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FILE NO. EO-2018-0211

DIRECT TESTIMONY

OF

CRAIG P. AUBUCHON

ON

BEHALF OF

UNION ELECTRIC COMPANY

d/b/a Ameren Missouri

St. Louis, Missouri

May 13, 2020

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1 **I. INTRODUCTION**

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

3 A. My name is Craig P. Aubuchon and my business address is One Ameren Plaza,
4 1901 Chouteau Avenue, St. Louis, Missouri 63103.

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

6 A. I am the Manager of Energy Analytics, within the Customer Solutions group. In
7 that role, I am responsible for overseeing all activities related to the evaluation, measurement, and
8 verification ("EM&V") of our Missouri Energy Efficiency Investment Act ("MEEIA") portfolio.
9 I am also responsible for managing our work related to the Market Potential Study, which provides
10 estimates of the maximum achievable and realistic achievable potential of demand side
11 management, which is a key input into the Integrated Resource Plan ("IRP") process.

12 **Q. Please describe your educational background and employment experience.**

13 A. I received a Bachelor of Arts in Economics summa cum laude from Washington
14 University in St. Louis in 2006.

15 I started my career with the Federal Reserve Bank of St. Louis as a research associate in
16 2007, where I worked in increasing levels of responsibility until 2010. During that period, I was
17 responsible for supporting two PhD researchers with quantitative and qualitative analyses on issues
18 of macroeconomic policy and regional economic conditions; trade; and banking policy. I co-
19 authored several peer reviewed publications during this period with colleagues on these topics.

20 I returned to graduate school in 2010, at the School of Public and Environmental Affairs at
21 Indiana University Bloomington. I received a Masters of Public Administration and a Masters in
22 Environmental Science in 2012.

1 I started with the economic consulting firm, Analysis Group, Inc. in 2012 as an associate,
2 where I worked until 2017. During that time, I was promoted to Manager. At Analysis Group, Inc.,
3 I specialized in energy and environmental issues, with a particular focus on electricity markets. I
4 managed several teams and supported expert testimony on a wide range of issues, spanning rate
5 design, prudence reviews, and competitive resource solicitations. Clients included utilities,
6 independent power producers, clean energy groups, and ratepayer advocates such as the
7 Massachusetts Attorney General's Office. Many of my projects required the use and review of
8 detailed production cost models, to estimate the long term costs and benefits of various generator
9 retirement or clean energy policy proposals. Of particular note, I managed the team that served as
10 the independent consultant to the New York Independent System Operator ("NYISO") for the
11 2017-2021 Demand Curve Reset, which defines the relevant parameters for the capacity market.
12 That project required a detailed analysis of the cost of new entry, net energy and ancillary service
13 revenues, and the appropriate cost of capital and associated financial parameters. We presented
14 our results through multiple stakeholder workshops over an 18-month period, co-authored a final
15 report and filed an affidavit before FERC. I also served as a co-author on a number of widely read
16 and publicly available reports, supporting clean energy and consumer policies. This included
17 several reports in support of the Clean Power Plan, which were cited in a FERC technical
18 conference and used as the basis for testimony by my co-author in front of the U.S. Congress.

19 I left Analysis Group, Inc. in 2017, in order to relocate to St. Louis for personal reasons.
20 Between 2017 and 2018, I worked as a sub-contractor to Analysis Group, Inc., and led the analysis
21 of long term greenhouse gas emission reduction plans for a municipal electric provider. In 2018, I
22 joined the U.S. Bank Community Development Corporation in St. Louis, as an Asset Manager in

1 the renewables division. In that role, I was responsible for the daily oversight of an \$850 million
2 tax equity portfolio of more than 1 gigawatt of wind and solar capacity throughout the United
3 States.

4 In 2019, I accepted an opportunity to join Ameren Missouri in my current role.

5 **II. PURPOSE OF TESTIMONY**

6 **Q. Please summarize your testimony.**

7 A. In this filing, Ameren Missouri seeks a modification of its currently approved
8 MEEIA plans for the calendar year 2022. As described in my testimony, this modification would
9 include a budget of \$76.5 million; total savings targets of more than 260,000 net megawatt-hours
10 ("MWh") and 110 net megawatts ("MW"); and a target earnings opportunity of \$12.9 million. This
11 modification would represent a continuation of current program offerings, at a budget slightly
12 below the already approved totals for Program Year ("PY") 2021. As described in the testimony
13 of Ameren Missouri witness William "Bill" Davis ("Mr. Davis"), by filing now, Ameren Missouri
14 seeks to avoid an undue regulatory burden and review of interdependent issues with the IRP.
15 Equally important, as described in my testimony, an extension of the current MEEIA program
16 sends a strong signal of stability and certainty to customers, contractors, and the broader energy
17 efficiency market. That certainty is needed now more than ever – particularly for investments that
18 have already been found to create substantial net positive benefits for individual customers and the
19 entire system. Contractors and implementers will begin making plans for 2022 more than a year
20 in advance, starting at the beginning of 2021. By approving a modification for PY2022 now, those
21 contractors can begin building a pipeline of projects. Simply put, the longer we wait to approve a
22 PY2022 plan, the harder it will be for market actors to make the investments needed today to
23 ensure success in the future for customers.

1 As described below, the proposed modification is expected to create an additional \$172
2 million in total benefits and \$67 million in net lifetime benefits as measured under the Total
3 Resource Cost ("TRC") test. Equally important, this modification is not simply a repeat of program
4 goals for 2021. Instead, it includes a targeted set of modifications to program budgets and savings
5 targets, based on recent Commission guidance and feedback from implementation teams,
6 customers, and stakeholders. These modifications are designed to be responsive to changing
7 market conditions in a way that will maximize customer participation, customer satisfaction and
8 customer benefits.

9 In the rest of my testimony, I first provide a detailed overview of Ameren Missouri's
10 proposed program budget by program, including a proposed pilot program for a Pay As You Save®
11 ("PAYS®") offering. Next, I provide a detailed overview of savings targets for energy and demand
12 by program. In Section IV, I describe a set of targeted modifications to the earnings opportunity
13 matrix, which are required to maintain consistency in the performance target and ensure that the
14 utility can continue to value demand-side investments equal to supply side investments. These
15 targeted modifications are limited in nature and consistent with guidance from the recent Report
16 and Order issued by the Commission in the Evergy Missouri companies' most recent MEEIA
17 filing.¹ Finally, I conclude with a brief section addressing the impacts of COVID-19 on current
18 MEEIA programs and the request for a 2022 modification.

¹ December 11, 2019, Report and Order, File No. EO-2019-0132 ("Report and Order").

1 **Q. Is the Company proposing to update its tariffs to reflect a new naming**
2 **convention for the proposed modification?**

3 A. No. The current EEIC Tariff defines "MEEIA 2019-21 Plan" as approved in File
4 No. EO-2018-0211 and "as may be amended."² Ameren Missouri wishes to keep this proposed
5 modification to the existing plan as simple as possible. Therefore, since Ameren Missouri is simply
6 proposing a modification, or amendment, of its current plan, as contemplated by the tariffed
7 language, there is no need to revise the naming convention throughout its tariffs.

8 **III. OVERVIEW OF PROPOSED 2022 BUDGETS**

9 **Q. Did Ameren Missouri consider the Commission's recent policy guidance when**
10 **developing its proposed budgets?**

11 A. Yes. As described in the testimony of Mr. Davis, the purpose of the current plan,
12 including the timing of this filing, is to maximize opportunities for customer participation in
13 programs that the Commission and stakeholders have already found to be appropriate.

14 **Q. How did Ameren Missouri determine the proposed budget for the proposed**
15 **modifications in 2022?**

16 A. When developing a new MEEIA portfolio, the first step is typically to estimate the
17 Maximum Achievable Potential ("MAP") and the Realistic Achievable Potential ("RAP") of
18 demand side investments that are available in the market, and then estimate the budget that would
19 be needed to procure that preferred demand side plan.³ For PY2019-21, Ameren Missouri relied

² "MEEIA 2019-21 Plan" means Company's '2019-21 MEEIA Energy Efficiency Plan' approved in File No. EO-2018-0211 as may be amended." Ameren Missouri Tariff Sheet No. 91.14, Rider EEIC, Energy Efficiency Investment Charge for MEEIA 2019-21 Plan.

³ By definition, the MAP and RAP represent the subset of all economic potential, or those measures with a TRC test value of greater than 1, indicating that overall system benefits are greater than costs over the life of the measure.

1 on the results of the 2016 Market Potential Study and responses to a market request for proposal
2 ("RFP") to do just that. Between 2019 and 2021, approved budgets increase from \$50.14 million
3 to \$78.48 million, with a corresponding increase in savings targets. This growth represents an
4 ambitious goal and target, based on assessment of market adoption driven by program activities.

5 In contrast, for this modification, Ameren Missouri developed a plan from the top down.
6 By that, I mean that Ameren Missouri first selected an overall budget of \$75 million – and then
7 worked to allocate those funds by program, consistent with goals established for PY2019-21. After
8 including additional costs for the PAYS[®] Pilot, the total budget settled at \$76.5 million. As
9 described below, those goals were modified in certain instances to reflect lessons learned in the
10 first year of implementation, based on feedback from customers, contractors, and stakeholders.

11 **Q. Why is that a reasonable approach for the proposed modification to the**
12 **already approved plan?**

13 A. Starting with the overall budget and working from the top down balances several
14 needs. First, and most importantly, a budget of \$76.5 million is consistent with, and within the
15 range of, the budgets and targets already approved in the MEEIA 2019-21 Plan. Second, a budget
16 of \$76.5 million represents a conservative starting point relative to estimates of market demand.
17 Over the 2019-21 three-year plan, approved program budgets will increase by 57 percent. Using
18 the same compound annual growth, a 2022 budget would be \$98.2 million.⁴ Third, a \$76.5 million
19 budget creates consistency and stability in the market. Implementation teams and contractor trade
20 allies have developed staffing plans and budgets to accommodate the planned growth between

⁴ Note that even this would be conservative based on best estimates of overall market demand. The initial filing in File No. EO-2018-0211 forecast a budget of \$103.56 million based on estimates of market adoption and potential.

1 2019 and 2021. A budget of \$76.5 million for 2022 represents a slight decrease of approximately
2 3 percent from 2021. The \$76.5 million budget includes the \$9.4 million of low income program
3 funds already approved for 2022. It also includes \$1.3 million for administrative costs for a new
4 PAYS[®] Pilot and an additional \$640,000 in incentives for those customers. The remainder – \$65.1
5 million – actually represents an 8 percent reduction in market rate program costs relative to
6 PY2021.

7 Holding budgets consistent with, but below, the final year of the current cycle sends an
8 important signal to the market. This stability is critical to maintaining contractor networks. As
9 highlighted above, the lessons of the past two months have demonstrated on a national scale the
10 economic costs of sharp contractions in the economy driven by non-economic factors. In contrast,
11 a return to program year 2019 levels of \$57.6 million or program year 2020 levels of approximately
12 \$65 million would represent a contraction of 36 percent or 15 percent respectively.

13 **Q. How does the proposed budget for 2022 compare to Ameren Missouri's most**
14 **recent potential study?**

15 A. A \$76.5 million budget, with the savings targets identified in the following section,
16 is also consistent with the conclusions of the recently completed 2020 Market Potential Study
17 ("MPS").⁵ That study identified a RAP of 82,876 MWh and 38.9 MW in 2022 for the residential
18 sector; a RAP of 218,237 MWh and 61.7 MW in 2022 for the business sector; and 34,000 MWh

⁵ "2020 DSM Market Potential Study: Final Report," Prepared by GDS Associates Inc., March 10, 2020, filed with the Application accompanying this filing as Attachment 2.

1 and 12.3 MW in 2022 for the low income sector, assuming cost-sharing incentive program.⁶ That
2 study estimated total budgets of \$18 million for residential, \$25 million for business, and \$16
3 million for the low income sector.⁷ Note that the MPS was largely developed in Q3 and Q4 2019,
4 before results for the 2019 program year were available. As such, it relies on program costs based
5 on filed annual evaluation reports for 2016-2018.⁸ Program budgets based on program year 2016-
6 18 actuals represent a conservative lower bound and as noted by GDS Associates Inc., the author
7 of the MPS, may not reflect actual future conditions.⁹ Indeed, total costs to deliver an energy
8 efficiency program continue to increase as the program matures, due to lower net-to-gross factors,
9 the increasing efficiency of baseline measures and corresponding shift to incentivizing higher
10 efficiency equipment, and the reduction in low cost high volume measures like lighting. As
11 described below however, even at these higher costs of delivery, the programs remain cost-
12 effective for customers under a narrow TRC test. These programs also deliver additional benefits
13 associated with emission reductions, health, safety, and comfort that are not included. This is a
14 critical point and cannot be overlooked.

15 **Q. Please describe how the budget is allocated between the high level portfolios?**

16 A. As previously mentioned, the overall budget for the proposed modifications was
17 set based on a top-down approach. As a second step, the Ameren Missouri energy efficiency team

⁶ See Table 4-5, 4-7, and 5-4. Note that in the potential study, results are presented for "income-eligible" customers. Income eligible customers were defined as households at or below 80% of area median income, consistent with the definition of "low income" customers as described in the MEEIA 2019-21 Report and Plan.

⁷ See, Figures 4-19, 4-20 and 5-9.

⁸ See, for example, section 4.1.7.2, which notes that: "[n]on-incentive costs were developed using recent PY16-PY18 actual program cost data." See also, and Figures 4-4 and 4-5.

⁹ That study noted: "However, final program designs and implementation strategies may need additional flexibility to target specific or underserved markets, address equity concerns, or react to changing customer preferences." MPS, at 3.

1 allocated the \$76.5 million budget by program, to reflect lessons learned in PY2019 and in
2 response to expected changes in customer demand for certain programs.

3 First, the \$76.5 million was allocated to programs already approved or programs of
4 particular interest to the Commission. This includes \$9.4 million for low income programs and a
5 total of nearly \$2 million (\$1.3 million in administrative costs and \$640,000 in incentive costs) for
6 a pilot PAYS[®] program.

7 Second, additional funding was allocated to demand response programs (both residential
8 and business) and the multi-family income eligible and business social services programs.
9 Customer demand in program year 2019 for these programs greatly exceeded forecasts and these
10 programs produced some of the highest levels of customer satisfaction among all programs.

11 Third, budget expenditures for non-essential program costs were reduced. This includes a
12 reduction of \$1 million in EM&V expenditures. To meet this goal, a draft EM&V plan will, at a
13 minimum, exclude process evaluations, which will have been conducted and shared over the prior
14 three years. The budget also reflects slightly lower marketing expenses, lower budgets for a new
15 Market Potential Study, and lower internal incremental labor. The 2019 budgets included
16 approximately \$1 million for a Market Potential Study, which included extensive primary market
17 research, while the 2022 budget includes \$750,000 for a reduced scope study, without additional
18 market research.

19 The remaining funds were allocated among programs within the residential and business
20 portfolio. Given the lower total budget and increase in funding for low income and demand
21 response programs, the allocation of budget to existing market rate residential and business energy
22 efficiency programs necessarily requires difficult tradeoffs. As a starting point, Ameren Missouri
23 relied on the approximate allocation of funds for programs as in the 2020 or 2021 budgets. By

1 continuing to prioritize a wide mix of demand-side management ("DSM") measures, and through
2 the procurement of substantial demand savings, this portfolio of investments will continue to defer
3 supply side resources and also protect against the risk that resources would be needed sooner
4 should conditions change.

5 **Q. Please explain the budget allocations to the residential programs.**

6 A. In general, Ameren Missouri sought to follow the Commission's recent guidance to
7 "increase customer participation"¹⁰ and focus on the broad benefits of energy efficiency and energy
8 reductions. As a starting point, most programs are set at their respective budgets from 2021. For
9 most of these programs, the total commitment is on the order of \$1 to \$2 million each. Simply put,
10 there is little room to reduce the program budget and still deliver a cost effective program, given
11 administrative program needs. This will be particularly true, if administrative efforts need to
12 increase in the near term due to changes in customer expectations from the ongoing COVID-19
13 pandemic.

14 The key exception is the Residential HVAC program, which is set to its PY2019 budget of
15 \$10.52 million. This represents the most difficult tradeoff within the budget cap. The HVAC
16 program includes more than \$5 million in incentives for continued participation by customers in a
17 direct downstream rebate program for central air conditioner and heat pump units with a Seasonal
18 Energy Efficiency Rating ("SEER") between 15-17. It also includes \$1 million in incentives for
19 units with higher SEER ratings of 18-21. These incentives will be split between distributors and
20 customers. This represents a new program delivery channel which has been newly launched in

¹⁰ Evergy Report and Order, Page 13.

1 2020, as an opportunity to help shift market demand to higher efficient units and leverage
2 economies of scale in distributor purchase and stocking practices.

3 The lighting budget is set to \$1.44 million.¹¹ This represents a slight increase over planned
4 2021 measures. In 2022, Ameren Missouri plans to focus its lighting program on specialty bulbs
5 and on standard A-line offerings in discount stores and other hard to reach market segments.
6 Market research completed in fall 2019 as part of the MPS found that the penetration and saturation
7 of LED technologies for income eligible customers significantly lags behind market rate
8 customers. Ameren Missouri proposes to distribute these products through its existing residential
9 program, as opposed to the income eligible channel, to offer its products to a greater geographic
10 range of customers.

11 Ameren Missouri proposes to include the Home Energy Report ("HER") in 2022.
12 Additional changes or modifications of the HER beyond 2022 will be needed as behavioral energy
13 savings tips are migrated online and delivered with smart meter data. Ongoing evaluation activities
14 of the HER program will help to answer these important questions going forward, and ensure that
15 behavioral programs provide actionable insights for customers. In program year 2019, Ameren
16 Missouri sent the HER to approximately 300,000 customers on a budget of approximately \$1.8
17 million. This program represents one of the best ways to maximize customer participation,
18 consistent with the Commission's guidance, and customer satisfaction with the offering remains
19 high. Equally important, the HER program is a flexible engagement channel, and offers the ability

¹¹ Note that the program budgets, and savings targets described below, continue to assume a halogen baseline, consistent with current federal regulations. That is, the current plan does not assume a change in the baseline based on a prospective forecast of market transformation. Should the Commission find that a baseline change is warranted, then Ameren Missouri would similarly request an opportunity to prospectively revise savings targets and the earnings opportunity appendix. Absent these changes, Ameren Missouri may not be able to offer a lighting program at all, or request to move its lighting program budget specifically into the low income program offerings.

1 to continue to make quick pivots as conditions change, allowing Ameren Missouri to best focus
2 on community needs. This has been particularly important to ensure that messages are timely,
3 relevant, and customer focused during the COVID-19 pandemic. The proposed budget for 2022
4 remains consistent with these levels and expected participation.

5 In November 2019, Ameren Missouri launched an integrated online experience for
6 residential customers, which provides generalized energy savings tips based on monthly energy
7 usage. In February 2020, Ameren Missouri expanded these online offerings and offered customers
8 an opportunity to earn rewards for completing certain behaviors. In summer 2020, Ameren
9 Missouri will install its first smart meter, which will further enable customization of these energy
10 savings tips for customers. The smart meter rollout schedule is defined by geography, and not by
11 customer type. In contrast, the HER treatment and control groups are defined by customer usage
12 and not geography. By 2022, Ameren Missouri conservatively forecasts that only one third of the
13 HER customers will have a smart meter with customized energy savings tips. Thus, the majority
14 of HER customers will not yet have a smart meter, and would be expected to benefit significantly
15 from continuing to receive a report. The HER will continue to be evaluated at the end of each
16 program year, and the performance incentive will continue to require that the program meet a cost-
17 effectiveness standard.

18 Finally, Ameren Missouri proposes to eliminate the Appliance Recycling program in 2022.
19 After prioritizing the program budgets described above, there were not sufficient resources
20 available for a limited program, let alone increased budgets for a more economically viable
21 program.

22 **Q. Please explain the budget allocations to individual business programs.**

1 A. Within the Business Portfolio, savings were allocated among programs based on
2 feedback from the implementation team. First, and as described above, the budget for the Business
3 Demand Response program is increased by \$1.2 million, consistent with the annual growth for
4 each year from PY2019 to 2021.

5 Second, the remaining budgets are allocated consistent with prior year targets. Budgets for
6 the Retro-Commissioning and Small Business Direct Install programs are set equal to the same
7 budgets for 2021. The aggregate budget for the New Construction, Standard, and Custom programs
8 was set equal to the 2020 combined total. The allocation of dollars is higher for standard projects
9 in 2022 than 2020, reflecting an understanding that in the final year of a program cycle, it can be
10 difficult to subscribe a sufficient number of customers for a custom measure that may require
11 longer lead planning. The business budgets also include funding for a business behavioral program
12 as an education offering. This education offering will help Ameren Missouri expand its programs
13 and provide outreach to small and medium businesses, and leverage experience gained working
14 with residential contractors.

15 **Q. Are there any new additions for programs in 2022?**

16 A. Yes. The proposed budget for 2022 also includes a PAYS[®] Pilot, a program which
17 has received significant support from the Office of the Public Counsel and Renew Missouri. This
18 pilot is expected to make \$5 million in energy efficiency investments available to customers. It
19 includes a budget of \$1.3 million to administer the program and an additional \$640,000 in
20 incentives for participating customers, for a total budget of nearly \$2 million. The availability of

1 incentive dollars to customers for existing programs is required under the PAYS[®] program.¹² By
2 design, PAYS[®] investments will meet several criteria:

- 3 i. Annual on-bill payments associated with the investment at the premise location will be
4 limited to 80 percent of the estimated value of energy savings;
- 5 ii. Payback periods will be set to 80 percent of the estimated life of the upgrade, with a
6 cap not exceed 12 years; and
- 7 iii. Customers can provide a pre-payment or down payment, such that any incremental or
8 remaining costs can be paid off through the energy savings subject to the constraints of
9 (i) and (ii) above.

10 To meet these goals, the program initially is expected to target customers with higher than
11 average electric loads, and therefore are expected to be composed primarily of customers using
12 electric heat. As proposed here, the first year pilot will not have customer participation goals by
13 market segment. Keeping overall goals as simple as possible will allow for a successful launch of
14 the pilot while also collecting necessary data to inform future efforts to scale, grow, and modify
15 the program based on implementation, customer, and stakeholder feedback.

16 To administer the PAYS[®] Pilot, the implementer will work with customers through three
17 discrete steps, or "Tiers." In the first step, the implementer will complete an initial home
18 assessment for interested parties. At that stage, all Tier 1 customers will receive a custom energy
19 efficiency kit of direct install measures. Homes that meet certain condition assessments, including
20 an expectation that the building structure will remain in good working order for the life of the
21 installed measures, will then receive a detailed custom bid outlining proposed projects and

¹² <http://eeivt.com/wordpress/pays-essential-elements-minimum-program-requirements-2/>

1 projected savings. Customers are under no obligation to participate at this stage, which is known
2 as Tier 2.

3 A certain portion of Tier 2 customers will accept the proposal and move into Tier 3. For
4 those customers that do elect to participate, Ameren Missouri will fund the purchase and
5 installation of necessary equipment. As described in the Testimony of Mr. Davis, Ameren Missouri
6 proposes to fund projects through this pilot through the use of Company debt. As described by Mr.
7 Davis, the initial use of debt offers an expedient approach to launching this financing pilot for
8 customers. A debt only program, however, cannot be scaled beyond the pilot levels due to expected
9 impacts on the Company's balance sheet; future discussion of a larger PAYS[®] program would
10 necessarily require further discussions about funding future projects at the Company's cost of
11 capital and the allocation of those costs between participants (as an on-bill financing mechanism)
12 and non-participants (as a MEEIA program cost).

13 **Q. What measures will be installed?**

14 A. The PAYS[®] Pilot anticipates that the implementer will be able to offer both
15 measures included in the Ameren Missouri Technical Resource Manual ("TRM") and measures
16 that are not. This approach allows for numerous miscellaneous energy saving measures like
17 reconnecting separated ductwork and sealing/insulating attic hatches.

1 **Q. How will the PAYS[®] Pilot be evaluated?**

2 A. Because of the individualized and custom assessment and approach for each home,
3 Ameren Missouri proposes to treat each PAYS[®] project as a custom measure and evaluate it as
4 such. Volume 1 of the Ameren Missouri TRM defines a custom measure as:

5 Custom Measures – Measures or technologies that, due to the complexity in the
6 design and configuration of the particular measure in the energy efficiency project,
7 may be subject to a more comprehensive custom engineering algorithm and
8 financial analysis that more accurately characterize the energy efficiency savings
9 within a project. (Ameren Missouri: Technical Resource Manual Volume 1:
10 Overview and User Guide, Revision 1.0, at p. 14).

11 Therefore, no updates to the Ameren Missouri TRM are needed at this time to
12 accommodate the addition of the PAYS[®] Pilot.

13 **Q. What does the \$2 million PAYS[®] Pilot implementation budget include?**

14 A. The budget includes several items, including set up costs, administrative cost,
15 marketing cost, and payments to the Administrator for installation.¹³ This includes approximately
16 \$640,000 in setup costs, including an indicative estimate for the incremental cost to upgrade the
17 Ameren Missouri billing costs; \$150,000 in loan origination expenses; \$125,000 in marketing
18 costs; and almost \$640,000 in costs necessary to deliver the program. The \$640,000 includes the
19 direct install cost of the custom energy efficiency kit for all Tier 1 customers plus additional
20 incentives for qualifying measures through other Ameren Missouri programs. The program
21 budgets also include another \$420,000 for the cost of an audit for all Tier 2 customers and the
22 administrative cost necessary to finalize a bid package for all Tier 3 customers. As modeled here,

¹³ While non-payment of the PAYS[®] charges is considered a program cost, those costs have not been directly estimated at this time.

1 these costs would support \$5 million in financing and target final participation by slightly more
2 than 650 Tier 3 participants.

3 **Q. Can PAYS[®] Pilot customers use rebates and incentives for measures promoted**
4 **through Ameren Missouri's other programs?**

5 A. Yes. At this time, and as structured within this pilot, the use of incentives and
6 rebates is available to all customers for measures that qualify through the other market rate
7 programs. The availability of incentives is a requirement of the Energy Efficiency Institute in order
8 to offer its licensed PAYS[®] Program.

9 Note that low-income customers will be able to apply for and use these market rate
10 incentives as part of a qualifying PAYS[®] offer as well. In contrast, however, the PAYS[®] program
11 cannot be co-delivered with the existing low-income program. This is because the current low-
12 income program is already a no to low cost direct install program targeting 15 percent (or greater)
13 bill savings per participant. Simply put, for qualifying low-income customers enrolled in the
14 program through the existing neighborhood approach, there are little to no costs left to be financed.

15 Finally, note that a key step is that these incentive costs will be tracked through the PAYS[®]
16 Pilot budget and administered by the PAYS[®] administrator.

17 Said another way, the PAYS[®] Pilot is a stand-alone program that delivers its own savings.
18 The PAYS[®] administrator is not just a trade ally of other existing programs, but rather the
19 administrator of a new program designed to deliver customized energy savings to participants.

20 **Q. How did Ameren Missouri estimate the potential incentive costs under the**
21 **PAYS[®] Pilot?**

22 A. Because each PAYS[®] proposal is unique to the customer, it is difficult to estimate.
23 However, it is expected that the program, at least initially, will target energy users with higher than

1 average use, most of whom may be served by electric resistance heating equipment. Therefore, on
2 the high end, assume that each customer requires an incentive for a qualifying air source heat
3 pump, with an incentive payment of \$800-\$1000 per unit. The total incentive budget for the
4 PAYS[®] Pilot could therefore approach an additional \$600,000 above what is shown here. As a
5 conservative step, the budgets included here assume an incentive cost of \$700 per customer for a
6 total incentive of \$470,000. Note that this is on top of the program costs and incentives used to
7 provide the direct install kits for Tier 1 customers.

8 **Q. Why not simply use rebates and incentives for measures promoted through**
9 **Ameren Missouri's other programs for the PAYS[®] Pilot customers?**

10 A. Paying the incentives out of other program budgets would raise very difficult
11 questions about program tracking, evaluation, and administrative effort by other implementers.

12 As described below, Ameren Missouri proposes to include the PAYS[®] Pilot in the MEEIA
13 performance incentive earnings opportunity similar to its existing low income programs, with a
14 performance metric based on the total amount of subscribed program financing. This complements
15 the per participant savings goals that are already built into the PAYS[®] model. And similar to the
16 current low income programs and because the PAYS[®] model is designed to address the potential
17 financial barriers to participation from an up-front investment, it is assumed that there are no free
18 riders within the program and the net-to-gross ratio is 1.

19 Allowing PAYS[®] Pilot customers to use rebates and incentives from other programs would
20 necessarily limit participation from other customers, reducing total participation in Ameren
21 Missouri programs (or said another way, the PAYS[®] Pilot would not be not adding incremental
22 participation for the approved budgets). Given the structure of the performance metrics, using
23 incentives to fund PAYS[®] customers would also limit Ameren Missouri's ability to meet its other

1 savings targets. Instead, the use of incentives and rebates will be limited only for qualifying
2 measures and for customers that require those incentives to meet the PAYS[®] criteria for
3 participation.

4 Conducting the PAYS[®] Pilot will allow Ameren Missouri and its stakeholders better
5 understand customer acceptance, the uptake of measures incentivized through the PAYS[®] Pilot,
6 and the total incentive budget.

7 **Q. How will the utility recover expenses from customers?**

8 A. The PAYS[®] charge will appear on existing customer bills as a single line item under
9 an appropriate title. The PAYS[®] charge will be used to recover program costs for upgrades, fees,
10 any required taxes, or costs for customer-caused repairs as described in the program tariff.

11 **Q. What lessons does Ameren Missouri hope to learn through the first year of the**
12 **pilot program?**

13 A. The 2022 evaluation of the PAYS[®] Pilot will largely be focused on issues of process
14 implementation and customer satisfaction. At a minimum, it will be important that the pilot
15 evaluation help answer questions related to:

- 16
- Satisfaction of participating customers with the program;
 - Demographic data of participating customers, including but not limited to, the
17 geographic distribution of customers, the percent of customers by heating source;
18 the percent of market rate and low income customers; and the distribution of
19 participating customers by housing type;
 - Evaluation of the number of customers that participate at each Tier of the program
20
21
22 process, reasons why customers don't progress to the next Tier, and most

1 importantly, the reasons or barriers that keep customers from accepting a qualified
2 proposal;

- 3 • The importance of receiving an incentive to develop a qualifying proposal;
- 4 • The total incentive spend for the pilot; and
- 5 • Summary statistics on the types of measures installed.

6 By collecting this data, Ameren Missouri and its stakeholders will have the information necessary
7 to help modify as needed and potentially scale a PAYS[®] program to reach more customers in the
8 most efficient manner possible.

9 **IV. OVERVIEW OF PROPOSED PROGRAM YEAR 2022 SAVINGS TARGETS**

10 **Q. With the proposed \$76.5 million budget, what are the proposed savings**
11 **targets?**

12 A. A budget of \$76.5 million is expected to result in total net energy savings of more
13 than 260,000 MWh and net demand savings of 110 MW in PY2022, reflecting the allocation by
14 program described above. These savings represent a bottom up estimate based on deemed savings
15 associated with an assumed measure mix within each program. Deemed savings are based on the
16 third version of the Ameren Missouri Technical Resource Manual, approved on December 11,
17 2019, effective on January 1, 2020.

18 The individual measure mix included in each program represents a reasonable expectation
19 of how programs will be delivered in 2022, based on experience to date.

20 **Q. How do these savings targets compare to the MEEIA 2019-21 Plan?**

21 A. In general, energy and demand savings are becoming more expensive over time.
22 There are several factors that drive this increase in costs. The first is lower than planned net-to-

1 gross ratios, particularly in key programs. This reflects in part, results from the 2018 evaluation
2 (which were not yet available at the time of the 2019-21 filing). Table 1 provides the net-to-gross
3 factors assumed in the PY2019-21 filing alongside the net-to-gross factors assumed in the PY2022
4 savings estimates for the Residential HVAC and Business Standard/Custom programs. (These
5 programs account for more than 70 percent of total portfolio planned net MWh savings in 2021)
6 Lower assumed net-to-gross ratios lead to lower net savings and higher costs per net MWh.

7 **Table 1: Select Net to Gross Ratios**

Program	PY2019-21	2022	2018 Evaluated
Residential HVAC	91%	75%	76%
Business Standard and Custom	94%	90%	99% and 86%, respectively

8 Other factors that affect portfolio costs on a \$/MWh and \$/MW basis include changes in
9 deemed savings tables, increasing efficiency in baseline technologies for certain measures
10 (including a more conservative forecast for the natural replacement rate of HVAC units); the
11 elimination of certain low cost measures, such as Electric Commutated Motors ("ECM") within
12 the HVAC program; a shift away from lighting measures (which historically have represented the
13 lowest cost resource); and lower per participant savings through the Home Energy Report program
14 (as a result of expanding participation).

15 Based on the program budgets and savings targets described above, and relying on the 2017
16 avoided costs used in the current cost-effectiveness tests, the 2022 programs and portfolio are
17 projected to generate total net benefits to all customers of \$67 million under the TRC test, and be
18 cost effective with an overall TRC ratio of 1.6. Combined, the MEEIA 2019-2021 Plan, including

1 the proposed 2022 extension, will provide more than \$285 million in net benefits to all customers
2 under the TRC test. Table 2 provides the TRC, Participant Cost Test ("PCT"), Utility Cost Test
3 ("UCT"), and Ratepayer Impact Measure ("RIM").

4 **Table 2: Portfolio Cost Effectiveness (\$2019)**

Portfolio Cost Effectiveness (\$2019)				
	2019-2021		2019-2022	
	Utility Cost Test	Total Resource Cost	Utility Cost Test	Total Resource Cost
Benefits	\$592,338,018	\$592,338,018	\$764,569,251	\$764,569,251
Costs	\$242,054,545	\$347,690,162	\$310,867,824	\$443,920,625
Earning Opportunity	\$25,916,228	\$25,916,228	\$34,659,809	\$34,659,809
Net Benefits	\$324,367,245	\$218,731,628	\$419,041,618	\$285,988,817
UCT Benefits/Costs Ratio	2.21		2.21	
TRC Benefits/Costs Ratio		1.59		1.60

5
6 **Q. How could results from the 2020 IRP potentially impact the results of the cost-**
7 **effectiveness tests?**

8 A. I would not want to speculate on the results of the results of the 2020 IRP. Again,
9 a key motivation for seeking a modification into 2022 is to avoid making real-time comparisons
10 between the IRP and a potential DSM portfolio.

11 However, I would make the following general observations. First, the 2020 MPS conducted
12 several sensitivities of MAP and RAP, including a test of avoided costs of +30%/-50%.¹⁴ In
13 general, those sensitivities found significant RAP at lower avoided costs, and that a sensitivity
14 with a 50% decline in avoided energy and capacity benefits had a higher TRC ratio and higher net
15 present value of net benefits than a scenario with a 30% decrease in net-to-gross ratios. Second, to
16 the extent Ameren Missouri analyzes scenarios of early or accelerated retirements in the 2020 IRP,
17 then the avoided costs of capacity would be expected to increase to incentivize new entry. In these

¹⁴ See GDS 2020 Market Potential Study, Table 4-13.

1 scenarios, demand side investments would be more cost effective. Thus, I expect cost-effectiveness
2 results of the current budget and targeted savings to be robust under a wide range of future
3 conditions.

4 **V. TARGETED MODIFICATIONS TO THE EARNINGS OPPORTUNITY TARGET**
5 **AND PAYOUT MATRIX**

6 **Q. Please describe the proposed changes to the Earnings Opportunity.**

7 A. To maintain the currently approved target earning goals, and be responsive to the
8 portfolio changes described above, Ameren Missouri proposes three modifications to the existing
9 earnings opportunity matrix. These modifications are grounded in the Commission's recent
10 guidance as described in the Testimony of Mr. Davis and are necessary to ensure that the utility
11 can continue to value demand-side investments on an equal basis as supply-side investments.

12 First, the payout rates for the multifamily low income program should be increased, to keep
13 pace with the growth in program spending and program offerings. Between 2021 and 2022, the
14 Low Income Multifamily program almost doubles. Currently, the performance metric is based on
15 the average percent savings per property (15 percent), subject to a spend threshold of 85 percent
16 of the approved budget. For 2022, Ameren Missouri proposes to simplify the payout metric, such
17 that the payout is equal to actual program spend compared to the approved budget (up to 100
18 percent) multiplied by average savings per property performance metric. This will simplify
19 program tracking and implementation.

20 Second, and as described above, the PAYS[®] Pilot should be included similar to the existing
21 low income programs. Ameren Missouri proposes to set the performance metric and payout rate
22 at 5 percent of the total amount of financing subscribed by customers, subject to a \$5 million cap.
23 Thus, the total or maximum payout would be equal to \$250,000. Note that the PAYS[®] Pilot, by

1 design, has additional performance metrics built in, which must be satisfied to receive financing.
2 The performance metric described here focuses on the most important thing: getting customers
3 subscribed as part of the pilot.

4 Third, the earnings opportunity matrix should be modified to better incentivize a balance
5 between energy and demand savings. This change is necessary to best follow the Commission's
6 guidance that "MEEIA is not [just] a program for managing generation and providing supply-side
7 power. MEEIA is designed to compensate the utility for promoting energy efficiency as it
8 encourages its customers to save money by using less of the product the utility sells."¹⁵ In the
9 current plan for program year 2021, the total earnings target for demand savings (including demand
10 response) represents 76 percent of the overall annual payout. In contrast, earnings associated with
11 energy savings represent less than 20 percent of the total payout. Absent any changes, this disparity
12 would further increase in 2022, which would require Ameren Missouri to prioritize certain
13 measures at the expense of others, inconsistent with the Commission's recent guidance.

14 Instead, and to remedy this situation, the proposed earnings opportunity matrix simplifies
15 the payout structure between energy and demand by a) transitioning and simplifying the demand
16 savings target to a single, first year savings goal, b) balancing the payout rates associated with
17 energy and demand savings, and c) updating the maximum performance of energy savings to
18 125%, up from 115% in the current performance matrix. This would entail reducing the demand
19 savings payout equal to \$103,840/MW. This represents the weighted average payout of the current
20 10-14 year life and 15+ year metrics. In addition, this modification would also require increasing
21 the energy performance metric payout rate from \$7.65/MWh to \$9.40/MWh, such that the overall

¹⁵ EO-2019-0132 Report and Order dated December 11, 2019, ¶29.

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- 1 target payout for energy savings would be equal to 15 percent of the total earnings opportunity.
- 2 Notably, these targeted modifications are all consistent with the matrix recently approved by the
- 3 Commission in File No, EO-2019-0132. Table 3 on the next page includes a summary of the
- 4 changes described above.

Table 3: Proposed Modifications to the Earnings Opportunity for Program Year 2022

Ameren Missouri - MEEIA 2019-21 Earnings Opportunity Summary - Modifications for 2022						
Performance Metric	Payout Rate	Payout Unit	2022 Target	2022 Payout	2022 Cap Dollars	Cap % Multiplier
Low Income Multi Family: Criteria will be the average Percent Energy Savings Per Property multiplied by actual spend relative to approved budget (up to 100%)	\$63,284	(\$/Basis Point) x (\$Spend/\$Budget)	15%	\$949,254	\$1,186,567	125.0%
Low Income Single Family Incl. Mobile Homes: criteria will be Average Percent Energy Savings Per Property; 85% Spend Threshold (admin. + incentive; excludes energy efficiency grants)	\$33,333	\$/ Basis Point	10%	\$333,333	\$416,667	125.0%
Home Energy Report: criteria will be the evaluated MWh savings; TRC > 1.0 Threshold for PY2020, PY2021, & PY2022	\$4.73	\$/MWh	29,499	\$139,528	\$146,504	105.0%
Pays: criteria will be 5% of the financing amount that has been subscribed	5%	Percentage	\$5,000,000	\$250,000	\$250,000	
EE MWh: criteria will be the evaluated 1st yr incremental MWh savings excluding HER, MF and SF Low Income, Business Social Services, PAYS and DR programs.	\$9.40	\$/MWh	205,207.0	\$1,928,946	\$2,411,183	125.0%
EE MW: criteria will be the evaluated 1st yr incremental MW savings excluding HER, MF and SF Low Income Programs, Business Social Service, PAYS, and DR programs.	\$103,840	\$/MW	58.8	\$6,105,042	\$7,631,303	125%
Demand Response: criteria will be cumulative evaluated MW enrolled, coincident with system peak @ design criteria	\$19,901.62	\$/MW	158.4	\$3,152,897	\$3,941,121	125.0%
Total				\$12,859,000	\$15,983,344	

1 **VI. IMPACTS OF COVID-19 ON MEEIA PROGRAMS**

2 **Q. The Office of Public Counsel ("OPC") recently suggested that all MEEIA**
3 **programs be suspended due to the impacts of the COVID-19 pandemic.¹⁶ Do you agree?**

4 A. Respectfully, I do not. First, I would like to say that I appreciate OPC witness Dr.
5 Geoff Marke's comments, and in particular, his focus on the potentially dire economic situation in
6 which we find ourselves. He is right to focus on the rise in unemployment, decrease in gross
7 domestic product and output, and ask important questions about the role of utility programs during
8 a recession.

9 However, I would respectfully suggest that Dr. Marke poses the wrong solution to the right
10 problem. A key lesson of prior financial crises marked by a steep reduction in consumer demand
11 – which I studied extensively during my tenure at the Federal Reserve Bank of St. Louis – is that
12 more investment is needed by the government and regulated entities, not less. These investments
13 are necessary to help stimulate demand, support and expand jobs, and keep capital flowing.

14 Thus, I would suggest that energy efficiency investments are more important now than
15 ever. These investments continue to provide substantial participant benefits, saving customers
16 money on their utility bills. These investments were approved because they also provide benefits
17 to all customers, through lower overall system costs. And, these investments support substantial
18 local jobs, the value which cannot be overlooked now.

19 Dr. Marke is correct to point out that this recession is expected to be unlike other financial
20 recessions. The sharp decrease in consumer spending is driven largely by the need for social

¹⁶ Surrebuttal Testimony of Geoff Marke, File No. ER-2019-0374, at Page. 15.

1 distancing and stay-at-home directives. Traditional investments to put people back to work may
2 not apply at this time, if individuals cannot interact face to face. But that is not a reason to
3 wholesale freeze MEEIA programs. Rather, it is a reason and opportunity to think differently and
4 identify what products are needed at this time. For example, products such as smart thermostats,
5 smart power strips, and lighting measures all provide significant in-home savings – but don't
6 require direct installation by contractors. Similarly, on the business side, contractors may be able
7 to gain better access to facilities. For example, a factory that during normal times can't shut down
8 a production line is now idle; contractors could now safely enter without any disruption. The same
9 could be true for schools or other seasonal buildings. It is also a key reason to make sure that
10 programs and funds are available well into the future, so that we can continue to meet customer
11 needs when and how they are ready to respond after the worst of the COVID-19 pandemic passes.
12 I know that my implementation colleagues are actively working with vendors and contractors to
13 understand the market impacts and find the best -- and safest -- way to reach and help customers
14 during this time. These examples are just that: early indications of how implementers have
15 responded. However, I want to stress that it is simply too early to understand the full impact of
16 COVID-19 on the 2020 programs, program goals, and implementation budgets.

17 Finally, I, like many others, appreciate Dr. Marke starting a dialogue on this topic. It is
18 important and timely. We will continue to learn what our customers need at this time, and I fully
19 expect Ameren Missouri and other utilities to continue to share lessons learned and propose new
20 solutions with stakeholders and regulators.

21 **Q. How does the impact of COVID-19 impact the need for a PY2022 modification?**

22 A. As described throughout my testimony, I believe that now is the best time to send
23 a strong signal of stability and commitment to the market and our customers. That certainty is

1 needed now more than ever – particularly for investments that have already been found to create
2 substantial net positive benefits for individual customers and the entire system. Contractors and
3 implementers will begin making plans for 2022 more than a year in advance, starting at the
4 beginning of 2021. By approving a modification for PY2022 now, those contractors can begin
5 building a pipeline of projects. Simply put, the longer we wait to approve a PY2022 plan, the
6 harder it will be for market actors to make the investments needed today to ensure success in the
7 future for customers.

8 **VII. CONCLUSION**

9 **Q. Does that conclude your testimony?**

10 **A. Yes.**

**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) File No. EO-2018-0211
of Energy Efficiency as Allowed by MEEIA.)

AFFIDAVIT OF CRAIG P. AUBUCHON

STATE OF MISSOURI)
)
CITY OF ST. LOUIS)

Craig P. Aubuchon, being first duly sworn on his oath, states:

1. My name is Craig P. Aubuchon. I work in the City of St. Louis, Missouri, and I am employed by Union Electric Company d/b/a Ameren Missouri ("Ameren Missouri") as Manager of Energy Analytics.

2. Attached hereto and made a part hereof for all purposes is my Direct Testimony on behalf of Union Electric Company d/b/a Ameren Missouri consisting of 29 pages and no Schedules, all of which have been prepared in written form for introduction into evidence in the above-referenced docket.

3. Further, under the penalty of perjury, I hereby swear and affirm that my answers contained in the attached testimony to the questions therein propounded are true and correct.

/s/ Craig P. Aubuchon
Craig P. Aubuchon

This 12th day of May, 2020.