PUBLIC VERSION

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Witness:	Dr. Carolyn A. Berry
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MISSOURI PUBLIC SERVICE COMMISSION

FILE NO. ER-2026-0143

REBUTTAL TESTIMONY

OF

DR. CAROLYN A. BERRY

ON BEHALF OF

GOOGLE LLC

AUGUST 11, 2026

Denotes Highly Confidential Information

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I. INTRODUCTION

Q. Please state your name, present position and business address.

A. My name is Carolyn A. Berry. I work at Bates White Economic Consulting ("Bates White"). My business address is 2001 K Street NW, North Building, Suite 500, Washington, D.C. 20006.

Q. On whose behalf are you submitting this rebuttal testimony?

A. I am submitting this rebuttal testimony on behalf of Google LLC ("Google").

Q. Have you previously submitted testimony in this proceeding

A. Yes. I previously submitted revenue requirement direct testimony and an accompanying exhibit identified as Schedule CB-1 and rate design direct testimony and accompanying exhibits identified as Schedules CB-2 and CB-3.

Q. What is the purpose of your rebuttal testimony?

A. In my rebuttal testimony, I address Staff's calculation of the incremental energy expense for large load customers and the conclusions drawn by Staff based on that methodology, as presented by Staff witness Sarah L. K. Lange.[1] I address Staff's proposals for the Fuel Adjustment Clause ("FAC") base factor, Option 1 and Option 2, as presented by Staff witness Brooke Mastrogiannis[2] and Staff witness Lange. I also address the Office of the Public Counsel's ("OPC") new cost allocation methodology for generation capacity and transmission as proposed by OPC witness Ron Nelson.[3]

[1] Direct Testimony Revenue Requirement of Sarah L. K. Lange, June 30, 2026 ("Lange Direct (RR)").

[2] Direct Testimony Revenue Requirement of Brooke Mastrogiannis, June 30, 2026 ("Mastrogiannis Direct (RR)").

[3] Direct Testimony of Ron Nelson, July 14, 2026 ("Nelson Direct (RR)").

Q. What are your proposed recommendations?

A. I recommend that the Commission make the following determinations:

1. The Commission should reject Staff's proposed method to determine incremental energy costs for large load customers as not based on actual cost to serve and should approve the method used by Evergy.
2. The Commission should reject Staff's proposed methodologies for the determination of the FAC base factor – Option 1 and Option 2 – finding that: (a) Option 1 is based on inflated energy costs for large load customers, and (b) Option 2 likewise is based on incorrect energy costs for large load customers, is not necessary to protect against cost-shifting, and is inconsistent with the system-wide approach used by Evergy to procure energy. The Commission should approve the FAC methodology used by Evergy as more representative of the costs to serve large load customers.
3. The Commission should reject OPC's proposed changes to the cost allocation methodology for generation and transmission from the currently used Average and Excess ("A&E") Four Coincident Peak ("4-CP") methodology to a new Probability of Dispatch ("POD") methodology, as insufficiently supported, inconsistent with Evergy's resource mix, and as exclusively based on hours of energy consumption without consideration of capacity needs.

Q. Are you sponsoring any schedules or exhibits as part of your rebuttal testimony?

A. No.

II. STAFF'S PROPOSED METHODOLOGY TO DETERMINE ENERGY COSTS FOR LARGE LOAD CUSTOMERS IS NOT BASED ON COST TO SERVE

Q. Why are energy costs evaluated in this proceeding?

A. Evergy recovers the costs of energy through base rates that are set in a general rate case and through true-ups that occur twice a year outside a general rate case to reconcile billed amounts to actual costs. This process is known as the Fuel Adjustment Clause ("FAC"). In this proceeding the base rate is determined. The base rate is known as the FAC base factor.

Q. Has Evergy included energy costs for large load customers in its proposed FAC base factor?

A. Yes. Although there are no large load customers in the test year ending June 30, 2025, large load did start to come on line in the update and true-up periods ending June 30, 2026. Evergy has included the load from large load customers through the end of the true-up period, and the energy costs to service it, in the test year adjustments. As explained by Evergy witness Graham A. Jaynes, "[t]he LLPS subclass is assigned the portion of the variable fuel costs associated with the anticipated LLPS energy usage."[4]

Q. How are energy costs determined?

A. Energy costs are made up of fuel costs, purchase power costs, and off-system sales revenue. They are determined on a system-wide basis for all customers using PROMOD models as explained by Evergy witness Hsin Foo.[5]

> System peak load and energy, prices paid for fuel, generating system maintenance schedules, and generating resource availability were normalized and annualized to normalize the test year fuel cost, purchase power cost, and off-system sales revenue. PROMOD was then used to simultaneously solve for power prices, the appropriate generation and

[4] Direct Testimony of Graham A. Jaynes, at 40:4–5 ("Jaynes Direct").
[5] Direct Testimony of Hsin Foo, at 7:16–8:2.

purchase power levels, and the resulting fuel cost, purchase power cost, and off-system sales revenue.

Q. Why is this modelling method needed?

A. Although energy costs are made up of generator fuel costs and net purchase power costs (purchase power costs minus off-system sales revenue), fuel costs make up the vast majority of energy costs. Net purchase power costs can even be negative, which means that power purchases and sales actually reduce energy costs. Once system load for the test year is adjusted, modelling is needed to determine which generators will be run to serve that load and the corresponding fuel costs that will be recovered in the FAC.

Q. Did Evergy include large loads in the modelling?

A. Yes. Large loads were included. That is why, as explained by witness Jaynes, large load customers are allocated a portion of the variable fuel costs.

Q. Does Staff use a different method to calculate energy costs for large load customers?

A. Yes. Staff uses Southwest Power Pool ("SPP") market-clearing prices as the $/MWh cost to serve large load customers. Specifically, Staff uses a normalized version of monthly load-weighted average SPP Day Ahead ("DA") locational marginal prices ("LMPs").[6] Staff reasons that "[l]ike all other customers, the energy that EMM sells to its large customers is purchased at wholesale through the SPP integrated marketplace . . . and the bulk of those transactions are transacted in the DA market."[7] Therefore, "it is reasonable to focus on the DA LMP as the basis of energy expense for serving large customers."[8]

[6] Lange Direct (RR), at 36:21–37:6.
[7] *Id.* at 37:10–13.
[8] *Id.* at 37:15–16.

Q. Do you agree with the use of DA LMPs to determine the monthly $/MWh energy cost attributable to large load customers?

A. No. As a starting point, if large customers are like all other customers, then using a different method for determining their energy costs is unjustified. As I explained in the Large Load Tariff proceeding,[9] under the SPP joint optimization and market rules, Evergy sells the energy it produces from its generation fleet into the SPP markets at LMP prices and buys the energy it needs to serve its load from the SPP markets at LMP prices. (In a non-RTO market, the same utility would serve its customers from its generation portfolio and do bilateral trading to take advantage of cost-reducing and profit opportunities.) The result of the SPP process is that sales revenue and purchase costs largely net out. Consequently, Evergy's cost to its customers, including large load customers, consists primarily of the costs of running its own generators which consist primarily of fuel costs.[10] This is shown explicitly in the Fuel Adjustment Clause Base Calculation in Company witness Linda J. Nunn's workpapers.[11] Total fuel costs are *** [redacted] *** whereas *** [redacted] ***. Staff's method for determining energy costs for large load customers does not reflect actual costs incurred and would be inconsistently applied.

Q. Will Staff's method for determining energy costs for large load customers result in over-recovery of costs?

[9] Application of Evergy Metro and Evergy Missouri West for Approval of Tariffs Related to Service of Large Loads, File No. EO-2025-0154, February 14, 2025.

[10] Surrebuttal Testimony of Dr. Carolyn A. Berry on Behalf of Google LLC, File No. EO-2025-0154, September 12, 2025, 19:15–20:13.

[11] *See* Linda J. Nunn's Workpaper, 2026 Base Calc Metro FAC.xlsx – Highly Confidential.

A. Yes. The energy component of the LMP is typically based on the variable production cost of the most expensive unit operating in a given hour. This means that the cost of energy (or fuel costs) from Evergy's generators used to serve large load customers will be for the most part less than the LMP. Therefore, if Evergy charges large load customers the LMP, but it only costs Evergy the lower fuel costs, there will be an over-recovery of costs. I recommend that the Commission reject Staff's proposed method for determining energy costs for large load customers as inaccurate and not based on the cost to serve, and to adopt Evergy's method instead.

Q. How does Evergy's methodology more accurately reflect costs?

A. Evergy uses a system-wide method, based on the modelling of its generation, purchase power costs, and off system sales that fully captures the interaction of these variables resulting in a more accurate cost to serve its large load customers.

III. STAFF'S PROPOSED METHODOLOGIES TO DETERMINE THE FAC BASE FACTOR ARE INCORRECT

Q. What methods does Staff propose to calculate the FAC base factor?

A. Staff proposes two options: (1) Option 1 and (2) Option 2. Option 1 computes a FAC base factor ("rate") using all customer load including large load. Option 2 computes a FAC base rate excluding large load. In Option 2, large load customers would pay a separate customer-specific energy charge.[12]

Q. Please describe Option 1?

A. Staff describes Option 1 as follows:[13]

> Use the FAC base factor adjusted to reflect Customer A at *** [redacted] *** and Customer B at *** [redacted] ***, which insulates non-large load customers from only the

[12] Mastrogiannis Direct (RR), at 9:21–11:8.
[13] *Id.* at 10:3–6; Lange Direct (RR), at 42:9–14.

adverse FAC impact of the level of load captured in this rate case, and keeps LLPS customers in the FAC.

Q. Does Staff provide further explanation?

A. No, not specifically. However, one can piece together the methodology by reference to the workpapers of Staff witness Lange.[14] In her workpapers, on the "Summary" tab, the table in cells AK1:AP7 shows amounts for Base Factor Numerator and Base Factor Denominator, both for Total Company and for Missouri's Share, excluding large load. The Base Factor Numerator is the total FAC expenses as computed by Staff.[15] The Base Factor Denominator is Staff's estimate of the total kWh of load. Dividing the numerator by the denominator for both Total Company and for Missouri's Share results in the same Base Factor of $0.02008 per kWh.[16]

Staff then adds its estimated FAC expenses for large load customers (these include energy costs and transmission expenses) to the numerator of the Missouri-only fraction and estimated large load kWh to the denominator of the Missouri-only fraction to compute a new base factor of $0.02172 per kWh.[17]

Q. For comparison purposes, what is the FAC base rate that has been determined by Evergy?

A. Evergy has computed a FAC base factor, that includes large load, of $0.01741.[18] This compares to the currently effective rate of $0.01829.[19]

Q. Do you have concerns with Staff's proposed Option 1?

[14] *See* Sarah L. K. Lange Workpaper, HIGHLY CONFIDENTIAL – Lange EMM LLPS net revenues workpaper – CORRECTED.xls.

[15] Staff includes energy costs and transmission expenses in the FAC expenses.

[16] *See* Mastrogiannis Direct (RR), at 8:8–9:3.

[17] *See id.* at 9:4–5.

[18] *Id.* at 8:6–7.

[19] EVERGY METRO, INC. d/b/a/ EVERGY MISSOURI METRO Fuel Adjustment Clause – Rider FAC, Revised Sheet No. 50.42.

A. Yes. Staff's calculation of energy costs for large load customers that are included in the Base Rate Numerator uses the LMP method discussed in the previous section. The LMP method overstates large load customer costs and thus erroneously inflates Staff's calculated FAC Base Rate when large load is included. Using a more accurate method to determine large load-related energy costs will reduce Staff's calculation of the FAC base rate potentially below the $0.02008 per kWh level that would occur if large load were excluded from Staff's FAC base rate calculation — thus benefiting the other customers. This could occur because the energy rate that LLPS customers will pay, that was agreed to in the Non-Unanimous Global Stipulation and Agreement ("2025 LLPS Settlement") approved by the Commission in the LLPS Tariff Proceeding, is $0.02988 per kWh and almost all the revenues recovered by that rate are for recovery of costs in the FAC.

Q. Should the Commission reject Staff's proposed Option 1 to determine the FAC base factor?

A. Yes.

Q. Please describe Staff's Option 2.

A. Staff describes Option 2 as follows:[20]

> Use Staff's preliminary FAC base factor, as adjusted to reflect only the difference between Customer B load at the update cut off and Customer B load at true-up cut off, and modify the FAC as discussed below, to remove LLPS customers from the FAC.

Q. How would Staff modify the FAC to remove LLPS customers?

A. Staff lists three amounts that it would subtract from the Missouri jurisdictional expense that are related to hourly energy-based and demand-based SPP "load side" transactions.[21]

[20] Mastrogiannis Direct (RR), at 10:7–10; Lange Direct (RR), at 42:15–18.
[21] Lange Direct (RR), at 47:3–18.

This is consistent with Staff's position that the energy costs incurred by Evergy to serve LLPS customers are energy purchases from the SPP at hourly LMP prices.

Q. Staff asserts that "[r]emoving Customer A from the FAC would largely mitigate the harm to other ratepayers passed through the FAC." How do you respond?

A. Staff has reached this conclusion because the energy costs it attributes to Customer A are incorrect. Customer A will pay an energy rate that will likely reduce the FAC Base Rate. There is no evidence that including Customer A in the FAC will harm other ratepayers in the test period calculations or in the new rate period. However, there is strong evidence that other ratepayers will benefit.

Q. Is removing Customer A from the FAC consistent with Evergy's system-wide least-cost approach to supply energy to its customers?

A. No. Evergy currently operates its system to serve its load on a least cost basis. The impact of large load on these costs is likely beneficial especially in light of the above-cost rate they have agreed to pay. Thus, there is little or no benefit associated with removing large load from the FAC base rate, but doing so under Staff's data intensive proposal would undoubtedly increase regulatory burden on the Company and the Commission. It is possible that at some future point in time, a large load customer will bring or finance a generation resource and pay a rate based on the cost of that resource. In that circumstance it would make sense to remove that customer from the FAC base rate. In this rate case, however, keeping Customer A in the FAC base rate likely benefits other customers by reducing the FAC base rate they will pay. I recommend that the Commission reject Staff's proposed Option 2 methodology to determine the FAC base rate, and adopt the methodology used by Evergy.

IV. OPC'S PROPOSAL FOR A NEW TRANSMISSION AND GENERATION ALLOCATION METHODOLOGY IS UNSUPPORTED AND UNBALANCED

Q. What changes to cost allocation is OPC proposing?

A. OPC proposes a change in the way production and transmission costs are allocated. Evergy currently uses an Average and Excess ("A&E") four coincident peak ("4-CP") method that is based on both kWh and kW determinants.[22] OPC proposes a new Probability of Dispatch ("POD") method based exclusively on kWh determinants.[23]

Q. Why is OPC proposing a new methodology?

A. OPC claims that the A&E methodology "places too much emphasis on peak demand"[24] and that the POD method, which evaluates generation costs and class load in each hour of the year, better captures production costs as more renewables and storage come onto the system.[25]

Q. Relatively speaking, does Evergy have significant amounts of renewables and storage in its resource portfolio?

A. No. OPC witness Nelson shows this in Figure RN-2.[26]

Q. Why have generation and transmission traditionally been allocated based on peak demand?

A. Generation and transmission must be built to meet peak demand and capacity needs. A customer's use during system peak demand is a key driver of generation and transmission costs.

Q. Is it possible that generation or transmission costs are incurred for reasons other than serving system peak demand?

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[22] Jaynes Direct, at 37:11–20.
[23] Nelson Direct (RR), at 36:10–16.
[24] *Id.* at 36:3–4.
[25] *Id.* at 36:15–19.
[26] *Id.* at 38:1–2.

A. Yes. There are some energy-related drivers of generation and transmission costs. For example, transmission losses or congestion are energy related, but these are a relatively small fraction of total transmission costs. And there may be, for example, locational needs for generation to satisfy system voltage or stability needs that are unrelated to system peak.

Q. Does the A&E method take these energy-related drivers into account?

A. Yes. The A&E method used by Evergy already takes into account the energy-related drivers of generation and transmission costs by incorporating kWh determinants. The A&E method balances both capacity and energy-related cost drivers.

Q. How does the POD method balance capacity and energy-related cost drivers?

A. It doesn't. The POD method is based entirely on hourly energy usage.

Q. Is there adequate support for the POD method for generation and transmission in this rate case?

A. No. The POD methodology matches hourly customer energy demand to hourly generation fixed costs, but misses the most significant driver of generation costs – capacity needs. Without consideration of capacity needs, the POD method falls short. Moreover, the analysis provided by OPC focuses exclusively on generation costs. There is no meaningful support provided at all for allocating transmission costs using the POD method.

Q. Since the POD methodology evaluates class load and generation costs across all 8,760 hours of the year, doesn't it naturally serve as an effective, comprehensive proxy for capacity requirements?

A. No, it does not. While evaluating all 8,760 hours of the year sounds comprehensive, doing so actually dilutes the critical signal of peak demand, which is the primary physical and financial driver of capacity investments. Grid planners do not build transmission lines or

generation plants to serve average hourly loads; they build them to ensure reliability during the few extreme peak hours of the year. Treating all hours of the year as equal contributors to capacity costs ignores basic grid physics and cost-causation principles.

Q. Should OPC's POD cost allocation proposal be adopted?

A. No. The Commission should reject OPC's proposal to implement a POD cost allocation method for generation and transmission.

V. CONCLUSION

Q. Does this conclude your testimony?

A. Yes, it does.

BEFORE THE PUBLIC SERVICE COMMISSION
OF THE STATE OF MISSOURI

In the Matter of Evergy Metro, Inc. d/b/a Evergy Missouri Metro's Request for Authority to Implement a General Rate Increase for Electric Service.	))))	File No. ER-2026-0143

AFFIDAVIT OF CAROLYN A. BERRY

1. My name is Carolyn A. Berry, and I am a Partner at Bates White Economic Consulting. My business address is 2001 K Street NW, North Building, Suite 500, Washington, D.C. 20006.

2. I have read the above and foregoing rebuttal testimony and the statements contained therein are true and correct to the best of my information, knowledge, and belief.

3. Under penalty of perjury, I declare that the foregoing is true and correct to the best of my knowledge and belief.

Carolyn A. Berry
Partner
Bates White Economic Consulting

Date: 8-11-2026