

**MISSOURI PUBLIC SERVICE COMMISSION
STAFF REPORT**

**ELEVENTH PRUDENCE REVIEW OF COSTS
RELATED TO THE FUEL ADJUSTMENT CLAUSE
FOR THE ELECTRIC OPERATIONS
OF
UNION ELECTRIC COMPANY,
d/b/a AMEREN MISSOURI**

FILE NO. EO-2025-0236

June 1, 2023 through September 30, 2024

*Jefferson City, Missouri
August 29, 2025*

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I. Executive Summary

Commission Rule 20 CSR 4240-20.090(11)¹ and Missouri Revised Statute Section 386.266.5(4) require that the Commission’s Staff (“Staff”) conducts prudence reviews of an electric utility’s FAC no less frequently than every 18 months. In this eleventh prudence review of Ameren Missouri’s FAC for the period June 1, 2023, through September 30, 2024, Staff analyzed items affecting Ameren Missouri’s total fuel costs, purchased power costs, net emission costs, transmission costs, off-system sales revenues, and interest for the forty-fourth, forty-fifth, forty-sixth, and forty-seventh, four-month accumulation periods² of Ameren Missouri’s FAC. Staff’s previous Ameren Missouri FAC prudence reviews are listed in Table 1:

Table 1

Prudence Review	File Number	Review Period
First	EO-2010-0255	March 1, 2008 through September 30, 2009
Second	EO-2012-0074	October 1, 2009 through May 31, 2011
Third	EO-2013-0407	June 1, 2011 through September 30, 2012
Fourth	EO-2015-0060	October 1, 2012 through May 31, 2014
Fifth	EO-2016-0228	June 1, 2014 through September 30, 2015
Sixth	EO-2018-0067	October 1, 2015 through May 31, 2017
Seventh	EO-2019-0257	June 1, 2017 through September 30, 2018
Eighth	EO-2021-0060	October 1, 2018 through May 31, 2020
Ninth	EO-2022-0236	June 1, 2020 through September 30, 2021
Tenth	EO-2024-0053	October 1, 2021 through May 31, 2023

¹ Effective January 30, 2019.

² Rate adjustments based on the four (4) four-month accumulation periods during this ninth prudence audit period were the subject of File Nos. ER-2024-0183, ER-2024-0275, ER-2025-0041 and ER-2025-0171.

1 In evaluating prudence, Staff reviews whether a reasonable person making the same
2 decision would find both the information the decision-maker relied on and the process
3 the decision-maker employed to be reasonable based on the circumstances at the time the
4 decision was made, *i.e.*, without the benefit of hindsight. If either the information relied upon
5 or the decision-making process employed was imprudent, then Staff examines whether the
6 imprudent decision caused any harm to ratepayers. Only if an imprudent decision resulted in
7 harm to Ameren Missouri’s customers, will Staff recommend a disallowance. However, if an
8 imprudent decision did not result in harm to Ameren Missouri’s customers, then Staff
9 may further evaluate the decision-making process and may recommend changes to the
10 company’s business practices going forward.

11 Staff analyzed a variety of items in examining whether Ameren Missouri prudently
12 incurred the fuel and purchased power costs associated with its FAC tariff sheets. Based on its
13 review and the information provided to Staff, Staff identified no evidence of imprudence at this
14 time by Ameren Missouri in the items it examined for the period of June 1, 2023, through
15 September 30, 2024.

16 **II. Introduction**

17 **A. General Description of Ameren Missouri’s FAC**

18 Ameren Missouri’s FAC requires that it accumulate its Actual Net Energy Cost
19 (“ANEC”);³ defined generally as variable fuel, purchased power, transmission and net
20 emissions and insurance recoveries costs less off-system sales revenue, during the four-month
21 accumulation periods (“AP”).⁴ Each four-month accumulation period is followed by an
22 eight-month recovery period (“RP”)⁵ during which ninety-five percent (95%) of the over- or
23 under-recovery of ANEC during the previous four-month accumulation period relative to the
24 Base Energy Cost (“B”) amount⁶ is returned to or collected from customers as part of a decrease
25 or an increase of the FAC Fuel and Purchased Power Adjustment (“FPA”) per kWh rate, which

³ “Actual Net Energy Cost” (ANEC) is equal to fuel costs (FC) plus costs of purchased power (PP) plus net emissions allowances (E) plus or minus net (R) insurance recoveries minus off-system sales revenue (OSSR), as defined on Ameren Missouri’s 1st Revised Sheet No. 71.17 through 1st Revised Sheet No. 71.22.

⁴ Accumulation periods are: February through May, June through September, and October through January.

⁵ Recovery periods are: October through May for each immediately preceding February through May accumulation period; February through September for each immediately preceding June through September accumulation period; and June through January for each immediately preceding October through January accumulation period.

⁶ “Net Base Energy Cost” (B) as defined on Ameren Missouri’s 1st Revised Sheet No. 71.23.

1 is the Fuel Adjustment Rate (“FAR”) for each accumulation period. Because the total amount
2 charged through the FAR rarely, if ever, will exactly match the required offset,
3 Ameren Missouri’s FAC is designed to true-up⁷ the difference between the revenues billed and
4 the revenues authorized for collection during recovery periods including interest at
5 Ameren Missouri’s short-term interest rate. Any disallowance the Commission orders as
6 a result of a FAC prudence review shall include interest at Ameren Missouri’s short-term
7 interest rate and will be accounted for as an adjustment⁸ item when calculating the FPA for a
8 future recovery period.

9 *Staff Expert/Witness: Brooke Mastrogiannis*

10 **B. Staff Review and Reconciliation of FERC Accounts**

11 Staff has reviewed all Federal Energy Regulatory Commission (“FERC”) accounts
12 related to Ameren Missouri’s FAC for this review period. FERC accounts subject for this
13 FAC review are: 411.8 Gains from Disposition of Allowances, 411.9 Losses from Disposition
14 of Allowances, 447 Sales for Resale, 456 Other Electric Revenues,⁹ 501 Fuel,
15 502 Consumables- Air Quality Control System (“AQCS”), 509 Allowances, 518 Nuclear Fuel
16 Expense, 547 Fuel, 555 Purchased Power, and 565 Transmission by Others.

17 Staff created independent work papers to reconcile the General Ledger, the
18 Monthly Reports, and the FAR Reports, which are based on three separate sources provided by
19 Ameren Missouri. These work papers were created to review and reconcile the FERC Accounts
20 listed in Table 2 and included in the calculation of the components of the ANEC presented in
21 Table 3.

22 Ameren Missouri provides its monthly General Ledger to the Commission as ongoing
23 surveillance data, which is a summary of all accounting transactions for the expenses and
24 revenues encompassed in the ANEC in Table 3. Staff sorted the General Ledger by each of
25 these FERC accounts listed in Table 2:

⁷ True-up of FAC is defined on Ameren Missouri’s 1st Revised Sheet No. 71.26.

⁸ See line item 4.3 on Ameren Missouri’s Sheet No. 71.32.

⁹ Effective July 9, 2023, per Case No. ER-2022-0337, 6.84% of allowable transmission revenues residing in FERC Account 456.1 are includable in the FAC. For the Review Period prior to July 9, 2023, the rate was 1.84%.

1

Table 2

Account Name	FERC Account Number
Fuel ¹⁰	501
Consumables-AQCS	502
Nuclear Fuel	518
Fuel/Natural Gas	547
Short-Term Energy Purchased Power Costs	555
Long-Term Purchased Power Contracts	555
Transmission Expense	565
Net Emission Allowances	411 and 509
Transmission Revenue	456.1
Net Insurance Recoveries	456
Off System Sales Revenue	447

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The transactions and totals for each FERC account by month and year from the General Ledger were reviewed for the Review Period. In addition to verifying that the total dollar amounts from these two accounting sources are equal, Staff reviewed expense and revenue transactions to identify any unusual dollar amounts, improperly categorized amounts, or categories of cost or revenue which are not allowed in the FAC's definition of ANEC.

8

Staff Expert/Witness: Brooke Mastrogiannis

9

C. Staff Regulatory Accounting Summary

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Staff analyzed the ANEC based on the transactions in the FERC accounts related to the calculation of the ANEC from three different sources: the General Ledger, the Monthly Reports, and the FAR work papers provided by Ameren Missouri. Staff analyzed, reviewed, and was able to reconcile these three individual sources to each other based on the individual line items categorized by Activity Code for the FERC accounts that captured Fuel Costs, Costs of Purchased Power (including Transmission Costs and Revenues), Net Emissions Allowance Costs, Net Insurance Recoveries, and Off-System Sales Revenues for the ANEC.

17

Staff Expert/Witness: Brooke Mastrogiannis

¹⁰ Uniform System of Accounts, Account 501.000; this account shall include the cost of fuel used in the production of steam for the generation of electricity.

D. Participation with Regional Transmission Organizations

As part of this review, Staff reviewed Ameren Missouri’s participation in Regional Transmission Organizations (“RTOs”). Ameren Missouri participates directly with three RTOs, Midcontinent Independent System Operator, Inc. (“MISO”),¹¹ Pennsylvania, New Jersey, and Maryland (“PJM”) Interconnection,¹² and Southwest Power Pool¹³ (“SPP”). Staff reviewed a wide variety of Ameren Missouri’s practices and procedures related to the RTOs, specifically MISO. Ameren Missouri directly participates in MISO’s Day-Ahead Market and Real-Time Energy Market. At a high level, these markets allow Ameren Missouri to offer-in and sell the energy it generates to MISO. In turn, Ameren Missouri must purchase back from MISO the energy needed to serve its native load. The practices and procedures related to these transactions are highly technical and complex. Ameren Missouri developed specialized front and back office¹⁴ practices and procedures to manage the large amounts of data associated with its market participation. Ameren Missouri utilizes specialized software¹⁵ to manage and analyze key components of the bid-to-settlement trading cycle and MISO activities for the Day-Ahead Market and Real-Time Energy Market. These processes and software include robust capabilities for settling and disputing a wide range of market transactions. Ameren Missouri uses this software to verify and shadow complex RTO charge codes and invoices, and customize contract settlements.

For this review, Staff sent several Data Requests to Ameren Missouri and requested, in detail, fuel procurement processes, MISO settlements/accounting practices and a variety of issues related to Ameren Missouri’s FAC. As a result of Staff’s understanding and experience with these practices and processes, Staff is reasonably assured that Ameren Missouri is

¹¹ MISO is a regional transmission organization that provides electric power across all or parts of 15 U.S. states and the Canadian province of Manitoba. MISO assures consumers have an unbiased regional grid management and open access to the transmission facilities under MISO’s functional supervision.

¹² PJM Interconnection (PJM) is a regional transmission organization that coordinates the movement of wholesale electricity in all or parts of Delaware, Illinois, Indiana, Kentucky, Maryland, Michigan, New Jersey, North Carolina, Ohio, Pennsylvania, Tennessee, Virginia, West Virginia, and the District of Columbia.

¹³ Southwest Power Pool is a regional transmission organization that manages the electric grid and wholesale power market for the central United States, with transmission lines spanning 14 states.

¹⁴ Front Office: A blanket term that refers to the portion of a company that deals with outside entities in its daily functions of buying, selling and trading of energy. Back Office: A blanket term that refers to the portion of a company made up of administration, accounting and settlement functions in support of the selling, buying and trading of energy.

¹⁵ Power Cost, Inc. (PCI), PCI GenManager®.

1 managing its participation in these markets effectively and maintains appropriate procedures
2 and processes to account for the results of such participation.

3 **1. Documents Reviewed**

- 4 a. Ameren Missouri’s responses to Staff Data Requests No. 0018, 0033, 0034,
5 0037, 0043, 0047 and 0048.

6 *Staff Expert/Witness: Amanda C. Conner*

7 **III. ACTUAL NET ENERGY COSTS**

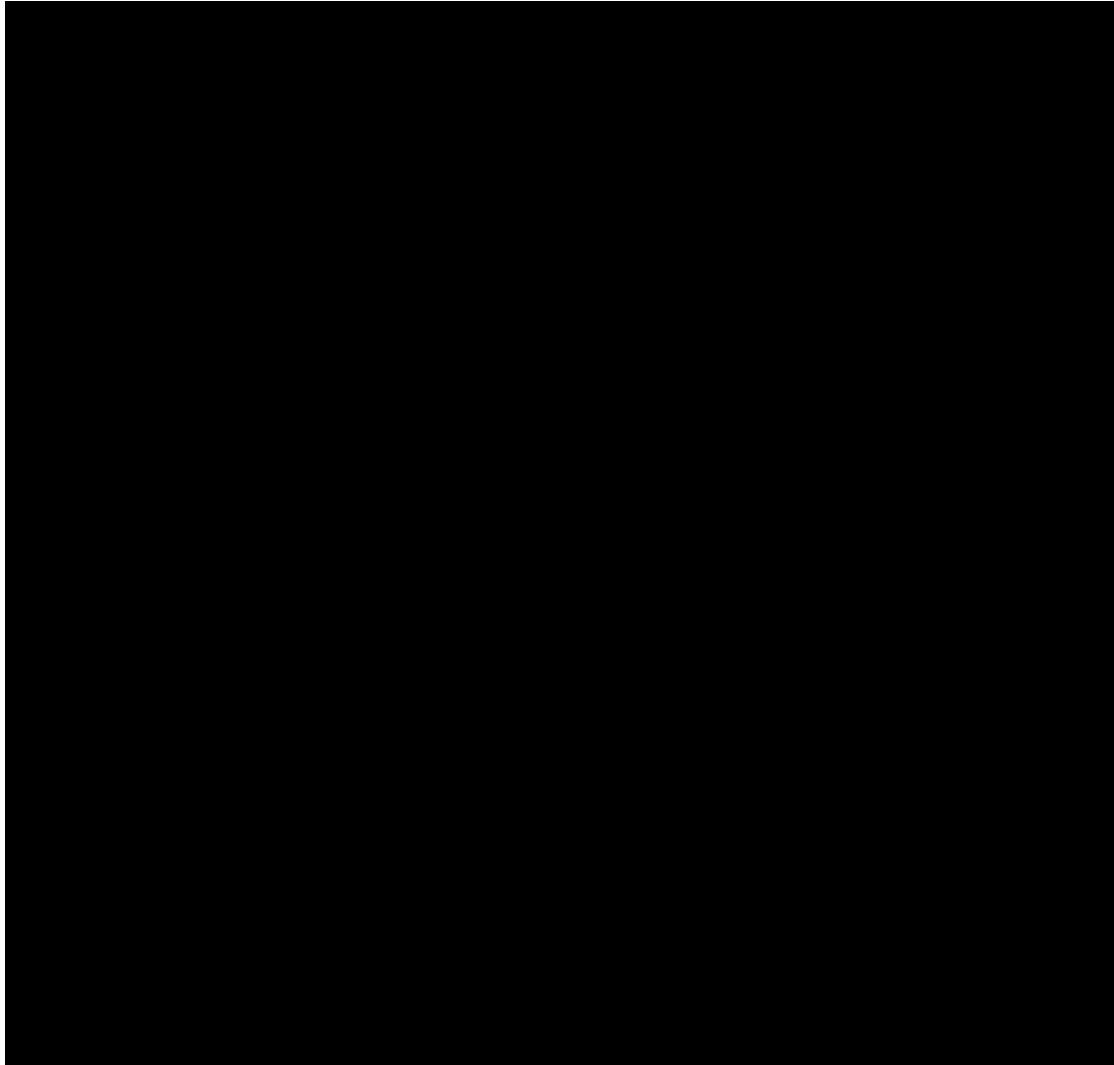
8 The Ameren Missouri FAC definition of Actual Net Energy Costs includes
9 three components of costs – fuel costs (“FC”), costs of purchased power (“PP”), and
10 net emissions allowance costs (“E”), and two components of revenue – net insurance recoveries
11 (“R”)¹⁶ and off-system sales revenues (“OSSR”). Table 3 is a breakdown of Ameren Missouri’s
12 fuel costs, costs of purchased power, net emissions allowance costs, and off-system sales
13 revenues for the period of June 1, 2023 through September 30, 2024:

14 *continued on next page*

¹⁶ According to the tariff, component R for net insurance recoveries could be an addition (cost) or subtraction (revenue) to the ANEC computation. Factor R includes net insurance recoveries and settlement proceeds related to costs/revenues included in the FAC, as well as the insurance premiums paid to maintain that insurance.

Table 3 – Confidential

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A. Risk Management

1. Description

Ameren Missouri’s risk management strategies encompass a wide range of activities. The *Ameren Missouri Commodity Risk Management Policy* (“CRMP”)¹⁷ identifies the following strategies Ameren Missouri will pursue to manage commodities’ risks:¹⁸

¹⁷ Ameren Missouri Commodity Risk Management Policy, Versions: 2023.2, March 30, 2023; 2023.3, July 5, 2023; 2023.4, November 29, 2023; 2024.1, January 1, 2024; 2024.2, March 22, 2024; 2024.3, August 28, 2024; 2024.4, October 1, 2024 and 2025.1, January 1, 2025.

¹⁸ Sections 2.1 through 2.16 in its CRMP.

1	Strategy Overview
2	Energy and Transmission Hedging
3	Asset Optimization
4	Capacity Transactions
5	Congestion Hedging
6	Energy Arbitrage
7	Natural Gas LDC Supply and & Transportation Hedging
8	Natural Gas Generation Supply & Transportation Strategies
9	Coal Buy for Burn Procurement
10	Rail Fuel Surcharge Hedging
11	Fuel Oil Purchases
12	Nuclear Fuel Cycle Hedging
13	Renewable Energy Credits (RECs)
14	Emissions Hedging
15	Carbon Compliance Hedging
16	Portfolio Structure

17 Ameren Missouri’s risk management strategies are directly controlled by the guidelines
18 contained in its CRMP. A policy overview is given in the CRMP as follows:

19 **1.1 Background, Purpose, and Scope of Policy**

20 Ameren Corporation (“Ameren”) has charged functional units within
21 Union Electric Company d/b/a Ameren Missouri (“Ameren Missouri”) with the responsibility of managing all of Ameren’s generation, load, and
22 other obligations in a manner consistent with the policy set forth herein.
23 Ameren Missouri’s Energy Management & Trading functional unit
24 (“EM&T”) manages generation assets, load and other obligations, and
25 natural gas supply by engaging in wholesale energy, capacity, electricity,
26 FTR/ARR, transmission, and natural gas transactions. EM&T also
27 manages select power plant fuel supplies (e.g. coal, fuel oil), emissions
28 requirements, and Ameren Missouri’s Nuclear Fuel Cycle requirements
29 through the purchase and sale of uranium, conversion services,
30 enrichment services, and fabrication services.
31

32 It is the intent of management that this Risk Management Policy
33 (“this Policy”) governs all financial risk taking and risk
34 management/mitigation activities associated with the above activities. In
35 order to fulfill the responsibilities described above in a financially
36 disciplined manner, EM&T and NFCM may enter into transactions that
37 are defined in this Policy as approved by the Risk Management Steering
38 Committee (“RMSC”). The framework and responsibilities of the
39 RMSC are discussed in Section 9.1 of the Ameren Corporation
40 Commodity & Financial Markets Risk Management Policy.

1 **2. Summary of Cost Implications**

2 Ameren Missouri employs commodity risk management strategies in an attempt to
3 mitigate the market volatility risk of fuel, energy, capacity, emissions, and transmission
4 congestion prices. A discussion related to hedging strategy employed for various components
5 is contained in the sections of this report: Natural Gas Costs, Coal and Rail Transportation
6 Costs, Fuel Oil Costs, Nuclear Fuel Costs, and Transmission Costs. If Ameren Missouri did not
7 manage its risk management strategies prudently, it could result in an increase in fuel costs that
8 are collected from customers through the Ameren Missouri FAC charge.

9 **3. Conclusion**

10 Staff reviews Ameren Missouri’s CRMP for reasonableness and its adherence to the
11 CRMP. As part of this review, Staff reviews a wide array of market conditions, which include:
12 historic and future fuel commodity pricing, energy market forecasts,¹⁹ U.S. and global
13 economic trends, and proposed environmental regulations. Staff did not find any evidence that
14 Ameren Missouri acted imprudently in the administration of its risk management strategies
15 during the prudence review period.

16 **4. Documents Reviewed**

- 17 a. Ameren Missouri’s responses to Staff Data Request No. 0013; and
18 b. Market research: <https://www.eia.gov/>.

19 *Staff Expert/Witness: Stacy Henderson*

20 **B. Disaggregation of Commodity Fuel Cost**

21 Table 4 represents all of the individual fuel components from each FERC Account as
22 accounted for by Ameren Missouri for its FAC.²⁰

23 *continued on next page*

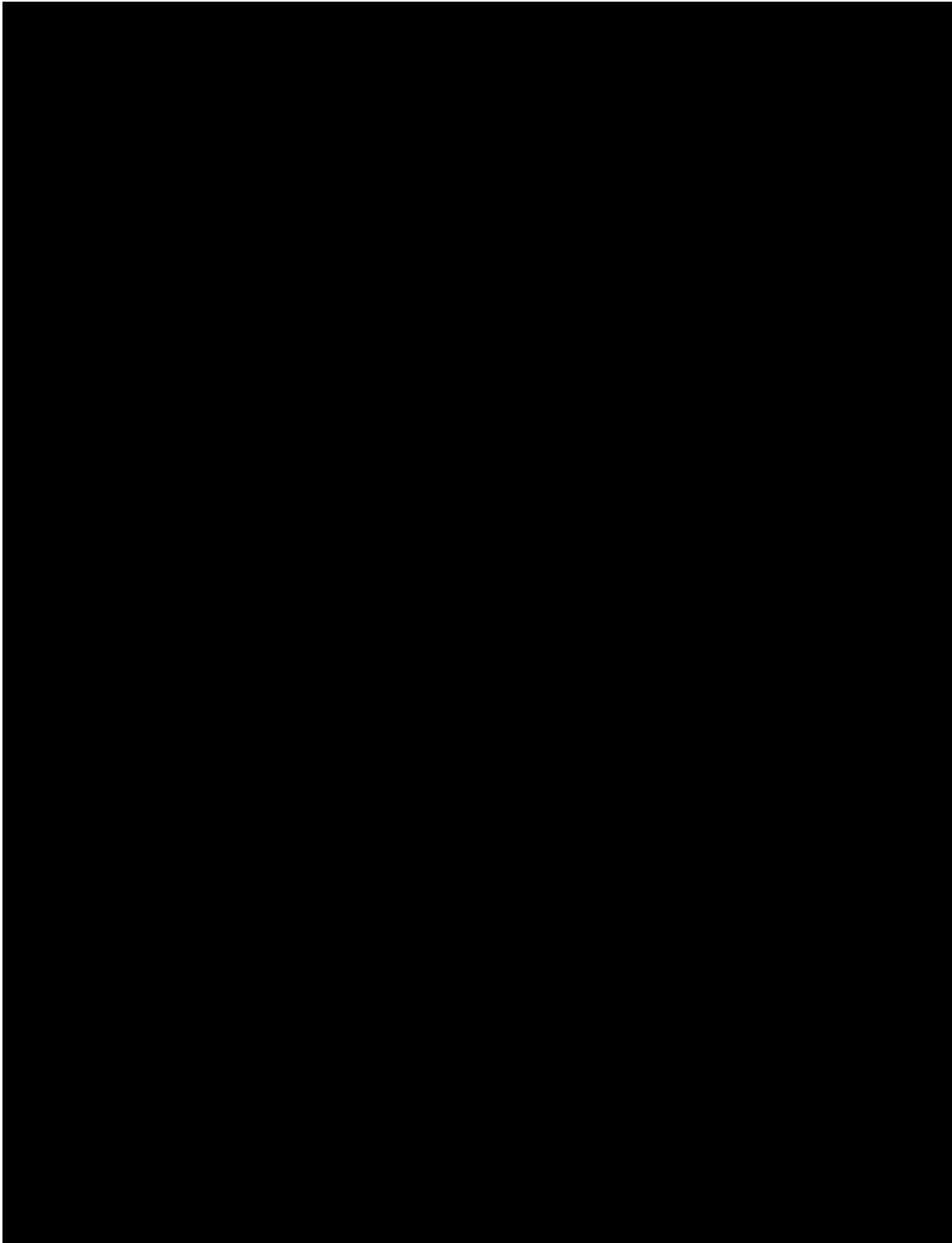
¹⁹ <https://www.eia.gov/outlooks/steo/>.

²⁰ Information provided in Ameren Missouri’s monthly FAC reports, tab 5D, as filed with the Commission.

Table 4 – Confidential

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1 **C. FERC Acct 501 - Fuel**

2 **1. Description**

3 Ameren Missouri is required to account for fuel costs used in the production of steam for
4 the generation of electricity in FERC Account 501. For the review period, ** [REDACTED] **
5 or ** [REDACTED] ** of Ameren Missouri’s total fuel costs are booked to FERC Account 501;
6 *see* Table 4 for disaggregation of this account. Ameren Missouri generates the majority of
7 its electricity with its coal-fired generation facilities, and, therefore, the majority of its fuel
8 costs are related to cost of coal and the cost of transportation of coal to these facilities.
9 The total amount of coal commodity costs is ** [REDACTED] **; ** with ** [REDACTED] **
10 for physical coal commodity, ** [REDACTED] ** for the transportation/freight of the coal
11 commodity, and ** [REDACTED] ** for railcar expenses. During the review period Ameren
12 Missouri burned ** [REDACTED] ** tons of coal which translates to an average of ** [REDACTED] **
13 per ton including transportation/freight and other rail charges. Staff reviews public sources in
14 an effort to determine the reasonableness of prices paid by Ameren Missouri for its coal supply.
15 Staff monitors U.S. Energy Information Administration (“EIA”) and future market prices,
16 supply forecasts, and other market trends.

17 Also, contained within FERC Account 501 and reviewed during this review are fly ash
18 revenues of ** [REDACTED] ** and fuel oil costs of ** [REDACTED] **. These costs are included in
19 FERC Account 501 as they are used as support fuels (startup and/or burn stabilization) in the
20 production of steam with the coal fired generation facilities.

21 Ameren maintains ** [REDACTED] ** short and long-term coal purchase contracts, ** [REDACTED] ** rail
22 transportation contracts, ** [REDACTED] ** rail lease contracts, and ** [REDACTED] ** rail storage contracts.
23 The counterparties for the contracts are shown below in Table 5:

Table 5 - Confidential

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Staff reviewed the eight revised versions of Ameren Missouri’s CRMP that were in effect during the review period. Ameren Missouri’s coal procurement strategy is provided in the March 30, 2023, CRMP, pages 13 and 14, as part of Ameren Missouri’s response to Staff Data Request No. 0013:

** [Redacted]



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[REDACTED]

Staff has reviewed the various components of Ameren Missouri’s coal supply strategy, and concludes that Ameren Missouri has complied with its stated parameters.

Ameren Missouri utilizes a rail fuel surcharge hedge program in an effort to minimize price volatility associated with rail transportation of its coal supply. Rail carriers require shipping customers to agree to price escalators (surcharge) as part of the coal transportation contracts whenever the price of fuel exceeds an agreed to price level. Ameren Missouri’s rail fuel surcharge hedge program is summarized in the Ameren Missouri CRMP, page 14:

** [REDACTED]

Staff has reviewed Ameren Missouri’s rail fuel surcharge strategy and determined that Ameren Missouri has complied with these stated parameters.

2. Summary of Cost Implications

If Ameren Missouri was imprudent in its purchasing decisions relating to the purchase of coal, transportation, and the handling of the rail fuel surcharge hedging policy, customer harm could result from such imprudence through an increase in Ameren Missouri customer FAC charges.

1 **3. Conclusion**

2 Staff identified no imprudence by Ameren Missouri in its purchase of coal,
3 transportation, or other components contained in FERC Account 501 for the prudence
4 review period.

5 **4. Documents Reviewed**

- 6 a. Ameren Missouri’s response to Staff Data Request Nos. 0002, 0005, 0005.1,
7 0005.2, 0010, 0013, 0014, 0015, 0016, 0019, 0019.1, 0020, 0025, 0031, 0032,
8 0039, 0056 and 0059;
9 b. Market research: <https://www.eia.gov/>;
10 c. Ameren Missouri’s FAC Monthly Reports during the review period;
11 d. Ameren Missouri’s General Ledger during the review period; and
12 e. Ameren Missouri’s work papers in File Nos. ER-2024-0183, ER-2024-0275,
13 ER-2025-0041 and ER-2025-0171.

14 *Staff Expert/Witness: Stacy Henderson*

15 **D. FERC Account 502 – AQCS**

16 **1. Description**

17 There were two FAC tariff sheets that were in effect during this Review Period,
18 2nd Revised Sheet No. 71.1 (Applicable to Service Provided February 28, 2022, through
19 July 8, 2023), and Original Sheet No. 71.17 (Applicable to Service Provided July 9, 2023,
20 through the end of the Review Period). Ameren Missouri’s MO P.S.C. Schedule No. 6 Original
21 Sheet No. 71.17 defines FERC Account 502 as:

22 The following costs and revenues reflected in FERC Account 502 for:
23 consumable costs related to Air Quality Control System (“AQCS”)
24 operation, such as urea, limestone, and powder activated carbon.

25 Ameren Missouri uses FERC Account 502 costs described above as part of air quality
26 control operations at the coal fired plants. The cost for limestone is ** [REDACTED] **, activated
27 carbon is ** [REDACTED] ** and urea is ** [REDACTED] **. The Company uses Fuelworx
28 accounting system, which computes the weighted average purchase and consumption amounts.
29 Staff reviewed a sample of invoices for the March 2024 costs, which are then used as part of
30 the weighted average computations.

1 **2. Summary of Cost Implications**

2 If Ameren Missouri was imprudent in purchasing carbon and limestone used as part of
3 air quality control operations, customer harm could result from that imprudence through an
4 increase in customer FAC charges.

5 **3. Conclusion**

6 Staff observed no indication of imprudence related to the purchase of carbon and
7 limestone used as part of air quality control operations for the prudence review period.

8 **4. Documents Reviewed**

- 9 a. Ameren Missouri’s response to Staff Data Request Nos. 0005, 0056, 0057 and
10 0059;
- 11 b. Ameren Missouri’s FAC Monthly Reports during the review period;
- 12 c. Ameren Missouri’s General Ledger during the review period; and
- 13 d. Ameren Missouri’s work papers in File Nos. ER-2024-0183, ER-2024-0275,
14 ER-2025-0041 and ER-2025-0171.

15 *Staff Expert/Witness: Stacy Henderson*

16 **E. FERC Account 518 - Nuclear Fuel**

17 **1. Description**

18 For the prudency review period, ** [REDACTED] **, or ** [REDACTED] **, of Ameren
19 Missouri’s cost of fuel is associated with nuclear fuel used in the generation of electricity
20 at Ameren Missouri’s Callaway facility. The nuclear fuel cycle requires several steps before
21 the fuel is used in the generation of electricity. For the review period, Ameren Missouri
22 generated from its Callaway facility ** [REDACTED] ** MWhs with an average cost of
23 ** [REDACTED] ** per MWh for nuclear fuel.

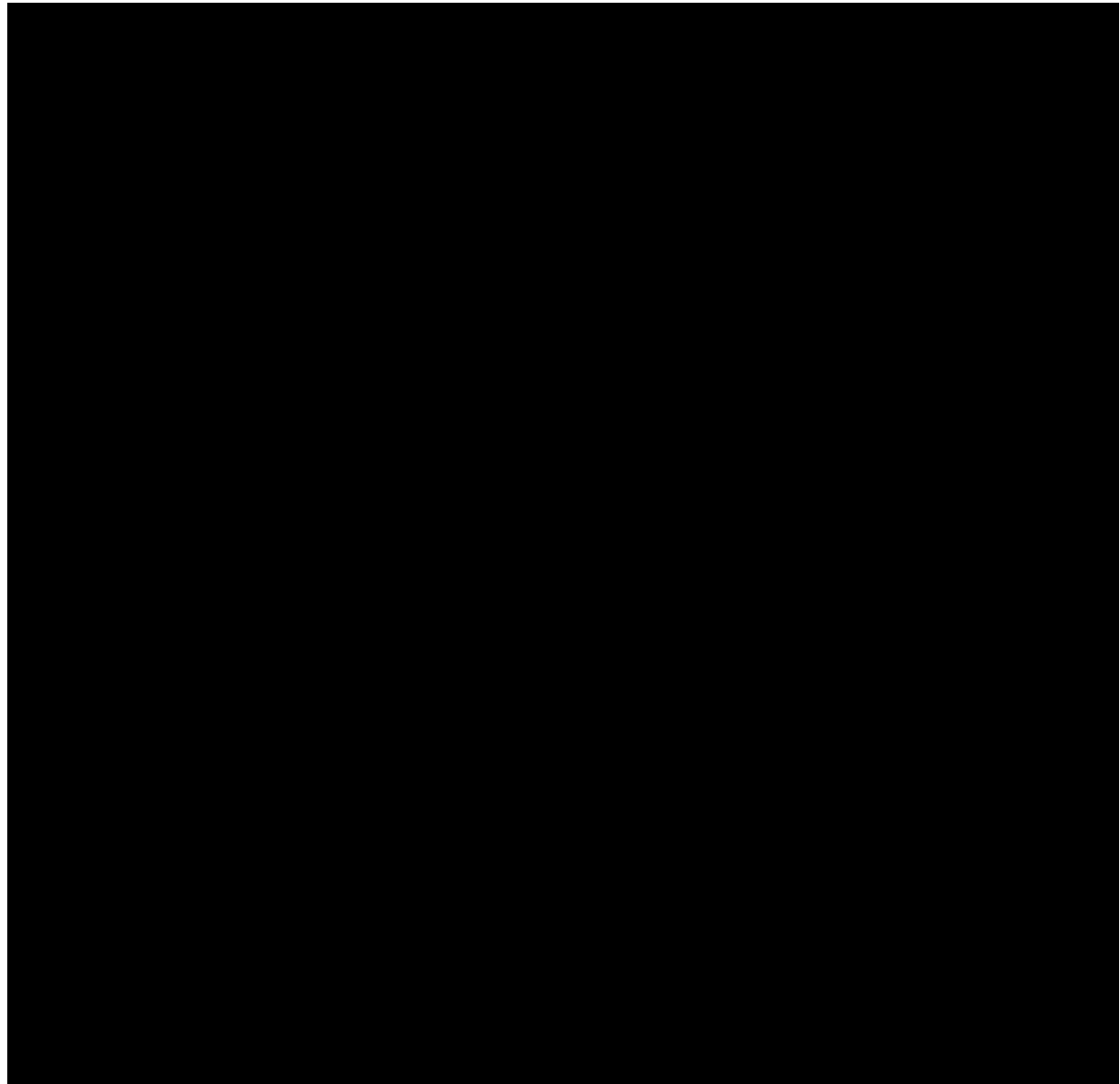
24 Ameren Missouri had ** [REDACTED] ** nuclear fuel contracts, ** [REDACTED] ** conversion
25 contracts, ** [REDACTED] ** enrichment contracts, and ** [REDACTED] ** fabrication contracts that were
26 in place during the review period. It should be noted that not all contracts had deliveries
27 during the review period. Each contract provides terms and conditions for primary delivery
28 locations and price. The nuclear fuel contracts in effect are either: fixed price, based on spot

1 and/or long-term market indices, base price with escalation factor, or a combination of these
2 pricing scenarios. The counterparties and contract pricing terms are shown in Table 6 below:

3 **Table 6 - Confidential**

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8 Ameren Missouri's response to Staff Data Request No. 0013 describes in detail Ameren
9 Missouri's policies for the procurement of nuclear fuel. Staff reviewed the January 1, 2025,
10 CRMP, which states on page 14 and 15:

1 [REDACTED]
2 [REDACTED]
3 [REDACTED]
4 [REDACTED]
5 [REDACTED]
6 [REDACTED]
7 [REDACTED]
8 [REDACTED]
9 [REDACTED]
10 [REDACTED]
11 [REDACTED] **

12 Ameren Missouri’s CRMP is the controlling document for the acquisition and control
13 of nuclear fuel for the Callaway facility. Staff has reviewed the various components of Ameren
14 Missouri’s nuclear fuel permitted pricing structures and determined that Ameren Missouri has
15 complied with these stated parameters.

16 **2. Summary of Cost Implications**

17 If Ameren Missouri was imprudent in purchasing nuclear fuel, conversions, fabrication
18 and storage, customer harm could result from that imprudence through an increase in customer
19 FAC charges.

20 **3. Conclusion**

21 Staff observed no indication of imprudence related to the purchase of nuclear fuel,
22 conversions, fabrication and storage for the prudence review period.

23 **4. Documents Reviewed**

- 24 a. Ameren Missouri’s response to Staff Data Request Nos. 0002, 0011, 0013, 0017,
25 0019, 0020, 0025, 0032 and 0059;
- 26 b. Ameren Missouri’s FAC Monthly Reports during the review period;
- 27 c. Ameren Missouri’s General Ledger during the review period; and
- 28 d. Ameren Missouri’s work papers in File Nos. ER-2024-0183, ER-2024-0275,
29 ER-2025-0041 and ER-2025-0171.

30 *Staff Expert/Witness: Stacy Henderson*

1 **F. FERC Account 547 - Fuel**

2 **1. Description**

3 For the review period, ** [REDACTED] **, or ** [REDACTED] **, of Ameren Missouri’s total
4 fuel costs is associated with FERC Account 547. Ameren Missouri accounts for the majority of
5 its natural gas and natural gas transportation capacity costs used in its generation facilities in
6 FERC Account 547 because its natural gas generation fleet is made up of non-steam generation
7 facilities. The total natural gas cost recorded in FERC Account 547 is comprised of several
8 components. The natural gas commodity is ** [REDACTED] **, ** [REDACTED] ** for the
9 capacity reservation fees, and ** [REDACTED] ** for the transportation of the natural gas
10 commodity. Other expenses related to Ameren Missouri’s natural gas generation facilities are
11 natural gas storage of ** [REDACTED] **, natural gas hedging of ** [REDACTED] **, and gas sales
12 of ** [REDACTED] **.

13 Ameren Missouri’s natural gas generation facilities are combustion turbine generators
14 (“CTGs”). Ameren Missouri’s CTGs are used as peaking units which means they are used
15 generally when demand for electricity increases to a point that baseload units cannot meet
16 that demand. CTGs by nature are less efficient than baseload units in Ameren
17 Missouri’s generation fleet, and, therefore, are more expensive to operate. During the review
18 period, Ameren Missouri’s CTGs generated ** [REDACTED] ** MWhs which translates to an
19 average of ** [REDACTED] ** per MWh for natural gas to fuel its CTG units.

20 MISO dispatches these units when needed in the market. However, Ameren Missouri
21 must still ensure these CTGs have adequate fuel to operate and are maintained properly and
22 reliably for when they are called upon by MISO.

23 The following table identifies Ameren Missouri’s peaking generating units that burn
24 natural gas and oil:

25 *continued on next page*

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[REDACTED]

**

27 Ameren Missouri employs hedging activities in an attempt to mitigate the impacts of
28 market volatility in natural gas prices and aid in providing a reliable fuel commodity.²¹

29 For the prudency review period, ** [REDACTED] **, or ** [REDACTED] **, of Ameren
30 Missouri's total fuel costs, cost of purchased power, transmission costs, and net emission costs
31 is associated with the fuel oil used in generating electricity. The cost of fuel oil includes various
32 other miscellaneous charges such as rail and/or ground transportation service charges and other
33 various fuel handling expenses.

²¹ Ameren's CRMP, page 10, describes its Natural Gas Supply and Transportation Hedging Strategy. There are different potential instruments available to hedge natural gas purchases, these consist of but are not limited to: forward and futures contracts or gas storage. Hedging can be entered into to reduce uncertainty of fuel costs and improve the predictability of generator margins. These hedges mitigate customers' exposure to price volatility which can be extreme in both directions.

1 Ameren Missouri's response to Staff Data Request No. 0013 describes in detail Ameren
2 Missouri's policies for the procurement of fuel oil. Staff reviewed the January 1, 2025, CRMP,
3 which states on page 14:

4 ** [REDACTED]
5 [REDACTED]
6 [REDACTED] **

7 Staff has reviewed the various components of Ameren Missouri's fuel oil procurement
8 strategy, and determined that Ameren Missouri has complied with these stated parameters.
9 Ameren Missouri includes fuel oil costs in FERC Accounts 501 and 547 as fuel oil is used as a
10 support fuel²² in Ameren Missouri's coal or natural gas generation facilities.

11 **2. Summary of Cost Implications**

12 If Staff determined that Ameren Missouri was imprudent in its purchasing decisions
13 relating to natural gas commodity, reservation, transportation, storage, hedging, sales, and oil
14 costs customer harm could result from that imprudence by an increase in FAC charges.

15 **3. Conclusion**

16 Staff observed no indication of imprudence associated with Ameren Missouri's natural
17 gas commodity purchases for the prudence review period.

18 **4. Documents Reviewed**

- 19 a. Ameren Missouri's response to Staff Data Request Nos. 0002, 0005, 0005.1,
20 0005.2, 0009, 0013, 0019, 0019.1, 0020, 0025, 0032, 0054, 0056 and 0059;
- 21 b. Market research: <https://www.eia.gov/>;
- 22 c. Ameren Missouri's FAC Monthly Reports during the review period;
- 23 d. Ameren Missouri's General Ledger during the review period; and
- 24 e. Ameren Missouri's work papers in File Nos. ER-2024-0183, ER-2024-0275,
25 ER-2025-0041 and ER-2025-0171.

26 *Staff Expert/Witness: Stacy Henderson*

²² Fuel oil that is used as a start-up and/or burn stabilization fuel.

1 **G. FERC Account 555 - Purchased Power – Long Term Contracts and Short**
2 **Term Energy**

3 **1. Description**

4 During the Review Period of June 1, 2023, through September 30, 2024,
5 ** [REDACTED] ** in costs were attributed to MISO and Non-MISO purchased power costs²³.
6 The total purchased power costs related to long-term contracts and other Non-RTO costs for
7 this review period are ** [REDACTED] ** which is comprised of the Pioneer Prairie Wind
8 contract for ** [REDACTED] ** and the remaining balance of ** [REDACTED] ** to other
9 boundary line agreements that border Ameren territory. Ameren Missouri also purchases
10 short-term energy in the MISO and PJM day-ahead markets (hourly) and through bilateral
11 agreements.²⁴ For this review period, the total amount attributable to short term purchased
12 power expense in the MISO and PJM markets is ** [REDACTED] **. Typically, Ameren
13 Missouri relies on these short-term energy sources to help meet its load during forced, planned,
14 or derating²⁵ generation plant outages and when the market price for that short-term energy is
15 both below the marginal cost of providing that energy from Ameren Missouri’s generating units
16 and below the cost of longer-term capacity purchases.

17 In addition to review of purchased power agreements, Staff requested the supporting
18 documentation for the transactions found in the General Ledger for FERC Account 555 during
19 this review period of June 1, 2023, through September 30, 2024. Invoices were requested and
20 analyzed for transactions in this account with the following descriptions; ** [REDACTED]

21 [REDACTED]
22 [REDACTED]
23 [REDACTED] ** Staff was able to reconcile these invoices to the transactions located in
24 FERC Account 555 Purchased Power.

25 Staff reviewed the Renewable Resource Power Purchase Agreement by and between
26 Pioneer Prairie Wind Farm I, LLC, and Ameren Missouri (“Pioneer Prairie PPA”).

²³ These purchased power costs are broken down as MISO and Non-MISO. The Non-MISO costs are broken down between RTO and Non-RTO in the Company’s monthly reports, tab 5(D). RTO costs are SPP and PJM day-ahead markets, and non-RTO costs are for the Pioneer Prairie PPA contract and other boundary line agreements.

²⁴ Boundary line and bilateral agreements are in place to serve customers in rural areas when disruptions to certain areas of the distribution system occur and Ameren requires the load for emergency and other operational needs.

²⁵ See Section IX. Plant Outages section of this Prudency Review Report for definitions of forced, planned and derating outages.

1 The Pioneer Prairie PPA is a ** [REDACTED] ** that expired ** [REDACTED] **.
2 It provides a capacity of ** [REDACTED] ** MW and estimated annual energy purchases of
3 ** [REDACTED] ** MWhs. Its price per MWh is ** [REDACTED] **, of which ** [REDACTED] ** per MWh is
4 for the purchase of energy which flows through the FAC and ** [REDACTED] ** per MWh is for
5 the purchase of renewable energy attributes which may be used for compliance with
6 20 CSR 4240-20.100 Electric Utility Renewable Energy Standard Requirements and do not
7 flow through the FAC. Total costs of electricity under the Pioneer Prairie PPA were
8 ** [REDACTED] ** with revenue associated with sales of ** [REDACTED] ** which resulted in
9 a net loss of ** [REDACTED] ** for the Review Period.

10 In Data Request No. 0006, Staff requested Ameren Missouri provide a copy of
11 all purchased power requests for proposals (“RFPs”) sent by Ameren Missouri and
12 executed purchased power contracts that were in effect during any part of the review period of
13 June 1, 2023, through September 30, 2024. In Ameren Missouri’s response to this Data Request,
14 it stated, “Ameren Missouri did not issue any purchased power RFP’s which had a proposed
15 delivery period within the specified time period.” However, Ameren Missouri’s response to
16 this same Data Request referred to a copy of the Pioneer Prairie Wind purchased power
17 agreement that was initially referenced in response to Staff Data Request No. 0017 in File No.
18 EO-2012-0074, which is still in effect.

19 When Ameren Missouri was asked²⁶ to provide a copy of all purchased power contracts
20 that were in effect during the period June 1, 2023, through September 30, 2024, Jeff Holmes,
21 Ameren Missouri’s Manager, Trading, responded as follows:

22 Ameren Missouri is a party to large number of master enabling agreements,
23 including various interconnection agreements and EEI Master Power
24 Purchase and Sale Agreements. These agreements provide for the general
25 terms and conditions under which Ameren Missouri and the counterparty
26 may transact at points in the future. These agreements do not, in and of
27 themselves, obligate the counterparty to sell power and energy to Ameren
28 Missouri, nor do they specify the pricing, term and any special conditions
29 of specific transactions. Transactions other than hourly transactions are
30 normally confirmed with either a written confirmation or electronically.
31 These confirmations contain the specifics regarding volume, price,
32 delivery location and any special conditions. Ameren Missouri has
33 contracts in conjunction with the operation of its Commission approved
34 tariff providing for Electric Power Purchases from Qualifying Facilities.

²⁶ Staff’s Data Request No. 0006 in File No. EO-2025-0236.

1 **2. Summary of Cost Implication**

2 If Ameren Missouri was imprudent by purchasing energy to meet its demand at a cost
3 that exceeded Ameren Missouri's cost to generate that energy itself, customer harm could result
4 from that imprudence through an increase in FAC charges.

5 **3. Conclusion**

6 Staff identified no evidence of imprudence related to Ameren Missouri's long-term and
7 purchased power agreements during the prudence review period.

8 Staff identified no evidence that Ameren Missouri acted imprudently with regard to
9 purchases of short-term energy in the MISO and PJM day-ahead markets or bilateral
10 agreements during the prudence review period.

11 **4. Documents Reviewed**

- 12 a. Ameren Missouri's responses to Staff Data Request Nos. 0006, 0048, 0051,
13 0052, 0055 and 0059;
- 14 b. Ameren Missouri FAC Monthly Reports;
- 15 c. Ameren Missouri General Ledger;
- 16 d. Ameren Missouri 2024 Renewable Energy Standard Compliance Report, Case
17 No. EO-2025-0281;
- 18 e. Ameren Missouri 2023 Renewable Energy Standard Compliance Report, Case
19 No. EO-2024-0231; and
- 20 f. Ameren Missouri's work papers in File Nos. ER-2024-0183, ER-2024-0275,
21 ER-2025-0041 and ER-2025-0171.

22 *Staff Expert/Witness: Teresa L. Denney*

23 **H. FERC Account 565 and 456.1 - Transmission Costs and Revenues**

24 **1. Description**

25 For the period June 1, 2023, through September 30, 2024, ** [REDACTED] ** of Ameren
26 Missouri's FAC costs were for MISO transmission costs associated with purchased power
27 costs. As a result of Ameren Missouri's general rate case, Case No. ER-2012-0166, Ameren
28 Missouri began flowing MISO transmission revenues through the FAC.

1 For the review period, ** [REDACTED] ** represents transmission revenues that off-set
2 transmission costs. As a result of Ameren Missouri's 2021 general rate case, Case No.
3 ER-2021-0240²⁷, Ameren Missouri was ordered by the Commission to include 1.84 percent of
4 Account 456.1 with specific activities transmission revenues and 1.84 percent of Account 565
5 with specific activities transmission costs in the FAC. The effective date of that order was
6 February 28, 2022. Therefore, 1.84 percent of transmission costs and revenues in the FAC was
7 in effect during the Review Period from June 1, 2023, through July 8, 2023.

8 Subsequently, as a result of Ameren Missouri's 2022 general rate case, Case No.
9 ER-2022-0337²⁸, Ameren Missouri was ordered by the Commission to include 6.84 percent of
10 Account 456.1 with specific activities transmission revenues and 6.84 percent of Account 565
11 with specific activities transmission costs in the FAC. The effective date of that order was
12 July 9, 2023. This carried through the remaining review period ending September 30, 2024.

13 Ameren Missouri's response to Staff Data Request No. 0013 describes in detail
14 Ameren Missouri's policies for hedging transmission costs. Staff reviewed Ameren Missouri's
15 CRMP, Section 2.5 on page 10; this document describes Ameren Missouri's hedging strategy
16 to mitigate transmission costs:

17 ** [REDACTED]
18 [REDACTED]
19 [REDACTED]
20 [REDACTED]
21 [REDACTED]
22 [REDACTED]
23 [REDACTED]
24 [REDACTED]

25 [REDACTED]
26 [REDACTED]
27 [REDACTED]
28 [REDACTED]
29 [REDACTED]
30 [REDACTED]
31 [REDACTED] **

²⁷ Effective February 28, 2022, Ameren Missouri's MO P.S.C. Schedule No. 6, Original Sheet No. 71.19.

²⁸ Effective July 9, 2023, Ameren Missouri's MO P.S.C. Schedule No. 6, 1st Revised Sheet No. 71.19.

1 **2. Summary of Cost Implications**

2 If Ameren Missouri was imprudent in hedging transmission expense or in accounting
3 for its transmission costs, customer harm could result from that imprudence through an increase
4 in customer FAC charges.

5 **3. Conclusion**

6 Staff identified no indication of imprudence related to transmission costs, transmission
7 revenues, and hedging transmission costs for the prudence review period.

8 **4. Documents Reviewed**

- 9 a. Ameren Missouri’s response to Staff Data Request Nos. 0013, 0026, 0057 and
10 0062;
- 11 b. Ameren Missouri’s work papers in File Nos. ER-2024-0183, ER-2024-0275,
12 ER-2025-0041 and ER-2025-0171;
- 13 c. Ameren Missouri’s FAC Monthly Reports during the review period;
- 14 d. Ameren Missouri’s General Ledger during the review period; and
- 15 e. Information from General Rate Case Nos. ER-2012-0166, ER-2021-0240 and
16 ER-2022-0337.

17 *Staff Expert/Witness: Amanda C. Conner*

18 **I. Emission Allowances**

19 **1. Description**

20 The Cross-State Air Pollution Rule (“CSAPR”) is a ruling by the United States
21 Environmental Protection Agency (“EPA”) that requires a number of states, including Missouri,
22 to reduce power plant emissions that contribute to ozone and/or fine particle pollution in other
23 states. The CSAPR replaced EPA’s 2005 Clean Air Interstate Rule (“CAIR”), following the
24 direction of a 2008 court decision that required EPA to issue a replacement regulation. CSAPR
25 implementation began on January 1, 2015.

26 The CSAPR requires Missouri to reduce its annual emissions of sulfur dioxide (“SO₂”)
27 and nitrous oxides (“NO_x”) to help downwind states attain the 24-hour National Ambient Air
28 Quality Standards (“NAAQS”). The CSAPR also requires Missouri to reduce ozone season
29 emissions of NO_x to help downwind states attain the 8-hour NAAQS.

1 On September 7, 2016, the EPA revised the CSAPR ozone season NO_x program by
2 finalizing an update to CSAPR for the 2008 ozone NAAQS, known as the CSAPR Update.
3 The CSAPR Update ozone season NO_x program largely replaced the original CSAPR ozone
4 season NO_x program on May 1, 2017. The CSAPR Update will further reduce summertime
5 NO_x emissions from power plants in the eastern U.S.

6 The primary mechanism of CSAPR is a cap-and-trade program that allows a
7 major source of NO_x and/or SO₂ to trade excess allowances when its emissions of a
8 specific pollutant fall below its cap for that pollutant. Originally, the EPA issued a model
9 cap-and-trade program for power plants, which could have been used by states as the
10 primary control mechanism under CAIR. This model, with modifications, had continued
11 under CSAPR.

12 Ameren Missouri established a plan to comply with the new CSAPR that was
13 finalized by EPA in July 2011. Ameren Missouri's strategy for SO₂ compliance was to
14 continue operation of the wet flue gas desulfurization ("FGD"), or "scrubber" systems at
15 the Sioux Energy Center coupled with a purchase of ultra-low sulfur coal for the balance of
16 its coal fired units at Labadie, Meramec and Rush Island. According to Ameren Missouri,
17 there are no additional capital projects necessary or planned for SO₂ compliance over the next
18 five (5) years.

19 The requirements of CSAPR and CSAPR Update were in effect for the entire
20 Review Period from June 1, 2023, through September 30, 2024. Missouri was part of the
21 twenty-two (22) states that the Update affected and per Staff's review, Ameren Missouri units
22 were in compliance with the CSAPR and CSAPR update limits for both SO₂ and NO_x.

23 For the period June 1, 2023, through September 30, 2024, Ameren Missouri maintained
24 all allocated SO₂ allowances in the various plant accounts. After reconciliation for the entire
25 2023 calendar year emission levels was completed, some of those SO₂ allowances were
26 surrendered to the EPA for compliance with the CSAPR for calendar year 2023. This occurred
27 in May 2024. For the period January 1, 2024, through September 30, 2024, Ameren Missouri
28 maintained all allocated SO₂ allowances in the various plant accounts. After emission levels
29 are determined for the entire 2024 calendar year and reconciliation is completed, some of
30 those allowances will be surrendered to the EPA for compliance with the CSAPR for
31 calendar year 2024. The allowance surrender is expected to occur in April or May of 2025, this

1 will be followed up on in the next prudence review as it falls outside of this Review Period.
2 Ameren Missouri's inventory of CSAPR allowances consists of allowances that were
3 granted by the EPA and therefore are valued at zero cost. Ameren Missouri's inventory of
4 CSAPR allowances is valued at the weighted average cost of allowances by type and
5 recorded in FERC account 158.1, Allowance Inventory. Over the Review Period of June 1,
6 2023 through September 30, 2024, Ameren Missouri's SO₂ and NO_x allowances were above
7 the emissions produced.

8 Ameren Missouri, during this review period, did not sell emissions allowances, due to
9 the need for its own generation.

10 The management of emission allowances is described in Ameren Missouri's response
11 to Staff's Data Request Nos. 0027, 0028, 0029, 0030 and 0061. Staff reviewed Ameren
12 Missouri's Hedge plan and found that Ameren Missouri has appropriate practices and processes
13 in place to effectively manage its emission allowances for this review period and sufficient
14 allowances for their emissions

15 **2. Summary of Cost Implications**

16 If Ameren Missouri imprudently used, purchased, sold, or banked its SO₂ and
17 NO_x allowances, customer harm could result from an increase in Ameren Missouri's
18 FAC charges.

19 **3. Conclusion**

20 Staff observed no indication of imprudence associated with Ameren Missouri's
21 management of its emission allowances during the prudence review period.

22 **4. Documents Reviewed**

- 23 a. Ameren Missouri response to Staff Data Request Nos. 0008, 0027, 0028, 0029,
24 0030, 0059 and 0061;
- 25 b. Ameren Missouri Monthly Reports during the Review Period;
- 26 c. Ameren Missouri's work papers in File Nos. ER-2024-0183, ER-2024-0275,
27 ER-2025-0041 and ER-2025-0171; and
- 28 d. Ameren Missouri General Ledger during the Review Period.

29 *Staff Expert/Witness: Teresa L. Denney*

1 **J. FERC Account 447 - Off-System Sales Revenue (“OSSR”)**

2 **1. Description**

3 Staff reviewed the off-system sales quantities and off-system sales revenues and costs
4 (reduction due to power broker fees) in FERC Account 447 for the prudence review period.
5 There were two tariff sheets in effect during this Review Period: Original Sheet No. 71.21
6 (Applicable to Service Provided effective February 28, 2022 through July 8, 2023) and Ameren
7 Missouri’s MO P.S.C. Schedule No. 6, 1st Revised Sheet No. 71.21 (Applicable to Service
8 Provided effective July 9, 2023 through the end of the Review Period) defines off-system sales
9 revenue or “OSSR” as:

10 OSSR = Costs and revenues in FERC Account 447 for:

- 11 **1. Capacity;**
12 **2. Energy;**
13 **3. Ancillary services, including:**
14 A. Regulating reserve service (MISO Schedule 3, or its successor);
15 B. Energy Imbalance Service (MISO Schedule 4, or its successor);
16 C. Spinning reserve service (MISO Schedule 5, or its successor); and
17 D. Supplemental reserve service (MISO Schedule 6, or its successor);
18 E. Ramp capability service; and
19 F. Short-term reserve service;
20 **4. Make-whole payments, including:**
21 A. Price volatility; and
22 B. Revenue sufficiency guarantee;
23 **5. Hedging; and**
24 **6. System Support Resource:**
25 A. MISO Schedule 43K.

26 For the review period Ameren Missouri’s OSSR amount is ** [REDACTED] **.

27 With respect to **1. Capacity** and in reference to electricity, capacity transactions (sales)
28 as defined by FERC are: “The acquisition of a specified quantity of generating capacity from
29 another utility for a specified period of time. The utility selling the power is obligated to make
30 available to the buyer a specified quantity of power.” For the review period the total amount of
31 revenue from capacity sales was ** [REDACTED] **.

1 In Case No. ER-2022-0337, the Commission approved the Stipulation and Agreement
2 that was filed on April 7, 2023. That Stipulation and Agreement contained new FAC tariff
3 sheets, which included MISO Schedule 43K for System Support Resource²⁹ (the costs and
4 revenues associated with Rush Island settlements). Staff has confirmed that the revenues
5 were included in the Capacity section of OSSR, and totaled \$4,237,689. The costs included
6 in purchased power were \$1,105,599, for a total net revenue of \$3,132,090 during the
7 Review Period.

8 With respect to **2. Energy** and as defined by FERC, Energy Sales are “The transfer of
9 title to an energy commodity from a seller to a buyer for a price or the quantity transferred
10 during a specified period”. For the review period, the total amount of revenue from energy sales
11 was ** [REDACTED] **. In accordance with the MISO tariff and provided in Ameren Missouri’s
12 response to Staff Data Request No. 0049: “The dispatch of Ameren Missouri’s generation is
13 governed by the MISO Tariff, in particular Module C Energy and Operating Reserve Markets
14 and Module F Coordination Services” and “Ameren Missouri’s role in the dispatch decisions
15 is to provide MISO with the necessary economic and operating parameters for each generation
16 asset for inclusion in MISO’s Security Constrained Economic Dispatch (“SCED”) algorithm.”

17 With respect to **3. Ancillary services** as defined by FERC: “Services that ensure
18 reliability and support the transmission of electricity from generation sites to customer loads.
19 Such services may include load regulation, spinning reserve, non-spinning reserve, replacement
20 reserve, and voltage support.” For the review period the total amount of revenue from Ancillary
21 Services including subsections a through d below was ** [REDACTED] **. The amount recorded
22 as “Ancillary Services” for the Review Period was ** [REDACTED] **. Ancillary services also
23 includes subsections a through d listed as follows:

24 a. Regulating reserve service is defined in FERC’s Electric Tariff, Schedule 3:

25 Regulating Reserve is necessary to i) continuously balance the total
26 output of all Resources within the MISO Balancing Authority Area with
27 the total demand of all loads (including losses) within the MISO
28 Balancing Authority Area plus the Net Scheduled Interchange of the
29 MISO Balancing Authority Area and ii) assist in maintaining the
30 difference between scheduled Interconnection frequency and actual
31 Interconnection frequency within acceptable limits based on Applicable
32 Reliability Standards.

²⁹ With respect to **6. System Support Resource**.

1 For the review period, Ameren Missouri received ** [REDACTED] ** for regulating
2 reserve services provided to MISO.

3 b. Energy Imbalance Service is described in FERC Electric Tariff,
4 Schedule 4:

5 Energy Imbalance Service is provided when a difference occurs between
6 the Energy scheduled in the Day-Ahead Energy Market and the actual
7 delivery of Energy to a Load located within the MISO Balancing
8 Authority Area over a single hour in the Real-Time Energy Market.

9 For the review period Ameren Missouri received ** [REDACTED] ** for Energy Imbalance
10 Services provided to MISO.

11 c. Spinning Reserve Service is described in FERC Electric Tariff, Schedule 5:

12 Spinning Reserve is required to immediately offset deficiencies in
13 Energy supply that result from a Resource contingency or other
14 abnormal event. Spinning Reserve may be provided by Resources that
15 are Spin Qualified Resources available to provide Spinning Reserve.
16 The obligation to maintain this immediate response capability to
17 contingency events lies with the MISO Balancing Authority.

18 For the review period, Ameren Missouri received ** [REDACTED] ** for Spinning
19 Reserve Services provided to MISO.

20 d. Supplemental Reserve Service is described in FERC Electric Tariff,
21 Schedule 6:

22 Supplemental Reserve is required to offset deficiencies in Energy supply
23 that result from a Resource contingency or other abnormal event.
24 Supplemental Reserve may be provided by Resources that are
25 Supplemental Qualified Resources that are available to supply
26 Supplemental Reserve. The obligation to maintain this response
27 capability to contingency events lies with the MISO Balancing
28 Authority.

29 For the review period, Ameren Missouri received ** [REDACTED] ** for Supplemental
30 Reserve Services provided to MISO.

31 With respect to **4. Make-Whole Payments** and as explained by MISO, make-whole
32 payments are provided to generation or demand resources during certain market conditions to
33 ensure that these resources do not operate at a loss when required to dispatch. MISO further
34 explains: “Make-whole payments are needed to allow resources to recover their offer costs:
35 to compensate resources committed by MISO when LMP payments do not cover resource
36 start-up and no-load costs, and to compensate resources when intra-hour dispatch movement

1 coupled with intra-hour price volatility causes under-recovery of offer costs.” It provides a
2 process to guarantee electric utilities the recovery of production offers for energy and ancillary
3 services for resources committed by MISO. These revenue payments are a result of MISO’s
4 dispatch instructions given to Ameren Missouri and guarantees the generators do not incur
5 additional costs related to MISO’s operational decisions. Since Ameren Missouri has little or
6 no control over this process, Staff only reviewed these transactions for accounting accuracy.
7 For the review period Ameren Missouri received ** [REDACTED] ** in make-whole payments
8 with that broken down by Price Volatility of ** [REDACTED] ** and Revenue Sufficiency
9 Guarantees of ** [REDACTED] **.

10 With respect to **5. Hedging** (Financial Energy Swaps) are financial energy transactions
11 related to the trading of power future contracts in organized markets. Per Ameren Missouri’s
12 CRMP, Section 2.2, page 8,

13 ** [REDACTED]
14 [REDACTED]
15 [REDACTED]
16 [REDACTED]
17 [REDACTED]
18 [REDACTED]
19 [REDACTED]
20 [REDACTED]
21 [REDACTED]
22 [REDACTED]
23 [REDACTED]
24 [REDACTED]
25 [REDACTED]
26 [REDACTED]
27 [REDACTED]
28 [REDACTED] **

29 These results of the transactions are accounted for as off-system sales revenue.

30 Based upon Ameren Missouri’s power trading activities, Ameren Missouri had forward
31 purchases in the amount of ** [REDACTED] ** and settlement swaps in the amount of
32 ** [REDACTED] ** for a settlement loss of ** [REDACTED] ** related to its financial energy
33 swaps. However, there were additional brokers fees in the amount of ** [REDACTED] ** and
34 other accounting adjustments in the amount of ** [REDACTED] **, which reduced costs, for a net

1 trading loss of ** [REDACTED] **. In response to Data Request No. 0053.1, Ameren Missouri
2 provided two main reasons for the significant decline in losses observed during the current
3 review period, compared to the prior review period which recorded notably higher losses.
4 First, the volume of activity significantly reduced. In the prior review period, several power
5 transactions were settled that had been executed prior to the retirement of Rush Island and
6 Meramec energy centers. Second, market prices (against which the Company's fixed-price
7 trades are settled) were considerably lower during the current review period than in the previous
8 one. As a result, the reduced volume of trades that did settle during this review period settled
9 much closer to market, producing smaller gains & losses.

10 **2. Summary of Cost Implications**

11 Ameren Missouri's revenues from off-system sales and ancillary services are offset
12 against total fuel, purchased power, and net emissions allowance costs. If Ameren Missouri was
13 imprudent, either because it did not maximize or did not make off-system sales and ancillary
14 services, customers could be harmed by that imprudence through an increase in FAC charges.

15 **3. Conclusion**

16 Staff identified no incidents of imprudence related to off-system sales and ancillary
17 services for the prudence review period.

18 **4. Documents Reviewed**

- 19 a. Ameren Missouri's response to Staff Data Request Nos. 0007, 0012, 0013, 0049,
20 0053, 0053.1 and 0063;
- 21 b. Ameren Missouri's work papers in File Nos. ER-2024-0183, ER-2024-0275,
22 ER-2025-0041 and ER-2025-0171;
- 23 c. Ameren Missouri's General Ledger during the review period;
- 24 d. Ameren Missouri's Monthly FAC Reports for the Review Period;
- 25 e. MISO Schedules and MISO Tariff Module C and F from
26 <https://www.misoenergy.org/>; and
- 27 f. FERC Definitions from <https://www.eia.gov/>.

28 *Staff Experts/Witnesses:*

29 *Teresa L. Denney (Capacity, Energy, Ancillary Services and Make-Whole Payments),*
30 *Obianuju S. Ezenwanne (Hedging), and Brooke Mastrogiannis (MISO Schedule 43K)*

1 **IV. Interest**

2 **1. Description**

3 For each month of the FAC accumulation periods and recovery periods,
4 Ameren Missouri is required to calculate the interest associated with the over- or
5 under-recovered balances due to: 1) difference between ANEC and B, 2) refunds as a result of
6 prudence reviews (“P”), and 3) amounts approved in true-up cases. Ameren Missouri applies
7 its short-term interest rate to the over- or under-recovered balance and the interest is
8 compounded on a monthly basis. This interest amount is component “I” of the FPA calculation
9 from MO P.S.C. Schedule No. 6; 2nd, 3rd, 4th, and 5th Revised Sheet No. 71.32. The monthly
10 short-term interest rate calculations are developed monthly by the Treasury Department.
11 These schedules identify the short-term borrowing balance outstanding at month end, the
12 average daily short-term borrowing balance for the month, the weighted average short-term
13 borrowing rate for the month, and the peak short-term borrowing amount for the month.

14 For the review period, Ameren Missouri applied an interest amount of \$11,800,703 to
15 the over- or under-recovered balances for the FAC. Staff reviewed Ameren Missouri’s
16 monthly source data for short-term interest rates, calculation of its monthly weighted average
17 interest rates, and calculations of the monthly interest amounts. Staff found all calculations to
18 be correct.

19 **2. Summary of Cost Implications**

20 If Ameren Missouri was imprudent in its identification of monthly short-term interest
21 rates and/or in its calculation of monthly interest amounts, customers could be harmed through
22 increased FAC charges.

23 **3. Conclusion**

24 Staff observed no evidence of imprudence with regard to the Ameren Missouri’s
25 monthly short-term interest rates and the calculation of monthly interest amounts applied to the
26 over- or under-recovered balances.

27 **4. Documents Reviewed**

- 28 a. Ameren Missouri Response to Staff Data Request No. 0038;
29 b. Ameren Missouri’s work papers in File Nos. ER-2024-0183, ER-2024-0275,
30 ER-2025-0041 and ER-2025-0171.
31 c. Ameren Missouri’s FAC Monthly Reports during the review period; and
32 d. Ameren Missouri’s General Ledger during the review period.

33 *Staff Expert/Witness: Teresa L. Denney*

1 **V. Failure to Follow Dispatch Instructions**

2 **1. Description**

3 In its operating procedure MS-OP-031-r35 (effective December 7, 2021), MISO defines
4 the Failure to Follow Dispatch Flag (“FFDF”) as an “hourly flag which is set for any Resource
5 that has Dispatch Interval Excessive Energy (“EXE”) or Dispatch Interval Deficient Energy
6 (“DFE”) in four or more consecutive Dispatch Intervals in a given Hour.”

7 As a member of MISO, Ameren Missouri is provided and expected to follow electronic
8 dispatching instructions as directed by MISO. These dispatch instructions are tailored to each
9 generation resource based upon a specific set of operational characteristics predefined for each
10 generation resource as well as the type of service being offered. Periodically, Ameren Missouri
11 is unable to meet these specific instructions due to equipment operational issues, hold points
12 for starting or stopping equipment (such as coal mills), units ramping downward faster than
13 anticipated for nightly deslagging³⁰ of boilers, real-time price volatility, and limited time in
14 communicating changes to unit capability. When these deviations occur, MISO charges
15 Ameren Missouri for each specific occurrence. These occurrences do not happen at a
16 single location or at a single generation facility because MISO provides dispatch instructions
17 for each of Ameren Missouri’s generation units for each hour of every day. For this Review
18 Period, MISO charged Ameren Missouri an additional \$124,721.78 for a 16-month period in
19 total Excessive/Deficient Energy Deployment charges. However, Ameren Missouri explained
20 that the failure to follow dispatch flag occurred only 1.10% of the total hours in question during
21 this review period. This is down from the prior review, but the period of time for this review
22 was shorter (from a 20-month period to a 16-month period).

23 Staff notes that even though this Review Period was a 16-month review compared to
24 the last Review Period for a 20-month review, there was a 31%³¹ decreased number of
25 occurrences for the failure to follow dispatch flag overall for Ameren Missouri from the prior
26 review. There were decreases in occurrences at Osage, Labadie, Rush Island and Meramec, but
27 increases in occurrences at Sioux 1 & 2 plants.

³⁰ The process of eliminating slag, which are impurities and contaminants, from molten metal.

³¹ The calculations were converted for each review period to a per month number of occurrences and then calculated the percentage of increase or decrease from current review to prior one.

1 **2. Summary of Cost Implications**

2 If Ameren Missouri was imprudent in its management of MISO’s dispatch instructions,
3 customers could be harmed through increased FAC charges.

4 **3. Conclusion**

5 Staff is not recommending a disallowance for this review period related to
6 Ameren Missouri’s failure to follow dispatch instructions. Staff feels the decrease of 31% in
7 occurrences is a good direction for improvement. Staff will continue to monitor Ameren
8 Missouri’s continued progress. Staff reserves the right to review the Company’s failure to
9 follow dispatch instructions in future FAC prudence reviews and/or general rate cases.

10 **4. Documents Reviewed**

- 11 a. Ameren Missouri’s responses to Staff Data Request No. 0036; and
12 b. MISO Operating Procedure MS-OP-031.

13 *Staff Expert/Witness: Amanda C. Conner*

14 **VI. Utilization of Generation Capacity**

15 **1. Description**

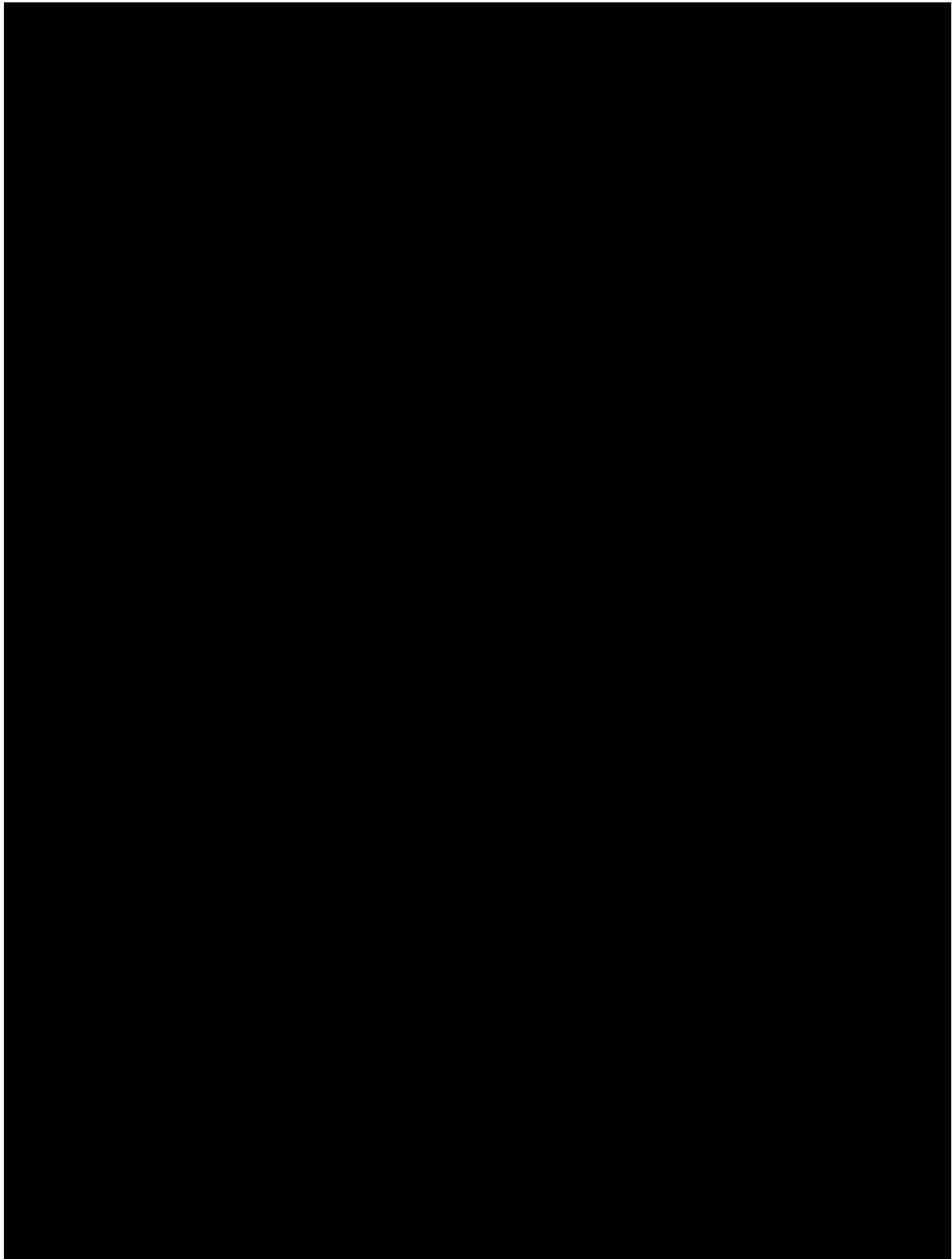
16 Ameren Missouri’s generation consists of a mixture of Nuclear, Coal, Natural Gas,
17 Solar, Methane Gas, #2 Fuel Oil, Wind, and Hydro generating stations as indicated in Table 8.
18 Table 9 contains the net-generation and reported nameplate capacity rating for Ameren
19 Missouri’s fleet. Table 10 contains the net-generation broken down by unit type for
20 Ameren Missouri’s fleet. These tables illustrate how Ameren Missouri’s generation fleet is
21 being called upon by MISO in actual operation throughout the period from June 1, 2023,
22 through September 30, 2024.

23 *continued on next page*

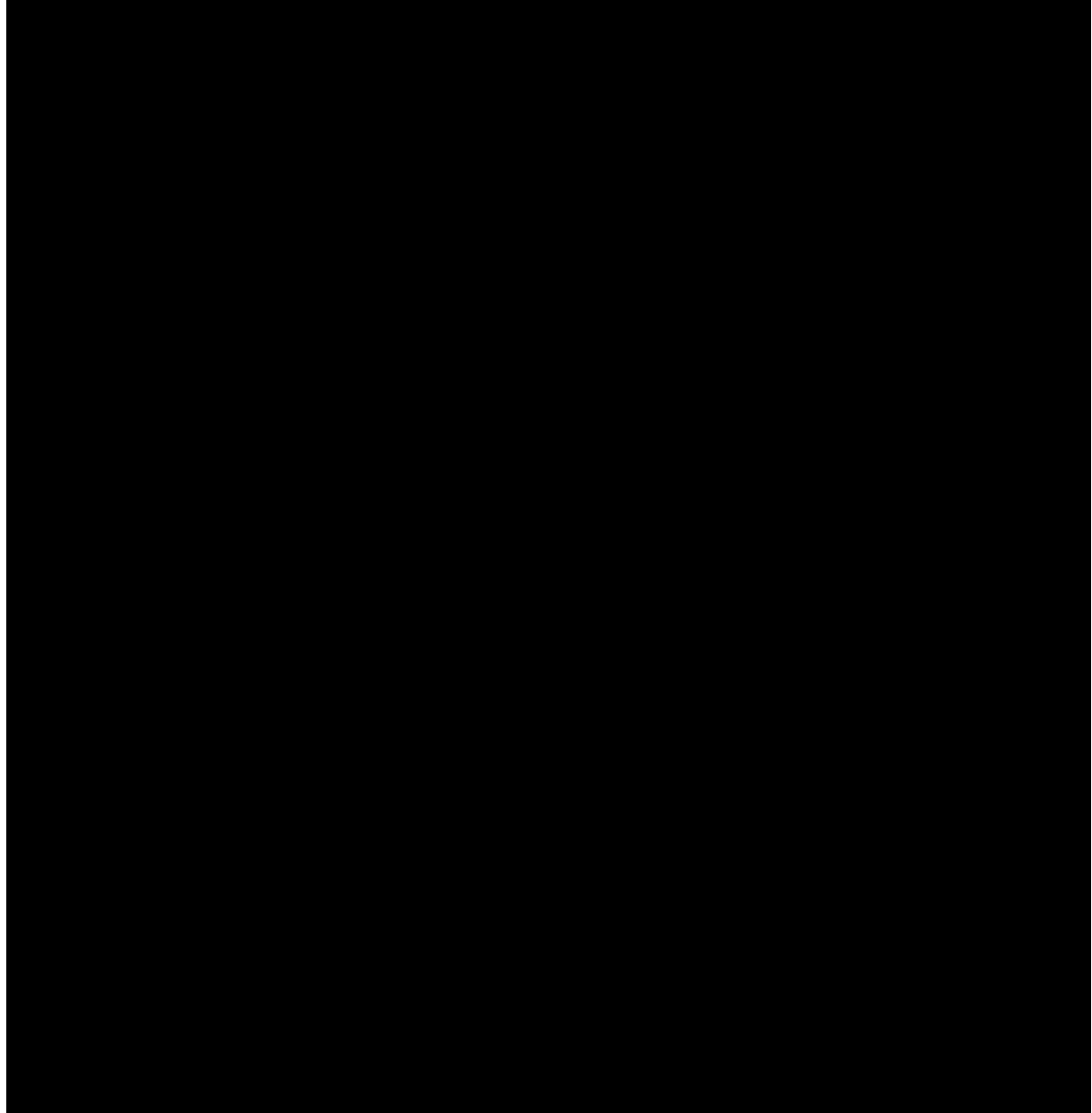
Table 8³² - Confidential

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³² Ameren response to Staff Data Request No. 0020.



1

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1 **2. Self – Commitment of Baseload Generation Facilities into MISO**

2 During this FAC prudence review, Staff conducted a review of commitment status of
3 Ameren Missouri’s electric generation facilities into MISO in an effort to determine any
4 negative impacts that might be occurring because of such actions. Staff reviewed Data Request
5 No. 0054 and did not find any evidence of imprudent self-commitment of baseload generation.

6 **3. Summary of Cost Implications**

7 Staff reviewed Ameren Missouri’s “Must Run” hourly commitment status transactions
8 from Data Request No. 0054, and did not observe any evidence of imprudent actions.

9 **4. Conclusion**

10 Staff did not observe any evidence of imprudent utilization of generation resources
11 during this prudence review.

12 **5. Documents Reviewed**

- 13 a. Ameren Missouri’s responses to Staff Data Request Nos. 0002, 0020, 0035,
14 0054 and 0055; and
15 b. MISO, Energy and Operating Reserve Markets, Business Practices Manual.

16 *Staff Expert/Witness: Jordan T. Hull*

17 **VIII. Heat Rates**

18 **1. Description**

19 Heat rates of generating units are an indicator of unit performance. A heat rate is a
20 calculation of total volume of fuel burned for electric generation multiplied by the average heat
21 content of that volume of fuel divided by the total net generation of electricity in kilowatt hours
22 (kWh) for a given time period.

23 **2. Summary of Cost Implications**

24 Heat rates are inversely related to the efficiency of the generating unit. Increasing heat
25 rates of specific units over time may be an indication that a specific unit’s efficiency is
26 declining. Heat rates can vary greatly depending on operating conditions, including but not

1 limited to, load, hours of operation, shut downs and startups, unit outages, derates,³⁵ and
2 weather conditions. Therefore, a good indication of unit performance for those units that are
3 utilized frequently is an analysis of the trend of heat rates over time. A permanent increase in
4 monthly heat rates is commonly the result of a decrease in a generating unit's efficiency
5 whenever additional emissions reduction equipment is added to the backend of the generating
6 unit. Continued utilization of units with sustained elevated heat rates could result in Ameren
7 Missouri incurring higher fuel costs per unit of electricity generated than it would otherwise
8 have incurred.

9 If Ameren Missouri was imprudent in response to the ongoing trend of a unit's heat rate,
10 customer harm could result from an increase in the fuel costs that are collected through
11 Ameren Missouri's FAC charges.

12 **3. Conclusion**

13 In reviewing the monthly heat rates of Ameren Missouri's generating units, Staff found
14 no indication that Ameren acted imprudently during the Review Period.

15 **4. Documents Reviewed**

- 16 a. Ameren Missouri's responses to Staff Data Request Nos. 0044 and 0046; and
- 17 b. Monthly Outage data submitted by Ameren Missouri in compliance with Rule
18 20 CSR 4240-3.190.

19 *Staff Expert/Witness: Jordan T. Hull*

20 **IX. Plant Outages**

21 **1. Description**

22 Outages occurring at any of the generating units can have an impact on how much
23 Ameren Missouri pays for fuel and purchased power and could result in Ameren Missouri
24 paying more for fuel and purchased power cost than is necessary. Ameren Missouri is required
25 by the North American Electric Reliability Corporation ("NERC") to submit data for every
26 outage in accordance with Generating Availability Data System ("GADS") data reporting
27 instructions effective January 2012. Generating unit outages generally can be classified as
28 scheduled outages, forced outages, or partial outages (derating).

³⁵ Derate-to reduce the power rating of a component or device.

1 Staff examined the outages of Ameren Missouri's generation fleet and the timing of
2 these outages to determine if the outages were imprudently taken. Any planned outage during
3 peak load demand times or a period of high replacement energy prices has the potential result
4 of Ameren Missouri paying more for fuel and purchased power costs than it would have paid
5 if the outage was planned during forecasted low load times. Periodic planned outages are
6 required to maintain each generating unit in peak operating condition to minimize forced or
7 maintenance outages that could occur during peak load demand or periods of high replacement
8 energy prices. Ameren Missouri has little or no control over the timing of maintenance or forced
9 outages of the generating stations it owns and operates when such outages are the result of
10 unforeseen events. These types of outages are not included as a part of this prudence review.

11 **2. Summary of Cost Complications**

12 An imprudent outage could result in Ameren Missouri purchasing expensive spot
13 market energy or running its more expensive units to meet demand and could result in customer
14 harm through an increase in customer FAC charges.

15 **3. Conclusion**

16 Staff did not observe any evidence of imprudent outages during the time period
17 examined in this prudence review.

18 **4. Documents Reviewed**

- 19 a. Ameren Missouri's responses to Staff Data Requests Nos. 0023, 0024, 0041,
20 0042 and 0045.

21 *Staff Expert/Witness: Jordan T. Hull*

BEFORE THE PUBLIC SERVICE COMMISSION

OF THE STATE OF MISSOURI

In the Matter of the Eleventh Prudence Review)
of Costs Subject to the Commission-Approved) File No: EO-2025-0236
Fuel Adjustment Clause of Union Electric)
Company d/b/a Ameren Missouri)

AFFIDAVIT OF AMANDA C. CONNER

STATE OF MISSOURI)
) ss.
COUNTY OF COLE)

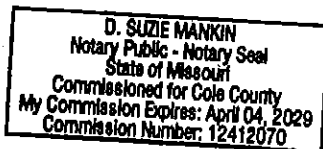
COMES NOW AMANDA C. CONNER and on her oath declares that she is of sound mind and lawful age; that she contributed to the foregoing *Eleventh Prudence Review Report*; and that the same is true and correct according to her best knowledge and belief.

Further the Affiant sayeth not.

Amanda C. Conner
AMANDA C. CONNER

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 26th day of August 2025.



D. Suzie Mankin
Notary Public

BEFORE THE PUBLIC SERVICE COMMISSION

OF THE STATE OF MISSOURI

In the Matter of the Eleventh Prudence Review)
of Costs Subject to the Commission-Approved) File No. EO-2025-0236
Fuel Adjustment Clause of Union Electric)
Company d/b/a Ameren Missouri)

AFFIDAVIT OF OBIANUJU S. EZENWANNE

STATE OF MISSOURI)
) ss.
COUNTY OF COLE)

COMES NOW OBIANUJU S. EZENWANNE and on her oath declares that she is of sound mind and lawful age; that she contributed to the foregoing *Eleventh Prudence Review Report*; and that the same is true and correct according to her best knowledge and belief.

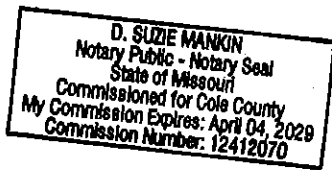
Further the Affiant sayeth not.

6-24

OBIANUJU S. EZENWANNE

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 27th day of August 2025.



D. Suzie Mankin
Notary Public

BEFORE THE PUBLIC SERVICE COMMISSION

OF THE STATE OF MISSOURI

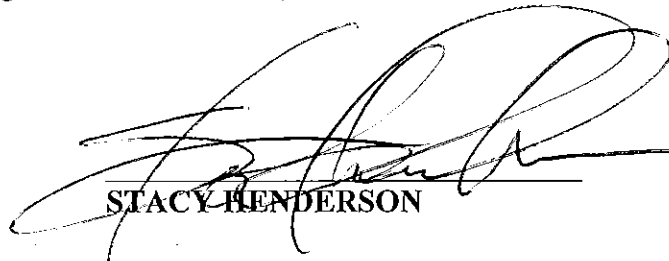
In the Matter of the Eleventh Prudence Review)
of Costs Subject to the Commission-Approved) File No. EO-2025-0236
Fuel Adjustment Clause of Union Electric)
Company d/b/a Ameren Missouri)

AFFIDAVIT OF STACY HENDERSON

STATE OF MISSOURI)
) ss.
COUNTY OF COLE)

COMES NOW STACY HENDERSON and on her oath declares that she is of sound mind and lawful age; that she contributed to the foregoing *Eleventh Prudence Review Report*; and that the same is true and correct according to her best knowledge and belief.


Further the Affiant sayeth not.


STACY HENDERSON

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 27th day of August 2025.




Notary Public

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OF THE STATE OF MISSOURI

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Fuel Adjustment Clause of Union Electric)
Company d/b/a Ameren Missouri)

AFFIDAVIT OF JORDAN T. HULL

STATE OF MISSOURI)
) ss.
COUNTY OF COLE)

COMES NOW JORDAN T. HULL and on his oath declares that he is of sound mind and lawful age; that he contributed to the foregoing *Eleventh Prudence Review Report*; and that the same is true and correct according to his best knowledge and belief.

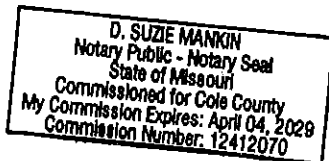
Further the Affiant sayeth not.

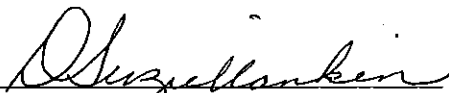


JORDAN T. HULL

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 27th day of August 2025.





Notary Public

BEFORE THE PUBLIC SERVICE COMMISSION
OF THE STATE OF MISSOURI

In the Matter of the Eleventh Prudence Review)
of Costs Subject to the Commission-Approved)
Fuel Adjustment Clause of Union Electric)
Company d/b/a Ameren Missouri)

File No. EO-2025-0236

AFFIDAVIT OF BROOKE MASTROGIANNIS

STATE OF MISSOURI)
)
COUNTY OF COLE) ss.

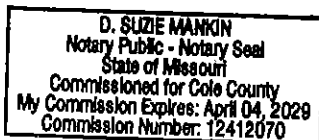
COMES NOW BROOKE MASTROGIANNIS and on her oath declares that she is of sound mind and lawful age; that she contributed to the foregoing *Eleventh Prudence Review Report*; and that the same is true and correct according to her best knowledge and belief.

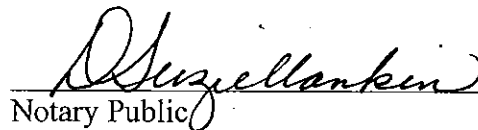
Further the Affiant sayeth not.


BROOKE MASTROGIANNIS

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 26th day of August 2025.




Notary Public