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Justin Tevie Testimony
Direct
File No. EO-2023-0136

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Witness: Justin Tevie
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MISSOURI PUBLIC SERVICE COMMISSION

INDUSTRY ANALYSIS DIVISION

TARIFF AND RATE DESIGN DEPARTMENT

DIRECT TESTIMONY

OF

JUSTIN TEVIE

**UNION ELECTRIC COMPANY,
d/b/a AMEREN MISSOURI**

CASE NO. EO-2023-0136

March, 2024
Jefferson City, Missouri

1 **DIRECT TESTIMONY**

2 **OF**

3 **JUSTIN TEVIE**

4 **UNION ELECTRIC COMPANY,**
5 **d/b/a AMEREN MISSOURI**

6 **CASE NO. EO-2023-0136**

7 Q. Please state your name and business address.

8 A. Justin Tevie, 200 Madison Street, Jefferson City, MO 65102.

9 Q. By whom are you employed and in what capacity?

10 A. I am employed by the Missouri Public Service Commission (“Commission”) as
11 an Economics Analyst for the Tariff and Rate Design Unit, of the Industry Analysis Division
12 of the Commission Staff.

13 Q. Please describe your educational and work background.

14 A. In 2013, I obtained a graduate degree in Economics from the University of
15 New Mexico. In 2019, I joined the Missouri Department of Mental Health as a Research
16 Analyst assisting with data analysis and federal reporting. Prior to that, I was a Forecast Analyst
17 at the Department of Social and Health Services in the State of Washington assisting with
18 forensic caseload forecasting and reporting.

19 Q. What is the purpose of your direct testimony?

20 A. The purpose of my testimony is to briefly discuss issues relating to load/savings
21 shapes, EM & V, and program evaluation.

22 Q. Have you previously testified in proceedings before the Missouri Public
23 Service Commission?

1 A. Yes, I provided testimony in File No. ER-2022-0337. This was an
2 Ameren Missouri general rate case.

3 **EXECUTIVE SUMMARY**

4 Q. Please summarize your testimony.

5 A. MEEIA program authorize Ameren Missouri to spend money on demand side
6 programs in return for a quick recovery of expenditures plus incentives through the demand
7 side investment mechanism. However, the Technical Resource Manual (“TRM”) assumes a
8 fixed level of energy savings for each measure, regardless of when the measure is installed, plus
9 a static avoided cost structure. This results in incentivizing Ameren Missouri to always promote
10 energy efficiency measures without regard to overall program cost, and not focusing on where
11 demand side investments would have the largest impact. Additionally, because
12 Ameren Missouri still maintains its traditional rates to sell more electricity to customers for
13 higher profits, Ameren Missouri has the perverse incentive to target energy efficiency measures
14 that have the least impact on actual sales. The overall impact is that there exists an imbalance
15 between the way Ameren Missouri would value traditional supply side investments to demand
16 side investments.

17 Program evaluation must be designed as a continuous improvement process and not as
18 a static process.

19 **IMPORTANCE OF ACCURATE ENERGY AND DEMAND SAVINGS ESTIMATES**

20 Q. Why is it important for initial energy and demand savings estimates to
21 be accurate?

1 A. The application for a MEEIA portfolio is premised on a certain level of energy
2 and demand savings that the program is expected to achieve. These savings are largely based
3 on assumptions that will differ from realized energy and demand reductions as well as realized
4 benefits of the program.

5 Q. What are savings shapes?

6 A Savings shapes contain information on how energy saved changes over a time
7 period, say a day.

8 Q. How are savings shapes measured?

9 A Savings shapes are measured as the difference in energy savings between the
10 baseline and energy efficiency measures.

11 Q. What is the significance of accurate savings shapes?

12 A. Savings shapes are the foundation upon which benefits accruing to the program
13 are derived. It is imperative that savings shapes are specific to the measures that are included
14 in the program. If they are not specific, then estimates of benefits based on them are inaccurate
15 and misleading. It is of utmost importance to ensure that savings shapes are an accurate, verified
16 depiction of the energy efficiency measures they represent. Savings shapes have traditionally
17 been used to track the values of time-varying savings over time. They typically show that
18 savings vary hourly and monthly, by peak and off-peak period. This implies that not all values
19 of savings are equal; for example, savings achieved during peak periods are more valuable than
20 savings achieved during off-peak periods. Associated with this is the value of the coincidence
21 factor, which accounts for whether an end-use efficiency measure is reducing use at the same
22 time as the electricity system peak.

Direct Testimony of
Justin Tevie

1 Program evaluation methods rely on accurate savings data to estimate the full impact or
2 benefits of the program. If the savings shapes are not accurate, then the cumulative savings
3 shapes, aggregate of the individual shapes, would also not be accurate. Consequently, any
4 conclusions drawn from the program evaluation will be misleading. Also, savings shapes
5 enable decision makers to obtain information on the energy consumption footprint
6 (savings pattern) attributable to different energy efficiency measures such as lighting, heating,
7 ventilation and air conditioning (HVAC) and appliances. Finally, they are important to
8 understanding the time-sensitive value of energy efficiency and demand response programs.

9 Q. Which Staff witnesses will be testifying on this issue?

10 A. Hari Poudel discusses the net margin rate and rebound effects, J Luebbert discusses
11 avoided costs and program design and Sarah L.K. Lange discusses benefits to all customers,
12 avoided costs, and avoided earnings opportunity.

13 Q. Explain why it is important to design programs around the hours of
14 highest impact.

15 A It is important that programs be designed in a manner that maximizes avoided
16 costs and achieves avoidance of infrastructure investments. Energy efficiency measures have
17 to reduce both energy use and peak demand during specific time periods to avoid costs.

18 Q. Is evaluation of all programs equal?

19 A. No, it depends on the goals of the program, the goals of the evaluation, and
20 degree of difficulty in obtaining the estimates of the measures.

21 Q. Are some measures more difficult to determine impacts and estimate savings?

22 A. Yes. Some measures involve estimating just the direct effects or impacts of the
23 intervention and these can be obtained without much difficulty. Other measures have associated

1 with them both direct and indirect effects, measuring those effects that can be attributed to the
2 influence of the intervention undertaken above and beyond the intervention. In other words,
3 measures that involve externalities such as spillover effects and free riderships are more
4 complex and difficult to measure.

5 Q. How does the difficulty of obtaining a measure affect program design?

6 A. It allows evaluators to allocate enough money and resources in the programs
7 budgets to the appropriate methodologies that can accurately capture savings when indirect
8 effects are anticipated. Alternatively, if the effects of the program cannot be reasonably
9 measured or verified, or if it will be cost prohibitive to do so, the program should be avoided.

10 Q. Why is it important that the evaluated energy savings values are accurate?

11 A. Because the energy savings values are important in calculating the throughput
12 disincentive component of the MEEIA program and determining rates. In previous MEEIA
13 cycles, energy and demand savings values have also contributed to determination of an earnings
14 opportunity for the utility.

15 Q. Briefly explain the meaning of evaluation, measurement and verification.

16 A. Evaluation, measurement and verification (EM & V) means evaluating the
17 process of the utility's program delivery and oversight and to estimate and/or verify the
18 estimated annual energy and demand savings, and to report on benefits, cost-effectiveness, and
19 other effects from the demand-side programs, based on those estimated and/or verified energy
20 and demand savings.¹

21 Q. Does Ameren Missouri have an incentive to see an EM & V with high
22 estimated savings?

¹ 20 CSR 4240-20.092(Y).

Direct Testimony of
Justin Tevie

1 A. Yes. Ameren Missouri's Earning Opportunity incentive is directly tied to
2 performance as measured by the EM & V. Additionally, future cycles use these estimates to
3 deem measure savings in their TRMs. Since Ameren Missouri still maintains its traditional
4 rates to sell more electricity to customers for higher profits, Ameren Missouri has the perverse
5 incentive to have evaluated savings be overestimated.

6 Q. Does the Commission's auditor review these evaluated savings?

7 A. Yes, but the auditor does not perform its own EM & V analysis; it relies on the
8 work performed by the initial evaluator. Thus, important aspects that would impact measure
9 savings may go unevaluated if the initial request for proposal (RFP) does not specify that an
10 evaluator reviews it. As an example, Ameren Missouri's EM & Vs do not include impact of
11 federal programs, such as the Energy Star™ program. One thing the Energy Star™ program
12 does is to compare the annual energy usage of an appliances to other similar appliances and
13 provides a potential purchaser that information on a the yellow sticker. So by excluding a review
14 of the impact of this program in its RFP, Ameren Missouri can inflate the estimated savings of
15 its own programs.

16 Q. If EM & V is implemented properly, could it inform future cycles?

17 A. Yes. In general, EM & V involves selecting a representative sample of
18 projects/measures within a program, determining the savings from the selected
19 projects/measures, and applying this information to the entire population of projects/measures.
20 Individual project/measure savings are determined using a variety of approaches, including
21 engineering calculations with estimated parameters. When this is done properly and the savings
22 are accurately estimated, using the most appropriate approach, this can serve as a blueprint to
23 formulate future EM & V studies. It is also important to be cognizant of plans for EM & V

Direct Testimony of
Justin Tevie

1 when designing programs because it allows decision makers to select a plan that prescribes
2 methods for evaluating program impacts that appropriate to achieve reliable results.

3 If the EM &V is poorly implemented, selecting projects/measures not representative of
4 the entire population, wrongly estimated parameters and associated measure savings, then
5 evaluation results will be misleading and will not inform policy.

6 Q. Why is program evaluation important?

7 A It allows policymakers to evaluate the effectiveness of MEEIA programs.
8 Put simply, it enables decision makers to measure the impact of the program attributable to the
9 intervention. For program evaluation to be successful, a plan must be in place and thoroughly
10 explained. The plan, among other things, must include the following criteria: objectives of the
11 evaluation, measures or outcomes to be included, methodology employed, and implementation.
12 If the objectives of the evaluation are not met, then it is important for the decision maker to
13 re-evaluate the criteria. In this sense, program evaluation must be viewed as continuous
14 improvement process, updating plans as more information or data becomes available, and not
15 a static process.

16 Q. Which Staff witness is testifying on this issue?

17 A Hari Poudel discusses the key components of EM & V and its significance.

18 Q. Does this conclude your Direct testimony?

19 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 4th Filing to Implement)
Regulatory Changes in Furtherance of Energy) Case No. EO-2023-0136
Efficiency as Allowed by MEEIA)
)

AFFIDAVIT OF JUSTIN TEVIE

STATE OF MISSOURI)
) ss.
COUNTY OF COLE)

COMES NOW JUSTIN TEVIE, and on his oath declares that he is of sound mind and lawful age; that he contributed to the foregoing *Direct Testimony of Justin Tevie*; and that the same is true and correct according to his best knowledge and belief.

Further the Affiant sayeth not.

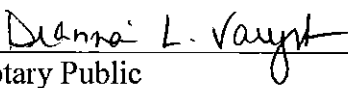


JUSTIN TEVIE

JURAT

Subscribed and sworn before me, a duly constituted and authorized Notary Public, in and for the County of Cole, State of Missouri, at my office in Jefferson City, on this 28th day of February 2024.

DIANNA L. VAUGHT
Notary Public - Notary Seal
State of Missouri
Commissioned for Cole County
My Commission Expires: July 18, 2027
Commission Number: 15207377



Notary Public

Credentials and Work Experience

In 2013, I obtained a graduate degree in Economics from the University of New Mexico. In 2019, I joined the Missouri Department of Mental Health as a Research Analyst assisting with data analysis and federal reporting. Prior to that, I was a Forecast Analyst at Department of Social and Health Services in the State of Washington assisting with forensic caseload forecasting and reporting.

Prior cases

ER-2022-0337