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Issues: Energy Efficiency Witness: Michael L. Stahlman

Sponsoring Party: MO PSC Staff
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Case No.: GT-2011-0410

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MISSOURI PUBLIC SERVICE COMMISSION

REGULATORY REVIEW DIVISION

REBUTTAL TESTIMONY

OF

MICHAEL L. STAHLMAN

UNION ELECTRIC COMPANY d/b/a AMEREN MISSOURI

CASE NO. GT-2011-0410

Jefferson City, Missouri September 2011

BEFORE THE PUBLIC SERVICE COMMISSION

OF THE STATE OF MISSOURI

In the Matter of the Union Electric Company's (d/b/a Ameren Missouri) Gas Service Tariffs Removing Certain Provisions for Rebates from Its Missouri Energy Efficient Natural Gas Equipment and Building Shell Measure Rebate Program.)) File No. GT-2011-0410))
AFFIDAVIT OF MIC	HAEL L. STAHLMAN
STATE OF MISSOURI)) ss COUNTY OF COLE)	
the preparation of the following Rebuttal consisting of $\frac{100}{100}$ pages of Rebuttal Testithe answers in the following Rebuttal Testi	on his oath states: that he has participated in Testimony in question and answer form, mony to be presented in the above case, that estimony were given by him; that he has answers; and that such matters are true to the
	Michael L. Stahlman
Subscribed and sworn to before me this	_ day of September, 2011.

LAURA HOLSMAN
Notary Public - Notary Seal
State of Missouri
Commissioned for Cole County
My Commission Expires: June 21, 2015
Commission Number: 11203914

Notary Public

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9 10	CASE NO. GT-2011-0410
11	I. Introduction
12	Q. Please state your name and business address.
13	A. Michael L. Stahlman, P.O. Box 360, Jefferson City, Missouri 65102.
14	Q. By whom are you employed and in what capacity?
15	A. I am a Regulatory Economist with the Missouri Public Service
16	Commission (Commission).
17	Q. Have you previously filed testimony before the Commission?
18	A. Yes. I have filed testimony in Case No. GR-2010-0363.
19	Q. What is the purpose of your rebuttal testimony?
20	A. The purpose of my rebuttal testimony is to address issues discussed by
21	Union Electric Company d/b/a Ameren Missouri (Ameren Missouri or Company)
22	witnesses, Mr. Gregory W. Lovett and Mr. Kyle Shoff in their direct testimonies. This
23	testimony will also provide additional information about the energy efficiency programs
24	as described in Section 6 of the Unanimous Stipulation and Agreement (Stipulation) in
25	Case No. GR-2010-0363 (Energy Efficiency Programs) not included in either Mr.
26	Lovett's or Mr. Shoff's direct testimonies.

II. Rebuttal of Mr. Lovett

- Q. Do you agree with Mr. Lovett's assertion that the revised tariff sheets "remove measures which are not cost effective" (page 2, line 8)?
- A. No, I do not. Mr. Lovett is asserting as fact that the measures Ameren Missouri proposes to remove are not cost-effective. Staff is not willing to make such a statement. The Stipulation requires a specific analysis of the energy efficiency measures which are listed in Appendix C to the Stipulation (attached hereto as Appendix C). The analysis required by paragraph 6.C. of the Stipulation to determine the effectiveness of the programs has yet to be completed.
- Q. Do you agree with Mr. Lovett's assertion that terms of the Stipulation require Ameren Missouri to "...analyze the cost effectiveness of its current natural gas energy efficiency programs..." (page 2, lines 16-17)?
- A. Yes, I agree that Ameren Missouri is to determine the cost-effectiveness of its Energy Efficiency Programs. However, paragraph 6.C. of the Stipulation requires: "The Company shall perform a **post-implementation** evaluation of the effectiveness of its non low income weatherization energy efficiency programs" (emphasis added). The Stipulation goes on to list additional requirements for performing this post-implementation evaluation. Specifically, in paragraph 6.C. on page 4 the Stipulation requires:

Post-implementation evaluations of all programs or measures shall include usage data for program participants through the end of the month of April, 2012, and be completed by December 31, 2012. Post-implementation evaluations will generally be performed by an outside firm and include both a process evaluation and an impact evaluation.

In contrast to these requirements, Ameren Missouri's "evaluation" on which it is basing its proposal to remove certain measures from its tariff, was not conducted by an outside firm and does not include usage data through the end of the month of April, 2012 as required by the terms of the Stipulation.

- Q. Do you agree with Mr. Lovett's statement that "Ameren Missouri's decision to analyze the cost effectiveness of its current natural gas energy efficiency programs was driven by the terms of the Unanimous Stipulation and Agreement in Case No. GR-2010-0363" (page 2, lines 16-18)?
- A. No. If Ameren Missouri had concerns about the cost-effectiveness of the measures contained in Appendix C to the GR-2010-0363 Stipulation, it should have raised those issues during settlement discussions. Instead, Ameren Missouri raised the issue three months after it agreed to "provide for uninterrupted availability of these energy efficiency programs through December 31, 2012" as required by paragraph 6.G. of the Stipulation and three months after it began collecting \$700,000 in rates for annual funding of Energy Efficiency Programs as provided in paragraph 2 of the Stipulation.
- Q. Have the specimen tariff sheets in Attachment C to the Stipulation, *Missouri Energy Efficient Natural Gas Equipment and Building Shell Measure Rebate Program*, containing the measures of Ameren Missouri's Energy Efficiency Programs, been implemented?
- A. Yes, Ameren Missouri filed the tariffs in accordance with paragraph 6.G. of the Stipulation and they became effective on February 20, 2011.
- Q. Do you agree with Mr. Lovett's assertion in his direct testimony that "paragraph 6B of the Stipulation requires the Company to limit its energy efficiency

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22 23 A. Yes, however the programs in question, attached as Appendix C to the

funding to 'expenditures prudently-incurred on cost effective programs'" (page 2, lines

- Stipulation, have already been declared cost-effective with pre-implementation analysis in accordance with 4 CSR 240-14 Utility Promotional Practices rule, and 4 CSR 240-3.255 Filing Requirements for Gas Utility Promotional Practices in Case No. GR-2010-0363. The questions regarding the cost-effectiveness of measures raised by parties in the rate case were resolved and settled by the Stipulation and approved by the Commission as a resolution of Case No. GR-2010-0363.
- Q. Is there any requirement, other than paragraph 6.C. of the Stipulation, for the Company to analyze the post-implementation cost-effectiveness of the programs?
 - A. No.
- Is there any requirement for the Company to reanalyze the pre-Q. implementation cost-effectiveness?
- A. No. Had Staff thought it necessary to perform a pre-implementation costeffectiveness analysis of the measures and programs, Staff would have raised that issue and included that requirement in the Stipulation.
- Q. Do you agree with Mr. Lovett's statement that "the Company was faced with the obligation to amend its tariffs to remove what it believed (and continues to believe) are non-cost effective measures" (page 4, lines 4-6)?
- No. Per paragraph 6.G. of the Stipulation, the tariff sheets attached as A. Appendix C requires that Ameren Missouri: "shall provide for uninterrupted availability of these energy efficiency programs through December 31, 2012." Furthermore,

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paragraph 6.C. of the Stipulation requires post-implementation evaluations to "include usage data for program participants through the end of the month of April, 2012" and to "generally be performed by an outside firm and include both a process evaluation and an impact evaluation." The determination of cost-effectiveness should be based on a formal evaluation on more than speculative pre-implementation data in accordance with paragraph 6.C. of the Stipulation and not Ameren Missouri's "beliefs."

- Q. Do you agree with Mr. Lovett's statement that "Paragraph 6G of the Stipulation allows Ameren Missouri to file revised tariff sheets if it believes the circumstances warrant changes after circulating those sheets for review by the [Energy Efficiency Advisory Group]" (page 4, lines 6-8)?
- A. Yes, I agree that paragraph 6.G. does allow for Ameren Missouri to file revised sheets. This sentence was included because Staff realized that Ameren Missouri would have to file new measures to ramp up to meet the third year \$850,000 target of paragraph 6.B. of the Stipulation. The purpose of this sentence was not to limit Ameren Missouri's measures to those listed in Appendix C of the Stipulation, but to allow Ameren Missouri to file revised tariff sheets in order to ramp up to the target in paragraph 6.B. Additionally, although Ameren Missouri may file revised sheets, this does not remove Staff's right to question the prudency of the changes to those tariff sheets per paragraph 6.D. of the Stipulation, nor does it remove the parties' other obligations under the Stipulation.
- Q. Were the proposed tariff sheets in Ameren Missouri's tariff filing, JG-2011-0597, Ameren Missouri's energy efficiency tariff filing prior to the current case JG-2011-0620, filed on May 27, 2011 and then subsequently withdrawn, circulated to the

- A. No.
- Q. Were the proposed tariff sheets in this tariff filing, JG-2011-0620 filed on June 8, 2011, circulated to the EEAG in accordance with paragraph 6.G. of the Stipulation?
 - A. No.
- Q. Do you agree with Mr. Lovett's conclusion that "This tariff modification is required by the terms of the Stipulation because non-cost effective programs have been identified and is necessary so that Ameren Missouri can prudently administer its Natural Gas Energy Efficient Equipment programs" (page 5, lines 3-5)?
- A. No. The prudent administration of the Energy Efficiency Programs is to evaluate the programs per paragraph 6.C. of the Stipulation on data gathered from the programs through April, 2012 and to comply with the terms of the Stipulation. This includes maintaining the uninterrupted availability of the programs, as shown in the specimen tariffs in Appendix C of the Stipulation, until December 31, 2012, in accordance with paragraph 6.G. of the Stipulation.

III. Rebuttal of Mr. Shoff

- Q. Did Mr. Shoff "evaluate the cost-effectiveness of Ameren Missouri's natural gas energy efficiency portfolio" (page 2, lines 11-12) in accordance with paragraph 6.C. of the Stipulation?
- A. No. Paragraph 6.C. of the Stipulation requires post-implementation evaluations to "include usage data for program participants through the end of the month

of April, 2012" and to "generally be performed by an outside firm and include both a process evaluation and an impact evaluation." The measures in question, attached in Appendix C to the Stipulation, have already been declared cost-effective with pre-implementation analysis in accordance with 4 CSR 240-14, the Utility Promotional Practices rule, and 4 CSR 240-3.255, Filing Requirements for Gas Utility Promotional Practices. Questions of the parties regarding the evaluations of measures prior to the Stipulation were resolved and settled by the Stipulation approved by the Commission as a resolution of GR-2010-0363.

- Q. Would Mr. Shoff be considered an outside firm?
- A. No. On page 1, lines 9-12, Mr. Shoff identifies himself as a DSM Planning Consultant in the Corporate Planning Department of Ameren Services which is affiliated with Ameren Missouri.
- Q. Did Mr. Shoff perform a process and impact evaluation as required by paragraph 6.C. of the Stipulation?
- A. No. On page 2, line 12 Mr. Shoff states that to evaluate the portfolio, "[He] calculated [the Total Resource Cost test] for each measure and program."
- Q. Do you agree with Mr. Shoff's definition of the Total Resource Cost Test on page 2, lines 15-22?
- A. Staff would disagree with using any "proposed" tariff language as a retroactive basis for determining cost-effectiveness. Neither 4 CSR 240-14, 4 CSR 240-3.255, nor the Stipulation address the Total Resource Cost Test (TRC), nor does it allow it to be the sole determination as to whether a measure or program is cost-effective.

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Q. Do you agree with Mr. Shoff that "A TRC ratio greater than 1.0 indicates that a measure is cost-effective" (page 2, line 22)?

A. I do agree that Mr. Shoff's pre-implementation TRC it is a measurement of cost-effectiveness but it should not necessarily be the sole determinant of whether a measure is cost-effective or not. The definition of cost-effective is defined in 4 CSR 240-14.010(D), the Utility Promotional Practices rule. "Cost-effective means that the present value of life-cycle benefits is greater than the present value of life-cycle costs to the provider of an energy service." There is nothing in any Commission rule regarding the cost-effectiveness of natural gas energy efficiency measures or programs nor does the Stipulation state that the TRC will be the sole criteria or address pre-implementation analysis.

- Q. Do you agree with Mr. Shoff's statement on page 2, line 23, that the TRC can "be calculated at the measure level"?
- A. Yes, however Mr. Shoff's analysis is contrary to the requirements of paragraph 6.C. of the Stipulation which requires post-implementation evaluations to "include usage data for program participants through the end of the month of April, 2012" and to "generally be performed by an outside firm and include both a process evaluation and an impact evaluation."
- Q. Was Mr. Shoff's evaluation of Ameren Missouri's energy efficiency measures using "ex-ante savings and cost estimates" (page 3, line 18 emphasis added) consistent with the requirements of paragraph 6.C. of the Stipulation?
 - A. No. Mr. Shoff explains that:

The measure level data was developed using best practice databases and, if available, actual field data based on load

reduction impact assessments from independent evaluation, measurement, and verification contractors. Missouri specific weather, Ameren Missouri specific building and heating/cooling system types, and Ameren Missouri specific building vintages (age of home) were applied as appropriate (emphasis added).

Paragraph 6.C. of the Stipulation requires post-implementation evaluations to "include usage data for *program participants* through the end of the month of April, 2012" (emphasis added). Using "*ex-ante* savings and cost estimates" (page 3, line 18) is typical of pre-implementation analysis, as noted in Mr. Shoff's direct testimony on page 6, lines 1-4. The pre-implementation analysis was completed for these measures under Case No. GR-2010-0363 in accordance with 4 CSR 240-14, the Utility Promotional Practices rule, and 4 CSR 240-3.255, Filing Requirements for Gas Utility Promotional Practices, and the measures and programs were determined to be cost-effective. Questions regarding the evaluations of measures prior to the Stipulation were resolved and settled by the Stipulation and approved by the Commission as a resolution of GR-2010-0363.

- Q. Do you expect the cost-benefit ratio calculated on the building shell measures using actual data from the program participants to be different from the cost-benefit ratio that Mr. Shoff calculated *ex-ante*?
- A. Yes. Mr. Shoff is basing his analysis on Ameren Missouri's *typical* electric residential and commercial customers. The program requires that, before Ameren Missouri provides a rebate for a measure, an audit must be performed on the residence and the measure must be shown to be cost-effective for the residence. Therefore, the likelihood that the measure will only be installed on Ameren Missouri's *typical electric residential and commercial customers* is very small which would result in a different cost-benefit ratio than what Mr. Shoff calculated *ex-ante*. This is why it is

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important to use post-implementation data to determine the cost-effectiveness of energyefficiency measures and programs.

- Q. Do you agree with the Company that measures with a pre-implementation TRC below one "should be removed from the natural gas programs" (page 3, lines 22-23)?
- A. No. Per paragraph 6.G. of the Stipulation, the specimen tariff sheets attached as Appendix C "shall provide for uninterrupted availability of these energy efficiency programs through December 31, 2012." There is nothing in the rules regarding natural gas energy efficiency or in the Stipulation that states that the TRC will be the sole criteria for determining whether or not a measure is retained in the program. Further, Mr. Shoff's analysis is contrary to the requirements of paragraph 6.C. of the Stipulation which requires **post-implementation** evaluations to "include usage data for program participants through the end of the month of April, 2012" and to "generally be performed by an outside firm and include both a process evaluation and an impact evaluation."
- Q. Do you agree with Mr. Shoff that "a program is a bundle of measures" (page 5, line 13)?
- A. Yes. The programs consist of measures and are to be uninterruptedly available through December 31, 2012, per paragraph 6.G. of the Stipulation.
- Q. Do you agree with Mr. Shoff that the TRC test would be "considered best practices for estimating the cost-effectiveness of energy efficiency measure, programs, and portfolios" (page 5, lines 20-21)?

- A. No, I do not. 4 CSR 240-14, 4 CSR 240-3.255 and the Stipulation do not address the TRC. Additionally, Mr. Shoff's analysis does not "include usage data for program participants through the end of the month of April, 2012" and was not "performed by an outside firm and include both a process evaluation and an impact evaluation."
- Q. Do you agree with Mr. Shoff that the "TRC is the de facto standard in the NAPEE guide 'Understanding Cost-Effectiveness of Energy Efficiency Programs: Best Practices, Technical Methods, and Emerging Issues For Policy-Makers' dated November 2008" (page 6, lines 14-17)?
- A. No. "De facto" is defined in Webster's New World Dictionary as "existing or being such in actual fact though not by legal establishment." However, a cursory look at the National Action Plan for Energy Efficiency (NAPEE) guide referenced by Mr. Shoff (attached as Appendix B) references five different tests as the "standard" tests. In fact, on the first page of its Executive Summary, it states: "There is no single best test for evaluating the cost-effectiveness of energy efficiency". I did not see a statement in that document where it refers to the TRC as the "de facto standard."
- Q. Do you agree with Mr. Shoff that "There are resources in both the public and private domains...that capture the essence of measure level savings energy savings on an *ex ante* basis" (page 6, lines 18-20)?
- A. Yes. However, Mr. Shoff defines "ex ante" as "before implementation" on page 6, line 2 of his direct testimony. As mentioned above, the measures and programs examined by Mr. Shoff and attached as Appendix C to the Stipulation were considered to be cost-effective and were included in programs implemented as required

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by paragraph 6.G. of the Stipulation. Thus these programs should be examined on an ex post basis, defined by Mr. Shoff as "after implementation" on page 6, line 2, and including "usage data for program participants through the end of the month of April, 2012" as required by paragraph 6.C. of the Stipulation.

- Q. Do you agree with Mr. Shoff that "the Commission does not have specific rules for natural gas energy efficiency programs" (page 7, lines 4-5)?
- No. Staff concedes there are no specific Commission rules for energy-A. efficiency programs specific to natural gas. However, 4 CSR 240-14, the Utility Promotional Practices rule and 4 CSR 240-3.255 Filing Requirements for Gas Utility Promotional Practices rule apply to natural gas demand-side programs which include energy-efficiency programs.
- Q. Do you agree with Mr. Shoff that "cost-effectiveness should [not] be measured differently for natural gas and electricity" (page 7, lines 8-10)?
- No. Mr. Shoff references rule 4 CSR 240-22.050 Demand-Side Analysis A. of Chapter 22 Electric Utility Resource Planning just prior to that statement. The Electric Utility Resource Planning Chapter does not apply to natural gas. Natural gas resource utility planning is different from electric utility planning in that natural gas companies deliver a commodity directly to its customers where as electric companies take a commodity to generate electricity to deliver to their customers. Staff does not believe it is reasonable to apply select portions of the electric rule ad hoc in natural gas.
- Q. Do you agree with Mr. Shoff that, "it [is] common to use ex ante measure level savings values to estimate the cost-effectiveness of programs" (Shoff Direct page 7, lines 11-13)?

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It is common for pre-implementation analysis which was completed for A. these measures under Case No. GR-2010-0363 in accordance with 4 CSR 240-14, the Utility Promotional Practices rule, and 4 CSR 240-3.255, Filing Requirements for Gas Utility Promotional Practices. However, post-implementation analysis requires "[ex post] usage data for program participants through the end of the month of April, 2012" by paragraph 6.C. of the Stipulation.

- Q. Do you agree with Mr. Shoff assertion that 76 percent of all respondents to an American Gas Association (AGA) and Consortium for Energy Efficiency survey of member utilities used "the TRC as the primary evaluation tool for energy efficiency programs" (page 8, lines 8-9)?
- No, a cursory look at the AGA "Natural Gas Programs Report: 2009 A. Program Year" (attached as Appendix A) cites the TRC as a common test on page 24; however it does **not** state that the TRC was the **sole** criterion. That AGA report does not discuss primary evaluation tools. However, a brief look at the NAPEE guide, "Understanding Cost-Effectiveness of Energy Efficiency Programs: Best Practices, Technical Methods, and Emerging Issues for Policy-Makers" (2008) reveals that it does discuss primary cost-effectiveness tests in Tables 5-1 and 5-3. The tables indicate that while six out of fifty states and the District of Columbia use the TRC as the primary test, it is much more common to not specify a primary cost-effectiveness test. The NAPEE "Guide to Resource Planning with Energy Efficiency" (2007) does state, "Thus, regulators of most states use the TRC as the primary cost test for evaluating their energy efficiency programs" (pages 5-3), but it is unclear what analysis, if any, NAPEE did to justify that statement and this statement contradicts the analysis in NAPEE (2008).

- Q. Was the TRC designed to be the sole method used to determine cost-effectiveness?
- A. No. The previously cited NAPEE guide states that there are five standard tests, which originated with the California Standard Practice Manual (attached as Appendix D). A cursory look at the California Standard Practice Manual shows that,

The tests set forth in this manual are not intended to be used individually or in isolation. The results of tests that measure efficiency, such as the Total Resource Cost Test, the Societal Test, and the Program Administrator Cost Test, must be compared not only to each other but also to the Ratepayer Impact Measure Test. This multi-perspective approach will require program administrators and state agencies to consider tradeoffs between the various tests." (page 6)

- Q. Do you agree with Mr. Shoff that "the TRC test is the best method to evaluate the cost-effectiveness of natural gas energy efficiency measures and programs" (page 8, lines 17-19)?
- A. No, I do not. The TRC is one of a group of standard tests. Staff does not rely on just one test to evaluate the cost-effectiveness of a measure or program. Staff looks forward to reviewing the results of the TRC and other cost-effectiveness tests that meet the requirements of paragraph 6.C. of the Stipulation which requires post-implementation evaluations to "include usage data for program participants through the end of the month of April, 2012" and to "generally be performed by an outside firm and include both a process evaluation and an impact evaluation" are met.
- Q. Do you agree that "Ameren Missouri utilized best-practice approaches in conducting its cost-effectiveness screening" (page 2, lines 4-5)?
- A. No. It is Staff's position that the best-practice approach includes evaluating the programs in accordance with the Stipulation.

IV. Additional Information

- Q. Is Ameren Missouri collecting money in rates to fund the Energy Efficiency Programs?
- A. Yes. Per paragraphs 2 and 6.A. of the Stipulation, the Company is receiving \$700,000 in annual funding from rates for Energy Efficiency Programs; \$263,000 of which is to be used for low income weatherization programs leaving \$437,000 for non-low income weatherization energy efficiency programs.
- Q. Did Ameren Missouri agree in the Stipulation to ramp up spending on Energy Efficiency Programs?
- A. Yes. Per paragraph 6.B. of the Stipulation, Ameren Missouri agreed to ramp up spending over three years to a target level of approximately \$850,000.
- Q. How much money has Ameren Missouri spent on the Energy Efficiency Programs since the new tariffs came into effect on February 20, 2011?
- A. In response to a Staff data request, the Company indicated that expenditures on the current non-low income weatherization programs that became effective February 20, 2011 are \$64,217. Of this amount, \$39,734 was rebated for the measures that the Company is now seeking to remove from its program.
- Q. If Ameren Missouri keeps all the current measures, is it likely to exceed the \$437,000 they are currently collecting in rates?
- A. No. Ameren Missouri's Quarterly Update indicates that as of the end of the second quarter, if the assumption is made that all program reservations are paid in full, Ameren Missouri has spent less than one third of the money collected in rates.

- Unless expenditures double for the next two quarters Ameren will not rebate \$437,000 to its customers.
 - V. Conclusion

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- Q. What is Staff's recommendation?
- A. Staff recommends that the Commission reject Ameren Missouri's proposed tariff sheets since they contradict the terms of the Commission Approved Unanimous Stipulation and Agreement for Case No. GR-2010-0363.
 - Q. Does this end your testimony?
 - A. Yes it does.