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Witness:	James Owen
Sponsoring Party:	Renew Missouri Advocates
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MISSOURI PUBLIC SERVICE COMMISSION

ER-2022-0337

REBUTTAL TESTIMONY

OF

JAMES OWEN

ON BEHALF OF

RENEW MISSOURI ADVOCATES

February 15, 2023

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1 **INTRODUCTION**

2 **Q: Please state your name, title, and business address.**

3 A: James Owen, Executive Director, Renew Missouri Advocates d/b/a Renew Missouri
4 (“Renew Missouri”), 409 Vandiver Dr. Building 5, Suite 205, Columbia, MO 65202.

5 **Q: On whose behalf are you testifying in this case?**

6 A: I am testifying on behalf of Renew Missouri.

7 **Q. Please describe your current position, your education, and background.**

8 A: I have been employed as Executive Director for Renew Missouri since 2017. In regard to
9 my background, I am an attorney by trade and was appointed as an Associate Circuit
10 Court Judge prior to my experience in utility ratemaking. I obtained a law degree from
11 the University of Kansas in Lawrence, Kansas as well as a Bachelor of Arts in Business
12 and Political Science from Drury University in Springfield, Missouri.

13 **Q: Please describe Renew Missouri’s areas of advocacy and involvement before the**
14 **Commission.**

15 A: Renew Missouri is an advocacy group based in Columbia, Missouri that appears before
16 regulatory agencies such as the Missouri Public Service Commission (“PSC” or the
17 “Commission”), the Kentucky Public Service Commission, and the Kansas Corporation
18 Commission. Our work involves engaging as intervenors on regulatory matters impacting
19 renewable energy and energy efficiency investments, including utility rate cases,
20 applications for certificates of convenience and necessity, mergers and acquisitions,
21 accounting authority orders, and energy efficiency investment portfolios. I have provided
22 general testimony on rate increases, rate design, and opposition to utility proposals
23 involving excessive fees against net metered customers as well as assisted intervening

1 groups with comments on filed integrated resource plans. Attached as **Schedule JO-1** is a
2 list of my case participation.

3 Renew Missouri also advocates for low-income customers to have access to
4 renewable energy and energy efficiency resources. Through our representation of
5 nationwide groups such as National Housing Trust (“NHT”) and the Energy Efficiency
6 for All (“EEFA”) coalition, Renew Missouri has secured energy efficiency programs for
7 all ratepayers and helped to craft on-bill financing tariff programs designed to aid low-
8 income customers in making improvements to their living spaces. Additionally, Renew
9 Missouri has worked with utility companies to develop pilots to provide community solar
10 to low-income neighborhoods.

11 In my role as Executive Director at Renew Missouri, I occasionally provide
12 information and testimony on pieces of proposed legislation that may impact how utility
13 regulators approach energy efficiency and renewable energy. Most recently, Renew
14 Missouri staff and myself have been developing and offering educational programs on
15 topics related to energy law and policy in Missouri on topics including demand response
16 aggregation, accounting authority orders, and our year-end update covering state and
17 federal rulemakings, PSC appeals, and energy efficiency and renewable energy updates.
18 We have provided nearly sixty hours of continuing legal education credit over the past
19 three years.

20 **Q: Please summarize your professional experience in the field of utility regulation.**

21 A: Before becoming Executive Director of Renew Missouri, I served as Missouri’s Public
22 Counsel, a position charged with representing the public in all matters involving utility
23 companies regulated by the State of Missouri. While I was Public Counsel, I was

1 involved in several rate cases, CCN applications, mergers, and complaints as well as
2 other filings. As Public Counsel, I was also involved in answering legislators' inquiries
3 regarding legislation impacting the regulation of public utilities.

4 **Q: Have you been a member of, or participant in, any workgroups, committees, or**
5 **other groups that have addressed electric utility regulation and policy issues?**

6 A: In May 2016, I attended the National Association of Regulatory Utility Commissioners
7 Utility Rate School. In the Fall of 2016, I attended Financial Research Institute's 2016
8 Public Utility Symposium on safety, affordability, and reliability. While I was Public
9 Counsel, I was also a member of the National Association of State Utility Consumer
10 Advocates and, in November of 2017, the Consumers Council of Missouri named me the
11 2017 Consumer Advocate of the Year.

12 **Q: What is the purpose of your testimony?**

13 A: The purpose of my testimony is to provide analysis and recommendations on how Union
14 Electric Company d/b/a Ameren Missouri ("Ameren" or the "Company") should address
15 issues in offering Time-of-Use ("TOU") rates to net-metering customers or customers
16 with distributed generation ("DG"). In addition, I seek to provide rationale for Renew
17 Missouri opposing Ameren Missouri's proposal to increase the residential customer
18 charge from \$9 to \$13 for most residential customers.

19 **Time-of-Use Rates for Net-Metering / Distributed Generation Customers**

20 **Q. Will you please briefly summarize your testimony about TOU rates for customers**
21 **under a net metering arrangement?**

22 A. Yes. Ameren should make available its proposed TOU rates to all customers, including
23 residential solar customers taking service under the Company's net metering tariff, as

1 well as customers with other forms of DG. The Commission should order Ameren to
2 conduct a study on integrating DG technologies and TOU rates. Keep in mind, the Net
3 Metering and Easy Connection Act¹ (the “net-metering statute”) requires utilities to offer
4 solar customers the same “rate structure” as non-solar customers. I provide several policy
5 reasons as to why the Commission should ensure that TOU rates are offered to all
6 customers, including net-metered solar and DG customers. I next respond to the reasons
7 Ameren gives as to why it will not make TOU rate options available to net-metered solar
8 customers.² In doing so, I distinguish between net-metered solar and other forms of DG
9 (e.g. battery storage, EV chargers), while urging the Company and the Commission to
10 consider these latter technologies separately. Finally, I examine other utilities where TOU
11 rates are successfully integrated with net metered solar and DG to explain why this
12 should not be a problem for Ameren to adopt.

13 **Q. What are Ameren Missouri’s TOU rate plans?**

14 A. Ameren offers its residential customers five rate options, which includes a flat or
15 “Anytime Users” rate, plus four TOU rate options (from small to larger rate differential):
16 1) Evening/Morning Savers; 2) Overnight Savers, 3) Smart Savers; 4) Ultimate Savers.
17 The first two TOU options offer a simple on peak/off peak schedule, with low-to-
18 moderate load shifting potential. The next two options offer greater savings potential and
19 load shifting potential with both a summer on-peak and a non-summer on-peak rate as
20 well as an intermediate period.

21 **Q. What changes does Ameren propose to make to its TOU rates in this case?**

¹ Section 386.890, RSMo.

² Ameren Missouri, Responses to Renew Missouri’s Second Set of Data Requests 2.1-2.3, File No. ER-2022-0337, February 2, 2023.

1 A. Ameren proposes no changes to the rates themselves. However, the Company is planning
2 a customer research plan and other analytical tools to better understand customer
3 adoption and behavior around these rate structures. The DSM potential study currently
4 underway includes an analysis of TOU rates as well.³ The Company is also proposing a
5 two-way rate switching tracker to help track and redress revenue erosion due to the
6 adoption of these rate options.⁴ Renew Missouri does not oppose any of these steps and is
7 open to anything that creates a better functioning set of rate options for residential
8 customers.

9 Mr. Wills' testimony further proposes differentiated customer charges for each of
10 the residential rate options with a lower customer charge corresponding to the more
11 severe TOU rate.⁵ I will address the customer charge issue in a separate section below.

12 **Q. Does Ameren allow for net-metering and customer-generator customers to make use
13 of its TOU rate options?**

14 A. In part, yes. Currently, Ameren allows customers with their own generation or with
15 service under its net-metering tariff to select the Evening/Morning Savers rate, the least
16 severe of the TOU rate options. However, Ameren does not allow net-metering customers
17 to participate in the Overnight Savers, Smart Savers, or Ultimate Savers rates.

18 **Q. What is your recommendation for how Ameren should integrate TOU rates with
19 net-metering, customer-generators, and other forms of distributed generation
20 technology?**

³ "Direct Testimony of Steven Wills on Behalf of Ameren Missouri," File No. ER-2022-0337, pg. 10.

⁴ Id. at pg. 13.

⁵ Id. at 20.

1 A. Ameren, and other large investor-owned electric utilities, should offer all customers the
2 same rate options, including residential net-metering customers and customers with DG
3 technologies. While I am not testifying in my capacity as an attorney, a plain reading of
4 the net metering statute indicates all customers taking service under a net-metering
5 agreement must be given the same rate structure as normal customers: “A retail electric
6 supplier shall:... (2) Offer to the customer-generator a tariff or contract that is **identical**
7 in electrical energy rates, **rate structure**, and monthly charges to the contract or tariff
8 that the customer would be assigned if the customer were not an eligible customer-
9 generator...”⁶ Failing to offer net-metering customers access to the same rate options
10 runs afoul of this provision.

11 Beyond the language of the statute, there are valid policy reasons to offer
12 customer-generators the same rate options as other customers. This would encourage the
13 installation of DG technologies on the grid, including rooftop PV solar, battery storage,
14 and electric vehicle (EV) adoption and charger installation, among others. These
15 technologies – when paired with AMI meter deployment – can be used to reduce peak
16 demand across the grid, shift usage to lower demand times, and offer customers greater
17 ability to reduce their electric bills. These are some of the same goals TOU rates seek to
18 accomplish. If Ameren could eventually offer all TOU rates to its DG customers, it will
19 allow the full toolbox of distributed resources to be used for lowering peak demand and
20 providing grid resilience. More importantly, developing distributed resources is
21 indispensable for meeting the Missouri renewable energy standard (“RES”) and

⁶ Section 386.890.3, RSMo.

1 achieving the Company's goal of renewable energy transformation, considering the
2 current technical challenges that centralized renewable resources face.

3 The Commission should order Ameren to conduct a comprehensive study on how
4 to integrate TOU rate designs for DG customers, which should result in a proposal for a
5 solution for incorporating DG customers into the TOU rate design for the future. This
6 could be an opportunity for solar advocates to work with the Company to resolve
7 ambiguities in how to structure TOU rates for solar customers.

8 **Q. Does Ameren offer reasons for why they will not or cannot offer all of their TOU**
9 **rates for net-metering customers?**

10 A. Yes. In its Response to Renew Missouri's Second Set of Data Requests, Ameren offers
11 several explanations, hypotheticals, and statutory readings they believe prevent my above
12 recommendation. I break these explanations down into two main cases: the case of real-
13 time excess production (in which the DG customer generates more kWh than they are
14 consuming at a particular moment in time); and net excess monthly production (in which
15 the DG customer generates more kWh than they consume in a particular month). It
16 should be noted these objections or problems only seem to apply to *net-metered solar*
17 customer, not to customers using other DG technologies. I will discuss the cases of
18 battery storage and EV chargers separately.

19 **Q. What are Ameren's reasons in the case of real-time excess production?**

20 A. One objection offered is that there is a problem in determining which peak period to
21 assign a solar customer's excess kWh production for purposes of offsetting their
22 consumption. Should production offset consumption at on-peak, off-peak or intermediate

1 peak?⁷ This is not a fatal problem as solar advocates could work with utilities to come to
2 a compromise to be reflected in the final tariff. The key is for the parties to agree on
3 goals. If the goal is to encourage solar installation to the maximum extent, then excess
4 kWh production could offset the customer's *on-peak* consumption first. On the other
5 hand, if the goal is to limit reductions in utility revenue while still making all rate options
6 available to solar customers, then excess kWh production could offset the customer's *off-*
7 *peak* consumption first. I believe this is a problem with several solutions, and Renew
8 Missouri welcomes the chance to work out a compromise in tariff language allowing
9 solar customers access to all residential rate options.

10 **Q. What are Ameren's reasons in the case of net excess monthly generation?**

11 A. The Company observes, in the case of a net excess monthly producer, there may be two
12 periods contributing to the excess and it is unclear which excess kWh are credited at the
13 avoided cost and which are credited at one-to-one. Ameren also notes the net-metering
14 statute requires only the customer charge and an avoided cost credit should be on a net
15 monthly producer's bill "but retail credits for on-peak will not net financially to zero
16 against net off-peak consumption."⁸ Again, I believe these problems are easily addressed.
17 If the goal is to reward solar customers for producing local electricity and sending it to
18 their neighbors, then the tariff could specify that the on-peak excess kWh should receive
19 retail rate credit and the off-peak excess kWh should receive avoided cost credit. If the
20 goal is to limit the utility's revenue erosion, then vice versa. But the overall goal should
21 be to ensure all residential customers be offered the same rate options.

⁷ "Renew 2.2 – Net Metering TOU examples narrative" pg. 1, included with Ameren's Response to Renew Missouri's Second Set of Data Requests, File No. ER-2022-0337.

⁸ *Id.*

1 **Q. What other objections does Ameren offer?**

2 A. Another objection given is allowing net-metering customers to use TOU rates may
3 frustrate the purpose of sending customers a price signal to reduce peak usage. The
4 Company states that, in the case of a net monthly producer:⁹

5 This allows customer to generate during a lower priced period to offset
6 actual usage during a premium priced period, which totally negates the price
7 signal intended by the rate structure to reduce usage in the peak period. It
8 will not benefit this customer to shift peak usage to intermediate, because
9 the excess intermediate generation is already required to offset the peak
10 usage. So no price signal for peak consumption exists in this scenario.

11 I fail to see how this prevents the Company from offering the rate structure to the customer-
12 generator. The above is merely an observation that solar offers an additional tool to save
13 customers money. In my opinion, net-metering customers have the same price signal as
14 any other customer during the on peak period. The only difference is the solar customer
15 has more ability to offset peak period consumption with their own generation. Besides, just
16 because net-metering customer may not be receiving the same “price signal” does not
17 change the fact their solar offsets meaningful load during the middle of the day and that
18 TOU rates may encourage more beneficial solar installations. In fact, DG technologies
19 create their own customer incentives; providing more tools to offset or shift usage during
20 peak hours.

21 **Q. Do you have any other reactions to the Company’s Response to Renew Missouri’s**
22 **Second Set of Data Requests?**

23 A. Yes. On Ameren’s website, the Company states, “net metering and solar customers can
24 participate in the Evening/Morning Savers rate. Solar customers can participate in the other
25 off-peak/on-peak rates, but only if they drop net metering and register as a qualifying

⁹ *Id.*

1 facility.”¹⁰ Ameren confirms this in its response to Renew Missouri data request RMO
2 002.1.¹¹ In my reading of Ameren’s explanations, it seems that many of the objections
3 would apply to the Evening/Morning Savers rate. The distinction between that rate and the
4 Overnight rate is of degree. Overnight has a larger difference between on and off peak. It
5 is not clear why net-metering customers can use the Evening/Morning Savers rate without
6 running into all of the problems Ameren calls attention to.

7 In addition, the Company’s response to RMO 002.1 does not clarify whether DG
8 customers owning battery storage or EV charging may use any or all of the TOU rates. If
9 we are to assume they cannot, then the Commission should reverse this restriction. Battery
10 storage and EV charging are unique tools that could enable significant load shifting from
11 on-peak to off-peak. Ameren should use residential rate design to reward customers’
12 investments in these innovations.

13 **Q. Do other utilities offer TOU rates for their DG customers, and how do they structure**
14 **these rate plans?**

15 A. There are several examples of how utilities in other states have combined the TOU rate
16 design with DG. Many utilities in states with a deregulated electricity market allow their
17 DG customers to participate in their TOU rate plans. California, for example, has mandated
18 DG customers must be served under a TOU rate plan since 2016, but some utilities in the
19 state had been offering optional TOU rate plans to the DG and EV customers prior to the
20 mandate being issued.¹² Meanwhile, utilities in other states like Illinois,¹³ Massachusetts,¹⁴

¹⁰ See <https://www.ameren.com/missouri/company/rate-options/faqs>.

¹¹ “RMO 002.1 Cover Sheet,” submitted in response to Renew Missouri’s Second Set of Data Requests, File No. ER-2022-0337.

¹² “Net Energy Metering,” California Public Utilities Commission, accessed at: <https://www.cpuc.ca.gov/industries-and-topics/electrical-energy/demand-side-management/net-energy-metering>; “Solar and Time-of-Use Electricity Rates: What You Need to Know,” Energy Sage, accessed at: <https://news.energysage.com/solar-time-use-electricity-rates-need-know/>.

¹³ “Illinois Net Metering,” Citizens Utility Board, accessed at: <https://www.citizensutilityboard.org/illinois-net-metering/>.

¹⁴ “Net Metering Guide,” Massachusetts Electric Power Division, accessed at: <https://www.mass.gov/guides/net-metering-guide>.

1 New York,¹⁵ Pennsylvania¹⁶ and New Hampshire¹⁷ offer optional TOU rate plans for their
2 DG customers.

3 In states with a regulated retail electric market like Virginia and South Carolina,
4 several utilities also allow their DG customers to participate in the TOU rate plans. These
5 states provide a particularly useful example for Ameren to learn from in looking at the
6 experiences of other utilities, as Missouri also has a regulated retail electric market.

7 Dominion Energy in Virginia allows DG customers to register in the “Demand TOU” plan,
8 whereas the non-DG residential customers can choose either the Demand TOU plan or the
9 Energy TOU plan. In 2021, Dominion Energy started an experimental TOU rate called the
10 Off-Peak Plan. The Off-Peak Plan is available to all types of residential customers,
11 regardless of if they are non-DG customers or DG customers. However, the plan limits its
12 participants to 10,000 accounts and the limit has been reached already. Under the current
13 program parameters, new applications for participation will be considered when existing
14 participants unenroll. Under the Off-Peak Plan, all participating DG customers can be
15 credited with corresponding prices associated with season, day, and time that electricity is
16 sent to the grid.¹⁸ In the meantime, the credits can only be applied to the same TOU tier
17 consumption. In other words, credits earned during on-peak/off-peak period can only apply
18 to consumption billed in the on-peak/off-peak period.

¹⁵ *NYS Net Metering FAQ – Residential*, US Department of Energy SunShot (November 2014), accessed at: <https://www.nysolarmap.com/media/1162/residentialnysnetmeteringfaqfinal.pdf>.

¹⁶ “Net Metering,” PECO: An Exelon Company, accessed at: <https://www.peco.com/SmartEnergy/MyGreenPowerConnection/Pages/NetMetering.aspx>.

¹⁷ Liberty Utilities Electricity Delivery Service Tariff – NHPUC No. 21, Authorized by NHPUC Order No. 26,376 in Docket No. DE 19-064 (July 1, 2020), accessed at: <https://new-hampshire.libertyutilities.com/uploads/GSE%20Tariff%20No.%2021%20March%201,%202022.pdf>; New Hampshire Public Utilities Commission Docket No. DE 16-576, Order No. 26,029, *Development of New Alternative Net Metering Tariffs and/or Other Regulatory Mechanisms and Tariffs for Customer-Generators* (June 23, 2017), accessed at: https://s3.amazonaws.com/dive_static/paychek/26-029_1.pdf.

¹⁸ “Off-Peak Plan,” Dominion Energy Virginia, accessed at: <https://www.dominionenergy.com/virginia/rates-and-tariffs/off-peak-plan>.

1 Late in 2021, Duke Energy in South Carolina – another state with a regulated retail
2 electric market – proposed a plan called “Solar TOU” for its DG customers that was later
3 approved by the South Carolina regulators. Similar to the Off-Peak Plan offered by
4 Dominion, the credits earned can be only applied to the same TOU tier consumption.¹⁹

5 According to customer representatives from the Dominion Energy and Duke
6 Energy, these utilities provide separate TOU rate plans for their DG customers from the
7 TOU rate plans in which the non-DG customers can enroll. Nevertheless, the three major
8 utilities (Pacific Gas & Electric, Southern California Edison, San Diego Gas & Electric) in
9 California offer DG customers the same TOU rate plans as non-DG customers. Because it
10 is compulsory for DG customers to get service on a TOU rate plan in California, customers
11 are automatically enrolled in the basic TOU rate plan. The DG customers can change to
12 other existing TOU plans if they prefer, and may receive plan information and analysis
13 from the utilities upon request.

14 **Q. Why did these utilities choose to allow their DG customers to participate in TOU rate**
15 **plans?**

16 A. One of the primary reasons is to achieve demand response goals. As most utilities recognize,
17 TOU rates can encourage customers to consume less electricity during the on-peak period.
18 Participation in TOU rate plans encourages DG customers to consume electricity from the
19 grid during the off-peak period. At the same time, it encourages DG customers to use their
20 generated electricity during the on-peak period, to avoid paying higher rates.²⁰ Also, the
21 time variable compensation could incentivize DG customers to use less power in the on-

¹⁹ Penrod, Emily, “South Carolina to Implement Net Metering Settlement with Time-of-Use Pricing,” Utility Dive (May 21, 2021).

²⁰ “Illinois Net Metering,” Citizens Utility Board, accessed at: <https://www.citizensutilityboard.org/illinois-net-metering/>.

1 peak period and send the electricity saved to the grid to achieve greater financial returns.²¹
2 Furthermore, the mechanism of TOU rates could encourage DG customers to install storage
3 equipment like batteries or to participate in future battery storage programs approved by
4 the Commission, as they would be able to store excess electricity generated in off-peak
5 hours and send it to the grid during on-peak hours to earn bill credits.²² The expectation is
6 that the TOU rate structure combined with DG could serve as a model for other distributed
7 resources such as distributed batteries and EVs in the future.²³

8 **Q. What is your conclusion and recommendation on the issue of TOU rates being offered**
9 **to net metered solar customers and customers with DG resources?**

10 I propose the Commission direct Ameren to conduct a comprehensive study to determine
11 how to integrate its TOU rates with customers that operate distributed resources (including
12 net metered solar PV, battery storage, electric vehicles, and others). The Commission
13 should direct Ameren to deliver the results of the study by the time of its next rate case or
14 its next triennial Integrated Resource Plan. Finally, once the issue is studied thoroughly,
15 the Commission should select a consistent policy pathway for all distributed resources.
16 This policy should not be solely dictated by utility profits, but rather should take into
17 account how resources can accomplish desirable goals of lowering peak demand,
18 improving reliability and resiliency, and avoiding the need to construct peak generation
19 capacity.

²¹ *Questions & Answers: How Time-of-Use Pricing Works with Interconnection to PECO's System*, PECO: An Exelon Company (2021), accessed at: <https://www.peco.com/SiteCollectionImages/S1-Solar%20Net%20Metering%20Time%20of%20Use%2010212021.pdf>.

²² Lane, Catherine, "Duke Energy's New Net Metering Program in SC to Reduce Solar Savings, Boost Battery Industry," *SolarReviews* (June 25, 2021).

²³ Penrod, Emily, "South Carolina to Implement Net Metering Settlement with Time-of-Use Pricing," *Utility Dive* (May 21, 2021).

1 **Higher Customer Charges for Residential Rate Options**

2 **Q. What is Ameren Missouri’s proposal for the residential customer charge?**

3 A. In his Direct Testimony, Ameren witness Steven Wills summarizes the Company’s
4 proposal to raise the customer charge from \$9 to \$13 for most residential customers. The
5 proposed increase to \$13 would apply to the Anytime rate option (the default), as well as
6 the Evening/Morning Savers and the Overnight Savers rate options (the two least severe
7 TOU options). Smart Savers would pay \$11, and only the Ultimate Savers would pay the
8 current \$9 customer charge. See Table 6 below.²⁴

Table 6 – Proposed Customer Charge by Rate Plan

Rate Plan	Peak/Off-Peak Price Differential	Demand Charge?	Load Shift Savings Potential	Proposed Fixed Monthly Customer Charge
Anytime User	None	No	None	\$13
Evening/Morning Savers	Small	No	Low	\$13
Overnight Savers	Moderate	No	Moderate	\$13
Smart Savers	Large	No	High	\$11
Ultimate Savers	Large	Yes	Highest	\$9

9
10 Witness Wills explains the Company’s contention that the various rate plans should
11 have differentiated customer charges to better reflect the cost structure to the utility. Mr.
12 Wills goes on to say that the Company’s new proposed rate structures are intended to send
13 price signals to encourage customers to adopt technologies like battery storage, EV
14 charging, smart thermostats and other home automation, and intermittent resources like
15 solar.²⁵

16 **Q. What is your recommendation with regard to Ameren Missouri’s proposed customer**
17 **charge?**

²⁴ “Direct Testimony of Steven Wills,” File No. ER-2022-0337, at pg. 27.

²⁵ *Id.* at 20-21.

1 A. The Commission should reject the differentiated customer charges proposed by the
2 Company, and any other proposal to increase residential customer charges. I strongly
3 disagree with Mr. Will's assertion that Ameren's proposed rate structures are intended to
4 encourage customers to adopt DG technologies; in fact, I believe they would discourage
5 customer investment in DG.

6 First, as I discussed above, Ameren Missouri's TOU rate options are unavailable to
7 net-metered solar customers, and it is unclear whether customers with battery storage can
8 participate. There are plenty of utilities across the country encouraging battery storage
9 through rebates and marketing. Ameren has taken none of those steps, and has no battery
10 pilot programs, solar plus storage programs, or residential demand response programs
11 whatsoever. So I struggle to believe Mr. Wills when he claims that the Company's
12 proposed rate structures are intended to increase DG adoption.

13 Secondly, I oppose increases in residential customer charges because of the
14 detrimental and inequitable effects they have on low-income customers.

15 **Q. What are the detrimental and inequitable effects of higher customer charges?**

16 A. Low fixed charges maximize the volumetric portion of a customer's bill, while high fixed
17 charges lower the volumetric portion. Accordingly, low customer charges incentivize
18 energy efficiency and conservation, and they prevent low energy users from being unfairly
19 overcharged for their usage patterns. Conversely, higher customer charges reduce a
20 household's ability to lower their total bill through energy efficiency and conservation.
21 High customer charges penalize low energy users, including those living in lower-square-
22 footage homes, such as multifamily apartments. Higher customer charges would make it
23 harder for customers to impact their total bills through installing measures that save energy

1 in their homes. Each energy saving step taken would have lower payback, thereby
2 disincentivizing behavior change and the installation of energy saving measures.

3 In addition, low-income multifamily households have higher-than-average energy
4 burdens: for example, a 2016 study found that the median energy burdens for low-income
5 multifamily households in St. Louis (6.25%) and Kansas City (6.36%) were much higher
6 than the median for all households in those cities (4.07% and 4.48%, respectively).²⁶
7 Indeed, Midwestern multifamily homes use 43% *more energy per square foot* than single
8 family detached homes.²⁷ However, Midwestern multifamily households tend to use *less*
9 *total energy* than other households: less than half of what is consumed by a Midwestern
10 single family detached home according to 2009 Residential Energy Consumption Survey
11 data.²⁸ As comparatively low energy users, low-income multifamily households are thus at
12 particular risk of harm from high customer charges.

13 **Q. What is your opinion on the effect of a higher customer charge on customer adoption**
14 **of DG technologies?**

15 A. I view the Company's proposed \$13 customer charge as being in direct opposition to
16 witness Wills' assertion that the Company is seeking to encourage adoption of battery
17 storage, EV charging, smart thermostats and other home automation products, and solar.
18 Each of these technologies will have its capabilities diminished by a higher customer
19 charge and will serve to penalize customers who have made such investments already.

²⁶ Drehobl, A. and Ross, L., *Lifting the High Energy Burden in America's Largest Cities: How Energy Efficiency Can Improve Low Income and Underserved Communities*, Energy Efficiency for All and ACEEE, April 2016, p. 46.
http://www.energyefficiencyforall.org/sites/default/files/Lifting%20the%20High%20Energy%20Burden_0.pdf

²⁷ U.S. Energy Information Administration, *Residential Energy Consumption Survey*, 2009. Table CE1.3: Summary Totals and intensities, Midwest Homes, <https://www.eia.gov/consumption/residential/data/2009/>. Note: 66,000 Btu per square foot for households in multifamily buildings of 5+ units vs. 46,100 Btu per square foot for single family detached homes.

²⁸ *Id.* Note: 51.9 million Btu per household for multifamily buildings of 5+ units vs. 128.0 million Btu per household for single family detached homes.

1 Very few customers will be able to elect for the Ultimate Savers rate without seeing
2 a rate hike; net-metering customers are specifically barred from it, and it's unclear whether
3 battery storage customers may use it. This leaves DG customers faced with an either/or
4 choice: either invest in new and exciting DG technologies that can lower their bills and
5 shift usage or forego those investments in favor of electing for the Smart Savers or Ultimate
6 Savers rates and rely only on conservation and behavioral changes. In my opinion, Ameren
7 Missouri's proposed rate structures serve to specifically discourage customer investments
8 in DG.

9 **Q. Does this conclude your testimony?**

10 **A. Yes.**

