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MISSOURI PUBLIC SERVICE COMMISSION

CASE NO. EO-2012-0142

SURREBUTTAL TESTIMONY

OF

RICHARD A. VOYTAS

ON

BEHALF OF

UNION ELECTRIC COMPANY
d/b/a Ameren Missouri

St. Louis, Missouri
December 3, 2014

SURREBUTTAL TESTIMONY

OF

RICHARD A. VOYTAS

CASE NO. EO-2012-0142

Q. Please state your name and business address.

A. My name is Richard A. Voytas. My business address is One Ameren Plaza, 1901 Chouteau Avenue, St. Louis, Missouri 63103.

Q. By whom are you employed and in what position?

A. I am employed by Ameren Services Company ("Ameren Services") as Director of Energy Efficiency/Demand Response. Ameren Services provides various technical and corporation support services for Ameren Missouri and its sister companies in a number of functions, including the area of energy efficiency and demand response.

Q. Are you the same Richard A. Voytas who filed rebuttal testimony in this case?

A. Yes I am.

I. Introduction

Q. What is the purpose of your surrebuttal testimony in this proceeding?

A. The purpose of my surrebuttal testimony is to rebut and respond to the arguments presented by Dr. Geoff Marke on behalf of the Office of Public Counsel in his rebuttal testimony. The rebuttal testimony of Dr. Marke is substantial in volume but repeats arguments he previously made in his two earlier pieces of testimonies. Prior versions of my testimony address many of the issues sufficiently. Accordingly, in this surrebuttal testimony I focus my response on key issues in the case and new claims raised in Dr. Marke's rebuttal testimony. To the extent I do not address a specific argument in Dr. Marke's rebuttal, my silence is not a concession and my prior testimony addressing the argument will stand on its merits.

Q. With respect to Dr. Marke's rebuttal testimony, please summarize your principal arguments in response.

A. Dr. Marke presented a substantial amount of information on rebuttal. Most of the arguments he has made are either reiterations of previous claims, or offer little additional information in support of his arguments. In order to avoid rehashing issues covered in my direct and rebuttal testimonies, my surrebuttal testimony will focus on the following (5) subject areas:

1. **Joint Position -** Dr. Marke criticizes the reasonableness of the joint position agreed to by Staff and the Company with respect to the 2013 EM&V results. After having been the only parties to file Change Requests asking the Commission to adjust the 2013 EM&V results, Staff and the Company entered into a Non-Unanimous Stipulation and Agreement (now considered a Joint Position because OPC objected) (Joint Position). The results agreed to in the Joint Position are reasonable and well supported by both parties' direct and rebuttal testimonies as well as by the 2013 EM&V evaluator and auditor reports.

2. **MEEIA Cycle 1 Stipulation and Agreement** – Dr. Marke attempts to retrospectively change key aspects of the *Unanimous Stipulation and Agreement Resolving Ameren Missouri's MEEIA Filing* ("2012 Stipulation") by ignoring OPC's legal commitments in that agreement. For example, Dr. Marke attempts to reduce customer net benefits by any amount Ameren Missouri has the opportunity to earn as a

financial performance incentive. His proposal is in direct conflict with the 2012 Stipulation to which OPC is a signatory.

3. **DSM Cost Effectiveness Analysis** - Dr. Marke's rebuttal testimony conflates the calculation of cost effectiveness tests by including the costs of customer incentives, indicating a fundamental misunderstanding of how cost effectiveness is properly calculated. Dr. Marke's recommendations in this area aren't consistent with energy efficiency standard practices nor are they consistent with the Commission's MEEIA rules and the 2012 Stipulation.

4. **Market Transformation** – Dr. Marke has chosen to ignore Ameren Missouri's customer primary market research data and instead focuses his rebuttal testimony on other markets in non-Missouri jurisdictions other time periods as well as on academic research in topical areas that have no relevance to 2013 EM&V impact analyses for Ameren Missouri.

5. **Cynicism Concerning Energy Efficiency Generally** – At its core, Dr. Marke's testimony in this case seeks to undo the Joint Position in this case through a series of tangential and off-point claims that are unsupported by any Ameren Missouri customer primary data and/or analysis. Dr. Marke also attempts to make it appear Ameren Missouri's 2013 DSM programs have minimal benefits to customers. Those claims include the following:

- Rebound Effect – Dr. Marke claims Ameren Missouri's energy efficiency programs are not solely about energy savings and providing assistance to customers to manage their energy bills. Instead, Dr. Marke would have the Commission believe that Ameren Missouri's 2013 energy efficiency programs have a load *building* component, which he refers to as the Rebound Effect.

- Leakage – Dr. Marke would have the Commission believe the "leakage" estimate of the EM&V contractor, with which the Commission's own auditor agrees, was incorrect because, in Dr. Marke's unsupported opinion, it grossly understated the number of CFLs non-Ameren Missouri customers bought from Ameren Missouri's CFL retailers in 2013. Even though the EM&V contractor and the Commission's auditor estimated leakage using primary market research, Dr. Marke initially asked the Commission to reject those estimates based on the fact the state of Arkansas attributed a higher leakage factor to utilities operating in that state. In his rebuttal testimony, Dr. Marke then changes tactics to argue that Ameren Illinois' residential lighting program leakage rates are a more appropriate proxy for Ameren Missouri for no other reason than the Ameren Illinois leakage rates are higher than those of Arkansas. The end result of his argument, of course, is to argue for less energy savings for the 2013 Ameren Missouri residential lighting program.
- CFL Baseline – The baseline lighting measure against which an energy efficiency measure's incremental savings is assessed is set by the market. The EM&V contractor and the Commission's EM&V auditor agree that in 2013 the baseline against which to measure CFL savings is the incandescent light bulb. Even though Dr. Marke has no market data of any type for retail store sales of lights bulbs in Ameren Missouri's service

area, he suggests the baseline should not be incandescent bulbs but should, instead, be a more efficient lighting technology, thereby diminishing estimates of lighting-related energy savings for 2013.

- CFL Incentives – Dr. Marke argues that because CFLs are cost effective on their own, it precludes Ameren Missouri's residential lighting program from creating any Market Effects. But the evidence he offers as support for his argument is all anecdotal and Dr. Marke performed no study in support of his argument. The major flaw of Dr. Marke's argument is the requirement found in the Commission's MEEIA rules that utility MEEIA programs be cost effective, meaning that the majority of all energy efficiency measures in the 2013 Ameren Missouri portfolio of energy efficiency programs are "cost-effective on their own."
- EM&V budgets – Dr. Marke also contends Ameren Missouri is spending more on EM&V than is in its budget. Dr. Marke's implication appears to be that this makes Ameren Missouri non-compliant with the terms of the 2012 Stipulation. This claim, of course, doesn't go to the issue before the Commission in this case and is more appropriate to be brought up in a MEEIA prudence review.
- EPA Clean Power Plan – Dr. Marke either misunderstands or misrepresents Ameren Missouri's position on the EPA's Clean Power Plan and how it could affect energy efficiency programs in the future. For one thing, he erroneously states Ameren Missouri has publically opposed the EPA's plan. This is a misstatement of the Company's position and is not

true. But irrespective of its views on the EPA's plan, the Company believes it is important to all Missouri customers for the Commission to use fair and reasonable approaches to count all legitimate energy efficiency savings in determining a utility's actual emission rate. In many cases, energy efficiency measures represent the lowest cost option to reduce greenhouse gases. Otherwise, more costly supply options will be required to meet the goals of the Clean Power Plan, which would be to the financial detriment of all Missouri customers. But it is wrong to conclude, as Dr. Marke apparently does, that artificially reducing energy efficiency savings by minimizing them for unmeasured and unsubstantiated Rebound Effects, ignoring Market Effects, and performing unbalanced assessments of net savings using non-Ameren Missouri deemed energy savings will encourage utilities to introduce and promote lower cost energy efficiency options.

II. Response to OPC Witness Dr. Marke

A. OPC's Criticism of Joint Position of Staff and Company with Respect to 2013 Results

Q. Dr. Marke criticizes the process by which Ameren Missouri and Staff reached the Joint Position as to 2013 EM&V results. What is your response?

A. The Joint Position of Staff and Ameren Missouri is the product of an arms-length discussion of issues. The agreed upon results fall within the range of the change requests filed by Staff and Ameren Missouri and also between the findings of EM&V contractor (Cadmus) and the EM&V auditor (Johnson Consulting). The fact terms agreed to in a settlement could have been higher or lower is not meaningful, and has no bearing on the reasonableness of the settlement. Whether the terms of the agreement were within the spectrum of outcomes supported by the reports of both Cadmus and Johnson is the relevant consideration. Both Staff and the Company have explained why and how they reached the Joint Position in an informed matter. The Joint Position was not the product of an unprincipled bartering, but rather the product of mutual informed agreement.

B. Response to Dr. Marke's Criticisms of the 2012 Unanimous Stipulation and Agreement

Q. Wasn't OPC a signatory party to the 2012 Stipulation?

A. Yes, it was. Of course, there has been a significant change in personnel at OPC since the 2012 Stipulation was signed, which may at least partially explain the OPC's now different interpretation of how MEEIA should function. Nonetheless, it is my understanding that OPC, as a signatory, is bound by the terms of the 2012 Stipulation.

Q. What evidence demonstrates the signatories to the 2012 Stipulation understood and agreed that any financial performance incentive Ameren Missouri may earn as a result of its superior performance during the entire MEEIA 2013-2015 implementation plan period is not part of the net benefits calculation?

A. Simple logic demonstrates the parties to the 2012 Stipulation could not have intended to include performance incentives in the net benefits calculation. Any financial incentive award Ameren Missouri might earn is expressed and calculated as a share of net benefits. Therefore, in order to determine the amount of the award, net benefits must be calculated first. And if any performance incentive is a percentage of net shared benefits, the amount of the award cannot be an input into the net benefits calculation. Dr. Marke's approach to the net shared benefits calculation is thus completely circular and cannot be what the 2012 Stipulation signatory parties intended.

Beyond the circular logic problem Dr. Marke's argument presents, there is considerable evidence that conclusively shows the parties to the 2012 Stipulation understood and agreed that financial incentives Ameren Missouri earns for superior performance in energy efficiency programs were *not* to be included in the calculation of net shared benefits. For example, paragraph 6 of the 2012 Stipulation states:

> Final Recovery/True-up. It is the Signatories' intent that Ameren Missouri shall recover as close as reasonably practicable (separately for residential and non-residential customer classes);
>
> - its actual MEEIA Programs' costs;
> - the Ameren Missouri TD-NSB Share amounts; and
> - the Performance Incentive Award determined in accordance with paragraph 5.b.ii and Appendix B.

As both Mr. Rogers and I have explained in our respective testimonies, two of the Commission's MEEIA rules – 4 CSR 240-3.163(1)(A) and 4 CSR 240-20.093(1)(C) – define "Annual net shared benefits," and each of those definitions specifically states "program costs" include "design, administration, delivery, end-use measures, incentives, EM&V, utility market potential studies, and technical resource manual on an annual basis."

Although the word "incentives" appears in the definition of "program costs," that reference is not to incentives *earned* by a utility for superior performance. Instead, the word refers to certain incentives *paid* to customers who participate in energy efficiency programs. This is clear for at least two reasons. First, incentives earned by, and paid to, a utility for superior performance are not a "cost" of the utility under any recognized definition of that word in the industry. Second, the 2012 Stipulation specifically states Ameren Missouri is entitled to recover *both* program costs and any performance incentives it earns.

Finally, I note that Mr. Rogers' rebuttal testimony provides calculations showing that if the Commission adopts the Joint Position of Ameren Missouri and Staff with regard to 2013 EM&V the rate impact is zero. (Rogers Surrebuttal, page 18, line 16 to page 19, line 10.) Such a result is inconsistent with Dr. Marke's argument that performance incentives should be credited against program costs.

Q. What else does Dr. Marke suggest be changed with respect to the 2012 Stipulation to which OPC is a signatory?

A. In addition to his methodology for calculating net shared benefits, Dr. Marke also attempts to introduce a new methodology for calculating the throughput disincentive to which OPC agreed to in the 2012 Stipulation. This aspect of Dr. Marke's proposal is found on page 63, lines 4-26 of his rebuttal testimony.

He states that although the primary focus of this EM&V has been the net shared benefits component of the costs and benefits to which Ameren Missouri is entitled under paragraph 6 of the 2012 Stipulation, the second element – "the throughput disincentive" – represents a much greater future cost for the Company's customers. Consequently, the question of whether the throughput disincentive mechanism would represent net savings estimates (i.e., savings that can be directly attributed as a result of the utility sponsored programs) or gross savings estimates (i.e. savings as a result of the utility sponsored program regardless of the nature or the extent) was an issue of significant concern to stakeholders who entered into the 2012 Stipulation.

Q. Before you address the merits of Dr. Marke's claim, is the issue of throughput disincentive relevant to the 2013 EM&V change request filing?

A. No. It is not. Why Dr. Marke has raised the issue at this time is unclear, unless he is seeking to renegotiate the terms of the 2012 Stipulation. The terms of the 2012 Stipulation, the record substantiating it, and the order approving it are clear as to why the throughput disincentive mechanism was adopted. There is no need to explain its operation here, it is inappropriate for OPC to be challenging that mechanism at this time, and Ameren Missouri is not willing to renegotiate its terms in this proceeding.

Q. Setting aside the appropriateness of raising this argument at this time, is Dr. Marke's claim true?

A. No, it is not. Ameren Missouri's MEEIA 2013-2015 filing, net savings using 2013 retrospective assessments of individual measures of energy savings and NTG are to be applied to the utility's performance incentive. However, for purposes of calculating the throughput disincentive, prospectively deemed individual measure savings and a prospectively deemed NTG = 1.00 for all programs except the Appliance Recycling Program are to be applied. The Appliance Recycling Program has a prospectively deemed NTG = 0.64.

As OPC is aware from testimony in MEEIA 2013-2015, Generally Accepted Accounting Principles ("GAAP") require that individual measures of energy savings and individual measures of NTG values be prospectively deemed in order for Ameren Missouri to have the accounting authority necessary to recognize the collection of the lost throughput disincentive as earnings. Hence, it is necessity to prospectively deem these values.

Ameren Missouri filed its first Technical Resource Manual ("TRM") in the MEEIA 2013-2015 filing. The stated purpose of the TRM was to prospectively deem individual measures of energy savings. The Missouri Department of Natural Resources engaged a third-party DSM consultant to review the reasonableness of the TRM energy savings. The consultant's review of the TRM was that the deemed savings estimates were reasonable with a handful of exceptions. Ameren Missouri agreed and revised the TRM to reflect 100 percent of the consultant's recommendations. All signatories to the 2012 Stipulation, including OPC, agreed to accept the consultant's TRM review and recommendations.

As 2013 EM&V results showed, the assumption that NTG = 1.0 for the computation of the lost throughput disincentive actually undercompensated Ameren Missouri. The weighted average 2013 Ameren Missouri portfolio NTG ratio was assessed to be 1.106. See Table 1 below for the specifics of the calculation:

Table 1: 2013 Ameren Missouri DSM Portfolio NTG

Program	Gross Savings	Net Savings	NTG
ApplianceSavers	6,963	5,170	74.2%
CommunitySavers	6,149	5,890	95.8%
ConstructionSavers	238	67	28.2%
CoolSavers	25,098	23,941	95.4%
LightSavers	227,132	279,127	122.9%
PerformanceSavers	316	285	90.2%
RebateSavers	8,409	7,795	92.7%
Residential Total	**274,305**	**322,275**	**117.5%**
Biz Custom	59,683	51,624	86.5%
Biz Standard	15,694	14,049	89.5%
Biz Retro-Commissioning	1,512	1,249	82.6%
Biz New Construction	5,039	4,769	94.6%
Business Total	**81,928**	**71,690**	**87.5%**
Portfolio Total	**356,233**	**393,965**	**110.6%**

Q. In his rebuttal testimony, Dr. Marke makes a new claim that Cadmus and Ameren Missouri have exceeded their expenditures allotted for EM&V in the 2012 Stipulation. Is this true?

A. No. First, this case is not a prudency review, so this argument is misplaced and isn't an issue properly before the Commission at this time. In addition, Dr. Marke's argument is wrong. The residential EM&V expenses for the entire 2013-2015 cycle will be five percent of Ameren Missouri's program budget. 2013 is only the first year of the program, and EM&V expenses were deliberately front-loaded to develop and initiate the plan and initial metering studies, which will not occur in years 2 and 3. Consequently, EM&V expenses will be much less for the Company's 2014 and 2015 evaluations.

Q. Are the other parties to this case aware of the frontloading of EM&V expenditure?

A. Yes, they are. The EM&V budget sequence was discussed at length with Ameren Missouri's DSM stakeholders.

C. DSM Cost Effectiveness Analysis

Q. Please discuss your concerns with those portions of Dr. Marke's surrebuttal testimony that discuss the inputs and mechanics of calculating cost effectiveness for energy efficiency programs.

A. I will start with Dr. Marke's misunderstanding of the word "incentive" as it is used in energy efficiency cost effectiveness. In prior testimony in this case, I explained the definition of the word "incentive" as it applies to Demand Side Management ("DSM") cost effectiveness analyses. The MEEIA statute is clear as to the meaning of the word "incentive" as it applies to the DSM cost effectiveness test called the Total Resource Cost ("TRC") test, which Dr. Marke prefers to use to assess program net benefits rather than the Utility Cost Test ("UCT") to which OPC agreed in the 2012 Stipulation. (See page 56, line 15 of my direct testimony.) An as I also noted in my prior testimony, the definition in §393.1075(6), RSMo, states: "'Total resource cost test', a test that compares the sum of avoided utility costs and avoided probable environmental compliance costs to the sum of all incremental costs of end-use measures that are implemented due to the program, as defined by the commission in rules.

Q. What is the definition of the term "incentive" in the calculation of energy efficiency cost effectiveness?

A. In energy efficiency cost effectiveness analyses, the term incentive always refers to the incremental cost of an efficient measure relative to an inefficient measure. If a utility provides financial incentives that exceed the incremental cost, the amount of the financial incentive that exceeds incremental cost is treated as a program administration cost. This distinction is critical to understanding how the TRC test is calculated.

Q. Is every payment to a customer participating in a utility energy efficiency program that is labelled as an "incentive" treated as an incentive when calculating whether a program or a measure in a program is cost effective?

A. No. In addition to my response to the previous question, consider another example. The $50 "incentive" that Ameren Missouri paid to customers in 2013 who participated in the Appliance Recycling Program is not considered an incentive in cost effectiveness calculations. Since the Appliance Recycling Program addresses the removal of an inefficient refrigerator or freezer from a home, there is no incremental cost involved as in the situation where a customer may purchase a new high efficiency refrigerator over a standard efficiency refrigerator. Consequently, the $50 "incentive" is treated as a program administration cost in the calculation of the program cost effectiveness.

Q. Are the "incentives" Ameren Missouri paid to retailers and manufacturers in 2013 to buy-down the cost of CFLs for Ameren Missouri customers considered an incentive in calculating CFL cost effectiveness?

A. No. The analysis of the cost effectiveness of CFLs is more complex than for most energy efficiency measures. A CFL has an approximate effective useful life of ten years. If a CFL replaces an incandescent light bulb – an incandescent light bulb has an effective useful life of one year – this means that the purchase of one CFL offsets the purchase of ten incandescent bulbs. The sum of the purchases of ten incandescent light bulbs is greater than the first cost of a CFL relative to an incandescent bulb. This means that the effective first cost of a CFL is actually less than an incandescent light bulb. In this case, the incentive that Ameren Missouri pays to retailers to buy down the first cost of CFLs for Ameren Missouri customers is treated as a program administration cost.

Q. On page 19, line 3, of his rebuttal testimony, Dr. Marke states the 2013 Ameren Missouri residential lighting program should not have Market Effects because a CFL is "already cost-effective on its own." Do you agree with that statement?

A. No, Dr. Marke's statement is incorrect and further demonstrates his misunderstanding of the phrase "cost effective." Indeed, Dr. Marke may be surprised to learn that *all* energy efficiency measures in the Ameren Missouri energy efficiency portfolio have been screened to be "cost-effective on their own." The fact the Company's CFL program, as well as all of its other energy efficiency programs, are "cost-effective on their own" is not a legitimate basis for claiming those programs do not create Market Effects or that Market Effects should be eliminated or discounted in calculating the benefits derived from those programs. Market Effects are not determined in order to make a program cost effective. Market Effects are measured by the EM&V evaluator because they are a real impact of energy efficiency programs.

Q. Why does it matter if an incentive is classified as an "incentive" or as a program administration cost in the cost effectiveness calculation for energy efficiency programs?

A. It matters because Dr. Marke proposes the TRC test be used to calculate 2013 Ameren Missouri DSM program net benefits, which is contrary to the terms of the 2012 Stipulation. The TRC is defined as the sum of the Participant Cost Test ("PCT") and the UCT. Since the payment of an incentive is a cost to the utility and a credit to the customer, the two offset each other such that the cost of incentives is not included in the TRC.

Q. One final question on cost effectiveness calculations. Dr. Marke concedes there are some states where utility's calculate Market Effects, but concludes that those states use Market Effects for screening measures for cost effectiveness, potential studies, and for applications. He then goes on to say that when utilities in those states implement programs and evaluate them for cost effectiveness they then remove Market Effects from the cost effectiveness

calculation. (Marke Rebuttal page 13, line 16) Are Dr. Marke's characterizations accurate?

A. No, Dr. Marke's characterizations are not correct. No business would purposely set out to over promise (i.e. inflate the projected net benefits from the sale of its products and services) when it establishes business plans knowing full well the results those business plans will under deliver (i.e. count less benefits in the actual accounting of all sales of its products and services).

Energy efficiency is a business that Ameren Missouri takes seriously. The shared net benefits business model that 2012 Stipulation signatories agree upon, and which the Commission has approved, incents Ameren Missouri to maximize value for customers while minimizing costs. It is simply unreasonable to assume or argue, as Dr. Marke does, a utility would screen energy efficiency measures for cost effectiveness using higher projected benefits than would be used to evaluate measures that are actually installed in a program year.

D. Market Transformation

Q. Are there any other points relating to Market Effects in Dr. Marke's surrebuttal testimony with which you disagree?

A. Yes there are. In his rebuttal testimony, Dr. Marke states his opinion that Market Effects cannot be attributed to the 2013 Ameren Missouri Residential Lighting Program for the following reasons (page 6, line 14-21):

- There was no mandated state Energy Efficiency Resource Standard ("EERS") in Missouri.
- The program has only been in existence for one year before savings were claimed.
- The time period of the claimed Market Effects immediately preceded new federal EISA standards.

- The program was not jointly delivered throughout the state.
- The program implemented was marketed with a budget of only $33,146.
- The program's evaluation rests primarily on data collected six months into a 36 month program cycle.

These six items do not appear in EM&V best practice protocols, so it is unclear why Dr. Marke even cited them in his testimony. Furthermore, all Dr. Marke does is provide a list – he doesn't explain why or how these items delegitimize Market Effects, and provides no basis for the Commission to make any finding based upon these assertions. In my opinion, from a factual and logical standpoint, these criticisms cannot be substantiated.

Q. Please comment on Dr. Marke's arguments concerning the relevance of EERS. Is there a connection between EERS and Market Effects?

A. There is no logical connection between states with EERS and Market Effects. As more and more states rescind their EERS annual load reduction goals, one finds that states with EERS and states without EERS still pursue similar levels of energy efficiency savings. This demonstrates this difference in legal or regulatory frameworks has no bearing on the immediate issue as to whether, and at what level, Market Effects occurred for Ameren Missouri's LightSavers program in 2013.

Q. Was the Ameren Missouri Residential Lighting Program in existence for only one year before savings were claimed?

A. No. The program began in 2009. As I stated in my direct testimony (page 47, lines 2-7), it is imperative to realize that no sales of CFLs prior to 2013 are included in the Market Effects calculation. Rather, Cadmus used a three-year history of actual Ameren Missouri service territory CFL sales to calculate the ***rate*** of CFL sales attributable to Market Effects, spillover and naturally occurring energy efficiency. In no way, shape, or form was sales of CFLs prior to 2013 included in the energy savings attributable to the 2013 Ameren Missouri LightSavers program.

Q. Did EISA transform the market?

A. The EISA did not transform the market for CFLs in Ameren Missouri's service territory. My rebuttal testimony has evidence from the National Electric Manufacturers Association ("NEMA") that the sales of CFLs have been in decline. I also presented store-specific data showing for Wal-Mart stores in Ameren Missouri's service area the sale of CFLs declined every month in 2013 relative to 2012. In addition, both the EM&V contractor and the Commission's EM&V auditor found the assumption of a baseline of incandescent bulbs for the majority of Ameren Missouri 2013 CFL sales is further verified by retailers' lighting product offerings in 2013. Despite all this evidence, Dr. Marke asserts EISA transformed the market for CFLs in the Ameren Missouri service territory in 2013.

Q. Dr. Marke states Ameren Missouri's Residential Lighting Program was not jointly delivered throughout the state. How do you respond?

A. This is a true statement. But that fact has nothing to do with whether or not Ameren Missouri's Residential Lighting Program has Market Effects.

Q. What is the significance of the "marketing budget"?

A. Dr. Marke states the residential marketing program was "marketed" with a budget of only $33,146. It appears Dr. Marke is attempting to imply that unless there is a relatively expensive mass marketing budget, market transformation cannot occur. This is a rather simplistic argument. Market transformation comes about from multiple initiatives – the least of which is a mass media campaign for the Residential Lighting Program. Consider these facts:

- Ameren Missouri only promotes Energy Star certified bulbs, Ameren Missouri also promotes Energy Star recognition for EE products – creating the customer EE purchase ethic;
- The program currently has 11 field representatives. Costs associated with field representatives are classified as program administration costs;
- Ameren Missouri currently has approximately 500+ partner stores;
- Ameren Missouri uses social networking to promote its energy efficiency programs. Since December of 2009, APT (Ameren Missouri residential lighting implementation contractor) has completed:
    - 122,000 training sessions on Energy Star lighting and appliances;
    - 721 in store promotions (4 hours each = 2,884 man-hours of customer training);
    - 42,622 Retailer visits – stocking, training, merchandising;
    - 10,000,000 + CFLs incentivized, since December 2009;
    - Since 2010, over 1,000,000 CFLs have been distributed through the Social Marketing Distribution program just at the St. Louis Foodbank;
    - Significant progress in offering low cost efficient lighting through dollar and grocery stores located in urban areas, rather than only big box stores;
    - 43 percent of the 2013-2015 residential lighting incentive budget is allocated to Dollar General, Dollar Tree, Family Dollar, Deals, Walgreens and Goodwill.
- Ameren Missouri makes representatives available to local media inquiring about energy efficiency programs;
- Customer service representatives can and do field questions about energy efficiency programs; and

- Governmental and non-profit groups also promote and provide information on energy efficiency programing.

The bottom line is this program touches and concerns many people and has a broad geographic presence. Looking only on the amount spent on mass-media campaigns completely misses the large effort undertaken by Ameren Missouri to implement its Residential Lighting Program.

Q. What about Dr. Marke's argument that program data relied on six months out of a thirty-six-month program period?

A. Dr. Marke states the 2013 Residential Lighting Program's evaluation rests primarily on data collected six months into a thirty-six-month program cycle. However, this is not an accurate characterization of the measurement methodology used by Cadmus. Cadmus calculated the number of actual CFLs purchased by Ameren Missouri customers over a three-year period based on two home inventory studies: one conducted in July 2010, and one in June 2013. Cadmus then subtracted program bulbs sold from the estimated count of total bulbs sold to calculate non-program bulbs sold over the three-year period. Cadmus then attributed each of those non-program bulb sales to one of three categories: naturally occurring purchases, spillover, and Market Effects. Then Cadmus converted the total bulbs by category into rates, dividing the non-program naturally occurring, spillover, and Market Effects by the total program bulbs sold during the same period. Cadmus applied these final rates to the 2013 annual bulb count. For this approach, Cadmus assumed naturally occurring, spillover, and Market Effects, averaged over a recent three-year period provides a good estimate of naturally occurring, spillover, and Market Effects resulting from program year 2013. Dr. Marke offers nothing to counter the reasonableness of this approach.

Q. Dr. Marke expresses concern that Market Effects attempt to "quantify something that is largely qualitative in nature." (Page 46, line 20). Please discuss.

A. It is ironic that Dr. Marke would express concern with the qualitative nature of EM&V Market Effect analyses when Dr. Marke proposes a nine percent reduction of 2013 residential lighting savings based solely on a magazine article from 2000 on the Rebound Effect, which was based on four unnamed studies whose veracity the article's author states is inconclusive.

In addition, Dr. Marke testified Cadmus did a credible job attempting to quantify free ridership using customer self-reporting surveys. Customer self-reporting surveys are 100 percent qualitative surveys asking customers the hypothetical question: "What would you have done if you did not do what you did six to twelve months ago when you purchased an energy efficiency product or service through the Ameren Missouri energy efficiency programs?" Further, there is substantial evidence Ameren Missouri's free ridership self-reporting surveys are biased in the direction of overstating free ridership. Ameren Missouri provided evidence in its 2013 Change Request filing from impact analyses of all the significant free ridership customer self-reporting biases in the 2013 Ameren Missouri energy efficiency programs.

It appears Dr. Marke applies a double standard for determining when subjective results can be considered quantitative and when they should be considered too qualitative to quantify. That is, Dr. Marke's testimony is that if subjective results reduce Ameren

Missouri's opportunity to earn a financial incentive, they should be used. If subjective results may increase Ameren Missouri's opportunity to earn a financial performance incentive, they should be removed.

Q. It appears disingenuous, at best, for Dr. Marke to claim the partial use of subjective or qualitative data in the estimation of Market Effects should be disallowed by the Commission but also claim that the 100 percent of subjective customer self-reporting surveys should be used in the estimation of free riders.

A. Yes. That is absolutely correct.

Q. How qualitative are Market Effects of the Ameren Missouri 2013 Residential Lighting Program quantified by both Cadmus and the Commission's EM&V auditor?

A. The analysis Cadmus and the Commission's auditor used to support their respective Market Effects calculations are equal parts objective, based on Ameren Missouri primary market research, and subjective, using realistic assumptions, based on the Commission's EM&V Auditor's feedback, about how to allocate non-Ameren Missouri program bulbs to time periods when they were sold. In my direct testimony, I point to Table 33 of the 2013 LightSavers EM&V report. Table 33 shows each line item in the calculation used by Cadmus and the Commission's EM&V auditory to calculate Market Effects. The number of actual CFLs purchased by Ameren Missouri customers over a three year period based on two home inventory studies: one Cadmus conducted in July 2010, and another in June 2013. This is objective data based on Ameren Missouri's primary market research. Cadmus subtracted program bulbs sold from the estimated count of total bulbs sold to calculate non-program bulbs sold over the three-year period.

This also is objective data based on Ameren Missouri primary market research. Cadmus then attributed each of those non-program bulb sales to one of three categories: naturally occurring purchases, spillover, and Market Effects. This is subjective data on which Cadmus and the EM&V auditor have different perspectives. Through the Joint Position, Ameren Missouri and Staff have, for purposes of this case reached a reasonable resolution of this issue.

Q. Are there examples of where Dr. Marke ignores objectively determinable, quantitative data?

A. Yes. Dr. Marke's arguments regarding Ameren Missouri's estimates of leakage for its 2013 Residential Lighting Program are one example. Leakage is determined by in-store interviews with customers who are purchasing CFL(s) and asking the very objective question: "What is the zip code where you live?" If the zip code did not fall within the geographic boundaries of the Ameren Missouri service territory, the CFL purchase was treated as leakage. This is the process used by Ameren Missouri's evaluators and there is no subjectivity in that process.

Dr. Marke rejected this objective information and, in his direct testimony, points to a leakage rate used in Arkansas. But, in his rebuttal testimony, Dr. Marke abandons this argument and instead points to an Ameren Illinois result. Both of these recommendations, not surprisingly, have higher leakage rates than was determined to have actually occurred in Ameren Missouri's Residential Lighting Program in 2013. If objectively determinable is an important standard, it should not be discarded just because Dr. Marke finds a result that allows him to recommend a larger modification to the Company's MWh savings.

I would also point out that at the same time as he is ignoring perfectly valid, objectively determinable, Ameren Missouri-specific results, Dr. Marke lauds the importance of using primary data. On page 74 line 13 of his direct testimony, he states:

> To summarize, I do not think it is appropriate to substitute or alter primary data collected from Ameren Missouri customers with an opaque, non-peer reviewed, unsubstantiated 5 page write up from 2010, on customers without demographic information and without knowing the products or services that were being examined.

This statement, of course, is not consistent with many of the recommendations made by Dr. Marke in this case and further undermines the credibility of his arguments in this case.

Q. Did Dr. Marke provide any objectively determinable, primary data in support of his own recommendations?

A. He did not. Dr. Marke did not perform an iota of analysis or collect a bit of Ameren Missouri primary data to support any of his recommendations, including his nine percent Rebound Effect; his attempted refutation of the existence of Market Effects; his attempted quantification of leakage, and his unsubstantiated estimates for EM&V parameters .

Dr. Marke stresses the importance of using EM&V best practices, but then cannot point to any best practice to support his recommendations to modify the EM&V results for Ameren Missouri's energy efficiency programs. The Commission should not allow him to pick and choose just because it gives him the result he desires.

Q. Do you agree with Dr. Marke's conclusion that Ameren Missouri's 2013 Residential Lighting Program cannot possibly have a net-to-gross of greater than 1.0 for the 2013 program year?

A. No. Dr. Marke seems to believe that Ameren Missouri's Residential Lighting Program will be less effective in 2013 because similar programs in other states, which that have been in effect for several years, have seen the effects of those programs wane over time. What matters is how long the program had been part of the utility's market transformative program. For example, Dr. Marke cited the example of the state of Massachusetts which began its residential lighting program in 1998. Eight years later in 2006, Massachusetts' residential lighting program achieved a net-to-gross ratio 2.77. Compare/contrast this to the Ameren Missouri residential lighting program, which began in 2009 and four years later achieved a net-to-gross ratio of 1.25. Similar examples of a utility's residential lighting program exceeding a net-to-gross ratio of 1.0 in throughout the first 10 years of program implementation can be seen in other jurisdictions such as Vermont, New York and Wisconsin.

E. General Cynicism Concerning Role of Energy Efficiency

Q. Dr. Marke previously has expressed his opinions on the quantification of Market Effects, free ridership, performance incentives, the Rebound Effect, leakage rates, and those opinions would have the ultimate impact of reducing Ameren Missouri's 2013 achieved energy efficiency savings and generally making energy efficiency a less attractive option for utilities to pursue in the state of Missouri. In his rebuttal testimony does Dr. Marke introduce any additional factors to further reduce Ameren Missouri 2013 and beyond energy efficiency savings?

A. Yes. Dr. Marke now questions Cadmus and the Commission's EM&V auditor's basis for stating that in 2013 the 60-watt incandescent bulb represents the baseline energy consumption against with CFL energy savings are assessed. Instead, Dr.

Marke suggests that the EISA legislation baseline be used. The impact of Dr. Marke recommendations is to further erode the 2013 Ameren Missouri Residential Lighting p\Program savings by approximately forty percent.

Dr. Marke points to the fact CFLs are "cost-effective on their own" and raises the specter that Ameren Missouri should not offer customers financial incentives to purchase CFLs. His argument cannot be true, as is proven by clear evidence from Cadmus' Ameren Missouri primary research data that shows CFL incentives drove significant changes in customer CFL purchases by Ameren Missouri customers.

Further, the Commission's MEEIA rules that utility MEEIA program be cost effective means the majority of all energy efficiency measures in the 2013 Ameren Missouri portfolio of energy efficiency programs are "cost-effective on their own." Given the Commission rules, if Dr. Marke's argument is true then no energy efficiency program that can be run.

Q. Does Dr. Marke assert a new concern about the budget Ameren Missouri allocated to EM&V work in 2013?

A. Dr. Marke states correctly that Ameren Missouri spent approximately 8.5 percent of program expenses on EM&V as opposed to 5 percent provided for in the 2012 Stipulation.

Q. Is there an explanation for this fact of which Dr. Marke should be aware?

A. Yes. The residential EM&V expenses over the entire 2013-2015 cycle will be five percent. 2013 is the first year of the program and the EM&V expenses were front loaded to develop and initiate the plan and initial metering studies which will not occur in years 2 and 3. Consequently, EM&V expenses will be much less in 2014 and 2015. The EM&V budget sequence was discussed at length with Ameren Missouri DSM stakeholders.

Of course, this question does not go to any issue before the Commission in this case. Whether or not the Company is acting in accordance with this aspect of the 2012 Stipulation is a question to be dealt with in a prudence review or perhaps an Ameren Missouri rate case, not within this case which merely seeks to determine the appropriate measure of MWh savings created by Ameren Missouri's energy efficiency programs.

Q. On page 80, line 6 of his surrebuttal testimony, Dr. Marke asserts Ameren Missouri has "publicly-stated opposition to the Clean Power Plan." Please comment.

A. Of all the distractions Dr. Marke attempts to toss into the air in this case, his assertion that Ameren Missouri opposes the Clean Power Plan shows how far he has strayed from factual evidence.

Based on disseminated comments from a presentation that I gave at the October 21, 2014 Missouri Statewide DSM Collaborative Meeting on the EPA Building Block #4 – Energy Efficiency, the October 26th edition of the *St. Louis Post-Dispatch* quoted me as saying:

> We think utility energy efficiency programs are great," Richard Voytas, Ameren's energy efficiency manager, said at a state conference last week. "We think the business model that we have in the state of Missouri, the regulatory framework, is right on. And we've got a team dedicated to getting everything that we can. But we also know that past performance when it comes to energy efficiency is not indicative of future performance.

http://www.stltoday.com/business/local/despite-big-savings-ameren-still-cautious-on-energy-efficiency-investment/article_f2113f4e-2056-583c-b654-bd864f64ed8e.html

The quote does not imply in any form or fashion that Ameren Missouri is opposed to developing energy efficiency as one of the four building blocks in the Clean Power Plan.

Q. What is Ameren Missouri's position on the Clean Power Plan?

A. Ameren Missouri has not opposed the Clean Power Plan. Ameren Missouri has stated the need for specific improvements: eliminating the interim targets, providing adequate credit for coal plan retirements, and allowing states the flexibility to extend the compliance date. Our position is summarized in a document on Ameren.com[1]. Importantly, the Company has not at all opposed the inclusion of energy efficiency as a compliance option; in fact, we have highlighted it as a key element of our transition plan. Additionally, Dr. Marke's suggestion that the Clean Power Plan regulations may not ultimately be finalized and enforced does not mean this Commission and the stakeholders involved in this case should not ensure Missouri is well positioned to comply with the regulations in the most effective way possible. Whether or not 2013 energy savings can be applied toward compliance with the Clean Power Plan, establishing a precedent for evaluation that artificially understates the achievement of energy savings is detrimental to the ability to count any energy savings toward eventual compliance

Q. Dr. Marke claims Ameren Missouri's position with respect to the pending Greenhouse Gas Rules is at odds with its position that Market Effects be counted going forward. Is there an inconsistency?

[1] https://www.ameren.com/-/media/Missouri-Site/Files/environment/ameren-missouri-transition-plan.pdf?la=en

A. Not at all. All Ameren Missouri asks is that the savings created through its energy efficiency programs be fully and reasonably counted. The view incorporated in the Joint Position of Staff and the Company (and that of Cadmus and Johnson Consulting), is that Market Effects are real. Dr. Marke and OPC's opposition to fully counting EM&V savings, including Market Effects, and its disagreement with performance incentives as a matter of principle, creates a myopic perspective that could have very real financial ramifications in the future. Taking an overly narrow and cynical view of energy efficiency savings, and layering on an additional regressive discount for "Rebound Effect," could influence policy choices that would limit the potential for energy efficiency in Missouri and the value that energy efficiency could offer in meeting potential carbon regulations. Simply put, Missouri cannot declare that Market Effects cannot be counted in one context then later say such savings should be given due credit when it comes to federal regulatory policy. Moreover, even if carbon regulations are never adopted, unfairly discounting energy efficiency by eliminating Market Effects may unnecessarily restrict energy efficiency's potential as a part of the overall portfolio of resources to meet future demand.

Q. Can you provide the Commission any final thoughts for consideration about Dr. Marke's testimony?

A. Yes. It is unfortunate Dr. Marke and OPC have taken such a strong position to devalue the benefits of energy efficiency. It is equally unfortunate that OPC chose not to offer these recommendations during the process set forth in the 2012 Stipulation, as is required by the 2012 Stipulation. OPC had multiple opportunities to express any concerns beginning on February 15, 2014. It was not until after the process set forth in the 2012 Stipulation had been completed that OPC decided to offer up its objections. The Commission should not reward this late effort. Instead, the Commission should uphold the policy of the state to pursue all cost effective energy efficiency and allow Ameren Missouri the full benefit of the bargain struck in the 2012 Stipulation. Ameren Missouri has worked very hard to fulfill that policy and it would be a step backwards if Dr. Marke's positions are given any weight by the Commission in this case.

Q. Does this conclude your surrebuttal testimony?

A. Yes, it does.

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 RICHARD A. VOYTAS

STATE OF MISSOURI)
) ss
CITY OF ST. LOUIS)

Richard A. Voytas, being first duly sworn on his oath, states:

1. My name is Richard A. Voytas. I work in the City of St. Louis, Missouri and I am employed by Ameren Services Company as Director of Energy Efficiency/Demand Response.

2. Attached hereto and made a part hereof for all purposes is my Surrebuttal Testimony on behalf of Union Electric Company d/b/a Ameren Missouri consisting of 30 pages and Schedule(s) N/A, all of which have been prepared in written form for introduction into evidence in the above-referenced docket.

2. I hereby swear and affirm that my answers contained in the attached testimony to the questions therein propounded are true and correct.

Richard A. Voytas
Richard A. Voytas

Subscribed and sworn to before me this 3rd day of December, 2014.

Julie Irby
Notary Public

My commission expires: 1/15/2017

Julie Irby - Notary Public
Notary Seal, State of
Missouri - St. Louis County
Commission #13753418
My Commission Expires 1/15/2017