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FILE NO. EO-2018-0211

SURREBUTTAL TESTIMONY

OF

WILLIAM ("Bill") R. DAVIS

ON

BEHALF OF

UNION ELECTRIC COMPANY

d/b/a Ameren Missouri

St. Louis, Missouri
September, 2018

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SURREBUTTAL TESTIMONY

OF

WILLIAM (BILL) R. DAVIS

FILE NO. EO-2018-0211

1 **I. INTRODUCTION**

2 **Q. Please state your name and business address.**

3 A. My name is William (Bill) R. Davis and my business address is One
4 Ameren Plaza, 1901 Chouteau Avenue, St. Louis, Missouri 63103.

5 **Q. What is your position with Ameren Missouri?**

6 A. I am the Director of Energy Efficiency and Renewables for Union Electric
7 Company d/b/a Ameren Missouri ("Ameren Missouri" or "the Company").

8 **Q. Please describe your educational background and employment**
9 **experience.**

10 A. I received a Bachelor of Science in Economics from Illinois State University
11 in 2002. I subsequently received a Master of Science in Economics with an emphasis in
12 regulatory economics from Illinois State University in 2003. I completed several
13 internships during my college career, including an internship with Illinois Power Company.
14 Upon completion of my master's degree, I began working full time for Caterpillar, Inc. at
15 its corporate headquarters in Peoria, Illinois as an Advanced Quantitative Analyst in the
16 Business Intelligence Group, with the primary duties of performing economic and sales
17 analyses.

18 In May 2005, I joined Ameren Services Company as a Load Research and
19 Forecasting Specialist in the Corporate Planning Department. My duties included

1 electricity and natural gas sales forecasting, load research, weather normalization, and
2 various other sales analyses. In September 2007, I became a Senior Load Research
3 Specialist and then moved to the Resource Planning Group in March 2009. In October
4 2011, I became a Senior Corporate Planning Analyst. In that position, I was responsible
5 for Ameren Missouri's 2011 Integrated Resource Plan and the 2012 Missouri Energy
6 Efficiency Investment Act ("MEEIA") filing. In March 2013, I was promoted to Manager
7 of Economic Analysis and Pricing, where I was responsible for the Company's rate design,
8 class cost of service, and various other regulatory matters. I was promoted to my current
9 position in September 2016, where I am responsible for planning and operating the
10 Company's demand-side programs.

11 **II. <u>PURPOSE OF TESTIMONY</u>**

12 **Q. What is the purpose of your surrebuttal testimony?**

13 A. My surrebuttal testimony responds to the Rebuttal Report submitted by the
14 Missouri Public Service Commission Staff ("Staff"), and rebuttal testimonies filed by the
15 Missouri Department of Economic Development – Division of Energy ("DE"), the Office
16 of the Public Counsel ("OPC"), the Consumers Council of Missouri ("CCM"), the National
17 Housing Trust ("NHT"), the Natural Resources Defense Council ("NRDC"), and the Tower
18 Grove Neighborhoods Community Development Corporation ("Tower Grove"). In
19 response, this testimony covers a range of topics which I will describe below.

20 **Q. How is your surrebuttal testimony organized?**

21 A. My surrebuttal testimony is organized into the following sections, with the
22 following topics addressed in each:

1 - **Summary of Key Points** – A discussion of four key points that respond to
2 the positions of other parties: 1) demand-side programs are the lowest cost
3 and least risk long-term resource option; 2) the Company's plan benefits all
4 customers by reducing electricity bills and providing significant economic
5 benefits; 3) offering a robust and diverse set of programs is the most
6 effective strategy to maximize the benefit of demand-side programs for
7 nonparticipants; 4) the proposed earnings opportunity is clearly justified
8 based on the demonstrated forgone earnings on avoided or deferred
9 investment in future supply and delivery infrastructure, and is demonstrably
10 reasonable as shown by benchmarking against other jurisdictions.
11 - **Staff's Position Ends Demand-Side Programs** – A discussion of why all
12 of the Company's demand-side programs would have to end if the Missouri
13 Public Service Commission ("Commission") were to agree with the
14 positions and underlying logic reflected in Staff's Rebuttal Report, and why
15 such a result would be severely detrimental to customers and demand-side
16 programs across the state and contrary to good regulatory policy.
17 - **MEEIA 2019-24 is Beneficial to All Customers** – A discussion of why,
18 contrary to Staff's and OPC's positions, there are tremendous benefits to all
19 customers from the Company's proposed plan. In this section, I discuss and
20 quantify significantly more benefits that were not addressed in the
21 Company's original filing; including additional avoided transmission
22 expenses as well as the economic, environmental, and risk management
23 benefits. These additional benefits are ultimately "icing on the cake" to the

1 already overwhelming benefits previously quantified. I also provide
2 updated customer impacts showing the reduction of rates caused by the
3 federal Tax Cuts and Jobs Act of 2017. Finally, I discuss how a robust and
4 diverse portfolio is a good strategy to produce benefits for all customers.

5 • **Why a Six-Year Plan is Better** – A discussion of why a longer
6 implementation period (i.e., longer MEEIA cycle) is consistent with the
7 MEEIA goal of achieving all cost-effective demand-side savings. I also
8 discuss how the proposed Integrated Resource Plan ("IRP") Check-In
9 Process outlined in the Company's original filing effectively provides
10 protections associated with future uncertainties.

11 • **Comprehensive Portfolio of Programs** – A discussion of why it is
12 important to follow a strategy of having robust and diverse offerings to
13 customers, as well as the Company's response to Staff's comments and
14 concerns about the Company's proposed programs.

15 • **Response to Rider EEIC Concerns Regarding Calculation of the**
16 **Throughput Disincentive** – A discussion of the Company's responses to
17 four Staff concerns about the proposed Rider EEIC. Included in that
18 discussion is a recognition that there could be minor improvements, if
19 desired, to address the issues Staff raises relating to the inclusion of Demand
20 Response Net Energy ("DRENE") in Rider EEIC and custom measures. I
21 also provide responses about why it is important to maintain throughput
22 disincentive vintages for each program year to match evaluation results and

1 why requiring a sunset clause on throughput disincentive recovery may
2 unnecessarily limit legitimate cost recovery.

3 • **Multifamily Low-Income Program** – A discussion of the various
4 recommendations made by NHT, NRDC, and Tower Grove, including the
5 recommendation to move budgets from the early years to later years to
6 better reflect the long lead time common with achieving deeper customer
7 savings in the multifamily market.

8 • **Combined Heat and Power ("CHP")** – A discussion that demonstrates
9 CHP does not qualify for inclusion in the proposed portfolio because it is
10 not cost-effective and does not result in a modification of electricity
11 consumption on the customer's side of the meter.

12 • **PAYS and On-Bill Financing** – A discussion of the issues that plague the
13 implementation of financing programs, together with recommendations for
14 Commission action to move financing options forward.

15 • **Other Miscellaneous Points Made In Rebuttal** – A discussion of the
16 Company's responses to various other items not addressed in the prior
17 points, including the following: treatment of certain non-cost-effective
18 measures based on Staff concerns, changes to measure incentive ranges
19 based on Staff concerns, CCM's request for the Company to support an
20 Energy Efficiency Equity baseline study, evaluation budgets in response to
21 OPC, Staff's comments on MEEIA rate design, and changes to proposed
22 program tariffs to point to the Company's energy efficiency homepage.

1 **III. SUMMARY OF KEY POINTS**

2 **Q. What are your key points in response to the other parties' rebuttal**
3 **testimonies?**

4 A. While I address all of the various issues raised in response to others' rebuttal
5 testimonies, there are a few key points that are critical to the Commission's decision.

6 First, the Company's IRP process has consistently demonstrated that demand-side
7 programs (energy efficiency and demand response) are the lowest cost long-term resource.
8 The IRP process in Missouri is intense and robust; therefore the Commission should have
9 confidence that a long-term commitment to demand-side resources is a quality "no regrets"
10 investment for customers. Staff and OPC express concern about future uncertainty, yet the
11 comprehensive IRP risk analysis shows demand-side resources perform the best in *all*
12 future scenarios. It is difficult to comprehend why Staff (and OPC, which did not provide
13 any comments on the Company's most recent triennial IRP filing) did not raise any issues
14 in the Company's very recent triennial IRP docket, only to now allege, just a few months
15 after that docket concluded, that the Company did not analyze supply-side and demand-
16 side resources on an equivalent basis and that the Company's avoided cost estimates are
17 substantially wrong. The fact remains that not only does the Company's proposed MEEIA
18 plan contribute to deferrals of future supply-side investment; it also effectively protects
19 customers from billions of dollars of risk associated with significant and sudden changes
20 in future supply-side generation needs. It also continues to be true that demand-side
21 programs are cost effective and provide the lowest cost means of reducing load.

22 Second, the proposed MEEIA plan is beneficial to all customers. In its initial filing,
23 the Company identified $920 million in lifetime net benefits from the utility cost test

1 ("UCT") viewpoint and $630 million in lifetime net benefits from the total resource cost
2 ("TRC") standpoint. Including inadvertently overlooked avoided transmission expenses
3 adds $43 million more of lifetime savings to both perspectives. Contrary to Staff's and
4 OPC's positions, Company witness Matt Michels' surrebuttal testimony demonstrates the
5 reasonableness of those estimates and reiterates that they are grounded in the Commission's
6 IRP rules and best practices. As DE states, the Company's initial estimates were
7 significantly understated by excluding other real benefits to customers. Looking at the
8 economic benefits alone, the Company's proposed plan will create $1 billion in economy-
9 wide benefits that supports 42,000 job years in Missouri. But the proposed plan creates
10 non-economic benefits as well. During the implementation period alone all customers will
11 benefit from the reduction in 4.7 million metric tons of carbon emissions, 7,000 metric tons
12 of sulphur dioxide emissions, and 2,300 metric tons of nitrogen oxide emissions.
13 Third, implementing a robust portfolio with a diverse set of offerings is an effective
14 strategy to maximize benefits to all customers. The Company's proposal includes 15 new
15 programs (including new education initiatives) as well as a dramatic expansion of low-
16 income program scope and budgets. Based on historical savings and participation data, I
17 estimate 824,000 customers have participated in the Company's demand-side programs
18 from 2009 through June 2018, and I estimate during the 2019-24 implementation period
19 for the plan proposed in this docket, 650,000 will participate. Including low-cost and no-
20 cost savings opportunities is an important element to reach large numbers of customers,
21 which is why behavioral, education, appliance recycling, and demand response are
22 valuable program options.

1 Last, the Company's proposed earnings opportunity is reasonable. Energy savings
2 directly reduce the Company's near-term investment opportunity in renewable energy
3 resources while demand savings directly reduce the size of and investment in the
4 distribution and transmission grid in the long-term. The Company has presented
5 quantitative evidence demonstrating the interrelationship of MEEIA cycles and how those
6 cycles build on one another. Only with continued commitment to demand-side programs
7 can we maximize future supply-side deferrals (in this context, "supply-side" includes both
8 renewable energy resources and distribution and transmission investment) and minimize
9 future investment needs for customers. The Company has fairly and appropriately allocated
10 the direct and interrelated benefits of the long-term supply-side deferrals in estimating the
11 earnings it will forgo by operating demand-side programs. Indeed, the quantified foregone
12 earnings are significantly more than the earnings opportunity requested by the Company
13 in this case because the Company reduced its requested earnings opportunity by 32%-49%[1]
14 to better align the earnings opportunity level with other earnings opportunities allowed in
15 other jurisdictions. Staff's recommendation of an earnings opportunity of zero is logically
16 indicative of a view that demand-side programs should cease in Missouri.

17 **IV. STAFF'S POSITION ENDS DEMAND-SIDE PROGRAMS**

18 **Q. Please summarize Staff's primary recommendation and conclusions in**
19 **their rebuttal testimony.**

20 A. Ms. Dietrich's testimony summarizes Staff's claim that Ameren Missouri's
21 plan cannot be approved because it has not equally valued demand-side and supply-side
22 (including delivery infrastructure) investments and it does not provide benefits to all

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[1] Based on a range of combinations of future MEEIA cycles, as described in p. 60 of the MEEIA 2019-24 Report filed June 4, 2018.

1 customers regardless of whether they participate in the approved programs. To support its
2 position, Staff has completely disregarded the Company's recently adjudicated triennial
3 IRP (which was determined to have *met* the IRP rule requirements) and invented its own
4 set of avoided cost estimates. Based on these newly invented avoided cost estimates and
5 the assertion that demand-side programs can only benefit all customers if there is an
6 immediate need to build generation, Staff claims that the MEEIA 2019-24 plan cannot
7 legally be approved. Paradoxically, Staff concludes that an extension up to 12 months of
8 the current MEEIA 2016-18 plan can legally be approved, yet if Staff's position were
9 correct, extension of the 2016-18 plan would suffer from the same legal flaws.

10 **Q. Why does Staff's position mean the end to demand-side programs?**

11 A. If Staff is correct, then very few demand-side programs would be
12 considered cost effective, customers would derive little benefit from running those few
13 demand-side programs, and the elimination of the earnings opportunity would provide no
14 financial incentive for the utility to engage in demand-side programs. Further, it is my
15 understanding that Kansas City Power & Light Company has sufficient generation capacity
16 and that KCP&L Greater Missouri Operations is not expecting to build new supply-side
17 resources, which means Staff's positions in this case would effectively lead to the end of
18 demand-side programs for the largest investor-owned utilities in the state of Missouri. I
19 submit that such outcomes are not consistent with sate policy or with the general
20 observations and conclusions evident over the past nearly decade of IRPs.

1 **Q. Is there risk to customers by abandoning demand-side programs?**

2 A. Absolutely, Mr. Michels provides some very costly examples of sudden 3 changes in future supply-side needs that could be abated by the continued pursuit of 4 demand-side programs.

5 V. THE MEEIA 2019-24 PLAN IS BENEFICAL TO ALL CUSTOMERS

6 **Q. Is the Company's proposed MEEIA 2019-24 plan beneficial to all 7 customers?**

8 A. Absolutely. The Company's plan will reduce revenue requirements by over 9 $960 million on a lifetime present value basis.[2] Contrary to Staff's position, Mr. Michels' 10 surrebuttal testimony demonstrates that the avoided generation capacity costs and avoided 11 investments in distribution and transmission infrastructure are real customer benefits and 12 fully support the estimates I just mentioned.

13 **Q. DE testified that the Company has underestimated the benefits of its 14 proposed MEEIA 2019-24 plan. Is that true?**

15 A. Yes. Although I disagree with DE's recommendation to include bill savings 16 in the TRC, there are significantly more benefits of the Company's proposed MEEIA 17 2019-24 plan than we presented in our original filing.

18 **Q. Has the Company performed any quantitative analyses of additional 19 benefits associated with its proposed plan?**

20 A. Yes. I have quantified several additional sources of benefits, including: 21 1) previously inadvertently excluded reduced transmission and energy market costs from 22 MISO; 2) the economic benefits generated by the cost-effectiveness of demand-side

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[2] As discussed below, this includes avoided Midcontinent Independent System Operator, Inc. ("MISO") Schedule 26A and other energy-based market charges.

1 programs; 3) illustrative environmental benefits associated with a reduction in air
2 emissions; and 4) the value of resource flexibility in the face of future uncertainties.

3 **Q. What avoided MISO transmission and energy market costs were**
4 **inadvertently excluded from the avoided costs in the Company's initial plan filing?**

5 A. MISO Schedule 26A, other transmission charges, and other market charges
6 that are all assessed to Ameren Missouri based on the level of its load were inadvertently
7 excluded. Because these charges are allocated to Ameren Missouri on a load share ratio,
8 reductions in energy consumption arising from demand-side programs directly reduce the
9 amount of these charges. Schedule 26A charges are associated with a specific kind of
10 regionally-allocated transmission projects, the MISO Multi-Value Projects. Other avoided
11 market charges directly attributable to a reduction in retail energy consumption include
12 Revenue Neutrality Uplift charges, Revenue Sufficiency Guarantee charges,
13 Administration charges, Ancillary Services charges, and Inadvertent Interchange charges.

14 **Q. What is the value to customers associated with avoiding these MISO**
15 **transmission charges?**

16 A. For the MEEIA 2019-24 plan, accounting for these avoided MISO
17 transmission charges increases the lifetime net benefits for all customers by $43 million.

18 **Q. How did you determine how much economic benefit is caused by the**
19 **MEEIA 2019-24 plan?**

20 A. First, I would like to note that the Company has included the economic
21 impact of resource choices in its IRP preferred resource plan selection criteria in each of
22 its last three IRPs (2011, 2014, and 2017). No party has claimed that doing so was a
23 deficiency or a concern. In those IRP analyses, demand-side resource plans have performed

1 very well based on the preferred resource plan selection criteria, which means, among other
2 things, that those plans generate the most jobs. The economic benefits of demand-side
3 resources ultimately accrue to all customers. To quantify the economic benefits of the
4 proposed MEEIA 2019-24 plan, the Company retained the services of Econsult Solutions
5 Inc. ("ESI"), which specializes in these types of economic analyses. ESI's full report is
6 attached as Schedule WRD-SR1. Looking at the economic benefits alone, the Company's
7 proposed plan will create $1 billion (lifetime present value) in economy-wide benefits that
8 supports 42,000 job years in Missouri (an average of 1,625 jobs per year). These economic
9 benefits are associated with customers having more disposable income as a result of the
10 cost savings from the proposed demand-side programs. This type of analysis and results
11 support the previously established expectations that demand-side programs are good for
12 the local economy.

13 **Q. Do demand-side resources create additional environmental benefits**
14 **that accrue to all customers?**

15 A. Yes. Demand-side resources reduce the level of supply-side resources that
16 must be constructed and operated. This means that as load and demand in the MISO market
17 is reduced by demand-side programs generating units located somewhere in MISO's
18 footprint necessarily run less and thus emit fewer pollutants. While I was unable to find
19 marginal emission rates for the MISO market, the Emissions & Generation Resource
20 Integrated Database[3] contains average emission rates for the Midwest region of the
21 Southeastern Reliability Council. Based on this data, during the 2019-24 implementation
22 period alone, all customers will benefit from a reduction of 4.7 million metric tons of

[3] The Emissions & Generation Resource Integrated Database (eGRID) is a comprehensive source of data on the environmental characteristics of almost all electric power generated in the United States.

1 carbon emissions, 7,000 metric tons of sulphur dioxide emissions, and 2,300 metric tons
2 of nitrogen oxide emissions.

3 **Q. Is there economic value in pursuing demand-side programs now in**
4 **order to create future resource planning flexibility and protect customers from**
5 **unexpected major supply-side resource needs?**

6 A. Yes. Mr. Michels discusses this value in his surrebuttal testimony. Staff and
7 OPC seem to assume that future uncertainties will only reduce the need for future supply-
8 side investments. Without repeating Mr. Michels' conclusions on this topic, his testimony
9 makes it clear that in the event changed planning assumptions result in earlier future
10 supply-side resource needs, not investing in demand-side programs now would result in
11 greater need for additional supply-side generation than would otherwise be the case. In
12 short, doing nothing (as Staff implies) or doing only a minimal number of demand-side
13 programs (as OPC proposes) increases risks to customers. Extending Mr. Michels'
14 surrebuttal analysis to show the full present value of revenue requirement ("PVRR")
15 impact, such scenarios would result in PVRR that is higher by $3.9 billion to $4.6 billion
16 for plans[4] where generation needs are advanced and Realistic Achievable Potential
17 ("RAP") level demand-side programs are abandoned. Avoiding these risks is a benefit that
18 accrues to all customers.

19 **Q. Do demand-side programs perform well in the Company's**
20 **comprehensive IRP risk analysis?**

21 A. Yes. As Mr. Michels' surrebuttal testimony shows, demand-side resource
22 plans have the lowest PVRR compared to other supply-side resource plans under all

[4] As Mr. Michels explains in his surrebuttal testimony, this refers to Plans "M" and "N" from the 2017 IRP.

planning assumptions. This makes demand-side programs a "no regrets" resource investment for customers.

PARTICPANTS AND NONPARTICPANTS

Q. OPC discusses winners and losers of demand-side programs. What are the primary causes of the situation where OPC claims these winners and losers exist?

A. The first cause arises from using rate designs that allow the shifting of fixed costs from participants to non-participants. The second cause arises as a result of a customer's decision to take advantage of available demand-side programs (i.e., participants compared to nonparticipants).

Q. Is changing rate design to minimize the shifting of fixed costs between participants and nonparticipants a practical solution at this time?

A. Certainly not in this proceeding—such a change would have to be implemented in a rate case. I have personally testified about how increases in monthly fixed charges impact the shifting of costs between participants and nonparticipants in more than one rate case and have found that the Commission and other parties do not see this as a palatable solution. Regardless, following the rate design principle of gradualism (making gradual changes in rate design to avoid rate shock) means that rate design changes would be a long-term solution and not something to quickly resolve the issue. This poses a dilemma, because while rate design is the primary driver of participants shifting costs onto nonparticipants, changes to rate design do not seem to be an immediate opportunity to resolve the issue.

Q. Is *minimizing* the portfolio a reasonable fix to the issues between participants and nonparticipants?

1 A. No. As OPC notes, reducing participation maximizes the benefit for
2 participants because there are more nonparticipants on to which fixed costs can be shifted.
3 Therefore, reducing participation runs directly counter to the policy requirement that
4 programs result in benefits to all customers regardless of whether they participate.

5 **Q. Is *maximizing* the portfolio a reasonable fix to the issues between**
6 **participants and nonparticipants?**

7 A. Yes. Because changes to rate design are effectively "off the table" at the
8 moment, it is logical that the best way to meet the statutory obligation to approve programs
9 that benefit all customers regardless of whether they participate is to get as many customers
10 to participate as possible. As OPC states, the more participation increases, the less
11 nonparticipants exist onto which fixed costs can be shifted. Furthermore, the more
12 participants (and therefore the fewer nonparticipants) there are, the more the economic
13 results for the "average customer" will more closely mirror the results of the TRC. The
14 TRC (and UCT) recognizes the shifting of fixed costs from participants onto
15 nonparticipants as a net zero and thus represents the average overall impact to customers.
16 Therefore, increased participation will reduce cost-shifting opportunities, which will result
17 in average impacts that more closely mirror the TRC (and UCT) results. This is also a
18 logical tie to the fact that the MEEIA statute provides the TRC is the preferred cost-
19 effectiveness test.

20 **Q. Has OPC supported the notion of increasing participation as a**
21 **beneficial strategy?**

22 A. Yes. Below is an excerpt from Dr. Marke's rebuttal testimony from the
23 Company's last MEEIA case (File No. EO-2015-0055):

1 Increasing levels of customer participation is essential, because as more
2 customers participate in energy efficiency programs, more customers will
3 experience the benefits of net bill reductions. In fact, when seeking to
4 mitigate rate impact concerns, regulators often consider increasing program
5 budgets—rather than decreasing them—as a way of increasing participation
6 and increasing the portion of customers that experience net benefits from
7 energy efficiency programs.

8 If the majority of customers eventually become program participants, then
9 concerns about rate impacts should be significantly mitigated as more
10 customers experience net reductions in their bills.

11 **Q. Has Staff recognized the notion of increasing participation as a**
12 **beneficial strategy?**

13 A. Yes. Below is an excerpt from the transcript of the hearing in File No. EO-
14 2015-0055, where Staff witness John Rogers is responding to a question from
15 Commissioner Rupp:

16 *Q. So explain to me your thought process. Is it the utility's job to get*
17 *everyone to participate or is there a benefit available but it's up to*
18 *the individual to choose whether or not to participate?*

19 A. Well, that's one of -- that's one of the paths forward to make the
20 current portfolio more acceptable is to increase through -- through
21 some kind of process to improve the program so that more
22 customers can participate.

23 **Q. How many customers have participated in the Company's programs to**
24 **date?**

25 A. From 2009 through June 2018, I estimate that 824,000 of Ameren
26 Missouri's 1.2 million customers (almost 70%) have participated in the Company's energy
27 efficiency programs.[5] This amount of participation demonstrates a vast majority of
28 customers are participating and benefiting from the Company's demand-side programs.

[5] Incorporates the apportionment of the 16 million incentivized bulbs as well as the 16,000 school kits; while controlling for cross participation in multiple programs.

1 **Q. Has the Company revisited its estimated MEEIA 2019-24 participation**
2 **after a more comprehensive analysis of past participation?**
3 A. Yes. Our initial estimate of participation relied on assumptions about cross
4 participation, but the analysis of past participation helps better understand those
5 relationships. An updated analysis actually shows participation at about 650,000, which is
6 roughly equivalent to the previous estimate provided with the Company's original filing,
7 which was 665,000.
8 **Q. With regard to customer participation levels, Staff says that customers**
9 **are "forced" to participate in the Home Energy Report. Is that an accurate**
10 **assessment?**
11 A. Not at all. First of all, upfront effort is a barrier to achieving energy savings
12 so delivering the Home Energy Report as an "opt-out" program as opposed to an "opt-in"
13 program is a good strategy. But customers are certainly not "forced" to participate. We
14 send customers information about ways to save energy and those customers can opt-out at
15 any time. Finally, customers on the program are generally happy with the program as the
16 satisfaction rating is 91%. Ninety-one percent of customers would not be satisfied if they
17 were being "forced" into something, demonstrating that the negative connotation of Staff's
18 characterization is misplaced.
19 **Q. Is analyzing the impact of a particular MEEIA plan on nonparticipants**
20 **for that particular MEEIA plan proper?**
21 A. No. Doing so ignores the fact that a participant from a previously approved
22 plan may be a non-participant in a current MEEIA plan. As I mentioned earlier, with
23 sustained efforts to offer comprehensive programs it is reasonable to assume that over the

1 long term the costs and benefits of participants and non-participants will approximate the
2 TRC. Since the portfolio TRC (and the TRC's of each non-low-income program) exceeds
3 1.0, this means all customers will be benefitting from demand-side programs.

4 **Q. Staff shows its analysis of long-term bill impacts (revenue requirement**
5 **impacts) and rate impacts for the preferred resource plan, which includes an ongoing**
6 **commitment to RAP level demand-side resources. Does that comparison show**
7 **anything about the impact between participants and nonparticipants?**

8 A. Not at all. Staff simply interprets higher rates as bad for nonparticipants but
9 presents no analysis of how many, if any, nonparticipants there will be after 20 years of
10 sustained implementation of demand-side resources. The Commission should take away
11 from Staff's presentation of that data two main points: 1) bills are lower, and 2) maximizing
12 participation with sustained, robust, and diverse program offerings is the best strategy to
13 ensure all customers enjoy lower bills.

14 **Q. How does this discussion about maximizing participation relate to the**
15 **differences between supply-side and demand-side resources?**

16 A. When it comes to supply-side resources, everyone is an automatic
17 "participant," meaning there are no "nonparticipants." Therefore, maximizing participation
18 in demand-side resources is an effective strategy to better align how customers as a whole
19 are impacted by demand-side resources with how customers as a whole are impacted by
20 supply-side resources.

21 **Q. How can the Commission maximize the number of participants?**

22 A. By maintaining an ongoing commitment to implementing demand-side
23 programs. Approving the Company's proposed MEEIA 2016-24 plan is a good step toward

1 achieving that objective as the plan offers a wide variety of ways for customers to
2 participate. Later in my testimony I provide more details about those opportunities in
3 response to Staff's concerns about the Company's proposed portfolio.

4 **UPDATES FOR CHANGES IN FEDERAL INCOME TAXES**

5 **Q. Staff's Rebuttal Report mentioned updating net margin rates to reflect**
6 **the change in the corporate income tax and resulting recent impact on customer bills.**
7 **Have you updated your results to reflect those changes in margin rates?**

8 A. Yes. My Schedule WRD-SR2 includes a full summary of the portfolio cost-
9 effectiveness, including avoided transmission costs (as discussed earlier), using the new
10 federal tax rates.[6]

11 **Q. What is the impact on throughput disincentive estimates as a result of**
12 **the lower margin rates?**

13 A. The estimated throughput disincentive drops from $174 million to $158.6
14 million, which is a $15.4 million reduction in costs to customers. This represents a direct
15 reduction in the amount of dollars that will flow through Rider EEIC, as well as a reduction
16 to the potential cost shift between participants and nonparticipants.

17 **VI. THE PROPOSED EARNINGS OPPORTUNITY IS JUSTIFIED**

18 **Q. Please summarize the positions in the case regarding the Company's**
19 **proposed earnings opportunity.**

20 A. The Commission Staff claims there is no justification for an earnings
21 opportunity, while the OPC proposed an earnings opportunity equal to 10% of program

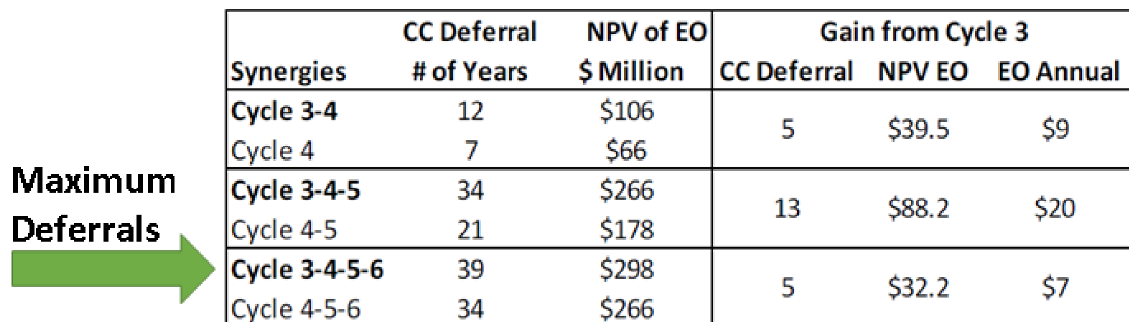
[6] To avoid any confusion, please note that we previously analyzed the federal tax impact for the earnings opportunity, but had not yet performed the update for the throughput disincentive. That update is performed here.

costs for a substantially scaled back portfolio. Staff further dismisses the importance of the interrelationship between MEEIA cycles.

Q. Does the proposed MEEIA 2019-24 plan contribute to the deferral of future supply-side resources?

A. Absolutely. The Company quantitatively demonstrated that the MEEIA cycles are interrelated and that maximizing deferrals of future supply-side investment rely on the *accumulation* of demand-side savings over long periods of time. The table below (a copy of Table 10 from the MEEIA 2019-24 report) clearly shows how the combination of MEEIA cycles result in maximum deferrals, as well as how MEEIA 2019-24 ("Cycle 3" in the table below) contributes to future deferrals.

Table 10 – MEEIA 2019-24 Impact on Supply-Side Resource Deferral



Synergies	CC Deferral # of Years	NPV of EO $ Million	Gain from Cycle 3 CC Deferral	Gain from Cycle 3 NPV EO	Gain from Cycle 3 EO Annual
Cycle 3-4	12	$106	5	$39.5	$9
Cycle 4	7	$66			
Cycle 3-4-5	34	$266	13	$88.2	$20
Cycle 4-5	21	$178			
Cycle 3-4-5-6	39	$298	5	$32.2	$7
Cycle 4-5-6	34	$266			

As can be seen, the more MEEIA cycles that are successively operated, the more years of deferral that are achieved.

Q. Has the Company fairly allocated the total forgone earnings from operating demand-side programs to the proposed MEEIA 2019-24 plan?

A. Yes. Using the analysis above, it is clear that demand-side actions today influence future supply-side resource needs. Therefore, it is important to allocate that value back to the appropriate MEEIA cycle that creates the benefits. This is exactly the same logic behind the "cost causation" principles for allocating costs that the Commission

1 routinely follows when making ratemaking decisions. Further, not allocating the
2 appropriate portion of the benefit back to the appropriate MEEIA cycle will create
3 unreasonable rate impacts in the future if, as Staff apparently favors, all of the foregone
4 earnings arising from operating demand-side programs are held until the last moment. As
5 an analogy, consider a relay race where all four runners are required to complete the race
6 to win; if one follows Staff's logic, the first three runners provide no value at all because
7 only the runner who crosses the finish line counts.

8 **Q. Based on discussions about workpapers with Staff, did the Company**
9 **find any reasons to update its estimates of forgone earnings?**

10 A. Yes. First, contrary to Staff's Rebuttal Report, the forgone earnings already
11 reflected the new federal income taxes, so no updates were needed for that issue. However,
12 when reviewing its workpapers with Staff, the Company discovered that it was using an
13 outdated capital cost for wind resources (which overstated the foregone earnings) and that
14 it used the wrong inputs regarding the economic and tax life of distribution investments
15 (which understated the forgone earnings). After incorporating these two corrections, we
16 prepared the below table which summarizes the updated estimates.

Table 1 – Updated Forgone Earnings Analysis

Foregone Earnings Category	NPV of Foregone Earnings	6-yr Annuity Amount for MEEIA 2019-24 EO
Renewable Compliance	$59	$13.7
Combined Cycle Plants	$32-$88*	$7-$20*
Transmission & Distribution	$77	$17.8
Total ($MM):	**$169-$225**	**$39-$52**

*Dependent on combinations of MEEIA cycle implementations

17 **Q. Did the Company's earnings opportunity proposal reflect the full**
18 **amount of forgone earnings estimated?**

1 A. No. While strictly based on forgone earnings, the Company could have
2 justified a much higher earnings opportunity, we elected to reduce the requested earnings
3 opportunity by paring back our forgone earnings estimates by at least 32%.[7] This brought
4 the earnings opportunity request more in line with earnings opportunities generally
5 approved in other jurisdictions.

6 **Q. Should the fact that the requested earnings opportunity is based on**
7 **forgone earnings estimates that are between 32%-49% below those actually**
8 **quantified give comfort to the Commission that there will not be "double recovery"**
9 **of earnings?**

10 A. Yes.

11 **Q. You mentioned that the Company reduced its earnings opportunity**
12 **request to bring it more in line with what was observed in other jurisdictions. Please**
13 **elaborate.**

14 A. The Company performed a benchmarking analysis to other jurisdictions.
15 This benchmarking significantly influenced the Company's requested amount as evidenced
16 by the reduction of 32%-49% compared to the amount of quantified forgone earnings.

17 **Q. Has anyone disputed the earnings benchmarking analysis?**

18 A. No.

19 **Q. For there to be a risk of double recovery, the Commission would need**
20 **to believe the Company will somehow invest in supply-side resources to meet the same**
21 **load needs in addition to its investment in demand-side resources. Is there any**
22 **credible evidence in the Company's 2017 IRP analyses that shows a scenario where**

[7] The requested earnings opportunity would be a 49% reduction from the higher end of the forgone earnings analysis.

1 **there is ongoing investment in both demand-side resources and supply-side resources**
2 **to meet the same load needs?**
3 A. Absolutely not. Furthermore, using performance metrics to ensure program
4 success effectively mitigates this type of risk. Every megawatt and megawatt-hour of
5 savings will directly or indirectly impact future supply-side investments.
6 **Q. Is the Company's earnings opportunity matrix well balanced to**
7 **support a variety of desired outcomes?**
8 A. Yes. There is still significant weight given to long-life peak demand savings
9 while also recognizing that energy savings provide significant near term savings. Separate
10 goals and comprehensive performance metrics for the low-income sector will drive
11 excellent outcomes for customers. Also, separate goals for residential lighting and the
12 Home Energy Report effectively address the concerns and risks for those programs. In fact,
13 with regard to the earnings opportunity matrix, the only feedback received is from DE who
14 preferred more weight be applied to energy savings. Based on the testimony (or lack
15 thereof), I don’t believe any changes are needed to the Company's proposal.
16 **VII. MEEIA 2019-24 IS IMPLEMENTING THE IRP'S**
17 **PREFERRED RESOURCE PLAN**
18 **Q. Is the pursuit of the Realistic Achievable Potential level of demand-side**
19 **programs part of the Company's Resource Acquisition Strategy as reflected in its IRP**
20 **analyses?**
21 A. Yes.
22 **Q. Has there been discussion over the years about retaining a strong link**
23 **between the IRP rules and MEEIA rules.**

1 A. Yes, and I have been directly involved in that discussion. It has been clear
2 that the Commission has favored a strong link between the IRP and MEEIA.

3 **Q. Why is the IRP important in the context of a MEEIA filing?**

4 A. The IRP provides a robust foundation for long-term resource planning
5 decisions by analyzing a variety of resource options and comprehensively conducting risk
6 assessments. In contrast, a MEEIA filing is a short/medium term implementation plan that
7 is presented with the limited scope of analysis regarding that particular demand-side
8 resource plan for that particular period of time. For a MEEIA plan, the magnitude/direction
9 in developing implementation specifics is largely predetermined by the more
10 comprehensive IRP analysis.

11 **Q. From a long-term planning standpoint, what has changed since the**
12 **Company's last triennial IRP - and specifically its Resource Acquisition Strategy -**
13 **was ruled to be compliant with the Commission's IRP rules just three months ago, in**
14 **late June 2018?**[8]

15 A. Nothing material has changed from a long-term resource planning
16 standpoint. The only thing that seems to have changed are the positions of Staff and OPC,
17 neither of which expressed concern when the Company was transparent in its IRP about
18 substantially increasing its spending on demand-side resources. In fact, the MEEIA 2019-
19 24 plan before the Commission is in substance the demand-side resource plan reflected in
20 the preferred resource plan contained in the triennial IRP that was just found to be

[8] "[T]he Commission finds that the 2017 triennial Integrated Resource Planning filing made by Union Electric Company d/b/a Ameren Missouri complies with the requirements of this chapter, and that the utility's resource acquisition strategy meets the standards stated in 4 CSR 240-22." *Order Regarding 2017 Integrated Resource Plan*, File No. EO-2018-0038 (June 27, 2018).

1 compliant with Commission rules, except that the Company is proposing to implement the
2 MEEIA plan at a cost that is nearly one-third *lower* than assumed in the IRP.

3 **Q. Did either OPC or Staff provide comments in the Company's recent**
4 **IRP about analyzing a smaller demand-side resource portfolio?**

5 A. Not at all. In fact, the Commission Staff was adamant that the Company
6 should provide additional analysis of a Mid-DSM portfolio, which already was a level
7 *higher* than the Company is currently proposing. OPC did not file any comments in
8 response to the Company's IRP.

9 **Q. In the Company's most recent IRP, was the analyzed earnings**
10 **opportunity higher than the Company is proposing in this case?**

11 A. Yes. The 2017 IRP analysis included $47.7 million per year for each year
12 of the planning horizon (based on a quantitative forgone earnings analysis), which is
13 significantly higher than the Company has requested.

14 **Q. Did any parties in the Company's most recent IRP file comments about**
15 **the earnings opportunity that was included in the 2017 IRP?**

16 A. No.

17 **Q. Does it make sense to spend eight months adjudicating the Company's**
18 **IRP filing, receive zero comments about the Company's IRP implementation plan**
19 **that is only a few months away from being filed, and then have parties adopt**
20 **completely new positions to oppose the implementation plan?**

21 A. Absolutely not. In fact, I think the IRP Check-In Process we propose as part
22 of our MEEIA 2019-24 program will explicitly help us avoid this type of situation in the
23 future by further solidifying the link from the IRP to decisions about MEEIA.

1 **VIII. WHY A SIX-YEAR PLAN IS BETTER**

2 **Q. If Staff and OPC are truly concerned about the ability of making**
3 **demand-side investments to impact future supply-side resources, wouldn't a longer**
4 **term commitment to demand-side programs ensure those benefits?**

5 A. Yes. The Company's robust IRP analyses have demonstrated that investing
6 in demand-side programs is the lowest cost and best long-term strategy to meet future
7 resource needs and reduce customer risks.

8 **Q. Has the Company performed any quantitative analysis to support the**
9 **conclusion that longer-term commitments to demand-side resources help defer**
10 **supply-side resources even if those resource needs are further out in the future?**

11 A. Yes. As part of the MEEIA 2019-24 report,[9] the Company analyzed the
12 impact of starting and stopping MEEIA cycles and showed that without a sustained
13 commitment to demand-side resources the future resource deferrals cannot be achieved.
14 That same analysis also demonstrated that the MEEIA cycles are interrelated, meaning that
15 the MEEIA cycles build on each other to achieve the long term savings. Reducing or
16 eliminating MEEIA 2019-24 will surely reduce the ability to defer future supply-side
17 investment. Such a result is counter to the claimed motivations of Staff and OPC in
18 recommending rejection of the proposed plan.

19 **Q. Does the IRP Check-In process alleviate the concerns about risks of**
20 **changes in future planning assumptions?**

21 A. Yes. The Company has proposed clear linkages to its next IRP to drive the
22 ongoing commitment to making demand-side investments. In short, if key planning

[9] MEEIA 2019-24 Report, pp. 59-64.

1 assumptions from the 2017 IRP hold, then MEEIA 2019-24 goes on as planned. In contrast,
2 if the assumptions change then further Commission approval of the 2022-24 budgets, goals,
3 and earnings opportunity would be required.

4 **Q. How does a longer implementation period with an IRP Check-In**
5 **process reduce Company risk and increase customer risk as Staff claims?**

6 A. It does not. Long-term pursuit of all cost-effective demand-side resources
7 is the goal of MEEIA. As I will discuss further below, there are additional benefits to
8 customers of being able to achieve more savings in the long-term. The IRP Check-In
9 process effectively protects customers from material changes in planning assumptions.
10 Making a longer-term commitment to demand-side resources decreases risks to customers
11 as it increases the likelihood of deferring the next supply-side resource. The Company
12 doesn't receive any special benefit from a longer implementation period; to the contrary,
13 the Company can easily be at greater risk to meet its performance targets if savings
14 opportunities erode because of changes in lighting and HVAC baselines that could occur
15 during the six-year implementation period, as Staff postulates.

16 **Q. OPC and Staff state there is simply too much future uncertainty to**
17 **approve a six-year plan. Do you agree?**

18 A. No, I do not. Of course there is uncertainty about future planning
19 assumptions and results; the nature of planning for the future means there will always be
20 uncertainty. In fact, the three triggers the Company has identified as part of the IRP Check-
21 in process outlined in the Company's original filing are precisely the triggers that would be
22 most affected by the types of uncertainties that OPC and others are concerned about. The
23 main difference in the Company's proposal is that it provides the same avenue to update

1 the most important aspects of the MEEIA plan (budgets, savings targets, and earnings
2 opportunity) without starting all over on all of the other elements of the plan. For example,
3 there is general agreement on the basics of the throughput disincentive mechanism and
4 program cost recovery and those elements were carried forward from MEEIA 2016-18 and
5 are compliant with Commission rules. We ask: why do we need to re-adjudicate those
6 elements of the plan over and over again? Further, there are "bread and butter" programs
7 being offered that do not need to be re-adjudicated over and over. With proper opportunities
8 to adapt to market conditions, the portfolio of programs can continue unless those critical
9 three triggers point to a new direction. If one of those triggers happen, the Commission
10 would then need to provide further approval, as I described earlier.

11 **Q. DE proposed a modification to the IRP Check-in process to provide**
12 **"lighter" annual discussions about new savings opportunities with a more in-depth**
13 **discussion as part of the mid-cycle check-in process. Is the Company supportive of**
14 **such a modification?**

15 A. Yes, and I believe it would also address the concerns expressed by NHT
16 and possibly CCM. Although we would need to work out some details about how to
17 facilitate the process and what path to follow to implement changes, such a process can
18 work. I understand the desire to explore other savings opportunities and not lock ourselves
19 into the same programs for the full implementation period. It is also possible that those
20 discussions may lead to modifications of existing programs to better meet customer
21 demands.

22 **Q. Does a six-year plan support the MEEIA goal of achieving all cost-**
23 **effective demand-side savings?**

1 A. Absolutely. Without a longer implementation horizon it will not be possible
2 to achieve deeper customer savings. For instance, long lead time projects are typically large
3 investments for customers, and without some type of commitment from the energy
4 efficiency programs those opportunities will be lost for a very long period of time. This
5 supports the conclusion that stopping demand-side programs (or shrinking the portfolio)
6 will dramatically reduce future opportunity because there will have been so much forgone
7 opportunity in measures that have long useful lives.

8 **Q. Does a longer implementation period address some of the concerns**
9 **Staff has raised about demand response useful life?**

10 A. Yes. I will discuss demand response later in my testimony, but the crux of
11 Staff's concern about demand response is that it is only cost-effective if there is an ongoing
12 commitment to run the programs. Clearly a longer implementation period will help with
13 those concerns, although it doesn't solve Staff's perceived concern in the later years. Again,
14 while a six-year implementation period does not resolve all the challenges we face, the
15 longer implementation period is responsive to this concern of Staff.

16 **Q. Are there other utilities and jurisdictions with longer implementation**
17 **periods?**

18 A. Yes. Below is a table from the Company's response to OPC Data Request
19 2005 which shows 17 other utilities with demand-side program plans with implementation
20 periods of five years or longer.

Table 2 – Examples of Longer Implementation Periods

State/Province	Utility	Implementation Period(years)
MI	DTE Energy	6
IA	Alliant Energy – Iowa	5
	Black Hills Energy – IA	5
	MidAmerican Energy	5
VA	Dominion	5
PA	Duquesne Light	5
	FirstEnergy - Met-Ed	5
	FirstEnergy – Penelec	5
	FirstEnergy - Penn Power	5
	FirstEnergy - West Penn Power	5
	PECO	5
	PPL Electric Utilities	5
BC	FortisBC	5
CA	Los Angeles Department of Water & Power	5
	PG&E	5
IL	MidAmerican Energy – IL	5
FL	Orlando Utilities Commission	5

Q. Can a three-year implementation period work if the Commission prefers a shorter commitment to demand-side programs?

A. Clearly a three-year implementation period can "work" in that we have operated two, three-year MEEIA cycles before. The trade-off is that we would forgo the ability to achieve deeper savings and some offerings or goals would no longer make sense. For example, if the Commission were to approve a three-year plan, I would recommend reducing the multifamily average savings targets by at least 50% (on top of pushing out the first year goal by one year as recommended by NHT and NRDC). Further, I would question

1 the value of implementing a Strategic Energy Management program as it is likely we will
2 see limited savings within a three-year implementation period. My overall point is that
3 there is no good reason to limit the implementation period to just 3 years given the
4 availability of the IRP Check-in Process.

5 **IX. COMPREHENSIVE PORTFOLIO OF PROGRAMS**

6 **Q. Does MEEIA 2019-24 include a robust offering of programs?**

7 A. Yes. In fact, having a robust offering of programs is important to maximize
8 participation by offering a diverse set of opportunities for participation.

9 **Q. Staff criticizes the Company's proposed plan saying it isn't based on**
10 **primary market research. Is that a relevant criticism?**

11 A. No. First, Staff notes that the Company did not perform primary market
12 research in its 2016 potential study. Second, Staff seemingly dismisses the fact that the
13 Company effectively included every program offering for which it received credible bids.
14 This fact alone should give the Commission comfort that the Company's proposed portfolio
15 is comprehensive and based on the best available market data. After all, is a long-term
16 potential study (which assesses an uncertain future) the best information about which
17 programs are viable and should be offered or are *actual bids* from implementers willing to
18 put compensation at risk to run specific programs a better source of information? I submit
19 that the latter is best.

20 **Q. Did Staff and other stakeholders support the Company's waiver**
21 **request to forgo primary market research in its 2016 potential study?**

22 A. Yes.

23 **Q. Are customers satisfied with the Company's current programs?**

1 A. Yes. Customer satisfaction scores are quite high ranging from 88% to 100%.

2 **Q. Did the Company seek feedback from parties before filing its proposed**
3 **plan?**

4 A. Yes. In fact, the results from the fully documented 2016 collaborative
5 (which included a summary report filed with the Commission) was included in the
6 Company Request for Proposals ("RFP") for program implementation. Both DE and NHT
7 expressed satisfaction in their testimonies with the Company's approach to soliciting
8 feedback on its proposed portfolio.

9 **Q. Staff suggests the Company collect data about customers through**
10 **evaluations about participants and non-participants to help understand customer**
11 **preferences and help plan future programs. Does the Company agree with that**
12 **recommendation?**

13 A Yes, and Staff's suggestion fits well with the Company's vision that
14 evaluation research be conducted in a way that it can be used for future portfolio analysis
15 and planning.

16 **Q. Staff provided concerns about several programs, please respond.**

17 A. Certainly. Staff's initial concerns focus on the residential lighting programs;
18 specifically about potential future changes in baselines. Staff claims that Ameren Missouri
19 has not accounted for a change in baseline.

20 **Q. Is that assertion true?**

21 A. No, it is not true. For purposes of setting performance goals and assessing
22 cost effectiveness, the Company assumed that compact fluorescent lights "CFLs" would
23 become the baseline in 2023 and that the Company would continue to promote more

1 expensive specialty bulbs and "smart" bulbs. Staff's primary error is assuming all light bulb
2 types and market segments are equal. The program design specifically excludes big box
3 stores for the promotion of standard A19 light emitting diodes "LEDs" and instead targets
4 areas and stores where markets are not transformed, like discount, pharmacy, and grocery
5 stores where upfront costs and accessibility are more important purchasing factors than at
6 the big box retailers. In addition, the modeling clearly shows that a majority of the
7 incentivized lights in future years are specialty bulbs and "smart" bulbs (e.g. internet
8 connected bulbs). These bulb types still have significant upfront costs and are much less
9 likely to be in a transformed market in the implementation period. The Company is also
10 proposing two additional steps to control risk around the residential lighting programs.
11 First is a specific evaluation requirement to perform an annual assessment to identify
12 specific Stock Keeping Units ("SKUs") of lights for each delivery channel that should no
13 longer be offered because of market changes. This evaluation requirement was clearly
14 stated in the MEEIA 2019-24 report and helps differentiate which delivery channels and
15 SKUs are being transformed. Last, Staff points out downside risk for the delivery of the
16 residential lighting program but all of the performance risk *is on the Company*. It is clear
17 that there is still opportunity in the residential lighting sector and that offering a variety of
18 LED bulbs is a good opportunity for customers to participate.

19 **Q. What were Staff's concerns about the Home Energy Report ("HER")?**

20 A. The primary concern was about the cost-effectiveness of the program to
21 date. Staff specifically opines, with zero supporting data, that it would be just as well to
22 put a link on customer bills to the Company's energy efficiency programs. First, I need to
23 clarify that the HER is about achieving behavioral savings above and beyond the

1 Company's other programs, so linking to the energy efficiency page will not produce any
2 additional savings. Staff's unsupported opinion is also counter to the fact that many utilities
3 have been running successful behavioral programs. The Company's HER has been
4 improving each year and we expect it to continue to improve as we look to implement some
5 exciting new additions like engaging near real-time alerts, more disaggregated and
6 customized recommendations, a more engaging web presence, and possibly offering
7 rewards for completing energy savings goals. To be clear, this program is important to
8 provide customers with low-cost and no-cost savings opportunities and a diverse set of
9 savings options. Further, the Company has proposed a specific energy savings goal as part
10 of the earnings opportunity for the HER which places the risk of performance on the
11 Company.

12 Staff goes on to express the same concerns it expressed about the Small Business
13 Energy Report ("SBER") it expressed about the HER. The Company has proposed the
14 SBER as an education program. The small business customer segment is a diverse group
15 of customers, and it is important to be able to provide them with low-cost and no-cost
16 savings opportunities. On the one hand, Staff testifies that the Company should continue
17 to educate customers about energy savings and its programs, yet here is an example where
18 we have proposed to do just that and Staff is recommending against it.

19 **Q. Does Staff express concerns about other programs?**

20 A. Yes. Staff next turns to the HVAC program and expresses concerns about
21 future baselines as well as the incentive levels between efficiency levels. First, Staff
22 suggests that the baseline could raise the Seasonal Energy Efficiency Ratio ("SEER") level
23 for central air conditioners and air-source heat pumps. It is noteworthy that the Company's

1 model includes a very limited amount of incentivized units at the SEER levels Staff is
2 concerned about. It is also important to point out that if there was a change in baseline, the
3 program evaluation would incorporate that baseline change and ultimately put more risk of
4 meeting performance goals onto the Company. Regarding incentive levels between the
5 different efficient levels of equipment (e.g. a SEER 19 versus a SEER 17), Staff suggests
6 that it is logical that higher efficiency levels are more cost-effective and therefore should
7 get substantially higher incentives to cover the higher incremental cost. Contrary to Staff's
8 hypothesis, higher efficiency levels are less cost-effective compared to the baseline
9 efficiency level because the costs to achieve higher efficiency levels tend to increase
10 nonlinearly and the energy savings include diminishing returns. Said another way, it costs
11 more to get less savings as you increase the efficiency level of HVAC equipment. Looking
12 at the incentives with this knowledge shows that as you increase the efficiency level of the
13 equipment, the incentive covers a lesser percentage of the incremental cost (because
14 incremental cost is increasing) but the incentive per kWh-saved goes up (because the
15 amount of savings is decreasing). Therefore the Company's proposed incentive level
16 balances this effect across equipment efficiency levels and the incentives are ultimately
17 fine-tuned based on evaluation results and experience with market uptake.

18 Next, Staff questions the inclusion of the proposed Appliance Recycling program.
19 Staff shares its recollection that cost-effectiveness was a primary cause of that program
20 being removed from the MEEIA 2016-18 portfolio. However, other factors influenced the
21 program's removal from the MEEIA 2016-18 plan, including the relatively few demand
22 savings resulting from the program compared to other priorities at the time. The unique
23 characteristics of the earnings opportunity structure that placed extremely high value on

1 peak demand savings and a desire to increase the number of participants were strong
2 influencers of reallocating those program dollars. However, in MEEIA 2019-24, we have
3 a more balanced earnings opportunity matrix that places a higher value on energy savings
4 and a diverse range of program offerings. It is noteworthy that the Company's proposed
5 earnings opportunity matrix still strongly values longer-lived measures that result in high
6 coincident peak demand savings. The Company has modeled significant levels of free
7 ridership as Staff mentions, yet the program remains cost-effective.

8 The appliance recycling program is another important element to having a robust
9 portfolio that offers a no cost participation option. It is ironic that Staff is questioning the
10 inclusion of the appliance recycling program as this program was one of few that remained
11 cost-effective under Staff's substantial cuts to avoided costs.

12 **Q. Should the Commission move the Business Social Services program out**
13 **from under the low-income umbrella, as suggested by Staff?**

14 A. No. This is a unique opportunity to target businesses that directly interact
15 with low-income customers because that is the businesses' primary objective. Including
16 this program in the low-income umbrella will provide additional opportunities for
17 enhanced incentives and deeper savings.

18 **Q. Does the Company agree with Staff's recommendation to expand the**
19 **eligible customers for Business Social Services?**

20 A. I believe the Company has appropriately scoped this program, and has in
21 fact included many of the potential beneficiaries that Staff asked to be added. The
22 program's scope does, in fact, include the following:

23 Commercial, nonprofit, and tax-exempt business customers in the
24 Small General Service (2M) and Large General Service (3M) rate

1 classes, that are doing business to provide social services to the low-
2 income public, including food banks, food pantries, soup kitchens,
3 homeless shelters, employment services, worker training, job banks,
4 and childcare facilities.

5 The Company believes, then, that the scope includes a wide variety of non-profits
6 as Staff has requested. If Staff believes that this description has inadvertently excluded
7 certain nonprofits, it is open to rephrasing of this section.

8 **Q. Staff criticizes the lack of details regarding the proposed education**
9 **programs for the residential portfolio. How do you respond?**

10 A. It is simply not possible to scope out every aspect of the portfolio before
11 approval. Regardless, we have tried to provide as much information as possible about each
12 program and I believe we have been able to provide more details at this stage of approval
13 than we ever have been able to do in the past.

14 **Q. What percent of Ameren Missouri's budget covered education**
15 **programs in MEEIA 2013-15 and MEEIA 2016-18?**

16 A. Specifically, the education budget percentage is 3.46% in MEEIA 2013-15
17 and 1.87% in MEEIA 2016-18, as compared to the 1.65% included in MEEIA 2019-24.

18 **Q. What details were provided for the education programs under MEEIA**
19 **2013-15 or MEEIA 2016-18 at the time of Commission approval?**

20 A. None.

1 **DEMAND RESPONSE**

2 **Q. Is Staff supportive of the Company's proposed demand response**
3 **programs?**

4 A. No. Although Staff compliments the Company on some elements of its
5 decisions around the demand response proposals, ultimately Staff says the programs are
6 not cost-effective.

7 **Q. Did Staff previously ask that the Company's MEEIA filing include an**
8 **aggregator-style demand response program?**

9 A. Yes, before the Company submitted its application in this case, Staff made
10 such a request in this record. The Company responded at that time that it was contemplating
11 including such programs. This indicates an apparent change in Staff's position. I do not
12 understand why Staff asked the Commission to require Ameren Missouri to include an
13 aggregator-style demand response program and then, when the Company files such a
14 proposal, Staff recommends its rejection.

15 **Q. In Staff's positions regarding cost-effectiveness, was the useful life a**
16 **primary factor in that decision making?**

17 A. Yes. Ignoring Staff's erroneous views about avoided costs, the next biggest
18 issue was regarding the useful life of the demand response programs. Specifically, it is
19 Staff's positon that the useful life should only be the time up to the termination of a MEEIA
20 implementation period; i.e., when the MEEIA cycle ends, the useful life also ends.

21 **Q. Is limiting the useful life of demand response programs to the length of**
22 **the MEEIA implementation period a reasonable constraint?**

1 A. No. In fact, such a constraint will lead to illogical results. First, as I
2 discussed earlier, the IRP is a comprehensive analytical framework that reflects long-term
3 decision making. Under even Staff's constrained view of avoided costs, it is entirely
4 possible that the IRP could conclude (based on a long-term assessment) that demand
5 response is needed during the implementation period. Based upon that IRP result, the
6 Company would seek to implement demand response programs but could not do so because
7 those programs are not cost-effective during the MEEIA implementation period, even
8 though the IRP clearly identifies those programs in its resource acquisition strategy. Such
9 a result is illogical. If followed, it would force removal of demand response from the
10 resource acquisition strategy even though a compliant IRP and resource acquisition
11 strategy just concluded that demand response *should be included.*

12 **Q. If a demand response program's useful life (when determining cost-**
13 **effectiveness) is constrained by the MEEIA implementation period, would it ever be**
14 **cost-effective?**

15 A. Actually, placing such a constraint mitigates in favor of *lengthening* the
16 implementation period (i.e., the MEEIA cycle length). However, that doesn't resolve all of
17 the problems because each passing year would dramatically reduce the cost-effectiveness
18 of the program. In short, using the MEEIA implementation period as the useful life of
19 demand response *effectively eliminates demand response as a resource option*.

20 **Q. Is Staff correct that there is risk that a demand response program may**
21 **not be continued from MEEIA plan to subsequent MEEIA plan?**

22 A. Yes, that is a risk. However, the Commission and Staff can promote
23 supportive policies to minimize that risk. Examples of supportive policies include:

1 consistently supporting demand-side investment plans; supporting and approving longer
2 implementation periods; creating more stability in earnings opportunity across MEEIA
3 plans; recognizing demand response as a low-cost participation opportunity, etc.

4 **X. RESPONSE TO RIDER EEIC CONCERNS**

5 **Q. Has Staff raised concerns about the Company's proposed Rider EEIC,**
6 **which would enable it to recover costs of the MEEIA 2019-24 plan?**

7 A. Yes, although the concerns are limited to a few select areas. Staff expresses
8 no concerns about the basic structure of Rider EEIC, which has been in place for several
9 years. Instead, Staff has raised concerns about: 1) the inclusion of DRENE; 2) the ability
10 to include energy savings from custom measures; 3) the use of program year vintages of
11 throughput disincentive; and 4) the lack of a sunset clause for throughput disincentive
12 recovery. Staff also raises concerns about the Net Margin Rates included in Rider EEIC,
13 but Company witness Steve Wills will respond to those concerns.

14 **Q. Should the Commission exclude DRENE from Rider EEIC?**

15 A. No. DRENE is the change in energy associated with demand response
16 events, and was added specifically to account for the inclusion of demand response in the
17 portfolio. While demand response reduces peak demand, it can actually do more than that.
18 Specifically, it can also change the net *energy* consumption before, during, and after the
19 demand response event. For example, it is common for residential customers to precool a
20 house *leading up to* a demand response event (thus increasing energy consumption before
21 the event), then aggressively reduce energy consumption *during* the demand response
22 event, and finally "snapback" to cool the house back to a desired level (resulting in
23 increased energy consumption after the event). In contrast, business customers often simply

1 reduce electrical loads during the event period (like reducing the amount of lighting or
2 shutting down a production process) without any precooling or snapback, resulting in a
3 reduction in energy consumption

4 **Q. If Staff has concerns about how DRENE will be determined, is the**
5 **appropriate response to exclude it from Rider EEIC?**

6 A. No. If the Commission prefers more specificity be incorporated into the
7 approved plan, then we should only allow DRENE as part of the true-up process after the
8 evaluations are complete on the amount of DRENE. It is inappropriate, however, to assume
9 that net energy is not affected during demand response events.

10 **Q. What is the estimated amount of throughput disincentive recovery for**
11 **DRENE?**

12 A. The total DRENE estimated for the entire proposed six-year
13 implementation period is $1.1 million, as compared to the total $158.6 million estimated
14 throughput disincentive (about seven-tenths of 1% (.0069)). The fact that the amount is
15 relatively small does not mean the Commission should eliminate it. The fact that the
16 amount is relatively small simply provides the Commission with more context about the
17 relative magnitude of DRENE recovery as compared to other drivers of throughput
18 disincentive.

19 **Q. Staff raises concerns about the ability to include savings reported by**
20 **the program administrator that are not in the Deemed Savings Table. Is that a**
21 **legitimate concern?**

22 A. It should not be, since the Company believes the Deemed Savings Table has
23 been appropriately constructed given the programs offered in MEEIA 2019-24. But maybe

1 there is an opportunity to improve the wording in the tariff. The issue is that there are
2 measures that do not have specific values in the Deemed Savings Table because the savings
3 are calculated as custom projects (a common practice currently being followed and allowed
4 by the TRM, as has been the case since the start of MEEIA 2013-15). Below is the current
5 wording in the Company's active Rider EEIC tariff, which allows savings to be reported
6 by the program administrator. The Company is willing to revise its proposed Rider EEIC
7 to mirror the currently effective Rider EEIC if the Commission prefers (as seen below).

8 For Measures under the Multifamily Market Rate, Multifamily
9 Low-Income, Business Strategic Energy Management Program,
10 Business Custom Incentive Program, Business New Construction
11 Incentive Program, and Business Retro-Commissioning Program,
12 the ME will be the annual value attributable to the installations
13 reported monthly by the program implementer.

14 **Q. Is it possible to true-up throughput disincentive without tracking**
15 **program year vintages?**

16 A. Not in a practical way. Each program year has its own evaluation that is
17 specific to the circumstances of that program year and each year's savings persist into future
18 years. It is important to keep the vintages straight to properly match up the evaluation
19 results during overlapping periods. Not keeping track of vintages will make matters worse
20 by creating multiple savings estimates for multiple periods of time. Tying each program
21 year's results back to the program year's evaluation creates an anchor to effectively keep
22 the numbers consistent and meaningful. The Company believes this process is necessary
23 and manageable. No matter how the throughput disincentive tracking happens, the rebasing
24 adjustment will need to use the best available information at the time of each rate case
25 because the lag in the evaluation process will not align with the rate case timeline.

1 **Q. Does the large customer opt-out have anything to do with tracking**
2 **throughput disincentive vintages or the length of MEEIA implementation periods as**
3 **Staff suggests?**
4 A. No. There can always be a timing mismatch of opt-out and the occurrence
5 of costs regardless of throughput disincentive true-up details or the length of
6 implementation periods because the ability to opt-out transcends those details. For
7 example, a large customer who has not participated can opt out in the first year of a newly
8 approved MEEIA cycle or a large customer can participate in the first year then opt out
9 after three years and completely avoid paying for the earnings opportunity. If anything, the
10 Company's proposal for annual throughput disincentive true-up and annual earnings
11 opportunity payouts will increase the fairness related to opt-out issues with cost recovery.
12 **Q. Should the Commission require the Company to implement a sunset on**
13 **its throughput disincentive recovery?**
14 A. No. The MEEIA 2016-18 sunset was added as part of an overall settlement
15 agreement, but it is not something the Company believes *should* continue because it can
16 prevent full recovery of MEEIA-related costs. Under the MEEIA statute, the Commission
17 is required to provide for full and timely cost recovery. Ultimately, the throughput
18 disincentive will cease when all savings are included in base rates through rebasing
19 adjustments in general rate proceedings. The Commission MEEIA rule requirement to file
20 rate cases at intervals of no longer than four years with an approved Rider is sufficient
21 control about how long the throughput disincentive costs for MEEIA 2019-24 costs will
22 continue.

1 **XI. MULTIFAMILY LOW-INCOME PROGRAM**

2 **Q. What recommendations were made regarding the Company's**
3 **proposed multifamily low-income program?**

4 A. Aside from Staff and OPC's position to cut budgets, timelines, and earnings
5 opportunity metrics, the NHT, Tower Grove, and NRDC provided specific
6 recommendations. The recommendations are as following: 1) NHT and NRDC recommend
7 changes to the timing of budgets and performance goals; 2) NHT raises concerns about
8 pathways to eligibility; 3) NHT recommends changes to availability of energy audits;
9 4) NHT and Tower Grove recommend increased incentive levels; 5) NHT recommends
10 accommodations for substantial rehabilitation projects; and 6) Tower Grove recommends
11 publishing an exhaustive list of potential projects on its website.

12 **Q. Does the Company agree that adjusting its budget and performance**
13 **targets to accommodate a "ramp-up" is appropriate?**

14 A. Yes. Since the Company's proposed plan is a significant increase over its
15 current plan and there is a transition toward deeper energy savings, it makes sense to adopt
16 such an adjustment. The table below includes a modified budget proposal for Commission
17 approval that is very close to what NRDC recommends with regard to ramping up early in
18 the implementation period as well as on a $/kWh saved basis. However, the modified
19 budget retains the same total $25 million proposed six-year budget from the Company's
20 MEEIA 2019-24 Report.

	2019	2020	2021	2022	2023	2024
Annual Budget ($ million)	$1.5	$2.2	$3.35	$5.16	$6.4	$6.4
MWh Savings	900	1,650	2,680	4,644	5,760	5,760
$/kWh Saved	*$0.6*	*$0.75*	*$0.8*	*$0.9*	*$0.9*	*$0.9*

1 **Q. Would changing the annual budgets and performance criteria for the**
2 **multifamily low-income program result in changes to the Company's proposed**
3 **Earnings Opportunity Calculator?**
4 A. Yes. Because the multifamily low-income performance metric includes an
5 annual budget threshold that must be met to qualify for an earnings opportunity, those
6 annual budget inputs will need to be updated. Consistent with NHT's recommendation, I
7 propose to set the percent savings goal to 0% for 2019 (reflecting a delay in assessing
8 savings performance), 10% for 2020, and 15% for each year thereafter. I have updated the
9 Earnings Opportunity Calculator (attached as Schedule WRD-SR3) to reflect the updated
10 budget and savings goals for the multifamily low-income programs.
11 **Q. Does the Company agree with NHT's proposed changes to the eligibility**
12 **pathways?**
13 A. Yes, and the requested changes are relatively minor.
14 **Q. Does the Company agree with NHT's recommendations concerning**
15 **energy audits?**
16 A. Yes. The recommendations provide more options for customers. However,
17 as these are provided at no cost to the customer, we will continue to require a Level 1
18 assessment for every new program application.
19 **Q. Do you agree with NHT's and Tower Grove's recommendations**
20 **regarding incentive levels?**
21 A. It is too early to say. The Company has aggressive goals for the multifamily
22 low-income program which may require increased incentive levels in the future. The
23 Company will certainly do its best to respond to market conditions and offer the required

1 amount of incentives to achieve the program's goals. The 11-Step Change Process is an
2 effective tool to increase incentive levels in the future if the initial levels are insufficient to
3 meet program goals.

4 **Q. Do you agree with NHT's recommendation regarding accommodations**
5 **for substantial rehabilitation projects?**

6 A. Not entirely. These substantial rehabilitation projects are a great example of
7 "long lead time" projects. In MEEIA 2016-18 the Company received approval to make
8 commitments to long lead time projects similar to what NHT is recommending. However,
9 the Company did not request such approval as part of its initial MEEIA 2019-24 plan. The
10 first reason the Company did not request the ability to make commitments beyond MEEIA
11 2019-24 is because it is already a six-year implementation period which helps with the
12 types of concerns NHT is raising regarding the ability to make longer-term commitments.
13 The second reason the Company didn't seek approval of the ability to make commitments
14 beyond the 2019-24 implementation period is because we do not yet have experience with
15 the long lead time project process from MEEIA 2016-18. The Company prefers to share
16 the experience with long lead time projects from MEEIA 2016-18 and at a later date, if it
17 makes sense, to seek similar or modified treatment for long lead time projects. Even so, the
18 Company provides up to a 12-month funding commitment within the implementation
19 period and will accommodate extensions and Low Income Housing Tax Credits ("LIHTC")
20 timelines when possible.

21 **Q. Does the Company agree with Tower Grove's recommendation to list**
22 **eligible measures on its website?**

1 A. Yes, with a caveat. For the multifamily low-income program, the Company
2 will be offering incentives based on the measure category type similar to the way the
3 Business Custom program works. That approach essentially allows for any measure that
4 produces energy savings to qualify. To that end, it is impossible to post every possible
5 qualifying measure. However, the Company agrees to post information about the types of
6 projects that could qualify as well as case studies on its website.

7 XII. COMBINED HEAT AND POWER

8 **Q. Do you agree with DE's recommendation to include CHP as an option**
9 **under the Business Custom program?**

10 A. No. For CHP to be included in a demand-side program (per the MEEIA
11 statute), it must meet at least two criteria: 1) it must be cost-effective; and 2) it must modify
12 the net consumption of electricity on the retail customer's side of the electric meter.[10] CHP
13 fails to meet either criteria.

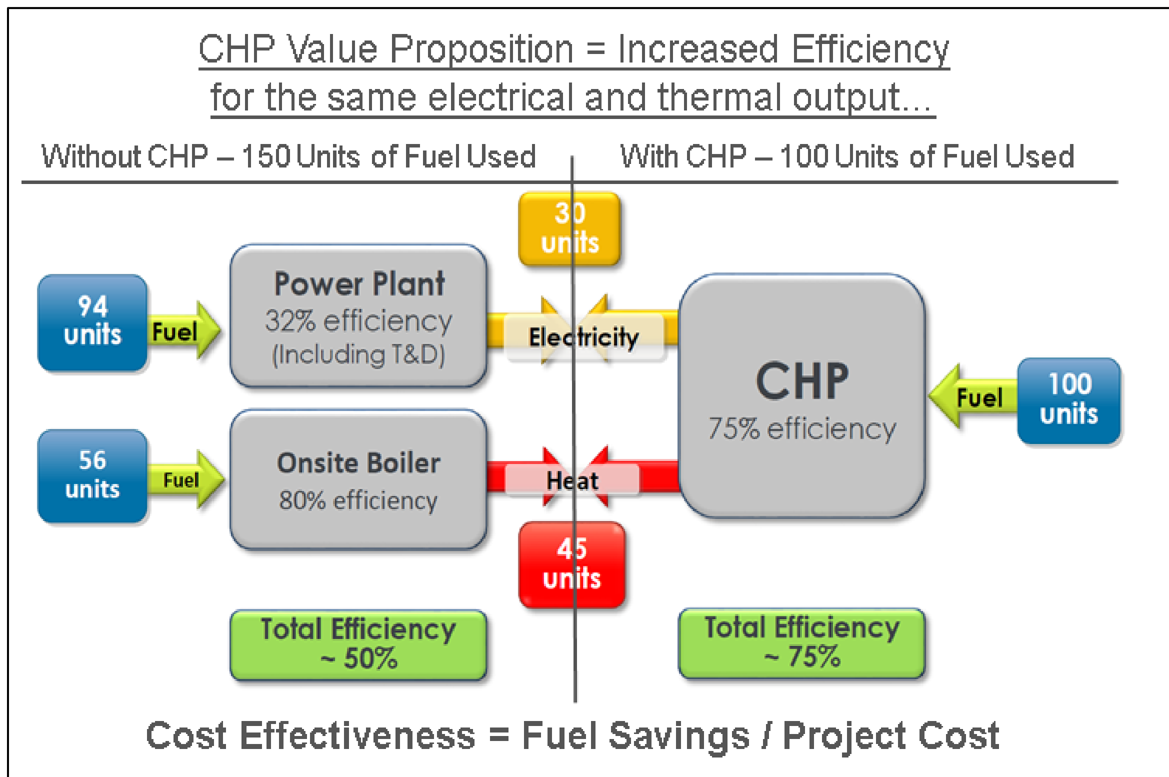
14 **Q. Please explain how to determine whether CHP meets those two**
15 **aforementioned criteria.**

16 A. The figure below simply illustrates a CHP setup and shows the value
17 proposition it offers. The illustration shows a typical setup without CHP on the left and a
18 typical setup with CHP on the right. A CHP setup is meant to replace the same electrical
19 and thermal output as a customer would receive by its own boiler system and procuring
20 electricity from the local utility (as seen in the middle of the illustration as 30 units of
21 electricity and 45 units of heat output). In doing so, the CHP setup achieves an increase in
22 efficiency (~75% efficiency versus ~50% efficiency in the illustration below); meaning its

[10] § 393.1075.2(3), RSMo

1 cost-effectiveness is measured by whether the increased fuel efficiency outweighs the cost
2 to achieve those efficiencies. Further, it is clear from the illustration below that a CHP
3 setup does not modify the *consumption* of electricity because the units of electricity – 30
4 units – is the same with or without CHP. All CHP does is change the *source* of the
5 electricity but it does not modify *consumption* of electricity, as the law requires.

Figure 1 – CHP Illustration



6 **Q. Based on an analysis of the illustration above, is CHP cost-effective?**
7 A. No, not even close. Using inputs from the illustration above and fuel price
8 forecasts from the Company's 2017 IRP, the calculation shows that the efficiency gain
9 alone does not cover the difference in fuel costs; thus resulting in increased fuel costs
10 instead of decreased fuel costs. Clearly adding CHP project costs to the cost-effectiveness

1 calculation simply makes the economic picture bleaker. I have included the working Excel
2 file with the calculations and inputs as Confidential Schedule WRD-SR4.

3 **Q. Ameren Missouri currently offers customer rebates for CHP as part of**
4 **its MEEIA programming. Has any customer submitted a rebate application in**
5 **MEEIA 2016-18 for a CHP project?**

6 A. No.

7 **XIII. PAYS AND ON-BILL FINANCING**

8 **Q. Has the Company recently solicited bids for customer on-bill financing,**
9 **on-bill tariff and/or on-bill repayment ("on-bill") programs?**

10 A. Yes, on two occasions. First was after the MEEIA 2016-18 collaborative
11 and second was as part of its MEEIA 2019-24 request for proposals.

12 **Q. Did the Company receive executable bids for customer on-bill**
13 **financing programs?**

14 A. No. After the MEEIA 2016-18 collaborative bidding, the single bid received
15 was for program administration only. The bidder then agreed to seek a capital provider, but
16 due to the requirements of the collaborative stipulation and Commission rules, the search
17 was severely limited. Therefore, it was determined that the cost to run the program was far
18 more expensive than originally expected and therefore plans for an on-bill financing
19 program were cancelled. The Company did not receive any on-bill financing program bids
20 in response to its MEEIA 2019-24 request for proposals.

21 **Q. Is there currently a credible path to implement customer on-bill**
22 **financing programs?**

1 A. No. After two procurement events, no bids were received to implement any
2 form of on-bill financing options to customers.

3 **Q. Will studying on-bill financing programs, as DE suggests, provide**
4 **additional value?**

5 A. No. In addition to the recent feasibility study performed by Cadmus, a study
6 of Ameren Missouri territory prepared by Pays® America, Inc., was completed in 2004.[11]
7 Furthermore, in late 2017, DE set up an on-bill financing meeting with members of the
8 Environmental and Energy Study Institute ("EESI") and Ameren Missouri as well as a
9 webinar that included other Missouri Stakeholders, in which we provided our on-bill
10 financing RFP and stipulation for EESI comment and provided recommendations. The
11 Company is open to implementing customer on-bill financing programs, but has been
12 unable to secure service providers necessary to move forward due to known interrelated
13 policy issues and trade-offs that have not been resolved. For instance, not allowing
14 disconnections, as DE proposes, for non-payment of loan amounts will increase risk to
15 capital providers and result in raising the offered interest rate to double digits.

16 **Q. Are there critical policy issues that would need to be determined before**
17 **moving forward with on-bill financing programs?**

18 A. Yes. With each type of on-bill financing program, when the perceived
19 repayment risk is higher the pool of interested program administrators and capital providers
20 becomes limited. Correspondingly, high risk significantly increases the cost for
21 administration, interest rates and loan origination. If the Commission really wants to

[11] Pays® America Inc. (aka Energy Efficiency Institute, the proprietary owner of PAYS®), performed a feasibility study designed to help AmerenUE and the Missouri Residential & Commercial Energy Efficiency Collaborative to determine whether or not to pursue implementing the PAYS® system in Missouri.

advance on-bill financing options then I recommend the Commission approve, via rule, the policy directions listed directly below as enablers for financing programs. With that new policy direction, the Company will seek implementation contractors and return to the Commission for approval of specific plans and budgets. Absent adoption of the policies below, I recommend we shelve plans for the utility to offer on-bill financing programs and focus on other opportunities.

Policy Directions to Enable Financing Options

1) When an energy efficiency on-bill financing payment is added to the utility bill it should be treated in the same way as the energy payment, including disconnects.

2) In order to keep interest rates low, the program should set up a loan loss reserve to cover customer defaults.

3) The program should provide capital repayment at 100% every month regardless of the customer making the payment.

4) All program costs should be recovered through the EEIC over the life of the customer loans.

5) Loan repayment periods should be 10 years.

Q. Is on-bill financing the only financing path available to customers who want to participate in energy efficiency programs?

A. No. Several of the MEEIA 2019-24 program implementation bidders proposed to help customers secure financing as part of their program designs. Ameren Missouri implementers work on a largely pay-for-performance basis making it to their advantage to bring customer solutions that enable participation in the programs. A few

1 specific examples include: the multi-family low-income program implementer can provide
2 access to their Community Development Financial Institution ("CDFI")[12] for loan funds
3 while the business program implementer is planning to partner with a financing provider
4 for commercial participants.

5 **Q. Staff expressed concerns about how long throughput disincentive costs**
6 **could carry on into the future. Do financing costs end with a MEEIA implementation**
7 **period?**

8 A. No. In fact, with longer loan terms (typically offered to reduce monthly
9 payment amounts) the ongoing costs could carry forward for a long time after the end of a
10 MEEIA implementation period. For example, a 10-year loan approved at the end of a
11 MEEIA plan will result in costs for the next 10 years (payment support, bad debt collection,
12 customer service, etc.)

13 **XIV. <u>OTHER MISCELLANEOUS POINTS MADE IN REBUTTAL</u>**

14 **Q. Parties raised a number of other additional issues in rebuttal. Please**
15 **respond.**

16 A. I will start with Staff's concern about the Company including non-cost-
17 effective measures in its MEEIA 2019-24 plan. In response to Staff Data Request 0070,
18 the Company provided a list of 28 measures in non-low-income programs that individually
19 did not pass the TRC included in the Company's spreadsheet model, along with an
20 explanation of why those measures were included. Subsequently, Staff requested more
21 explanation or for those measures to be removed. Upon further inspection, I agree that nine
22 of the measures should be removed. However, I also discovered that 13 of the measures

[12] A CDFI is a financial institution that provides credit and financial services to underserved markets and populations.

1 were in fact cost-effective. There were a few HVAC measures that proved to be cost-
2 effective after fixing erroneous inputs and there were also a few lighting measures that
3 passed the measure screen as cost-effective but the modeling included program delivery
4 costs in the measure-level TRC for modeling convenience which resulted in overstated
5 measure costs. The six remaining measures are not cost-effective but are higher SEER
6 levels being incentivized without providing a higher incentive. For example, a SEER 19
7 air-source heat pump is not cost-effective, but the program will provide the same incentive
8 for the SEER 19 as it would for the cost-effective SEER 17; thus the additional cost to
9 achieve a SEER 19 is paid by the participant.

10 **Q. Does Staff have legitimate concerns about the cost-effectiveness of**
11 **programs if all measures were at the maximum incentive level included in Appendix**
12 **D to the MEEIA 2019-24 report?**

13 A. No. For all measures to move to the maximum of the ranges included in
14 Appendix D would be an extremely unlikely situation. Plus, the 11-Step Change Process
15 requires the Company to perform cost-effectiveness analyses at the time of a decision to
16 change incentive levels. Regardless, to "check the box" for the Commission, I ran the
17 analysis anyway. In running the analysis, the Company identified some improvement
18 opportunities in Appendix D to split a couple of measures into more granular categories.
19 For example, the incentive range on Residential LEDs was quite large because that
20 grouping included "smart" or "connected" LED bulbs which have a much higher up-front
21 cost. Therefore, separating that LED category into two categories helps clarify which
22 measures would be eligible for higher incentives. A redlined Appendix D is included as
23 Schedule WRD-SR5 that clearly shows the changes to meet Staff's suggestion that all non-

1 low-income programs are cost-effective with all measures at the maximum incentive
2 included in Appendix D.

3 **Q. Staff has requested that the evaluation, measurement and verification**
4 **(EM&V) contractors perform the cost-effectiveness modeling for MEEIA 2019-24. Is**
5 **that a reasonable request?**

6 A. Yes, and I am supportive of including those activities in the scope of work
7 for the evaluation contractors.

8 **RESPONSE TO CCM**

9 **Q. CCM has requested the Company provide historical data about the**
10 **programs as well as commit to providing that data on an ongoing basis in an effort to**
11 **support the development of an Equitable Energy Efficiency baseline. Is the Company**
12 **supportive of that request?**

13 A. Without commenting on the value of developing an Equitable Energy
14 Efficiency baseline, the Company is certainly willing to provide historical participation
15 data as well as some aggregate usage data. In fact, I have summarized the historical data
16 requested in testimony as Schedule WRD-SR6.[13] I do not think it is necessary to commit
17 to providing this type of data on an ongoing basis since we do not know how useful the
18 results of the study will be, whether updates to the study will be valuable, and/or what the
19 appropriate interval for updates will be. If the Commission prefers this data be provided on
20 an ongoing basis, then I propose the aggregated zip code level participation data and zip
21 code level average usage be provided in an Appendix to the evaluation reports for CCM to
22 access at their convenience.

[13] The provided data does not include savings from the residential lighting and school kit programs since program delivery method does not allow for the collection of customer specific data.

1 **Q. Is there a more immediate opportunity to make use of an Equitable**
2 **Energy Efficiency baseline study?**
3 A. Yes. The Company is finishing its draft for its Request for Proposals for its
4 next demand-side potential study. In that Request, the Company is asking for bidders to
5 estimate a separate potential estimate for low-income customers. Because cost-
6 effectiveness is not necessarily a constraint for the development of low-income potential,
7 developing a scenario of potential (and associated budgets) that is based on the results of
8 an Equitable Energy Efficiency baseline is likely a good opportunity for stakeholders to
9 understand how such a study could directly influence future program/budget decisions.

10 **<u>EM&V BUDGETS</u>**

11 **Q. OPC expresses concerns about the value of evaluations compared to the**
12 **cost of performing those evaluations. Are those concerns valid?**
13 A. First, the evaluations are trying to measure things that did not happen so
14 there is inherent uncertainty with the process and results. Second, budgets are capped by
15 Commission rules at 5% which means for MEEIA 2019-24 that would be approximately
16 $25 million budgeted for evaluation. Even with a total of $25 million, it is still not possible
17 to evaluate every aspect of every measure every year. Thus, evaluations are a matter of
18 prioritization on how the funds will be utilized.
19 **Q. Is it possible to reduce budgets from the 5% allowed by the rule and**
20 **still achieve reasonable estimates?**
21 A. Absolutely. In fact, the more that parties can agree upon certain parameters
22 and priorities the deeper the cuts to the budgets can be. While I understand the desire to

1 improve our understanding of savings estimates, every dollar not spent on evaluations
2 could either go toward the programs or simply not be spent.

3 **Q. OPC further wishes to limit the definition of net-to-gross to free-**
4 **ridership and spillover, is that appropriate?**

5 A. No, and the Commission agreed that it was not appropriate in the
6 rulemaking that led to the current MEEIA rules when OPC advanced the same position.
7 The Commission ruled that it should not constrain what an evaluator is allowed to examine.
8 In addition, specifying the subcategories of free-ridership and spillover up-front increases
9 the transparency of what will be evaluated. For OPC to say "limit net-to-gross to free-
10 ridership and spillover" is overly vague because those words in fact contain the
11 subcategories the evaluator plans to examine; which are also best practice approaches.[14]

12 **Q. Are there some things the Company and evaluators can do to improve**
13 **the evaluation process?**

14 A. Yes. First, I will note that evaluation reports are voluminous and can be
15 overwhelming to comprehensively review. To aide with that review, the Company has
16 created an Excel version of its TRM which will add more transparency on how formulas
17 are being applied. TRM updates will also be cataloged in the Excel file so everyone can
18 track measure-level changes over time. In addition, the Company will be adding a portfolio
19 summary report to the annual evaluation reporting requirement as a single source of the
20 portfolio results as well as highlights of important updates for the stakeholders (of course
21 the detailed reports will also be available). Further, the Company will be asking the

[14] United States Department of Energy, Office of Energy Efficiency & Renewable Energy, Uniform Methods Project, "Chapter 21: Estimating Net Savings – Common Practices". Pp. 3-6.

1 evaluator to lead an annual review of each program year's evaluation plan prior to execution
2 of that plan so stakeholders have an opportunity to provide comments.

3 **MEEIA RATE DESIGN**

4 **Q. Staff raises a concern that the Rider EEIC charge is a flat charge per**
5 **kWh all year long. Please respond.**

6 A. The Company recommended separate summer and winter rates for the
7 recovery of MEEIA costs in its MEEIA 2013-15 filing (File No. EO-2012-0142) whereas
8 Staff specifically recommended a flat year-round rate. We have proposed a flat year-round
9 rate, just as Staff recommended.

10 **WEBSITE LINKS IN MEEIA TARIFFS**

11 **Q. Staff raised concerns about the MEEIA tariffs referring to the Ameren**
12 **Missouri homepage instead of the energy efficiency homepage. Is that an appropriate**
13 **change?**

14 A. Yes, the tariffs should be updated to reflect a more precise web location to
15 find the appropriate information.

16 **Q. Does this conclude your surrebuttal testimony?**

17 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 3rd Filing to Implement Regulatory Changes in Furtherance of Energy Efficiency as allowed by MEEIA.	))))	File No. EO-2018-0211

AFFIDAVIT OF WILLIAM ("BILL") R. DAVIS

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

William ("Bill") R. Davis, being first duly sworn on his oath, states:

1. My name is William ("Bill") R. Davis. I work in the City of St. Louis, Missouri, and I am employed by Union Electric Company d/b/a Ameren Missouri as Director Energy Efficiency & Renewables.

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 57 pages and Schedule(s) WRD-SR1, WRD-SR2, WRD-SR3, WRD-SR4, WRD-SR5, & WRD-SR6 all of which have been prepared in written form for introduction into evidence in the above-referenced docket.

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

William R Davis
WILLIAM ("BILL") R. DAVIS

Scribed and sworn to before me this 14th day of September, 2018.

Cathleen A. Dehne
Notary Public

My commission expires
March 7, 2021