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Witness:	Jessica Polk Sentell
Sponsoring Party:	Renew Missouri Advocates
Type of Exhibit:	Rebuttal Testimony
Case No.:	EA-2025-0239
Testimony Filed:	January 23, 2026

MISSOURI PUBLIC SERVICE COMMISSION

EA-2025-0239

REBUTTAL TESTIMONY

OF

JESSICA POLK SENTELL

ON BEHALF OF

RENEW MISSOURI ADVOCATES

January 23, 2026

I. INTRODUCTION

Q: Please state your name, title, and business address.

A: Jessica Polk Sentell, Director of Eastern Missouri and Policy Associate, Renew Missouri Advocates d/b/a Renew Missouri ("Renew Missouri"), 501 Fay Street, Suite 206, Columbia, MO 65201.

Q: Please describe your current position, your education, and background.

A: In my role as Director of Eastern Missouri and Policy Associate at Renew Missouri, I, along with other Renew Missouri staff, have developed and offered educational materials and programs on topics related to energy law and policy in Missouri, rural renewable siting and county planning and zoning, rural broadband, local organizing and rural electric cooperative engagement, and our year-end update covering state and federal rulemakings, Public Service Commission ("PSC" or the "Commission") cases, and other various energy efficiency/renewable energy updates. Regarding my background and education, I have a Masters of Public Administration and a Bachelor of Science in Political Science, both from Missouri State University in Springfield, Missouri. Upon graduating with my master's degree, I was selected as a Presidential Management Fellow by the Office of the President of the United States, Washington, D.C. As a Presidential Management Fellow, I spent over three years working as a Program Analyst for the federal government. During my tenure, I worked for the US Department of Defense, Joint Chiefs of Staff, National Military Command Center, Pakistan-Afghanistan Coordination Cell, Office of Governance & Development; US Department of State, Office of the Special Representative to Muslim Communities; and US Department of Justice, Drug Enforcement Administration, International Operations, Special Projects Branch. I am also a certified teacher in the State

of Missouri and have a certificate in Culturally Responsive Teaching from Southeast Missouri State University's Center for Teaching and Learning. Prior to beginning my position at Renew Missouri, I spent six years teaching political science as a full-time instructor at Southeast Missouri State University in Cape Girardeau, Missouri, six years as a part-time adjunct instructor at Three Rivers College in Poplar Bluff, Missouri, and six years as a full-time high school and dual credit teacher at Clearwater R-1 High School in Piedmont, Missouri.

Q: What work does Renew Missouri conduct in the field of energy policy?

A: Renew Missouri is an advocacy group appearing before regulatory agencies such as the Missouri Public Service Commission, the Kentucky Public Service Commission, and the Kansas Corporation Commission in the role as expert witnesses on clean energy, energy efficiency, and transmission development policy. Our work involves engaging as intervenors on utility rate cases, applications for certificates of convenience and necessity ("CCNs"), mergers and acquisitions, Accounting Authority Orders ("AAOs"), and energy efficiency investment portfolios. Renew Missouri also routinely engages in workshops and rulemaking by providing comments. We have also lent our expertise and knowledge on legislative matters in Missouri and Kansas as well as the federal level on issues ranging from energy efficiency investments to securitization of debts incurred from closing coal plants to helping rural electric cooperatives obtain financing for clean energy projects.

Q: Have you testified before any state utility commissions?

A: Since joining Renew Missouri, I have participated in a number of PSC cases. Most recently, these included Evergy and Ameren Missouri's large load cases (EO-2025-0154

and ET-2024-0184), as well as Ameren Missouri's recent CCN (EA-2025-0238). Attached is Schedule R-JPS-1, containing a full list.

Q: Could you please briefly summarize your testimony as well as your recommendations?

A: The purpose of my testimony is to support the addition of a 250 MW solar facility in Ameren Missouri's ("Ameren" or the "Company") application and explain the benefits to such a project. I recommend the Commission approve construction for the Company and encourage the Company to consider adding a battery energy storage system ("BESS") to the site.

II. SUPPORT OF SOLAR PROJECT

Q: Why is Renew Missouri supporting this solar project?

A: Renew Missouri advocates for energy efficiency and renewable energy policy. As a state-wide advocate, Renew Missouri has a general interest in Ameren Missouri increasing solar energy generation when it economically makes sense for both the Company and its customers, as well as hastening the Company's transition to a clean energy future.[1]

Q: Are there reasons specific to Ameren and this case to support this particular project ("Reform" or "the Project")?

A: Yes, Renew Missouri echoes much of the direct testimony provided by the Company, which explains the many benefits of this specific solar project. In Ameren's

[1]Ameren is still targeting net-zero carbon emissions by 2045, see Integrated Resource Plan. 2025. Ameren Missouri. Accessed January 16, 2026, from https://www.amereninvestors.com/corporate-governance/ameren-missouri-integrated-resource-plan/default.aspx#:~:text=Ameren%20Missouri's%20Integrated%20Resource%20Plan%20(IRP)%20includes,Analysis%20*%20Strategy%20Selection%20*%20Stakeholder%20Process

2025 Preferred Resource Plan Update, the Company stated its intention to add "another 1,700 MW [of solar] by the end of 2030."[2] The application for Reform states it is a 250 MW facility. This project will provide the Company nearly 15% of the solar generation needed to achieve that goal. Since the Company is planning to add solar generation in the immediate future, it makes sense to do so now when federal tax credits are available and applicable, lowering overall costs for the project. Mr. Arora and Mr. Wills both reference the tax credits that will apply to Reform, but Mr. Wibbenmeyer explains them in detail and Mr. Michels provides estimates.[3]

Furthermore, Mr. Michels stated Ameren has seen a surge in demand from large load customers and "reductions in anticipated demand and energy saving" from the Missouri Energy Efficiency Investment Act ("MEEIA")."[4] In short, Ameren needs more power, and they need it quickly to meet this growing demand. Mr. Arora and Mr. Wibbenmeyer averred to the development, design, Midcontinent Independent System Operator ("MISO") interconnection study process, and all other necessary steps Reform has already completed. As a result, the timeline is feasible for this project to be in service by October 2028.[5] In addition to needing the power, Mr. Michels and Mr. Arora also explained renewable energy is needed for the Company to meet future Renewable Energy Standards ("RES") compliance.[6]

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[2] 2025 Change in Preferred Plan. 2025 February 28. Ameren Missouri. p. 2. https://s21.q4cdn.com/448935352/files/doc_downloads/2025/03/25-02-28-2025-Change-in-Preferred-Plan-Report-Public.pdf

[3] *Direct Testimony of Matt Michels* p. 22, 28, 30; *Direct Testimony of Ajay K. Arora*, p. 4; *Direct Testimony of Steven M. Wills*, p. 11; *Direct Testimony of Scott Wibbenmeyer*, p. 13-18.

[4] *Direct Testimony of Matt Michels*, p. 3-4.

[5] Note: The October 2028 Substantial Completion date does meet the December 31, 2029 tax credit deadline. *Direct Testimony of Scott Wibbenmeyer*, p. 9-12, 15-17; *Direct Testimony of Matt Michels*, p. 22.

[6] *Direct Testimony of Matt Michels*, p. 19-21; *Direct Testimony of Ajay K. Arora* p. 4.

Q: Are there other benefits to adding solar, specifically, as the generation source for this project?

A: Solar is also an economically expedient choice to meet this growing demand. Lazard said in their latest report. "At this point, battery storage systems, solar arrays and wind farms are faster and cheaper to build per kilowatt of capacity than anything else."[7] Mr. Michels also highlights "renewable energy resources…have no on-going fuel costs associated with the production of energy. Solar resources…play a key role in that transition."[8]

Finally, as determined in Ameren's and Evergy Missouri Metro/Evergy Missouri West's large load cases and repeated in Mr. Michel's and Mr. Arora's testimony, there is widespread demand for clean energy, specifically, from large-scale industrial and commercial customers.[9] Adding additional renewable capacity shows large-load customers that Ameren Missouri is actively trying to meet their needs, which could potentially draw more large-load customers to the service territory. This, in turn, would stimulate economic development, investment, and growth in the State by creating new jobs and opportunities.

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[7] Stock, K., Chediak, M., & Saul, J. (2025, December 4). Soyou want an AI boom. Bloomberg Newsletter: GreenDaily. Retrieved December 4, 2025, from www.bloomberg.com/news/newsletters/2025-12-04/how-trump-s-renewables-roadblocks-can-stall-the-ai-boom?cmpid=BBD120425_GREENDAILY&utm_medium=email&utm_source=newsletter&utm_term=251204&utm_campaign=greendaily

[8] *Direct Testimony of Matt Michels*, p. 11.

[9] As Mr. Dixon testified in In the Matter of the Application of Union Electric Company d/b/a Ameren Missouri for Approval of New and Modified Tariffs for Service to Large Load Customers, Case No. ET-2025-0184, Ex. 3, *Direct Testimony of Robert B. Dixon*, p. 11. "large customers strongly desire to be served by a utility whose power supply is of course reliable but that also reflects an appropriate and significant proportion of energy from clean energy resources. In fact, **many of these customers have goals to be served by 100% carbon free energy in the not-too-distant future**" (emphasis added). He also similarly testified in In the Matter of the Application of Evergy Metro, Inc. d/b/a Evergy Missouri Metro and Evergy Missouri West, Inc. d/b/a Evergy Missouri West for Approval of Tariffs Related to Service of Large Loads, Case No. EO-2025-0154, Tr. Vol. 3, p. 131-132; *Direct Testimony of Matt Michels*, p. 11; *Direct Testimony of Ajay K. Arora*, p. 4.

Mr. Michels also states, "it is important to replace the Company's fleet as aging coal-fired energy centers retire, ensuring reliability, maintaining affordability, and addressing risks regarding the over-reliance on fossil fuels, including exposure to future environmental regulations….While potential wind projects can also be attractive for providing additional energy generation, solar projects have proven to pose fewer implementation challenges relative to wind projects and provide energy generation during summer peak times."[10] Thus, again, solar fits the Company's needs.

Besides adding clean capacity, increased clean energy generation will reduce greenhouse gas emissions and thus improve conditions for better health of Missourians as well.[11]

Q: You mentioned potentially creating economic opportunities for the State. Will there be local economic benefits due to Reform?

A: Yes. Approximately 300 local jobs will be available at peak construction.[12] Furthermore, local businesses in the surrounding area will indirectly benefit due to increased business and activity in the area. Finally, as with all siting projects, the county government will benefit from property taxes or payments in lieu of taxes over the lifetime of the facility. Renew Missouri conducted a survey of eleven solar projects across the State. On average, each county government will receive $677,606 each year throughout the life

[10] *Direct Testimony of Matt Michels*, p. 10-11.
[11] https://moenvironment.org/blog/survey-shows-missouri-voters-support-state-plan-to-cut-carbon-pollution/
https://www.kbia.org/missouri-news/2024-04-26/new-epa-standards-to-protect-health-will-force-missouri-power-plants-to-reduce-emissions
https://dnr.mo.gov/air/get-involved/help-improve-air-quality
https://www.nrdc.org/sites/default/files/CPP-Missouri-Compliance-IB.pdf
https://www.epa.gov/ks/region-7-air-quality-program
https://climate.nasa.gov/news/3134/reducing-emissions-to-lessen-climate-change-would-yield-dramatic-health-benefits-by-2030/
https://www.epa.gov/climateimpacts/climate-change-impacts-health
https://pmc.ncbi.nlm.nih.gov/articles/PMC4953604/
[12] *Direct Testimony of Scott Wibbenmeyer*, p. 18.

of the projects, either in property taxes or payments in lieu of taxes. Much of this will directly benefit local schools (an average of $472,151 per project per year), emergency programs, and other county initiatives.

Q: Are there opportunities for expanding this project if more capacity is needed?

A: As both Mr. Wibbenmeyer and Mr. Arora referenced in their direct testimony, the Reform site is particularly well-designed and prepared for BESS expansion.[13] Mr. Arora stated 100-250 MW of BESS could be implemented at the site, and the interconnection and transmission upgrades that are part of Reform would facilitate the additional capacity.[14]

Q: Do you have thoughts on adding BESS capacity to Reform?

A: Renew Missouri urges the Company to pursue adding BESS capacity as soon as possible. While Renew Missouri did not complete our own financial analysis, general knowledge and information available about the energy sector industry clearly show BESS is one of the quickest and cheapest ways to add both capacity and dispatchability today.[15] Furthermore, it adds stability to renewable generation, making solar and other renewable sources more dispatchable. Batteries can be charged and discharged more than once a day, so it can also help economically, charging when market prices are low and discharging during peaks when energy costs are high. All of which helps keep prices lower for customers.

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[13] *Direct Testimony of Ajay K. Arora*, p. 12; *Direct Testimony of Scott Wibbenmeyer*, p. 6.

[14] *Direct Testimony of Ajay K. Arora*, p. 12.

[15] Stock, K., Chediak, M., & Saul, J. (2025, December 4). Soyou want an AI boom. Bloomberg Newsletter: GreenDaily. Retrieved December 4, 2025, from www.bloomberg.com/news/newsletters/2025-12-04/how-trump-s-renewables-roadblocks-can-stall-the-ai-boom?cmpid=BBD120425_GREENDAILY&utm_medium=email&utm_source=newsletter&utm_term=251204&utm_campaign=greendaily

McCarthy, D. (2025, October 31). Chart: Batteries are set to surge onto the US grid. Canary Media. Retrieved December 4, 2025, from www.canarymedia.com/articles/batteries/us-energy-storage-growth-2030-bloombergnef

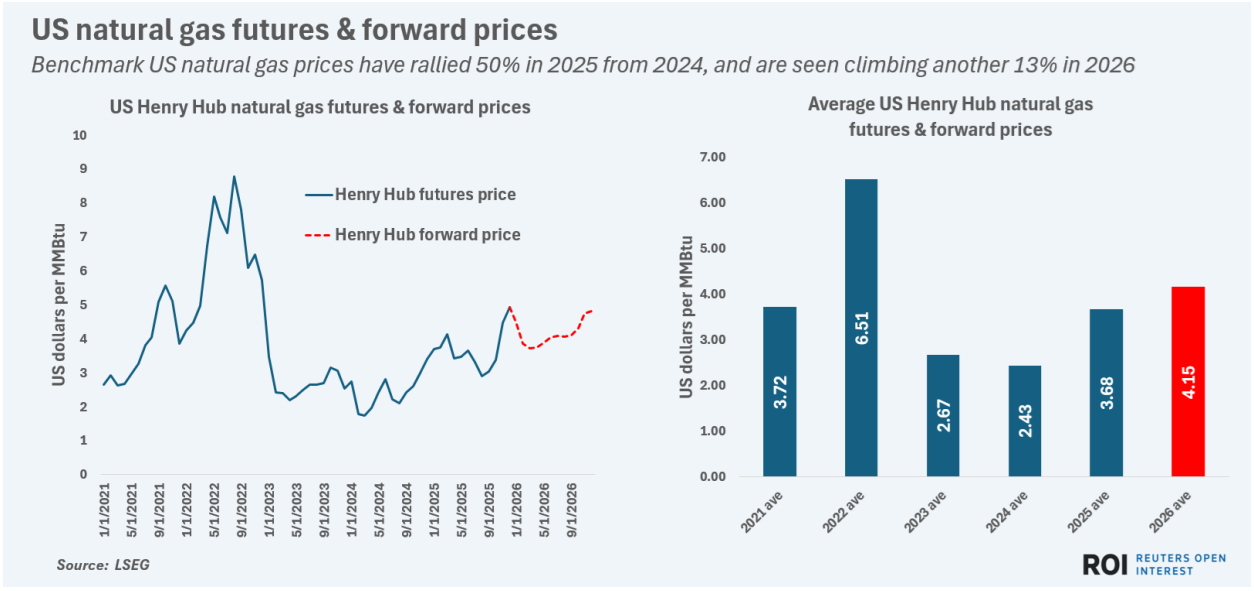
Using BESS to protect against natural gas price volatility is especially relevant in light of the predicted winter storm heading towards the service region this weekend, which has provoked a spike in natural gas prices. "Natural gas prices in the US are up 40% over the past two days. From $3 to almost $5 per MMBtu today, Wednesday, Jan 21, 2026."[16] This same pattern occurred in 2025. "Between January 3 and March of [2025], U.S. gas prices jumped by a third due to a cold snap and strong [liquid natural gas] exports....A similar pattern seems to be unfolding as 2025 winds down, with...gas-fired output getting pared back as gas prices approach three-year highs and strain the budgets of power suppliers" (see Charts 1 and 2).[17]

[16] Downey, M. (2026, January 21). Retrieved January 21, 2026, from https://x.com/morgan_downey/status/2013938716289491234?s=46.

[17] Maguire, G. (2025, December 3). High and rising natural gas costs may spur fresh climb in US coal use. Reuters:Commodities. Retrieved December 5, 2025, from https://www.reuters.com/markets/commodities/energy/high-rising-natural-gas-costs-may-spur-fresh-climb-us-coal-use-2025-12-03/?utm_source=Sailthru&utm_medium=Newsletter&utm_campaign=Power-Up&utm_term=120425&lctg=67ed690782623f2b960eb5e8

CHART 1[18]

CHART 2[19]



[18] *Id.*
[19] *Id.*

Other states have added exceptional amounts of BESS in the last couple of years, which has "displac[ed] some natural-gas use" and helped "staveoff" grid emergencies as BESS is not susceptible to winter reliability issues like natural gas facilities and pipelines.[20] "Major reliability events are nearly always the result of grid failure incidents such as wires frying or being damaged by trees….None of the recent events that have occurred in markets with high shares of renewables have been caused by over-reliance on renewables to provide sufficient electricity supplies."[21] In short, adding BESS helps hedge against natural gas price volatility and protect against weather-related reliability issues.

BESS paired with solar generation is also an extremely efficient source of energy. Energy loss from thermal generation (coal, natural gas, and/or nuclear) is substantially higher compared to battery storage, so BESS is a good investment. Thermal generation losses, on average, are about 66% in the generation process, leaving only about 30-35% efficiency.[22]

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[20] McCarthy, D. (2025, October 31). Chart: Batteries are set to surge onto the US grid. Canary Media. Retrieved December 4, 2025, from www.canarymedia.com/articles/batteries/us-energy-storage-growth-2030-bloombergnef
Staff of the Federal Energy Regulatory Commission. (2024, November 21). Winter Energy Market and Electric Reliability Assessment [A Staff Report to the Commission]. FERC Files. Retrieved December 4, 2025, from https://www.ferc.gov/sites/default/files/2024-11/Winter%20Assessment%202024-2025%20Long%20Version.pdf
Arbaje, P. (2023, December 14). How Gas Plants Fail and Lead to Power Outages in Extreme Winter Weather. Union of Concerned Scientists blog. Retrieved December 4, 2025, https://blog.ucs.org/paul-arbaje/how-gas-plants-fail-and-lead-to-power-outages-in-extreme-winter-weather/

"Recent extreme winter storms have triggered widespread gas plant failures, knocking many plants offline at the same time...These storms can cause direct failures at the plants themselves, as well as indirect failures through disruptions of the gas system that delivers fuel to the plants. When a storm is severe enough, all the primary components of this delivery chain can be, and have been, affected—from the production wells, to the gas processing facilities, to pipelines, all the way to the power plants." Gas plants "made up a disproportionately larger percentage of the power plant failures."

[21] Hogan, M., Scott, D. (2022, December 14). Knowledge Center: Power Outage Rapid Response Toolkit. Regulatory Assistance Project. Retrieved January 22, 2026, from https://www.raponline.org/knowledge-center/power-outage-rapid-response-toolkit/.

[22] Shively, B. How Much Primary Energy Is Wasted Before Consumers See Value from Electricity? Energy Currents. Retrieved January 15, 2026, from https://www.enerdynamics.com/Energy-Currents_Blog/How-Much-Primary-Energy-Is-Wasted-Before-Consumers-See-Value-from-Electricity.aspx#:~:text=First%2C%20let's%20consider%20the%20primary,electricity%20through%20the%20T&D%20system.
Kirk, K. (2022, October 24). Energy loss is single-biggest component of today's electricity system. Yale Climate Connections. Retrieved January 15, 2026, from https://yaleclimateconnections.org/2022/10/energy-loss-is-single-biggest-component-of-todays-electricity-system/

BESS experiences only 10-15% loss between inverters and charging/discharging batteries for a total 85-90% efficiency in comparison.[23] Renewable energy sources, such as solar, do not use thermal generation and no energy is lost during generation.[24] When paired with BESS, a solar energy system can generate and store energy while maintaining around 87% efficiency. Natural gas with BESS, on the other hand, retains only about 38.7% efficiency after generation and storage (see Table 1).

Walter, D., Bond, K., Lovins, A., Speelman, K., Gulli, C., Butler-Sloss, S. (2024, June 4). The Incredible Inefficiency of the Fossil Energy System. Rocky Mountain Institute. Retrieved January 15, 2026, from https://rmi.org/the-incredible-inefficiency-of-the-fossil-energy-system/#:~:text=Fossil%20technology%20drives%20losses%20throughout,half%20the%20energy%20waste%20globally.

U.S. Energy Information Administration. (July 21, 2020). Monthly Energy Review. Retrieved January 15, 2026, from https://www.eia.gov/todayinenergy/detail.php?id=44436#

[23] *Id.*

[24] Walter, D., Bond, K., Lovins, A., Speelman, K., Gulli, C., Butler-Sloss, S. (2024, June 4). The Incredible Inefficiency of the Fossil Energy System. Rocky Mountain Institute. Retrieved January 15, 2026, from https://rmi.org/the-incredible-inefficiency-of-the-fossil-energy-system/#:~:text=Fossil%20technology%20drives%20losses%20throughout,half%20the%20energy%20waste%20globally.

Table 1: Energy Generation Efficiency		
	Solar Generation	**Natural Gas Generation**
Generation Efficiency	100%[25]	45%[26]
Battery Efficiency	86%[27]	86%
Total Efficiency	86% of 100% = **86%**	86% of 45% =**38.7%**

As previously mentioned, adding more clean and dispatchable capacity with BESS increases appeal and potentially draws more large load customers into the service area. This, in turn, would further stimulate economic investment, growth, and development in the State.

Finally, "battery storage projects will have tax credits available through 2033."[28] If additional BESS capacity is being considered at this site, as implied by Mr. Wibbenmeyer and Mr. Arora, it makes sense to complete the BESS addition while the project is eligible

[25] Inefficiency of the Fossil Energy System. Rocky Mountain Institute. Retrieved January 15, 2026, from https://rmi.org/the-incredible-inefficiency-of-the-fossil-energy-system/#:~:text=Fossil%20technology%20drives%20losses%20throughout,half%20the%20energy%20waste%20globally.

[26] U.S. Energy Information Administration. (July 21, 2020). Monthly Energy Review. Retrieved January 15, 2026, from https://www.eia.gov/todayinenergy/detail.php?id=44436#

[27] Kirk, K. (2022, October 24). Energy loss is single-biggest component of today's electricity system. Yale Climate Connections. Retrieved January 15, 2026, from https://yaleclimateconnections.org/2022/10/energy-loss-is-single-biggest-component-of-todays-electricity-system/

Mongird, K., Viswanathan, V., Alam, J., Vartanian, C., Sprenkle, V., Baxter, R. (2020, December). 2020 Grid Energy Storage Technology Cost and Performance Assessment. *United States Department of Energy. Energy Storage Grand Challenge.* Accessed January 22, 2026, from https://www.pnnl.gov/sites/default/files/media/file/Final%20-%20ESGC%20Cost%20Performance%20Report%2012-11-2020.pdf

[28] Walton, R., & DiGangi, D. (2025, August 27).US utility-scale storage outlook ticks upward post-OBBBA. UtilityDive. Retrieved December 4, 2025, from www.utilitydive.com/news/EIA-utility-scale-storage-outlook-ticks-upward-post-obbba/758710/

for tax credits; the merits of which have already been discussed and monetarily valued in their direct testimony.[29]

III. CONCLUSION

Q: Can you please summarize your testimony and recommendations?

A: Renew Missouri recommends the Commission approve Ameren Missouri's CCN for the Reform solar project and urges Ameren Missouri to add BESS to the Reform Project as soon as they can reasonably do so..

Q: Does this conclude your testimony?

A: Yes.

[29] *Direct Testimony of Ajay K. Arora*, p. 4, 12; *Direct Testimony of Scott Wibbenmeyer*, p. 6, 13-18; *Direct Testimony of Matt Michels*, p. 22, 28, 30; *Direct Testimony of Steven M. Wills,* p. 11.

BEFORE THE PUBLIC SERVICE COMMISSION
OF THE STATE OF MISSOURI

In the Matter of the Application of Union Electric Company, d/b/a Ameren Missouri, for Permission and Approval and Certificate of Public Convenience and Necessity for a Renewable Generation Facility.	)))))	**File No. EA-2025-0239**

AFFIDAVIT OF JESSICA POLK SENTELL

STATE OF MISSOURI)
) **ss**
COUNTY OF WAYNE)

COMES NOW Jessica Polk Sentell, and on her oath states that she is of sound mind and lawful age; that she prepared the foregoing Rebuttal Testimony; and that the same is true and correct to the best of her knowledge and belief.

Further the Affiant sayeth not.

Jessica Polk Sentell

Subscribed and sworn before me this 23th day of January 2026.

TABITHA BRINKLEY
Notary Public - Notary Seal
STATE OF MISSOURI
Wayne County
My Commission Expires: January 24, 2028
Commission # 24365065

Notary Public

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