

Exhibit No.:
Issue(s): *Net Throughput*
Disincentive,
EM&V, Rebound
Effect
Witness: *Hari K. Poudel, PhD*
Sponsoring Party: *MoPSC Staff*
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MISSOURI PUBLIC SERVICE COMMISSION

INDUSTRY ANALYSIS DIVISION

TARIFF/ RATE DESIGN DEPARTMENT

SURREBUTTAL TESTIMONY

OF

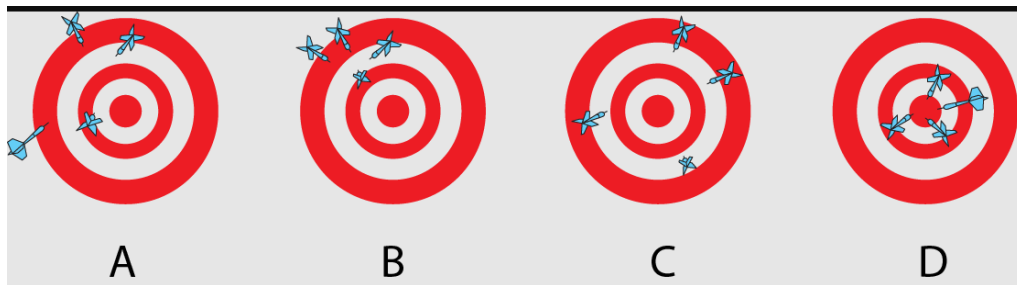
HARI K. POUDEL, PhD

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

Case No. EO-2023-0136

Jefferson City, Missouri
May 2024

1 Under scenario (A), if the darts are neither close to the bulls-eye, nor close to each other, there
2 is neither accuracy nor precision. Under scenario (B), if all of the darts land very close
3 together, but far from the bulls-eye, there is precision, but no accuracy. Under scenario (C)
4 if the darts are all about an equal distance from and spaced equally around the bulls-eyes,
5 there is mathematical accuracy because the average of the darts is in the bulls-eye. This
6 represents data that is accurate, but not precise. However, if we were actually playing darts,
7 this would not count as a bulls-eye. Under scenario (D) if the darts land close to the
8 bulls-eye and close together, there is both accuracy and precision.



10
11 Figure. 1. Dartboards showing different accuracy and precision scenarios.²

12 Scenario (D) illustrates the player's ability to strike the target with precision and accuracy.
13 The same concept can be applied to quantify the Net Marginal Rates ("NMRs") and the NTD
14 in the current Missouri Energy Efficiency Investment Act ("MEEIA") application. It is clear
15 that the timing of energy savings throughout the day is associated with varying NTD dollar
16 values. Given the widespread adoption of time-based rates, the variance in customers taking
17 service under time-based rates with high and low variation, and the variability in timing of
18 energy savings, the current NTD calculation mechanism cannot strike the dartboard
19 accurately or precisely. The current NTD calculation assumes that all customers in a class
20 take service under the same (or essentially the same) rate plan and that the time of energy

²<https://manoa.hawaii.edu/exploringourfluidearth/physical/world-ocean/map-distortion/practices-science-precision-vs-accuracy#:~:text=Precision%20and%20accuracy%20are%20two,Precision%20is%20independent%20of%20a%20accuracy.>

1 consumption is irrelevant to the revenue recovery experienced by the utility. Therefore, the
2 current NTD as applied to customers with rate options and time-variant rates will produce
3 results that are neither precise nor accurate because all customers in a class are not necessarily
4 taking service under the same (or essentially the same) rate plan.

5 Q. Please describe existing Ameren Missouri's EM&V process.

6 A. Staff argues that Ameren Missouri's EM&V process relies solely on
7 third-party evaluators without a thorough oversight of the evaluation process, sample
8 selection, sample size, and response rate. The expected cost-effectiveness of a demand-side
9 program relies heavily on estimated net savings calculated by Ameren Missouri itself. Staff's
10 position is that the independence of EM&V is crucial to identifying net benefits achieved in
11 any MEEIA cycle. Please see the testimony of Staff witness Brad Fortson for more discussion
12 around the EM&V process and its evaluators.

13 Q. Can you speak to what issues Ameren Missouri's witness, Mr. Graser, brought
14 up and how they tie to the cost-effectiveness of a demand-side program?

15 A. Mr. Graser testified that:

16 ...these circumstances would also adversely affect the program
17 evaluator's reputation within the industry and lead to declining
18 prospects with other potential utility clients.³

19 The reputation of evaluators is not a focus Staff's testimony. Staff's testimony focuses on
20 the EM&V procedure rather than the personal characteristics of the individuals; Staff is not
21 looking to "adversely affect" the reputation of program evaluators.

22 Q. Ameren Missouri's witness, Mr. Graser, brought up additional concern
23 pertaining to the sample size⁴ employed in the MEEIA program evaluation. Can you
24 elaborate on this matter?

³ EO-2023-0136, Rebuttal Testimony of J. Neil Graser, page 6 lines 18-22.

⁴ EO-2023-0136, Rebuttal Testimony of J. Neil Graser, page 9 lines 18-22.

1 A. Staff has deliberated on the sample size and sampling technique to ensure that
2 the EM&V study incorporates a sufficient sample size to accurately reflect all electric
3 customers. Staff does not identify samples in the EM&V, and Staff does not have access to
4 the evaluation samples. Contrary to the presumption made by Ameren Missouri’s witness,
5 Mr. Graser, in his rebuttal testimony, Staff’s claim is supported by factual information
6 provided by the Company. I’d like to provide a concrete example of the sample size of a
7 particular measure evaluation that occurred.⁵ The 2022 evaluation report deployed an online
8 survey among 9,537 customers to assess the PY2022 Heating, Ventilation and Air
9 Conditioning (“HVAC”) Program. However, only 893 of them completed the survey. A
10 response rate of 9.37% appears to be lower to generalize the impact of the HVAC Program
11 in Ameren Missouri’s territory. This is due to the fact that the small sample size is not large
12 enough to adequately represent the thousands of customers who participated in
13 the HVAC program.

14 Staff clearly understands the tradeoff between larger sample sizes and higher costs.
15 However, Staff also clearly understands that increasing the sampling response rate does not
16 necessarily incur an extra expense of thousands of dollars. The increasing response rate could
17 be done without extra financial burden on the Company by leveraging its existing resources.
18 The Company could establish follow-ups with respondents and set up reminders to boost the
19 sampling response rate.

20 Q. Ameren Missouri’s witness, Mr. Graser, also raises concern regarding the
21 energy savings from appliance recycling, citing a baseline report from 2010.⁶ Please provide
22 a discussion of your points.

⁵ Ameren Missouri Program Year 2022 Annual EM&V Report Volume 2: Residential Portfolio Report

⁶ EO-2023-0136, Direct Testimony of Geoff Market, page 11 lines 18-20.

1 A. Staff has not mischaracterized how energy savings from any particular
2 program were actually calculated. Staff is concerned about the outdated baseline because the
3 2010 baseline report is too old to compare modern energy efficiency equipment.
4 Mr. Luebbert’s rebuttal testimony discusses the facts that Ameren Missouri is requesting
5 approval of: 1) the entirety of the Technical Reference Manual (“TRM”) documents; 2) the
6 Deemed Savings Tables; and 3) flexibility to change efficiency measures installed within
7 programs without additional Commission approval. Furthermore, Staff mentioned the TRM
8 in its testimony to elaborate on the evaluation baseline. Staff does not intend to
9 mischaracterize the testimony of the opposing witness. If the current MEEIA application
10 does not include a specific efficiency measure, it would be logical to remove it from the TRM.
11 Retaining superfluous material in TRM results in a longer and more voluminous document.

12 Q. Ameren Missouri argues that the rebound effect should not be considered a
13 valid justification in the process of EM&V. Can you provide a discussion of Ameren
14 Missouri’s witness Mr. Graser’s comment, and explain its significance in the EM&V process?

15 A. Mr. Graser opposes Staff’s recommendation to include the rebound impact in
16 the EM&V process. Dr. Marke, a witness for the Office of the Public Counsel (“OPC”), also
17 provides testimony on the rebound effect, arguing that it has not been adequately considered
18 in the EM&V process thus far.⁷ The importance lies in the fact that neglecting rebound effects
19 can lead to significantly inflated net benefits and lost margins. Hence, Ameren Missouri
20 should take into account the influence of the rebound effect on energy savings in the MEEIA
21 application.

22 Q. Does this conclude your testimony?

23 A. Yes. It does.

⁷ EO-2023-0136, Rebuttal Testimony of J. Neil Graser, page 21 lines 18-19.

