BEFORE THE PUBLIC UTILITIES COMMISSION OF THE STATE OF UTAH

Docket No. 20-035-04

Application of Rocky Mountain Power for Authority to Increase its Retail Electric Utility Service Rates in Utah and for Approval of its Proposed Electric Service Schedules and Electric Service Regulations

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INITIAL TESTIMONY OF ANNE SMART ON BEHALF OF CHARGEPOINT, INC.

September 15, 2020

I. Introduction and Summary of Recommendations.

Q: Please state your name and business address.

A: My name is Anne T. Smart. My business address is 254 E. Hacienda Ave., Campbell, CA 95008.

Q: By whom are you employed and in what position?

A: I am Vice President, Public Policy at ChargePoint, Inc.

Q: Please describe your educational background and professional experience.

A: My educational background includes a Bachelor of Arts in Public Administration and a Bachelor of Philosophy in Environmental Studies from Miami University in Oxford, Ohio, and a Master of Energy and Environmental Policy from the University of Delaware in Newark, Delaware. I have been an employee of ChargePoint for six years, formally in the role of Director of Government Relations and Regulatory Affairs, and now as Vice President of Public Policy for the past four years. Prior to ChargePoint, I was the Executive Director of The Alliance for Solar Choice (TASC), a rooftop solar advocacy organization founded by SolarCity and Sunrun. I have also been the Director of Energy for the Silicon Valley Leadership Group, a business trade association of Silicon Valley employers, leading federal and California legislative and regulatory policy on energy issues.

Q: Please describe ChargePoint.

A: ChargePoint is the leading electric vehicle (EV) charging network in the world, with scalable solutions for every charging need and for all of the places that EV drivers go: home, work, around town, and on the road. ChargePoint's network offers more than 115,000 places to charge, including more than 1,300 spots in Utah, and those numbers

continue to grow. With thousands of customers in several verticals including workplaces, cities, retailers, apartments, hospitals, and fleets, ChargePoint provides an integrated experience enabling consistent performance, efficiency and reliability at every touchpoint whether one is using a mobile app, plugging into a charger, managing the station or analyzing charging data. On the network, drivers have completed more than 82 million charging sessions, saved upwards of 98 million gallons of fuel, and driven more than 2.3 billion electric miles.

ChargePoint delivers scalable solutions that enable businesses to support more drivers, add the latest software features and expand their electric vehicle and fleet needs with minimal disruption to overall business. Hardware offerings include Level 2 ("L2") and DC fast charging ("DCFC") products, and ChargePoint provides a range of options across those charging levels for specific use cases including light and medium duty and transit fleets, multi-unit dwellings, residential (multi-family and single family), destination, workplace, and more. ChargePoint's software and cloud services enable site hosts to manage charging onsite with features like Waitlist, access control, charging analytics, and real-time availability. All products are UL-listed, ENERGY STAR® and CE (EU) certified, and the modular design minimizes downtime and makes maintenance and repair more seamless.

ChargePoint's primary business model consists of selling its smart charging solutions directly to businesses and organizations while offering tools that empower site hosts and station owners to deploy charging designed for their individual application and use case. ChargePoint provides charging network services and data-driven and cloud-

enabled capabilities that enable site hosts to better manage their charging assets and optimize services. For example, with those network capabilities, site hosts can view data on charging station utilization, frequency and duration of charging sessions, set access controls to the stations, and set pricing for charging services. These features are designed to maximize utilization and align the EV driver experience with the specific use case associated with the specific site host. Additionally, ChargePoint has designed its network to allow other parties, such as electric utilities, the ability to access charging data and conduct load management to enable efficient EV load integration onto the electric grid.

Q: What is the purpose of your Initial Testimony?

A: The purpose of my Initial Testimony is to provide information related to the importance of providing rate options that will work with the unique characteristics of EV charging. ChargePoint greatly appreciates that Rocky Mountain Power (RMP or the Company) accounted for these unique characteristics in its proposed redesign of Schedule 6A. I recommend that the Commission approve Schedule 6A with only one modification. Specifically, I recommend that the on-and off-peak time periods for Schedule 6A be revised so that they send a more actionable price signal to customers and more closely reflect the Company's wholesale costs.

Q. Are sponsoring any Exhibits?

A. Yes. Exhibit ATS-1 is a copy of a settlement agreement filed by Pacific Power in Oregon Public Utilities Commission Docket No. UE 374. Exhibit ATS-2 is a copy of Pacific Power's Oregon Schedule 45.

II. Summary of Rocky Mountain Power's Proposal

Q: Please provide a brief summary of the Company's proposals that you will address in your testimony.

A: As Company witness Meredith has outlined, Schedule 6A is a general service time of day rate schedule available to qualifying non-residential customers with loads less than 1 megawatt (MW).[1] The on-peak periods for Schedule 6A are 7 a.m. to 11 p.m. Monday through Friday, except holidays.[2] All other times are considered off-peak.

The Company is proposing to redesign Schedule 6A to replace existing "traditional" demand charges with demand charges based on utilization. As proposed, the first 50 kWh for each kW of demand will be charged a higher rate and all additional kWh-per-kW will be charged a lower rate. In effect, RMP is proposing to charge customers an average energy price that declines as load factor increases, thereby providing customers with an incentive to have flatter load profiles. For customers with lower load factors, their average demand and energy cost would be effectively capped at 22.5¢ per kWh.[3]

III. Evaluation of Rocky Mountain Power's Proposal

Q: Does ChargePoint support Pacific Power's proposed Schedule 6A?

A Generally, yes. Schedule 6A pairs a time-of-use (TOU) rate with a demand charge based on utilization (or load factor) in which the average energy price declines as utilization increases. In re-designing Schedule 6A, the Company acknowledges that an impediment

[1] Direct Testimony of Robert M. Meredith, p. 39.
[2] Rocky Mountain Power, Electric Service Schedule No. 6A, P.S.C.U. No. 50, Original Sheet No. 6A.3. RMP has not proposed to modify Sheet No. 6A.3 in this proceeding.
[3] Meredith at 43.

to the expansion of DC fast charging (DCFC) stations is the very high average cost of energy that stations with low utilization face because of traditional demand charges. In many cases, these high demand charges make DCFC deployment difficult for site hosts to justify economically, especially in the early years of EV adoption when station utilization rates are still growing.

While I support the proposed Schedule 6A, TOU rates may not be a perfect application for certain EV charging uses cases – such as public DCFC. DCFC stations are often used by EV drivers that cannot adjust their usage to avoid the impact of higher priced TOU time periods. This user group may include drivers traveling longer distances on highways unable to schedule their stops to align with changes in pricing or charger availability caused by higher priced TOU time periods. As discussed in more detail below, I recommend the Company modify the TOU time periods in Schedule 6A to more appropriately reflect the Company's wholesale costs and to provide a more actionable price signal.

Q: What is a "traditional demand charge"?

A: Demand charges are charges based on the customer's peak capacity usage, traditionally used to recover the nonfuel costs of electricity. Demand charges are typically based on the highest average 15-minutes of power use in a monthly billing cycle. They are designed to incentivize customers to level out their load and avoid steep increases in usage that could overload the distribution system.

DCFC stations can have low load factors, with sporadic instances of high demand when a vehicle or multiple vehicles are charging. Under traditional demand-based rates,

site hosts can face high demand charges due to the few peak charging sessions that occur each month, which effectively penalizes site hosts for providing charging services in earlier-stage EV markets. In some markets, demand charges can account for as much as 90% of a DCFC site host's electricity costs.[4]

Q: Why can traditional demand rates make DCFC deployment difficult for site hosts to justify economically?

A: As mentioned above, traditional demand rates for operators of DCFC stations can impose disproportionately high costs on site hosts providing charging equipment with low utilization. With very few exceptions (*e.g.*, for very small customers) commercial customers are on rates that include demand charges that are based on the customer's highest measured demand, measured in kilowatts (kW) in a given month. A DCFC station site host may only have a few vehicles use the station in a month during the early years of EV adoption. The power demand of these charging sessions will set the demand charge for the month, likely resulting in a significant bill for the site host but the site host will only have a few charging sessions over which to spread these costs (if the site host chooses to pass along its own costs to drivers). This impact is amplified for fleets and other customers that need to charge multiple vehicles simultaneously at high power levels and/or that do not have the flexibility to adjust the timing of charging sessions for multiple vehicles. Thus, for DCFC sites, conventional commercial rate design often can make otherwise viable and desirable projects uneconomic.

[4] Rocky Mountain Institute, 2017. "EVgo Fleet and Tariff Analysis." Available at: https://rmi.org/wp-content/uploads/2017/04/eLab_EVgo_Fleet_and_Tariff_Analysis_2017.pdf.

Furthermore, unlike traditional commercial customers on demand-based rates, public EV charging station site hosts have very limited ability to manage or mitigate the impact of demand charges without negatively impacting the EV driver experience. For example, a factory or large commercial facility may be able to avoid turning on several large loads at the same time in order to avoid higher demand charges. By contrast, if a public DCFC site host offers four charging ports, the site host could only avoid significant demand charges by limiting the number of ports in use simultaneously or by restricting the amount of power to each port, or both. Either action could negatively impact the driver experience and thus defeat the purpose of expanding public DCFC infrastructure. Simply put, high demand charges coupled with low utilization can be an impediment to the widespread deployment of EV charging stations.

Q: Will Schedule 6A only benefit DCFC charging stations?

A: No. While Schedule 6A will address the impacts of traditional demand-based rates on public DCFC charging stations, other use cases can benefit as well. As RMP Witness Meredith stated in testimony, customers with sporadic instances of high energy use such as arc welding could benefit from Schedule 6A.[5] By combining TOU rates with a demand charge that scales based on utilization rates, other customers and use cases may benefit as well.

[5] Meredith at 39

Q. The primary modification to Schedule 6A being proposed by the Company relates to the demand charge element of the rate. Does ChargePoint have concerns about the TOU component of the rate?

A. Yes. Schedule 6A, as proposed, will maintain the existing on-peak period of 7 a.m. to 11 p.m. Monday through Friday, except holidays, with all other times considered off-peak.[6] A 16-hour "peak" period is neither an actionable price signal nor does it reflect peak, or higher priced periods on the grid. In its proposal to modernize the time-of-use periods for Schedules 8 and 9, the Company recognizes that an "on-peak" period of 7 a.m. to 11 p.m. no longer accurately reflects the wholesale cost of power. As Company witness Robert Meredith states:

> The greater prevalence of solar on the western grid has increasingly lowered wholesale power prices in the middle of the day. Modernizing the time periods for large non-residential customers to prioritize a shorter on-peak window where the middle of the day is off-peak has many benefits for the Company and its customers. With a shorter on-peak period, conservation and load shifting can be more targeted to the most stressful times for the grid. Moving load from the late afternoon to the middle of the day may also help to better align consumption with renewable output.[7]

Mr. Meredith provides this discussion to support the Company's proposal to create morning and evening peak periods during the non-summer months and a late afternoon/evening peak period during the summer months for Schedules 8 and 9.[8] These new proposed periods would replace the current on-peak period of 7 a.m. to 11 p.m. that currently applies to Schedules 8 and 9, as well as to Schedule 6A. I believe that the

[6] Original Sheet No. 6A.3.
[7] Meredith at 38 (footnote omitted)
[8] Proposed First Revision of Sheet No. 8.3; Proposed First Revision of Sheet No. 9.3.

Company's rationale for modernizing the time-of-use periods for Schedules 8 and 9 applies similarly to Schedule 6A. Mr. Meredith's testimony does not provide any reason why this rationale would not apply to Schedule 6A. As I will discuss below, ChargePoint recommends that the Company also modernize the time-of-use periods for Schedule 6A.

Further, it is important to view the TOU rate component in context, with an understanding of distinctions that are unique to DCFC stations. In some circumstances, such as EV drivers with access to a dedicated charging station at their home, TOU rates can provide an actionable rate signal that motivates drivers to adjust their EV charging to coincide with periods when the system has excess capacity or periods of peak renewable energy generation. But TOU rates are inherently limited in their ability to motivate drivers or DCFC site hosts to shift their use of the DCFC station to off-peak periods, and this should be acknowledged in designing rates for DCFCs. A highway EV driver, or a commuting worker relying on a neighborhood DCFC for daily charging, or a 24-hour fleet operator may have little or no ability to respond to an on-peak TOU signal, in which case the on-peak rate can be simply punitive and a deterrent to driving electric. Further, site hosts' and drivers' ability to respond to on-peak price signals is generally more limited the longer the on-peak period lasts.

Q. Do you recommend an alternative TOU period for Schedule 6A?

A. Yes. I recommend that the Company adopt the on-peak and off-peak periods that its sister company, Pacific Power, has agreed to use for a similar optional commercial rate in its Oregon service territory, Schedule 29. Like the Company's proposed Schedule 6A, Pacific Power's proposed Schedule 29 would mitigate the impact of traditional demand charges

on low utilization customers by capping the $/kWh price of a customer's first 50 kWh of usage.

Pacific Power's proposed Schedule 29 is currently pending approval before the Oregon Public Utilities Commission (OPUC) in OPUC Docket No. UE 374. In a recently filed settlement agreement in that case,[9] Pacific Power agreed to use the same time periods for Schedule 29 that it uses for another rate schedule designed for DCFC stations: Pacific Power's Schedule 45.[10] Schedule 45 uses on-peak hours of 6 a.m. to 10 a.m. and 5 p.m. to 8 p.m. Monday through Friday (excluding holidays) in the winter months of November through March, and 4 p.m. to 8 p.m. Monday through Friday (excluding holidays) in the summer months of April through October. These TOU periods are actionable and more closely align with the low-cost period in the middle of the day identified in Mr. Meredith's testimony. I recommend that the Commission direct the Company to use these TOU periods for proposed Schedule 6A.

Alternatively, the Commission could direct the Company to apply the new TOU periods it has proposed for Schedule 8 to Schedule 6A. For Schedule 8, the Company proposes to change the on-peak periods to 6 a.m. to 10 a.m. and 6 p.m. to 12 a.m. (midnight) Monday through Friday (excluding holidays) in the winter months of October through May, and 2 p.m. to 12 a.m. (midnight) Monday through Friday (excluding holidays) in the summer months of June through September.[11] These time periods also avoid the middle of the day peak, but have the disadvantage of the on-peak period lasting until midnight on all

[9] See Attachment ATS-1.
[10] See Attachment ATS-2.
[11] Proposed First Revision of Sheet No. 8.3.

non-holiday weekdays. Such a long on-peak period makes it difficult for customers to respond to the price signal because it is likely impractical for many EV drivers to wait to charge until after midnight. For that reason, I recommend that the Commission adopt Pacific Power's Schedule 45 time periods, but Schedule 8's time periods are preferable to the existing Schedule 6A time periods that the Company has not proposed to change.

IV. Conclusion and Recommendations.

Q: Please summarize your recommendation for the Commission.

A: I recommend that the Commission approve RMP's proposed Schedule 6A but modify Schedule 6A's time periods to match the time-of-use periods for Pacific Power's Schedules 45 and 29 in Oregon, as described above. Alternatively, the Commission could modify the time periods to match the time periods the Company has proposed for Schedule 8.

Q: Does this conclude your testimony at this time?

A: Yes.