**BEFORE THE PUBLIC UTILITIES COMMISSION**
**OF THE STATE OF COLORADO**

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| **IN THE MATTER OF THE APPLICATION OF PUBLIC SERVICE COMPANY OF COLORADO FOR APPROVAL OF ITS 2024-2026 TRANSPORTATION ELECTRIFICATION PLAN.** | **)** **)** **)** **)** **)** | **PROCEEDING NO. 23A-0242E** |



# SUPPLEMENTAL DIRECT TESTIMONY AND ATTACHMENTS OF DEBORAH E. ERWIN

**ON**

**BEHALF OF**

**PUBLIC SERVICE COMPANY OF COLORADO**

**July 14, 2023**

**BEFORE THE PUBLIC UTILITIES COMMISSION
OF THE STATE OF COLORADO**

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**SUPPLEMENTAL DIRECT TESTIMONY AND ATTACHMENTS OF DEBORAH E. ERWIN**

## I. INTRODUCTION, QUALIFICATIONS, AND PURPOSE OF TESTIMONY

**Q. PLEASE STATE YOUR NAME AND BUSINESS ADDRESS.**

A. My name is Deborah E. Erwin. My business address is 10 East Doty Street, Suite 511, Madison, Wisconsin 53703.

**Q. HAVE YOU PREVIOUSLY PROVIDED TESTIMONY BEFORE THE COLORADO PUBLIC UTILITIES COMMISSION ("COMMISSION")?**

A. Yes. I filed Direct Testimony in this proceeding on May 15, 2023.[1]

**Q. WHAT TOPICS ARE YOU ADDRESSING IN RESPONSE TO THE COMMISSION'S REQUESTS FOR SUPPLEMENTAL DIRECT TESTIMONY?**

A. From Decision No. C23-0425-I, my testimony responds to the following Commission requests for supplemental direct testimony:

- The Commission requested that Public Service provide information on the costs and revenues of Company-owned fast chargers, including costs, revenues, and utilization rates, as well as related forward-looking projections for the proposed Public Charging Acceleration Network

[1] Hearing Exhibit 104, Direct Testimony of Deborah E. Erwin.

("PCAN"). I address this request in Section III of my Supplemental Direct Testimony.

- The Commission requested Public Service to submit supplemental direct testimony analyzing whether a decreased electric vehicle ("EV") charging rate may more effectively incentivize high-mileage Transportation Network Company ("TNC") and Delivery Network Company ("DNC") drivers to transition to an EV compared to an up-front rebate as proposed by Public Service. I address this request in Section IV of my Supplemental Direct Testimony.

**Q. HOW ARE THE FOLLOWING SECTIONS OF YOUR SUPPLEMENTAL DIRECT TESTIMONY ORGANIZED?**

A. In Section II of my Supplemental Direct Testimony, I provide an update on several major market developments that have occurred in the public charging sector since the Company filed its proposed 2024-2026 TEP on May 15, 2023, and I describe an alternative approach to support the development of public charging across Public Service's service territory that Public Service is now considering as a result of these unanticipated market developments (the "PCAN Alternative").

Next, in Section III of my Supplemental Direct Testimony, I provide the Commission with the available historical data on our Company-owned public charging stations, which we began constructing under our inaugural TEP. I also present the Company's forward-looking projections relating to the Company's proposed PCAN, as requested by Decision No. C23-0425-I.

Finally, in Section IV of my Supplemental Direct Testimony, I discuss why Public Service recommends a rebate to support high-mileage TNC and DNC drivers rather than a discounted electric charging rate incentive, as also requested by Commission Decision No. C23-0425-I.

**Q. ARE YOU SPONSORING ANY ATTACHMENTS TO YOUR SUPPLEMENTAL DIRECT TESTIMONY?**

A. Yes. I am sponsoring Attachment DEE-5, which presents forward-looking projections relating to the Company's proposed PCAN.

**Q. IS THE COMPANY UPDATING OR MODIFYING ANY OF ITS RECOMMENDATIONS OR REQUESTS OF THE COMMISSION THROUGH SUPPLEMENTAL DIRECT TESTIMONY?**

A. Yes. In addition to the previous recommendations in my Direct Testimony, I recommend that the Commission consider as an alternative option an adjusted approach to the PCAN portfolio such that the Company provides rebates to non-regulated entities in conjunction with utility investment in EVSI to lower the cost of DCFC public charging stations, and undertakes strategic distribution investments to support non-regulated public fast charging investment in a streamlined and efficient manner. This alternative option would be in lieu of Company ownership and operation of DCFC stations for the 2024-2026 TEP.

## II. UPDATE ON PUBLIC CHARGING MARKET DEVELOPMENTS AND RELATED CONSIDERATIONS

**Q. WHAT IS THE PURPOSE OF THIS SECTION OF YOUR TESTIMONY?**

A. The purpose of this section of my Supplemental Direct Testimony is to provide an update on certain market developments that have occurred in the public charging sector since the Company filed its proposed 2024-2026 TEP on May 15, 2023. More specifically, I discuss how these changes affect the Company's proposed PCAN, and I describe an alternative approach to support the development of public charging across our service territory that the Company is now considering as a result of these unanticipated developments.

### A. Update on Developments in the Public Charging Market

**Q. PLEASE PROVIDE AN OVERVIEW OF NOTABLE RECENT DEVELOPMENTS THAT ARE IMPACTING THE PUBLIC CHARGING MARKET.**

A. At the time the Company filed its 2024-2026 TEP, based on publicly disclosed market developments as of that time, Public Service, in alignment with the general market consensus, expected that automakers, governments, and the majority of all charging providers other than Tesla, Inc. ("Tesla") would continue to move forward with the Combined Charging System ("CCS"), a non-Tesla connector design that has been widely adopted and is certified by the Society of Automotive Engineers International, an international standards organization.[2] Further, the

[2] *See* Reuters, Factbox: CCS? CHAdeMO? EV charger terms you need to know (Feb. 15, 2023), available at https://www.reuters.com/business/autos-transportation/ccs-chademo-ev-charger-terms-you-need-know-2023-02-10/ (last visited July 5, 2023); Society of Automotive Engineers International, SAE J1772 Electric Vehicle Adapter Standard, https://www.sae.org/sae-j1772-electric-vehicle-adapter-and-plug-standard (last visited July 5, 2023).

federal government adopted CCS as a requirement to gain access to federal funding under the National Electric Vehicle Infrastructure ("NEVI") program, created through the Bipartisan Infrastructure Law.[3]

Although Tesla owns and operates the largest fast charging network in the world,[4] until very recently, this proprietary network has been exclusively limited to drivers of Tesla vehicles, utilizing its own proprietary charging connector design known as the North American Charging Standard ("NACS").

However, on May 25, 2023 (after the Company filed its 2024-2026 TEP), a seismic shift began in the market. Ford Motor Company ("Ford") announced that it will adopt Tesla's NACS charging connector design for its EVs starting in 2025, meaning Ford models will be manufactured with the NACS charge port. Ford also announced that starting early next year, Ford EV customers will have access to Tesla's network of more than 12,000 Superchargers across the United States through the use of an adapter that it will provide to current Ford drivers.[5]

In June of 2023, General Motors Company ("GM"), the nation's largest automaker, also announced that it will adopt the NACS charging connector design for its vehicles beginning in 2025.[6] EV automakers Rivian Automotive, Inc., Volvo

[3] 23 CFR 680.
[4] Tesla, https://www.tesla.com/supercharger (last visited July 3, 2023).
[5] Ford, Ford EV Customers to Gain Access to 12,000 Tesla Superchargers; Company to add North American Charging Standard Port in Future EVs (May 25, 2023), available at https://media.ford.com/content/fordmedia/fna/us/en/news/2023/05/25/ford-ev-customers-to-gain-access-to-12-000-tesla-superchargers--.html (last visited June 26, 2023).
[6] General Motors Doubles Down on Commitment to a Unified Charging Standard and Expands Charging Access to Tesla Supercharger Network (June 8, 2023), available at https://news.gm.com/newsroom.detail.html/Pages/news/us/en/2023/jun/0608-gm.html (last visited July 13, 2023) ; *see also* Reuters, GM embraces Tesla's EV charging system, Wall Street cheers, David Shepardson and Joseph White (June 9, 2023), available at https://www.reuters.com/technology/gm-ceo-discuss-future-ev-charging-with-musk-twitter-2023-06-08/ (last visited June 26, 2023).

Group/AB Volvo (including EV-focused brand, Polestar), and Mercedes-Benz Group AG have followed suit, and announced that they will also transition to incorporating the Tesla NACS charging connector design.[7] Like Ford, these other automakers have also announced plans for current drivers to gain access to Tesla's Supercharger network through use of an adapter.[8]

With so many major automakers recently deciding to adopt the NACS charging connector design, it is now uncertain whether charging providers and auto manufacturers will ultimately converge on using the CCS or the NACS charging connector design in the United States and when NACS will receive certification from an international standards body.[9] Additionally, these announcements have introduced significant uncertainty into the existing charging market, with no clear indication of how other auto OEMs will integrate with Tesla's current and future charging network, or how NACS integration and deployment will impact the driver experience at Tesla and non-Tesla charging providers' stations. While the connector plug design is material, it is also important to remember that the connector plug is just one aspect of a reliable, strong network, including power

[7] Edmunds, Rivian Will Adopt Tesla NACS Charger, Following Ford, GM, Chase Bierenkoven (June 23, 2023), https://www.edmunds.com/car-news/rivian-will-adopt-teslas-nacs-charger-following-ford-gm.html#:~:text=Following%20Ford%20and%20GM%2C%20Rivian,list%20of%20brands%20adopting%20NACS (last visited June 26, 2023); CNBC, Volvo just became the latest EV maker to move to Tesla's charging standard, John Rosevar (June 27, 2023), https://www.cnbc.com/2023/06/27/volvo-adopts-teslas-ev-charging-standard.html (last visited June 27, 2023); Polestar will adopt North American Charging Standard to enable access to Tesla Supercharger network in USA and Canada (June 29, 2023), available at https://media.polestar.com/us/en/media/pressreleases/669136 (last visited July 13, 2023); Electrek, Mercedes-Benz adopts Tesla's NACS, first German automaker to do so, Fred Lambert (July 7, 2023), https://electrek.co/2023/07/07/mercedes-benz-adopts-tesla-nacs/ (last visited July 7, 2023).

[8] *Id.*

[9] SAE International Announces Standard for NACS Connector, Charging PKI and Infrastructure Reliability, June 27, 2023, available at https://www.sae.org/news/press-room/2023/06/sae-international-announces-standard-for-nacs-connector.

electronics, payment systems, vehicle interoperability, liquid-cooled cables, and overall software integration.

**Q. HOW DO THESE RECENT MARKET DEVELOPMENTS IMPACT THE COMPANY'S PROPOSED PCAN?**

A. The public charging market is undergoing rapid changes in real time, and the Company believes the market is likely to look materially different in terms of market participants, technologies and equipment configurations, and availability a year from now and beyond, when the PCAN is likely to begin construction. Because of the current uncertainty and volatility in the public charging market and the potential for that uncertainty to continue to exist throughout the course of Company's 2024-2026 TEP, Public Service is considering all available options to support the public charging market at this time, including a potential alternative approach, the PCAN Alternative, that I describe in the remainder of this section. Public Service is taking the unusual step of presenting this alternative option at this relatively early stage to provide the Commission, parties, and stakeholders an enhanced opportunity to consider it and offer related feedback through the evidentiary record in this proceeding.

**B. <u>Alternative Proposal to Support the Development of Public Charging</u>**

**Q. HOW IS THE COMPANY CONSIDERING SUPPORTING THE PUBLIC CHARGING MARKET GIVEN THE UNCERTAINTY REFERENCED ABOVE?**

A. Based on recent developments in the public charging market I described above, the Company is considering an approach that would support the build-out of public charging by the non-regulated market through this time of transition. This

approach would include rebates to incentivize and support the installation of public fast chargers by non-regulated entities, direct investment to address related EVSI needs, and strategic investments to prepare our distribution system to support public fast charging. Through this approach, the Company would be able to address primary barriers to third-party public charging expansion by addressing upfront cost barriers for non-regulated public fast charging providers, as well as taking steps to support distribution capacity availability in areas of the Company's service territory where public fast charging is needed and likely to be built in the near term.

**Q. WHICH KEY BARRIERS TO TRANSPORTATION ELECTRIFICATION WOULD THIS PCAN ALTERNATIVE STRATEGY ADDRESS?**

A. Rebates to incentivize and support the installation of public fast chargers along with corresponding investment in the necessary EVSI infrastructure can help accomplish the same core objective of our proposed PCAN: to promote sufficient access to convenient and reliable public charging throughout our Colorado service territory. As described in my Direct Testimony, the development of public charging helps address range anxiety (i.e., customers' concern that they will not have sufficient access to convenient and affordable EV charging when they are away from their home base), which presents a key barrier to EV adoption. Because not all of the Company's customers have access to EV charging at their home base, increased access to public charging also helps ensure an equitable path to transportation electrification for our customers and communities. Rebates provided by the Company through its 2024-2026 TEP to support the development

of public charging by the non-regulated market can help maintain the momentum of this nascent market considering the current state of upheaval and turbulence that surrounds it.

Also, as described by Company witness Ms. Paoletti in her Supplemental Direct Testimony, a lack of sufficient distribution capacity presents a key barrier to the development of public fast charging stations. Without strategic and proactive reinforcement of our distribution system in the areas most needed for public charging, the Company will not be adequately positioned to accommodate the development of public charging by the non-regulated market in the near term in the agile and efficient manner that this quickly evolving market demands.

**Q. IS THIS ALTERNATIVE OPTION FOR SUPPORTING THE DEVELOPMENT OF PUBLIC CHARGING CONSISTENT WITH THE POLICY OBJECTIVES OF SB19-077?**

A. Yes. This multi-faceted approach would advance multiple policy objectives of SB19-077 as reflected in § 40-5-107(2), C.R.S., including increasing access to the use of electricity as a transportation fuel, ensuring safety and reliability through our EVSI and distribution investments, and attracting private capital investment. As mentioned above, increasing public fast charging will also help promote equitable access to transportation electrification for customers who are not in a position to readily charge their vehicles from home, including income qualified ("IQ") customers and customers in disproportionately impacted ("DI") communities.

**Q. IS THIS ALTERNATIVE APPROACH MUTUALLY EXCLUSIVE WITH PUBLIC SERVICE'S PROPOSAL TO OWN, OPERATE, AND MAINTAIN PUBLIC FAST CHARGING STATIONS?**

A. Yes. The Company is supportive of pursuing either its original proposal, which I described in detail in my Direct Testimony, or the PCAN Alternative described here in my Supplemental Direct Testimony. The Company is not proposing to pursue a combination of these two proposals.

**Q. HAS PUBLIC SERVICE DETERMINED A PROPOSED REBATE AMOUNT AND ELIGIBILITY REQUIREMENTS THAT WOULD APPLY UNDER THE PCAN ALTERNATIVE?**

A. Given the rapid state of change in the public fast charging market, the Company is still considering definitive proposed rebate amounts, eligibility requirements, and rebate processing plans. However, the Company has identified some basic parameters for how it would approach a program to support non-regulated public fast charging providers, which I discuss here.

The Company would offer a full-service public fast charging program under which it would provide direct investment in EVSI for public fast charging coupled with a rebate to support the installation of public fast chargers owned by non-regulated entities. As part of the full-service program, the Company would offer charger rebates in flat, standardized amounts for public fast charging equipment across various size ranges. The flat rebate amounts would be sized to cover roughly 60 percent of the cost of the charging equipment, and the amounts would be subject to adjustment over time based on current market conditions. The

Company believes a relatively robust rebate amount is warranted to encourage the development of public fast charging considering the volatile and uncertain climate of the current public fast charging market.

The Company would offer charger rebates to charging providers and charging equipment distributors as a “midstream” rebate, meaning they would be paid directly to those entities to reduce the price of the charging equipment for public fast charging installations in the Company’s service territory at the point of sale, providing a simple and efficient method for rebate administration. The Company would also make charger rebates available “downstream,” meaning site hosts or charging station owners could submit an application for a rebate for the same amount as a midstream rebate applicant. “Midstream” and “downstream” rebates would be mutually exclusive, meaning that a public charging station supported by one type of rebate would not be eligible to receive the other.

The Company would plan to offer these rebates in a way that aligns with existing state and federal funding opportunities, giving customers the opportunity to stack these rebates with those funding sources, thereby further driving down participants’ up-front costs. The Company believes offering rebates at the point of sale, rather than upon installation, would facilitate applicants more easily stacking applicable federal and state programs with the Company’s program.

Through the course of this proceeding, the Company would work with interested parties to refine its recommendations for the rebate administration process, including recommended rebate amounts, eligibility requirements, and equipment eligibility and verification processes, among other items. Rebates would

be offered for public fast chargers at 150 kW of charging capacity and above, and the Company plans to consider minimum application size thresholds to support the development of public fast charging installations that meet the needs of current and future drivers and promote efficient delivery of the Company's support through the PCAN Alternative.

**Q. WHY DOES PUBLIC SERVICE BELIEVE IT IS IMPORTANT TO PROVIDE A FULL-SERVICE PROGRAM FOR NONREGULATED PUBLIC CHARGING PROVIDERS THAT INCLUDES BOTH UTILITY-PROVIDED EVSI AND CHARGER REBATES?**

A. First, providing a full-service solution that includes utility-owned EVSI for supported public charging stations will support the Company's goal to ensure that the public charging stations are positioned to provide safe and reliable EV charging services for our customers. Installing the EVSI will also facilitate increased information sharing and planning, which will provide the Company a valuable opportunity to plan for grid upgrades and related system needs associated with the supported projects well in advance of desired in-service dates by virtue of the Company's involvement in the design and construction process. As an additional benefit, since the installation of EVSI establishes a dedicated line of service, this approach will enable Public Service to obtain and report on targeted data regarding the stations' charging patterns and energy usage trends. This approach promotes transparency while further supporting ongoing system planning efforts. Finally, for the EVSI that the Company will own, we plan to work with International Brotherhood of Electric Workers ("IBEW") Signatory electrical contractors. This

benefit would not accrue for infrastructure the Company does not own and operate, which would be subject to the labor provisions of Senate Bill ("SB") 19-077, simply requiring licensure and/or adequate supervision of installers by licensed professionals.[10]

**Q. HAS PUBLIC SERVICE DEVELOPED AN ESTIMATED BUDGET FOR THIS POTENTIAL ALTERNATIVE APPROACH?**

A. The estimated budget for the PCAN Alternative is generally in line with the scope of Public Service's original estimated budget for the PCAN portfolio, with some adjustments. The below Table DEE-SD-1 shows the estimated capital spend across each spend category identified above. It should be noted that this budget reflects a straw proposal for the PCAN Alternative in which the Company for the 2024-2026 TEP does not own and operate any additional DCFC stations.

In addition, while Company witness Jean-Baptiste Jouve remains the sponsor of proposed TEP budgets, I am submitting this illustrative budget with my Supplemental Direct Testimony for the sake of convenience and efficiency. The Company solicits feedback on this straw proposal and may refine the proposed budget for the PCAN Alternative throughout this proceeding and in response to Answer Testimony.

[10] § 40-5-107(3)(a), C.R.S.

**Table DEE-SD-1: Capital Budget for PCAN Alternative Straw Proposal ($Millions)**

| Budget Category | 2024 | 2025 | 2026 | Total |
|---|---|---|---|---|
| **Charger Rebates** | $6 | $9 | $11 | $26 |
| **EVSI** | $9 | $15 | $19 | $44 |
| **Distribution** | $0 | $20 | $30 | $50 |
| **Total** | **$15** | **$45** | **$60** | **$120** |

*Note: Totals may not match due to rounding.*

**Q. WHAT ARE THE OPERATIONS AND MAINTENANCE ("O&M") EXPENSES THAT WOULD BE NECESSARY TO EXECUTE THIS APPROACH?**

A. Public Service would provide program administration, marketing, and rebate processing support as well as O&M of installed EVSI infrastructure. The estimated O&M expenses associated with the PCAN Alternative are shown in Table DEE-SD-2 below.

**Table DEE-SD-2: O&M Budget for PCAN Alternative Straw Proposal ($Millions)**

| Budget Category | 2024 | 2025 | 2026 | Total |
|---|---|---|---|---|
| **Program Administration** | $2 | $5 | $8 | $15 |
| **Infrastructure Maintenance** | $1 | $1 | $1 | $2 |
| **Total** | **$2** | **$6** | **$9** | **$17** |

*Note: Totals may not match due to rounding.*

**Q. HOW MANY PUBLIC FAST CHARGING STATIONS DOES THE COMPANY ANTICIPATE ITS PCAN ALTERNATIVE WILL SUPPORT?**

A. The Company estimates the rebates and EVSI associated with its PCAN Alternative will support approximately the same number of charging stations as its

initial proposal – about 460 public fast charging stations. See Table DEE-SD-3 below for the number of public fast charging stations the Company estimates it could support by year based on the illustrative budget shown above for the PCAN Alternative.

**Table DEE-SD-3: Estimated Public Fast Charging Stations for PCAN Alternative**

| 2024 | 2025 | 2026 | Total |
|---|---|---|---|
| 126 | 166 | 173 | 465 |

**Q. HOW DID PUBLIC SERVICE DEVELOP THE BUDGET FOR ITS PCAN ALTERNATIVE STRAW PROPOSAL?**

A. The Company based the budget for its PCAN Alternative straw proposal on several key assumptions. The Company based total budgets on supporting between 20-25 percent of the public charging need in the Company's service territory by year with the PCAN Alternative, based on the State Target 2030 EV adoption scenario presented in Hearing Exhibit 105, Attachment JLJ-1. Using the State Target 2030 EV adoption scenario amount of fast charging need identified by Guidehouse, the Company assumed a total amount of charger rebate support equivalent to $300/kW of installed capacity. Assumptions relating to EVSI capital and O&M costs are consistent with assumptions used to establish the proposed budget for the Company's EVSI program for commercial customers in the Commercial Portfolio. Company witness Connie Paoletti discusses the basis for the distribution portion of the budget for the PCAN Alternative. For O&M, the Company based its proposed budget for the PCAN Alternative on the O&M budget initially proposed

in the Company's direct testimony, after removing the majority of costs associated with charger maintenance, as the Company would not be responsible for charger maintenance for stations supported through rebates.

**Q. DOES PUBLIC SERVICE EXPECT THAT THESE ASSUMPTIONS COULD CHANGE?**

A. To the extent that the Company refines underlying assumptions associated with the PCAN Alternative in response to stakeholder feedback and recommendations through Answer Testimony, the Company would plan to update its proposed budget for the PCAN Alternative.

**Q. WITH THE UNDERSTANDING THAT THE COMPANY CONSIDERS THIS A STRAW PROPOSAL, ARE THERE ANY ELEMENTS THAT PUBLIC SERVICE CONSIDERS TO BE CRITICAL TO MOVE FORWARD WITH OFFERING PUBLIC FAST CHARGING REBATES?**

A. Yes. While we look forward to receiving stakeholder feedback regarding program design, there are three key conditions that are fundamental to its proposal: (1) authorization to make the proposed distribution investments to prepare the Company's distribution system to meet anticipated needs for non-regulated public fast charging development, as supported by Company witness Ms. Paoletti's Supplemental Direct Testimony; (2) Commission approval of the proposed cost recovery treatment for public fast charging rebates, including cost recovery through a regulatory asset amortized over 10 years, with the unamortized balance earning a full return at the Company's Commission-approved weighted average cost of capital ("WACC"), as supported in Company witness Jack Ihle's Supplemental

Direct Testimony; and (3) authorization for the Company to own, operate, and maintain the EVSI for the stations that receive rebates for public fast charging equipment.

## III. ADDITIONAL INFORMATION RELATED TO PUBLIC CHARGING STATIONS UNDER THE CURRENT AND PROPOSED TEP

**Q. WHAT IS THE PURPOSE OF THIS SECTION OF YOUR TESTIMONY?**

A. The purpose of this section of my Supplemental Direct Testimony is to provide the Commission with the available historical data on Company-owned public charging stations that Public Service has begun developing under its inaugural TEP. I also provide the Company's forward-looking projections related to future Company-owned charging stations the Company proposes to construct through the PCAN, as requested in Decision No. C23-0425-I.

**Q. PLEASE DESCRIBE THE INFORMATION THE COMMISSION HAS REQUESTED THE COMPANY TO PROVIDE RELATED TO THE PROPOSED PCAN.**

A. For any existing Company-owned fast chargers, the Commission requested the Company, to the extent reasonably practicable, to specify for each station the all-in costs (including the costs for EVSI and the charger), revenue (including utilization rates), timing of charging completed at the station, and the uptime of the station. In addition to providing historical data, the Commission requested that Public Service provide any projections on how the costs and revenues are expected to change going forward, including for Company-owned fast chargers that Public Service expects to install.

**Q. PLEASE DESCRIBE THE STATUS OF THE COMPANY-OWNED CHARGING STATIONS CURRENTLY BEING DEVELOPED THROUGH THE 2021-2023 TEP.**

A. Through its inaugural TEP, the Company is currently working with site hosts for six locations for public fast charging. The Company is nearing completion of its first Company-owned public charging station in the Town of Severance, Colorado. Construction has begun on two additional sites. The remaining sites are in the design and/or contract execution phases. Developing the first utility-owned public charging stations in the State of Colorado has been a valuable learning experience, and we appreciate the support and partnership of our customers, communities, and vendors in launching this program.

**Q. IS ALL OF THE HISTORICAL DATA REQUESTED BY THE COMMISSION AVAILABLE FOR THESE COMPANY-OWNED CHARGING STATIONS?**

A. Because of the early stage of this program's implementation, the only historical data that is available at this time is the actual and estimated costs associated with charging stations under development. These costs include site acquisition, design, permitting and construction and material costs for each site. The costs vary based on the stage at which each project currently resides, and are also dependent on site-specific design considerations, including the size of the site, equipment utilized and the complexity of each site. For example, our high elevation sites utilize equipment that has been tested to operate at high elevations and costs more than equipment utilized at lower elevations. See Table DEE-SD-4 below for the current and estimated costs of these stations.

**Table DEE-SD-4: Capital Costs of Company-Owned Fast Charging Stations**[11]

| Project Location | Number of Chargers | Capital Costs To Date | Estimated Total Capital Costs |
|---|---|---|---|
| Severance | 2 | $ 545,447 | $ 595,000 |
| Eaton | 2 | $ 84,550 | $ 409,500 |
| Monte Vista | 4 | $ 152,744 | $ 947,416 |
| Breckenridge | 2 | $ 60,448 | $ 578,298 |
| Lakewood | 2 | $ 46,312 | $ 403,160 |
| Central City | 2 | $ 35,066 | $ 557,298 |

**Q. HAS THE COMPANY DEVELOPED PROJECTIONS OF COSTS AND REVENUES ASSOCIATED WITH FUTURE PUBLIC CHARGING STATIONS AND HOW THEY MAY CHANGE OVER TIME?**

A. Yes. While the Company has previously included these assumptions in its Direct Case as a part of Company witness Derek Klingemann's rate impact analysis, I present this information separately in Attachment DEE-5 to my Supplemental Direct Testimony to ensure this data is readily accessible to the Commission and parties.

**Q. DOES PUBLIC SERVICE EXPECT THAT REVENUES FROM ITS PROPOSED PCAN WILL EXCEED THE ASSOCIATED COSTS OVER TIME?**

A. Yes. However, I would note that this is not the ultimate objective of these policy-driven investments. As further described in my Direct Testimony, the Company has proposed the PCAN to enhance the State of Colorado's ability to meet its EV adoption goals consistent with SB19-077. SB19-077 calls on public utilities to "increase access to electricity as [a] transportation fuel, including for low- and

[11] Information current as of July 7, 2023.

moderate-income and underserved communities." In line with this State policy, the purpose of Public Service's proposed PCAN is to promote sufficient and equitable access to convenient, reliable, and affordable public charging throughout our Colorado service territory.

## IV. DISCUSSION OF RATES VERSUS REBATES TO INCENTIVIZE THE ELECTRIFICATION OF HIGH-MILEAGE TNC AND DNC VEHICLES

**Q. PLEASE SUMMARIZE THIS SECTION OF YOUR SUPPLEMENTAL DIRECT TESTIMONY.**

A. In this section of my Supplemental Direct Testimony, I describe why Public Service recommends a vehicle purchase and lease rebate program to support the electrification of high-mileage TNC and DNC vehicles and why the Company does not expect that offering a discounted electric rate for such customers would be sufficient to accomplish this objective. In doing so, I explain that rebates will directly address one of the primary barriers to EV adoption: the upfront costs required to purchase an EV, whereas discounts on electricity do not.

**Q. AS A RECAP FROM YOUR DIRECT TESTIMONY, PLEASE DESCRIBE PUBLIC SERVICE'S PROPOSED EV REBATE PROGRAM TO INCENTIVIZE THE ELECTRIFICATION OF HIGH-MILEAGE TNC AND DNC VEHICLES.**

A. The TNC (e.g., Uber and Lyft) and DNC (e.g., DoorDash and Postmates) High-Mileage Rebate Program would provide a $6,500 new vehicle and $3,500 used vehicle rebate specifically for TNC and DNC drivers that exceed 25,000 miles per year on an app-based platform. Furthermore, the Company is working with its EV Dealership Network to facilitate cash on-the-hood rebate fulfillments so participants can secure lower monthly loan payments at the point of vehicle purchase, providing participants ongoing vehicle financing savings alongside EV fuel and maintenance savings.

**Q. WHAT ARE THE OBJECTIVES OF THE PROGRAM?**

A. As presented in my Direct Testimony, one objective of this program is to accelerate EV adoption among some of society's most intensively used passenger vehicles, yielding significantly larger greenhouse gas emissions and local air pollution reductions than if an average Coloradan purchased an EV. Another objective is to support the equitable adoption of EVs, as TNC drivers have an average household income below $50,000 and 38 percent of Lyft rides start or end in areas in Colorado where 50 percent or more of households have incomes below 60 percent of the Area Median Gross Income.[12] Another objective is to increase the public's exposure to and experiences in EVs, as rideshare drivers provide thousands of rides to Coloradans each year.

**Q. HAS PUBLIC SERVICE CONSIDERED WHETHER A DECREASED EV CHARGING RATE, RATHER THAN A REBATE-BASED APPROACH, COULD ACCOMPLISH THE SAME OBJECTIVES?**

A. Yes. Consistent with the Commission's request for supplemental direct testimony exploring this topic, the Company has carefully considered this question. Ultimately, Public Service does not expect that, in the absence of a vehicle rebate, discounted electric rates would be sufficient to incentivize and enable prospective program participants to transition to an EV for multiple reasons.

[12] *See* Hearing Exhibit 103, Attachment HS-1 at p. 28; Lyft, 2023 Economic Impact Report: Colorado, available at https://www.lyft.com/impact/economic-impact-report (last visited July 3, 2023).

**Q. PLEASE ELABORATE.**

A. As described in my Direct Testimony, the relatively high up-front cost of purchasing an EV remains a significant barrier to EV adoption for many of our customers and communities, and discounted electric rates would not address this critical barrier. Even in the absence of a dedicated electric rate discount for high mileage vehicles, EVs already have a comparative advantage over internal combustion engine ("ICE") vehicles in terms of fuel and maintenance costs. While insufficient access to convenient, reliable, and affordable public and home-based charging also remains an obstacle to the electrification of high-mileage vehicles that needs to be addressed, addressing this separate charging barrier is necessary but not sufficient to enable and incentivize customers to acquire an EV. Providing discounted electric rates would only partially address the barrier to EV adoption associated with insufficient access to convenient, reliable and affordable charging, addressing only the cost of charging but not its convenience or reliability, and would fail to address the upfront cost associated with acquiring an EV in the first place.

**Q. IS THIS ANALYSIS CONSISTENT WITH BROADER NATIONAL TRENDS REGARDING EV ADOPTION?**

A. Yes. For example, in a recent large-scale national survey by Consumer Reports, of Americans who said that cost-related factors were holding them back from purchasing an EV, almost six in 10 said that the vehicle purchase price was the

most significant barrier.[13] While maintenance and repair costs also presented a concern for consumers surveyed, the Company has not found any research indicating that the cost of electricity alone presents a material barrier to EV adoption, or that a potential discount on electricity could constitute a sufficient incentive to motivate and enable the customers to select an EV.

[13] Consumer Reports, More Americans Would Buy an Electric Vehicle, and Some Consumers Would Use Low-Carbon Fuels, Survey Shows, Jeff S. Bartlett (July 7, 2022), available at https://www.consumerreports.org/cars/hybrids-evs/interest-in-electric-vehicles-and-low-carbon-fuels-survey-a8457332578/ (last visited June 28, 2023).

## V. CONCLUSION

**Q. PLEASE SHARE ANY CONCLUDING THOUGHTS YOU WOULD LIKE THE COMMISSION TO CONSIDER.**

A. Recent market developments in the public fast charging sector have led Public Service to carefully reflect on its approach to the PCAN and how the Company can best support the EV public fast charging market at this nascent stage. While the Company is considering a rebate-focused model as an alternative option for the Commission to consider, Public Service stands firm in its commitment to the overarching objectives and values underpinning the PCAN. Sufficient and equitable access to convenient, reliable, and affordable public charging remains critical to turn our shared vision of widespread EV adoption into a reality. The Company looks forward to working with intervenors, key stakeholders, and the Commission to continue to chart our path forward towards this destination.

**Q. DOES THIS CONCLUDE YOUR SUPPLEMENTAL DIRECT TESTIMONY?**

A. Yes, it does.

**BEFORE THE PUBLIC UTILITIES COMMISSION**
**OF THE STATE OF COLORADO**

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| **IN THE MATTER OF THE APPLICATION OF PUBLIC SERVICE COMPANY OF COLORADO FOR APPROVAL OF ITS 2024-2026 TRANSPORTATION ELECTRIFICATION PLAN.** | ) ) ) ) ) | **PROCEEDING NO. 23A-0242E** |

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**AFFIDAVIT OF DEBORAH E. ERWIN**
**ON BEHALF OF**
**PUBLIC SERVICE COMPANY OF COLORADO**

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I, Deborah E. Erwin, being duly sworn, state that the Direct Testimony and attachments were prepared by me or under my supervision, control, and direction; that the Direct Testimony and attachments are true and correct to the best of my information, knowledge and belief; and that I would give the same testimony orally and would present the same attachments if asked under oath.

Dated at Lake Mills, Wisconsin, this 18th day of July 2023.

Deborah E. Erwin
Director, Clean Transportation Policy and Planning

Subscribed and sworn to before me this 13 day of July, 2023

Notary Public

My Commission expires 8-6-23

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