

1 demand and requirements of public authorities.”¹⁴⁸ Staff accounts for depreciation by recording
2 the actual purchase cost of the asset, known as book cost, and charging depreciation expense
3 over the expected or average service life of the asset. Average service life can be determined by
4 plotting the percentage of assets surviving against the age of the assets in a survivor curve, and
5 calculating the area under that curve. For an account in which all plant is retired, the full
6 survivor curve is available and average service life can be calculated. Accounts with plant
7 remaining have a partial curve, which is known as a stub curve. The average service life can be
8 estimated by comparing a stub curve to Iowa curves and fitting the best matched curve. Iowa
9 curves represent common survival rates and patterns of assets, and are widely used to estimate
10 depreciation.

11 Using the data supplied by Ameren, and the methods below, Staff calculated its own
12 depreciation rates of Ameren’s plant in service and recommends the rates as listed in Accounting
13 Schedule 5. Staff receives data in excel or notepad format for retirements and salvage
14 information. The data includes installment year (vintage), FERC account, type of transaction,
15 transaction year, amount of transaction, and group or location codes. Staff uses a version of
16 Gannett Fleming Software to complete the following actions with the company provided data.
17 First the data is sorted and checked for errors. Next, the software allows staff to analyze
18 the amount of plant that has been retired at each age and plot the stub curve. Then, Staff matches
19 an appropriate Iowa curve to the stub curve data. Curves are fitted using a mixture of
20 mathematical and visual fitting practices. Once a curve is chosen, Staff has an estimate of the
21 average service life.

22 Staff calculated an estimated net salvage percentage for each account by reviewing the
23 accounts gross salvage and cost of removal data:

$$\text{Net Salvage} = \text{Gross Salvage} - \text{Cost of Removal}$$

25 Gross salvage is the removed market value of the retired asset. Cost of removal is the cost
26 associated with the retirement and disposition of the asset from service. Net salvage percentages
27 were developed by dividing the experienced net cost of removal by the original cost of plant
28 retired during the same time period to calculate the net cost of removal percentage. Staff then

¹⁴⁸ 18 CFR Part 101 Uniform System of Accounts Prescribed for Public Utilities and Licensees Subject to the Provision of the Federal Power Act Definition 12.

1 analyzes net salvage percentage using a 3-year or 5-year moving average to determine trends.
2 Staff then uses the average life and salvage percentage to calculate a depreciation rate, annual
3 accrual, and remaining life. Where there was adequate data to support it, Staff's recommendation
4 is informed by statistical analysis of plant retirements. For accounts that did not have adequate
5 data to produce a reasonable result using statistical analysis, Staff relied on its engineering
6 experience, informed judgement, and previous cases to prepare recommended rates. Staff used
7 the straight-line method, broad group-averaging life procedure, and remaining life technique for
8 its calculations. The straight line method allocates expense evenly over the expected life of the
9 asset. The broad group life procedure bases annual depreciation on the average service life of
10 the account group rather than the specific vintage year. The broad group method views each
11 vintage of asset in the continuous group as having identical life and salvage characteristics. A
12 remaining life accrual basis applies that depreciation over the estimated remaining useful life of
13 the asset group. The remaining life technique calculates the depreciation rate by taking into
14 account the depreciation reserve for the account. This corrects any under or over accrual that
15 may have accrued in the accounts. It then applies the remaining balance over the estimated
16 average remaining life of the assets in the accounts.

17 Staff used this technique for the majority of accounts with the exception of miscellaneous
18 equipment and general plant accounts that have previously been amortized. The amortized
19 accounts are accounts 316.21, 316.22, 316.23, 325.21, 325.22, 325.23, 335.21, 335.22, 335.23,
20 346.21, 346.22, 346.23, 390.05, 391, 391.2, 391.3, 392.05, 393, 394, 394.05, 395, 396, 397,
21 397.05, and 398.

22 Staff did not include rates for surge protection devices as the program was recently
23 rejected in Case No ET-2021-0082.

24 Staff noted that certain units of property were misclassified in account 369 according to
25 data request MPSC 0666. The property units were CABLE,5KV,3-1/0 X 1-2,RUBBER;
26 BREAKER,OIL CIRCUIT,7.9KV; CABLE,5KV,1- 6,RUBBER; CABLE,5KV,3-
27 500MCM,LEAD; CABLE,5KV,3-2,RUBBER,CONC NEUT; CABLE,5KV,1-4/0,LEAD;
28 CABLE,5KV,3-350MCM X 1-1/0,LEAD; CABLE,35KV,1- 750MCM,LEAD; CABLE,5KV,3-
29 750MCM X 3-2,RUBBER; CABLE,1KV,1- 2000MCM,CU,LEAD; CABLE,15KV,3-

1 750MCM,AL,XLP; CABLE,5KV,2-8,RUBBER; CABLE,5KV,3-4/0,1-1/0,LEA ;
2 CABLE,5KV,3-450MCM,LEAD. Ameren Missouri stated

3 Subject to the Company's objections, these assets would be
4 used to provide service to Primary customers. Please note, these
5 assets appear to be potentially misclassified as being recorded in
6 Account 369. The original book value of these assets represent
7 approximately \$1,570,000 in an account with an original book
8 value of approximately \$182,120,000 and the vast majority of the
9 asset value has vintage years prior to the year 2000. Due to the
10 small impact this potential misclassification would have on the
11 total revenue requirement, additional research was not
12 conducted.¹⁴⁹

13 Staff recommends that Ameren Missouri review its CPR for misclassification errors and
14 correct any errors discovered in its CPR and any other account tracking software prior to
15 submitting its next depreciation study.

16 *Staff Expert/Witness: Cedric E. Cunigan*

17 **B. Capitalized O&M Depreciation Expense**

18 Construction related costs are accumulated in construction-work-in-progress accounts
19 and are then capitalized and included in rates subsequent to the completion of the project, when
20 that project goes into service. Capitalized amounts include depreciation expense that is
21 associated with assets used in construction, such as power operated equipment and transportation
22 equipment. Capitalized depreciation must be subtracted from annualized depreciation expense
23 calculated using Ameren Missouri's total plant-in-service balances in order to prevent double
24 recovery. Therefore, Staff removed capitalized depreciation from its annualized depreciation
25 expense in order to arrive at the amount of depreciation expense associated with operations and
26 maintenance related functions.

27 *Staff Expert/Witness: Jane C. Dhority*

28 **C. Elimination of Depreciation on Coal Cars**

29 Staff removed from its case the estimated amount of depreciation expense accrued for
30 Ameren Missouri's coal cars as estimated through September 30, 2021. Because this cost is

¹⁴⁹ Response to data request MPSC 0666.

1 reflected as part of fuel costs that are included as an input in Staff's production cost model, it
2 should be excluded from annualized depreciation expense to avoid double-counting.

3 *Staff Expert/Witness: Jane C. Dhority*

4 **XIV. Income Tax**

5 Income tax expense, as calculated by Staff, begins by taking adjusted net operating
6 income before taxes and adding to or subtracting from net income various timing differences in
7 order to obtain net taxable income for ratemaking purposes. These "add back" and/or
8 subtraction adjustments are necessary to identify new amounts for the tax deductions that are
9 different from those levels reflected in the income statement as revenues or expenses. The
10 adjustments are the result of various book versus tax timing differences and the effect of such
11 differences under separate tax ratemaking methods: flow-through versus normalization. A tax
12 timing difference occurs when the timing used in reflecting a cost (or revenue) for financial
13 reporting purposes (book purposes) is different than the timing required by the IRS in
14 determining taxable income (tax purposes). Current income tax reflects timing differences
15 consistent with the timing required by the IRS. The tax timing differences used in calculating
16 taxable income for computing current income tax are as follows:

17 **Add Back to Operating Income Before Taxes:**

- 18 • Book Depreciation Expense
- 19 • Book Depreciation Charged to O&M
- 20 • Intangible Amortization
- 21 • Hydraulic Amortization
- 22 • Transmission Amortization
- 23 • Callaway Post Operational Costs
- 24 • Non-Deductible Parking Lot Expenses

25 **Subtractions from Operating Income:**

- 26 • Interest Expense – Weighted Cost of Debt X Rate Base
- 27 • Tax Straight-Line Depreciation
- 28 • Nuclear Decommissioning
- 29 • Preferred Dividend Deduction

1 For ratemaking purposes, the tax normalization method defers the deduction taken for tax
2 purposes for certain tax timing differences. The effect of using tax normalization is to allow
3 utilities the net benefit of certain net tax deductions for a period of time before those benefits are
4 passed on to the utility's customers in rates. The flow-through tax method essentially provides
5 for the same tax deduction taken as a deduction for ratemaking purposes as is taken for tax
6 purposes.

7 In Ameren Missouri case no. ER-2016-0179 normalized deductions and credits were
8 unable to be used due to the Net Operating Loss situation that Ameren and Ameren Missouri
9 had. Ameren Missouri had to first use its loss before it was able to take advantage of its
10 normalized credits or deductions. Ameren Missouri has paid tax to the Ameren consolidated
11 group for 2017, 2018, 2019, and is expected to for the 2020 tax year which means that Ameren
12 Missouri is in a taxable position. Ameren Corporation was in a taxable position in 2019 but did
13 not pay tax due to a previous tax overpayment and is expected to pay tax to the IRS for the 2020
14 tax year. In this case, Staff has included the preferred dividend deduction, research tax credit,
15 empowerment zone credit, production tax credit, fuel tax credit, alternative fuel vehicle refueling
16 property credit and the St. Louis payroll tax credit.

17 Under either the tax normalization or tax flow-through approach, the resulting net taxable
18 income for ratemaking is then multiplied by the appropriate federal, state and city tax rates to
19 obtain the current liability for income taxes. A federal tax rate of 21.00 percent as a result of the
20 recent TCJA federal tax reform, a state income tax rate of 4.00 percent as a result of Missouri
21 state tax reform beginning January 1, 2020, and a city tax rate of 0.122 percent were used in
22 calculating Ameren Missouri's current income tax liability. The difference between the
23 calculated current income tax provision and the per book income tax provision is the current
24 income tax provision adjustment.

25 Staff will review income tax expense as part of its true-up audit and make additional
26 adjustments as necessary.

27 *Staff Expert/Witness: Lisa M. Ferguson*

1 **XV. Fuel Adjustment Clause (“FAC”)**

2 **A. Policy**

3 In summary, Staff makes the following recommendations to the Commission regarding
4 Ameren Missouri’s Fuel Adjustment Clause (“FAC”):

- 5 • Continue Ameren Missouri’s FAC with modifications;
- 6 • Order Ameren Missouri to include the information provided in Attachments c to
7 d1 of Andrew Meyer’s direct testimony filed in this proceeding in Ameren
8 Missouri’s FAC Monthly Reports, to clarify the major/minor accounts included
9 and excluded within the FAC, and detailed designations and descriptions for each
10 account, along with any changes to them between rate cases;
- 11 • Order Ameren Missouri to specifically delineate Research and Development
12 (“R&D”) project costs noted in case no. ER-2022-0026 within the general ledger
13 by establishing its own individual major/minor accounts, activity code, or
14 resource type, etc. and communicate that specific coding to Staff. In addition,
15 order Ameren Missouri to specifically exclude those R&D specific coded items
16 from the FAC;
- 17 • Continue to include one Base Factor for summer and one Base Factor for winter
18 in the FAC tariff sheets, calculated from the Net Base Energy Costs (“NBEC”)
19 that the Commission includes in the revenue requirement upon which it sets
20 Ameren Missouri’s general rates in this case;
- 21 • Clarify that the only transmission costs and revenues that are included in
22 Ameren’s FAC are those that Ameren Missouri incurs for Purchased Power and
23 Off-System Sales;
- 24 • Order Ameren Missouri to include language in its FAC tariff that any retirement
25 and/or decommissioning costs related to the retirement of the Meramec Plant be
26 removed from the FAC after the official retirement date, and no other costs will
27 be included for recovery in the FAC after that date;
- 28 • Order Ameren Missouri to include language in its FAC tariff that all wind
29 revenues associated with High Prairie and Atchison Wind Farms will be included
30 for recovery in the FAC; and

- Order Ameren Missouri to change the FAC tariff Fuel Cost definition to state: “Fuel costs incurred to support sales and revenues associated with the Company’s in service generating plants consisting of the following”.

History

The Commission first approved Ameren Missouri’s request for an FAC in Case No. ER-2008-0318. In Case Nos. ER-2010-0036, ER-2011-0028, ER-2012-0166, ER-2014-0258, ER-2016-0179, and ER-2019-0335, Ameren Missouri requested and received authorization to continue its FAC.

The primary features of Ameren Missouri’s present FAC (tariff sheet MO. P.S.C. Schedule No. 6 Original Sheet No’s 71 through 71.15) include:

- Three 4-month accumulation periods¹⁵⁰ (“AP”): February through May, June through September, and October through January;
- Three 8-month recovery periods¹⁵¹ (“RP”): October through May, February through September, and June through January;
- One Base Factor¹⁵² for June through September calendar months (Summer) and one Base Factor for October through May calendar months (Winter);
- A 95%/5% sharing mechanism¹⁵³;
- Fuel Adjustment Rates¹⁵⁴ (“FAR”) for individual service classifications adjusted for the two Ameren Missouri service voltage levels, rounded to the nearest \$0.00001, and charged on each kWh billed; and
- True-up of any over- or under- recovery of revenues following every recovery period with a true-up amount being included in the determination of FAR for a subsequent recovery period.

¹⁵⁰ An AP is the calendar months during which the actual costs and revenues are accumulated for the purposes of the Fuel Adjustment Rate.

¹⁵¹ A RP is the billing calendar months during which the FAR is applied to retail customer usage on a per kWh basis, as adjusted for service voltage.

¹⁵² The Base Factor, which is equal to the normalized value for the sum of allowable fuel costs, plus costs of purchased power, and emission costs and revenues, less revenues from off-system sales, divided by corresponding normalized retail kWh as adjusted for applicable losses. At this time Staff does not have its estimate for the Base Factor for the FAC, but will provide it and a discussion on the calculation of the Base Factor when Staff files its Class Cost of Service/Rate Design Report on September 17, 2021. Staff will use the Base Energy Cost and the kWh at the generator from its fuel run to develop the Base Factor.

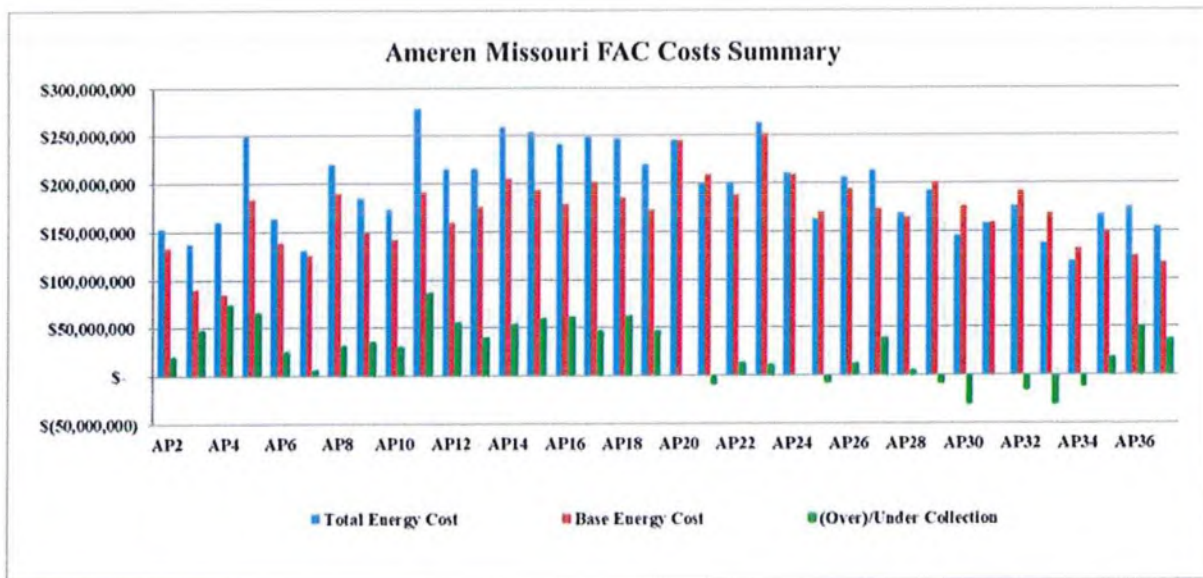
¹⁵³ 95% of the difference between the ANEC and B for each respective AP will be used to calculate the FAR.

¹⁵⁴ The FAR for each accumulation period is the amount that is returned to or collected from customers as part of a decrease or an increase of the FAC Fuel and Purchased Power Adjustment per kWh rate.

B. Ameren Missouri’s Fuel and Purchased-Power Costs Net of Off-System Sales Revenues

Chart 1 below shows, for each full accumulation period¹⁵⁵ since the Commission authorized Ameren Missouri’s FAC, a summary of Ameren Missouri’s Actual Net Energy Cost (“ANEC”),¹⁵⁶ NBEC, and the over- or under-collection of fuel and purchased-power costs minus off-system sales revenues through its permanent rates.

Chart 1



At the conclusions of its electric rate cases, during AP5, AP8, AP12, AP22, AP26, and AP34 – Case Nos. ER-2010-0036, ER-2011-0028, ER-2012-0166, ER-2014-0258, ER-2016-0179 and ER-2021-0022, respectively – the Base Factors in Ameren Missouri’s FAC were re-set. Over all full accumulation periods except for AP20, AP21, AP25, AP29, AP30, AP31, AP32, AP33, and AP34, Ameren Missouri under-collected its fuel and purchased-power costs in its permanent rates as a result of Ameren Missouri’s ANEC exceeding the NBEC for the accumulation period.

¹⁵⁵ Accumulation Period 1 was not a full accumulation period because it only covered the three calendar months of March 2009 through May 2009. All other accumulation periods cover four calendar months.

¹⁵⁶ Actual Net Energy Cost is defined in Ameren Missouri’s current FAC tariff sheet, MO. P.S.C. Schedule 6, Original Sheet No. 71.1, as: Fuel costs and revenues (FC) plus purchased-power costs and revenues (PP) plus costs and revenues for SO₂ and NO_x emissions allowances (E) plus costs and revenues for net insurance recoveries (R) minus off-system sales revenues (OSSR). The formula appears as: ANEC = FC + PP + E + R – OSSR.

Chart 1 also shows that the range of Ameren Missouri’s ANEC varies from approximately \$119 million for AP34 (February 2020 – May 2020), to approximately \$278 million for AP11 (June 2012 – September 2012). Based on this varied range of Ameren Missouri’s ANEC, Chart 1 shows that Ameren Missouri’s ANECs have continued to be large and volatile.

Revising the Base Factor

Correctly setting the Base Factor in Ameren Missouri’s FAC tariff sheets is critical to both a well-functioning FAC and a well-functioning FAC sharing mechanism. For the reasons below, Staff recommends the Commission require the Base Factor in Ameren Missouri’s FAC be set based on the NBEC that the Commission includes in the revenue requirement, which is to be set in Ameren Missouri’s general rates in this case.

Table 1 shows three scenarios in which the FAC Base Energy Cost used to set the FAC Base Factor are equal to, less than, or greater than the Base Energy Cost in the revenue requirement upon which the Commission sets general rates:

Table 1: Base Energy Cost Case Studies				
		Case 1	Case 2	Case 3
Line	95%/5% Sharing Mechanism	Energy Cost in FAC <u>Equal To</u> Base Energy Cost in Rev. Req.	Energy Cost in FAC <u>Less Than</u> Base Energy Cost in Rev. Req.	Energy Cost in FAC <u>Greater Than</u> Base Energy Cost in Rev. Req.
a	Revenue Requirement	\$ 10,000,000	\$ 10,000,000	\$ 10,000,000
b	Base Energy Cost in Rev. Req.	\$ 4,000,000	\$ 4,000,000	\$ 4,000,000
c	Base Energy Cost in FAC	\$ 4,000,000	\$ 3,900,000	\$ 4,100,000
Outcome 1: Actual Energy Cost <u>Greater Than</u> Base Energy Cost in Revenue Requirement				
d	Actual Total Energy Cost	\$ 4,200,000	\$ 4,200,000	\$ 4,200,000
	Billed to Customer:			
= b	in Permanent Rates	\$ 4,000,000	\$ 4,000,000	\$ 4,000,000
e = (d - c) x 0.95	through FAC	\$ 190,000	\$ 285,000	\$ 95,000
f = b + e	Total Billed to Customers	\$ 4,190,000	\$ 4,285,000	\$ 4,095,000
g = f - d	Kept/(Paid) by Company	\$ (10,000)	\$ 85,000	\$ (105,000)
Outcome 2: Actual Energy Cost <u>Less Than</u> Base Energy Cost in Revenue Requirement				
h	Actual Energy Cost	\$ 3,800,000	\$ 3,800,000	\$ 3,800,000
	Billed to Customer:			
= b	in Permanent Rates	\$ 4,000,000	\$ 4,000,000	\$ 4,000,000
i = (h - c) x 0.95	through FAC	\$ (190,000)	\$ (95,000)	\$ (285,000)
j = b + i	Total Billed to Customers	\$ 3,810,000	\$ 3,905,000	\$ 3,715,000
k = j - h	Kept/(Paid) by Company	\$ 10,000	\$ 105,000	\$ (85,000)

1 Case 1 illustrates that if the FAC Base Energy Cost used for the Base Factor is equal to
2 the Base Energy Cost in the revenue requirement used for setting general rates, the utility does
3 not over or under-collect as a result of the level of total actual energy costs. The FAC works as it
4 is intended to do.

5 Case 2 illustrates that if the FAC Base Energy Cost used for the Base Factor is less than
6 the Base Energy Cost in the revenue requirement used for setting general rates, the utility will
7 collect more than was intended and customers pay more than the FAC was designed for them to
8 pay, regardless of the level of actual energy costs.

9 Case 3 illustrates that if the FAC Base Energy Cost used for the Base Factor is greater
10 than the Base Energy Cost in the revenue requirement used for setting general rates, the utility
11 will not collect all of the costs that was intended in the FAC design, and customers pay less than
12 the entire amount intended regardless of the level of actual energy costs.

13 These three cases illustrate the importance of setting the Base Factor in the FAC
14 correctly, i.e., revising the Base Factor to match the Base Energy Cost in the revenue
15 requirement used for setting general rates. Case 1 is the preferred case, because the amount
16 refunded to or collected from customers is closest to zero.

17 Table 2 below contains a comparison of Ameren Missouri's FERC account expenses and
18 revenues, annual kWh's, cents per kWh, and NBEC approved in the last general rate case, Case
19 No. ER-2019-0335 and Ameren Missouri's proposed NBEC in this case. Ameren Missouri's
20 proposed fuel and purchased-power expenses decreased a total of 3.10 percent compared to the
21 fuel and purchased-power expenses approved in Case No. ER-2019-0335. Ameren Missouri's
22 proposed FAC revenues increased a total of 9.05% compared to the revenues approved in Case
23 No. ER-2019-0335. Although the FAC revenues increased a total of 9.05%, the overall NBEC is
24 decreasing by 12.24%; this explains the overall decrease in revenues and fuel and purchased-
25 power expenses which is consequently why the proposed Base Factor is decreasing.

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30 *continued on next page*

Table 2 Comparison of Ameren Missouri's NBEC From ER-2019-0335 to ER-2021-0240						
		ER-2019-0335	ER-2021-0240	Difference	Percent Difference	
FERC Account Expenses	501 Coal	\$ 523,247,171	\$ 498,669,946	\$ (24,577,225)	-4.70%	
	502 AQCS	\$ 7,737,564	\$ 7,807,244	\$ 69,680	0.89%	
	518 Nuclear	\$ 80,726,617	\$ 80,163,000	\$ (563,617)	-0.70%	
	547 Natural Gas	\$ 29,127,313	\$ 20,417,629	\$ (8,709,684)	-29.90%	
	555 Purchased Power	\$ 45,852,392	\$ 48,257,503	\$ 2,405,111	5.25%	
	565 Transmission by Others	\$ 1,089,545	\$ 1,625,255	\$ 535,710	49.17%	
	Capacity Expense	\$ 8,208,207	\$ 16,814,666	\$ 8,606,459	104.85%	
	925 Replacement Power Ins.	\$ -	\$ 638,206	\$ 638,206	100.00%	
Total FERC Account Expenses		\$ 695,988,809	\$ 674,393,449	\$ (21,595,360)	-3.10%	
FERC Account Revenues	447 OSSR Energy	\$ 259,827,205	\$ 282,149,000	\$ 22,321,795	8.59%	
	447 Capacity Sales	\$ 17,633,058	\$ 23,804,324	\$ 6,171,266	35.00%	
	447 Other (Note 1)	\$ 20,887,281	\$ 19,346,476	\$ (1,540,805)	-7.38%	
	456 Transmission Revenues	\$ 406,498	\$ 495,886	\$ 89,388	18.03%	
Total FERC Account Revenues		\$ 298,754,042	\$ 325,795,686	\$ 27,041,644	9.05%	
Net Base Energy Costs		\$ 397,234,767	\$ 348,597,763	\$ 48,637,004	12.24%	
	Annual kWh	33,095,994,000	32,389,488,116	706,505,884	2.13%	
	Annual Cents per kWh	\$ 12.00	\$ 10.76	\$ 1.240	10.33%	
	Winter 1 Cents per kWh	\$ 1.167	\$ 1.036	\$ (0.131)	-11.19%	
	Winter 2 Cents per kWh	\$ 1.167	\$ 1.036	\$ (0.131)	-11.19%	
	Summer Cents per kWh	\$ 1.259	\$ 1.149	\$ (0.110)	-8.73%	
Note 1: Other revenues in FERC Account 447 include the following:						
MISO Make Whole Payments Margins						
Ancillary Services Revenue						
Financial Swaps						
Real-Time Load and Generation Deviation						
Source: Column ER-2019-0335 amounts were approved per order by the Commission in Case No. ER-2019-0335.						
Column ER-2021-0240 amounts are from Company Witness Mitchell Lansford's Schedule D-17, updated in Data Request 244.1.						

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Staff recommends continuation of Ameren Missouri's FAC. Ameren Missouri's fuel and purchased-power costs, less off-system sales revenues, continue to be volatile. While some FAC related costs can be controlled by the company there are some that are more difficult for Ameren

1 Missouri to control, and at \$348,597,763, represent approximately 10.85%¹⁵⁷ of Ameren
2 Missouri's proposed annual revenue requirement for this case.

3 In the current rate case Ameren Missouri is proposing to re-base the Base Factor to
4 \$0.01266 per kWh for June to September calendar months and \$0.01208 per kWh for October
5 through May calendar months. At this time Staff does not have its estimate for the Base Factor
6 for the FAC, but will provide it and a discussion on the calculation of the Base Factor when Staff
7 files its Class Cost of Service/Rate Design Report on September 17, 2021. Staff will use the Base
8 Energy Cost and the kWh at the generator from its fuel run to develop the Base Factor.

9 Staff witness Alan J. Bax addresses the Voltage Adjustment Factors in the Fuel and
10 Purchased Power Modeling section of this Cost of Service Report.

11 Additional Filing Requirements

12 In addition to the recommendations listed at the beginning of this section, due to the
13 accelerated Staff review process necessary with FAC adjustment filings,¹⁵⁸ just as it did in
14 previous Ameren Missouri rate cases, Staff is recommending the Commission order
15 Ameren Missouri to do the following:

- 16 • As part of the information Ameren Missouri submits when it files a tariff
17 modification to change its Fuel and Purchased Power Adjustment rate,
18 include Ameren Missouri's calculation of the interest included in the
19 proposed rate;
- 20 • Continue to provide monthly filings that will aid the Staff in performing
21 FAC tariff, prudence and true-up reviews; these filings should specifically
22 include tabs 5D, 5E, and 5F within the current monthly filings;
- 23 • In addition to the monthly reports required by 20 CSR 4240-20.090(5),
24 provide Ameren Missouri's MISO Ancillary Services Market ("AMS")
25 market settlements and revenue neutrality uplift charges;
- 26 • Maintain at Ameren Missouri's corporate headquarters, or at some other
27 mutually-agreed-upon place within a mutually-agreed-upon time for review,
28 a copy of each and every nuclear fuel, coal, and transportation contract
29 Ameren Missouri has that is or was in effect for the previous four years;

¹⁵⁷ This percentage is comprised of the proposed Net Base Energy Costs of \$348,597,763, divided by the total proposed annual revenue requirement of \$3,212,523,000.

¹⁵⁸ The Company must file its FAC adjustment 60 days prior to the effective date of its proposed tariff sheet. Staff has 30 days to review the filing and make a recommendation to the Commission. The Commission then has 30 days to approve or deny Staff's recommendation.

- 1 • Within 30 days of the effective date of each and every nuclear fuel, coal, and
2 transportation contract Ameren Missouri enters into, provide both notice to
3 Staff of the contract and opportunity to review the contract at Ameren
4 Missouri's corporate headquarters or at some other mutually-agreed-upon
5 place;
- 6 • Maintain at Ameren Missouri's corporate headquarters, or provide at some
7 other mutually-agreed-upon place within a mutually-agreed-upon time, a
8 copy for review of each and every natural gas contract Ameren Missouri has
9 that is in effect;
- 10 • Within 30 days of the effective date of each and every natural gas contract
11 Ameren Missouri enters into, provide both notice to Staff of the contract and
12 an opportunity for review of the contract at Ameren Missouri's corporate
13 headquarters or at some other mutually-agreed-upon place;
- 14 • Provide a copy of each and every Ameren Missouri hedging policy that is in
15 effect at the time the tariff changes ordered by the Commission in this rate
16 case go into effect for Staff to retain;
- 17 • Within 30 days of any change in an Ameren Missouri hedging policy,
18 provide a copy of the changed hedging policy for Staff to retain;
- 19 • Provide a copy of Ameren Missouri's internal policy for participating in the
20 MISO ASM, including any Ameren Missouri sales/purchases from that
21 market that are in effect at the time the tariff changes ordered by the
22 Commission in this rate case go into effect for Staff to retain;
- 23 • If Ameren Missouri revises any internal policy for participating in the MISO
24 ASM, within 30 days of that revision, provide a copy of the revised policy
25 with the revisions identified for Staff to retain;
- 26 • The monthly as-burned fuel report supplied by Ameren Missouri required by
27 20 CSR 4240-3.190(1)(B) shall explicitly designate fixed and variable
28 components of the average cost per unit burned including commodity,
29 transportation, emission, tax, fuel blend, and any additional fixed or variable
30 costs associated with the average cost per unit reported (Staff is willing to
31 work with Ameren Missouri on the electronic format of this report);
- 32 • Monthly natural gas fuel reports that include all transactions (spot and longer
33 term), including terms, volumes, price and analysis of number of bids;
- 34 • Include within the FAC Monthly Reports information related to the
35 Renewable Choice Program, as referenced in the Non-Unanimous
36 Stipulation and Agreement approved in ET-2018-0063;
- 37 • Include within the FAC Monthly Reports information to reflect the tracking
38 of Ameren Missouri's efforts to make and maximize off system sales and
39 revenues flowing through the FAC; and

- Notification to Staff within 30 days of entering a new long-term contract for purchased power or changes to a purchased power contract.

Staff Expert/Witness: Brooke Mastrogiannis

XVI. Other Issues

A. Cost Savings Measurement Reporting

As part of the Stipulation and Agreement filed in Case No. ER-2019-0335, Ameren Missouri agreed to provide Staff and other Signatories with a Cost Savings Measurement report for cost savings measures with a threshold of \$500,000 for projects that are focused on operational efficiencies. Prior to the settlement in that case Ameren Missouri had indicated in its response to Staff's Data Requests in various rate cases that they did not track and quantify cost savings from the various cost savings initiatives under taken. **

[Redacted text block]

[Large redacted text block]

[Redacted text block]

**

1 Staff would like Ameren Missouri to continue to provide the information that is already
2 contained within the report, however Staff would like to see some modification to the report.
3 First, Staff would like to see the actual quantified costs savings for the period examined, and
4 secondly Staff would like to see the amount of any variance between actual cost savings and the
5 budgeted/forecasted cost saving with a detailed description regarding what lead to the variance.
6 Staff recommends that the Commission order Ameren Missouri to include the additional detail
7 requested by Staff in the next cost savings report due in July of 2022. It is important to be able
8 to quantify these cost savings so that during a rate case, the savings can be passed on through
9 rates to ratepayers.

10 **McKinsey Study & KPMG Study**

11 In the previous Ameren Missouri gas case, GR-2019-0077, Staff discovered that Ameren
12 Services had contracted with Klynveld Peat Marwick Goerdeler (“KPMG”) to perform a
13 benchmarking study of Ameren Services. In March of 2021, Ameren contracted with McKinsey
14 to perform a similar study to identify areas of potential cost savings within the various
15 workstreams of Ameren Corporation and its affiliates. The first part of the project was to get a
16 baseline of the current Customer Affordability programs and provide an assessment, which
17 involved reviewing the target areas and current initiatives by segment and area, i.e., Ameren
18 Missouri Nuclear. The next step was to identify new areas where cost savings initiatives could
19 be implemented and to refine existing ones. Then McKinsey would work with the segment
20 groups to “blueprint” the move from the current spend to the targeted 2025 spend.
21 Finally McKinsey would prepare a “2021-2022 integrated masterplan” that would provide a high
22 level view of expected outcomes, recommended targets, resourcing, and investment to deliver on
23 the 24 month plan. Additionally McKinsey would provide Ameren with a “playbook” for
24 Ameren Missouri to use going forward for to support similar performance improvement
25 diagnostic efforts going forward. During the study, McKinsey ** [REDACTED]

26 [REDACTED]
27 [REDACTED]
28 [REDACTED]. **

Cost Savings Reflected in Revenue Requirement

As part of the Smart Meter program, Ameren Missouri is replacing AMR meters with AMI meters. There is a meter reading fee associated with the AMRs that are still in use by Ameren Missouri, as the AMR is replaced by an AMI meter, the meter reading fees are eliminated. Staff has included an annualized amount for meter reading fees based on the costs for reading fees incurred in June of 2021 times twelve to reflect as a current ongoing level of expense.

** [Redacted]

[Redacted]

These changes are reflected in the payroll annualization. **

Staff will continue to review the cost savings measures implemented by Ameren Missouri through the true-up cut-off of September 30, 2021 and may propose additional adjustments.

Staff Expert/Witness: Jason Kunst, CPA

1 **B. Smart Energy Plan**

2 In February 2019, Ameren Missouri introduced their Smart Energy Plan that includes
3 \$5.3 billion of electric investment and \$1 billion in wind investment from 2019 through 2023.
4 This plan is meant to accelerate investment in smart grid technologies and renewable energy
5 while hardening and upgrading the electric grid for efficient and reliable use. This will establish
6 an integrated grid where energy and information is bi-directional and flowing to and from
7 customers and generation sources. Ameren Missouri plans to complete projects to upgrade the
8 grid in their service territory to promote safety, security, reliability and resiliency. These
9 projects include:

- 10 1. Installation of switching devices and communications technologies to
11 reduce the length of outages
- 12 2. Installation of 1,000 new and fortified utility poles to better withstand
13 severe weather
- 14 3. Upgrading aging and under-performing assets such as substations to
15 improve service reliability
- 16 4. Upgrading specific portions of its system from 4 kV to 12 kV
- 17 5. Upgrading infrastructure and incorporating route diversity and smart
18 grid sensor technology into operations for reliability and faster outage
19 response times
- 20 6. Employing smart grid technologies into new and existing substations
- 21 7. Developing a communications network to monitor and enable
22 analytics from connected grid devices

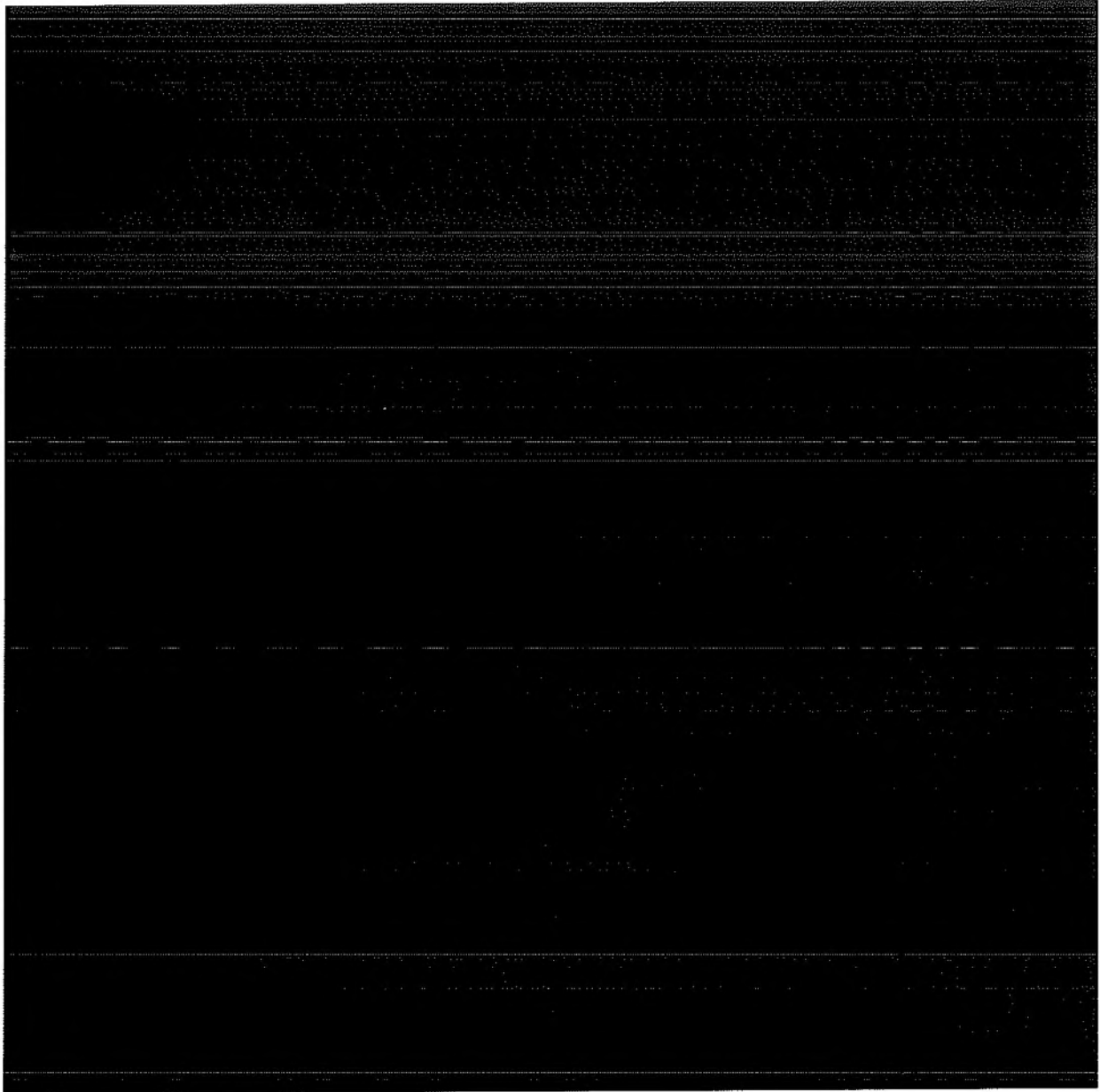
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31 *continued on next page*

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4 *Staff Expert/Witness: Jane C. Dhority*

5 **Staff Investigation**

6 As part of Staff’s investigation of the Smart Energy Plan (“SEP”), Staff reviewed the
7 process by which Ameren Missouri identified projects of need, how projects were evaluated, and
8 how the evaluation process was developed. While the processes for project identification and

1 project evaluation appear to be reasonable, Staff will continue to review supporting
2 documentation to confirm if Ameren Missouri adhered to those procedures.

3 Ameren Missouri relies on field personnel and Ameren Missouri subject matter experts in
4 areas of distribution planning and operations who have detailed knowledge in the daily operation
5 of the grid to make the best judgment, based on their expertise, in identifying potential projects
6 for the distribution system. Given this focus, the subject matter experts (“SMEs”) identifying
7 potential projects for the distribution system consider a number of factors when proposing a
8 project, such as: age of assets, safety, reliability history, worst performing circuits, number of
9 customers impacted, operating experience in the field, operating performance during storms,
10 asset loading, expected future load growth, and many others.¹⁵⁹ In all situations the SMEs will
11 identify the constraint on the system that needs to be addressed and consider if current grid assets
12 can be reconfigured and if not, develop potential solutions which run the spectrum of cost and
13 complexity.¹⁶⁰ Once the need for a given project is established, a range of solutions are identified
14 and evaluated to identify the project scope that best addresses the solution for the project, while
15 also factoring costs of the final solution to allow Ameren Missouri to address other needs both
16 within the category and across the system into the final decision.¹⁶¹

17 After distribution system projects have been identified for consideration in the Smart
18 Energy Plan they are entered into a project portfolio management system. A three "gate" review
19 and approval process is utilized so that as the project is considered for inclusion in the SEP,
20 additional project details are entered, including final scoping and project costs. The level of
21 authority required to approve a project increases at each gate starting with the project submitter's
22 supervisor at gate 1, the responsible director at gate 2, and finally the Category Owner (director
23 level) at gate 3.¹⁶² Any project over \$5M is subject to additional review and scrutiny through an
24 Oversight Committee. Projects of this scale are subject to the same scrutiny as all other projects
25 by subject matter experts and category owners, but require additional documentation and
26 discussion around project scope, alternative analysis, total project costs, benefits, and contract

¹⁵⁹ Ameren Missouri response to Staff DR No. 0605.

¹⁶⁰ Ameren Missouri response to Staff DR No. 0605.

¹⁶¹ Ameren Missouri response to Staff DR No. 0612.

¹⁶² Ameren Missouri response to Staff DR No. 0609.

1 structure.¹⁶³ Staff requested additional project-level information regarding the Smart Energy Plan
2 projects that were subject to Oversight Committee review and may modify Staff's ultimate
3 recommendation based upon the information provided.

4 Ameren Missouri established a structure of six categories to classify projects based on the
5 need being addressed by the project.¹⁶⁴ The project categories are grid resiliency, smart grid,
6 substation condition-based modernization, system hardening, underground cable, and
7 underground revitalization.¹⁶⁵ Each category has an assigned Category Owner who has direct
8 oversight responsibilities for the projects included in their assigned categories. These category
9 owners rely on extensive experience operating Ameren Missouri's distribution system to review
10 projects and approve those projects that best address the needs of the distribution system based
11 on their expert judgment. The category owners consider a number of factors when evaluating
12 potential such as: safety, reliability history, worst performing circuits, number of customers
13 impacted, age of assets, operating experience in the field, operating performance during storms,
14 asset loading, expected future load growth, and many others. A final list of projects for all
15 categories is reviewed and approved by the Director, Operation Excellence, Vice President,
16 Operations and Technical Services, and Senior Vice President Customer and Power
17 Operations.¹⁶⁶

18 Projects that are approved, but not yet included in the plan based on the review of the
19 business function SME's and Ameren Missouri Capital Governance Team will be reevaluated for
20 inclusion in the next five-year plan.¹⁶⁷

21 After the passage of Senate Bill 564 and in preparation for the planning and execution of
22 the Smart Energy Plan, Ameren Missouri Leadership established a centralized Capital
23 Governance Team to oversee the development of the five-year Smart Energy Plan. This team
24 worked across the Ameren Missouri functions to gather lists of projects that each function
25 believed needed to be completed so that the Team plus the subject matter experts could evaluate
26 them for consideration in the plan subject to funding and resource availability. Each category

¹⁶³ Ameren Missouri response to Staff DR No. 0612.

¹⁶⁴ Ameren Missouri response to Staff DR No. 0609.

¹⁶⁵ Ameren Missouri response to Staff DR No. 0605.

¹⁶⁶ Ameren Missouri response to Staff DR No. 0609.

¹⁶⁷ Ameren Missouri response to Staff DR No. 0610.

1 was assigned a category owner (the SME) who has oversight responsibilities for developing the
2 category strategy in relation to the Smart Energy Plan (SEP) vision and reviewing and approving
3 the proposed projects included in their category.¹⁶⁸

4 Given the level of overall investment and complexity of the projects included within the
5 Smart Energy Plan, Ameren Missouri should be able to provide documentation that supports the
6 investment decisions and documentation that verifies that the Company is adhering to the
7 approval process it developed for evaluating potential SEP projects.

8 Through the discovery process of this case, Staff requested various documentation and
9 cost benefit analyses for the projects that were included within the Smart Energy Plan. Several
10 of the data requests issued by Staff with respect to Smart Energy Plan project documentation
11 were objected to by Ameren Missouri and have been the subject of discovery conferences within
12 this case. Staff received documentation for several projects that were subject to Oversight
13 Committee review on August 25, 2021 nearly seven weeks after the original due date of Staff's
14 initial request for supporting documentation. Staff will continue to review the supportive
15 documentation for the Smart Energy Plan projects through the pendency of this case.

16 *Staff Expert/Witness: J Luebbert*

17 Smart Energy Plan Investments

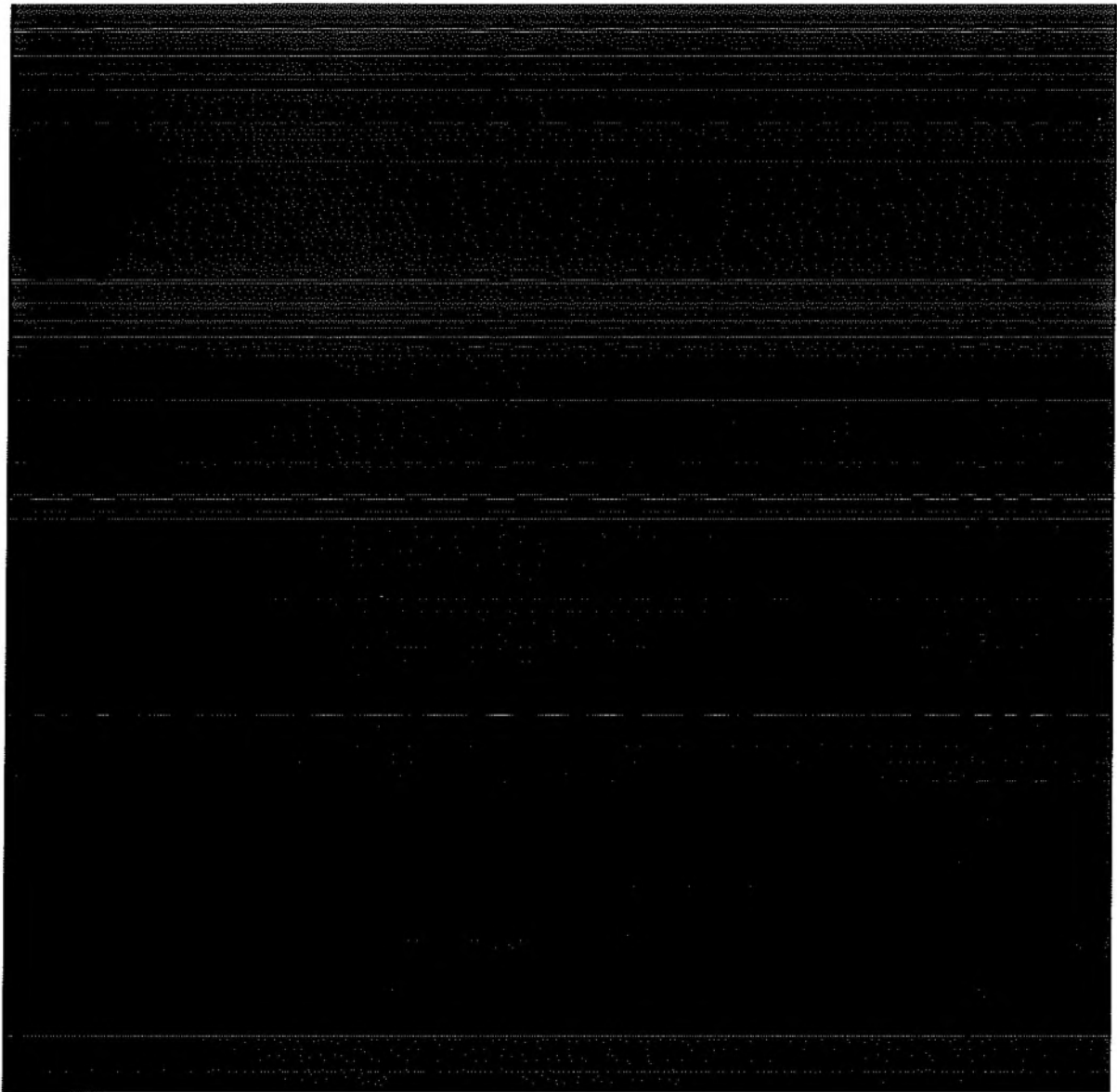
18 Through the process described by Staff witness J Luebbert above, Ameren Missouri has
19 identified approximately ** [REDACTED]
20 [REDACTED], ** as being operational during January 2019 through June 2021. Included in
21 its Smart Energy Plan are ** [REDACTED] ** related to the Smart Meter Program totaling
22 approximately ** [REDACTED]. ** The largest projects
23 are the installation of AMI meters and the Smart Meter System Integration system.

24 The following table provides the Smart Energy Plan spending through June 2021 broken
25 down by classification rather than by the Capital Plan category:

¹⁶⁸ Ameren Missouri response to Staff DR No. 0608.

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Engineering Analysis reviewed a selection of Ameren Missouri's Smart Energy Plan projects with consideration of the following: whether the projects are needed for safe and reliable service, whether the projects provide reliability improvements, and whether there were significant variances in costs from an individual project's budget and its actual cost.

1 In order to complete this review, Engineering Analysis selected 52 projects (44 individual
2 projects and 8 projects which were Standing Work Orders¹⁶⁹) to review in more detail. All of the
3 projects selected were identified by Ameren Missouri as operational during the period
4 January 2019 through February 2021. The 44 individual projects selected generally totaled more
5 than ** [REDACTED] ** in capital expenditures from 2019 through 2021. The projects fall under
6 the classification of ** [REDACTED]
7 [REDACTED]¹⁷⁰, [REDACTED]. ** Staff intentionally did
8 not select projects that were noted to be related to ** [REDACTED]
9 [REDACTED]. **

10 The table below provides a sample of projects reviewed, the 5-Year Capital Plan
11 Category, and the justification Ameren Missouri used in its internal process:

12 **

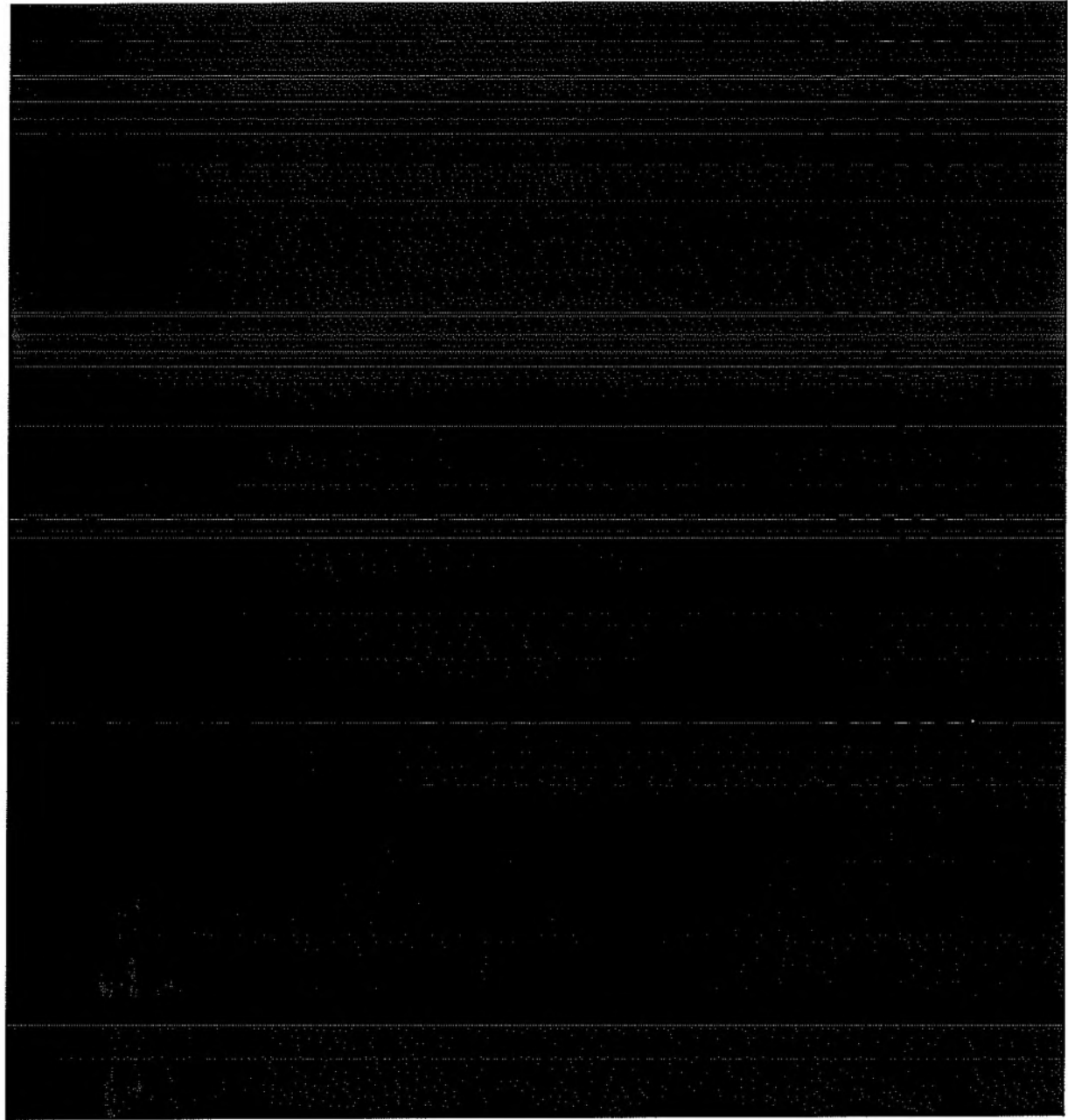


¹⁶⁹ A Standing Work Order is used to fund similar work which are less than \$100,000 each.

¹⁷⁰ Such as renewables.

¹⁷¹ Response to 102.2 ** [REDACTED]

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1

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172 Response to 102.2 **

██████ **

173 Response to 102.2 **

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174 Response to 102.2 **

██████ **

175 Public response to Staff DR No. 0102.2.

1 Ameren Missouri provided Staff with project specific documentation for the 44
2 individual projects. This included items such as the project notification or work authorization,
3 change orders and purchase orders over \$100,000, and final cost summary. For the 8 Standing
4 Work Order projects, Ameren Missouri provided Staff a budget and final cost summary but
5 providing additional information was impractical.

6 Generally, with respect to the 44 individual projects reviewed by Engineering Analysis,
7 the justification for the individual projects were documented and reasonable. However, Staff
8 continues to review documentation regarding whether the Company is adhering to its internal
9 approval process discussed in J Luebbert's testimony above.

10 As with any construction project, there are instances where Engineering Analysis found
11 variances in an individual project's budget and its actual cost. For example, a project may see an
12 increase in actual cost due to unforeseen field conditions. Engineering Analysis reviewed the
13 individual project Change Orders and Purchase Orders over \$100,000 and is continuing to
14 follow-up with Ameren Missouri regarding specific questions. Additionally, ** [REDACTED]
15 [REDACTED]. ** Staff will continue its
16 review, however, at this time no specific disallowance is being recommended.

17 *Staff Expert/Witness: Claire M. Eubanks, PE*

18 C. Smart Metering Program

19 ** [REDACTED]
20 [REDACTED]
21 [REDACTED]
22 [REDACTED]
23 [REDACTED]
24 [REDACTED]
25 [REDACTED] **

26 Ameren Missouri began replacing existing AMR meters with AMI meters in July 2020,
27 with full replacement of all electric (1.2 million) end-points anticipated by year-end 2025. The
28 systems and functionality to support the new Ameren Missouri Advanced Metering

1 Infrastructure (AMI) platform was successfully deployed on May 31, 2020. Ameren Missouri
2 has deployed 230,788 meters for electric customers as of April 30, 2021.

3 *Staff Expert/Witness: Jane C. Dhority*

4 **D. Renewable Choice Program “Green Tariff”**

5 In case ET-2018-0063, Ameren Missouri requested approval of an accounting authority
6 order, along with tariff sheets in order to implement a new service known as the
7 Renewable Choice Program, or Green Tariff program. The program was designed to provide
8 customers with a load of 2.5 MW or greater, or governmental entities, the opportunity to
9 subscribe to wind energy either through construction of wind generation or through a wind
10 purchased power agreement. The subscriptions are in addition to, not a replacement for, a
11 customer’s normal electric service. Customers acquire the renewable characteristics of the wind
12 energy acquired or produced for the Program by obtaining the renewable energy credits (RECs)
13 associated with the energy they are subscribed. The Commission ordered the approval of the
14 stipulation & agreement establishing the renewable energy tariff and it became effective on
15 August 15, 2018.

16 As of June 30, 2021, the Renewable Choice Program is still a tariffed program of the
17 Company. However, there are currently no wind generation assets in service under, or under
18 development for, the program, and no customers are enrolled or receiving service under the
19 program. Company states that there are no active plans to develop a resource under the
20 Renewable Choice Program due to challenges with the Renewable Choice Program that have
21 resulted in the inability to execute a project under the program. The Company has determined
22 that the subscription model made getting alignment between the timing of binding customer
23 commitments and potential project contracting challenging in that the subscription model
24 contemplated having firm pricing based on the cost of a specific resource to be developed for the
25 program prior to having customers make a binding commitment to participate. Uncertain
26 participation levels prevented the Company from securing a project commitment from
27 developers on reasonable pricing terms. Also, the nature of the projects available compared to
28 the pricing model of the program resulted in difficulty finding projects that would be expected to
29 be economically attractive to potential customers.

1 At this time the Company has not made a final decision to discontinue the program. The
2 Company opened a docket in Case No. EA-2021-0342, in which it expects to file a program
3 tariff and CCN application to implement a voluntary renewable subscription program targeting
4 the customers originally contemplated to be served by the Renewable Choice Program. The
5 expected program proposal, which is expected to be called Renewable Solutions, has many
6 similar features compared with Renewable Choice, but adds solar as a potential resource
7 (Renewable Choice only features wind resources), and features changes to the subscription
8 model and pricing model to address the challenges that were identified in executing projects
9 under Renewable Choice. The Renewable Solutions program is expected to be filed late in the
10 summer of 2021. The Company anticipates the costs and revenues, along with certain deferrals
11 for which it will seek regulatory authorizations, of the Renewable Solutions program to be
12 reflected in the revenue requirement in general rate cases as was the request with the Renewable
13 Choice Tariff.

14 *Staff Expert/Witness: Lisa M. Ferguson*

15 **Appendix 1 - Staff Credentials**

16 **Appendix 2 - Support for Staff Cost of Capital Recommendations**

17 **Appendix 3 - Other Staff Schedules**

18 **Appendix 4 - Advertising**

19 **Appendix 5 - Construction Audit and Engineering Review Report**

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-2021-0240

AFFIDAVIT OF PAUL K. AMENTHOR

STATE OF MISSOURI)
) ss.
COUNTY OF ST. LOUIS)

COMES NOW PAUL K. AMENTHOR and on his oath declares that he is of sound mind and lawful age; that he contributed to the foregoing *Staff Report - Cost of Service*; and that the same is true and correct according to his best knowledge and belief.

Further the Affiant sayeth not.


PAUL K. AMENTHOR

JURAT

Subscribed and sworn before me, a duly constituted and authorized Notary Public, in and for the County of St. Louis, State of Missouri, at my office in St. Louis, on this 3rd day of September 2021.

LISA M. FERGUSON Notary Public - Notary Seal State of Missouri Commissioned for St. Louis County My Commission Expires: June 23, 2024 Commission Number: 16631502
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Notary Public

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-2021-0240

AFFIDAVIT OF ALAN J. BAX

STATE OF MISSOURI)
) ss.
COUNTY OF COLE)

COMES NOW ALAN J. BAX and on his oath declares that he is of sound mind and lawful age; that he contributed to the foregoing *Staff Report - Cost of Service*; and that the same is true and correct according to his best knowledge and belief.

Further the Affiant sayeth not.



ALAN J. BAX

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 1st day of September 2021.

D. SUZIE MANKIN
Notary Public - Notary Seal
State of Missouri
Commissioned for Cole County
My Commission Expires: April 04, 2025
Commission Number: 12412070



Notary Public

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) Case No. ER-2021-0240
Revenues for Electric Service)

AFFIDAVIT OF KIMBERLY K. BOLIN

STATE OF MISSOURI)
) ss.
COUNTY OF COLE)

COMES NOW KIMBERLY K. BOLIN and on her oath declares that she is of sound mind and lawful age; that she contributed to the foregoing *Staff Report - Cost of Service*; and that the same is true and correct according to her best knowledge and belief.

Further the Affiant sayeth not.


KIMBERLY K. BOLIN

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 15th day of September 2021.




Notary Public

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-2021-0240

AFFIDAVIT OF KORY J. BOUSTEAD

STATE OF MISSOURI)
) ss.
COUNTY OF COLE)

COMES NOW KORY J. BOUSTEAD and on her oath declares that she is of sound mind and lawful age; that she contributed to the foregoing *Staff Report - Cost of Service*; and that the same is true and correct according to her best knowledge and belief.

Further the Affiant sayeth not.

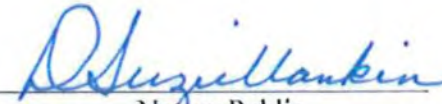


KORY J. BOUSTEAD

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 15th day of September 2021.

D. SUZIE MANKIN
Notary Public - Notary Seal
State of Missouri
Commissioned for Cole County
My Commission Expires: April 04, 2025
Commission Number: 12412070



Notary Public

BEFORE THE PUBLIC SERVICE COMMISSION
OF THE STATE OF MISSOURI

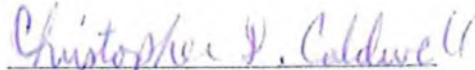
In the Matter of Union Electric Company)
d/b/a Ameren Missouri's Tariffs to Adjust Its)
Revenues for Electric Service) Case No. ER-2021-0240

AFFIDAVIT OF CHRISTOPHER D. CALDWELL

STATE OF MISSOURI)
)
COUNTY OF ST. LOUIS) ss.

COMES NOW CHRISTOPHER D. CALDWELL and on his oath declares that he is of sound mind and lawful age; that he contributed to the foregoing *Staff Report - Cost of Service*; and that the same is true and correct according to his best knowledge and belief.

Further the Affiant sayeth not.


CHRISTOPHER D. CALDWELL

JURAT

Subscribed and sworn before me, a duly constituted and authorized Notary Public, in and for the County of St. Louis, State of Missouri, at my office in St. Louis, on this 3rd day of September 2021.




Notary Public

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-2021-0240

AFFIDAVIT OF PETER CHARI

STATE OF MISSOURI)
)
COUNTY OF COLE) ss.

COMES NOW PETER CHARI and on his oath declares that he is of sound mind and lawful age; that he contributed to the foregoing *Staff Report - Cost of Service*; and that the same is true and correct according to his best knowledge and belief.

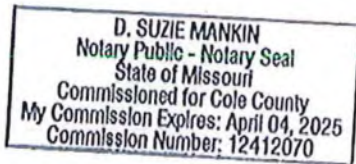
Further the Affiant sayeth not.



PETER CHARI

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 1st day of September 2021.





Notary Public

BEFORE THE PUBLIC SERVICE COMMISSION
OF THE STATE OF MISSOURI

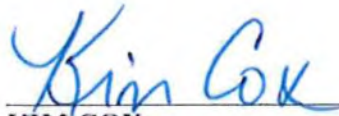
In the Matter of Union Electric Company)
d/b/a Ameren Missouri's Tariffs to Adjust Its)
Revenues for Electric Service) Case No. ER-2021-0240

AFFIDAVIT OF KIM COX

STATE OF MISSOURI)
) ss.
COUNTY OF COLE)

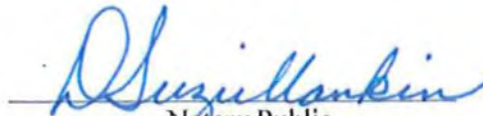
COMES NOW KIM COX and on her oath declares that she is of sound mind and lawful age; that she contributed to the foregoing *Staff Report - Cost of Service*; and that the same is true and correct according to her best knowledge and belief.

Further the Affiant sayeth not.


_____)
KIM COX

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 2nd day of September 2021.


_____)
Notary Public

D. SUZIE MANKIN
Notary Public - Notary Seal
State of Missouri
Commissioned for Cole County
My Commission Expires: April 04, 2026
Commission Number: 12412070

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) Case No. ER-2021-0240
Revenues for Electric Service)

AFFIDAVIT OF CEDRIC E. CUNIGAN

STATE OF MISSOURI)
) ss.
COUNTY OF COLE)

COMES NOW CEDRIC E. CUNIGAN and on his oath declares that he is of sound mind and lawful age; that he contributed to the foregoing *Staff Report - Cost of Service*; and that the same is true and correct according to his best knowledge and belief.

Further the Affiant sayeth not.


_____ **CEDRIC E. CUNIGAN**

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 2nd day of September 2021.


_____ **Notary Public**



BEFORE THE PUBLIC SERVICE COMMISSION

OF THE STATE OF MISSOURI

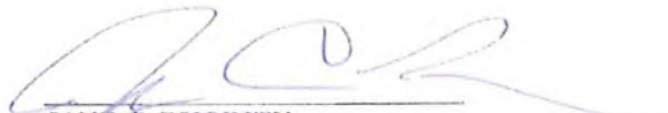
In the Matter of Union Electric Company)
d/b/a Ameren Missouri's Tariffs to Adjust Its) Case No. ER-2021-0240
Revenues for Electric Service)

AFFIDAVIT OF JANE C. DHORITY

STATE OF MISSOURI)
) ss.
COUNTY OF ST. LOUIS)

COMES NOW JANE C. DHORITY and on her oath declares that she is of sound mind and lawful age; that she contributed to the foregoing *Staff Report - Cost of Service*; and that the same is true and correct according to her best knowledge and belief.

Further the Affiant sayeth not.


JANE C. DHORITY

JURAT

Subscribed and sworn before me, a duly constituted and authorized Notary Public, in and for the County of St. Louis, State of Missouri, at my office in St. Louis, on this 3rd day of September 2021.




Notary Public

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-2021-0240

AFFIDAVIT OF CLAIRE M. EUBANKS, PE

STATE OF MISSOURI)
)
COUNTY OF COLE) ss.

COMES NOW CLAIRE M. EUBANKS, PE and on her oath declares that she is of sound mind and lawful age; that she contributed to the foregoing *Staff Report - Cost of Service*; and that the same is true and correct according to her best knowledge and belief.

Further the Affiant sayeth not.

Claire M Eubanks
CLAIRE M. EUBANKS, PE

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 2nd day of September 2021.

D. SUZIE MANKIN
Notary Public - Notary Seal
State of Missouri
Commissioned for Cole County
My Commission Expires: April 04, 2025
Commission Number: 12412070

D Suzie Mankin
Notary Public

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-2021-0240

AFFIDAVIT OF NANCY L. HARRIS

STATE OF MISSOURI)
) ss.
COUNTY OF COLE)

COMES NOW NANCY L. HARRIS and on her oath declares that she is of sound mind and lawful age; that she contributed to the foregoing *Staff Report - Cost of Service*; and that the same is true and correct according to her best knowledge and belief.

Further the Affiant sayeth not.



NANCY L. HARRIS

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 1st day of September 2021.

D. SUZIE MANKIN Notary Public - Notary Seal State of Missouri Commissioned for Cole County My Commission Expires: April 04, 2026 Commission Number: 12412070



Notary Public

BEFORE THE PUBLIC SERVICE COMMISSION

OF THE STATE OF MISSOURI

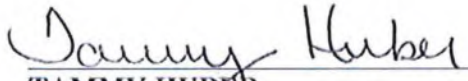
In the Matter of Union Electric Company)
d/b/a Ameren Missouri's Tariffs to Adjust Its)
Revenues for Electric Service) Case No. ER-2021-0240

AFFIDAVIT OF TAMMY HUBER

STATE OF MISSOURI)
) ss.
COUNTY OF COLE)

COMES NOW TAMMY HUBER and on her oath declares that she is of sound mind and lawful age; that she contributed to the foregoing *Staff Report - Cost of Service*; and that the same is true and correct according to her best knowledge and belief.

Further the Affiant sayeth not.


TAMMY HUBER

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 1st day of September 2021.

D. SUZIE MANKIN
Notary Public - Notary Seal
State of Missouri
Commissioned for Cole County
My Commission Expires: April 04, 2025
Commission Number: 12412070


Notary Public

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) Case No. ER-2021-0240
Revenues for Electric Service)

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 *Staff Report - Cost of Service*; 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 15th day of September 2021.

D. SUZIE MANKIN
Notary Public - Notary Seal
State of Missouri
Commissioned for Cole County
My Commission Expires: April 04, 2025
Commission Number: 12412070



Notary Public

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-2021-0240

AFFIDAVIT OF ROBIN KLIETHERMES

STATE OF MISSOURI)
) ss.
COUNTY OF COLE)

COMES NOW ROBIN KLIETHERMES and on her oath declares that she is of sound mind and lawful age; that she contributed to the foregoing *Staff Report - Cost of Service*; and that the same is true and correct according to her best knowledge and belief.

Further the Affiant sayeth not.



ROBIN KLIETHERMES

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 2nd day of September 2021.

D. SUZIE MANKIN
Notary Public - Notary Seal
State of Missouri
Commissioned for Cole County
My Commission Expires: April 04, 2025
Commission Number: 12412070



Notary Public

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-2021-0240

AFFIDAVIT OF JASON KUNST, CPA

STATE OF MISSOURI)
) ss.
COUNTY OF ST. LOUIS)

COMES NOW JASON KUNST, CPA and on his oath declares that he is of sound mind and lawful age; that he contributed to the foregoing *Staff Report - Cost of Service*; and that the same is true and correct according to his best knowledge and belief.

Further the Affiant sayeth not.

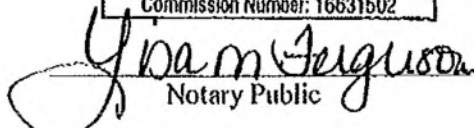


JASON KUNST, CPA

JURAT

Subscribed and sworn before me, a duly constituted and authorized Notary Public, in and for the County of St. Louis, State of Missouri, at my office in St. Louis, on this 3rd day of September 2021.

LISA M. FERGUSON
Notary Public - Notary Seal
State of Missouri
Commissioned for St. Louis County
My Commission Expires: June 23, 2024
Commission Number: 16631502



Notary Public

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-2021-0240

AFFIDAVIT OF SHAWN E. LANGE, PE

STATE OF MISSOURI)
) ss.
COUNTY OF COLE)

COMES NOW SHAWN E. LANGE, PE and on his oath declares that he is of sound mind and lawful age; that he contributed to the foregoing *Staff Report - Cost of Service*; and that the same is true and correct according to his best knowledge and belief.

Further the Affiant sayeth not.


SHAWN E. LANGE, PE

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 2nd day of September 2021.


Notary Public



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-2021-0240

AFFIDAVIT OF J LUEBBERT

STATE OF MISSOURI)
) ss.
COUNTY OF COLE)

COMES NOW J LUEBBERT and on his oath declares that he is of sound mind and lawful age; that he contributed to the foregoing *Staff Report - Cost of Service*; and that the same is true and correct according to his best knowledge and belief.

Further the Affiant sayeth not.



J LUEBBERT

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 2nd day of September 2021.

D. SUZIE MANKIN Notary Public - Notary Seal State of Missouri Commissioned for Cole County My Commission Expires: April 04, 2025 Commission Number: 12412070



Notary Public

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-2021-0240

AFFIDAVIT OF BROOKE MASTROGIANNIS

STATE OF MISSOURI)
) ss.
COUNTY OF COLE)

COMES NOW BROOKE MASTROGIANNIS and on her oath declares that she is of sound mind and lawful age; that she contributed to the foregoing *Staff Report - Cost of Service*; 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 15th day of September 2021.

D. SUZIE MANKIN
Notary Public - Notary Seal
State of Missouri
Commissioned for Cole County
My Commission Expires: April 04, 2025
Commission Number: 12412070


Notary Public

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-2021-0240

AFFIDAVIT OF CHARLES T. POSTON, PE

STATE OF MISSOURI)
) ss.
COUNTY OF COLE)

COMES NOW CHARLES T. POSTON, PE and on his oath declares that he is of sound mind and lawful age; that he contributed to the foregoing *Staff Report - Cost of Service*; and that the same is true and correct according to his best knowledge and belief.

Further the Affiant sayeth not.



CHARLES T. POSTON, PE

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 2nd day of September 2021.





Notary Public

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-2021-0240

AFFIDAVIT OF JOSEPH P. ROLING

STATE OF MISSOURI)
) ss.
COUNTY OF COLE)

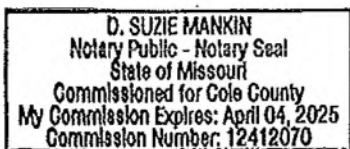
COMES NOW JOSEPH P. ROLING and on his oath declares that he is of sound mind and lawful age; that he contributed to the foregoing *Staff Report - Cost of Service*; and that the same is true and correct according to his best knowledge and belief.

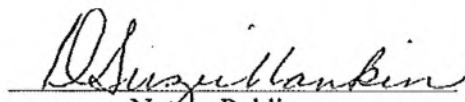
Further the Affiant sayeth not.


JOSEPH P. ROLING

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 2nd day of September 2021.




Notary Public

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)	Case No. ER-2021-0240
Revenues for Electric Service)	

AFFIDAVIT OF MICHAEL L. STAHLMAN

STATE OF MISSOURI)	
)	ss.
COUNTY OF COLE)	

COMES NOW MICHAEL L. STAHLMAN and on his oath declares that he is of sound mind and lawful age; that he contributed to the foregoing *Staff Report - Cost of Service*; and that the same is true and correct according to his best knowledge and belief.

Further the Affiant sayeth not.



 MICHAEL L. STAHLMAN

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 2nd day of September 2021.



 Notary Public

