

July 8, 2021

Via Electronic Filing

Secretary Rosemary Chiavetta Pennsylvania Public Utility Commission Commonwealth Keystone Building 400 North Street, 2nd Floor Harrisburg, PA 17120

RE: Docket R-2021-3023618, Pennsylvania Public Utility Commission v. UGI Utilities, Inc. – Electric Division

Dear Secretary Chiavetta,

Per Section 5.412a of the Commission's regulations, 52 Pa. Code § 5.412a, requiring electronic submission of pre-served testimony, please find enclosed for electronic filing the following testimony and exhibits on behalf of ChargePoint, Inc. ("ChargePoint"). These documents were admitted into the record in the above-referenced proceeding on June 29, 2021.

Testimony	Witness	Exhibits
ChargePoint	Direct Testimony of Matthew Deal,	Exhibit MJD-1
Statement No. 1	including Attachment MJD-1	
ChargePoint	Rebuttal Testimony of Matthew Deal	Exhibit MJD-2
Statement No. 2	-	

All parties and the presiding officers have been previously served the aforementioned Testimony and Exhibits. Copies of this correspondence will be provided as indicated on the Certificate of Service.

Please contact me if you have any questions concerning this matter.

Respectfully submitted,

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Counsel for: ChargePoint, Inc.

CC: Hon. Steven K. Haas (Letter and Certificate of Service Only)
Certificate of Service (Letter and Certificate of Service Only)

BEFORE THE PENNSYLVANIA PUBLIC UTILITY COMMISSION

Pennsylvania Public Utility Commission :

:

v. : R-2021-3023618

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UGI Utilities, Inc. – Electric Division

CERTIFICATE OF SERVICE

I hereby certify that I have this day served a true copy of the foregoing document upon the following parties by electronic mail.

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Date: July 8, 2021

/s/ Alicia Zaloga

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BEFORE THE PENNSYLVANIA PUBLIC UTILITY COMMISSION

Pennsylvania Public Utility Commission : Docket Number

v. : R-2021-3023618

UGI Utilities, Inc. – Electric Division :

DIRECT TESTIMONY OF MATTHEW DEAL

ON BEHALF OF CHARGEPOINT, INC.

ChargePoint Statement No. 1

May 3, 2021

1	<u>1.</u>	introduction and Summary of Recommendations.
2	Q:	Please state your name.
3	A:	My name is Matthew Deal.
4	Q:	By whom are you employed and in what position?
5	A:	I am Manager of Utility Policy at ChargePoint, Inc (ChargePoint).
6	Q:	Please describe your qualifications, including your background, experience, and
7		expertise.
8	A:	In my role at ChargePoint, I have led or coordinated engagement in over 15 proceedings
9		before public utility commissions regarding the development of policies and programs that
10		expand electric vehicle infrastructure and advance best practices within the electric vehicle
11		charging industry. I have drafted stakeholder comments regarding the design of electric
12		vehicle programs in Pennsylvania and other states.
13		My relevant professional experience appears in my CV, which is attached as
14		Attachment MJD-1.
15	Q:	Have you previously provided testimony in any formal hearings before regulatory
16		commissions?
17	A:	Yes. I have submitted comments and appeared as a witness regarding electric vehicle (EV)
18		issues before utility regulatory commissions in Connecticut in 17-12-03RE04: Public
19		Utilities Regulatory Authority Investigation into Distribution System Planning of the
20		Electric Distribution Companies – Zero Emission Vehicles.
21	Q:	Please describe ChargePoint.
22	A:	ChargePoint is a world leading electric vehicle (EV) charging network, providing scalable
23		solutions for every charging scenario from home and multifamily to workplace, parking,

hospitality, retail, and transport fleets of all types. ChargePoint's cloud subscription platform and software-defined charging hardware is designed to enable businesses to support drivers, add the latest software features and expand fleet needs with minimal disruption to overall business.

ChargePoint's 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 duty, 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 EV charging station site hosts to manage charging onsite with features like Waitlist, access control, charging analytics, and real-time availability. With modular design to help minimize downtime and make maintenance and repair more seamless, all products are also UL-listed and CE (EU) certified, while Level 2 solutions are ENERGY STAR® certified.

ChargePoint's primary business model consists of selling smart charging solutions directly to businesses and organizations while offering tools that empower station owners to deploy EV charging designed for their individual application and use case. ChargePoint provides charging network services and data-driven, 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.
- 3 Q: What is the purpose of your Direct Testimony?
- 4 A: The purpose of my testimony is to address the EV charging-related proposals made by UGI
- 5 Utilities, Inc. Electric Division (UGI Electric or the Company) in this proceeding.
- 6 Q: Please summarize your positions and recommendations for the Commission.
- 7 A: I recommend that the Commission:

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- Approve UGI Electric's proposal to invest in, own, and maintain make-ready
 infrastructure needed to support customer-owned EV charging stations, and direct UGI
 Electric to require EV chargers deployed through the program to be smart or
 networked, ENERGY STAR certified, and tested for safety by a national testing
 laboratory such as UL;
 - Direct UGI Electric to allow site hosts to choose the EV charging station equipment and network service provider for EV charging station locations at which UGI Electric has proposed to own chargers, and to allow site hosts to set prices to drivers.
- 16 <u>II.</u> The Commission should approve UGI Electric's make-ready proposal.
- 17 Q: What will you address in this section of your testimony?
- 18 A: In this section of my testimony, I will address UGI Electric's proposal to invest in, own,
 19 and maintain make-ready infrastructure.
- 20 Q: What has the Company proposed with respect to make-ready infrastructure?
- 21 A: UGI Electric states that it "is proposing to modify the service extension provisions in its 22 tariff in order to specifically provide for Company investment allowance related to the 23 installation of any make-ready infrastructure associated with Level 2 or DCFC charging

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 $^{^{\}rm 1}$ UGI Electric Statement No. 6, Direct Testimony of John D. Taylor, p. 40. $^{\rm 2}$ Id.

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.) Under UGI Electric's proposal, site hosts will still be responsible for the cost of the EV charging equipment itself and the cost of network services used to operate the chargers.

Q:

A:

In addition to reducing the cost of installing EV charging stations for site hosts, are there other benefits to UGI Electric's proposal to own make-ready infrastructure?

Yes, UGI Electric's make-ready proposal will allow charging station site hosts to choose the EV charging equipment and network service provider that best meets their needs, which supports the existing competitive market for EV charging station hardware and network services. By leveraging the utility's access to capital and expertise managing construction projects to install panels, conduit, wiring, and other make-ready infrastructure, customers will enjoy a lower total cost for installing charging equipment and the utility will be able to generate additional kWh sales by increasing charging station deployment and encouraging EV adoption. By leveraging the competitive market for EV charging hardware and services, customers will be able to choose the charging equipment and network services that best fit their needs at a reasonable price. In short, by promoting customer choice in charging equipment and services and reducing the cost of installing EV charging stations, I believe UGI Electric's proposal to own make-ready infrastructure will effectively support transportation electrification.

Q: Do you recommend any modifications to UGI Electric's make-ready proposal?

A:

Yes, I recommend that UGI Electric establish several eligibility criteria for EV charging stations that the make-ready program will support. First, I recommend that UGI Electric and the Commission require any EV chargers installed through the program be networked. Networked or smart charging equipment has the ability to communicate with the cloud and manage the charging of the electric vehicle. Smart chargers also enable drivers to locate publicly accessible chargers and determine if the station is in use in real-time. As EV adoption increases, the Company also may seek to offer additional programs or incentives for customers that leverage the capability of smart chargers. Encouraging the installation of smart chargers is a way to ensure customers will be able to participate in such programs in the future. Additionally, the data that smart chargers can capture greatly exceeds non-networked charging stations. Because these charging stations will be installed behind the customer's existing meter, ChargePoint believes that the only way to accurately and reliably gather the data to inform future program design is to require chargers to be smart.

Second, I recommend that all Level 2 charging equipment be ENERGY STAR certified. The US Environmental Protection Agency awards ENERGY STAR certification to EV charging equipment that meets specific efficiency standards in standby mode, meaning that a charger conserves energy when not actively charging. ENERGY STAR certified chargers can use up to 40% less energy than standard chargers while not in active use.³ To fully achieve the benefits of electrifying the transportation sector, the Commission should require that all Level 2 charging equipment that is installed under UGI Electric's make-ready program be ENERGY STAR certified.⁴

³ https://www.energystar.gov/products/other/ev chargers.

⁴ ENERGY STAR certification is not yet available for DCFCs.

Third, I recommend that the Commission require that charging equipment be
certified by a third-party Nationally Recognized Testing Laboratory for safety. Requiring
products to be certified by a third-party Nationally Recognized Testing Laboratory, such
as Underwriters Laboratories or UL, gives customers and regulators confidence that they
are purchasing or incentivizing products that have been rigorously tested to ensure safety
and reliability.
What do you recommend?
I recommend that the Commission direct IIGI Flectric to require FV chargers installed

7 Q:

8 A: I recommend that the Commission direct UGI Electric to require EV chargers installed 9 through its make-ready proposal to meet the eligibility requirements I have described. I 10 recommend the Commission approve UGI Electric's proposal with those requirements.

III. The Commission should require UGI Electric to provide site hosts with choice for its utility-owned EV charger program.

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O: What will you address in this section of your testimony?

A: In this section of my testimony, I will address UGI Electric's proposal to own and operate EV charging stations at three locations.

17 What has the Company proposed with respect to owning EV charging station? Q:

UGI Electric states that it is proposing "to install and own three EV charging stations in an effort to support EV development directly within its service territory and gain additional first-hand metrics regarding EV charging utilization demands and usage patterns." UGI further states that "[t]hese EV charging stations will, at minimum, include DC fast charging facilities, but may also include Level 2 chargers." From the context, it is my understanding that UGI Electric uses the term "charging stations" to refer to particular locations with one

⁵ UGI Electric Statement No. 3, Direct Testimony of Eric W. Sorber, p. 29.

⁶ UGI Electric Statement No. 6, Direct Testimony of John D. Taylor, p. 39.

or more EV chargers (like a gas station). Because the term "charging station" typically refers to the charging equipment itself, I will use the term "charger" to refer to equipment and the term "site" to refer to a location where one or more chargers are located.

Q: What is ChargePoint's position with respect to UGI Electric's proposal to own EV chargers at three sites?

A:

ChargePoint commends UGI Electric for taking proactive actions to increase its understanding of EV charging utilization demands and usage patterns. The data gained from deployment of DCFC and L2 chargers will provide important learnings for the Company as well as EV drivers and local site hosts.

ChargePoint believes that utilities are vital stakeholders in growing a competitive, sustainable EV charging ecosystem and is not opposed in principle to utilities owning and operating EV chargers, as long as parameters are in place to ensure that the utility's participation complements, rather than competes with, the competitive market. If utility participation in the competitive market crowds out other competitive providers, it could have long-term negative impacts on EV drivers and UGI Electric's customers in the form of fewer choices and higher prices for EV charging services. Utility participation under the right parameters, however, can support the competitive market to encourage EV charger deployment and EV adoption. Accordingly, ChargePoint is not opposed to UGI Electric's proposal to own and operate EV chargers at three sites in its service territory, as long as these parameters, which I describe below, are in place.

What parameters do you recommend to help ensure that UGI Electric's proposal to own and operate EV charging stations supports and does not distort the competitive market for EV charging services?

Q:

A:

I recommend that UGI Electric provide site hosts the ability to choose the EV charging equipment and network service provider that is deployed on their property from a list of vendors previously qualified by the utility. There are examples in other jurisdictions of utilities owning and operating EV charging stations in a manner that maintains site host choice and site host operation, such as the San Diego Gas & Electric Power Your Drive Program, Pacific Gas & Electric's EV Charge Network, and Southern California Edison's Charge Ready 2 programs in California.⁷ As discussed above with respect to the makeready program, site hosts deploy EV chargers to support a wide variety of goals. The property owners who allow UGI Electric to install utility-owned EV chargers on their property will likewise have different goals and reasons for doing so, and they should be allowed to choose the equipment and network service provider that they believe will best support their unique goals. Enabling site hosts to choose their preferred EV charging solution ensures that a competitive market can thrive within utility programs and sustainably continue after the conclusion of those programs.

I also recommend that UGI Electric allow site hosts to establish the prices and pricing policies for EV charging services provided at the utility-owned chargers. Site host

⁷ See Decision Regarding Underlying Vehicle Grid Integration Application and Motion to Adopt Settlement Agreement, CPUC Docket No. A.14-04-014 (Jan. 28, 2016); Decision Directing PG&E to Establish an Electric Vehicle Infrastructure and Education Program, CPUC Docket No. 16-12-065 (Dec. 21, 2016); Decision Regarding Underlying Vehicle Grid Integration Application and Motion to Adopt Settlement Agreement, CPUC Docket No. A.14-04-014 (Jan. 28, 2016); Decision Directing PG&E to Establish an Electric Vehicle Infrastructure and Education Program, CPUC Docket No. 16-12-065 (Dec. 21, 2016); Decision Authorizing Southern California Edison Company's Charge Ready 2 Infrastructure and Market Education Programs, CPUC Docket No. A.18-06-015 (Aug. 27, 2020).

control over pricing is also important to ensuring that site hosts can achieve their unique goals for hosting EV charging stations. For example, a restaurant may offer free or discounted charging for the first hour to attract customers, while a library may charge a fee for all charging sessions to ensure they recover the cost of electricity. Some site hosts might prefer a flat fee or a per-minute fee, while others may prefer a per-kWh price. Site hosts should be free to set prices and change prices as they see fit to support their goals. I also recommend that site hosts be the utility customer-of-record and be responsible for paying the regular bills associated with the electricity used for charging services through standard tariffs. This ensures the utility remains whole for any costs related to the electricity used by the charging stations while allowing the site host flexibility to price the charging services in accordance with its own goals. Further, this will encourage site hosts to maximize station utilization through signage, parking enforcement, maintenance, and pricing.

If the Commission decides to approve UGI Electric's pilot as proposed, we urge the Commission to clarify that the issues identified by ChargePoint, namely, the importance of site host choice of EV charging hardware and software and the ability for site hosts to establish pricing for EV charging services, would need to be incorporated into any subsequent pilots and programs.

What do you recommend?

Q:

A:

I recommend that the Commission approve UGI Electric's proposal to own EV chargers at three sites but direct UGI Electric to allow site hosts at these locations to choose the EV charging hardware and network service provider and to set the prices paid by drivers.

IV. Conclusion and Recommendations

- 2 Q: Please summarize your recommendations for the Commission.
- 3 A: I recommend that the Commission:
- Approve UGI Electric's proposal to invest in, own, and maintain make-ready
 infrastructure needed to support customer-owned EV charging stations, and direct UGI
 Electric to require EV chargers deployed through the program to be smart or
 networked, ENERGY STAR certified, and tested for safety by a national testing
 laboratory such as UL;
 - Direct UGI Electric to allow site hosts to choose the EV charging station equipment and network service provider for EV charging station locations at which UGI Electric has proposed to own chargers, and to allow site hosts to set prices to drivers.
- 12 Q: Does this conclude your testimony at this time?
- 13 A: Yes.

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MATTHEW DEAL

PROFESSIONAL EXPERIENCE

ChargePoint, Inc

Manager, Utility Policy

2020 - Present

Lead the development and execution of ChargePoint's regulatory strategies to promote electric vehicle charging solutions for site hosts, businesses, utilities and electric vehicle drivers.

SIERRA CLUB

Clean Energy Program Manager

2019 - 2020

Responsible for implementation of approved clean energy objectives through the design and implementation of campaign strategies for the N.C. Chapter. Work with N.C. Sierra Club local groups around the state on campaigns related to clean energy. Represent the Sierra Club to partner organizations, the media, policymakers and executive branch agencies.

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Senior Manager, Strategic Environmental Initiatives

2013 – 2017

Led renewable policy and supported commercial development activities. Tracked and analyzed renewable/environmental intelligence nationwide for internal stakeholders, including solar, wind, efficiency, load response and origination.

Manager, Policy Analysis

2011 - 2013

Analyzed corporate policy positions on federal, state, retail and wholesale market issues.

CALIFORNIA PUBLIC UTILITIES COMMISSION, San Francisco, CA

Director, Policy and Planning Division

2010 - 2011

Developed independent research on comprehensive long and medium-term regulatory strategies. Represented Commission programs & policies at Legislature, Governor's office, national policy forums and conferences.

Advisor, Office of the President

2007 - 2010

Facilitated success of gubernatorial appointee working in high-stakes, fast-paced political environment by counseling Commission President on major state-wide initiatives, including resource adequacy, long-term procurement, wholesale market structure, smart grid, demand response, renewable portfolio standards, transmission, greenhouse gas reductions and retail market design.

Senior Analyst 2006 – 2007

Provided technical research and analysis on electric procurement, including resource adequacy, long-term planning, compliance, load forecasting and risk mitigation.

FEDERAL ENERGY REGULATORY COMMISSION, Washington, DC

Energy Analyst

2002 - 2006

Provided expert consultation to Commissioners and top management on energy policy issues. Served as Energy Specialist on demand response, California wholesale market design and renewable energy issues.

EDUCATION

Master of Science (MS), Economics (2002)

Illinois State University, Normal, IL

Bachelor of Science (BS), Economics (2000)

Illinois State University, Normal, IL

PUBLICATIONS

Electric Energy Storage: An Assessment of Potential Barriers and Opportunities. July 2010. Available at https://jointventure.org/images/stories/pdf/cpuc.storagewhitepaper7910.pdf

Assessing the State of Wind Energy in Wholesale Electricity Markets. November 2004. Available at https://www.ferc.gov/sites/default/files/2020-05/11-04-wind-report.pdf

BEFORE THE PENNSYLVANIA PUBLIC UTILITY COMMISSION

Pennsylvania Public Utility Commission :

v. : R-2021-3023618

UGI Utilities, Inc. – Electric Division :

REBUTTAL TESTIMONY
OF
MATTHEW DEAL
ON BEHALF OF
CHARGEPOINT, INC.

ChargePoint Statement No. 2

May 27, 2021

1	<u>I.</u>	Introduction and Summary of Recommendations.
2	Q:	Please state your name.
3	A:	My name is Matthew Deal.
4	Q:	By whom are you employed and in what position?
5	A:	I am Manager of Utility Policy at ChargePoint, Inc (ChargePoint).
6	Q:	Are you the same Matthew Deal who submitted Direct Testimony on behalf of
7		ChargePoint in this proceeding on May 3, 2021?
8	A:	Yes, I am.
9	Q:	What is the purpose of your rebuttal testimony?
10	A:	The purpose of my rebuttal testimony is to respond to the Direct Testimony filed by the
11		Retail Energy Supply Association and NRG Energy, Inc. (RESA/NRG).
12	Q:	Please summarize your positions and recommendations for the Commission.
13	A:	I continue to support the recommendations I made in my Direct Testimony. For
14		convenience, these recommendations are as follows:
15		• Approve UGI Electric's proposal to invest in, own, and maintain make-ready
16		infrastructure needed to support customer-owned EV charging stations, and direct UGI
17		Electric to require EV chargers deployed through the program to be smart or
18		networked, ENERGY STAR certified, and tested for safety by a national testing
19		laboratory such as UL;
20		• Direct UGI Electric to allow site hosts to choose the EV charging station equipment
21		and network service provider for EV charging station locations at which UGI Electric

has proposed to own chargers, and to allow site hosts to set prices to drivers.

In my Rebuttal Testimony, I further recommend that the Commission:

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- Direct UGI Electric to remove the reference to Tesla in Section 5-m of Supplement No.
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 26;
- Encourage UGI Electric to be expansive in its interpretation and implementation of subpart (c) of Section 5-m to allow as many willing EV charging site hosts to participate in the make-ready program as possible;
- Direct UGI Electric to adopt my proposed changes to Section 5-m of Supplement No.
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8 <u>II. Response to RESA/NRG.</u>

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- 9 Q: What will you address in this section of your testimony?
- 10 A: In this section of my testimony, I will respond to recommendations made by RESA/NRG

 11 witness Ms. Danita Park.
- 12 Q: Ms. Park states that "UGI Electric's proposed criteria for 'Qualified EV Charging
 13 Stations' attempts to micro-manage the placement and technology (which is bound to
 14 change) utilized for the third-party owned EV charging stations." How do you
 15 respond?
 - A: I disagree with Ms. Park's characterization of UGI Electric's proposed criteria as an attempt to "micro-manage" third-party deployment of EV charging stations. As recommended in my Direct Testimony, I believe it is prudent for the utility to establish certain eligibility requirements for EV charging stations deployed through UGI Electric's make-ready program. However, I appreciate Ms. Park raising this issue because I do believe that not all of UGI Electric's proposed criteria are necessary and some should be clarified. I also believe that UGI Electric's proposal to require Tesla chargers, or any

 $^{^{\}rm 1}$ RESA and NRG St. No. 2, p. 23, ll. 3-10.

proprietary charger, for the make-ready program is not a prudent use of ratepayer funds. In my rebuttal testimony, I propose some modifications to UGI Electric's proposed criteria that I believe will alleviate any concerns that UGI Electric is micro-managing third-party EV charger deployment and that will improve the program.

Q: How does UGI Electric define "Qualified EV Charging Stations"?

6 A: Section 5-m of UGI Electric's proposed Supplement No. 26 states as follows:

Qualified EV Charging Stations shall be defined as one (1) to four (4) DC Fast Charge ("DCFC") stations of 50kW or greater which are (a) configured to support SAE/CCS and Tesla plug configurations at a minimum and are located directly along a major highway and in a commercial retail office, hotel or shopping location having parking accommodations for not less than 100 vehicles, (b) located in a commercial gasoline retail service station, or (c) located in another location where the Company, in its sole discretion, anticipates that adequate public availability and access is being provided. Installation locations may also be inclusive of one or more adjacent Level 2 charging stations.

A:

Q: Is this definition consistent with UGI Electric's description of its make-ready program in witness testimony?

Not exactly. UGI Electric's witness Mr. Taylor stated that its make-ready proposal would provide for a utility investment allowance "related to the installation of any make-ready infrastructure associated with Level 2 or DCFC charging stations installed within the UGI Electric service territory that will be open to the public for use." While this description from Mr. Taylor refers to "any make-ready infrastructure," Section 5-m quoted above indicates that UGI Electric will only support make-ready infrastructure for specific or approved installations that include one to four public DCFC chargers. Further, while Mr. Taylor refers to "Level 2 or DCFC charging stations," Section 5-m states that installations

² UGI Electric Statement No. 6, p. 40, ll. 3-8.

must have DCFC stations to qualify, indicating that site hosts that install only Level 2 chargers would not be eligible for make-ready support.

Q: Please explain your concerns with these criteria.

A:

A:

At this early stage of EV adoption, I believe it is reasonable for UGI Electric to support make-ready infrastructure for any customer that is willing to invest its own capital to host EV charging stations for public use. (I would also support UGI Electric supporting make-ready infrastructure for non-public or semi-public charging use cases, such as for fleets, workplaces, and multi-family housing, but I am not recommending that UGI Electric expand its program to these segments at this time.) Because site hosts must purchase the actual chargers themselves, as well as pay for the cost of network services, the expense of installing DCFCs might put the program out of reach for many site hosts that would otherwise like to participate by installing Level 2 chargers. Further, DC fast charging is not needed at many customer locations where EV drivers are likely to remain parked for longer periods of time or only are topping off their battery. For example, many EV drivers can get a sufficient charge with a Level 2 charger while parked overnight at a hotel or while parked for several hours at a movie theater. These sites should be permitted to choose the number and configuration of DCFC and/or Level 2 chargers that best meet their individual use case.

Q: Based on this concern, what do you recommend?

I recommend that the Commission direct UGI Electric to modify Section 5-m to allow site hosts that install at least four Level 2 charging ports to qualify for make-ready infrastructure support. I will propose specific modifications to Section 5-m later in my testimony.

Q: Do you have any other concerns with the criteria in Section 5-m?

Q:

A:

A:

Yes, I am concerned that the language requires charging station installations "to support SAE/CCS and Tesla plug configurations." I do not believe it is appropriate to require installations to include Tesla plugs and this requirement is likely to undermine the success of the program. UGI Electric's make-ready program should incentivize the deployment of non-proprietary charging plugs, which will ensure that all DCFCs supported by the program can charge all EVs on the road.

Why do you believe it is not appropriate to require Tesla plugs?

Tesla chargers use a proprietary plug type that can only be used by drivers of Tesla vehicles. By contrast, SAE/CCS is an open standard and SAE/CCS plugs can be used by any EV from one of the North American or European automakers (including Tesla vehicles, if the driver has an adapter). The other open standard plug type is known as CHAdeMO, used by some Asian automakers, but UGI Electric's tariff does not mention it.

Public EV charging stations that offer open standard plug types encourage EV adoption generally, because any EV driver can use them (including any Tesla driver who purchases an adapter). By contrast, Tesla chargers only encourage purchases of Tesla vehicles. I do not believe it is appropriate for UGI Electric to invest ratepayer funds to benefit a single company.

Further, Tesla owns and operates all of its DCFCs, known as Superchargers. Site hosts cannot simply purchase and install Tesla chargers on their property (as they can with ChargePoint chargers, for example, as well as many other charging providers). Rather, site hosts must request that Tesla install chargers on their property. If site hosts were required

to provide Tesla plugs to qualify for UGI Electric's program, it would effectively give Tesla control over which site hosts could participate in UGI Electric's program. I believe it would be very imprudent and impractical to give a private company an effective veto over which EV charging station installations can qualify for UGI Electric's make-ready program.

Based on this discussion, what do you recommend?

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I recommend that the Commission direct UGI Electric to strike the reference to Tesla in Section 5-m. Ratepayer funds should not be used to support chargers with proprietary plug types that can only be used by one type of vehicle. Alternatively, if the Commission wishes to allow site hosts that deploy Tesla chargers to receive make-ready support, it should direct UGI Electric to require that site hosts deploy an equal or greater number of open standard plug types such as SAE/CCS. For example, if a site host wished to host two Tesla Superchargers, it should be required to also host two DCFCs with open standard plug types. Do you have any further comments on UGI Electric's proposed locational requirements based on Ms. Park's concerns that UGI Electric will micro-manage EV charger deployments? I do have some concern that UGI Electric's locational requirements are more prescriptive than necessary. As I stated earlier, given the current early stage of EV adoption, I believe UGI Electric should provide make-ready support to any customer willing to host EV charging stations for public use. I understand that UGI Electric's proposed locational requirements are designed to ensure that it supports make-ready infrastructure for EV

charging stations that are conveniently located for EV drivers. However, since site hosts

will also need to invest capital to purchase and maintain EV chargers, as well as dedicate

valuable parking spots to EV charging, site hosts are unlikely to install EV charging stations if they do not expect them to be utilized. In other words, I believe that a site host's own determination that it makes financial sense to host public EV charging stations should be the only locational criteria for the make-ready program.

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A:

While ChargePoint would typically recommend removing all geographic-based restrictions from a make-ready program like UGI Electric has proposed, given that this is a new activity for UGI Electric and that UGI Electric is a relatively small utility, I am not recommending any changes to Section 5-m with respect to locational requirements at this time. Instead, I recommend that the Commission encourage UGI Electric to be expansive in its interpretation and implementation of subpart (c), which allows UGI Electric in its discretion to approve site hosts for participation in the program if they do not meet the locational requirements in subparts (a) and (b).

Do you have any further recommendations with respect to Section 5-m?

Yes. Consistent with my recommendations in my Direct Testimony, I recommend that the Commission direct UGI Electric to establish minimum technical standards for all EV chargers deployed with support from UGI Electric's make-ready program. Specifically, all EV chargers should be smart or networked, tested for safety by a national testing laboratory such as UL, and all Level 2 chargers should be ENERGY STAR certified.³ Smart chargers will be vital to ensuring that EV charging benefits the distribution grid by enabling UGI Electric and third-parties to have advanced load management capabilities to facilitate off-peak charging and other managed charging strategies. A smart charger can also collect interval data to inform usage patterns, and provide enhanced network communication

³ ENERGY STAR certification is currently only available for Level 2 chargers.

capabilities between the EV driver and the utility, or third-party systems. These capabilities can be of significant importance to customers to enable charging, as well as to utilities and third-party providers since the smart station provides a wealth of information related to charging behaviors and load profiles.

A:

I recognize that UGI Electric has not proposed managed charging programs in this application, however, requiring smart charger capabilities now will future-proof investment in EV charging infrastructure. By requiring smart chargers from the outset, the Commission and UGI Electric will enable the Company, third-party providers, vendors, and customers to reap significant benefits from increased functionality and wider future program design options.

Q: Based on this discussion, do you recommend any modifications to Section 5-m of Supplement No. 26?

Yes. Again, I appreciate Ms. Park raising her concerns and the opportunity to provide these recommended improvements and clarifications to Section 5-m. Based on my discussion, I recommend that the Commission direct UGI Electric to modify Section 5-m to read as follows:

Qualified EV Charging Stations shall be defined as one (1) to four (4) DC Fast Charge ("DCFC") stations of 50kW or greater or at least four (4) Level 2 charging stations, which are (a) configured to support SAE/CCS and Tesla plug configurations (for DCFC stations) or J1772 plugs (for Level 2) at a minimum and are located directly along a major highway and in a commercial retail office, hotel or shopping location having parking accommodations for not less than 100 vehicles, (b) located in a commercial gasoline retail service station, or (c) located in another location where the Company, in its sole discretion, anticipates that adequate public availability and access is being provided. Installation locations may also be inclusive of one or more adjacent Level 2 charging stations. All chargers must have smart or network capabilities and be tested for safety by a national testing laboratory such as UL. Level 2 chargers must be ENERGY STAR certified.

III. Conclusion and Recommendations

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- 2 Q: Please summarize your recommendations for the Commission.
- 3 A: I continue to support the recommendations I made in my Direct Testimony. For convenience, these recommendations are as follows:
- Approve UGI Electric's proposal to invest in, own, and maintain make-ready infrastructure needed to support customer-owned EV charging stations, and direct UGI Electric to require EV chargers deployed through the program to be smart or networked, ENERGY STAR certified, and tested for safety by a national testing laboratory such as UL;
 - Direct UGI Electric to allow site hosts to choose the EV charging station equipment and network service provider for EV charging station locations at which UGI Electric has proposed to own chargers, and to allow site hosts to set prices to drivers.
- In my Rebuttal Testimony, I further recommend that the Commission:
- Direct UGI Electric to remove the reference to Tesla in Section 5-m of Supplement No.
 26;
- Encourage UGI Electric to be expansive in its interpretation and implementation of subpart (c) of Section 5-m to allow as many willing EV charging site hosts to participate in the make-ready program as possible;
- Direct UGI Electric to adopt my proposed changes to Section 5-m of Supplement No.
 26.
- 21 Q: Does this conclude your testimony at this time?
- 22 A: Yes.