**BEFORE THE STATE OF ILLINOIS**

**ILLINIOS COMMERCE COMMISSION**

| | | |
|---|---|---|
| Illinois Commerce Commission on its Own Motion: | | |
| Notice of Inquiry Regarding Rate Design and Affordability with Respect to Transportation Electrification and Other Beneficial Electrification | : | 20-NOI-03 |

**COMMENTS AND RESPONSES TO QUESTIONS**

**OF THE ALLIANCE FOR TRANSPORTATION ELECTRIFICATION**

The Alliance for Transportation Electrification (the "Alliance" or "ATE") is pleased to submit the following comments in this Proceeding of the Illinois Commerce Commission (ICC) in its Notice of Inquiry regarding rate design and affordability with respect to transportation electrification and other beneficial electrification, which was issued by the Commission on August 19, 2020. We provide here both some general comments on the importance of this proceeding and what will follow as well as answers to the questions asked by the Commission. We also look forward to the opportunity to continue to participate in future proceedings which the Commission may initiate.

## Background and Introduction

The Alliance for Transportation Electrification, a 501(c)(6) non-profit corporation, is led by utilities, electric vehicle (EV) infrastructure firms and service providers, automobile manufacturers, and EV charging industry stakeholders and affiliated trade associations. We started with 20 organizations at the launch in early 2018. By taking a "big tent" approach to advance the industry, we have grown rapidly to include about 50 national dues-paying members and affiliated organizations. We are actively involved in over twenty regulatory and other state proceedings around the country today.

## General Comments

We first commend the Illinois Commerce Commission for issuing this Notice of Inquiry that continues its exploration into the subject of beneficial electrification and its potential role in the State of Illinois. As we discuss below, beneficial electrification, and transportation electrification (TE) of particular interest

to the Alliance, provides many benefits to electric consumers and the general public within Illinois and any actions by the Commission to encourage the growth of the electric vehicle market will enhance these benefits.

The main subject of this NOI is rate design for the charging of electric vehicles for many different use cases. The Alliance believes that rate design issues are key issues to address the barriers, and opportunities, in EV charging infrastructure, but also that they open windows into several other equally important issues to enable TE. We note at the outset that with respect to the Commission's jurisdiction, it has full authority over utility sales to residential customers who are EV owners and for utility sales to commercial charging installations (known as electric vehicle service equipment providers, referred to as "EVSPs" while the equipment or "charger" itself is referred to as electric vehicle supply equipment, or EVSE) which then use that purchased power to charge electric vehicles. The price these commercial installations charge the EV owner or operator for such service, if any, is unregulated. The one exception is when the regulated utility is also the owner and operator of the charging station, in which case the price charged for EV charging is regulated. Also, as a retail choice state, the Commission has no jurisdiction over sales to EVSEs by non-utility retail electricity suppliers. We will try to make these distinctions in the answers to the Commission's questions, but we focus here only on regulated prices or rates subject to the Commission's jurisdiction.

With respect to rate design, the Alliance generally supports traditional cost causation principles (Bonbright) that have generally been accepted by Commissions and courts for a century as the foundation for development of rates. Several key Bonbright principles are at play in the challenges of developing rate designs for EVs and EV infrastructure, including: the ability of the regulated utility to attract capital on reasonable terms; the need for efficient management of the utility enterprise; the need to strike a balance on adequate supply keeping in mind scarcity; and finally allowing the utility to consider social equity and public policy in its programs and tariffs. But since the EV market is so nascent, and its development so important to meeting the State's environmental imperatives, some cost-of-service principles, such as the notion that the beneficiary should bear the full burden of cost (either long-term or short-term marginal costs or averages across the service territory of the utility) can be deferred until later. It is important to note that even where there is a necessity for "subsidies" (transfers of costs and benefits from one rate class to another) in the early years of market development, investments made by utilities and incorporated in rate base will have significant benefits to ratepayers over time.

These benefits accrue because when customers charge their EVs during off-peak periods – which they can be encouraged to do - the contributions to the utility's fixed revenue requirements will exceed any increased fixed costs to the utility. This has the effect of putting downward pressure on rates for all customers. A study performed on the California investor owned utilities demonstrated this fact in a real-world case. The study, by Synapse Economics, found that "from 2012 through 2017, EVs in California have increased utility revenues more than they have increased utility costs, leading to downward pressure on electric rates for EV-owners and non-EV owners alike. This finding holds across both utilities, and for customers on standard tiered rates and TOU rates.[1]" In this regard, utility investments in EV infrastructure are no different than investments in energy efficiency and demand-side

[1] Frost, Jason, Whited, Melissa, and Allison, Avi. "Electric Vehicles Are Driving Electric Rates Down." Synapse Energy Economics White Paper, February 2019.

management that are designed to reduce the utility's overall costs. Finally, utility investments in TE will generate a number of other benefits (sometimes called non-energy benefits, which can be quantified depending on the cost-benefit test), such as environmental benefits of GHG reductions, public health benefits through reducing local air pollutants, and others. It is important to recognize that these benefits will accrue to all customers across all rate classes, and not just to EV owners.

Thus, while cost causation should be used as the guiding principle of rate design for EV charging, it should not be the sole consideration. Where investments in EV infrastructure can be demonstrated by utilities to have long-term benefits greater than costs, they should be allowed by the Commission. At this nascent stage of market development, the Alliance does not believe that a rigorous cost-benefit test needs to be applied to pilot programs. Charging infrastructure does matter.

Numerous studies have shown that consumers steer clear of EVs because they worry about the lack of charging stations. Studies also show that consumers are more likely to buy an electric car when they see public charging stations on their daily routes. While fears about range anxiety are largely unfounded – even the cheapest EVs sport enough range to serve nearly all of a driver's needs – the paucity of charging stations is a real concern on longer trips, and deters consumers from going all-electric. And charging stations are also needed along highways and in locations where they can meet commercial, fleet, and medium and heavy-duty EV needs, as these use cases will become a greater part of future infrastructure needs. The Commission can help ensure that the infrastructure gets built by taking actions which encourage utility investments.

The types of investment models that will be proposed by utilities will be varied and will cover many different use cases. One model is known as make-ready investment, where the utility provides the infrastructure (largely conduit and wiring) for a charging station right up to the stub where the EVSE is located, which might be installed or owned by any third party. A second model is rebates to third parties to help with the initial costs of installing chargers or EVSE. The utility can also issue RFPs for turnkey services from third party providers or make bulk purchases under an own and operate model for the utility. Joint ventures are also possible, either with third-party EVSPs or with cities, counties or NGOs for providing charging infrastructure. There is also a host site model where utilities or third-party EVSPs provide equipment and network services, but the charging station is still owned by the host, and the maintenance and repair are shifted to the host through some type of service agreement.

There will be parties in this Docket who argue that utility ownership and operation of charging stations should be precluded or strongly restricted by the Commission. We believe that such a path, which would be a change in current Commission policy, would be wrongheaded and would slow down overall market development in TE. The Alliance believes that a "portfolio approach" is the best way for regulated utilities to proceed with respect to improving charging infrastructure to prepare for future demands from EV growth. The idea behind the portfolio approach is that the utility will not own and operate every segment of the market and "crowd out" potential non-utility service providers. At this stage of market development, even the statement of a regulated utility having the ability to "crowd out" other players reflects a disregard for market-based realities, or a tendency by vendors and certain advocates to want to "lock in" certain business models, including proprietary systems. Yet the primary argument made by opponents of utility involvement is that competition and the development of a third-party charging market will be stifled by a dominant utility presence. The Alliance disagrees with that

assessment of today's market where many market gaps exist and where a utility presence is necessary and constructive to catalyze further development.

The market for public charging stations, both Level 2 and DC fast charging, for some use cases is somewhat competitive, but not nearly to the point where the competitive market acting alone will install enough chargers to meet expected future demand. And there are certainly some market segments, such as for multi-family properties and low and moderate-income disadvantaged communities where there is little competitive activity and the short-term business case for a third party is very challenging.

In brief, the Alliance believes there are substantial gaps in the public EV charging market today that will not be filled solely by third-party EVSPs. Also, DC fast chargers may not be economical at this nascent stage of market development so a competitive market will likely not materialize in the near term. Utility infrastructure investment, including ownership and operation and not just make-ready with a rebate, should not be dependent on the competitiveness of the market nor be limited to specific markets. Utilities can ably and effectively complement the private or non-utility market and ensure successful EVSE deployment throughout their service territories – both in the near- and long-terms.

In other words, the Commission need not worry that utility-owned and operated programs in TE, which is properly scoped and overseen by the Commission with a viable stakeholder process, result in a zero-sum outcome. Regulated utilities necessarily take a long-term view of both planning and deploying infrastructure in the distribution grid; in fact, they are required by the Commission to do so. Moreover, utilities generally enjoy adequate access to the capital markets on reasonable terms to ensure that these investments can be made cost-effectively over a longer tenure to catalyze the overall market. The results should be complementary and benefit all ratepayers, third party service providers, vendors, and others in the EV ecosystem.

With respect to rate design in particular, the goal of Commission policy should be to encourage customers to charge during off-peak hours through rates, technology, and what is called managed charging generally. Off-peak charging ensures that electrification of the transportation sector is beneficial, in that revenues from charging exceed marginal costs. Rate structures should be designed so as not to disincentivize or penalize EV owners while ensuring rates are reasonably cost-based with a long-term perspective in view. The cost advantages of electricity over gasoline have been substantial in the past (partly dependent on rate design and off-peak rates), and this trend should continue in the future.

For residential customers, where over 80% of charging is done at home, rate designs to encourage off-peak use could take several different forms – there might be discount rates offered for overnight use of electricity (for the whole house or for vehicle charging if the EV is separately metered). Or time of use pricing which can come in several different flavors can be instituted. Most EVs and many chargers ("smart" chargers) have the ability to turn on and off at certain times or even to react to utility price signals automatically, not requiring any action by the EV owner. The Commission has substantial experience with TOU rate designs which can be carried over to utility EV pilots and programs.

Rate structures that will apply to commercial (the C&I or general service class) chargers and for medium and heavy-duty applications (MD/HD), and also to roadside and fleet DCFC present a more significant challenge because they will often need to be used during daylight hours. Fleet users and highway

drivers will likely not have much flexibility in when they charge (although they may have some). In many cases, without regulatory intervention, such charging would be subject to demand charges which can be significant and which would result in very high costs per kilowatt hour when chargers don't see that much utilization, which is especially probable in these early years of market development. Thus, demand charges may provide a deterrent to use of EVs by commercial public stations, fleets and MD/HD vehicles. On the other hand, the objective of demand charges again is to encourage off-peak usage by commercial customers. Thus, there are trade-offs to be considered. But the fact is that demand charges may serve as a deterrent to the deployment of EVSPs for many of the use cases for which the Commission seeks comment below. We believe that the Commission should consider a reduction or discount in demand charges, or even a demand charge "holiday" as has been adopted elsewhere, but only for EV charging stations that are separately metered, and perhaps maintaining some sort of time of use element (for use cases where there is some flexibility) to commercial rates so as not to lose incentives for off-peak usage entirely. Separate metering is critical as providing proper price signals for the rest of the commercial customer's load (outside of EV charging) remains critical to align usage with costs. We urge the Commission to keep its focus on sending accurate and timely price signals.

The effect of demand charges is also dependent on the type of charger installed. Level 2 chargers are the predominant type for residential applications and multi-family dwellings and workplaces. Level 2 chargers operate at 240V and can take 5-8 hours to charge a full battery-electric vehicle (BEV). The other type of charging station is the DC fast charger (DCFC) which can fully (up to 80 percent of battery capacity generally) charge a vehicle in 20 to 60 minutes depending on the voltage, kw capacity of the charger, and the battery management system of the vehicle. DCFCs will typically be used along highways, at commercial public stations, and for fleet and medium- and heavy duty (MD/HD) EV applications, as well as for transit and school buses. Level 2 chargers generally have been sold in the range of 32 amps, or 7.7 kw in power, although there are products available on the market with lower capacity (generally cheaper) as well as higher capacities (more expensive) but still most under the 10 kw range. In addition, most OEM telematics have increased on-board battery management system capacities and allow an option of charging at higher amperages for simple Level 1 charging (at the typical NEMA wall outlet at 240 volts). Amperage is important since it controls the volume of electron flows between the utility-delivered power and the charging of the vehicle battery, thus shortening the charging time with higher amperage.

Accordingly, while the addition of a Level 2 residential charger does add significant load to the home compared to other electric appliances, residential rates do not typically include demand charges, and the rate design for residential chargers at these power levels are not as significant an issue as for the DC fast chargers which are typically built at publicly accessible locations and owned either by a utility or third party. DCFCs raise much more significant rate design issues primarily due to the much higher levels of both voltage and amperage (and thus power needs) for the DC fast charging equipment. DCFCs start at about 50 kw of demand and currently go up to 150 kw. In the future, DCFCs may have even greater power capability – perhaps even up to 500 kw for heavy-duty trucking applications. Thus, for DCFCs, demand charges can be a significant deterrent to their use and deployment, which can affect the pace of development in overall EV adoption and infrastructure. Demand charges may also be an issue for Level 2 chargers at publicly accessible sites, particularly when there are multiple ports or chargers at a single site but again, because power levels are lower, the issues are not as significant.

Demand charges create a problem particularly today because the utilization of many charging stations is still low due to the still nascent stage of development of the EV market. A study by the Great Plains Institute found that under many current rate tariffs, DCFCs need 10 customers per day for a 50 kw station, but less than half of 150 kw stations would break even at that level of utilization.[2] And even 10 customers per day at a DCFC is difficult to achieve in today's market. So, the economic unattractiveness of DCFC stations (and perhaps some Level 2 stations) under demand charges may be a temporary situation which will ease over time. Some EVSPs have suggested, however, that a Catch-22 may be involved. As the utilization of these stations increases, the customer experience declines as customers may have to wait to charge their vehicles or may not be able to use the stations at all. Experience will tell over time whether this turns out to be the case, but it is important to remain aware of the trade-offs between station utilization and customer experience.

There are numerous alternatives to dealing with this issue which are described in more detail below. The Alliance does not take a position on the type of discount or holiday that should be offered but presents examples of what other states and utilities have done for the Commission's information. It will be up to Illinois utilities to propose solutions, if they deem it necessary, to the demand charge issue. We also remind the Commission that many commercial rates applicable to EV charging could also have a time-of-use component for energy costs. In that way, there remains an incentive to charge in hours when energy costs are low.

The Alliance also firmly believes that in the near-term technology will be capable and will play a vital role in alleviating the impacts of demand charges. Storage at the charging location can be used to offset demand during peak hours when demand charges apply. And to the extent the customer has flexibility, it can use smart charging in the EVSE or the back-end network operations or utilize the increasing capabilities of OEM telematics to move charging to off-peak periods. In summary, multiple approaches are possible in today's rapidly developing and nascent market, and the Commission should encourage innovative approaches to develop between the utilities and the EVSPs, instead of an all-utility one-size-fits-all approach.

In the Sections below we address the Commission's specific questions with respect to EV rate design in the many use cases discussed. The Alliance does not take a position on and does not respond to the questions related to beneficial electrification in non-transportation applications.

A. Rate Design Impacts on Electric Vehicle Adoption and Use

1. EV Adoption and Use by Residential Customers Living in Single-Family Housing

a. Do current electric rate designs prevent residential customers living in single-family housing from adopting and using EVs? If so, how?

[2] McFarlane, Dane and Prorok, Matt. Great Plains Institute. "Analytical White Paper: Overcoming Barriers to Expanding Fast Charging Infrastructure in the Midcontinent Region." July 31, 2019, https://scripts.betterenergy.org/reports/GPI_DCFC_Analysis_July_2019.pdf

We do not believe that current electric rate designs prevent or discourage residential customers living in single family housing from adopting or using EVs. The regulated utilities in Illinois already offer a variety of rate designs and programs which are well-designed and reasonably cost-based, which may be further modified and improved in the future. The costs of operating EVs and in particular the cost of fueling EVs based on residential rates in Illinois is about $1.09 per equivalent gallon of gasoline on average (as of Oct 24, 2020).[3] This is less that half of the costs of fueling an internal combustion engine (ICE) even at today's low cost of gasoline. And this is based on average costs of electricity. EV owners taking advantage of lower time-based rates will save even more. ComEd on their EV website provides another useful example of the attractiveness of EV operating costs relative to ICE vehicles. ComEd found annual savings of $819 for an EV owner over a comparable ICE vehicle, or $4,096 over a five-year period.[4] These savings are based on the BES rate (default rate) for ComEd. Use of the BESH (time varying) rate reflecting more real-time pricing would result in even greater savings. So, while the up-front purchase price of EVs is still higher than ICE vehicles (most prognosticators expect the crossover point to be 2024), the substantial fuel savings and other maintenance cost savings make EVs an attractive offering.[5]

Perhaps the more important question for Illinois is whether current rate designs encourage residential EV owners to charge their vehicles at hours when utility costs are low, and thus not contributing to peak demands which drive a major component of utility costs. Since over 80% of charging of light-duty EVs is done at home, this is an important question and is essential to ensuring beneficial electrification. The three major investor-owned electric utilities in Illinois (ComEd, Ameren, and Mid-American) have optional time of use supply rates available to their residential EV owning customers.[6] ComEd has both hourly rates and time of day rates. All these rates are applicable to the entire household and are not tied to EV ownership. One change in rate design that the ICC and the Illinois utilities may want to consider is EV-only rates, which would require the installation of a separate time of use meter for the EV charger. Such a rate might be attractive to EV owners that do not want to put their entire house on TOU rates but would also add costs to the utility and customer. The costs of the meter and additional administrative costs could be recovered from the customer or incorporated into the tariff.

But what is important in the near term is that there be a price signal that encourages EV owners to charge their vehicles in off-peak periods. Some have suggested that TOU rate designs should be mandatory for EV owners. We do not believe this to be necessary. There may be cases when the homeowner has special needs and could be harmed economically through such a mandate. And mandated time of use rates, particularly if applied to the whole house, could have a significant deleterious effect on low and moderate income (LMI) consumers without ability to change usage patterns. Moreover, if it is proposed to be mandatory, the regulatory process for seeking approval of

[3] https://www.energy.gov/maps/egallon

[4] https://www.comed.com/SmartEnergy/InnovationTechnology/Pages/SavingsBenefitsIncentives.aspx

[5] For an excellent analysis of the cost savings of EV ownership, see https://advocacy.consumerreports.org/wp-content/uploads/2020/10/EV-Ownership-Cost-Final-Report-1.pdf

[6] We have not done an examination of whether such rates are available from competitive retail suppliers, or the RES firms. The Commission should encourage the offering of TOU rates by all suppliers.

such TOU rates is usually time-consuming and litigious since a number of intervenors and organizations will voice concerns and oppose these new designs.

Finally, education and outreach (E&O) programs are also important to informing customers of their options and the importance of when they charge their vehicles. The Commission can and should encourage the development of such E&O programs and allow utilities' the recovery of costs associated with them. The three major investor-owned utilities in Illinois currently have EV web portals that provide a significant amount of information on EV ownership and use.[7]

b. Should electric rate designs be used to encourage residential customers living in single-family housing to adopt and use EVs? Why or why not?

We do not believe it is either appropriate or necessary for electric rate designs to encourage the adoption or use of EVs, with the exception noted above of using rate design to encourage off-peak charging. Of course, rate designs should not be punitive either but as noted above, should generally be based on cost causation for the residential class of customer.

Having said that, we believe there are many other ways that the Commission can and should encourage the adoption and use of EVs for the benefit of the State. One common practice across the country has been the offering of rebates – in most cases for the purchase and installation of a home charger, but even in some cases for the purchase of an EV. In at least one state, Connecticut, there is a $300 incentive for each EV sold by dealers. The ICC can encourage the offering of such rebate programs by its jurisdictional utilities by allowing the costs of such rebates, which benefit all customers by incentivizing increased electrification, to be capitalized and included in rate base. States including Minnesota, Michigan, and Maryland have already allowed utilities to rate base rebate costs or place them in a regulatory asset with a return to be reviewed for prudency in a future rate case.

The ICC can also promote the adoption and use of EVs by residential customers by encouraging education and outreach (E&O) programs by utilities, which can take the form of websites, educational materials, ride and drives, public information campaigns, and other mechanisms. The Commission should consider and look favorably on the recovery of costs associated with such E&O programs which will likely be expensed.

c. If you are in favor of providing incentives through electric rate design, what specific electric rate designs can be used to motivate residential customers living in single-family housing to adopt and use EVs?

We are not in favor of providing incentives through residential rate design with the exception of designing rates to encourage off-peak use.

[7] For ComEd https://www.comed.com/SmartEnergy/InnovationTechnology/Pages/ElectricVehicles.aspx; For Ameren IL https://www.ameren.com/illinois/residential/electric-vehicles; For Mid American https://www.midamericanenergy.com/electric-vehicles

d. How do electric rate designs used to encourage single-family residential customers to adopt and use EVs affect the affordability of electric service for other electricity users?

Assuming residential electric rate designs will be based on cost of service, their use should have no effect on the affordability of electric service for other electricity users. In fact, assuming that most charging will be done in off-peak hours, the charging of EVs should place downward pressure on rates for all customers over time, increasing affordability. Moreover, depending on the specific cost-benefit test the utility employs or the Commission prefers, the benefits of displaced gasoline/diesel costs as well as societal benefits (environmental, public health, others) should be considered as the Commission considers overall costs and benefits of TE.

2. EV Adoption and Use by Residential Customers Living in Multi-Family Housing

a. Do current electric rate designs prevent residential customers living in multi-family housing from adopting and using EVs? If so, how?

Unlike residential charging in single family homes which is relatively straightforward, charging by residential customers in multi-family housing (aka multi-unit dwellings or "MUD", or also called multi-family dwellings or properties) raises numerous issues which are important for the Commission to consider. Among the issues are whether individual residents might be expected to provide (and pay for) their own charging station in an assigned parking location, or whether the MUD would provide stations for use by residents in shared parking spaces. Related to this question is whether the charging station will be part of the building's overall metered load, or whether it will be separately metered. If the charging station is not separately metered and paid for by the user, there will be concerns that non-EV residents may be required to subsidize the EV owners in the fees or rents they pay to the building owner, or to the Home Ownership Association (HOA) depending on its terms for condominiums. There is also a third potential model where the utility or a third-party EVSE installs the charging station with the permission and cooperation of the building owner. But unless the station is used heavily, the high costs of installation may outweigh the ability to recover costs and thus third parties may be unwilling to make investments. Utilities may be the best option to install chargers at MUDs – they are willing to consider a longer time horizon for cost recovery and the Commission may allow such costs to be recovered in rates to encourage the adoption of EVs by MUD residents who may often be low or moderate income.

While not a matter of the ICC's jurisdiction, permitting requirements are often a barrier to MUD charging station implementation. EVSE installations generally require a building permit, electrical permit, or both. It is the job of municipal or other local government authority to ensure that electrical safety and building codes are observed and that the EVSE installation is safe, which may require one or more onsite inspections. Permitting requirements, processes and fees will vary by community and by property type.[8]

[8] California Plug-In Electric Vehicle Collaborative. "Plug-in Electric Vehicle Charging Infrastructure Guidelines for Multi-unit Dwellings," November 2013 http://www.veloz.org/wp-content/uploads/2017/08/MUD_Guidelines4web.pdf

With respect to rate design, because MUDs are almost always in a commercial or general use rate class for electric delivery charges, charging facilities (absent action by the Commission to set up a separate rate for EV charging) will be subject to the MUD's commercial rate. The actual supply rate charged by the retail supplier to the MUD or charger (if separately metered) will vary and are set by the retail supplier. In the response to questions here, we will refer only to the rates charged for service by the regulated utilities. Commercial rates charged by the three major regulated utilities in Illinois (ComEd, Ameren IL, and Mid-American IL), including retail delivery charges, currently include demand charges which can greatly increase the cost of charging at a MUD relative to a single family dwelling.[9] Most MUD charging stations for the foreseeable future are likely to be Level 2 chargers and will have less burdensome demand charges associated with them than those that might be associated with higher power DCFC stations. In the sections below we discuss options for dealing with demand charges applied to EV charging which might be adopted for all commercial applications, including MUDs.

Time of Use or Time of Day pricing may also be attractive to EV MUDs and EV owning residents and has the same beneficial effects as that for residential customers. It could be a supplement to or replacement for demand charges. It would also require separate metering and a rate applicable to EV charging only.

Line extension policies may prevent a barrier to adoption and use of EVs in MUDs and for all commercial and general service customers as it may greatly increase the costs of installing charging stations. Policies that require customers to pay for line extensions on the utility side of the meter are particularly problematic. The Alliance encourages the Commission to review its line extension policies. Alliant Illinois (AIC) has proposed socializing some of the costs of utility-side of the meter make ready investments in its proposed EVCP rider which we commend to the Commission's attention.[10] Any stand-alone service point for a Non-Residential Customer that is primarily intended to provide power and energy to EVSE would be eligible for supplemental line extension and service extension allowances under the AIC proposal. The supplemental allowance will be the greater of $300/kW of connected EVSE load or the otherwise applicable combined line extension and service extension provisions available to new Customers. Multifamily Facilities located in identified low or moderate income areas would receive an additional $200/kW supplemental allowance, for a total of $500/kW of connected EVSE in kW.

b. Should electric rate designs be used to encourage residential customers living in multi-family housing to adopt and use EVs? Why or why not?

As we discuss below, we believe the ICC should at a minimum consider EV-specific rates that deal with the demand charge issue, at least on a temporary basis until utilization is sufficient to make the stations more economically viable. We also believe the Commission should consider modifications to line extension charges, and possibly waivers of CIAC, or contributions in advance of construction, as another means to accelerate EV adoption and the buildout of infrastructure.

[9] Ameren Illinois (AIC) places a demand charge only on customers exceeding 150 kw of demand so most Level 2 chargers and some DCFCs would not face demand charges. For AIC, non-residential customers below 150 kw have a volumetric (not time-based) delivery service rate.

[10] Letter filing of Ameren Illinois Company d/b/a Ameren Illinois Rider EVCP – Optional Electric Vehicle Charging Program. Docket ERM #20-108. August 19, 2020

c. If you are in favor of providing incentives through electric rate design, what specific electric rate designs can be used to motivate residential customers living in multi-family housing to adopt and use EVs?

While we do not believe rate design incentives are necessary (unless one considers a reduction in demand charge an incentive), as is the case with residential chargers, we do believe that utilities can offer rebates for the installation of chargers in MUDs which will encourage their adoption and use by residents. The Commission can encourage rebates by allowing the rate basing of these investments. Utilities might also provide make ready investments on the utility side of the meter (investments from the distribution system all the way up to the stub for the charger) to greatly reduce the costs of installing chargers. Such make ready investments will make even more sense when buildings are under construction and many local governments around the country are beginning to require that new buildings, including MUDs be pre-wired for EVSPs. The recent amendment to the building codes in Chicago to require a certain number of parking spaces for new construction to be "EV-ready" is a good example here. Utilities can also own and operate chargers in MUDs given that it may be a difficult economic proposition for third parties. In either case, cost recovery will be critical to utility involvement.[11]

d. How do electric rate designs used to encourage multi-family residential customers to adopt and use EVs affect the affordability of electric service for other electricity users?

As long as rates cover the marginal costs of providing service to EV chargers at MUDs, which is likely, variable costs to other customers will not increase. However, if demand charges are reduced, even temporarily, or line extension costs socialized, other customers may pay higher costs in the short term than would be the case if demand charges were being paid. But, as cited above, these transfers will be short-term in nature as the market develops and matures, and the principles of long-term marginal cost should be sustained.

3. EV Charging by Employees at the Workplace

a. Do current electric rate designs prevent businesses from installing EV charging infrastructure for their employees or employees from charging EVs at their workplaces? If so, how?

The issues here are similar to the issues involved with MUDs discussed above. One difference is that workplaces (especially those where the employer is also the building owner) may be more willing to

[11] The California Public Utilities Commission was the most recent to acknowledge the important utility role in ownership and operation of EVSEs at MUDs when it issued an Order in August 2020 approving the application by Southern California Edison for approval of its Charge Ready 2 Infrastructure and Market Education Programs. The order, among other provisions, allows SCE to install up to 4,230 charging ports or approximately 35 percent of forecasted MUD participation (https://docs.cpuc.ca.gov/PublishedDocs/Published/G000/M345/K702/345702701.PDF)

subsidize the installation of chargers as an amenity to employees and as part of their sustainability goals, or what is called ESG or Environmental, Social, and Governance principles.[12] And employers are more likely to allow employees to charge for free. But as was the case with MUDs, demand charges could be a deterrent as they increase costs of use of the chargers. This may not be a significant issue as most workplace chargers will be Level 2, but demand charges are probably still a deterrent. In addition, workplaces may be able to encourage their employees to charge off peak, or most charging may naturally occur when employees get to work, the off-peak early morning hours. Technologies of the EVSPs, either working directly with the employer or with the utility who has a turnkey solution with a software vendor, can help shift these "mini-peaks" of charging as well.

b. Should electric rate designs be used to encourage businesses to install charging infrastructure and for employees to charge EVs at their workplaces? Why or why not?

Again, we think that demand charges might be reduced, or even forgiven, as a temporary (or possibly permanent) measure – just for separately-metered EV charging. The long-term benefits outweigh the costs, and it would encourage more employers to provide this amenity to employees. Consideration should also be given to modifying line extension charges or CIAC rules.

c. If you are in favor of providing incentives through electric rate design, what specific electric rate designs can be used to motivate businesses to install charging infrastructure and for employees to charge EVs at their workplaces?

With the exception of a possible reduction in demand charges, we don't believe it is necessary to further alter rate design to motivate businesses to install charging.

d. How do electric rate designs used to incent businesses to install charging infrastructure and for employees to charge EVs at their workplaces affect the affordability of electric service for other electricity users?

See the response to Question 2.d.

e. Provide examples of rate designs employed in other states or jurisdictions that successfully incentivized business to install charging infrastructure for employees and/or customers.

In response to this question, we will provide examples of other states that have addressed the question of demand charges applied to EV charging and developed innovative responses. We would note, however, that some states (such as New York, New Jersey and Maryland, for example) have not provided such relief to EVSE owners. While the Alliance generally supports relief from demand charges,

[12] ESG practices and principles are discussed in a report by Ceres available at https://www.ceres.org/resources/reports/running-risk-how-corporate-boards-can-oversee-environmental-social-and-governance

at least on a temporary basis, we recognize that there are multiple ways in which to provide relief, and relief can take the form of suspension or reduction of demand charges. There is probably no optimal answer – the end result should be to get the overall rate for EV charging to the point where it is below the equivalent cost of gasoline to ensure that there remain incentives for the purchase and use of EVs – particularly by fleets and MD/HD which will rely mostly on DCFC and don't have as much flexibility as to when to charge. Thus, the Alliance – while it supports consideration of demand charge reductions or discounts does not take a position on what mechanism to adopt to accomplish the objective. We also point out that keeping time of use signals in place for energy use should remain an important goal of rate design.

**Examples of Demand Charge Mechanisms for EV Chargers**

- California – Southern California Edison (Demand Charge Holiday)

  Under California (CPUC) rules, this is described as an economic development tariff that is allowed in certain circumstances as a separate tariff to promote certain targeted economic activity. TOU EV-7 is applicable to a separately metered EV customer where demand is expected to be below 20 kW, and thus would be applicable to most Level 2 non-residential charging. Two options - E and D are available. For the first five years, no Demand Charge applies to customers receiving service under this Schedule. After the five-year introductory period, the Demand Charge on Option D shall be phased-in unless otherwise authorized by the Commission. Option E has no voltage discount for demand charges but does have voltage discounts for energy charges. Option D does have discounts for demand charges, but no discounts on energy charges. Rates are based on winter or summer and have on-peak, mid-peak, off-peak and super off-peak components.

  TOU EV-8 is applicable to a separately metered EV customer where demand is expected to be between 20 kW and 500 kW, and thus would apply to most DCFCs. Again, there are no demand charges for the first five years. There is a voltage discount for energy with same time periods as TOU EV-7.

- California – San Diego Gas & Electric (EV High Powered Rate EV-HP (proposed))

  This rate, not yet approved, is designed to serve electric vehicle ("EV") direct current fast charging ("DCFC") and medium-duty and heavy-duty ("MD/HD") charging and is optional to those customers. The proposed rate design has three components:

  (1) time-of-use ("TOU") periods to encourage off-peak and super off-peak charging and a subscription charge to replace traditional demand charges;

  (2) a discount on the proposed EV-HP subscription charge that is designed to encourage early EV adoption (the discount will phase out from 50% to 0% over ten years, declining by 5% each year);

  (3) an interim 50% discount on the single highest priced demand charge in each applicable existing general service Utility Distribution Company ("UDC") rate for DCFC

and MD/HD EV customers until the EV-HP rate can be fully implemented via SDG&E's forthcoming new billing system;

The proposed EV-HP rate design is intended to provide support for the nascent DCFC and MD/HD EV market by simplifying the rate structure as compared to existing general service rates and creating an electric fueling option that is competitive with fossil fuels. The rate would be applicable to separately-metered DCFC and a wide range of MD/HD EV charging, including public transit buses, school buses, and airport shuttles – as well as other on and off-road MD/HD trucks and off-road equipment, like forklifts.

SDG&E also requests to increase rates to fund the implementation of this bill discount. The total costs of the requested improvements and associated support are approximately $1.1 million incurred over two years. SDG&E requests that the approved amount be recorded in existing regulatory accounts and recovered annually in electric distribution rates starting January 1, 2021.

- California - Pacific Gas & Electric (Subscription Rate)

  Electric Schedule Business Electric Vehicle (hereafter BEV) is an optional schedule that applies to commercial EV charging purposes where the non-EV commercial usage and the EV charging usage is metered separately. The BEV-1 rate is applicable to customers with <100 kW and the BEV-2 Rate is for customers >100 kW. The BEV rate replaces the customer charge and traditional maximum kW demand charge with a subscription-based model for monthly kW allocation. Customers taking service on this rate schedule can use any amount of kW and kWh but will incur an "overage" fee if the kW usage exceeds a customer's self-designated subscription level. Subscription fees are lower than otherwise applicable demand charges. These rates also have a TOU component.

- Virginia – Dominion Energy (Low Utilization Rate)

  Dominion Energy in Virginia has a generally applicable commercial rate (GS2) especially designed for low usage customers that will help EVSPs avoid demand charges.[13] Demand charges are waived (at the customer's option) for customers whose kWh usage for the current month does not exceed 200 kWh per kW of the demand as determined by taking the highest average kW load measured in any 30-minute interval during the billing month. Minimum contract charges are still applicable under its rate schedule GS-2 for these lower usage customers. Eligible customers are any who have within the current and previous 11 billing months at least three peak measured demands of 30 kW or more and not more than two peak measured demands of 500 kW or more.

- Florida – Florida Power & Light (**proposed** Demand Charge Reduction for EV Charging)

  Florida Power & Light has proposed two optional riders to FPL's existing General Service Demand (GSD-1) and General Service Large Demand (GSLD-1) tariffs, available to qualifying providers of EV public fast charge services, that limit the amount of demand (kW) billed to these

[13] https://cdn-dominionenergy-prd-001.azureedge.net/-/media/pdfs/virginia/business-rates/schedule-gs2.pdf?la=en&rev=65c74050107549f299d48689f738e948&hash=7CBE70107AE10C66B8EB5C5A1E248D12

customers as a function of their energy (kWh) usage during low load factor billing periods. While the proposed tariffs would reduce billed demand for low utilization charging stations, the bill impacts to these customers automatically adjust back to those of standard GSD-1 and GSLD-1 tariff rates as station utilization improves and the economic challenges are alleviated.

The two new riders, GSD-1EV and GSLD-1EV, feature a "demand limiter" mechanism. Under these riders, the amount of demand billed to public fast charge stations will be the lesser of:

a. measured demand, as conventionally determined; and,

b. limited demand, as calculated by dividing energy sales (kWh) by a fixed constant of 75 hours.

Mathematically, the above provision has the effect of limiting the combined cost of energy and demand to the lesser of (a) that of existing GSD-1/GSLD-1 tariffs and (b) approximately $0.20 to $0.22 per kWh (before customer charge, taxes and fees). Assuming a retail charging price of $0.30 /kWh, this targeted cap will support the ability for public charging stations to recover their electricity costs while still leaving margin to contribute toward other operating expenses and capital costs, and while still providing substantial savings over the gasoline equivalent cost of fuel. These riders have not yet been approved by the Florida PSC.

- Colorado – Excel Energy (Critical Peak Pricing)

  An S-EV Rate allows commercial customers, including fleets, to save money on electric vehicle (EV) charging when they avoid charging during critical peak events. A limited number of critical peak events (up to 15) may be called during the year, only once per day, will last four hours in duration, and will occur between 12 p.m. and 8 p.m. on non-holiday weekdays. Critical events are announced by 4 p.m. the day before. Participating customers are provided with a tool to view near real-time energy usage. Only applicable where EV charging infrastructure is on secondary voltage service and where the electric power and energy from the electric service is used solely to charge EVs (and metered separately from other loads). For customers on this reduced rate, the demand charge is based on either the maximum 15-minute demand for the month or 50% of the highest measured demand during the last 12 months, whichever is greater. Xcel estimates that with the program, existing demand charges are lowered by 72%.[14] The rate is available for customers over 25 kw. Customers under 25 kw are eligible for a commercial rate without demand charges.

Thus, we can see from just the examples above that there are multiple ways in which the burden of demand charges can be reduced for low utilization, low load factor EV charging stations. The Commission should consider proposals from IL utilities for either similar ways of dealing with the issue or even other ways not described above. And the Commission should monitor the effectiveness of whatever rate design it puts in place over time as station utilization changes. We again remind the Commission of trade-offs between utilization, which reduces the cost per kwh of charging, and customer

[14] https://electricenergyonline.com/article/energy/category/energy-storage/143/771453/xcel-energy-proposes-new-rates-for-ev-chargingproposal-would-help-foster-growth-of-electric-vehicle-industry-in-colorado.html

experience which may decline if usage gets too high – requiring the Commission to encourage additional ports or stations being added.

We also note again that rebates for charging installations at workplaces can be an effective way to encourage the adoption and use of electric vehicles. Many utilities currently provide rebates for commercial public charging stations, including workplaces. These utilities and their states, based on a US DOE database,[15] include the following:[16] Some more recent programs do not appear on this list, but the main takeaway is that there are a substantial number of rebate programs around the country for the Commission to be aware of.

- Arizona – Tucson Electric Power – residential (R) and commercial (C), and low-income areas
- California – many utilities have rebates covering multiple use cases, including MUD and fleets
- Colorado – Black Hills (C)
- Georgia – Georgia Power EVSE rebate (R)
- Hawaii – Hawaii Energy administers programs for commercial and MUD
- Idaho – Idaho Power
- Iowa - Alliant Energy (R and C) and Mid American Energy (R only)
- Louisiana – Entergy and SWEPCo
- Maryland – All regulated utilities (R and C)
- Massachusetts – Eversource and National Grid (C)
- Michigan – Consumers Energy, DTE Energy and Indiana Michigan Power
- Minnesota – Otter Tail and Xcel Energy (R)
- Mississippi – Entergy
- Missouri – Ameren (C)
- Nebraska – OPPD and NPPD
- Nevada – NV Energy (C)
- New Hampshire – NH Electric Coop
- New York – ConEdison and PSEG Long Island
- Ohio – AEP and First Energy (lease)
- Oklahoma – PSO (R)
- Oregon – Pacific Power (R)
- Pennsylvania – Duquesne Light (C), First energy (lease), PECO Energy (vehicle rebate)
- Tennessee – Knoxville Utility Board (R)
- Texas – Entergy, Austin Energy and SWEPCo
- Utah – Rocky Mountain Power (R and C)
- Vermont – VT Electric Coop and Green Mountain Power
- Virginia – Dominion Energy (C)
- Washington – Pacific Power (C)
- Wisconsin – Madison G&E and Alliant (various programs)

[15] https://afdc.energy.gov/fuels/laws/

[16] Non-utility programs are excluded

Thus, there are current rebate programs in 29 states that help with the costs of installing chargers at residential and/or commercial locations. As noted earlier, some states allow utilities to recover the costs of these rebate programs in rates, while others require expensing. We urge the ICC to consider the value of rebate programs, or alternatives, to encourage the adoption and use of EVs in Illinois.

4. EV Fleet Adoption and Use by Businesses

a. Do current electric rate designs prevent business customers from adopting and using EV fleets? If so, how?

b. Should electric rate designs be used to encourage business customers to adopt and use EV fleets? Why or why not?

c. If you are in favor of providing incentives through electric rate design, what specific electric rate designs can be used to motivate business customers to adopt and use EV fleets?

d. How do electric rate designs used to incent business customers to adopt and use EV fleets affect the affordability of electric service for other electricity users?

The answer to these questions is really the same as the answers to Questions 2 and 3 and we will not repeat them here. The major differences with fleet adoption are the scale, and likely usage patterns. Scale is important because of the potential size of some fleets and greater reliance on MD/HD vehicles. Some fleet vehicles may have enough range so that they can charge at night and get through the day, but larger vehicles and vehicles in spread out or rural areas may be forced to charge during the day. Also, fleets are more likely than MUD or workplace chargers to be DCFC – particularly for MD/HD vehicles. Thus, the demand charge issue may be a critical one for fleet owners and may cause them not to consider electric fleets. But as discussed above, there are ways of dealing with the demand charge problem that will remove this disincentive.

The fleet electrification momentum is happening faster than we think today – for example there have been major announcements by Amazon and UPS regarding large-scale electrification of their fleets. More MD and HD vehicles are coming soon. Deciding to electrify fleets is a more complicated decision than other use cases such as the residential, workplace, and public infrastructure cases. The Total Cost of Ownership (TCO) calculation is of course critical to the decision to electrify, and the costs of infrastructure to the fleet owner are an important component of those costs. Thus, the Commission can play a major role in encouraging fleet electrification by evaluating their special needs, by encouraging the construction of make-ready infrastructure by utilities, and by considering revisions to demand charges that will make the economics work for fleets. But once the fleet owners decide that EVs are cheaper and better on a TCO basis, the inflection point will come – and come quickly. And the utilities and the EV infrastructure needs to get ready as well.

Ceres and the California Trucking Association, with funding from Amazon, have produced an excellent report "The Road to Fleet Electrification" on the public policy issues associated with electrification that we also commend to the Commission's attention.[17]

[17] https://www.ceres.org/sites/default/files/reports/2020-05/The%20Road%20to%20Fleet%20Electrification.pdf

5. EV Charging Station Deployment by Businesses for Customer Use

a. Do current electric rate designs prevent businesses from deploying charging equipment for customer use? If so, how?

b. Should electric rate designs be used to encourage businesses to deploy charging stations for use by their customers? Why or why not?

c. If you are in favor of providing incentives through electric rate design, what specific electric rate designs can be used to motivate businesses to deploy charging stations for use by their customers?

d. How do electric rate designs used to incent businesses to deploy charging stations for the use of their customers affect the affordability of electric service for other electricity users?

Again, we believe the answers to these questions are the same as for Questions 2, 3 and 4 and we will not repeat those answers here. We remind the Commission that in this use case, the price charged (if any) will be up to the business owner installing the charger (unless it is the utility at the request of the site host). Thus, the issue of concern to the Commission is the rate charged to the business for power used by the charging station. The same demand charge issues thus arise. If the business owner has to charge too much to customers for the use of chargers, or if the charging increases demand charges to the business owner significantly, that owner is unlikely to proceed and rate design will be a disincentive. The business owner needs an economic proposition that works and that could be dependent on demand charges.

6. EV Charging Station Deployment by Units of Government

a. Do current electric rate designs prevent units of government from deploying charging equipment for public use? If so, how?

b. Should electric rate designs be used to encourage units of government to deploy charging equipment for public use? Why or why not?

c. If you are in favor of providing incentives through electric rate design, what specific electric rate designs can be used to motivate units of government to deploy charging equipment for public use?

d. How do electric rate designs used to incent units of government to deploy charging equipment for public use affect the affordability of electric service for other electricity users?

Unless a utility has specific government rates, we don't believe the answer to these questions is different than for the previous questions.

7. EV Adoption by Units of Government

a. Do current electric rate designs prevent units of government from adopting EV fleets (e.g., school buses, mass transit) for public use? If so, how?

b. Should electric rate designs be used to encourage units of government to deploy EV fleets (e.g., school buses, mass transit) for public use? Why or why not?

c. If you are in favor of providing incentives through electric rate design, what specific electric rate designs can be used to motivate units of government to deploy EV fleets (e.g., school buses, mass transit) for public use?

d. How do electric rate designs used to incent units of government to deploy EV fleets (e.g., school buses, mass transit) for public use affect the affordability of electric service for other electricity users and the affordability of public transit?

Public transit and school buses are a special use case and will require utilities to look at current rates applicable to this type of EV. Special rates could be developed which recognize that these vehicles may be able to charge during lower use periods during the day and thus they might be candidates for time of use or time of day rates. Transit and school buses hold tremendous promise for electrification, and we would encourage the Commission to look at how rates can be used to make such purchases economical in the future. Right now, subsidies are required as the initial capital cost of the buses is significantly higher than diesel buses, and operating cost savings do not make up the difference. Hopefully, initial costs will continue to come down as battery costs decline. Who provides such up-front subsidies and how is an important question, and several utilities around the country are conducting pilots looking at these issues. We recommend further study by the ICC of the issues involved.

8. Commercial Charging Station Providers

a. Are current electric rate designs a barrier to the deployment of public EV charging by commercial charging station providers? If so, how?

b. Should electric rate designs be used to encourage the deployment of public EV charging by commercial charging station providers? Why or why not?

c. If you are in favor of providing incentives through electric rate design, what specific electric rate designs can be used to motivate the deployment of public EV charging by commercial charging station providers?

d. How do electric rate designs used to incent the deployment of public EV charging by commercial charging station providers affect the affordability of electricity service for other electricity users?

Again, the major issue is the demand charges that will be incurred by the station owner or site host and the answers to these questions are the same as previous answers.

9. Low to Moderate Income Customer EV Adoption and Use

a. Do current electric rate designs present a barrier to the adoption or use of EV technology by low to moderate income citizens? If so, how?

No – current electric rate design does not present a barrier to the adoption of EV technology by low to moderate income citizens. Current rate designs provide costs to the consumer well below the equivalent cost of gasoline and in fact, used EVs represent a very good option for these citizens as they are often available for less than $10 thousand dollars. The bigger problem is the cost of installing chargers, and the fact that many of these people may live in MUDs where the owner does not wish to provide the amenity. In these regards, rebates or subsidies of any kind for chargers in low- and moderate-income areas present a viable choice and many states have used rebate programs to target these areas. The rebates should be targeted towards residential installations, MUDs, and commercial charging stations in these areas.[18]

Incentives may and should also be offered for electrifying mass transit which will improve the living environment in urban areas. In this case, it may make sense to use rate design to, at a minimum, remove any disincentives to adoption. This could consist of demand charge reductions to transit agencies and school districts for EV transportation and it could consist of incentives or rebates to potential owners of the vehicles.

b. Should electric rate designs be used to encourage the use of EV technology by low to moderate income citizens? Why or why not?

Again, we think the use of rebates or incentives is a better mechanism to target these citizens.

[18] For example, Portland General Electric in Oregon recently received approval from the Oregon PUC for a Pilot rebate program that offers $1,000 (double the size of the normal rebate of $500) to income eligible customers for residential Level 2 charger installation. See https://www.portlandgeneral.com/-/media/public/documents/rate-schedules/sched_008.pdf. Income eligible customers are defined as a residential customer at 80% or below the area median income as defined by the US Department of Housing Urban Development, or the home qualifies for Section 8 housing.

c. If you are in favor of providing incentives through electric rate design, what specific electric rate designs can be used to motivate the use of EV technology by low to moderate income citizens?

N.A.

d. How do electric rate designs used to incent use of EV technology by low to moderate income citizens affect the affordability of electric service for other electricity users?

Rebates or incentives to low to moderate income customers would have to be paid for by other customers, but we think this is a valuable investment for several reasons. First, these customers often live in areas that have borne the brunt of environmental burdens from electricity production and use. Second, providing a low cost means of mobility for these citizens will provide community benefits. And third, along with off peak charging, encouraging EV adoption and use by these, as well as all customers, will put downward pressure on overall rates and ultimately produce benefits for all customers.

e. Are there other ways to provide benefits from EVs to low to moderate income citizens?

Again, electrifying mass transit is another way of providing benefits to these citizens as they are primary users of that mode of transportation. By the same token, encouraging adoption of EVs by TNCs and taxicab fleets will provide the same kind of benefits.

10. Environmental Impacts of EV Use

a. Do current electric rate designs prevent customers from using EVs in a manner that has a positive environmental impact? If so, how?

To the extent customers take advantage of current time of use rate designs available to them, off peak power, which is generally a cleaner mix of generating sources, will be used and will result in environmental improvement. And as more renewables are added to the system, time of use pricing can be used to encourage charging at times when that source is plentiful, potentially reducing the need to curtail such clean power sources.

b. Should electric rate designs be used to encourage customers to use EVs in a manner that has a positive impact on the environment? Why or why not?

Yes – again rate design should encourage off-peak use.

c. If you are in favor of providing incentives through electric rate design, what specific electric rate designs can be used to motivate customers to use EVs in a manner that has a positive impact on the environment?

Time of use or time of day rate designs that reflect system costs.

d. How do electric rate designs used to incent customers to use EVs in a manner that has a positive impact on the environment affect the affordability of electric service for other electricity users?

Since TOU rate designs help reflect costs of service, they will not affect the affordability of electric service for other customers.

11. EV Use Impacts on Grid Costs

a. Do current rate designs incent customers to use EVs in a manner that reduces grid costs (e.g., distribution costs, transmission costs, capacity costs)?

Yes – again encouraging off peak use through rate design can reduce the need to incur any new grid costs, as there is usually sufficient capacity available on the grid in off-peak hours.

b. Should electric rate designs be used to incent customers to use EVs in a manner that reduces grid costs? Why or why not?

Yes – not using rate design to encourage off-peak use could result in increased grid costs raising everyone's rates and potentially causing reliability concerns.

c. If you are in favor of providing incentives through electric rate design, what specific electric rate designs can be used to encourage customers to use EVs in a manner that reduces grid costs?

Time of use and time of day rates.

d. How do electric rate designs used to incent customers to use EVs in a manner that reduces grid costs affect the affordability of electric service for other electricity users?

By aligning rates with costs of service, the affordability to other electricity users is not affected. Even in cases where demand charges are potentially reduced, there remains the ability to vary rates by time of use, and the additional use of EVs that will be encouraged will also reduce rates for all customers in the long term.

12. EV Use Impacts on Reliability and Resiliency

a. Do current electric rate designs prevent customers from using EVs in a manner that has a positive reliability and resiliency impact on the grid? If so, how?

b. Should electric rate designs be used to encourage customers to use EVs in a manner that has a positive reliability and resiliency impact on the grid? Why or why not?

c. If you are in favor of providing incentives through electric rate design, what specific electric rate designs can be used to motivate customers to use EVs in a manner that has a positive reliability and resiliency impact on the grid?

d. How do electric rate designs used to incent customers to use EVs in a manner that has a positive reliability and resiliency impact on the grid affect the affordability of electric service for other electricity users?

We believe the answers to these questions are the same as those for Question 11.

13. EV Rate Design Principles

a. Are there examples of rate design principles or rate designs, not addressed above, that would result in EV adoption or use in a manner that would be in the public interest? If so, please explain.

No – we believe we have covered the important rate design principles. Please refer to our discussion of the Bonbright principles and general rate-making authorities earlier in the General Comment section.

b. Are there examples of other mechanisms that may be used in conjunction with rate designs (e.g., pairing load management with rate design) that would result in EV adoption or use in a manner that would be in the public interest? If so, please explain.

To the extent charging can be automated to react to time-based price signals, that would provide additional assurances that electrification will be beneficial. This might be done through technology made available through load management programs on a turnkey basis between the utility and a vendor, or through the increasing capabilities of OEM telematics on-board in the vehicle. Many utilities already offer certain types of demand response (DR) programs as a flexible load management technique, and most of the EVSE vendors include these capabilities in their equipment and software. The industry also has largely adopted an open protocol for DR techniques, called Open ADR, which allows utilities and host sites to switch more easily among vendors (hence avoiding vendor lock-in). The option of separate metering or sub-metering for EVs paired with EV only rates could also help assure beneficial

electrification as some EV owners or EVSEs may be reluctant, or may be harmed, to subject their full load to time-varying rates.

c. Please provide examples of rate designs employed in other states or jurisdictions that might serve as best practices with respect to EV adoption or use in Illinois.

See the response to Question 3.e. above.

B. Rate Design Impacts on Other Forms of Beneficial Electrification

The Alliance takes no position on rate issues related to other forms of beneficial electrification.

C. Rate Design Implementation

1. Please identify any rate design changes that you would recommend be adopted in Illinois, including the rate design changes addressed above.

Residential customers already have time of use supply rates available as an option. We would suggest that the Commission also consider EV-only rates tied to a separate EV meter as an option for customers as many states have done.

For all commercial or general use customers otherwise subject to demand charges, we would recommend that the ICC consider applications from utilities that suggest alternatives which could reduce demand charges when utilization of charging stations is low. We describe just some of the options above.

We also recommend that the Commission consider rebate programs and other incentives proposed by utilities to reduce the costs of installing charging stations or purchasing EVs and allow cost recovery of those rebates and incentives in rate base.

Finally, the Commission should encourage and allow cost recovery of education and outreach programs that help encourage the adoption and use of EVs of all types and all use cases.

2. For any rate design change you recommend be adopted, please explain the process required to adopt such rate design change (e.g., requires a change in law, requires a change in Commission rules, requires a tariff change, etc.).

We believe all the recommendations made here can be done under the Commission's existing authority with tariff changes. We are not aware of any needed rule changes.

3. Please identify how your recommended rate design changes may affect low to moderate income citizens.

The implementation of rebates or incentives, or reductions in demand charges may increase rates to all customers, including low to moderate income in the short term over levels that might otherwise be in effect. The Commission does have it within its authority to determine if such customers should be exempted from incurring such costs. But it is critical to note that any cost increases will be short-lived as the benefits of transportation electrification will far outweigh any short-term cost increases.

Respectfully submitted this 16th day of November 2020,

*Philip B. Jones*

Philip B. Jones, Executive Director
phil@evtransportationalliance.org
Alliance for Transportation Electrification
1402 Third Avenue, Ste. 1315
Seattle, WA 98101
206-335-5451