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MISSOURI PUBLIC SERVICE COMMISSION

FILE NO.

GR-2021-0241

DIRECT TESTIMONY

OF

JEFFREY R. BERG

ON

BEHALF OF

UNION ELECTRIC COMPANY

d/b/a AMEREN MISSOURI

**St. Louis, Missouri
March 2021**

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I. INTRODUCTION

1

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

3 A. My name is Jeffrey R. Berg, 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 a Senior Program Supervisor of Energy Efficiency 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 Wildlife Management from the
11 University of Missouri in 1995.

12 In November 2008, I joined EAM Associates as a Technical Representative. At the
13 time, EAM was subcontracted under Lockheed Martin to implement Ameren Missouri's
14 residential electric energy efficiency programs. In this role, I was lead for an efficiency
15 program based on Home Performance with ENERGY STAR® and responsible for market
16 research, program design, and marketing development.

17 In January 2010, I accepted a position as Consultant with the Ameren Missouri
18 Residential Energy Efficiency programs where I worked directly with Ameren Missouri
19 staff to develop reporting and project management best practices.

1 **III. PROPOSED ENERGY EFFICIENCY PLAN**

2 **Q. Does Ameren Missouri currently run natural gas energy efficiency**
3 **programs?**

4 A. Yes, Ameren Missouri currently has energy efficiency programs for
5 customers that take service in either the Company's Residential or General Service natural
6 gas rate classes. Under current energy efficiency programs, rebates are provided to
7 Residential customers who replace equipment such as boilers, furnaces, water heaters,
8 insulation, thermostats, and hot water measures such as faucet aerators and showerheads.
9 Rebates are provided to General Service customers for many of the same measures as
10 Residential customers; however, rebates to General Service customers also include steam
11 traps and cooking measures.

12 **Q. Why is the Company proposing to discontinue the traditional rebates**
13 **and incentives rather than running them concurrently with the PAYS[®] program?**

14 A. At the current budget levels, a traditional rebate program and the PAYS[®]
15 program cannot coexist. Moving exclusively to PAYS[®] is an opportunity to test a new
16 program delivery model without changing the program administration budget.
17 Furthermore, a financing mechanism like PAYS[®] will allow customers to participate in
18 efficiency programs with little to no upfront capital investment while also offering more
19 comprehensive whole home upgrades. Finally, because there has been little participation
20 in the commercial energy efficiency measures, eliminating those options would be
21 expected to have imperceptible effects on the market.

1 **Q. What is Pay As You Save®?**

2 A. Below is a summary of what the program generally entails according to the
3 Energy Efficiency Institute, who owns the trademark:

4 The Pay As You Save® system enables building owners or tenants to purchase and
5 install money-saving resource-efficient measures with no up-front payment and no
6 debt obligation. Those who benefit from the savings pay for these measures through
7 a tariffed charge on their utility bill, but only for as long as they occupy the location
8 where the measures are installed. The monthly charge is always lower than the
9 measure's estimated savings and it remains on the bill for that location until all
10 costs are recovered. Like a loan, Pay As You Save® allows for payment over time,
11 but unlike a loan, the payment obligation ends when occupancy ends or the measure
12 fails.

13 **Q. What is the scope of the proposed PAYS® program?**

14 A. As I previously noted, the proposed PAYS® budget includes \$450,000 for
15 administrative costs and directly installed measures. This budget is expected to finance
16 energy efficiency upgrades on customer premises of \$2.1 million along with \$65,000 in
17 direct install upgrades.² The PAYS® program will be open to all residential customers.

18 **Q. What are the important considerations for the PAYS® program that
19 you request the Commission approve?**

20 A. There are a few notable elements of the PAYS® program that I believe are
21 important to point out:

22 1) How PAYS® charges are treated when a customer moves;

23 2) The ability to disconnect service for non-payment of PAYS® charges;

24 3) The source of capital for funding the energy efficiency upgrades;

25 4) Including the PAYS® program capital in the Company's rate base when setting
26 base rates; and

² 2022 will be a start-up year, which will require \$208,000 in one-time start-up costs. Therefore, in 2022 the program is expected to finance \$0.973 million and \$29,000 in direct install upgrades.

1 5) Bill savings from all major fuel sources will be used to qualify a project.

2 Below I describe Ameren Missouri's proposal for the PAYS[®] program for each of
3 these items.

4 **Q. What happens if a customer who is participating in the PAYS[®] decides**
5 **to move?**

6 A. A unique aspect of the PAYS[®] program is that the tariff charges are attached
7 to the premise rather than the individual customer. Therefore, if a PAYS[®] program
8 participant decides to move, then the next owner or tenant at the property would become
9 responsible for the remaining PAYS[®] program charges.

10 **Q. Can the utility disconnect PAYS[®] program participants for non-**
11 **payment of the PAYS[®] charges?**

12 A. Yes. As defined in the proposed tariff, the PAYS[®] charges are to be
13 considered essential utility services; this means that the utility retains the ability to
14 disconnect participants for non-payment. An important program design criterion requires
15 that installations provide an estimated 20% bill savings annually for the energy costs
16 associated with program upgrades, which helps to reduce the risk of non-payment.³

17 **Q. The proposed PAYS[®] program is designed to follow the trademarked**
18 **implementation system. Is it important for the PAYS[®] program to be approved so**
19 **that it can follow the typical operations of that predefined system?**

20 A. Yes. While it is tempting to tweak program design here and there, I
21 recommend we launch a PAYS[®] program following its typical operational design in order

³As I describe below, all future PAYS[®] programs will require bill savings from all major fuel sources to be used to qualify a project under the criterion that Project cost is equal to or less than 80% of the estimated post upgrade cost savings over 80% of the upgrade estimated life. Thus, these 20% bill savings may accrue to a customer's electric or natural gas bill.

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1 to provide the best chance for success and ample opportunity for learning. The PAYS[®]
2 system is trademarked and indications are that it has been successful in the jurisdictions in
3 which it has operated. A key opportunity for learning will be testing the out-of-the-box
4 performance. Otherwise, we risk making subjective changes that could fundamentally alter
5 performance.

6 **Q. Are there any significant changes to program design compared to the**
7 **previously approved residential electric PAYS[®] program?**

8 A. Yes, since the approval of the electric PAYS[®] Program, the Energy
9 Efficiency Institute has updated the trademarked PAYS[®] program required elements. Bill
10 savings from all major fuel sources must be used to qualify a project under the criterion
11 that project cost is equal to or less than 80% of the estimated post upgrade cost savings
12 over 80% of the upgrade estimated life. This means, for example, that the calculation to
13 qualify a project for an Ameren Missouri customer who has natural gas service only would
14 use estimated electric savings as well as those from natural gas to qualify projects.

15 In all other ways, the proposed program design matches the PAYS[®] program that
16 was recently approved as one of the Company's electric energy efficiency programs in File
17 No. EO-2018-0211.

18 **Q. What source of financing will Ameren Missouri use for the PAYS[®]**
19 **program?**

20 A. The Company proposes to follow the same financing structure approved for
21 the electric PAYS[®] program in File No. EO-2018-0211. The details are listed below:

22 1) Program participants will pay a 4% financing cost.

1 2) Non-participants will be charged the difference between pre-tax Infrastructure
2 System Replacement Surcharge ("ISRS") cost of capital rate and the 4% financing
3 cost (when not transitioned to base rates).⁴ The cost of financing to non-participants
4 will be treated as a program cost but not explicitly budgeted or counted against the
5 \$450,000 budget.

6 3) In future rate cases, the PAYS[®] financed regulatory asset will be rolled into rate
7 base with typical cost of capital treatment (i.e., it will be treated like other capital
8 items with amortization based on the makeup of the projects). The PAYS[®] principal
9 and 4% financing revenue will still come from a PAYS[®] line item on participant
10 bills as an offsetting revenue when setting base rates.

11 **Q. Generally speaking, how will the PAYS[®] program work?**

12 A. By design, PAYS[®] investments will meet several criteria:

- 13 1) Annual on-bill payments associated with the investment at the premise
14 location will be limited to 80% of the estimated annual value of energy
15 savings;
- 16 2) Payback periods will be set to 80% of the estimated life of the upgrade, with
17 a cap not to exceed 12 years; and
- 18 3) Customers can provide a pre-payment or down payment, such that any
19 incremental or remaining costs can be paid off through the energy savings
20 subject to the constraints of 1) and 2) above.

⁴ Note that the electric PAYS[®] program relies on the Plant-In-Service Accounting rate. The ISRS rate is the comparable rate within the natural gas tariffs.

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1 To meet these goals, the program initially is expected to target customers with
2 higher than average natural gas consumption, and therefore is expected to be composed
3 primarily of customers with inefficient heating systems and poor insulation and/or air
4 sealing. Keeping overall goals as simple as possible will allow for a successful launch of
5 the program while also collecting necessary data to inform future efforts to scale, grow,
6 and modify the program based on implementation, customer, and stakeholder feedback.

7 To administer the PAYS[®] program, the implementer will work with customers
8 through three discrete steps, or "Tiers." In the first step, the implementer will complete an
9 initial home assessment for interested parties. At that stage, all Tier 1 customers will
10 receive a custom energy efficiency kit of direct install measures. Homes that meet certain
11 condition assessments, including an expectation that the building structure will remain in
12 good working order for the life of the installed measures, will then receive a detailed
13 custom bid outlining proposed projects and projected savings. Customers are under no
14 obligation to participate at this stage, which is known as Tier 2.

15 A certain portion of Tier 2 customers will accept the proposal and move into Tier
16 3. For those customers that do elect to participate, Ameren Missouri will fund the purchase
17 and installation of necessary equipment.

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

19 A. The PAYS[®] program anticipates that the implementer will be able to offer
20 typical measures like more efficient furnaces, more efficient water heaters, and upgraded
21 insulation. However, each participant will have its own custom energy savings package
22 driven by the on-site conditions. This approach allows for numerous miscellaneous energy

1 saving measures beyond the typical upgrades, like reconnecting separated ductwork and
2 sealing/insulating attic hatches.

3 **Q. How will the PAYS[®] program savings be determined?**

4 A. Because of the individualized and custom assessment for each home,
5 Ameren Missouri proposes to treat each PAYS[®] project as a custom measure and determine
6 savings as such. Measures and program information will be available on the program
7 website; therefore, no tariffed measure list is needed to accommodate the addition of the
8 PAYS[®] program.

9 **Q. What does the \$450,000 PAYS[®] program implementation budget**
10 **include?**

11 A. The budget includes several items, including setup costs, administrative
12 cost, marketing cost, and payments to the administrator for installation.⁵ This includes
13 approximately \$208,000 in setup costs, including an indicative estimate for the incremental
14 cost to upgrade the Ameren Missouri billing system; \$60,000 in marketing costs; and
15 almost \$390,000 in costs necessary to deliver the program.⁶ The \$390,000 includes the
16 direct install cost of the custom energy efficiency kits for all Tier 1 customers. The program
17 budgets also include the cost of an audit for all Tier 2 customers and the administrative
18 cost necessary to finalize a bid package for all Tier 3 customers. Unpaid PAYS[®] charges
19 should be treated as an energy efficiency program cost. As modeled here, these costs would
20 support \$0.973 million in financing in 2022, and \$2.1 million in financing in subsequent
21 years.

⁵ While non-payment of the PAYS[®] charges is considered a program cost, those costs have not been directly estimated at this time.

⁶ Because 2022 will be a start-up year, we have included approximately \$182,000 in costs necessary to deliver the program.

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

3 A. Yes, to the extent such rebates are available. As proposed, Ameren
4 Missouri's natural gas rebate programs will no longer exist, so any rebates or incentives
5 would need to come from other sources like tax credits or electric energy efficiency rebates
6 in a co-delivery scenario.

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

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

12 **Q. How will the PAYS[®] program be co-delivered?**

13 A. First, customers will benefit with a seamless co-delivered PAYS[®] program
14 because the assessment and proposed energy savings measures will be developed
15 holistically with consideration of both electric and natural gas energy costs. In cases of co-
16 delivery, pre-determined allocators will be used to allocate program administration costs
17 and financed project costs to the natural gas and electric budgets, respectively.

18 **Q. Is the proposed PAYS[®] program expected to be cost effective?**

19 A. Yes. The Total Resource Cost ("TRC") test during the start-up year is 1.44
20 while the ongoing TRC is expected to be 2.63. From a revenue requirement standpoint,
21 the Utility Cost Test, the program is expected to return \$4.31 to all customers for every \$1
22 in program cost in a non-start-up program year.

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- 1 **Q. Does this conclude your direct testimony?**
- 2 A. Yes, it does.

