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Witness:	Adam Bickford
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REBUTTAL TESTIMONY

OF

ADAM BICKFORD

MISSOURI DEPARTMENT OF NATURAL RESOURCES

DIVISION OF ENERGY

April 20, 2012

BEFORE THE PUBLIC SERVICE COMMISSION
OF THE STATE OF MISSOURI

UNION ELECTRIC COMPANY, d/b/a AMEREN

MEEIA Application

FILE NO. EO-2012-0142

PUBLIC VERSION

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I. Introduction

Q. Please state your name and business address.

A. My name is Adam Bickford. My business address is Missouri Department of Natural Resources, Division of Energy, 1011 Riverside Drive, P.O. Box 176, Jefferson City, Missouri 65102-0176.

Q. Please describe your educational background and employment experience.

A. I began work with the Missouri Department of Natural Resources Energy Center in August, 2009. In my current position I am a Research Analyst. Prior to working with Missouri Department of Natural Resources I was employed as a program evaluator by Optimal Solutions Group, LLC in Hyattsville, Maryland; the University of Missouri Extension Office of Social and Economic Data Analysis in Columbia, Missouri; and the Smithsonian Institution in Washington D.C. In these positions my responsibilities included the design and execution of evaluation projects in the K-12 education and arts domains.

I received my B.A. degree in Sociology from the University of California, Berkeley. I hold a Masters of Arts degree and a Doctor of Philosophy degree in Sociology from the University of Chicago.

Q. On whose behalf are you testifying?

A. I am testifying on behalf of the Missouri Department of Natural Resources ("MDNR"), an intervenor in these proceedings. As a representative of MDNR I

have participated in the Missouri Energy Efficiency Investment Act rulemaking (EX-2010-0368), and as a member of Ameren's DSM collaborative.

Q. Have you previously testified before the Commission on behalf of the Missouri Department of Natural Resources?

A. Yes, I have. I testified on behalf of MDNR in the following cases before the Commission:

- Union Electric Company, d/b/a AmerenUE rate case, ER-2010-0036;
- Kansas City Power and Light rate case, ER-2010-0355;
- KCP&L-Greater Missouri Operations rate case, ER-2010-0356,
- Empire District Electric rate case, ER-2011-0004, and
- KCP&L Greater Missouri Operations MEEIA case, EO-2012-0009.

Additionally, I have participated in the following Integrated Resource Planning (IRP) cases:

- KCP&L-Greater Missouri Operations 2009 IRP, EE-2009-0237,
- Empire District Electric 2010 IRP, EO-2011-0066, and
- Union Electric Company, d/b/a Ameren 2011, IRP, EO-2011-0271

Q. What is the purpose of your testimony in these proceedings?

A. The purpose of my testimony is to address Ameren's ("Ameren" or "the Company") January 20, 2012 application filed under the Missouri Energy Efficiency Investment Act ("MEEIA")[1] and the MEEIA rules approved in File No. EX-2010-0368. MDNR encourages the Commission to focus on the state policy perspectives of MEEIA,

[1] Section 393.1075, RSMo

the reasons that a statute addressing “energy efficiency investment” was needed in Missouri, the difficulty of implementing MEEIA’s policies in the face of the historic utility business paradigm of “build plants-sell kilowatts-collect return on investment”, and the stalling and reversal of progress in energy efficiency investment in Missouri in recent months.

Q. Please summarize your testimony.

A. My testimony will focus on four aspects of Ameren’s MEEIA application:

1. The scope and content of its DSM program plan,
2. Ameren’s proposed Technical Resource Manual (TRM) and the changes in evaluation, measurement and verification (EM&V) that the use of the TRM will facilitate,
3. The structure of its proposed Demand Side Investment Mechanism (DSIM), including the calculation of net shared benefits, its proposed performance incentive structure, and its plan to recover lost sales margins, and
4. MDNR recommendations regarding Ameren’s variance request to use its TRM to estimate deemed savings.

Q. Please describe your involvement with the MEEIA rulemaking and Ameren’s MEEIA Application.

A. I participated the MEEIA rulemaking workshops conducted in 2010 (EX-2010-0368), which established the current MEEIA rules, and have attended informational sessions and technical workshops sponsored by Ameren in EO-2012-0142. MDNR has followed this process closely, and is eager to see a positive conclusion to these

proceedings. MDNR maintains that utility DSM programs offer multiple benefits, including reduced energy usage costs for customers by reducing Ameren's PVRR, reduced environmental impacts from electricity generation, and improved operation of Ameren's transmission and distribution system. I encourage Ameren, the Commission, the Commission Staff, and other parties to find the common points in their positions and allow a version of Ameren's application to be implemented.

This first round of MEEIA applications presents the utilities and all parties with multiple challenges. A successful MEEIA application should balance company financial interests, ratepayer benefits, the diverse interests of intervening parties to meet the state's policy goal of "achieving all cost-effective demand side savings."[2] MDNR maintains that the efforts of all parties involved with this case should be directed towards finding a satisfactory solution to the issues raised in this case, and not hold out for the "perfect" solution. It is in that spirit, that I am offering this testimony.

II. Ameren's DSM Program Plan

Q. Please describe Ameren's program plan.

A. As described on pages 40 to 44 and Appendix B of its MEEIA Application[3], Ameren proposes to implement eleven demand-side management programs. Nine of these programs are continuations of programs begun in the 2009-2011 program cycle, and two programs are new or redesigned from the programs implemented between 2009 and 2011. Ameren's DSM program portfolio is summarized in Table 1 below.

[2] Section 393.1075.3 RSMo
[3] Ameren 2013-2015 Energy Efficiency Plan, submitted January 20, 2012.

Table 1: Ameren Demand-Side Management Program Portfolio

Residential Programs	**Business (C&I) Programs**
Lighting	Standard Incentive
Energy Efficient Products	Custom Incentive
HVAC	Retro-Commissioning
Refrigerator Recycling	New Construction
Home Energy Performance (HEP)	
ENERGY STAR New Homes	
Low Income (Multifamily Income Qualified, MFIQ)	

Ameren 2013-2015 Energy Efficiency Plan, EO-2012-0009, p. 42

Q, How would you characterize the scope of Ameren's portfolio?

A. Ameren's proposed portfolio is a continuation of its current "bridge" programs and a resumption of the programs in its 2009-2011 program cycle which expired in 2011. That program cycle featured market transformation programs, rebate programs, an appliance recycling program, a demand response program, and one innovative program addressing low-income customers living in multi-family buildings. The proposed portfolio consolidates the previous residential programs into four categories: 1) programs offering rebates for purchases of lighting and efficient appliances, 2) a program offering secondary refrigerator and freezer recycling, 3) a program offering air conditioning tune-ups and replacements, and 4) three programs addressing residential buildings. On the commercial side, Ameren is continuing or resuming four retrofit and rebate programs.

While Ameren is continuing some of the programs in its existing "bridge" portfolio and/or resuming programs from its 2009-2011 program, Ameren is

planning to spend more than $145 million in the three years of its MEEIA plan.[4] To put this in context, at the end of its 2009-2011 program cycle Ameren had invested $70 million.[5] The investment in DSM programs in the MEEIA plan is more than twice that of the 2009-2011 program cycle.

Q. Are Ameren's programs cost effective?

A. The cost-effectiveness of Ameren's programs is summarized in Table 2 below. All but Ameren's "RES-Low Income" program are cost-effective. Overall the TRC value for the portfolio as a whole is 2.07, which indicates that the benefits of these programs are roughly twice its costs.

I note that the "RES-low Income" program is specialized program directed at low income multi-family housing units. Because this is a low income program, it is not required to pass the TRC test.

Table 2: MEEIA Implementation Plan 2013-2015, Cost Effectiveness Tests

	TRC	UCT	PCT	RIM
RES-Lighting	3.66	6.01	10.18	0.56
RES-Efficient Products	1.55	3.90	2.85	0.62
RES-HVAC	2.11	4.61	2.63	0.94
RES-Refrigerator Recycling	2.23	2.93	11.67	0.63
RES-HEP	1.64	3.00	3.11	0.68
RES-New Homes	1.26	1.77	3.61	0.57
RES-Low Income	0.84	0.84	2.85	0.43
RES-TOTAL	**2.24**	**4.00**	**4.52**	**0.68**
BUS-Standard	2.14	3.15	4.10	0.75
BUS-Custom	1.77	3.55	2.62	0.82
BUS-RCx	1.70	3.77	2.51	0.79
BUS-New Construction	1.36	2.22	2.42	0.71
BUS-TOTAL	**1.85**	**3.33**	**2.98**	**0.79**
PORTFOLIO TOTAL	**2.07**	**3.71**	**3.86**	**0.72**

Ameren 2013-2015 Energy Efficiency Plan, p. 43

[4] Ameren 2013-2015 Energy Efficiency Plan, p i.
[5] Ibid.

Q. Do Ameren's new programs offer any notable features?

A. Yes. While the majority of these programs have been piloted and evaluated in the 2009-2011 program cycle, two residential programs are worth noting. The first is the "Home Energy Performance" program. This program is a whole house retrofit program that generally follows the Home Performance with Energy Star model of offering home energy audits tied to specific building shell, HVAC, water heating and lighting measures.[6] Ameren conducted a pilot Home Performance with Energy Star program in 2005 and 2006. Nevertheless, the implementation of the Home Energy Performance program represents a new effort to provide energy savings on a whole-house basis.

According to the program descriptions in Appendix B of its MEEIA application, Ameren is planning on using this program to provide an "entryway for customers to take advantage of the Company's entire portfolio of residential energy solutions."[7] Cross-promotion efforts will take place during the initial "walk through" audit conducted by an approved auditor. While the use of this program as a platform for promoting other residential programs is a positive strategy, limiting cross-promotional efforts to customers requesting an audit may make this strategy less effective than other promotional efforts. I note that signing up to participate in this program serves as the entry event for additional program information, which essentially makes the Home Energy Performance program a form of "opt-in" program. Generally speaking "opt-in" programs are less effective, and have fewer participants, than other program models. I am concerned that the cross-

[6] See Ameren 2013-2015 Energy Efficiency Plan, Appendix B, p. 14-17.
[7] Ibid, p.14.

promotional efforts Ameren proposes will only be offered to customers who choose to participate in the audit, that is, customers predisposed to participate in energy efficiency programs. Ameren should continue its existing, broad-based promotional efforts, through advertisements, community outreach and the like, in addition to the cross-promotional efforts proposed in the Home Energy Performance program.

The other notable program is the Residential Low Income program. This program is a modification of a successful pilot program directed towards low-income multi-family buildings. In the 2009-2011 cycle, this program focused on retrofitting public housing in St. Louis. Ameren is expanding this program to other municipalities with low income multi-family buildings.

Q. Has Ameren discontinued any programs?

A. Yes. Ameren has decided not to continue the "CFL bulbs Social Distribution" program, a residential low-income program utilizing community agencies to distribute CFLs and educational materials to their clients. This program was unique in the state, and had a low cost compared to its benefits. The original tariff establishing this program listed a TRC value of 14.[8]

Additionally, Ameren has decided not to continue any demand response programs. Demand response programs offer special rates for interruptible and curtailable service. These special rates can be offered to both residential and business customers. For example, residential customers can be offered programs that allow Ameren to cycle customer's air conditioning use during high demand days. In the business side, there are multiple program models that would allow Ameren to curtail business and industrial usage during high demand periods.

[8] See Ameren UE Residential Energy Efficiency Tariff, Schedule 5, Sheet 241.

Previously Ameren offered a single interruptible rate program to its business customers, known as “Rider L.” However, Ameren did not call any curtailment events during the 2009-2011 program cycle.

In the technical conferences discussing Ameren’s programs, participants asked about the absence of demand response programs, especially in light of Ameren’s projected shortcomings in meeting the demand goals contained in the MEEIA rules (see Schedule AB-1 (HC) for Ameren’s proposed savings levels). In response, Ameren described demand response as “modular,” that is, customizable and rapidly deployed, implying that such programs can be implemented as necessary. I note that, while specification of curtailment events is discrete and “modular”, developing a program to deploy such events requires a tariff, a program design, and a set of participants who agree to the terms of this tariff well before an event occurs. For purposes of MEEIA’s policy goal as well as for energy assurance benefits (having measures in place to mitigate energy supply disruptions or other emergency situations), Ameren may wish to consider proposing demand response programs in its future MEEIA filings.

III. DSM Program Savings

Q. What are the savings targets Ameren expects to achieve from its proposed DSM plan?

A. Ameren's expected savings targets are shown below in Schedule AB-1 (HC). The figures provided by Ameren show that the energy savings in its DSM plan will meet the cumulative energy savings goals set in 4 CSR 240-20.094(2)(B). There is some deviation from the incremental energy savings goals set in 4 CSR 240-20.094(2)(A), the MEEIA goals ramp up from 0.50 percent of energy sales in 2013, 0.70 percent of energy sales in 2014, and 0.90 percent of energy sales in 2015. Ameren proposes saving 0.60 percent of energy sales in 2013, 0.70 percent of energy sales in 2014 and 0.80 percent of energy sales in 2015. MDNR does not object to this slight deviation from the MEEIA energy savings goals in the first round of MEEIA programs.

Q. What levels of MWh and MW savings will Ameren's DSM plan produce?

A. According to the values in Schedule AB-1 (HC), Ameren expects that its DSM plan will save **[redacted] ** of energy and **[redacted]** of demand between 2013 and 2015. As noted above, the cumulative energy savings meet the cumulative savings goals specified in 4 CSR 240-20.094(2)(B), while the cumulative demand savings goals are below the goals specified in the MEEIA rules.

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Q: What is your overall assessment of Ameren's DSM plan?

A. My assessment is that Ameren's DSM plan is adequate for addressing the MEEIA energy savings goals. The range of proposed programs addresses many aspects of residential and business energy efficiency applications. There are programs offering rebates for purchases of lighting and efficient appliances, programs designed to recycle secondary refrigerator and freezers, a program offering air conditioning tune-ups and replacements, programs addressing residential building retrofits, and programs addressing business operations and retrofits. Ameren's proposed DSM portfolio represents a substantial investment in energy efficiency, and produces substantial benefit levels for customers via cost-effective programs.

IV. Ameren's Use of a Technical Resource Manual and Deemed Savings

Q. Ameren has proposed several changes in the methodology of measuring and verifying DSM program savings. Can you summarize their proposal?

A. Ameren is proposing a method of deemed savings, using a Technical Reference Manual (TRM) to establish measure-level energy and demand savings estimates on a prospective basis. According to Ameren's MEEIA application:

> Standard energy savings measures are detailed in the TRM. The TRM provides a consistent framework for deeming savings for a menu of energy efficiency measures using supported assumptions and actual customer data (where available) from prior impact evaluation of Ameren customer energy efficiency programs by independent EM&V contractors. The framework in this TRM was developed for the purpose of calculating annual energy savings for program design, implementation, and compliance purposes for a limited selection of energy efficient technologies and measures. Where deemed or stipulated energy savings cannot be

calculated, i.e., custom business processes, the TRM specifies a protocol to be used to estimate energy savings.[9]

Q. How would using a TRM impact program planning and evaluation?

A. Ameren proposes using the TRM to establish measure-level deemed energy and demand savings values at the beginning of its MEEIA program cycle and use these deemed values to measure program savings. Under this proposal, measurement of program savings would be accomplished by verifying the number of program measures installed. As a theoretical matter, this simplifies the evaluation process by focusing on the installed measures and calculating program savings, rather than measuring energy savings directly. As a practical matter, Ameren's evaluation contractor will need to verify the installation of program measures in the first program year of the MEEIA cycle, and would postpone conducting a full-scale impact evaluation, an evaluation that verifies both measure installation and savings, until the second program year. The scheduling of the full-scale impact evaluation in the second program year is dictated by Ameren's plan to update the TRM prior to each program cycle. Ameren discussed its plan for updating the deemed savings values used in the TRM based on current evaluation results during its February 15, 2012 technical conference.[10] In effect, this plan would reduce the evaluation effort in two of the three years of a MEEIA cycle, which would free up resources that could be used to support program implementation.

[9] Ameren 2013-2015 Energy Efficiency Plan, p 54.
[10] See also Ameren 2013-2015 Energy Efficiency Plan, p 52.

Q. Does Ameren propose any other changes to the assessment of savings?

A. Yes. Ameren proposes setting program-level net-to-gross ratios to 1.0. According to Ameren, this adjustment would set net savings equal to gross savings and simplify the evaluation process.[11]

Q. What is MDNR's position on the use of a TRM?

A. MDNR has endorsed the use of a TRM and deemed savings values in program planning and has been an advocate for the development of a statewide TRM throughout the MEEIA rule making process. Having accurate and consistent estimates of measure level savings as utilities work to meet the MEEIA policy goal of achieving all cost-effective demand-side savings will be of great value. Deeming measure level savings at the start of a program cycle provides certainty to all parties of the per measure energy savings that will be claimed by the utility. The procedures for setting deemed savings values in the program planning stage encourages utilities to research current program models and select measures that are both cost-effective and have high savings potential. Finally, the use of deemed savings simplifies the evaluation process in the manner Ameren suggests. Use of deemed savings values and a TRM will simplify the program planning and evaluation process and help to make the verification of savings simpler and more transparent, without sacrificing the reliability of savings estimates. The use of a TRM does not eliminate the need to conduct evaluation studies, but it does have the potential of making these studies less contentious.

[11] Ameren 2013-2015 Energy Efficiency Plan, p 55-61.

Q. What is MDNR's assessment of the engineering equations used in Ameren's TRM?

A: MDNR contracted with GDS Associates to review the equations and deemed savings estimates in Ameren's TRM to assist in our review of Ameren's MEEIA application. In his rebuttal testimony, GDS witness Robert Fratto is sponsoring the final report GDS completed assessing the equations and deemed savings values for the non-weather sensitive measures proposed by Ameren.

MDNR and GDS presented this report to Ameren and other parties at the March 30, 2012 technical conference. At this meeting, MDNR and GDS outlined some concerns about missing terms in some equations and some incorrect equations. We also presented a comparison of deemed savings values proposed by Ameren to deemed savings values from a set of statewide and regional TRMs from Massachusetts, the Mid-Atlantic region, New York, Ohio, Pennsylvania, Texas and Vermont. This set of comparison TRMs was proposed by Ameren and GDS.

On April 5, 2012, MDNR and GDS met with Ameren to discuss the report's recommendations. The discussion of these issues was very positive and MDNR looks forward to working with Ameren to implement the TRM and its revised equations.

Q: What is MDNR's assessment of the deemed savings values used in Ameren's TRM?

A. GDS also compared the measure-level deemed savings values to the values from the same measures in the comparison TRMs. Ameren provided deemed savings values for 133 measures. Twenty-eight of these measures were based on PY2

evaluations. Of the remaining 105 measures, as seen below in Table 3, 50 were found in more than one comparison TRM. For those measures that are listed in more than one comparison TRM, the deemed value provided by Ameren is categorized according to two quantitative criteria:

1. Whether or not a deemed value is within the range of values from the comparison TRMs, and
2. Whether or not a deemed value is within 10 percent of the average deemed value of the comparison TRMs.

The results of this analysis are presented in Table 4[12]. In looking at Table 4, there are three measures where the deemed savings value has been validated in Ameren's Program Cycle 2 evaluation reports and were listed in more than two of the comparison TRMs. The savings from these three measures were not compared to the savings values from the comparison TRMs. Beyond this complication, Table 4 shows that 31 of the 50 measures have savings values within the range of savings values form the comparison TRMs and 20 of the 50 measures have savings values within 10 percent of the average deemed savings values from the comparison TRMs. This suggests that the deemed savings values for non-weather sensitive measures proposed by Ameren are largely consistent with the savings values from other state TRMs.

[12] The breakdown of Table 4 by measure category is presented in the accompanying work papers.

Table 3: Comparison of Deemed Savings Values

Measure Category	Number of Comparison TRMS 0	1	2 or more	Number of Measures
Residential Lighting	6	6	8	20
Residential Appliances	4	1	5	10
Residential Water Heating	5	0	7	12
Commercial Lighting	14	0	16	30
Commercial Hot Water	1	6	0	7
Commercial Cooking	0	3	4	7
Commercial Refrigeration	8	1	10	19
Grand Total	38	17	50	105
Percentage of all measures	36.19%	16.19%	47.62%	100.00%

Source: GDS TRM Review, Tables 3.2.1-3.2.4

Table 4: Distribution of measures by category

All Measure Categories	Within 10% or Average of Comparison TRM Values			
Within Range of Comparison TRM Values	No	Yes	PY2 Result	Total
No	16	0	0	16
Yes	11	20	0	31
PY2 Result	0	0	3	3
Total	27	20	3	50

Source: GDS TRM Review, Tables 3.2.1-3.2.4

Q. What is MDNR's opinion of Ameren's proposal to set program net-to-gross ratios equal to 1.0?

A. MDNR understands the theoretical case for setting net-to-gross ratios to 1.0. I recognize that components that reduce the net-to-gross ratio, such as free ridership and spillover, exist and influence the level of savings a utility may claim. I am also aware that the measurement of the net-to-gross ratio is asymmetrical. There are

straightforward evaluation methodologies to identify rates of free ridership[13], but there are no straightforward and valid methods for identifying rates of spillover.[14] Because of this asymmetry at the level of measurement, net-to-gross ratios may be biased downward, meaning that accounting for a net-to-gross ratio may underestimate savings. Given the difficulty of accurately estimating both the free ridership and spillover components of the net-to-gross ratio, MDNR can support Ameren's theoretical argument for setting program level net-to-gross ratios to 1.0.

However, MDNR notes that the majority of Ameren's proposed programs were a part of the 2009-2011 program cycle. These programs have verified net-to-gross ratios, based on accepted evaluation methodologies. While these net-to-gross ratios may only reflect free-ridership, and it would be preferable to adjust savings for both free ridership and spillover, it would not be inappropriate to consider the net-to-gross ratios from the PY2 evaluations in the upcoming program cycle.

Q. Please summarize your assessment of Ameren's proposed TRM?

A. MDNR sees Ameren's proposed TRM as a positive development. Everything in the MEEIA process is a set of moving pieces, with some degree of uncertainty, if only because this round of applications is the first under the rules. Ameren's TRM is the first step in developing an important resource for energy efficiency programs in Missouri. I recognize the positive steps Ameren has made by proposing the TRM.

[13] For example see, Ridge, R., Willems, P., Fagan, J., and Katherine Randazzo, K. (2009) "The Origins of the Misunderstood and Occasionally Maligned Self-Report Approach to Estimating the Net-To-Gross Ratio." Energy Program Evaluation Conference, Portland, Oregon.

[14] For example, see Megdal, L., Patil,Y., Gregoire, C., Meissner, J., and Parlin, K. (2009) "Feasting at the Ultimate Enhanced Free-Ridership Salad Bar." Energy Program Evaluation Conference, Portland, Oregon.

From our perspective, the TRM provides an opportunity to validate the deemed savings approach to documenting energy savings.

Our review of the TRM has shown that Ameren's deemed savings values are consistent with savings values found in a range of state TRMs suggested by Ameren and GDS. The range of TRMs used in this review was not meant to be exhaustive, and certainly comparing Ameren's deemed savings values to another set of state TRMs would produce different results. However, our analysis suggests that Ameren's deemed savings estimates are reasonable. Our review and discussion of the findings of the GDS report that addressed the engineering equations employed by Ameren has been productive. If Ameren modifies the equations to make interactive terms, in-situ terms and in service rates more explicit, as well as revising its incorrect equations, the TRM will improve its clarity and will be a better tool for DSM program planning and evaluation. Ameren's efforts to improve the accuracy of its TRM will work to establish a transparent process of assessing savings levels as it moves forward with its programs.

Q. How will Ameren's TRM change the evaluation process?

A. The use of a TRM and of deemed savings in the manner Ameren describes presents a substantial departure from the prevailing practice of conducting a comprehensive impact evaluation once each program year. Under Ameren's proposed evaluation plan, its evaluators would verify installations and estimate savings from the deemed savings values from the TRM in the first year of a program cycle and conduct full-fledged impact evaluations in the second year, in preparation for revising the TRM. Ameren described its process for revising the

TRM in its February 24 technical conference. In response to our questions, they indicated that they planned on replacing deemed savings values from the previous TRM with results from the upcoming evaluation. MDNR sees this as an opportunity to demonstrate the validity of the equations and deemed savings values by comparing the TRM estimates with observed savings values, and recommend this approach as a proof-of-concept. We look forward to working with Ameren and its DSM stakeholder group to design evaluation studies to verify its savings estimates and equations. I recommend that the Commission approve Ameren's plans for using a TRM and deemed savings to estimate DSM program savings.

Finally, I recommend that Ameren verify its deemed savings values against the observed savings values to be established in its upcoming program evaluations. This verification would provide a proof-of-concept demonstrating the validity of the TRM approach to estimate DSM program savings, and will lay the ground work for developing the statewide TRM specified in 4 CSR 240-20.094(8)(B).

V. Ameren's Proposed Demand Side Investment Mechanism (DSIM)

Q. Please describe the components of Ameren's proposed Demand Side Investment Mechanism (DSIM).

A. Ameren's proposed DSIM has four components:

1. Cost recovery component with forecast tracker,
2. Prospective recovery of net shared benefits to address the throughput disincentive,
3. Retrospective performance incentive, and

4. An increase in residential customer charge.

MDNR will comment on the first three components of Ameren's DSIM proposal below. The first three components would be included in a single "DSIM rate" and added to the revenue requirement requested in Ameren's current rate case (ER-2012-0166), rather than being collected in a rate rider, as the MEEIA rules envisioned.

Q. Do you have any comments about Ameren's cost recovery proposal?

A. Ameren is proposing an expense tracker to recover its program costs.[15] This tracker would charge customers for expected program costs in base rates over the three years of the DSM program, and be trued-up annually. Any differences between the three-year average program expenditures and actual expenditures would be booked into a regulatory asset account with carrying costs (set at the approved AFUDC rate) and the DSIM rates would be adjusted in Ameren's next rate case. Ameren notes that this structure effectively expenses program costs. MDNR has endorsed expensing of program costs as a way to reduce disincentives to DSM programs, and supports Ameren's proposed methodology for establishing rates to recover program costs and its use of a regulatory asset account to address deviations from its expected expenses.

Q. Please comment on Ameren's proposed recovery of net shared benefits.

A. MDNR asks the Commission to consider several points in reviewing Ameren's DSIM proposal.

[15] Ameren 2013-2015 Energy Efficiency Plan, p 23-24

Ameren is seeking to recover a portion of net shared benefits as defined by the MEEIA rules. Ameren clearly bases its recovery calculations on the expected level of net shared benefits as defined in 4 CSR 240-20.093 (1)(C), 4 CSR 240-20.094 (1)(C) and 4 CSR 240-20.163 (1)(A). As seen in Figure 2.4 of the Ameren MEEIA application, the base calculation of benefits is net of program costs, and conforms to the rule. Ameren estimates that the three years of its proposed MEEIA plan would produce $364.3 million in net benefits. MDNR has reviewed the calculation and it appears to be correct and consistent with the rules.

The "net shared benefits" component of Ameren's DSIM is designed to address the throughput disincentive, i.e., the losses in revenue due to reduction in energy sales as a result of DSM programs. Ameren proposes to collect 15.4 percent of net shared benefits prospectively to maintain its revenue stream. Ameren estimates that the reduction in non-fuel related retail revenues associated with its DSM portfolio has a net present value of $56 million and a pre-tax reduction of $105 million.[16] MDNR has maintained that utilities should be allowed to recover the throughput disincentive when there is evidence that the utility has implemented its DSM programs as expected and achieved their expected savings levels.

Ameren is asking for a variance to 4 CSR 240-20 093(2)(H)3, which prohibits prospective recovery. Resolution of this point is dependent on the Commission's decision whether to grant a variance to this rule.

While retrospective recovery of lost revenues is provided for in the MEEIA rules, relying on this mechanism introduces some financial complications for Ameren. In his supplemental direct testimony, Ameren witness William R. Davis

[16] Ameren 2013-2015 Energy Efficiency Plan, p 27

argues for Ameren's prospective recovery of net benefits. Although Ameren describes this recovery as "prospective," the net benefits, and losses, accumulate on an annual basis and Ameren seeks to recover these as they are likely to occur. It appears that the term "prospective recovery" is an artifact of the planning process (given that the DSM plan in the Ameren 's MEEIA application is a three-year plan), it appears to MDNR that Ameren is actually asking for contemporaneous recovery. While as discussed above, Ameren has proposed a true-up mechanism for cost recovery, they have proposed a similar mechanism for deviations in net benefit collections. Given Ameren's evaluation plan (discussed above in the description of its TRM), it may be possible to construct a true-up mechanism based on annual EM&V results.

Mr. Davis notes that the recovery of losses caused by DSM investments is necessary to keep the company financially whole, and argues that delaying the recovery of net benefits violates the principle of treating demand-side investments as equivalent to supply side investments[17]. He also notes that postponing recovery of the throughput incentives will increase the cost of demand-side investments to ratepayers by $36 million, based on three years of financing costs associated with placing the net benefits to be recovered into a regulatory asset account.[18] Finally, Mr. Davis expresses doubt that cash losses due to DSM program performance will ever be recovered.

MDNR recommends that the Commission consider approving this Ameren DSIM structure proposal, as it clearly furthers the MEEIA statute's policy goal of

[17] Supplemental Direct Testimony of William R. Davis, EO-2012-0142, p 3.
[18] Ibid.

achieving all cost-effective demand-side savings. MDNR is more concerned with supporting robust DSM programs than with the timing of net shared benefits recovery. I have highlighted several points, both pro and con, about Ameren's request for prospective recovery of net benefits. I ask that the Commission consider these points in their deliberations.

Q. Do you have any comments about Ameren's incentive proposal?

A. Ameren is proposing to collect a performance incentive of $32 million to be collected in the fourth year of its MEEIA plan (2016). According to its MEEIA filing, Ameren is asking to collect $10 million each year as performance incentive. This amount is the equivalent of the expected equity earnings associated with a combined cycle power plant to be built in 2029. This plant was specified as an addition to Ameren's supply side portfolio in its 2011 IRP (EO-2011-0217).[19]

This incentive is framed in a "performance band" with a lower threshold of 70 percent of expected program performance and a cap of 130 percent performance.[20] The $10 million annual performance incentive award is dependent upon Ameren's DSM portfolio meeting 100 percent of program performance; at the threshold level, 70 percent of expected performance, the award is $2 million and the award reaches $16 million at 130 percent of expected performance. In between the threshold and the cap, performance awards increase by $2 million for each 10 percent increase. This performance incentive is in addition to the 15.4 percent of net shared benefits Ameren seeks to retain to address the throughput disincentive.

[19] Ameren 2013-2015 Energy Efficiency Plan, p 27
[20] Ibid.

MDNR endorses the use of a performance-based threshold, a performance-based cap and continuous award levels. However, the presentation of this incentive in terms of an absolute dollar amount is problematic. The rules, especially 4 CSR 240-20.094(1)(M), provide that the incentive performance award be expressed as a "portion of annual net shared benefits based on the approved utility incentive component of a DSIM."[21]

It is also clear that the rules intended the performance incentive to reward program performance, see for example, 4 CSR 240-20.093(H). Establishing incentive performance values based on recovering the revenue stream from an avoided supply side plant may not be appropriate.

A decision to vary from the use of net shared benefits to absolute dollars in the determination of the utility incentive award should not be made without thorough inquiry and serious consideration. Expressing an incentive award value in absolute dollars assumes that amount of savings has already been achieved. However, the rules anticipate that net savings are verified by EM&V. It follows that the dollar values proposed are necessarily estimates, and MDNR suggests that setting performance award values in dollars, as if savings have already occurred, does not provide as strong of an incentive to achieve the savings. Although expressing a performance award in absolute dollars resolves the uncertainty of that award, the rules base the award on meeting a percentage target and showing verified benefits. MDNR endorses an incentive structure that expresses award levels in terms of a percentage of net shared benefits. This percentage of net benefits retained would be translated to dollars once the total dollar amount of net benefits has

[21] 4 CSR 240-20.094(1)(M)

been verified by EM&V. However, for purposes of this first round of MEEIA filings and to achieve the significant public benefits from the DSM programs, MDNR would not oppose this component of Ameren's proposal on a trial basis.

VI. Ameren's Requested Variances

Q. Please discuss the rule variances Ameren has requested. What are MDNR's recommendations to the Commission?

A. Ameren has requested four variances, but I wish to comment on the variance requested from rule 4 CSR 240-20.093(2)(H). This variance request addresses the use of a TRM and deemed savings, rather than verified savings, as the basis for awarding a performance incentive. As mentioned above, MDNR fully supports Ameren's proposed use of a TRM and deemed savings. Our review of the contents of the TRM suggest that its engineering equations and deemed savings estimates are appropriate. MDNR also supports Ameren's evaluation plan. We see Ameren's TRM proposal as a pilot program and would like to see Ameren use its upcoming MEEIA implementation plan to test the validity of this approach to estimating measure savings by conducting an impact evaluation that will compare deemed savings outcomes to observed savings outcomes using data collected during the evaluation. A mentioned above, MDNR is eager to work with Ameren and its stakeholders to develop an evaluation design to demonstrate the validity of the deemed savings approach.

VII. Summary

Q. Please summarize your analysis of Ameren's MEEIA application.

A. MDNR supports many aspects of Ameren's MEEIA application. Specifically,

- Ameren's program DSM plan is a resumption of its successful programs conducted between 2009 and 2011, and continuation of some of its "bridge" programs. The proposed plan doubles Ameren's DSM investment and meets the cumulative MEEIA energy savings goals for 2013 to 2015.
- Ameren's proposal to use a technical resource manual (TRM) and a deemed savings approach to estimating DSM savings is a major step forward in Missouri DSM planning and evaluation. MDNR fully supports the use of this innovative document and looks forward to evaluation results testing the validity of deemed savings estimation.
- MDNR supports Ameren's plan to deem its program level net-to-gross ratios in assessing its savings. While Ameren requests setting net-to-gross ratios to 1.0, it would also not be inappropriate to consider the values established in Ameren's Program Cycle 2 evaluations.

With respect to Ameren's DSIM proposal, MDNR is more concerned with having robust DSM programs that produce energy savings benefits for Ameren's customers than debating the finer points of accounting. Ameren and the Commission have latitude in determining the financing of the Company's DSM program investment. MDNR looks forward to working toward common ground, resolution of issues, and implementation of Ameren's proposed DSM programs.

We look forward to the positive conclusion of this case, and the beginning of a new era of energy efficiency in Missouri. MDNR wishes to commend Ameren for

its transparency in discussing its MEEIA application with parties. Ameren's willingness to discuss different aspects of its application has helped to clarify the issues surrounding energy efficiency financing. Ameren has been responsive to parties' questions and has provided updated information and additional analysis promptly. MDNR is interested in pursuing grounds for parties to reach an agreement on Ameren's MEEIA application, and the beginning of a long period of Ameren's customers seeing benefits from energy efficiency.

Ameren's MEEIA application is a positive step forward in meeting the statewide goal of valuing "…demand-side investments equal to traditional investments in supply and delivery infrastructure and allow recovery of all reasonable and prudent costs of delivering cost-effective demand-side programs."[22] We look forward to the resolution of the issues in this case and to supporting Ameren in the implementation of its DSM plan.

Q. Does this conclude your testimony?

A. Yes. Thank you.

[22] Section 393.1075.3 RSMo.

Schedule AB-1 (HC)
** Highly Confidential in its entirety