and increase access for underserved communities. The Company's TEP aims to provide an increase of electric vehicle supply equipment (EVSE) in these underserved communities in a nondiscriminatory manner through its proposed 2023-2025 investments.

(a) The Company did complete a literature review. Please refer to Attachment Charge Point 4, specifically Table A (Literature Reviewed for the "Potential Impact of the Competitive Market" Section) which provides relevant information from the literature reviewed which was included in Pacific Power's draft Oregon TEP.

- (b) Please refer to Attachment Charge Point 4, specifically Table A (Literature Reviewed for the "Potential Impact of the Competitive Market" Section) which provides a list of most of the literature reviewed. Please refer to Attachment Charge Point 4, specifically Table B (Experts Consulted for the "Potential Impact of the Competitive Market" Section) which lists the expert interviews completed.
- (c) No, the literature review did not include a review of investment frameworks developed in these states as the literature review and associated interviews focused on published research, not other states' proposals.
- (d) No, the literature review did not include a comparative review of public investment models as the literature review and associated interviews focused on published research regarding the competitive impact of utility investments in both transportation electrification and, historically, energy efficiency.
- (e) No, the literature review did not include a direct comparative review of how to leverage private investment to maximize competition and public value as the literature review and associated interviews focused on published research regarding the competitive impact of utility investments in both transportation electrification and, historically, energy efficiency.
- (f) No, the experts surveyed did not include any representatives of electric vehicle service providers (EVSP) as they focused on United States (U.S.) national laboratory, academic, and non-profit research organization personnel.
- (g) No, the experts surveyed did not include any representatives of EVSE providers as they focused on U.S. national laboratory, academic, and non-profit research organization personnel.

UM 2056 / PacifiCorp March 20, 2023 Charge Point Data Request 4 Attachment Charge Point 4

Table A. Literature Reviewed for the "Potential Impact of the Competitive Market" Section

| Paper/Report Title | Authors | Publisher/Organization | Date | URL Link |
|--|--|---|---------------------------|---|
| The State of Play in Electric Vehicle Charging Services – A review of Infrastructure Provision, Players, and Policies | Sarah LaMonaca, Lisa Ryan | Renewable and Sustainable Energy Reviews 154 (2022) 111733 | 2022 | https://www.sciencedirect.com /science/article/pii/S13640321 21010066 |
| Literature Review on Power Utility Best Practices Regarding Electric Vehicles | Dale Hall, Nic Lutsey | International Council on Clean Transportation | February 2017 | https://theicct.org/publication/l iterature-review-on-power- utility-best-practices- regarding-electric-vehicles/ |
| Public Utilities and Transportation Electrification | Alexandra B. Klass | Iowa Law Review 104, no. 2 (2019): 545-618. | 2019 | https://repository.law.umich.e du/articles/2557/ |
| How and Why Leading Utilities Are Embracing Electric Vehicles | Mike Salisbury, Will Toor | The Electricity Journal 29 (2016) 22–27 | 11 August 2016 | https://www.swenergy.org/ho w-leading-utilities-are- embracing-electric-vehicles |
| Policy Mechanisms to Accelerate Electric Vehicle Adoption: A Qualitative Review from the Nordic Region | Johannes Kestera, Lance Noela, Gerardo Zarazua de Rubensa, Benjamin K. Sovacool | Renewable and Sustainable Energy Reviews 94 (2018) 719–731 | 2018 | https://www.sciencedirect.com /science/article/abs/pii/S13640 3211830426X |
| EV Rebates: Demographic Update, Program Design Features, and Paths Forward for Broadening Participation | Brett Williams | ZEV Alliance Webinar: Expanding Access Listening Series | 2 October 2019 version | https://energycenter.org/thoug ht-leadership/research-and- reports/presentation-ev- rebates-demographic-update- program-design |
| Utility Investment in Electric Vehicle Charging Infrastructure: Key Regulatory Considerations | Paul Allen, Grace Van Horn, Matthew Goetz, James Bradbury, Kathryn Zyla | Georgetown Climate Center | November 2017 | https://www.georgetownclima te.org/reports/regulatory- considerations-for-utility- investment-in-ev-charging- infrastructure.html |
| Arizona Statewide Transportation Electrification Plan: Phase II | Energy+Environmental Economics | Energy+Environmental Economics | March 2021 | https://illumeadvising.com/libr ary/azte/ |

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| Paper/Report Title | Authors | Publisher/Organization | Date | URL Link |
|--|---|--|----------------|---|
| The Future of Transportation | Philip B. Jones, Jonathan | Lawrence Berkeley National | August 2018 | https://emp.lbl.gov/publication |
| Customer Perspectives | Levy, Jenifer Bosco | Regulation Report #10 | | s/future-transportation- |
| More Charging Infrastructure May Not Mean More People See It | Kelly Hoogland | University of California, Davis, Institute of Transportation Studies, Plug-in Hybrid & Electric Vehicle Research Center | | https://ev.ucdavis.edu/ |
| How Disruptive Are Unreliable Public EV Chargers? | Vaishnavi Karanam, Gil Tal | University of California, Davis, Institute of Transportation Studies, Plug-in Hybrid & Electric Vehicle Research Center | May 12, 2022 | https://ev.ucdavis.edu/ |
| Driving the Market for Plug-in Vehicles: Developing Charging Infrastructure for Consumers | Scott Hardman et al. | University of California, Davis, Plug-in Hybrid & Electric Vehicle Research Center, International EV Policy Council | March 2018 | https://ev.ucdavis.edu/product/ driving-market-plug-vehicles |
| Subsidies and Puppies | Maximilian Auffhammer | Energy Institute at Haas | March 19, 2018 | https://energyathaas.wordpress .com/2018/03/19/subsidies- and-puppies/ |
| The Cost of Installing Corridor DC Fast Chargers | Gil Tal, Alan T. Jenn, Dahlia M. Garas, Tisura Gamage | University of California, Davis, Institute of Transportation Studies, Plug-in Hybrid & Electric Vehicle Research Center | May 2022 | https://ev.ucdavis.edu/ |
| EVGo Fleet and Tariff Analysis: Phase 1: California | Garrett Fitzgerald, Chris Nelder | Rocky Mountain Institute | March 2017 | http://www.rmi.org |
| From Gas to Grid: Building Charging Infrastructure to Power Electric Vehicle Demand | Garrett Fitzgerald, Chris Nelder | Rocky Mountain Institute | September 2017 | https://www.rmi.org/insights/r eports/from_gas_to_grid/ |
| The True Costs of PEV Ownership in California between 2010-2020 | Koral Buch, Debapriya Chakraborty, Gil Tal | University of California, Davis, Institute of Transportation Studies, Plug-in Hybrid & Electric Vehicle Research Center | May 2022 | https://ev.ucdavis.edu/ |
| Heat Pumps: A Comparative Assessment of Innovation and Diffusion Policies in Sweden and Switzerland | Bernadett Kiss, Lena Neij, Martin Jakob | The Global Energy Assessment (Chapter 23), Cambridge University Press: Cambridge, UK | 2012 | https://www.researchgate.net/ publication/262685497_GEA_ Global_Energy_Assessment _Toward_a_Sustainable_Futur e |

UM 2056 / PacifiCorp March 20, 2023 Charge Point Data Request 4 Attachment Charge Point 4

| Paper/Report Title | Authors | Publisher/Organization | Date | URL Link |
|---|-----------------------|------------------------|-----------------|---|
| Why US States Should Adopt | Vartan Badalian | The Climate Group | December 7, | https://www.theclimategroup. |
| California's Zero-Emission Vehicle Program | | | 2021 | org/our-work/news/why-us- states-should-adopt- |
| Togram | | | | californias-zero-emission- |
| | | | | vehicle-program |
| Managing EV Charging Infrastructure | Bryan Jungers, Jesse | E Source | February 15, | https://www.esource.com/136 |
| Assets: Lessons Learned and Moving | Hitchcock | | 2022 | 211hlli/managing-ev- |
| Toward Best Hactices | | | | charging-innastructure-assets |
| Building your EV charger Asset | Bryan Jungers, Jesse | E Source | March 3, 2022 | https://pages.esource.com/EV |
| Management Plan: An E Source White Paper | Hitchcock, Liza Minor | | | SE-whitepaper.html |
| Electric Heavy-duty Vehicles: The | Brvan Jungers | E Source | January 5, 2022 | https://www.esource.com/430 |
| Real 800-Pound Gorilla in the Room | | | | 211hph6/electric-heavy-duty- |
| | | | | vehicles-real-800-pound- |
| | | | | gorilla-room |

Table B. Experts Consulted for the "Potential Impact of the Competitive Market" Section

| Name | Title | Affiliation |
|-------------------|--|--|
| Christine Brinker | Senior Buildings Policy Manager | Southwest Energy Efficiency Project |
| Howard Geller | Senior Policy Advisor (formerly Executive Director) | Southwest Energy Efficiency Project |
| Kelly Hoogland | Transportation Technology & Policy Graduate Researcher | Institute of Transportation Studies, University of California, Davis |
| Bryan Jungers | Director of Mobility | E Source |
| Ryan Wiser | Senior Scientist | Lawrence Berkeley National Laboratory, on detail to the Office of Policy, U.S. Department of Energy |