BEFORE THE PUBLIC SERVICE COMMISSION
OF THE STATE OF MISSOURI

In the Matter of a Working Case Regarding	)	
Electric Vehicle Charging Facilities	)	File No. EW-2016-0123

COMMENTS OF SIERRA CLUB ON ELECTRIC VEHICLE CHARGING FACILITIES

Table of Contents

I. Introduction

Sierra Club appreciates the opportunity to provide comments on the legal and policy issues related to the Missouri Public Service Commission's regulation of and jurisdiction over the provision of electricity for use in electric vehicles ("EVs")[1] and the role for electric utilities in supporting EV infrastructure. We commend the Commission for initiating this important discussion, and respectfully submit these comments in response to the Commission's *Agenda for Workshop and Request for Comments*, filed January 15, 2016.[2]

Sierra Club is a national non-profit environmental organization with more than 600,000 members. In Missouri, Sierra Club has over 8,500 members. A core mission of Sierra Club is to "explore, enjoy, and protect the planet." To advance this mission, Sierra Club works to move America beyond the use of fossil fuels and to promote the responsible use of natural resources. Vehicle electrification is a critical part of this effort, as widespread use of EVs can reduce our reliance on oil, improve air quality, and limit the emissions of greenhouse gases and other pollutants. Electrification also has the potential to reduce electricity rates by increasing grid efficiency and reliability, and to facilitate the integration of renewable energy onto the grid.

In Missouri and elsewhere, Sierra Club has engaged with the complex issues related to transportation electrification and the role for electric utilities. Before this Commission, Sierra Club briefed the Kansas City Power & Light Clean Charge Network issue in the general rate case that gave rise to this working case.[3] Sierra Club has jointly or individually intervened and/or provided briefing or comments on these and similar issues in proceedings

[1] References to the term "electric vehicle" refer to light-duty passenger plug-in hybrid electric vehicles and battery electric vehicles.

[2] *Agenda for Workshop and Request for Comments*, File No. EW-2016-0123, In the Matter of Working Case Regarding Electric Vehicle Charging Facilities (filed January 15, 2016). Sierra Club filed these comments on March 7, 2016, pursuant to guidance from Staff and Senior Regulatory Law Judge Bushmann.

[3] *See, e.g., Initial Post-Hearing Brief of Sierra Club*, File No. ER-2014-0370, In the Matter of Kansas City Power & Light Company's Request for Authority to Implement a General Rate Increase for Electric Service (filed July 22, 2015).

in a number of states including New York, Kentucky, California, and Connecticut. In California, Sierra Club actively participated in the proceedings that resulted in approval by the California Public Utilities Commission of the two largest utility program investments in EV charging infrastructure in the country.[4]

In developing rules and adopting policies for EVs and EV charging, we urge the Staff and Commission to adopt several policy goals: first, to reduce barriers to EV adoption and ownership; second, to support growth and innovation in the EV service providers' market; and third, to maximize the benefits of EVs to the environment, to the electric system and to utility ratepayers, while minimizing costs to the grid. In our responses to Staff's questions below, we offer our analysis of the role for the Commission, under Missouri law, in regulating EV charging service providers and the provision of electricity to those service providers, including lessons from other states.

II. The Commission Should Not Regulate Non-Utility Owners and Operators of EV Charging Stations as "Public Utilities."

a. Commission Questions.

In Attachment B to its *Agenda for Workshop and Request for Comments*, Staff posed the following questions regarding the jurisdiction of the Commission to regulate EV charging stations, their owners and operators, and the transfer of electricity as from EV charging stations to EVs:

> *i. What is the Missouri Public Service Commission's role in regulation of electricity from a charging station to an electric vehicle? Please provide the legal justification for your response.*

[4] *See Decision Regarding Underlying Vehicle Grid Integration Application and Motion to Adopt Settlement Agreement*, D.16-01-045, In the Matter of the Application of San Diego Gas & Electric for Approval of its Electric Vehicle-Grid Integration Pilot Program (filed January 28, 2016) [*hereinafter CPUC Decision on SDG&E VGI Program*] and *Decision Regarding Southern California Edison Company's Application For Charge Ready and Market Education Programs*, D.16-01-023, Application of Southern California Edison for Approval of its Charge Ready and Market Education Programs (filed January 14, 2016) [hereinafter *CPUC Decision on SCE Charge Ready Program*], California Public Utilities Commission, *available at* http://docs.cpuc.ca.gov/DecisionsSearchForm.aspx

ii. *Are Investor Owned Utilities ("IOU") the only entities that can provide electricity to electric vehicles via a charging station? What other entity (ies) can provide electricity to electric vehicles via charging stations? Is the answer dependent on whether the entity charges for the electricity? Please provide the legal justification for your response.*

1. *Is there a legal restriction which would prevent any company other than the local IOU electric company from providing electricity to an EV charging station?*

2. *Is the local IOU electric company obligated by law to provide electricity to EV charging stations?*

3. *What impact do the responses provided in sub-bullets 1 and 2 have on EV charging stations that are installed and operational as of this date*

iii. *Is each charging station a distinct electric utility?*

b. For the Reasons Below, the Commission Should Clarify that EV Charging Stations and Non-Utility Owners and Operators of EV Charging Stations Are Not "Public Utilities" Subject to the Commission's Jurisdiction, and That Non-Utilities Can Provide EV Charging Services.

As described more fully below, and consistent with the conclusions of other Commissions in other states, because non-utility owners and operators of EV charging stations do not fall within Missouri's legal definition of "public utilities" or "electrical corporations," and because non-utility EV charging stations do not constitute an "electric plant," neither should be subject to Commission regulation as utilities. This finding should apply to all non-utility providers of EV charging services, regardless of whether the EV charging stations are made publicly available and whether charging services are sold. To exercise jurisdiction based on the manner of billing, or to limit the provision of EV charging services to Investor Owned Utilities ("IOUs"), would hamper growth and innovation at this early stage in the EV charging services market. At the same time, as described more fully in Section III below, the Commission should regulate the sale of electricity from electric utilities to EV charging stations, maintain its jurisdiction over the transfer of electricity as

between electric utilities and end-users, including EV drivers, and clearly articulate its ability and intention to respond to a changing and growing market.

i. The Commission's Jurisdiction Under Missouri Law.

Under Missouri law, the Commission's jurisdiction extends to "the manufacture, sale or distribution of … electricity for light, heat and power," to "electric plants," and "to all public utility corporations…."[5] A "public utility" is defined to include "every … electrical corporation."[6] An "electrical corporation," in turn, includes persons or corporations "owning, operating, controlling, or managing any electric plant."[7] The term "electric plant" includes "all real estate, fixtures and personal property operated, controlled, owned, used or to be used for or in connection with or to facilitate the generation, transmission, distribution, sale or furnishing of electricity for light, heat or power …."[8]

In addition, although a "public use" requirement is not expressly stated in the definitions for an "electrical corporation" or "electric plant," the Missouri Supreme Court long ago found that "it is apparent that the words 'for public use' are to be understood and to

[5] Mo. Rev. Stat. 386.250(1)-(5) ("The jurisdiction, supervision, powers and duties of the public service commission herein created and established shall extend under this chapter: (1) To the manufacture, sale or distribution of … electricity for light, heat and power, within the state, and to persons or corporations owning, leasing, operating or controlling the same; and to gas and electric plants, and to persons or corporations owning, leasing, operating or controlling the same; … (5) To all public utility corporations and persons whatsoever subject to the provisions of this chapter as herein defined ….").

[6] Mo. Rev. Stat. 386.020.1(43) ("'Public utility' includes every pipeline corporation, gas corporation, electrical corporation, telecommunications company, water corporation, heat or refrigerating corporation, and sewer corporation, as these terms are defined in this section, and each thereof is hereby declared to be a public utility and to be subject to the jurisdiction, control and regulation of the commission and to the provisions of this chapter.").

[7] *Id.* at subsection 15 ("'Electrical corporation' includes every corporation, company, association, joint stock company or association, partnership and person, their lessees, trustees or receivers appointed by any court whatsoever, other than a railroad, light rail or street railroad corporation generating electricity solely for railroad, light rail or street railroad purposes or for the use of its tenants and not for sale to others, owning, operating, controlling or managing any electric plant except where electricity is generated or distributed by the producer solely on or through private property for railroad, light rail or street railroad purposes or for its own use or the use of its tenants and not for sale to others.").

[8] *Id.* at subsection 14. ("'Electric plant' includes all real estate, fixtures and personal property operated, controlled, owned, used or to be used for or in connection with or to facilitate the generation, transmission, distribution, sale or furnishing of electricity for light, heat or power; and any conduits, ducts or other devices, materials, apparatus or property for containing, holding or carrying conductors used or to be used for the transmission of electricity for light, heat or power.").

be read therein."[9] In the words of the Court, the "[t]he electric plant must, in short, be devoted to a public use before it is subject to public regulation."[10] This view remains the law in Missouri today.[11]

Accordingly, in determining whether the Commission's jurisdiction extends to non-utility owners and operators of EV charging stations, the inquiry should proceed in two steps: first, whether the EV charging station is made available for "public use"; and second, whether the non-utility owners or operators of the charging station are "public utilities"—that is "electrical corporations"—that operate "electric plant," meaning their facilities are "used or to be used for or in connection with or to facilitate the generation, transmission, distribution, sale or furnishing of electricity for light, heat or power."[12]

ii. Non-Utility Owners and Operators of EV Charging Stations Do Not Qualify as "Public Utilities" Under Missouri Law.

First, in many instances, EV charging services are not dedicated "for public use," and thus, the charging provider would not be a "public utility" or "electrical corporation" pursuant to Missouri law. One example is a homeowner that charges his or her own vehicle in his or her own garage and does not offer charging services to others. Other examples include landlords that provide EV charging on the premises to tenants, and employers that provide access to EV charging to their employees.

Second, even in instances where EV charging services are dedicated to the public, non-utility entities that provide EV charging services do not qualify as public utilities subject to the Commission's jurisdiction. Non-utility EV charging service providers do not meet the definition of a "public utility" or "electrical corporation," nor do their stations constitute

[9] *State ex rel. M.O. Danciger & Co. v. Public Service Commission*, 275 Mo. 483, 205 S.W. 36, 38 (1918) (citing *ICE CO State v. Spokane & I. E. R. Co.*, 89 Wash. 599, 154 P. 1110 (1916)).
[10] *Id.*
[11] *See, e.g.*, *Hurricane Deck Holding Co. v. Public Service Commission of State*, 289 S.W.3d 260, 264 (Mo. Ct. App. 2009).
[12] Mo. Rev. Stat. 386.020.1(14).

"electric plant," because they are not engaged in the "generation, transmission, distribution, sale or furnishing of electricity for light, heat or power."[13]

As other Commissions have concluded, non-utility owners or operators of EV charging stations are selling EV charging services, that is, the use of specialized equipment which allows the customer to do only one thing: charge an EV's battery. The primary purpose of the transaction between non-utility owners and operators of EV charging stations and EV drivers is the purchase of charging services[14] and the use of the specialized equipment (i.e., the cord and vehicle connector). As the New York Public Service Commission concluded: "while the customer is using electricity, this is incidental to the transaction."[15] This interpretation should not change based on whether or how an EV driver is billed for EV charging services by a non-utility provider, as the jurisdiction of this Commission does not rest on a particular manner of billing.

Because non-utility owners and operators of EV charging stations are not "public utilities," they instead should be regarded as end-use customers of Commission-regulated electrical corporations. Under Missouri law, an IOU holding a Commission certificate must serve all customers within the utility's service area without unreasonable discrimination, including EV charging stations.[16] To Sierra Club's knowledge, this interpretation maintains the status quo for EV charging stations already installed within Missouri.

Finally, with the interpretation of Missouri law above in mind, Sierra Club sees no reason to limit the provision of EV charging services to IOUs, particularly at this critical time for acceleration of EV adoption and use in Missouri. Such a limit would risk hampering

[13] *Id.*
[14] For example, charging services can, but do not necessarily, include network, metering, and billing services provisions.
[15] *Declaratory Ruling on Jurisdiction Over Publicly Available Electric Vehicle Charging Stations* at 4, Case 13-E-0199, In the Matter of Electric Vehicle Policies (filed November 22, 2013), New York Public Service Commission.
[16] *State ex rel. Fed. Reserve Bank of Kansas City v. Public Service Commission*, 239 Mo. App. 531, 540, 191 S.W.2d 307, 313 (1945).

investment, growth, and innovation in a nascent market that is critical to the support of adoption and ownership of EVs.

Nonetheless, as discussed in Section IV below, electric utilities should have a role to play in the growth of EV charging infrastructure, and the Commission should ensure that any utility's efforts to support the growth of EV infrastructure maximize benefits for the environment, electric grid, and all utility ratepayers. In our interpretation above, we do not suggest that the Commission disclaim jurisdiction over the use of electricity for charging services and transportation *per se*; instead, we suggest that the mere sale of EV charging services by a non-utility owner or operator of an EV charging station does not make that entity a "public utility" subject to Commission regulation. To the extent an otherwise-regulated public utility owns or operates EV charging stations, the provision of EV charging services should not affect the entity's status as a public utility. The Commission, therefore, should continue to exercise jurisdiction over the provision of electricity as between public utilities and end-users, whether they be EV charging services providers, EV drivers or any other end-use customer, and to maintain its ability to respond to this market as it evolves.

iii. The Commission Should Adopt the Reasoning of Utility Regulators in Other States, Which Have Consistently Found That Third-Party Owners and Operators of EV Charging Stations Are Not "Public Utilities."

The interpretation of Missouri law advanced by Sierra Club above reflects the conclusion reached by several utility regulatory commissions, as well as their framing of the issue, under similar statutory authorities. Below, we summarize the reasoning and conclusions of utility commissions in three states with particularly comparable statutory language—California, Massachusetts, and New York.

In California, the Public Utility Commission ("PUC") first considered whether EV charging stations and their operators constitute "public utilities" in a January 2010 Scoping

Memo, in which the assigned Commissioner offered the following preliminary interpretation as a basis for parties' briefs:

> Facilities that are solely used to provide electricity as a transportation fuel do not constitute "electric plant" pursuant to Pub. Util. Code § 218.[17] Thus, an entity owning, controlling, operating, or managing electric vehicle charging facilities is not an "electric corporation" [18] pursuant to Pub. Util. Code § 218 and not a "public utility" pursuant to Pub. Util. Code § 216, unless an entity falls under § 216 and § 218 for other reasons.[19]

As a result, Commissioner Michael Peevey reasoned that "the Commission would not have regulatory authority regarding the price" or other aspects of operation of a charging facility by a non-utility operator, "unless the charging facility operator is a public utility by reason of its operations other than providing electric charging."[20]

> After stakeholder input, the PUC reached the following Conclusion of Law:
>
> It is reasonable to conclude, consistent with the underlying rationale of the Public Utilities Code and Sections 740.2 and 740.3, that the legislature did not intend that this Commission regulate providers of electric vehicle charging services as public utilities pursuant to §§ 216 and 218."[21]

In addressing several parties' arguments that EV service providers should qualify as "public utilities" and must be regulated to ensure that vehicle charging occurs in a manner that maintains a safe and reliable grid—concerns shared by the Sierra Club here—the PUC was

---

[17] Ca. Pub. Util. Code Section 217 defines "electric plant" to include "all real estate, fixtures and personal property owned, controlled, operated, or managed in connection with or to facilitate the production, generation, transmission, delivery, or furnishing of electricity for light, heat, or power, and all conduits, ducts, or other devices, materials, apparatus, or property for containing, holding, or carrying conductors used or to be used for the transmission of electricity for light, heat, or power."

[18] Ca. Pub. Util. Code Section 218 defines "electrical corporation" to include "every corporation or person owning, controlling, operating, or managing any electric plant for compensation within this state, except where electricity is generated on or distributed by the producer through private property solely for its own use or the use of its tenants and not for sale or transmission to others."

[19] *Assigned Commissioner's Scoping Memo* at 4-5, Rulemaking 09-08-009, Order Instituting Rulemaking on the Commission's own motion to consider alternative-fueled vehicle tariffs, infrastructure and policies to support California's greenhouse gas emissions reduction goals (filed August 20, 2009), California Public Utilities Commission.

[20] *Id.*

[21] *Decision in Phase 1 On Whether a Corporation or Person That Sells Electric Vehicle Charging Services To the Public Is a Public Utility* at 40, D.10-07-044, Order Instituting Rulemaking on the Commission's own motion to consider alternative-fueled vehicle tariffs, infrastructure and policies to support California's greenhouse gas emissions reduction goals (filed July 29, 2010), California Public Utilities Commission. Public Utilities Code Sections 740.2 and 740.3 direct the Commission to focus on the potential impacts of vehicle charging on electrical infrastructure and grid operations, and to promote policies to facilitate the use of electric power to fuel low emission vehicles, respectively.

careful to articulate its other remaining sources of regulatory authority over EV charging. Those sources included its ability to set the conditions of utility service, including rates, for operators of EV charging stations, and its jurisdiction over the provision of EV charging services by an IOU, given that "the provision of such services will not affect the utility's status as a public utility."[22] In the context of Southern California Edison's ("SCE") "Charge Ready" program, discussed further below, the California PUC set the terms by which SCE provided rebates to utility customer "hosts" who installed EV charging equipment, even though the utility itself did not own or operate that equipment, but sought to fold the rebate costs into customer rates.[23]

In 2013, the New York Public Service Commission ("PSC") also considered the nature of EV charging stations and their owners and operators as against the State's Public Service Law definitions for "electric plant"[24] and "electric corporation,"[25] which, similar to Missouri, define the New York PSC's jurisdiction.[26] In its November 2013 Order, the PSC held that EV charging stations are not "electric plant" because "[c]harging Stations are not used for, or in connection with, or to facilitate the generation, transmission, distribution, sale or furnishing of electricity for light heat or power."[27] The PSC focused on the "primary purpose" of the transaction between operators of EV charging stations and members of the public, which it described as the use of specialized equipment; the use of electricity "is

[22] *Id.* at 23-29.
[23] CPUC Decision on SCE Charge Ready Program at 6-45.
[24] NY PSL §2(12) ("Electric plant" means "all real estate, fixtures and personal property operated, owned, used or to be used for or in connection with or to facilitate the generation, transmission, distribution, sale or furnishing of electricity for light heat or power.").
[25] NY PSL §2(13) ("Electric corporation" means an entity "owning, operating or managing any electric plant... .").
[26] *See* NY PSL §5(1)(b) (Extending NY PSC jurisdiction to the manufacture, conveying, transportation, sale or distribution of electricity for light, heat or power, to electric plant and to entities owning, leasing or operating electric plant).
[27] *Declaratory Ruling on Jurisdiction Over Publicly Available Electric Vehicle Charging Stations* at 4, Case 13-E-0199, In the Matter of Electric Vehicle Policies (filed November 22, 2013), New York Public Service Commission.

incidental to the transaction."[28] The PSC also noted that "the method of calculating the transaction fee, specifically, the use of a per kWh price, will not confer jurisdiction where none otherwise exists."[29] Finally, as with the California PUC, the New York PSC limited its denial of jurisdiction to owners and operators of EV charging stations "which do not otherwise fall within the Public Service Law's definition of 'electric corporation,'" and maintained its "continuing jurisdiction over the transactions between electric distribution companies and the owners and operators of Charging Stations."[30]

In 2014, the Massachusetts Department of Public Utilities ("DPU") considered whether its jurisdiction over "distribution companies" and "electric companies" extended to owners and operators of EV charging stations.[31] First, the DPU held that EV charging equipment does not constitute a "distribution company" because "the equipment component of EVSE used to supply the electricity is in the nature of a connector or cord, not a line."[32] Second, the DPU reasoned and held that owners or operators of EV charging stations are not "electric companies" because they are not "selling electricity within the meaning of the Chapter 164 [defining "electric company"]."[33] Instead, the DPU characterized the role of the providers as "selling EV charging services, i.e., the use of specialized equipment – EVSE – for the purpose of charging an EV battery."[34] The DPU found this result to be true "regardless of the business model the EVSE owner/operator uses to charge customers for charging services, even if the charge is by a per-kilowatt hour basis or other volumetric energy basis."[35]

---

[28] *Id.* at 4.
[29] *Id.*
[30] *Id.* at 5.
[31] *Order on Department Jurisdiction Over Electric Vehicles, The Role of Distribution Companies in Electric Vehicle Charging and Other Matters*, DPU 13-182-A, Investigation by the Department of Public Utilities upon its own Motion into Electric Vehicles and Electric Vehicle Charging (filed August 4, 2014), Massachusetts Department of Public Utilities.
[32] *Id.* at 6.
[33] *Id.* at 7.
[34] *Id.*
[35] *Id.*

In sum, Sierra Club asks the Commission to carefully consider the reasoning of the other Commissions described above, and to similarly limit the regulatory burdens on non-utilities that seek to own or operate EV charging stations while at the same time clarifying its continuing authority to regulate electric corporations so as to maintain a safe and reliable grid to maximize benefits to utility customers in the face of growing EV load from utility and non-utility owned charging stations alike.

III. The Commission Should Regulate the Sale of Electricity Between Utilities and the Owners or Operators of EV Charging Stations, and Should Do So With the Goal of Maximizing Grid and Customer Benefits.

a. Commission Questions.

In Attachment B to its *Agenda for Workshop and Request for Comments*, Staff posed the following question regarding the jurisdiction of the Commission to regulate the transfer of electricity as between electric utilities and EV charging stations:

> *i. What is the Missouri Public Service Commission's role in regulation of electricity from a utility to a charging station? Please provide the legal justification for your response.*

b. The Commission's Role in Regulation of Electricity From a Utility To a Charging Station Should Be the Same as For Any End-Use Customer.

As noted above, the Commission should not regulate an entity providing EV charging services as "public utilities" or "electrical corporations" solely because the entity provides electricity as a transportation fuel. The Commission, however, should regulate the transfer of electricity between otherwise defined and regulated "public utilities" and non-utility owners or operators of EV charging stations with the same authority as the Commission regulates the furnishing of electricity by a public utility to any other residential, commercial or industrial electricity customer. Specifically, we refer to the Commission's authority to set terms of

service, tariffs, and rates,[36] as well as to manage safety and operational standards.[37] This interpretation reflects a plain reading of Missouri law, and, as described above, is consistent with the conclusions reached by other utility regulators evaluating similar utility laws.

c. In Exercising Regulatory Authority, the Commission Should Support Rates, Programs, and Policies That Maximize the Benefits of Electric Vehicle Load.

In exercising its regulatory authority, Sierra Club encourages the Commission to investigate the application of rates, programs (e.g., load management and/or demand response programs) and policies designed to maximize the benefits of the relatively flexible and manageable load presented by EVs.[38] If charging is managed to occur during off-peak periods, this new load can be served by existing and often underutilized infrastructure.[39] Similarly, EV load can be shifted to facilitate the integration of variable generation from renewable sources, which is increasingly the least cost energy resource on the grid.[40] By increasing usage of standing assets, smoothing and shifting loads, and improving reliability, EV charging can lower the marginal cost of electricity for all customers.[41] On the other hand, poorly integrated EV load can undermine these potential benefits. At higher levels of EV penetration, unmanaged demand could strain the existing system, undermining reliability and driving the need for new generating resources as well as unnecessarily increasing the need for

[36] Mo. Rev. St. §§ 393.130.1-140.12.
[37] *See, e.g.*, 4 Mo. CSR § 240-10.040 (Service and Billing Practices for Commercial and Industrial Customers of Electric, Gas, Water and Steam Heat Utilities); 4 Mo. CSR § 240-13.010 *et seq.* (Service and Billing Practices for Residential Customers); 4 Mo. CSR § 240-18.010 (Safety Standards for Electrical Corporations, Telecommunications Companies and Rural Electric Cooperatives); 4 Mo. CSR § 240-23.010 *et seq.* (Electric Utility Operational Standards).
[38] *See, e.g.*, Regulatory Assistance Project, *In the Driver's Seat: How Utilities and Consumers Can Benefit From the Shift to Electric Vehicles* at 4-7 (April 2015) [hereinafter In the Driver's Seat]; CAISO, *California Vehicle-Grid Integration (VGI) Roadmap: Enabling Vehicle-Based Grid Services* (2014) [hereinafter VGI Roadmap].
[39] ICF International and Energy+Environmental Economics, *California Transportation Electrification Assessment, Phase I* at 38 (2014) [hereinafter CalTEA I]; ICF International and Energy+Environmental Economics, *California Transportation Electrification Assessment, Phase II* at 17 (2014) [hereinafter CalTEA II].
[39] CalTEA I at 38; CalTEA II at 55-70.
[40] In the Driver's Seat at 5, 13; CalTEA II at 68; VGI Roadmap at 5.
[41] CalTEA II at 65.

upgraded substations, distribution lines, and transformers, thereby potentially increasing costs for all ratepayers.[42]

Several means are available to achieve these benefits. First, there is broad consensus that time-variant pricing is crucial to incentivizing EV owners to charge their cars at times when demand on the grid is low.[43] The Department of Energy's EV Project, which has tracked the charging behavior of thousands of EVs since 2011, has shown that in areas with time-of-use ("TOU") rates and effective utility education and outreach, the majority of EV charging occurs during off-peak hours.[44] This was not the case in areas without TOU rates, where EV demand generally peaked in the early evening, exacerbating early-evening system-wide peak demand.[45] Another option is for utilities or third parties to implement technology that allows it to control the charge to an EV.[46] By modulating electricity levels in real-time or switching off load completely through the use of technologies such as advanced EV charging station technology and enhanced utility metering, one can prevent EV charging from worsening peak distribution loads while still meeting EV drivers' needs.[47]

In Missouri, we urge the Commission to explore these options in the context of reviewing proposed and implemented pilot programs, including consideration of projected EV load, existing rate design policy and managed charging, and metering arrangements. As set forth in Section IV below, we further urge the Commission to include consideration of the potential benefits of EV load and the rate design and demand response elements described

[42] *See, e.g.*, Utility Involvement in the Market for Low-Emission Vehicles, D.95-11-035, California Public Utilities Commission, Decision; *see generally* CalTEA II.
[43] *See, e.g.*, CalTEA II at 19-20; *In the Driver's Seat* at 4-7; Glazner, *Electric Mobility and Smart Grids: Cost Effective Integration of Electric Vehicles with the Power Grid*, Symposium Energieinnovation (February 2012); Michael Kintner-Meyer, Kevin Schneider, & Robert Pratt, *Impacts Assessment of Plug-in Hybrid Vehicles on Electric Utilities and Regional U.S. Power Grids* (November, 2007).
[44] Schey, et al, *A First Look at the Impact of Electric Vehicle Charging on the Electric Grid*, The EV Project at EVS26 (May 2012).
[45] *Id.*
[46] *In the Driver's Seat* at 4-7.
[47] *Id.*

above in deciding its policies for utility investment in EV charging infrastructure and cost recovery.

IV. The Commission Should Proactively Support Growth Of and Access To EV Charging Stations, including Allowing Cost Recovery for Utility Programs, So Long As Utilities Can Demonstrate Benefits to the Electricity Grid and the Body of Utility Customers.

a. Commission Questions.

In Attachment B to its *Agenda for Workshop and Request for Comments*, Staff posed several questions regarding initiatives undertaken outside Missouri to support the deployment of, and access to, EV charging infrastructure. Staff requested information on the role for electric utilities in supporting access to EVs and EV charging for low-income ratepayers, the EV infrastructure programs underway in other states and countries, and whether utility regulators in other states have authorized cost recovery for electric utilities. Staff also asked who should pay for various costs associated with deployment of EV charging stations here in Missouri. The specific questions are as follows:

i. *How will there be accessibility to electric vehicles for low-income ratepayers? At what point in time would accessibility to electric vehicles for low-income ratepayers occur?*

ii. *How are other countries promoting public use of EV charging stations?*

iii. *What are other states doing to fund the development and installation of EV charging stations? Is cost recovery allowed through a utility's rates? Please include a reference to any legal authority that explicitly authorizes the method of funding or cost recovery.*

iv. *Who should pay for the equipment, installation and maintenance for the EV charging station networks?*

b. State-Actors Are Proactively Supporting the Growth of EV Infrastructure Across the Country and Around the World.

To date, state-actors in this country and in nations around the world have pursued a wide variety of initiatives to support the growth of EV infrastructure. Many EV stations, at home and abroad, have been installed as a result of grants or public funding at various levels of government.[48] For example, Spain[49] and Denmark[50] have each committed 10 million Euro to the development of EV infrastructure in their respective countries. The United Kingdom[51] and France[52] have both committed large sums to match-funding for the installation of EV charging stations located in public locations and at businesses. South Korea[53], Japan[54], and China[55] each have their own multi-phased plans for the development of nation-wide EV charging networks. As other commenters have noted, one of the better reference points for global efforts to support EV adoption is The International Council on Clean Transportation's September 2015 report entitled "Transition to a Global Zero Emission Fleet: A Collaborative Agenda for Governments."[56] Needless to say, the efforts abroad to further EVs are diverse, just like the efforts here at home.

From Georgia up to Massachusetts and across to California, states have provided or currently offer rebates for vehicle purchases, rebates for the purchase or installation of chargers, and time-of-use rates and separate meters for home EV charging, among other

[48] *See, e.g.*, *Electric Program Investment Charge 2015 Annual Report*, California Energy Commission (February 2016).
[49] *Hybrid & Electric Vehicle Implementing Agreement: By Country: Spain*, International Energy Agency, http://www.ieahev.org/by-country/spain-charging-infrastructure/ (last visited Feb. 29, 2016).
[50] Amsterdam Roundtables Foundation and McKinsey & Company, *EVolution: Electric Vehicles in Europe: Gearing Up for a New Phase?* 31 (2014).
[51] Plugged-in Places, Government of the United Kingdom (first published Feb. 12, 2013), https://www.gov.uk/government/publications/plugged-in-places
[52] *France Invests 50 Million Euros in Elctro-Mobility*, Environment News Service (Oct. 8, 2012), http://ens-newswire.com/2012/10/05/france-invests-50-million-euros-in-electro-mobility/.
[53] *Hybrid & Electric Vehicle Implementing Agreement: By Country: Republic of Korea*, International Energy Agency, http://www.ieahev.org/by-country/republic-of-korea/ (last visited Feb. 29, 2016); Kentaro Ogura, *South Korea to Quadruple Car-Charging Stations*, Nikkei Asian Review (Nov. 24, 2015), http://asia.nikkei.com/Politics-Economy/Policy-Politics/South-Korea-to-quadruple-car-charging-stations.
[54] Heike Proff & Dominik Kilian, University of Duisburg-Essen, *Competitiveness of the EU Automotive Industry in Electric Vehicles* 179 (2012).
[55] *Id.* at 192-93.
[56] *Transition to a Global Zero Fleet: A Collaborative Agenda for Governments*, International Council on Clean Transportation (September 2015), *available at http://www.theicct.org/transition-global-zero-emission-vehicle-fleet-collaborative-agenda-governments*

initiatives and incentives. As described below, many of the initiatives with the most significant impact on access to EV charging were developed between utilities, regulators, and stakeholders. In Missouri, we applaud St. Louis Clean Cities for its work to reduce petroleum use in transportation and look forward to the continued growth of clean transportation through this proceeding.

c. Several Utility Regulators Have Authorized and Clarified the Terms for Utility Cost Recovery of EV-Infrastructure Programs.

Across the country, the infrastructure-related programs initiated or proposed by electric utilities have ranged widely: from rebates for the installation of EV charging equipment at home[57] or workplaces[58] to the establishment of pilot or utility fleet EV charging programs[59], to the deployment of public-facing EV charging equipment, with costs fully borne by or divided among shareholders,[60] site hosts,[61] and utility ratepayers.[62]

Of these program types, the utility projects proposing or approved for cost recovery have supported the largest deployments of EV charging stations.[63] As we have previously argued before this Commission, utilities acting with the benefit of cost recovery are uniquely situated to engage in large-scale, strategic, and equitable deployment of EV charging

[57] *See, e.g.*, Letter from Kevin Queen, Manager, Regulatory Affairs, Georgia Power, to Reece McAlister, Executive Secretary, Georgia Public Service Commission (Oct. 24, 2014) (Doc. No. 155507), available at http://www.psc.state.ga.us/factsv2/Document.aspx?documentNumber=155507.Los Angeles Department of Water and Power

[58] *LADWP Officials Announce Expanded Electric Vehicle Program: "Charge Up LA! – Home, Work and On the Go,"* Los Angeles Department of Water and Power (July 17, 2013).

[59] *See, e.g., PG&E and BMW Partner to Extract Grid Benefits from Electric Vehicles*, PG&E (January 5, 2015).

[60] *See supra* note 57.

[61] *See Application of Louisville Gas & Electric Company And Kentucky Utilities Company To Install And Operate Electric Charging Stations In Their Certified Territories, For Approval Of An Electric Vehicle Supply Equipment Rider, An Electric Vehicle Supply Equipment Rate, An Electric Vehicle Charging Rate, Depreciation Rate, And For A Deviation From The Requirements Of Certain Commission Regulations*, Case No. 2015-00355 (filed November 13, 2015), Kentucky Public Service Commission.

[62] *See, e.g.*, CPUC Decision on SDG&E VGI Program; *In the Matter of the Application of Pacific Gas & Electric Company for Approval of its Electric Vehicle Infrastructure and Education Program* (filed February 9, 2015), A.15-02-009, California Public Utilities Commission.

[63] *See, e.g.*, Kansas City Power & Light Clean Charge Network (1,000 charging stations or ports); San Diego Gas & Electric Vehicle Grid Integration Program (proposed to install 5,500 charging stations or ports; approved for 3,500); Southern California Edison Charge Ready Program (approved for 1,500 stations or ports in phase 1; plans to scale up to 30,000 in phase 2); Pacific Gas & Electric EV Infrastructure and Education Program (25,000 stations or ports in two phases).

infrastructure.[64] However, in order for deployments to be in the public interest, they must be structured to deliver maximum benefits to the grid, utility customers, and EV drivers; to achieve and maximize these benefits, in turn, programs must include certain design elements to leverage the added EV load.[65] The process of developing utility-EV programs with strong vehicle-grid integration begins with a prudent utility regulatory framework. Below we describe the evaluative frameworks developed in three states that have issued decisions regarding cost recovery: California, Oregon and Massachusetts.

In California, following a lengthy rulemaking process, the California PUC authorized an expanded role for utility participation in the EV service equipment market in December 2014.[66] In the words of the California PUC, the parties to the case represented "near unanimity that the utilities should have an expanded role in EV infrastructure support and development in order to realize the potential benefits of widespread EV adoption."[67] In its decision, the PUC determined to evaluate utility applications on a "case-specific basis," applying a balancing test to weigh the benefits of utility ownership of EV charging infrastructure against the competitive limitation that may result from that ownership, as well as considering whether, pursuant to statute, the programs were in the ratepayers' interest.[69]

---

[64] *See, e.g., Initial Post-Hearing Brief of Sierra Club*, File No. ER-2014-0370, In the Matter of Kansas City Power & Light Company's Request for Authority to Implement a General Rate Increase for Electric Service (filed July 22, 2015), Missouri Public Service Commission.

[65] *Id.*

[66] *Phase 1 Decision Establishing Policy To Expand The Utilities' Role in Development of Electric Vehicle Infrastructure* at 5, D.14-12-079, Order Instituting Rulemaking on the Commission's own motion to consider alternative-fueled vehicle tariffs, infrastructure and policies to support California's greenhouse gas emissions reduction goals (filed December 22, 2012), California Public Utilities Commission.

[67] *Id.* at 5.

[69] *Id.* at 8. The factors for consideration in the competitive balancing test are: the nature of the program (for instance, whether the utility proposed to own the EV service equipment); the degree to which the market into which the utility program would enter is competitive, and at what level of concentration; the identification of unfair utility advantages; and if the potential for the utility to unfairly compete is identified, what conditions or regulatory protections may effectively mitigate those unfair advantages. As used in Section 740.3, "interests" of ratepayers, short- or long-term, mean direct benefits that are specific to ratepayers in the form of safer, more reliable, or less costly gas or electrical service, consistent with Section 451, and activities that benefit ratepayers and that promote energy efficiency, reduction of health and environmental impacts from air pollution, and greenhouse gas emissions related to electricity and natural gas production and use, and increased use of alternative fuels.

Under this framework, the CPUC approved San Diego Gas & Electric's ("SDG&E") innovative "Vehicle-Grid Integration" program in January 2016.[70] SDG&E will deploy 3,500 charging stations in the San Diego area, and, using a dynamic "vehicle-grid integration" rate, encourage charging during off-peak hours or when renewable energy is abundant.[71] In this program, SDG&E will own and maintain the infrastructure, and recover near-to full program costs in rates.[72] However, hosts of EV charging stations will have the opportunity to select charging equipment and services from a list of qualified, third party EV charging service providers.[73] The favorable decision for SDG&E came just two weeks after the PUC approved the pilot phase of Southern California Edison's ("SCE") "Charge Ready" program—a plan to deploy 1,500 charging stations within its service territory and to recover for utility-side infrastructure and rebates for charging stations.[74] In the second phase, SCE aims to deploy another 28,500 stations.[75] In the SCE program, off-peak charging is again incentivized, and utility customers will be able to select EV charging equipment and services from a pre-qualified list of third-party providers.[76]

In addition to including design elements that seek to leverage off-peak charging to maximize customer benefits, like time-variant rates, and demand response-capable equipment, both programs aim to deploy EV charging stations at workplaces and multi-unit dwellings.[77] These site segments were selected to provide charging at locations where cars are typically parked for long periods, to maximize electric miles driven, and to ease EV

[70] *CPUC Decision on SDG&E VGI Program.*
[71] *Id.* at 2-4.
[72] *Id.*
[73] *Id.* at Attachment 2, Appendix C. ("With respect to the selection process and selection criteria for pre-qualifying vendors who will be authorized to provide VGI operating systems and related hardware to control EVSE networks to implement the VGI system, SDG&E prefers generally functional requirements per the objectives of the 2016 VGI Pilot Program, and not "how" these requirements are met. This is intended to foster innovation and enhance the customer's experience and ensure customer choice of vendor, equipment and services.").
[74] *CPUC Decision on SCE Charge Ready Program*.
[75] Application of Southern California Edison Company for Approval of its Charge Ready and Market Education Programs, A.14-10-014, (filed October 30, 2014), California Public Utilities Commission.
[76] *CPUC Decision on SCE Charge Ready Program* at 42-43.
[77] *CPUC Decision on SDG&E VGI Program* at 133; *CPUC Decision on SCE Charge Ready Program* at 5.

ownership for those without access to a garage.[78] Both programs also seek to ensure that they help stimulate, not hinder, a competitive market place for charging services from third party providers, and thus harness the cost cutting and innovation that markets can deliver. Finally, both programs include commitments to provide EV charging services to low income and disadvantaged communities. [79] As the programs progress, the California PUC and stakeholders maintain ongoing oversight.[80]

In Massachusetts, the DPU concluded in August 2014 that utilities may not, in general, rate-base the ownership or operation of EV service equipment.[81] The rationale for this general prohibition is that rate-basing risks interfering with the development of a competitive EVSE market. However, the Order allows for an exception when utilities are able to demonstrate, via a "company proposal," that rate-basing would (1) serve the public interest, (2) "meet a need regarding the advancement of EVs in the Commonwealth that is not likely to be met by the competitive EV charging market," and (3) "not hinder the development of" that market.[82]

In January 2012, the Oregon Public Utility Commission ("Oregon PUC") concluded its *Investigation of matters related to Electric Vehicle Charging*, ruling that the used and useful test "does not preclude rate recovery for utilities providing plug-in EV charging services," and "that utilities may legally recover EVSE installation and operation costs in rates."[83] However, the Oregon PUC notes that utility requests for rate recovery for EVSE investment will be "closely scrutinized," and that utilities will be expected to satisfy

[78] *Id.*
[79] *CPUC Decision on SDG&E VGI Program* at 136-38; *CPUC Decision on SCE Charge Ready Program* at 38-41.
[80] *CPUC Decision on SDG&E VGI Program* at 145-46; *CPUC Decision on SCE Charge Ready Program* at 20.
[81] *Order on Department Jurisdiction Over Electric Vehicles, The Role of Distribution Companies in Electric Vehicle Charging and Other Matters*, DPU 13-182-A, Investigation by the Department of Public Utilities upon its own Motion into Electric Vehicles and Electric Vehicle Charging (filed August 4, 2014), Massachusetts Department of Public Utilities.
[82] *See id.* at 13. Two other exceptions are also provided for in Order 13-182A--rate-basing of charging infrastructure for research and development purposes and for use by the utility's own vehicle fleet.
[83] *Order No. 12-013* at 10, In the Matter of Investigation of Matters Related to Electric Vehicle Charging (filed January 19, 2012), Public Utility Commission of Oregon.

traditional regulatory measures, including a compelling showing that, where a utility seeks to own and operate EV servicing equipment, the utility's ownership and operation of the EV service equipment is beneficial to ratepayers and not just the public generally.[84]

d. The Commission Should Clarify its Policies on Utility-EV Programs to Authorize Rate Recovery Based on the Value Provided to the Electricity Grid and to the Body of Utility Customers Through Downward Pressure On Rates, Enhanced Services, Cleaner Air, Reduced Carbon Dioxide Emissions, And Reduced Oil Consumption.

The Commission, consistent with the objective of the California, Massachusetts, and New York utility regulators in the decisions described above, should clarify its policies on utility involvement in EV infrastructure activities. Specifically, the Commission should identify the standards of review and criteria for the evaluation of utility programs seeking rate recovery, and it should spur the submissions of such programs by issuing a request for proposals.

Under Missouri law, electric corporations are required to provide electric service that is "safe and adequate and in all respects just and reasonable," including just and reasonable rates.[85] As such, the Commission's statutory duty is to set "just and reasonable" rates,[86] where a "just and reasonable" rate is one that considers the Company's financial integrity and the interests of various stakeholders while also protecting the "public interest."[87] The "public interest," in turn, considers the value of a utility undertaking to the electricity grid and utility ratepayers, including impacts on system efficiency, reliability, and utility customer rates.

In defining the application of the "public interest" test to program proposals made by public utilities to provide EV charging services and to receive rate recovery,[89] Sierra Club

[84] *Id.*
[85] Mo. Rev. Stat. 393.130.1
[86] Mo. Rev. Stat. 393.130, 394.130
[87] *See State ex rel. Union Elec. Co. v. Pub. Serv. Comm'n of State of Mo.,* 765 S.W.2d 618, 625 (Mo. Ct. App. 1988).
[89] Sierra Club reiterates its position above that if EV charging services are offered by an otherwise-regulated public utility, the Commission has full authority to regulate the terms of service, and, where cost recovery is

recommends that the Commission articulate affirmative criteria for the evaluation of such programs. First, the Commission should consider whether and how the program is designed to leverage or maximize the benefits of EV charging load. This inquiry could consider whether time-variant rates, demand-response capable equipment and a demand response program, or other load management mechanisms are included in the program proposal. Second, the Commission should consider whether the structure of a proposed program facilitates a competitive market. Third, the Commission should consider how the EV charging stations will be sited, taking into account the strategy (e.g., targeting long-dwell times; targeting multi-unit dwellings to assist so-called "garage orphans"; targeting workplaces in order to maximize electric miles driven), and any considerations for low-income ratepayers.

At the same time, the Commission should avoid predetermining core program design elements, like the level of utility ownership (e.g., utility ownership of only infrastructure-side elements versus end-to-end utility ownership). By articulating "what" goals an EV infrastructure program should accomplish, but not "how," the Commission can foster innovation among all stakeholders. Again, we recommend that the foundation for judgment in terms of the ratepayer interest or "public interest," as described in the Oregon PUC and California PUC decisions above.

The California PUC's decision for the SDG&E Vehicle Grid Integration Program provides a model for considering the "public interest." There, the California PUC found that "[a]s a result of the VGI program, all customers, including the EV charging customer or the site host, are likely to receive 'less costly' electrical service if the EV owner charges during the off peak periods as determined by SDG&E's VGI rate" due to increased system

---

requested, should consider whether the program results in "just and reasonable" rates that are protective of the "public interest."

efficiency.[90] The PUC also noted that "[t]he VGI program can reduce costs by eliminating or reducing the need for additional generating capacity to meet the growth in EV charging demand."[91] In addition, as described in Section III above, leveraging the flexible nature of EV load to address existing grid issues can result in enhanced grid operation and reliability, while EV load also provides a downward pressure on electric rates for all ratepayers by contributing net revenue. Sierra Club looks forward to providing additional information on the benefits that EVs can provide Missouri's utility customers and the need to incorporate program design elements that leverage EV load as this proceeding progresses, either in supplemental filings or at workshops.

d. The Commission Should Support Access to EV Charging for Low-Income Ratepayers.

Widespread transportation electrification requires increased access to clean transportation options across all ratepayer classes and in all communities. In Missouri, IOUs must provide equitable deployment of services to all ratepayers,[93] and this obligation should extend to the provision of Commission-regulated EV charging services or other EV-related programs by electric utilities. In California, for instance, both EV-infrastructure proposals approved by the PUC targeted disadvantaged communities for the placement of 10% of the EV site installations and EV charging stations. In addition, the California programs included targeted education and outreach for disadvantaged communities, and collaboration with other programs (including car-sharing).

[90] *CPUC Decision on SDG&E VGI Program* at 114.
[91] *Id.*
[93] *State ex rel. Fed. Reserve Bank of Kansas City v. Public Service Commission*, 239 Mo. App. 531, 540, 191 S.W.2d 307, 313 (1945) (An IOU holding a Commission certificate must serve all customers within the utility's service area without unreasonable discrimination).

V. Conclusion

Sierra Club thanks the Commission for the opportunity to submit these comments and looks forward to working with the Commission and parties to this proceeding to address the legal and policy questions related to EV charging stations in a manner that lowers barriers to EV adoption, supports innovation in the EV service provider marketplace, and maximizes the environmental, electric system and utility customer benefits of EVs.

Dated: March 7, 2016

Respectfully submitted,

/s/ Joseph Halso

Joseph Halso
Associate Attorney
Sierra Club
50 F Street NW, Eighth Floor
Washington, D.C., 20001
202.650.6080
joe.halso@sierraclub.org