Exhibit No.:
Issues: Revenue Requirement
Witness: Greg R. Meyer
Type of Exhibit: Direct Testimony
Sponsoring Party: Midwest Energy Consumers Group
Case No.: ER-2024-0319
Date Testimony Prepared: December 3, 2024

BEFORE THE PUBLIC SERVICE COMMISSION
OF THE STATE OF MISSOURI

IN THE MATTER OF UNION ELECTRIC COMPANY D/B/A AMEREN MISSOURI'S TARIFFS TO ADJUST ITS REVENUES FOR ELECTRIC SERVICE	))))))	**CASE NO. ER-2024-0319**

Direct Testimony and Schedule of

Greg R. Meyer

On behalf of

Midwest Energy Consumers Group

REDACTED VERSION

December 3, 2024

BAI
BRUBAKER & ASSOCIATES, INC.

Project 11700.1

BEFORE THE PUBLIC SERVICE COMMISSION
OF THE STATE OF MISSOURI

IN THE MATTER OF UNION ELECTRIC COMPANY D/B/A AMEREN MISSOURI'S TARIFFS TO ADJUST ITS REVENUES FOR ELECTRIC SERVICE	)	**CASE NO. ER-2024-0319**

STATE OF MISSOURI)
) **SS**
COUNTY OF ST. LOUIS)

Affidavit of Greg R. Meyer

Greg R. Meyer, being first duly sworn, on his oath states:

1. My name is Greg R. Meyer. I am a consultant with Brubaker & Associates, Inc., having its principal place of business at 16690 Swingley Ridge Road, Suite 140, Chesterfield, Missouri 63017. We have been retained by the Midwest Energy Consumers Group in this proceeding on their behalf.

2. Attached hereto and made a part hereof for all purposes is my Direct Testimony and Schedule which were prepared in written form for introduction into evidence in Missouri Public Service Commission Case No. ER-2024-0319.

3. I hereby swear and affirm that the testimony and schedule are true and correct and that they show the matters and things that they purport to show.

Greg R Meyer
Greg R. Meyer

Subscribed and sworn to before me this 3rd day of December, 2024.

ADRIENNE JEAN NAVARRO
Notary Public - Notary Seal
STATE OF MISSOURI
Jefferson County
My Commission Expires: Mar. 22, 2025
Commission # 21989987

Adrienne S Navarro
Notary Public

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Direct Testimony of Greg R. Meyer

I. INTRODUCTION

Q PLEASE STATE YOUR NAME AND BUSINESS ADDRESS.

A Greg R. Meyer. My business address is 16690 Swingley Ridge Road, Suite 140, Chesterfield, MO 63017.

Q WHAT IS YOUR OCCUPATION?

A I am a consultant in the field of public utility regulation and a Senior Principal with the firm of Brubaker & Associates, Inc. ("BAI"), energy, economic and regulatory consultants.

Q PLEASE DESCRIBE YOUR EDUCATIONAL BACKGROUND AND EXPERIENCE.

A This information is included in Appendix A to my testimony.

Q ON WHOSE BEHALF ARE YOU APPEARING IN THIS PROCEEDING?

A I am appearing on behalf of Midwest Energy Consumers Group ("MECG").

Q WHAT IS THE PURPOSE OF YOUR DIRECT TESTIMONY?

A My direct testimony will discuss the continued underperformance of the High Prairie Wind Farm ("High Prairie"). I will discuss certain adjustments that should be made to Ameren Missouri's cost of service to recognize this underperformance.

II. HIGH PRAIRIE

Q PLEASE DESCRIBE HIGH PRAIRIE AND WHEN IT BEGAN COMMERCIAL OPERATION.

A High Prairie is a wind farm located in Adair and Schuyler counties in Missouri. High Prairie consists of 175 turbines with a 400 Megawatt ("MW") nameplate capacity. High Prairie was placed in commercial operation in December 2020.

Q PLEASE DESCRIBE THE OPERATIONAL DIFFICULTIES THAT INDICATES HIGH PRAIRIE HAS UNDERPERFORMED.

A During normal operations, High Prairie encountered a significant number of bat and bird deaths that were traced back to the operation of the wind farm. As a result of those deaths, on April 19, 2021, Ameren Missouri voluntarily stopped all nighttime operations of the wind farm. The nighttime operating restriction lasted until October 31, 2021. Further bird and bat deaths occurred, and High Prairie was restricted in nighttime operations in 2022, starting March 21, 2022. Operating restrictions remain in place.

Q WHY ARE HIGH PRAIRIE'S NIGHTTIME OPERATIONS RESTRICTED?

A The nighttime restriction coincides with the season of high bat activity (bat season) (April 1-October 31). During this period of time, bats are more prevalent in the area at

nighttime. By restricting High Prairie's operations during the night in bat season, it is believed that bird and bat deaths will be reduced.

Q ARE YOU AWARE OF ANY OTHER PERFORMANCE ISSUES INVOLVING HIGH PRAIRIE THAT HAVE OCCURRED SINCE AMEREN MISSOURI'S LAST RATE CASE?

A Yes, there have been three incidents. On April 28, Turbine G-08 collapsed.[1] High Prairie was curtailed during the day and night from April 28-May 16.

In another incident, on August 25, Turbine B-11 collapsed.[2] High Prairie was curtailed during the day and night from August 25-September 10. It should be noted that some of the wind turbines were allowed to operate beginning on August 30, but the entire site was not allowed to resume operations until September 10.

Finally, on October 31, 2024, another wind turbine collapsed. Two blades fell to the ground followed by the base bending and fully collapsing to the ground.[3]

I would also note that these incidents did not occur during the test year in this rate case (April 1, 2023-March 31, 2024). However, I will be discussing these events in a later section of my Direct Testimony.

[1]KTVO News: "wind turbine crashes down in Schuyler County, Ameren responds." April 28, 2024. Accessed November 22, 2024.

[2]KTVO News: "UPDATED: wind turbine collapses in Schuyler County." August 25, 2024. Accessed November 22, 2024.

[3]KTVO News: "Another turbine collapses in Schuyler County, Ameren to investigate." October 31, 2024. Accessed December 2, 2024.

Q SHOULD THE LIMITATION OF OPERATING HOURS FOR HIGH PRAIRIE CAUSE ANY CONCERNS FOR AMEREN MISSOURI'S RATEPAYERS?

A Yes. Ameren Missouri's ratepayers are paying in rates at a full rate of return on the High Prairie investment, yet that investment is being curtailed for a significant amount of time.

Q HAVE YOU FILED TESTIMONY IN PREVIOUS AMEREN MISSOURI RATE CASES ADDRESSING THE UNDERPERFORMANCE OF HIGH PRAIRIE?

A Yes. I have filed testimony in Ameren Missouri's previous two rate cases discussing High Prairie's underperformance. In Case No. ER-2021-0240, I filed Direct, Rebuttal and Surrebuttal Testimonies addressing High Prairie. In Case No. ER-2022-0337, I filed Rebuttal and Surrebuttal Testimonies discussing High Prairie's underperformance.

Q WHAT IS THE CURRENT CURTAILMENT OF HIGH PRAIRIE AND WHAT PORTION OF THE HOURS IN A YEAR DOES THAT REPRESENT?

A Currently, High Prairie is curtailed from 45 minutes before sunset to 45 minutes after sunrise from April 1st through October 31st. The hours of curtailment represent approximately 29.46% of the hours in a year.

Q HOW MUCH HISTORICAL GENERATION HAS HIGH PRAIRIE PRODUCED?

A I have prepared Table GRM-1 that shows the historical generation of High Prairie.

Table 1

High Pairie Generation

Year	Month	Generation (MWh) (1)	Capacity Factor (2)
2021	January	84,941	28.54%
	February	80,914	30.10%
	March	128,216	43.08%
	April	75,902	26.35%
	May	63,977	21.50%
	June	38,199	13.26%
	July	17,916	6.02%
	August	25,629	8.61%
	September	27,442	9.53%
	October	29,566	9.93%
	November	89,494	31.07%
	December	139,048	46.72%
2022	January	137,401	46.17%
	February	131,383	48.88%
	March	113,302	38.07%
	April	61,302	21.29%
	May	58,021	19.50%
	June	37,357	12.97%
	July	24,663	8.29%
	August	21,406	7.19%
	September	27,679	9.61%
	October	44,040	14.80%
	November	148,975	51.73%
	December	131,522	44.19%
2023	January	120,402	40.46%
	February	133,491	49.66%
	March	141,601	47.58%
	April	68,839	23.90%
	May	33,455	11.24%
	June	32,249	11.20%
	July	20,941	7.04%
	August	26,189	8.80%
	September	23,774	8.25%
	October	43,832	14.73%
	November	126,907	44.06%
	December	103,730	34.86%
2024	January	107,647	36.17%
	February	130,588	46.91%
	March	145,932	49.04%
	April	76,746	26.65%
	May	17,377	5.84%
	June	51,483	17.88%
	July	29,698	9.98%
	August	23,160	7.78%
	2021 Total	801,244	22.87%
	2022 Total	937,051	26.74%
	2023 Total	875,410	24.98%
	Test Year 12 Months Ending March 2024	864,083	24.59%
	12- Months to Date - August 2024	880,874	25.07%

_____

Source:

EIA-923. Capacity Factor calculated assuming a base of 400 MW.

As can be seen from Table 1, the annual generation from High Prairie fluctuates each year from 2021 – 12 months ending August 2024. The variance in output is somewhat attributed to the operating constraints placed on High Prairie. However, the test-year generation from High Prairie was approximately 864,000 Megawatthours ("MWh").

Q WHAT HAS AMEREN MISSOURI DONE TO ADDRESS THIS HIGH PRAIRIE UNDERPERFORMANCE ISSUE?

A As discussed in the Direct Testimony of Ameren Missouri witness Andrew Meyer in the last Ameren Missouri last rate case (Case No. ER-2022-0337), Ameren Missouri had implemented three distinct mitigation projects to decrease bat deaths at High Prairie. Specifically, Ameren Missouri implemented: (1) a Detection and Active Response Curtailment ("DARC") system (a.k.a. EchoSense); (2) a Bat Deterrent System; and (3) a Modeled Curtailment study.

Q PLEASE DESCRIBE EACH OF THESE MITIGATION PROJECTS AND THE CURRENT USE OF THOSE MITIGATION PROJECTS.

A The DARC system listens for bat echolocation calls. If bat calls are detected by the DARC system, a pause command is delivered to the wind turbines to pitch the blades or rotate the blades, so they no longer catch the wind. The wind turbines are curtailed for 10 minutes assuming no new bat calls are recorded in the area. The DARC system indicates that it can reduce incidental bat takes and allow an increase in nighttime generation across the High Prairie site. Ameren Missouri plans to continue to test the DARC system in 2025.[4]

[4] *See* Company Response to MECG Data Request 1-8.

The Bat Deterrent system (NRG Systems Ultrasonic Acoustic Bat Deterrent) uses constant ultrasonic noise to deter bats from flying around the turbine blades. The noise makes it difficult for the bat to forage and orient itself, therefore, requiring the bat to choose airspace that is devoid of noise. Preliminary review of this mitigation project found that Ameren Missouri believed the bat activity was still too high to be effective enough to align with the parameters of the United States Fish and Wildlife Service Incidental Take Permit. The Bat Deterrent systems are still operational and functioning as designed, but additional testing and further installations have not been initiated.[5]

The Modeled Curtailment system (West Optimized Smart Curtailment Model Curtailment Study) entails curtailing wind turbines based on real-time weather conditions when bats are known to be active. West weather equipment was placed on 20 test turbines across the site. West evaluated the study data in late 2022 and developed an optimized smart curtailment control algorithm. Ameren Missouri began to operate the site under active curtailment (EchoSense) and used the model data from West to guide various decisions on operating the site. The current algorithm that was prepared by West is benefitting from additional data and may be used in the future as an additional mitigation project.[6]

Q PLEASE PROVIDE YOUR POSITION REGARDING THE UNDERPERFORMANCE OF HIGH PRAIRIE.

A I would propose that the shortfall in generation from High Prairie be valued from an energy revenue stream, a Production Tax Credit ("PTC") revenue stream and a Renewable Energy Credit ("REC") revenue stream. I calculate the value of my

[5] *Ibid*.
[6] *Ibid*.

adjustments to these three revenue streams on Confidential Schedule GRM-1. I want to clarify that these adjustments are being proposed for the underperformance of High Prairie as a result of the nighttime operating restrictions being placed on the site. I will discuss the treatment of the three isolated turbine failures later in my testimony.

Q HOW DO YOU PROPOSE TO ACCOUNT FOR THESE NEW REVENUE STREAMS?

A I propose that the energy and PTC revenue streams be accounted for through Ameren Missouri's Fuel Adjustment Clause ("FAC"). I propose that the REC revenue stream be accounted for in the Company's Renewable Energy Standard Rate Adjustment Mechanism ("RESRAM").

Q WHAT ANNUAL CAPACITY FACTOR DID AMEREN MISSOURI PROJECT FOR HIGH PRAIRIE WHEN IT FILED FOR A CERTIFICATE OF PUBLIC CONVENIENCE AND NECESSITY ("CCN")?

A Ameren Missouri projected a high annual capacity factor of ******* and a low annual capacity factor of *********. These annual capacity factors are much higher than what has actually occurred at High Prairie since it began operations.

Q DID AMEREN MISSOURI PROPOSE IN THIS RATE CASE TO ADJUST THE ACTUAL GENERATION OF HIGH PRAIRIE?

A Yes. Ameren Missouri witness Mark Peters adjusted the generation of High Prairie to reflect an approximate ******* capacity factor for use in Ameren Missouri's fuel model. However, it is unclear if Mr. Peters applied that capacity factor adjustment to monetize lost PTC revenue stream and the REC revenue stream that I discussed earlier.

Q PLEASE DESCRIBE THE ADJUSTMENTS YOU ARE PROPOSING TO ACCOUNT FOR THE UNDERPERFORMANCE OF HIGH PRAIRIE.

A I propose to capture the difference between the PTC revenues included in Ameren Missouri's income tax calculation assigned to High Prairie and the PTC's that would be generated utilizing a ******* capacity factor. I used the PTC value of $29 factored-up for income taxes.[7]

I propose the same approach for the energy revenue stream by multiplying the difference between a ******* capacity factor and the energy included in Ameren Missouri's fuel run. The difference is multiplied by the average energy price ($27.22 per MWh) from the Mid-Continent System Operator ("MISO") prices during periods of curtailment. The result of these two revenue streams increases revenues by approximately $10.9 million.

Q PLEASE DESCRIBE HOW YOU GOT THE AVERAGE ENERGY PRICE.

A I averaged the MISO energy market prices for the period from April 1 – October 31, 2024 during the nighttime when High Prairie has restricted operations.

Q PLEASE DESCRIBE THE REC REVENUE STREAM.

A The REC revenue stream was developed by multiplying the shortfall in energy from the ********* capacity factor times the current REC price of $2.37 a REC.[8] These are Missouri's RECs, so the value is 1.25x the MWhs produced.[9] This produced a REC revenue stream of $370,419.

[7] *See* Company Response to MECG Data Request 1-11.
[8] *See* Company Response to MECG Data Request 1-5.
[9] *See* Missouri Revised Statutes § 393.1030.

Q TURNING YOUR ATTENTION TO THE THREE TURBINE FAILURES THAT HAVE OCCURRED IN 2024, PLEASE DISCUSS THE RATEMAKING TREATMENT YOU ARE PROPOSING FOR THESE INCIDENTS.

A I am treating these three incidents as isolated occurrences. I am hopeful that these events do not become recurring annual turbine failures. By recognizing these as isolated events, I am not proposing to reduce base rates for the impact these events had on the lost energy, PTC and REC revenues.

Q HOW ARE YOU PROPOSING TO RECOGNIZE THE OPERATIONAL FAILURES OF HIGH PRAIRIE?

A I propose that these event impacts, along with any ongoing underperformance, be captured in the FAC. I propose that actual net energy costs experienced in any FAC Accumulation Period should be reduced by the amount of under performance multiplied by the average locational marginal price for the generation mode. This under performance should be calculated as the nameplate capacity of High Prairie multiplied by the number of hours in the accumulated period and the ********* assumed capacity factor, less the actual energy produced by High Prairie. The total FAC to be recovered should be reduced by the lost PTCs. Additionally, the RECs related to the underperformance should be reflected in the RESRAM.

Q DOES THIS CONCLUDE YOUR DIRECT TESTIMONY?

A Yes, it does.

Qualifications of Greg R. Meyer

Q PLEASE STATE YOUR NAME AND BUSINESS ADDRESS.

A Greg R. Meyer. My business address is 16690 Swingley Ridge Road, Suite 140, Chesterfield, MO 63017.

Q PLEASE STATE YOUR OCCUPATION.

A I am a consultant in the field of public utility regulation and a Senior Principal with the firm of BAI, energy, economic and regulatory consultants.

Q PLEASE SUMMARIZE YOUR EDUCATIONAL BACKGROUND AND EXPERIENCE.

A I graduated from the University of Missouri in 1979 with a Bachelor of Science Degree in Business Administration, with a major in Accounting. Subsequent to graduation I was employed by the Missouri Public Service Commission. I was employed with the Commission from July 1, 1979 until May 31, 2008.

I began my employment at the Missouri Public Service Commission as a Junior Auditor. During my employment at the Commission, I was promoted to higher auditing classifications. My final position at the Commission was an Auditor V, which I held for approximately ten years.

As an Auditor V, I conducted audits and examinations of the accounts, books, records and reports of jurisdictional utilities. I also aided in the planning of audits and investigations, including staffing decisions, and in the development of staff positions in which the Auditing Department was assigned. I served as Lead Auditor and/or Case Supervisor as assigned. I assisted in the technical training of other auditors, which included the preparation of auditors' workpapers, oral and written testimony.

During my career at the Missouri Public Service Commission, I presented testimony in numerous electric, gas, telephone and water and sewer rate cases. In addition, I was involved in cases regarding service territory transfers. In the context of those cases listed above, I presented testimony on all conventional ratemaking principles related to a utility's revenue requirement. During the last three years of my employment with the Commission, I was involved in developing transmission policy for the Southwest Power Pool as a member of the Cost Allocation Working Group.

In June of 2008, I joined the firm of BAI as a Consultant. Since joining the firm, I have presented testimony and/or testified in the state jurisdictions of Arkansas, Florida, Idaho, Illinois, Indiana, Iowa, Kentucky, Maryland, Missouri, Montana, New Mexico, Ohio, Utah, Washington, Wisconsin and Wyoming. I have also appeared and presented testimony in Alberta and Nova Scotia, Canada. In addition, I have filed testimony at the Federal Energy Regulatory Commission ("FERC"). These cases involved addressing conventional ratemaking principles focusing on the utility's revenue requirement. The firm Brubaker & Associates, Inc. provides consulting services in the field of energy procurement and public utility regulation to many clients including industrial and institutional customers, some utilities and, on occasion, state regulatory agencies.

More specifically, we provide analysis of energy procurement options based on consideration of prices and reliability as related to the needs of the client; prepare rate, feasibility, economic, and cost of service studies relating to energy and utility services; prepare depreciation and feasibility studies relating to utility service; assist in contract negotiations for utility services, and provide technical support to legislative activities.

In addition to our main office in St. Louis, the firm also has branch offices in Corpus Christi, Texas; Louisville, Kentucky; and Phoenix, Arizona.

REDACTED

Ameren Missouri

High Prairie Wind Farm Capacity Adjustment

Line	Description	Amount
1	Nameplate Capacity (MW) of High Prairie Wind Farm[1]	400
2	Capacity Factor Assumed in CPCN Case[2]	** [redacted] **
3	Energy Produced (MWh) Under Assumed Conditions[3]	** [redacted] **
4	High Prairie Energy Assumed in Ameren Filing[4]	** [redacted] **
5	Energy (MWh) Under Amount from CPCN Case[5]	125,036
6	Wind Energy (MWh) Built into Ameren Filing[4]	2,793,467
7	Total Energy (MWh) That Should be Reflected in PTCs[6]	2,918,503
8	PTC Price per MWh Before Tax Gross-up[7]	$ 29.00
9	Value of PTCs Based on Assumed Conditions for High Prairie Before Tax Gross-Up[8]	$ 84,636,600
10	Value of PTCs Included in Ameren Filing[9]	$ 78,901,210
11	Understatement in PTC Value in Ameren Filing[10]	$ 5,735,390
12	Tax Gross-Up Factor[11]	1.313027426
13	Revenue Requirement Value of Understated PTCs[12]	**$ 7,530,724**
14	Dollar Value of MWh Produced at High Prairie During Curtailment Hours[13]	$ 27.22
15	Value of Understated High Prairie Energy[14]	**$ 3,403,142**
16	Average Price for Renewable Energy Credits[15]	$ 2.37
17	Missouri REC Gross-up to Energy Produced[16]	1.25
18	Value of Understated High Prairie REC Revenue[17]	**$ 370,419**
19	Total Value of High Prairie Adjustment[18]	**$ 11,304,285**

Sources & Notes:

[1] Union Electric Company FERC Form 1 for 2023, Page 410-411, Line 14.

[2] Direct Testimony of Ameren Missouri witness Matt Michaels in Case No. EA-2018-0202, Schedule MRM-D! (confidential version).

[3] Line 1 x Line 2 x 8,760 hours in a year

[4] Ameren Exhibit D-19, RESRAM - Energy Capacity Revenue

[5] Line 3 - Line 4

[6] Line 5 + Line 6

[7] Company Data Response to MECG Data Request 1-11.

[8] Line 7 x Line 8

[9] See Workpapers for Ameren Witness Stephen Hipkiss - Ameren Missouri Electric Revenue Requirement, tab IncomeTaxClaimed.

[10] Line 9 - Line 10

[11] See Tab Tax Gross-up Factor

[12] Line 11 x Line 12

[13] See Tab Hourly Data

[14] Line 5 x Line 14

[15] Company Data Response to MECG Data Request 1-5.

[16] See Missouri Revised Statutes §393.1030.

[17] Line 5 x Line 16 x Line 17

[18] Line 13 + Line 15 + Line 18