BEFORE THE PUBLIC SERVICE COMMISSION OF UTAH

IN THE MATTER OF THE APPLICATION OF ROCKY MOUNTAIN POWER TO IMPLEMENT PROGRAMS AUTHORIZED BY THE SUSTAINABLE TRANSPORTATION AND ENERGY PLAN ACT	DOCKET No. 16-035-36 ChargePoint Exhibit 1

PHASE 3

DIRECT TESTIMONY

OF

JAMES ELLIS

ON BEHALF OF

CHARGEPOINT, INC.

I. Introduction and Background

Q: Please state your name and address.

A: My name is James Ellis. I reside at 6215 Robin Hill Rd in Nashville, Tennessee.

Q: Please describe your background, experience, and expertise.

A: I am currently the Director of Utility Solutions for ChargePoint, Inc. In this role, I advise electric utilities and other key stakeholders in many parts of the country on electric vehicle ("EV") market engagement and investment, and support the development of policies and programs to accelerate the adoption of EVs and EV charging equipment and services. Prior to joining ChargePoint, I served as the Director of Electrification and Electric Vehicles for Pacific Gas and Electric Company with a focus on developing products and programs to support customer needs in the fastest growing EV market in the United States (US). During this time, I also served as a board member for the California Electric Transportation Coalition supporting advocacy for low carbon fuel standards, vehicle and infrastructure incentives and supported policies for an increased utility role in transportation electrification. I also served as board member for the California Plug-In Vehicle Collaborative, working with government and industry stakeholders to identify and advocate for accelerated transportation electrification through education and outreach initiatives. Before PG&E, I was the EV Regional Manager for Nissan North America in the Corporate Planning and Sales and Marketing organizations. At Nissan, I was responsible for market acceptance activities including strategy development and implementation for EV infrastructure in key markets to support the 100% battery electric LEAF. During

this time, I developed financial tools and strategies that enabled the deployment of hundreds of DC fast chargers in the US. I also served as Senior Manager for Transportation and Infrastructure at the Tennessee Valley Authority (TVA), leading research and development activities related to clean transportation technologies, utility plug-in readiness activities across the 80,000 square mile service territory and worked on carbon reduction strategies to enhance economic, environmental and societal benefits. I hold a Master of Business Administration degree from the Massey School of Business at Belmont University and a BS degree from Appalachian State University.

Q: On whose behalf are you testifying?

A: I am testifying on behalf of ChargePoint, Inc.

Q: Are you sponsoring any exhibits?

A: No. I have not attached any exhibits to my direct testimony.

Q: What is the purpose of your testimony in this proceeding?

A: The purpose of my testimony is to address the supplemental application from Rocky Mountain Power ("RMP"), as presented by witness William J. Comaeu, regarding the proposed Plug-In Electric Vehicle Incentive Pilot Program ("PEV Program"). This proceeding is of interest to ChargePoint because it will determine the program design and tariff structure for a ratepayer-funded electric vehicle supply equipment ("EVSE") incentive. The Commission's decision on this proposed program will impact the future of the EV charging market in Utah. In

our view, the PEV Program plan, if designed and implemented correctly, could help to accelerate adoption of EVs in the near and long term in Utah.

Q: Please describe ChargePoint's expertise in the EV charging market.

A: ChargePoint is a leading manufacturer of electric vehicle charging equipment and services. Using ChargePoint products and services, our customers operate more than 33,000 charging locations, including 183 in Utah, and 495 express charging spots. These charging locations have enabled more than 23 million charges and more than 545 million electric-fueled miles driven on the ChargePoint Network.

ChargePoint designs, develops and deploys home and commercial Level 2 ("L2") and DC Fast Charging ("DCFC") electric vehicle charging stations, software applications, data analytics and related customer and driver services aimed at creating a robust, scalable, and grid-friendly EV charging ecosystem.

ChargePoint was the first company globally to launch and deploy a network in support of EV charging, and is dedicated to providing a constant stream of innovation and advancements. ChargePoint has more than 30 patents awarded to date. ChargePoint was recently awarded Electrek's Best of CES 2017 award for Best EV accessory. ChargePoint was included on the CNBC Class of 2014 "Disrupter 50" list of innovative companies, an honor shared with Uber, SpaceX, Dropbox and Airbnb. The United Nations Framework Convention on Climate Change honored ChargePoint with a Momentum for Change award at the annual Conference of Parties ("COP21") in Paris, France in December of 2015.

ChargePoint was one of 16 Lighthouse Activities[1] selected for its innovative and scalable approach to tackling climate change, and one of only two companies highlighted from the United States. ChargePoint received this award for its partnership program with BMW and Volkswagen to create Express Charging Corridors along both coasts of the United States[2].

Q: What is ChargePoint's business model?

A: The ChargePoint business model is to engineer, manufacture, and sell the equipment and network services necessary for EV charging station owners to effectively provide charging services to drivers that visit their properties. In almost every case, ChargePoint does not own the hardware. ChargePoint sells charging equipment to families via our home stations, or to a site host for our commercial products. The site host sets the price for EV drivers that use the charging station on their property. ChargePoint does not set the pricing to drivers at any station and we do not collect any revenue directly from EV drivers. We sell the site host network services to manage its charging infrastructure using cloud-based software tools. We also provide merchant services to the station owners that enable them, if they choose, to generate revenue from charging sessions at their site. ChargePoint also provides services to drivers, free of charge, which allow them to easily find and access the EV charging infrastructure provided by station

[1] http://unfccc.int/files/press/press_releases_advisories/application/pdf/mfc_press_release-2015_lighthouse_activities.pdf
[2] http://www.chargepoint.com/news/2015/0122/

owners through a mobile app, in-vehicle navigation and our website. We also provide a call center to support EV driver and infrastructure site host queries.

Q: Does ChargePoint require drivers to pay a fee to plug in to an EV charging station?

A: No. ChargePoint does not impose any requirements on site hosts to levy fees for EV charging services. We believe that those decisions should be made by the site hosts themselves, who are best suited to create incentives to maximize use of the EV charging stations in a way that aligns with their own specific business models. Currently 70% of ChargePoint stations are free for at least some period of time.

Q: Where does ChargePoint operate?

A: ChargePoint operates worldwide, and currently has charging spots with stations in 48 out of 50 states in the US, including 183 ports in Utah alone.

Q: Who are ChargePoint's customers?

A: ChargePoint has more than 6,500 station owners as customers. Our customers are workplaces, governments, hotels, colleges and universities, hospitals, electric utilities and other energy companies, parking garages, airports, multifamily housing, auto dealerships and other businesses. Customers in RMP's service territory include Utah Valley University, Utah Department of Transportation, Salt Lake City Corporation, Salt Lake City Community College, eBay, Whole Foods, and many others, including PacifiCorp.

II. <u>Principal Comments on RMP's PEV Program</u>

Q: Does ChargePoint have a position on the proposed RMP PEV Program?

A: Yes. ChargePoint supports many of the aspects of the PEV Program, and has recommendations for modifications to certain aspects of the PEV Program in order to improve the overall program design based on experience with utility incentive programs in other markets. ChargePoint supports rebates directly to site hosts for charging stations and their installation, and we support a program structure where the rebates are provided if the charging stations can communicate to provide data and load management tools to the utility to create grid benefits. We also support a program design that ensures site hosts will have the ability to choose their own qualified EVSE hardware and network services provider.

Q: Please explain your position on the PEV Program's Time of Use Prescriptive Incentive.

A: ChargePoint generally supports the PEV Program's residential TOU Prescriptive Incentive, but suggests a direct rebate to offset costs of a installing a charging station that meets basic functional program requirements would be more cost effective than RMP proposed. Costs are added by requiring a second utility meter be installed to measure the EV load separately than the primary residential meter. By including a functional requirement in the program design to reflect all charging stations that may qualify for the program will include an embedded meter to measure the electricity used to charge the vehicle decreases costs of the program and drives innovation in the EV industry.

ChargePoint agrees a TOU rate requirement for the program creates value to the utility by encouraging smart charging behavior and providing visibility into unplanned EV load growth. This consideration lowers the total cost of ownership of an EV, creating an incentive for utility customers and helping accelerate adoption. The majority of EV charging takes place at home[3]. By increasing access to charging at home, EV drivers will more easily be able to take advantage of TOU rates, which decrease costs for refueling the vehicle and can reduce stress on the grid during peak times. Furthermore, providing the rebate and developing a threshold of functional requirements for the program including for smart, connected charging stations in the home with embedded meters, the utility can create access to new load management tools to create grid benefits, including integrating renewable generation and performing demand response.

Additionally, the mechanism of a rebate to incent consumer behavior is consistent with promoting innovation, competition, and customer choice in the EV charging market. A rebate reduces a barrier to EV adoption, while leaving the homeowner to determine which program qualified charging equipment and network services best meet their interests, and helps builds a sustainable EV marketplace.

Q: What are your proposed modifications to the TOU Prescriptive Incentive program design?

A: ChargePoint would recommend that RMP explicitly require in the design of the program that these home units be smart; capable of communicating through a

[3] Smart, John. "Lessons Learned about Workplace Charging in The EV Project" Idaho National Laboratory. 2015.

network to provide data and load management tools and capabilities. Networked stations will allow the utility to monitor and utilize charging the EV as a resource on the grid so this new load can be a benefit to all utility customers. Incentivizing a charging plug that does not collect data or have the ability to affect load and provide grid benefits should not be considered eligible for cost recovery in this program.

RMP should also allow for charging stations to use embedded metering capabilities in the TOU pilot as opposed to having to install an additional meter at a cost of $200 per meter. This TOU pilot could confirm the accuracy of the metering, work through service and business policies, and trial different methods to educate and engage with customers. The California investor-owned utilities recently filed advice letters to pursue a second phase of their submetering pilots. Decision 13-11-002 approving the first phase of the submetering pilot is available for review online[4]. This pilot may serve as a model for Utah.

Q: Please explain your position on the PEV Program's Non-Residential AC Level 2 Charger Prescriptive Incentive.

A: ChargePoint supports the design of this incentive as a direct rebate to site hosts for the purchase of EVSE equipment, and that the incentive is capped at 75 percent of the total charger cost. This program protects and encourages customer choice by allowing the site hosts to choose their own hardware and services

[4] http://docs.cpuc.ca.gov/PublishedDocs/Published/G000/M081/K786/81786001.PDF

provider. This is an important aspect as site hosts have preferences regarding the hardware and services related to EV charging. Site hosts are able to tailor the particular options for station fees, driver authentication, accessibility, payment collection and other transaction capabilities, advertisement, and how to configure and manage an array of data (e.g., energy, station usage, and environmental benefits). Site hosts are also the best suited to make choices about the number of charging stations needed on their site. This is especially true when site hosts participate in the purchase of the charging station, which will help ensure that charging stations are deployed efficiently and in places where they will get the most use.

Q: What are your proposed modifications to the Non-Residential Prescriptive Incentive?

A: ChargePoint would recommend that RMP modify the program design to define eligibility based on "port" versus "station". There is not necessarily an industry standard definition for "station", and depending on the equipment, as well as the individual installation, a station could have one or more ports, each having the capability of a single port charging station. As example, ChargePoint offers a dual port charging station that provides two dedicated circuits and electric vehicle supply equipment ports, or connectors, that can simultaneously charge two cars at full capacity. The incentive should be clarified to provide the site host the "up to $3000" amount per port. Installation costs should also be included as eligible under this incentive, as they are with the DC Fast Charger incentive. This will

ensure the program is properly aligned with the typical configurations for non-residential applications.

Finally, ChargePoint would also strongly recommend eliminating the requirement that the incentive window close on September 30th each year, and remaining funds be rolled into the Grant-based custom projects category. Given this will be the initial PEV Program for RMP, and this is still an emerging market, there is not strong justification to limit the Non-residential program to only nine months per year. This is especially true in the beginning of the program as it will take a significant amount of time for vendors and customers to become aware of the program and to navigate the equipment qualification and incentive claim processes. We would recommend that any unused funds from this category at the end of the year simply be rolled over to the same budget category in the following year.

Q: Please explain your position on the PEV Program's DC Fast Charger Prescriptive Incentive.

A: ChargePoint supports the design and structure of the DC Fast Charger Prescriptive Incentive. These incentives will support the development of publicly-available DCFC infrastructure across Utah, which will be a critical component to supporting the widespread adoption of electric vehicles.

While the overwhelming majority of EV charging takes place at home and the workplace, another critical charging need is the widespread public availability of fast chargers. A focus on fast public charging can support the widespread adoption

of PEV adoption since a) having the ability to charge quickly when away from home builds consumer confidence and reduces consumer "range anxiety," b) accelerated deployment of EV charging infrastructure would better support a greater number of electric vehicles on the road, and c) having a robust charging infrastructure encourages car makers and dealerships to make more PEVs available in the state. State-of-the-art High Power DCFCs allow many vehicles to achieve an "almost full" ~80% charge in a half-hour or less. Emerging technology will make an 80% charge feasible in 15 minutes or less, even for the larger batteries that are now becoming common. This charge time is similar to a traditional gasoline fill-up and therefore these fast chargers - if available throughout the state - can help make PEVs an attractive alternative for mainstream drivers and charging station site hosts alike. RMP's proposal maintains the critical aspect of allowing site host choice for equipment and network services, which will ensure the continued development of a robust and competitive market for DCFC in Utah.

Q: What are your proposed modifications to the DCFC Prescriptive Incentive?

A: As with the recommendation on the Non-Residential program, ChargePoint recommends that the DCFC incentive program require connected charging stations for data and reliability and that they be available year-round and that any unused funding for this category roll over to the following year as opposed to going into the budget for the Grants-based custom projects.

Q: Do you have any other recommendations for modifying the PEV Program?

A: Yes, I have recommendations for general program design and modifications to the Grants-based custom projects and partnerships category.

The PEV Program application did not include specific details around the EVSE equipment vendor qualification framework. ChargePoint asks that the Commission instruct RMP to work with the EVSE industry and other stakeholders on the development of a common qualification framework. This will allow RMP to benefit from industry experience around common standards and other criteria already developed for other existing utility programs.

For the Grants-based custom projects, ChargePoint would recommend that the proposal be modified to apply the same 75% cap on the incentive as the other program categories. This will ensure that these projects will have the same site host "skin in the game" component as the L2 and DCFC incentives.

Q: Does this conclude your direct testimony?

A: Yes.

CERTIFICATE OF SERVICE

I hereby certify that on April 6, 2017, I sent a copy of the foregoing direct testimony of James Ellis for ChargePoint, Inc. in Phase 3 of Docket No. 16-035-36 by electronic mail to the following:

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