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Rate Design  
Marke/Direct  
Public Counsel  
ER-2016-0179

**DIRECT TESTIMONY**  
  
**OF**  
  
**GEOFF MARKE**

Submitted on Behalf of the Office of the Public Counsel

**UNION ELECTRIC COMPANY**  
**D/B/A AMEREN MISSOURI**

FILE NO. ER-2016-0179

December 23, 2016

**BEFORE THE PUBLIC SERVICE COMMISSION  
OF THE STATE OF MISSOURI**

In the Matter of Union Electric            )  
Company d/b/a Ameren Missouri's        )  
Tariffs to Increase Its Revenues        )  
for Electric Service                        )


File No. ER-2016-0179

**AFFIDAVIT OF GEOFF MARKE**

STATE OF MISSOURI    )  
  )    ss  
COUNTY OF COLE     )

Geoff Marke, of lawful age and being first duly sworn, deposes and states:


1. My name is Geoff Marke. I am a Regulatory Economist for the Office of the Public Counsel.
2. Attached hereto and made a part hereof for all purposes is my direct testimony.
3. I hereby swear and affirm that my statements contained in the attached testimony are true and correct to the best of my knowledge and belief.

  
\_\_\_\_\_  
Geoff Marke  
Regulatory Economist

Subscribed and sworn to me this 23<sup>rd</sup> day of December 2016.



JERENE A. BUCKMAN  
My Commission Expires  
August 23, 2017  
Cole County  
Commission #13754037

  
\_\_\_\_\_  
Jerene A. Buckman  
Notary Public

My Commission expires August 23, 2017.

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**DIRECT TESTIMONY**  
**OF**  
**GEOFF MARKE**  
**UNION ELECTRIC COMPANY**  
**d/b/a Ameren Missouri**  
**CASE NO. ER-2016-0179**

1 **I. INTRODUCTION**

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

3 A. Geoff Marke, PhD, Economist, Office of the Public Counsel (OPC or Public Counsel), P.O.  
4 Box 2230, Jefferson City, Missouri 65102.

5 **Q. Are you the same Dr. Marke that filed direct “revenue requirement” testimony in ER-**  
6 **2016-0179?**

7 A. Yes.

8 **Q. What is the purpose of your direct testimony?**

9 A. To respond to the Commission’s order directing consideration of certain questions in  
10 testimony. Specifically:

- 11 • Installation of advanced metering infrastructure (“AMI”) for residential and  
12 commercial customers;
- 13 • Plug-in electric vehicle (“EV”) rates;
- 14 • Optional residential time-of-use rates (hourly) and time-of-day rates;
- 15 • Property Assessed Clean Energy programs (“PACE”); and
- 16 • Pay As You Save programs (“PAYS”).

17

18

1 **II. RESPONSE TO COMMISSION DIRECTED QUESTIONS**

2 **Installation of advanced metering infrastructure (“AMI”) for residential and commercial**  
3 **customers**

4 **Q. What is OPCs position on AMI for residential and commercial customers?**

5 A. As a general concept, a plausible economic case may be made for the deployment of AMI  
6 technology coupled with an easily understood and accepted time-of-use (“TOU”) rate design.  
7 However, according to the Brattle Group, about a third of all U.S. households are now  
8 receiving electric service through AMI but only 2% are buying the energy portion of their  
9 electric bill on a TOU plan.<sup>1</sup> Absent a TOU rate design it becomes more difficult to cost  
10 justify the infrastructure on a stand-alone basis. Moreover, it is important to factor in the  
11 additional complementary costs that would necessitate successful full-scale AMI deployment  
12 such as modified or new customer information systems (“CIS”), consumer education and  
13 marketing, as well as security and privacy liability concerns. Any definitive answer on the  
14 appropriateness of full deployment would need to be judged on the individual merits and  
15 unique circumstances of the utility involved.

16 Timing, as it relates to the current useful life of meters presently in place would also need to  
17 be considered. Over a long enough timeline, AMI meters (or some more advanced  
18 technology) may prove to be the default option. Automatic meter reading (“AMR”)   
19 technology could very well become obsolete in the future. However, today, Missouri  
20 stakeholders can observe lessons learned from other states farther along in this process and be  
21 prepared to act accordingly if the situation merits further consideration.

22 As it stands, OPC takes no formal position at this time in regards to AMI deployment in the  
23 Ameren Missouri service territory.

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<sup>1</sup> Farugui, A., R. Hledkic & N. Lessem (2014) Time-varying rates from the get-go—not just by opt-in. Smart by Default. *Public Utilities Fortnightly*. <https://www.fortnightly.com/fortnightly/2014/08/smart-default>

1 **Plug-in electric vehicle (“EV”) rates**

2 **Q. What is OPCs position on plug-in EV rates?**

3 A. OPC supports the use of a specialized plug-in EV rate to better reflect the real price of  
4 electricity. At this stage, a TOU rate similar to what is offered in the Commission’s  
5 referenced Georgia Power rate design would appear to be a viable option.

6 As it stands, OPC has not formally proposed an EV-specific, TOU, opt-in rate in this case.  
7 We would be willing to provide input and participate in dialogue on the matter if other parties  
8 have specific proposals or if the Commission wishes to continue this discussion in a separate  
9 docket.

10 **Optional residential time-of-use rate (hourly) and time-of-day rate**

11 **Q. What is OPCs position on TOU rates?**

12 A. OPC supports the use of TOU rates on an opt-in basis; however, OPC has not developed a  
13 specific TOU rate for this case. We would be willing to provide input and participate in  
14 dialogue on the matter if other parties have specific proposals or if the Commission wishes to  
15 continue this discussion in a separate docket.

16 **Property Assessed Clean Energy (“PACE”)**

17 **Q. What is OPCs position on PACE?**

18 A. To be clear, OPC does not believe that the PACE financing falls under the Commission’s  
19 oversight. Missouri enacted PACE legislation in 2010 (HB 1692) that authorizes the  
20 formation of clean energy development boards by one or more municipalities for the purpose  
21 of establishing PACE programs (Section 67.2800 – 67.2835 RSMo). PACE programs allow  
22 property owners to fund energy efficiency and renewable energy projects with little or no up-  
23 front costs. With PACE, eligible property owners living within a local government area that  
24 has adopted PACE can finance up to 100% of their project and pay it back over time as a

1 voluntary property tax assessment through their existing property tax bill. Rather, PACE  
2 financing can best be understood as a complementary financing tool to promote utilities  
3 Commission-approved energy efficiency programs—primarily for commercial and industrial  
4 customers.<sup>2</sup> Where available, OPC supports the use of this financing option and has been a  
5 vocal advocate for its ability to enable upgrades in energy efficiency related activities. It has  
6 been OPC’s experience that this perspective is shared amongst stakeholders (including  
7 Ameren Missouri) and is optimistic that PACE financing will enable more future cost-  
8 effective savings moving forward. OPC has no formal recommendations to the Commission  
9 regarding PACE financing.

10 **Pay As You Save (“PAYS”)**

11 **Q. What is OPCs position on PAYS?**

12 A. OPC has taken a lead in researching and investigating the appropriateness of offering a PAYS  
13 tariff to ratepayers. PAYS is an on-bill loan, tariff-based financing system that utilities can  
14 use to enable ratepayers to have control over their electric bills through energy efficiency  
15 upgrades. Discussions are currently taking place to develop a financial feasibility study with  
16 one electric utility which, if successful, may be extended to other utilities if appropriate. OPC  
17 believes that the upfront capital costs are a major impediment to deep energy and demand  
18 savings on the residential side. This is especially true for low and middle income  
19 homeowners and renters. As articulated at a recent Commission Agenda, The PAYS tariff  
20 program has had quantifiable success for both utilities and ratepayers alike in economically-  
21 depressed regions of Kentucky, Kansas and Arkansas. If these results are transferable to  
22 Missouri it would help mitigate cost shifting expenditures for families that can least afford  
23 further electric burdens. As it stands, OPC plans to continue the investigation into this  
24 program with an acute focus on ensuring that appropriate consumer protections are

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<sup>2</sup> It is OPC’s understanding that PACE financing is largely unavailable to residential properties unless said property is wholly owned by the resident.

1           maintained. OPC has no formal recommendations to the Commission regarding the PAYS  
2           tariff as it pertains to Ameren Missouri in the present case.

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

4   A.   Yes.