

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

In the Matter of Union Electric Company d/b/a)
Ameren Missouri’s 2nd Filing to Implement) File No. EO-2015-0055
Regulatory Changes in Furtherance)
Of Energy Efficiency as Allowed by MEEIA.)

**OFFICE OF THE PUBLIC COUNSEL’S CHANGE REQUEST
REGARDING AMEREN MISSOURI’S EM&V REPORT**

COMES NOW the Office of the Public Counsel (“OPC” or “Public Counsel”) and for its *Change Request Regarding Ameren Missouri’s EM&V Report*, states:

1. On February 5, 2016, Union Electric Company d/b/a Ameren Missouri (“Ameren Missouri” or the “Company”), the Missouri Public Service Commission Staff (“Staff”), Public Counsel, National Housing Trust, Natural Resources Defense Council, Earth Island Institute d/b/a Renew Missouri, Tower Grove Neighborhood Community Development Corporation, and Missouri Department of Economic Development – Division of Energy (collectively, the “Parties”) filed a Non-Unanimous Stipulation and Agreement (“Stipulation”) with the Missouri Public Service Commission (“Commission”).

2. On February 10, 2016, the Commission approved the Stipulation.

3. The Stipulation requires Ameren Missouri to complete annual Evaluation, Measurement, and Verification Reports (“EM&V Report”). The Stipulation also requires the Commission’s independent Auditor to file a Report due by July 23, 2017. After the auditor report is filed, any party wishing to make a change to the impact evaluation of the final EM&V report may file a “Change Request”.

4. Ameren Missouri hired the Cadmus Group, Inc. (“Cadmus”) to prepare an EM&V Report for residential programs, and ADM Associates to prepare an EM&V report for Ameren

Missouri's Community Savers and BizSavers programs. Ameren Missouri filed their 2016 EM&V Reports and revised reports ("Evaluation") on July 14, 2017 and July 25, 2017.

5. The Commission, pursuant to Commission Rule 4 CSR 240-20.093(7), hired Evergreen Economics (the "Auditor") to file an Independent EM&V Audit of the Ameren Missouri Program Year 2016 Program Evaluations ("Audit"). The Auditor filed its Audit on July 31, 2017.

The Reasons for OPC's Change Request

6. "Any stakeholder group participant which wants a change to the impact evaluation portion of the Final EM&V Report will have twenty one days from the issuance of the EM&V Report to file a request with the Commission to make a change ("Change Request"). Any stakeholder group participant filing a Change Request will set forth all reasons and provide support for the requested change in its initial Change Request filing."¹ August 15th is 21 days from the issuance of the Final EM&V Report. OPC hereby submits this timely Change Request, and sets forth its reasons with support.

7. OPC recommends that the Commission accept the recommendations of the Commission's independent Auditor with two notable exceptions as outlined in OPC's Memorandum attached hereto as Exhibit A. As support for this Change Request, OPC refers the Commission to the Auditor's Report.

8. The first exception to the Auditor's report relates to the inclusion of Non-participant Spillover ("NPSO") savings estimates. As explained more fully in the attached memorandum, Public Counsel agrees with the Commission's auditor that the evaluator's analysis relies on a limited sample size and is otherwise flawed. However OPC goes further than the

¹ EO-2015-0055, Stipulation, Item 308, Appendix C, Pg. 1 of 4 of the "EMV plan and timeline.pdf"

Auditor in seeking to exclude any and all non-participant spillover estimates for program year 2016. The Auditor's recommendation would reduce the evaluators estimate by nearly half, but NPSO should be excluded entirely due to lack of substantive support for its inclusion.

9. OPC also departs from the Auditor's recommendation by seeking a one-third reduction to the Home Energy Report ("HER") earnings opportunity payout. The performance metric for HER is the "effective, prudent spend of [the] budget." As supported by the attached memorandum, OPC shows Ameren Missouri's administration of the program has not been effective and resulted in only a 4 % realization rate (e.g., total annual evaluated savings of 1,323 MWh per year to the reported 33,750 MWh per year). Ameren Missouri should not be rewarded for this level of performance and so OPC recommends no credit towards the earnings opportunity for the first year of the HER program.

WHEREFORE, OPC submits this *Change Request Regarding Ameren Missouri's EM&V Report* and recommends the Commission accept its Auditor's report on the energy and demand savings except that NPSO should be excluded entirely for 2016 and the available earnings opportunity for HER should be reduced by one-third.

OFFICE OF THE PUBLIC COUNSEL

By: /s/ Ryan D. Smith
Ryan D. Smith, Mo. Bar No. 66244
Senior Counsel
PO Box 2230
Jefferson City, MO 65102
P: (573) 751-4857
F: (573) 751-5562
E-mail: ryan.smith@ded.mo.gov

CERTIFICATE OF SERVICE

On this 14th day of August, 2017, I hereby certify that a true and correct copy of the foregoing have been mailed, emailed or hand-delivered to all counsel of record.

/s/ Ryan D. Smith

MEMORANDUM

To: Missouri Public Service Commission Official Case File,
Case No. EO-2015-0055

From: Geoff Marke, Chief Economist
Office of the Public Counsel

Subject: OPC Change Request to Ameren Missouri MEEIA Cycle II Year 1 Residential
Savings Estimates

Date: August 14, 2017

Overview:

OPC supports all of the recommendations outlined in Staff's Independent Auditor report with two notable exceptions.

First, Ameren Missouri's MEEIA Cycle II EM&V report should be amended to exclude non-participant spillover savings ("NPSO") in its entirety based on the design and limited sample size used to obtain the results.

Second, Ameren Missouri's Home Energy Report ("HER") earnings opportunity payout should be reduced by 1/3 in total (or \$666,666.66) to reflect the poor performance which resulted in only a 4% realization rate (e.g., total annual evaluated savings of 1,323 MWh per year contrasted with the TRM estimated 33,750 MWh per year).

Non-participant Spillover ("NPSO"):

Ameren Missouri's residential evaluator, Cadmus, has projected NPSO savings that constitute 20% of the total residential portfolio. This assertion is based on the results of only 27 surveys. Moreover, Cadmus has allocated almost all of these savings (over 90%) to one program—Ameren Missouri's Heating and Cooling.

The Commission's independent auditor, Evergreen Economics ("Evergreen"), has recalculated the NPSO, and effectively halved the estimated amount. With the remaining NPSO savings, Evergreen has further allocated the savings evenly across each of the programs.

OPC agrees with Evergreen in that future NPSO (if attempted to be claimed) should be allocated evenly across programs. However, it is inappropriate to award any amount of savings estimates at this time based on the lack of substantive support. OPC recommends that NPSO not be included for 2016 due to insufficient support (27 surveys in total) and deficient design as articulated in Evergreen's auditor report including the following excerpt:

Additionally, in response to the question “why was the measure installed” (used for Criterion #5), there were multiple responses that clearly indicated that the measures were adopted for reasons other than saving energy, even though some of these same respondents indicated that Ameren Missouri also had some influence on their decision. Examples of responses that were judged to have met this criterion include:

- “(The measure was installed as) Part of the replacement for the faucet.”(faucet aerator)
- “The one we had was too small.” (efficient room air conditioner)
- “It’s just a matter of economy, I’ve always done it.” (thermostat programmed)
- “They just checked it while at my home, I didn’t request it.” (thermostat setting)
- “It was part of the service agreement, they just check it every year.” (AC tune up)
- “Cause the refrigerator went bad.” (refrigerator recycle)

All of these responses were still considered to be NPSO, even though it appears that the motivation for adopting the measure was primarily from something other than Ameren Missouri’s program and outreach efforts. These responses are analogous to adoptions that are counted as free riders among participants. (emphasis added) ¹

Table 1 provides a breakdown of the NPSO estimates of Cadmus, Evergreen and OPC.

Table 1: Non-participant spillover breakdown recommended estimates

Ameren Missouri Residential Program	Cadmus (Evaluator) NPSO (MWh/Yr)	Evergreen (Auditor) NPSO (MWh/Yr)	OPC NPSO (MWh/Yr)
Efficient Products	190	1,937	0
Smart Thermostats	130	1,937	0
Energy Efficiency Kits	5	1,937	0
Heating and Cooling	17,977	1,937	0
Lighting	1,144	1,937	0
Total	+ 19,446	+ 9,685	0

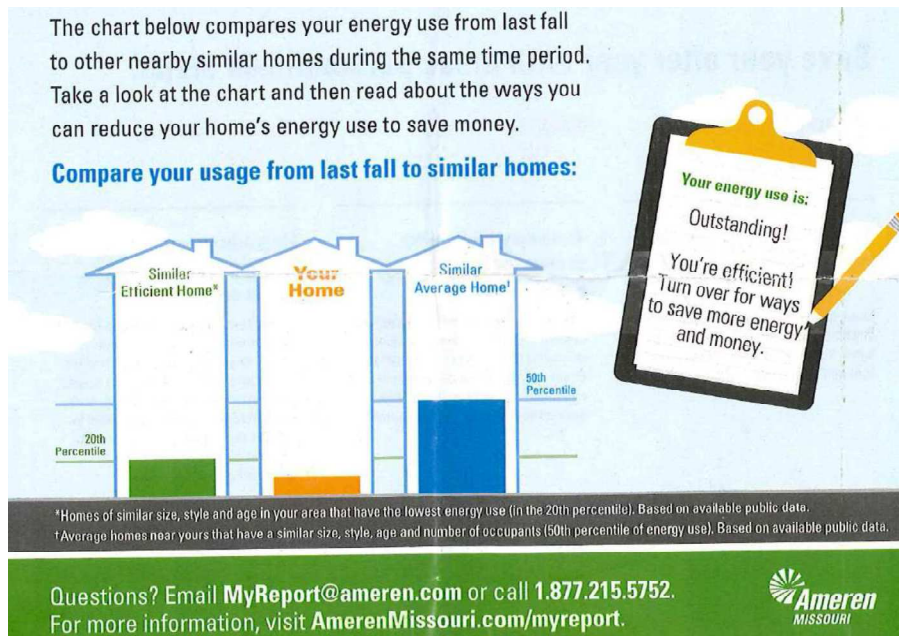
Home Energy Reports (“HER”)

Ameren Missouri’s HER program is not tied to explicit energy or demand savings, rather the utility is awarded a lump sum “earnings opportunity” reward at the end of three years in the form of \$2,000,000. This represents 7.28% of the target earnings opportunity. In effect, the Company needs to make a “good faith” effort to produce a behavioral response inducing product to encourage its customers to conserve and save energy. The performance metric is the “effective prudent spend of [the] budget”.

¹ Evergreen Economics. (2017) Independent EM&V Audit of the Ameren Missouri PY2016 Program Evaluations. P. 63.

OPC does not believe the Company's efforts in administering this program have demonstrated an effective or prudent spend as the programs design was ultimately unsuccessful (see Figure 1).

Figure 1: Excerpt from Ameren Missouri's Home Energy Report



OPC noted the following issues with the HER including:

- Evaluated savings of 6.2 kWh per year per customer to the TRM assumption of 150 kWh per year per customer, or similarly the total annual evaluated savings of 1,323 MWh per year to the reported 33,750 MWh per year, the realization rate is 4%.
- The HER reports appear to have induced a negative savings uplift (i.e., the control group saved more energy from other programs than did the treatment group).
- Ameren Missouri HER reports only included two of three "typical" behavioral modification components:
 - Neighbor comparison
 - ~~Customer specific progress tracker~~ (not included)
 - Energy saving tips (not customer specific)
- HER photos did not always align with the corresponding energy tip.
- Ameren Missouri HER TRM estimates appear to be overstated when compared to the benchmark utilities outcome.
- HER reports did not include a web-based complementary user service.
- Ameren Missouri only saved approximately one-third of the amount compared to the other benchmark utilities in their first six months (see table 2, excerpt of Cadmus HER Table 22 below):

Table 2: Excerpt from Cadmus Report regarding benchmark utilities HER results

Table 22. Average Energy Savings of HER Programs in the Sixth Month

Utility	Customer Cohort Name	Starting Month	Percentage Savings at in Sixth Month*
Ameren MO	-	August 2016	0.44%
Ameren Illinois	PY3	September 2010	1.75%
Consumers Energy	Track 1 - Pilot	June 2011	1.10%
PPL Electric	Legacy 2	May 2011	1.50%

* Cadmus calculated percentage savings for the Ameren Missouri program as the quotient of average per-customer savings, divided by control customers' average per-customer usage during the post-period. We estimated percent savings for other utility programs in the sixth -month based on monthly savings plots in the cited reports.

Overall, the Company's program expenditure for PY2016 was \$587,002 for 225,000 ratepayers across three iterations (or \$0.76) a report. As it stands, the Company will be awarded \$666,666.66 for mailing out a report with virtually no induced realized savings. Based on the results to date, Ameren Missouri's HER program has not been an "effective, prudent spend of the budget" and so the earnings opportunity should be reduced by 1/3 to reflect the poor performance of the first year of a three-year program.

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


In the Matter of Union Electric Company d/b/a)
Ameren Missouri's 2nd Filing to Implement) File No. EO-2015-0055
Regulatory Changes in Furtherance)
Of Energy Efficiency as Allowed by MEEIA)

AFFIDAVIT OF GEOFF MARKE

STATE OF MISSOURI)
) ss
COUNTY OF COLE)

COMES NOW GEOFF MARKE and on his oath declares that he is of sound mind and lawful age; that he contributed to OPC's foregoing Memorandum for this case; and that the same is true and correct according to his best knowledge and belief.

Further the Affiant sayeth not.




Geoff Marke
Regulatory Economist

JURAT

Subscribed and sworn before me, a duly constituted and authorized Notary Public, in and for the County of Cole, State of Missouri, at my office in Jefferson City, on this 14th day of August, 2017.



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



Jerene A. Buckman
Notary Public

My Commission expires August 23, 2017.