

Exhibit No.:  
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EM&V Reports  
Witness: John A. Rogers  
Sponsoring Party: MO PSC Staff  
Type of Exhibit: Direct Testimony  
File No.: EO-2012-0142  
Date Testimony Prepared: November 17, 2014

**MISSOURI PUBLIC SERVICE COMMISSION**

**REGULATORY REVIEW DIVISION**

**REBUTTAL TESTIMONY**

**OF**

**JOHN A. ROGERS**

**UNION ELECTRIC COMPANY d/b/a AMEREN MISSOURI**

**FILE NO. EO-2012-0142**

*Jefferson City, Missouri  
November 2014*

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

In the Matter of Union Electric Company )  
d/b/a Ameren Missouri's Filing to )  
Implement Regulatory Changes )  
Furtherance of Energy Efficiency as )  
allowed by MEEIA )

File No. EO-2012-0142

**AFFIDAVIT OF JOHN A. ROGERS**

STATE OF MISSOURI    )  
                                  ) ss  
COUNTY OF COLE     )

John A. Rogers, of lawful age, on his oath states: that he has participated in the preparation of the following Rebuttal Testimony in question and answer form, consisting of 19 pages of Rebuttal Testimony to be presented in the above case, that the answers in the following Rebuttal Testimony were given by him; that he has knowledge of the matters set forth in such answers; and that such matters are true to the best of his knowledge and belief.



\_\_\_\_\_  
John A. Rogers

Subscribed and sworn to before me this 17<sup>th</sup> day of November, 2014.

SUSAN L. SUNDERMEYER Notary Public - Notary Seal State of Missouri Commissioned for Callaway County My Commission Expires: October 28, 2018 Commission Number: 14942086
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Notary Public

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**REBUTTAL TESTIMONY**

**OF**

**JOHN A. ROGERS**

**UNION ELECTRIC COMPANY d/b/a AMEREN MISSOURI**

**FILE NO. EO-2012-0142**

13 Q. Please state your name and business address.

14 A. My name is John A. Rogers, and my business address is Missouri Public  
15 Service Commission, P. O. Box 360, Jefferson City, Missouri 65102.

16 Q. What is your present position at the Missouri Public Service Commission  
17 (“Commission”)?

18 A. I am a Utility Regulatory Manager in the Energy Unit of the Regulatory  
19 Review Division.

20 Q. Are you the same John A. Rogers that filed direct testimony in this case on  
21 October 22, 2014?

22 A. Yes, I am.

23 Q. Would you please summarize the purpose of your rebuttal testimony?

24 A. I discuss certain aspects of the direct testimony of Office of the Public Counsel  
25 (“OPC”) witness Geoff Marke concerning the following:

- 26 1. Dr. Marke’s proposed recalculation of annual net shared benefits to reflect  
27 inclusion of the utility’s financial incentives as a cost;
- 28 2. Dr. Marke’s recommendation that the Commission adopt Staff’s original  
29 Change Request that calls for the elimination of market effects and accept the  
Auditor’s spillover estimates; reject Ameren’s downward adjustment of free

1           ridership; and include a 9% downward adjustment to the NTG ratio for the  
2           LightSavers Program to account for conservative direct rebound effect  
3           estimates;<sup>1</sup>

4           3.     Dr. Marke's assertion that the joint position<sup>2</sup> does not address evaluation,  
5           measurement and verification ("EM&V") considerations going forward; and

6           4.     Dr. Marke's characterization of the rate impact should the joint position be  
7           approved by the Commission.

8           Q.     As a result of its review of other parties' direct testimony filed on  
9           October 22, 2014, has Staff altered – in any way - its position in direct testimony, which  
10          provides support for and recommends the Commission approve the terms of the joint  
11          position<sup>3</sup>?

12          A.     No. Staff continues to recommend the Commission approve the joint position,  
13          which is now supported by Ameren Missouri, Staff and Missouri Division of Energy.

14          **Recalculation of net benefits to reflect the utility's financial incentive**

15          Q.     Does Staff agree with Dr. Marke's assertion that "net shared benefits should  
16          not be calculated without an offsetting adjustment to reflect the performance incentive  
17          amount."<sup>4</sup>?

18          A.     No.

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<sup>1</sup> Marke direct testimony page 1, line 17 through page 2, line 3.

<sup>2</sup> Staff and Ameren Missouri filed separate Change Requests on July 3, 2014, and then filed their *Non-unanimous Stipulation and Agreement Settling the Program Year 2013 Change Requests* on September 19, 2014. On September 26, 2014, OPC objected to the non-unanimous stipulation. According to the Commission's rule for non-unanimous stipulations, 4 CSR 240-2.115(D), Staff and Ameren now jointly hold the compromise position described in the *Non-unanimous Stipulation and Agreement Settling the Program Year 2013 Change Requests*. Staff's and Ameren Missouri's original Change Requests, as filed, are no longer requested. No other party timely filed a Change Request. On October 6, 2014, Missouri Division of Energy filed its response to change requests stating its support for Staff's and Ameren Missouri's stipulated jointly held position, as a just and reasonable compromise of their Change Requests.

<sup>3</sup> Rogers direct testimony page 19, lines 12 through 33.

<sup>4</sup> Appendix to Marke direct testimony page 62, lines 13 through 14.

1 Q. Why not?

2 A. Dr. Marke incorrectly applies language from the MEEIA statute and  
3 Commission's MEEIA rules to form a conclusion that supports his assertion. However,  
4 Dr. Marke misinterprets the MEEIA statute and the MEEIA rules regarding the total resource  
5 cost ("TRC") test and annual net shared benefits. Also, Dr. Marke's interpretation is  
6 inconsistent with the binding terms and conditions of the *Unanimous Stipulation and*  
7 *Agreement Resolving Ameren Missouri's MEEIA Filing*<sup>5</sup> ("2012 Stipulation"). Finally, Dr.  
8 Mark's assertion is not supported by published literature regarding the definition of annual net  
9 shared benefits.

10 Q. Please explain your answer further.

11 A. Dr. Marke testifies: "The Total Resource Cost test is the preferred test in  
12 Missouri for the evaluation of the net shared benefits produced by energy efficiency  
13 programs,"<sup>6</sup> and "to utilize the TRC is consistent with the MEEIA statute to deduct incentives  
14 from the net shared benefits calculation and is consistent with Chapter 20 rules."<sup>7</sup> In support  
15 of his assertion, Dr. Marke takes out of context certain citations from parts of the MEEIA  
16 statute<sup>8</sup> and the Commission's MEEIA rules,<sup>9</sup> and then he adds emphasis to certain words in  
17 the citations without further explanation. A more thorough examination of the MEEIA statute  
18 and MEEIA rules reveals that only customer incentives, and not utility financial incentives,  
19 are to be a part of the calculation of annual net shared benefits. Contrary to Dr. Marke's  
20 assertion, there is no interdependency between the TRC test, which is a preferred cost-

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<sup>5</sup> Filed in this case on July 5, 2012 and approved by the Commission on August 1, 2012.

<sup>6</sup> Appendix to Marke direct testimony page 62, lines 17 through 18.

<sup>7</sup> Appendix to Marke direct testimony page 63, lines 19 through 20.

<sup>8</sup> Section 393.1075, RSMo, Supp 2012.

<sup>9</sup> 4 CSR 240-3.163, 4 CSR 240-3.164, 4 CSR 240-20.093 and 4 CSR 240-20.094.

1 effectiveness test in Missouri (but not the only cost-effectiveness test in Missouri) and the  
2 definition of annual net shared benefits.

3 Ultimately, as I explain later in this testimony, the 2012 Stipulation provides that any  
4 performance incentive award amount is not included in the calculation of EM&V annual net  
5 shared benefits.

6 Q. Please respond to Dr. Marke's direct testimony on page 62, lines 17 through  
7 18: "The Total Resource Cost test is the preferred test in Missouri for the evaluation of the net  
8 shared benefits produced by energy efficiency programs."

9 A. While Dr. Marke wants the reader to believe that the TRC is **the** preferred  
10 cost-effectiveness test, the TRC is by statute **a** preferred cost-effectiveness test, as evidenced  
11 by Dr. Marke's own citation of Section 393.1075.4., in part, with emphasis: **The commission**  
12 **shall consider the total resource cost test a preferred cost-effectiveness test.** The  
13 Commission acknowledged this statutory requirement (to consider the TRC *a* preferred cost  
14 effectiveness test) when it promulgated the following administrative rules:

- 15
- 16 • 4 CSR 240-20.093(1)(DD) Total resource cost test, or TRC, means the test of  
17 the cost-effectiveness of demand-side programs that compares the avoided  
18 utility costs to the sum of all incremental costs of end-use measures that are  
19 implemented due to the program (including both utility and participant  
20 contributions), plus utility costs to administer, deliver, and evaluate each  
21 demand-side program;
  - 22 • 4 CSR 240-20.093(3)(A) For demand-side programs and program plans that  
23 have a total resource cost test ratio greater than one (1), the commission shall  
24 approve demand-side programs or program plans, and annual demand and  
25 energy savings targets for each demand-side program it approves, provided it  
26 finds that the utility has met the filing and submission requirements of 4 CSR  
27 240-3.164(2) and the demand-side programs and program plans—
    - 28 1. Are consistent with a goal of achieving all cost-effective demand-side  
29 savings;
    - 30 2. Have reliable evaluation, measurement, and verification plans; and
    - 31 3. Are included in the electric utility's preferred plan or have been analyzed  
32 through the integration process required by 4 CSR 240-22.060 to determine the

1 impact of the demand-side programs and program plans on the net present  
2 value of revenue requirements of the electric utility.

- 3  
4 • 4 CSR 240-3.164(2)(B) Demonstration of cost-effectiveness for each demand-  
5 side program and for the total of all demand-side programs of the utility. At a  
6 minimum, the electric utility shall include:

7 1. The total resource cost test and a detailed description of the utility's  
8 avoided cost calculations and all assumptions used in the calculation. To the  
9 extent that the portfolio of programs fails to meet the TRC test, the utility shall  
10 examine whether the failure persists if it considers a reasonable range of  
11 uncertainty in the assumptions used to calculate avoided costs;

12 2. The utility shall also include calculations for the utility cost test, the  
13 participant test, the non-participant test, and the societal cost test; and

14 3. The impacts on annual revenue requirements and net present value of  
15 annual revenue requirements as a result of the integration analysis in  
16 accordance with 4 CSR 240-22.060 over the twenty (20)-year planning  
17 horizon.

18  
19 Q. Are annual net shared benefits a cost-effectiveness test as implied by Dr.  
20 Marke?

21 A. No. The MEEIA cost-effectiveness tests include the TRC test, participant  
22 test,<sup>10</sup> non-participant test<sup>11</sup> and societal test<sup>12</sup> as identified in 4 CSR 240-3.164(2)(B) and  
23 defined in the MEEIA rules. Annual net shared benefits is a term defined in  
24 4 CSR 240-3.163(1)(A) and 4 CSR 240-20.093(1)(C) to mean "the utility's avoided costs  
25 measured and documented through evaluation, measurement, and verification (EM&V)  
26 reports for approved demand-side programs less the sum of the programs' costs including

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<sup>10</sup> 4 CSR 240-3.164(1)(Q) Participant test means the test of the cost-effectiveness of demand-side programs that measures the economics of a demand-side program from the perspective of the customers participating in the program.

<sup>11</sup> 4 CSR 240-3.164(1)(P) Non-participant test (sometimes referred to as the ratepayer impact measure test or RIM test) is a measure of the difference between the change in total revenues paid to a utility and the change in total cost incurred by the utility as a result of the implementation of demand-side programs. The benefits are the avoided cost as a result of implementation. The costs consist of incentives paid to participants, other costs incurred by the utility, and the loss in revenue as a result of diminished consumption. Utility costs include the costs to administer, deliver, and evaluate each demand-side program.

<sup>12</sup> 4 CSR 240-3.164(1)(U) Societal cost test means the total resource cost test with the addition of societal benefits (externalities such as, but not limited to, environmental or economic benefits) to the total benefits of the total resource cost test.



1 design, administration, delivery, end-use measures, incentives, EM&V, utility market  
2 potential studies, and technical resource manual on an annual basis.”

3 Q. What incentives are included in the 4 CSR 240-3.163(1)(A) and  
4 4 CSR 240-20.093(1)(C) definitions of annual net shared benefits?

5 A. The incentives in the definition of annual net shared benefits are one  
6 component of program costs, or the customer incentives (direct or indirect payments or  
7 rebates to customers to encourage the installation of energy saving measures). As indicated in  
8 the rule, the components of program costs are program design, administration, delivery, end-  
9 use measures, incentives, EM&V, market potential studies and technical resource manual.

10 The performance incentive award is not a program cost; it is a financial incentive  
11 awarded to the utility. While 4 CSR 240-20.093(3)(C)2. requires that the Commission  
12 provide financial incentives to electric utilities, such financial incentives are not considered a  
13 cost when calculating annual net shared benefits for the utility incentive component of a  
14 DSIM as described in 4 CSR 240-20.093(3)(H).

15 4 CSR 240-20.093(3)(C) The commission shall approve the establishment,  
16 continuation, or modification of a DSIM and associated tariff sheets if it finds  
17 the electric utility’s approved demand-side programs are expected to result in  
18 energy and demand savings and are beneficial to all customers in the customer  
19 class in which the programs are proposed, regardless of whether the programs  
20 are utilized by all customers and will assist the commission’s efforts to  
21 implement state policy contained in section 393.1075, RSMo, to—

- 22 1. Provide the electric utility with timely recovery of all reasonable and  
23 prudent costs of delivering cost-effective demand-side programs;  
24 2. Ensure that utility financial incentives are aligned with helping customers  
25 use energy more efficiently and in a manner that sustains or enhances utility  
26 customers’ incentives to use energy more efficiently; and  
27 3. Provide timely earnings opportunities associated with cost-effective  
28 measurable and/or verifiable energy and demand savings.  
29

30 4 CSR 240-20.093(3)(H) Any utility incentive component of a DSIM shall be  
31 based on the performance of demand-side programs approved by the  
32 commission in accordance with 4 CSR 240-20.094 Demand-Side Programs

1 and shall include a methodology for determining the utility's portion of annual  
2 net shared benefits achieved and documented through EM&V reports for  
3 approved demand-side programs. Each utility incentive component of a DSIM  
4 shall define the relationship between the utility's portion of annual net shared  
5 benefits achieved and documented through EM&V reports, annual energy  
6 savings achieved and documented through EM&V reports as a percentage of  
7 annual energy savings targets, and annual demand savings achieved and  
8 documented through EM&V reports as a percentage of annual demand savings  
9 targets.

10 1. Annual energy and demand savings targets approved by the commission  
11 for use in the utility incentive component of a DSIM are not necessarily the  
12 same as the incremental annual energy and demand savings goals and  
13 cumulative annual energy and demand savings goals specified in 4 CSR 240-  
14 20.094(2).

15 2. The commission shall order any utility incentive component of a DSIM  
16 simultaneously with the programs approved in accordance with 4 CSR 240-  
17 20.094 Demand-Side Programs.

18 3. Any utility incentive component of a DSIM shall be implemented on a  
19 retrospective basis and all energy and demand savings used to determine a  
20 DSIM utility incentive revenue requirement must be measured and verified  
21 through EM&V.  
22

23 Q. Do any of the MEEIA rules require the utility to include financial incentives  
24 for its demand-side programs when analyzing alternative resource plans during the utility's  
25 electric utility resource planning?

26 A. Yes. 4 CSR 240-20.093(3)(A)2. requires that demand-side program plans are  
27 included in the electric utility's preferred plan or have been analyzed through the integration  
28 process required by 4 CSR 240-22.060 to determine the impact of the demand-side programs  
29 and program plans on the net present value of revenue requirements of the electric utility.  
30 Further, 4 CSR 240-22.060(4)(C) requires that the utility provide:

31 (C) The analysis of economic impact of alternative resource plans, calculated  
32 with and without utility financial incentives for demand-side resources, shall  
33 provide comparative estimates for each year of the planning horizon—

34 1. For the following performance measures for each year:

35 A. Estimated annual revenue requirement;  
36 B. Estimated annual average rates and percentage increase in the average  
37 rate from the prior year; and

38 C. Estimated company financial ratios and credit metrics.

1 Q. Do the requirements of 4 CSR 240-20.093(3)(A)2. and  
2 4 CSR 240-22.060(4)(C) result in a requirement that financial incentives be included in the  
3 calculation of annual net shared benefits as a result of EM&V for program year 2013?

4 A. No. Staff can find no such requirement in the MEEIA statute or the  
5 Commission's MEEIA rules on this question. Ultimately, for Ameren Missouri and the  
6 stakeholders, paragraph 5.b.ii and Example Nos. 1 and 2 in Appendix B of the 2012  
7 Stipulation clearly show that the utility performance incentive award amount is not to be  
8 included in the calculation of annual net shared benefits.<sup>13</sup> While the annual net shared  
9 benefits for each of the three (3) program years is determined at the conclusion of each  
10 program year, the performance incentive award amount is determined following the  
11 conclusion of the third and final program year using the previously determined annual net  
12 shared benefits for each of the three program years.<sup>14</sup> Appendix B is provided as Schedule  
13 JAR-1.

14 Q. Is Dr. Marke's assertion that the utility performance incentive award should be  
15 included as a cost when calculating annual net shared benefits supported by any literature on  
16 this subject?

17 A. Not any literature relevant to Ameren Missouri's program year 2013  
18 ("PY2013") programs. Staff has been able to locate only one instance - in California - for  
19 which financial incentives are included as a cost when calculating net benefits and that  
20 instance is described on pages 6-9 of *Aligning Utility Incentives with Investment in Energy*

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<sup>13</sup> Also see the definition of Performance Incentive Award on Original Sheet No. 90.1 of Rider EEIC, which is Schedule JAR-4-2 of the direct testimony of John Rogers.

<sup>14</sup> Paragraph 11.b. of the 2012 Stipulation specifies the process for EM&V reports and begins with paragraph 11.b.i. "45 days after the end of each program year ...", then describes the process for finalizing each program years EM&V in paragraphs 11.b.ii through paragraphs 11.b.iv, and concludes with paragraph 11.b.v. "All Signatories will be bound by the impact evaluation portion of the Final EM&V Report, as it may be modified by the Commission's resolution of issues related to the impact evaluation portion of the Final EM&V Report."

1 *Efficiency, A Resource of the National Action Plan for Energy Efficiency, November 2007*<sup>15</sup> in

2 6.3.3 Case Study: The California Utilities:

3 CPUC also adjusted the basic cost-effectiveness calculation for purposes of  
4 determining net benefits. The estimated value of the performance incentive  
5 must be treated as a cost in the net benefits calculation, both during the  
6 program planning process to determine overall cost-effectiveness of the  
7 utilities' energy efficiency portfolios, and when the value of net benefits is  
8 calculated for purposes of reward determinations subsequent to program  
9 implementation.

10  
11 Q. Did Ameren Missouri treat an estimate of its performance incentive as a cost  
12 when estimating annual net shared benefits in its *2013 – 2015 Energy Efficiency Plan* for this  
13 case?

14 A. No.

15 Q. In Staff's opinion, why do the MEEIA statute and the Commission's MEEIA  
16 rules require that the TRC be a preferred cost-effectiveness test?

17 A. To answer this question, I cite part of sections 6.4 from *Understanding Cost-*  
18 *Effectiveness of Energy Efficiency Programs: Best Practices, Technical Methods, and*  
19 *Emerging Issues for Policy Makers, A Resource of the National Action Plan for Energy*  
20 *Efficiency, published November 2008*<sup>16</sup>

21 The primary purpose of the TRC is to evaluate the net benefits of energy  
22 efficiency measures to the region as a whole. Unlike the tests describe above,  
23 the TRC does not take the view of individual stakeholders. It does not include  
24 bill savings and incentive payments, as they yield an intra-regional transfer of  
25 zero ("benefits" to customers and "costs" to the utility that cancel each other  
26 on a regional level). For some utilities, the region considered may be limited  
27 strictly to its own service territory, ignoring benefits (and costs) to neighboring  
28 areas (a distribution-only utility may, for example, consider only the impacts to  
29 its distribution system). In other cases, the region is defined as the state as a  
30 whole, allowing the TRC to include benefits to other stakeholders (e.g., other  
31 utilities, water utilities, local communities). The TRC is useful for jurisdictions  
32 wishing to value energy efficiency as a resource not just for the utility, but for

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<sup>15</sup> <http://epa.gov/cleanenergy/documents/suca/incentives.pdf>

<sup>16</sup> <http://www.epa.gov/cleanenergy/documents/suca/cost-effectiveness.pdf>

1 the entire region. Thus the TRC is often the primary test considered by those  
2 states seeking to include the benefits not just to the utility and its ratepayers,  
3 but to other constituents as well.  
4

5 **Dr. Marke recommendation that the Commission adopt Staff's original Change Request**  
6 **that calls for the elimination of market effects and accept the Auditor's spillover**  
7 **estimates; reject Ameren's downward adjustment of free ridership; and include a 9%**  
8 **downward adjustment to the NTG ratio for the LightSavers Program to account for**  
9 **conservative direct rebound effect**<sup>17</sup>

10 Q. What issues require Commission decisions in this case to determine PY2013  
11 EM&V for the Ameren Missouri demand-side programs?

12 A. In Staff's opinion the Commission would need to rule on whether the joint  
13 position of Ameren Missouri and Staff is supported by competent and substantial evidence  
14 and is a just and reasonable resolution of this case.

15 Should the Commission not decide in favor of the joint position, a Commission  
16 decision on each of the following issues concerning the PY2013 EM&V for the Ameren  
17 Missouri demand-side programs would be necessary in order to determine the PY2013 annual  
18 energy savings and PY2013 annual net shared benefits for the Ameren Missouri performance  
19 incentive award amount determination to be made in 2016:

- 20 1. Whether the free rider adjustment to NTG ratio for the residential Appliance  
21 program should be 38.6% as recommended by Cadmus or 22.0% as  
22 recommended by Ameren Missouri;
- 23 2. Whether the free rider adjustment to NTG ratio for the residential Community  
24 program should be 4.2% as recommended by Cadmus or 2.0% as  
25 recommended by Ameren Missouri;

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<sup>17</sup> Marke direct testimony page 2, line 17 through page 2, line 3.

- 1           3.       Whether the free rider adjustment to NTG ratio for the residential Construction  
2                   program should be 72.1% as recommended by Cadmus or 72.0% as  
3                   recommended by Ameren Missouri;
- 4           4.       Whether the free rider adjustment to NTG ratio for the residential Cool  
5                   program should be 25.2% as recommended by Cadmus or 14.0% as  
6                   recommended by Ameren Missouri;
- 7           5.       Whether the free rider adjustment to NTG ratio for the residential LightSavers  
8                   program should be 21.0% as recommended by Cadmus or 20.0% as  
9                   recommended by Ameren Missouri;
- 10          6.       Whether the free rider adjustment to NTG ratio for the residential Performance  
11                   program should be 16.5% as recommended by Cadmus or 7.0% as  
12                   recommended by Ameren Missouri;
- 13          7.       Whether the free rider adjustment to NTG ratio for the residential Rebate  
14                   program should be 14.7% as recommended by Cadmus or 8.0% as  
15                   recommended by Ameren Missouri;
- 16          8.       Whether the free rider adjustment to NTG ratio for the business Custom  
17                   program should be 7.0% as recommended by ADM or 6.5% as recommended  
18                   by Ameren Missouri;
- 19          9.       Whether the free rider adjustment to NTG ratio for the business Standard  
20                   program should be 5.0% as recommended by ADM or 4.0% as recommended  
21                   by Ameren Missouri;

- 1           10.    Whether the free rider adjustment to NTG ratio for the business Construction  
2                    program should be 6.0% as recommended by ADM or 5.0% as recommended  
3                    by Ameren Missouri;
- 4           11.    Whether the free rider adjustment to NTG ratio for the business Retro-  
5                    Commissioning program should be 33.0% as recommended by ADM or 27.4%  
6                    as recommended by Ameren Missouri;
- 7           12.    Whether the participant spillover adjustment to NTG ratio for the residential  
8                    LightSavers program should be 25.0% as recommended by Cadmus or 7.5% as  
9                    recommended by the Auditor;
- 10          13.    Whether the nonparticipant spillover adjustment to NTG ratio for the  
11                   residential Appliance program should be 12.6% as recommended by Cadmus  
12                   or 3.0% as recommended by the Auditor;
- 13          14.    Whether the nonparticipant spillover adjustment to NTG ratio for the  
14                   residential Community program should be 0.0% as recommended by Cadmus  
15                   or 3.0% as recommended by the Auditor;
- 16          15.    Whether the nonparticipant spillover adjustment to NTG ratio for the  
17                   residential Construction program should be 0.0% as recommended by Cadmus  
18                   or 3.0% as recommended by the Auditor;
- 19          16.    Whether the nonparticipant spillover adjustment to NTG ratio for the  
20                   residential Cool program should be 19.2% as recommended by Cadmus or  
21                   3.0% as recommended by the Auditor;

1 17. Whether the nonparticipant spillover adjustment to NTG ratio for the  
2 residential LightSavers program should be 0.8% as recommended by Cadmus  
3 or 3.0% as recommended by the Auditor;

4 18. Whether the nonparticipant spillover adjustment to NTG ratio for the  
5 residential Performance program should be 1.7% as recommended by Cadmus  
6 or 3.0% as recommended by the Auditor;

7 19. Whether the nonparticipant spillover adjustment to NTG ratio for the  
8 residential Rebate program should be 1.7% as recommended by Cadmus or  
9 3.0% as recommended by the Auditor;

10 20. Whether the market effects adjustment to the NTG ratio for the residential  
11 LightSavers program should be 18.0% as recommended by Cadmus, 5.4% as  
12 recommended by the Auditor or 0.0% as recommended by Dr. Marke;

13 21. Whether the rebound effect adjustment to the NTG ratio for the residential  
14 LightSavers program should be 9.0% as recommended by Dr. Marke or 0.0%  
15 as recommended by Cadmus and the Auditor; and

16 22. Whether the calculation of annual net shared benefits through EM&V should  
17 include financial incentives as a cost as recommended by Dr. Marke.

18 Q. Does Dr. Marke's direct testimony demonstrate that Dr. Marke has performed  
19 any EM&V for Ameren Missouri's PY2013 demand-side programs as support for his  
20 recommendation?

21 A. No, it does not.

22 Q. Please explain.



1 A. 4 CSR 240-20.093(3)(C) requires that:

2 The commission shall approve the establishment, continuation, or modification  
3 of a DSIM and associated tariff sheets if it finds the electric utility's approved  
4 demand-side programs are expected to result in energy and demand savings  
5 and are beneficial to all customers in the customer class in which the programs  
6 are proposed, regardless of whether the programs are utilized by all customers  
7 and will assist the commission's efforts to implement *state policy contained in*  
8 *section 393.1075, RSMo, to—*

9 1. Provide the electric utility with timely recovery of all reasonable and  
10 prudent costs of delivering cost-effective demand-side programs;

11 2. Ensure that utility financial incentives are aligned with helping customers  
12 use energy more efficiently and in a manner that sustains or enhances utility  
13 customers' incentives to use energy more efficiently; and

14 3. *Provide timely earnings opportunities associated with cost-effective*  
15 *measurable and/or verifiable energy and demand savings.* [Emphasis added]

16  
17 4 CSR 240-20.093(3)(H) requires that:

18 “[a]ny utility incentive component of a DSIM shall be based on the  
19 performance of demand-side programs approved by the commission in  
20 accordance with 4 CSR 240-20.094 Demand-Side Programs and shall include a  
21 methodology for determining the utility's portion of annual net shared benefits  
22 achieved and documented through EM&V reports for approved demand-side  
23 programs.” [Emphasis added]

24  
25 4 CSR 240-3.164(1)(L) defines evaluation, measurement, and verification, or EM&V,

26 to mean:

27 “[t]he performance of studies and activities intended to evaluate the process of  
28 the utility's program delivery and oversight and *to estimate and/or verify the*  
29 *estimated actual energy and demand savings*, utility lost revenue, cost  
30 effectiveness, and other effects *from demand-side programs.*” [Emphasis  
31 added]

32  
33 Dr. Marke has not performed any studies and activities required by the rule *to evaluate and to*  
34 *estimate and/or verify the estimated actual energy and demand savings*, cost effectiveness,  
35 and other effects *from Ameren Missouri's PY2013 demand-side programs.* As part of the  
36 Appendix to his direct testimony, Dr. Marke presents “additional examples that contradict

1 Ameren’s market effect assertion” concerning Wal-Mart’s influence on the retail market,<sup>18</sup>  
2 California and Previous Utility-Sponsored Energy Efficiency Programs,<sup>19</sup> The Energy  
3 Independence and Security Act of 2007 (EISA),<sup>20</sup> Ameren Illinois’ upstream lighting rebate  
4 program,<sup>21</sup> and Home Depot and Kansas City.<sup>22</sup> Dr. Marke then includes in his direct  
5 testimony “additional examples” concerning his proposed rebound effect adjustment<sup>23</sup> to the  
6 residential LightSavers program. While all of Dr. Marke’s “additional examples” that  
7 allegedly “contradict Ameren’s market effect assertion” are interesting, none of the  
8 “additional examples” listed by Dr. Marke are relevant to *cost-effective measurable and/or*  
9 *verifiable energy and demand savings* which are the result of EM&V performed *for the*  
10 *PY2013 demand-side programs of Ameren Missouri*. All of Dr. Marke’s “additional  
11 examples” relate to experiences of other utilities in other states during periods of time other  
12 than 2013 and are not supported by EM&V performed in compliance with the Commission’s  
13 rules 4 CSR 240-20.093(3)(C), 4 CSR 240-20.093(3)(H) and 4 CSR 240-3.164(1)(L).

14 Q. Does Dr. Marke claim or demonstrate that the EM&V performed and reported  
15 by Cadmus, ADM, Auditor and, to a limited degree, Ameren Missouri was not performed and  
16 reported in compliance with the Commission’s rules 4 CSR 240-20.093(3)(C),  
17 4 CSR 240-20.093(3)(H) and 4 CSR 240-3.164(1)(L)?

18 A. No.

19 Q. Can the Commission rule in favor of Dr. Marke’s recommendations for items  
20 20, 21 and 22 in the list of 22 issues concerning the PY2013 EM&V for the Ameren Missouri

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<sup>18</sup> Appendix to Marke direct testimony at page 46, line 12 through page 50, line 10.

<sup>19</sup> Appendix to Marke direct testimony at page 50, line 12 through page 52, line 3.

<sup>20</sup> Appendix to Marke direct testimony at page 52, line 5 through page 54, line 20.

<sup>21</sup> Appendix to Marke direct testimony at page 55, line 1 through page 56, line 10.

<sup>22</sup> Appendix to Marke direct testimony at page 56, line 12 through page 58, line 1.

<sup>23</sup> Marke direct testimony at page 5, line 1 through page 17, line 2.

1 demand-side programs in order that PY2013 annual energy savings and PY2013 annual net  
2 shared benefits can be determined for the Ameren Missouri performance incentive award  
3 amount determination to be made in 2016?

4 A. No. Dr. Marke has not complied with the MEEIA statute, the MEEIA rules  
5 and the terms of the 2012 Stipulation when making his recommendations.

6 **Joint position addresses EM&V considerations going forward**

7 Q. Please respond to the statements beginning at page 61, line 20 and ending at  
8 page 62, line 3 of the Appendix to Dr. Marke's direct testimony:

9 For numerous reasons stated above, Public Counsel believes that market  
10 effects within this context overstate the benefits accrued to ratepayers.  
11 Coming to a black box determination at some level slightly less than what  
12 Ameren has proposed does absolutely nothing to address the exaggeration of  
13 these benefits for this evaluation and for future program years.

14  
15 Additionally, the black box agreement does not address EM&V considerations  
16 moving forward and undermines the process currently in place by minimizing  
17 the evaluation and results of the Commission's independent auditor.

18  
19 A. "Black box" is a term OPC uses to describe the compromise achieved by the  
20 joint position which falls nearly in the middle of the established range of EM&V values as  
21 determined by the Evaluators, the Auditor, and the initial Change Request positions of Staff  
22 and Ameren Missouri which were later abandoned. By itself, the joint position (or "black  
23 box") cannot address determination of EM&V for future program years, since the joint  
24 position addresses only the settlement of PY2013 annual energy savings and PY2013 annual  
25 net shared benefits. Unfortunately, Dr. Marke's testimony completely ignores the benefits  
26 that could be obtained for all stakeholders should the Commission approve the portion of the  
27 joint position as described below and in my direct testimony (and paragraph 9 of the non-  
28 unanimous stipulation). The joint position represents a great opportunity for improving the

1 efficiency and effectiveness of the entire EM&V process – including the role of the Auditor –  
2 for future program years beginning with EM&V for program year 2014.

3 The parties will work together to address revisions to the MEEIA rules such  
4 that any proposed revisions to the MEEIA rules are provided to the Missouri  
5 Public Service Commission no later than July 1, 2015. Further, the parties  
6 agree that the components of net-to-gross (“NTG”) ratios for purposes of  
7 calculating EM&V results, including for the performance incentive component  
8 of Ameren Missouri’s MEEIA programs, are free ridership, participant  
9 spillover, nonparticipant spillover and market effects, and also agree that the  
10 formula for determining NTG ratios is as follows:  $NTG = 1.0 - \text{Free Ridership}$   
11  $+ \text{Participant Spillover} + \text{Nonparticipant Spillover} + \text{Market Effects}$ . The  
12 agreement in the preceding sentence does not bind any party to how any  
13 component of NTG ratios should be calculated, but the parties agree to make a  
14 best effort to determine how such components should be calculated through  
15 EM&V for the EM&V to be conducted for PY2014 and PY2015, and also  
16 agree to make a best effort to address the calculation of the NTG ratio  
17 components as part of the process of developing proposed revised MEEIA  
18 rules. In addition, the parties will make a best effort to agree by April 1, 2015  
19 on how the EM&V contractors and the Commission’s Auditor should  
20 participate in any future Change Request dockets.

21 While a just and reasonable outcome may be possible through a time consuming and  
22 expensive hearing process, it is Staff’s opinion that it will be more productive to engage  
23 Cadmus, ADM, Auditor, Ameren Missouri, Staff and other interested stakeholders in less  
24 formal, but more constructive meetings to discuss and agree, if possible, on how the  
25 components of the net-to-gross ratios should be calculated through EM&V for PY2014 and  
26 for PY2015. The process will also inform the MEEIA rulemaking review which must be  
27 completed by July 1, 2015.

28  
29 **Rate impacts should the joint position of Ameren Missouri and Staff be approved by the**  
30 **Commission**

31 Q. Please comment on the testimony at page 61, lines 12 through 19 of the  
32 Appendix to the direct testimony of Geoff Marke:

1 Public Counsel believes the performance amount attributable to the black box  
2 non-unanimous stipulation and agreement for PY2013 would be calculated as  
3 follows:

$$4 \qquad \qquad \qquad 6.19\% \text{ of } \$20,322,039 = \$1,257,934$$

5  
6  
7 That would be the performance incentive amount under the black box  
8 agreement and would assume that Ameren Missouri would reach their 130%  
9 target.

10  
11 A. The \$20,322,039 amount in Dr. Marke's direct testimony assumes that the  
12 Commission's final determination of the PY2013 net benefits is the Auditor 1 annual net  
13 shared benefits in Dr. Marke's Table 10, which is the same as the Staff's initial Change  
14 Request (since abandoned by Staff in support of the joint position), which is also the  
15 Auditor's PY2013 EM&V final report's net benefits but without any market effects.<sup>24</sup>

16 Q. What is the incremental rate impact on individual customers of Ameren  
17 Missouri relative to the joint position should the Commission ultimately decide to approve the  
18 Auditor's PY2013 EM&V final report but without any market effects adjustments  
19 (recommended by OPC)<sup>25</sup>?

20 A. Instead of working through all of the rate analysis necessary to provide a  
21 precise answer consistent with Rider EEIC, I provide only an order of magnitude answer of  
22 roughly a savings of \$0.52 per customer per year for two years based on Ameren Missouri  
23 having approximately 1.2 million customers<sup>26</sup> and the Rider EEIC's specification that the  
24 amortization of any performance incentive award amount be over a period of two years.

25 Q. Please present the results of Staff's similar analyses of the incremental PY2013  
26 performance award amount relative to that of the joint position should the Commission

---

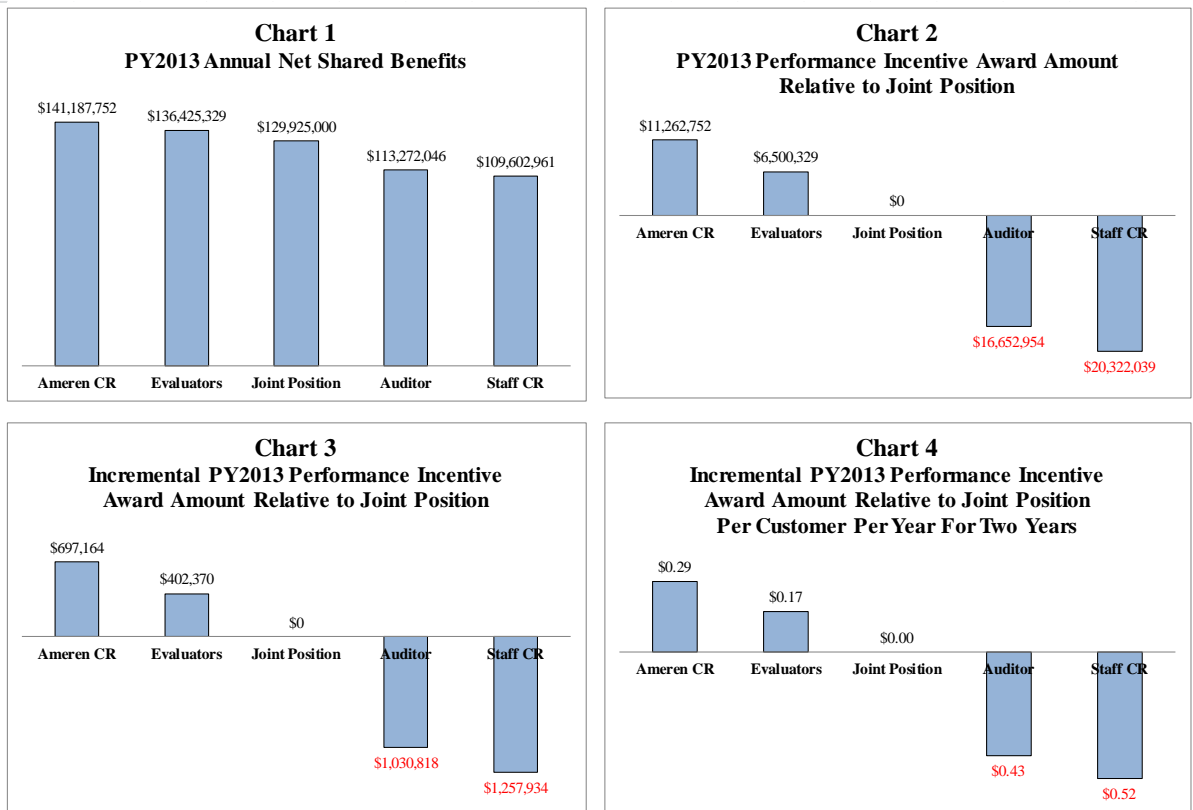
<sup>24</sup> Although the Auditor quantified the impact of no market effects, the Auditor is recommending that there be a market effects adjustment of 5.4% to the NTG ratio of the residential LightSavers program.

<sup>25</sup> Auditor 1 in Table10 of Marke direct testimony.

<sup>26</sup> Direct testimony of Michael Moehn at page 4, line 5.

1 approve either: Ameren Missouri’s initial change request (“Ameren CR”), the PY2013  
2 EM&V final reports of Cadmus and ADM (“Evaluators”), the joint agreement, the Auditor’s  
3 PY2013 EM&V final report, or the Staff’s initial change request (“Staff CR”).<sup>27</sup>

4 A. Following charts are provided to answer the question:



5  
6 Q. Should the Commission find that the joint position of Ameren Missouri and  
7 Staff is just and reasonable, what is rate impact from the joint position as a result of this case?

8 A. Zero.

9 Q. Does this conclude your testimony?

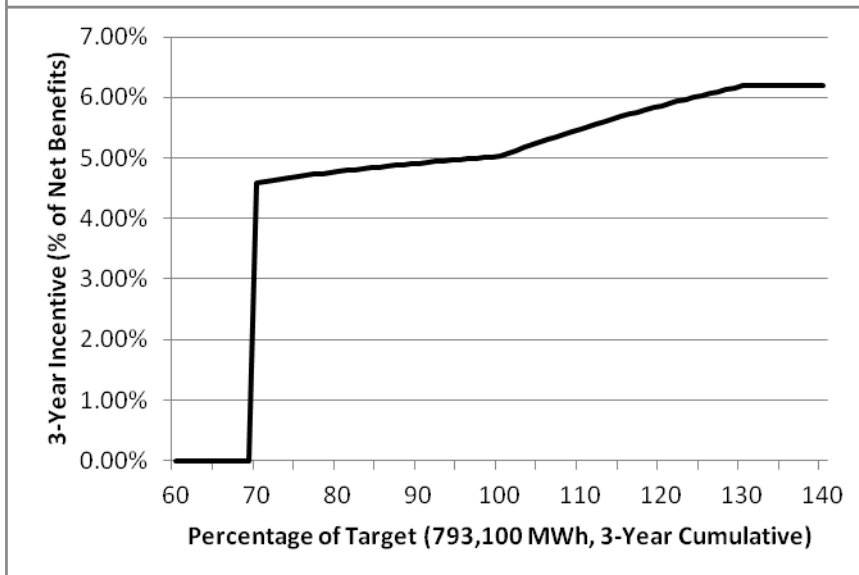
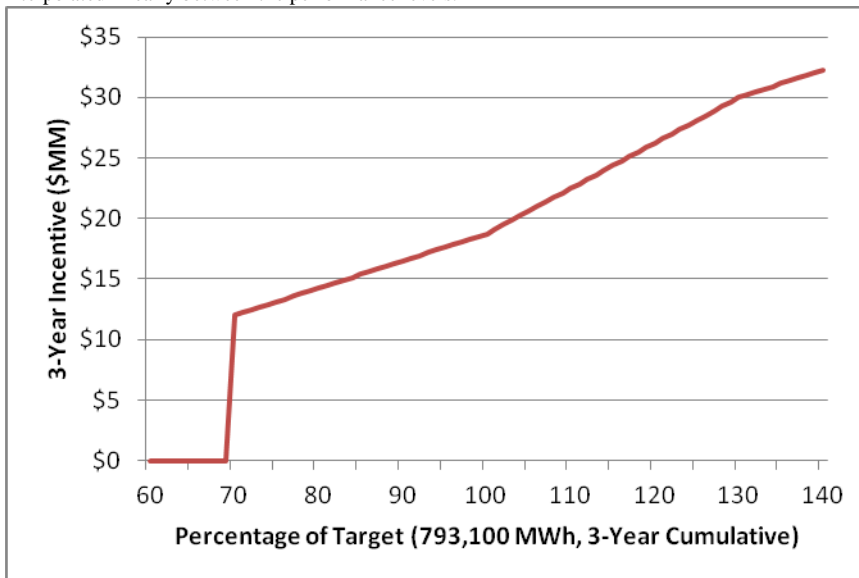
10 A. Yes, it does.

<sup>27</sup> Staff’s analyses do not include the impacts of: 1) OPC’s 9% rebound effects adjustment to the NTG ratio of the LightSavers program upon PY2013 annual net shared benefits or 2) OPC’s recalculation of PY2013 annual net shared benefits to include financial incentives as a cost. OPC’s adjustments do not comply with Commission rules or the 2012 Stipulation and Dr. Marke’s direct testimony does not quantify either of these impacts.

Performance Incentive

Percent of % MWh Target	3-Year Total (\$MM)	Percent of Net Benefits*
<70	\$0.00	0.00%
70	\$12.00	4.60%
80	\$14.25	4.78%
90	\$16.50	4.92%
100	\$18.75	5.03%
110	\$22.50	5.49%
120	\$26.25	5.87%
130	\$30.00	6.19%
>130		6.19%

\*Includes income taxes (i.e. results in revenue requirement without adding income taxes). Dollar figures shown in the above-table are for initial design purposes only. The performance incentive awarded will be based upon percent of net benefits. The percentages are interpolated linearly between the performance levels.



**Example No. 1 - Performance Incentive Calculation (millions of dollars)**

Net Benefit (PV)	\$360.78		
Sharing Percent	5.03%		
Initial Sharing Amount (PV)	\$18.14		
Class	RES	BUS	Low Inc.
MWh (3-Year Cum.)	491,803	287,633	13,666
MWh Allocation	62.0%	36.3%	1.7%
Before-Tax Rev. Req. (PV)	\$11.25	\$6.58	\$0.31
Revenue Requirement* (2-Year Annuity)	\$5.81	\$3.40	\$0.16

= \$9.375<sup>†</sup>

\*Excludes rate base treatment as specified in the stipulation

<sup>†</sup>This amount will be recovered over 2 years (i.e. \$9.375 + \$9.375 = \$18.75)

**Example No. 2 Performance Level Calculation**

This example assumes an actual customer opt-out rate of 15% and gross and net energy savings, as determined through EM&V, of 800,000 MWh gross and 840,000 MWh net (i.e. a net-to-gross ratio of 1.05). The actual numbers used in the final calculation will be determined based on the actual opt-out rate and the results of EM&V.

- Planned target based on assumed opt-out rate of 20%: 793,100 MWh
- Actual target based on actual opt-out rate of 15%: 811,079 MWh (new BUS Target – (287,633/(1-0.2))\*(1-0.15) = 305,610 therefore the new total target is 505,469 (RES + low-income target) + 305,610 (new BUS target))
- Gross savings from EM&V: 800,000 MWh
- Net savings from EM&V (based on net-to-gross ratios determined through EM&V): 840,000 MWh (based on an example portfolio average-weighted net-to-gross ratio of 1.05; actual net-to-gross ratios will be determined and applied on a program-by-program basis as part of the independent EM&V contractor's determination of net savings)
- Performance (i.e., net savings compared to actual target): 840,000 MWh/811,079 MWh = 103.6%
- Ameren Missouri's performance incentive for achieving 103.6% performance: 5.03% + ((103.6-100)/10)\*(5.49% - 5.03%) = 5.20% of actual net benefits<sup>1</sup>.

<sup>1</sup> Actual net benefits are based on actual program costs for the three-year MEEIA plan and the actual net MWh savings as determined by EM&V.