MISSOURI PUBLIC SERVICE COMMISSION

STAFF REPORT

SIXTH 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-2018-0067

October 1, 2015 through May 31, 2017

Jefferson City, Missouri February 28, 2018

** Denotes Confidential Information **

1	TABLE OF CONTENTS OF STAFF REPORT				
2		GIVTH DDUDENCE DEVIEW OF COSTS			
3 4	RELATED TO THE FUEL ADJUSTMENT CLAUSE				
5	FOR THE ELECTRIC OPERATIONS				
6	OF				
7		UNION ELECTRIC COMPANY			
8		d/b/a AMEREN MISSOURI			
9 10		FILE NO. EO-2018-0067			
11	I.	EXECUTIVE SUMMARY	1		
12	II.	INTRODUCTION	3		
13	А.	Prudence Standard	3		
14	В.	General Description of Ameren Missouri's FAC	3		
15	C.	Regulatory Accounting for Ameren Missouri's FAC	4		
16	D.	Staff Review and Reconciliation of FERC Accounts	5		
17	E.	Staff Regulatory Accounting Summary	6		
18	F.	Participation with Regional Transmission Organizations	6		
19	III.	ACTUAL NET ENERGY COSTS	7		
20	А.	Risk Management	8		
21	В.	Disaggregation of Commodity Fuel Cost	10		
22	C.	FERC Acct 501	12		
23	D.	Steam Expense FERC Account 502	15		
24	E.	Nuclear Fuel - FERC Account 518	16		
25	F.	FERC Account 547	20		
26	G.	FERC Account 555 - Purchased Power	24		
27	H.	FERC Account 555 - Purchased Power - Long Term and Short Term Contracts	25		
28	I.	FERC Account 555 - Purchased Power - Transmission Costs and Revenues	27		
29	J.	Emission Allowances	29		
30	Κ.	FERC 447 - Off-System Sales Revenue ("OSSR")	31		
31	L.	N Factor	34		
32	IV.	INTEREST	37		
33	V .	FERC ROE CASES/ENTERGY DISPUTE	38		
34	VI.	FAILURE TO FOLLOW DISPATCH INSTRUCTIONS	38		
35	VII.	UTILIZATION OF GENERATION CAPACITY	39		
36	VIII.	HEAT RATES	44		
37	IX.	PLANT OUTAGES	45		
38					

6

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FILE NO. EO-2018-0067

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I.

Executive Summary

The Missouri Public Service Commission ("Commission") first authorized a Fuel Adjustment Clause ("FAC") for Union Electric Company d/b/a Ameren Missouri in Case No. ER-2008-0318. Since then, the Commission has approved continuation of Ameren Missouri's FAC with modifications in its orders in Ameren Missouri's subsequent general rate cases, Case Nos. ER-2010-0036, ER-2011-0028, ER-2012-0166, ER-2014-0258, and ER-2016-0179.

Commission Rule 4 CSR 240-20.090(7) and Missouri Revised Statute § 386.266.4 16 17 (2005) require that the Commission's Staff ("Staff") conduct prudence reviews of an electric 18 utility's FAC no less frequently than every 18 months. In this sixth prudence review of 19 Ameren Missouri's FAC for the period October 1, 2015 through May 31, 2017, Staff analyzed 20 items affecting Ameren Missouri's total fuel costs, purchased power costs, net emission costs, 21 transmission costs, off-system sales revenues, and interest for the twenty-first, twenty-second, 22 twenty-third, twenty-fourth, and twenty-fifth four-month accumulation periods¹ of Ameren 23 Missouri's FAC. Staff's previous Ameren Missouri FAC prudence reviews are listed in 24 Table 1:

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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

Table 1

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¹ Rate adjustments based on the five (5) four-month accumulation periods during this sixth prudence audit period were the subject of File Nos. ER-2016-0243, ER-2017-0024, ER-2017-0147, ER-2017-0243 and ER-2018-0030.

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 was reasonable based on the circumstances at the time the 4 decision was made, *i.e.*, without the benefit of hindsight. The decision actually made is 5 disregarded and the review is instead an evaluation of the reasonableness of the information 6 the decision-maker relied on and the decision-making process the decision-maker employed. 7 If either the information relied upon or the decision-making process employed was imprudent, 8 then Staff examines whether the imprudent decision caused any harm to customers. Only if 9 an imprudent decision resulted in harm to Ameren Missouri's customers, will Staff 10 recommend a disallowance.

Staff analyzed a variety of items in examining whether Ameren Missouri prudently incurred the fuel and purchased power costs associated with its FAC tariff sheets. Based on its review, Staff identified no evidence of imprudence by Ameren Missouri in the items it examined for the period of October 1, 2015 through May 31, 2017.

Table 2 identifies Ameren Missouri's Commission-approved FAC tariff sheets which were applicable for service provided by Ameren Missouri to its customers during the period of October 1, 2015, through May 31, 2017 including the tariff sheets applicable to calculation of the Fuel Adjustment Rates for the five (5) accumulation periods covered by this same period:

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October 1, 2015, through March 31, 2017	April 1, 2017 through May 31, 2017
1st and 2nd Revised Sheet No. 73	1st Revised Sheet No. 74
1st Revised Sheet No. 73.1	Original Sheet No. 74.1
1st Revised Sheet No. 73.2	Original Sheet No. 74.2
1st Revised Sheet No. 73.3	Original Sheet No. 74.3
1st Revised Sheet No. 73.4	Original Sheet No. 74.4
1st Revised Sheet No. 73.5	Original Sheet No. 74.5
1st Revised Sheet No. 73.6	Original Sheet No. 74.6
1st Revised Sheet No. 73.7	Original Sheet No. 74.7
1st Revised Sheet No. 73.8	Original Sheet No. 74.8
1st Revised Sheet No. 73.9	Original Sheet No. 74.9
1st Revised Sheet No. 73.10	Original Sheet No. 74.10
3rd through 6th Revised Sheet No. 73.11	Original Sheet No. 74.11
	Original Sheet No. 74.12
	1st Revised Sheet No. 74.13

Table 2

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II. Introduction

A. Prudence Standard

In *State ex rel. Associated Natural Gas Co. v. Public Service Com'n of State of Mo.*, the Western District Court of Appeals stated the Commission defined its prudence standard as follows:

> [A] utility's costs are presumed to be prudently incurred.... However, the presumption does not survive "a showing of inefficiency or improvidence... [W]here some other participant in the proceeding creates a serious doubt as to the prudence of expenditure, then the applicant has the burden of dispelling these doubts and proving the questioned expenditure to have been prudent.

In the same case, the PSC noted that this test of prudence should not be based upon hindsight, but upon a reasonableness standard: [T]he company's conduct should be judged by asking whether the conduct was reasonable at the time, under all the circumstances, considering that the company had to solve its problem prospectively rather than in reliance on hindsight. In effect, our responsibility is to determine how reasonable people would have performed the tasks that confronted the company.

954 S.W.2d 520, 528-29 (Mo. App. W.D., 1997) (citations omitted).

In reversing the Commission decision in that case, the Court did not criticize the Commission's definition of prudence, but held, in part, that to disallow a utility's recovery of costs from its customers based on imprudence; the Commission must determine the detrimental impact of that imprudence on the utility's customers, *Id.* at 529-30. This is the prudence standard Staff has followed in this review.

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B. General Description of Ameren Missouri's FAC

Ameren Missouri's FAC requires that it accumulate its Actual Net Energy Cost
 (ANEC)²; defined generally as variable fuel, purchased power, transmission and net emissions
 costs less off-system sales revenue during the four-month accumulation periods ("AP").³

² "Actual Net Energy Cost" (ANEC) are equal to fuel costs (FC) plus costs of purchased power (PP) plus net emissions allowances (E) minus off-system sales revenue (OSSR) as defined on Ameren Missouri's Original Sheet No. 72.1 through Original Sheet No. 72.4.

³ Accumulation periods are: February through May, June through September and October through January.

Each four-month accumulation period is followed by an eight month recovery period ("RP")⁴ 1 2 during which ninety-five percent (95%) of the over- or under-recovery of Actual Net Energy 3 Cost during the previous four-month accumulation period relative to the Base Energy Cost ("B") amount⁵ is returned to or collected from customers as part of a decrease or an increase 4 5 of the FAC Fuel and Purchased Power Adjustment ("FPA") per kWh rate, which is the Fuel Adjustment Rate ("FAR") for each accumulation period. Because the total amount 6 7 charged through the FAR rarely, if ever, will exactly match the required offset, Ameren Missouri's FAC is designed to true- up^6 the difference between the revenues billed 8 9 and the revenues authorized for collection during recovery periods including interest at the 10 Ameren Missouri's short-term interest rate. Any disallowance the Commission orders as a 11 result of a FAC prudence review shall include interest at Ameren Missouri's short-term interest rate and will be accounted for as an adjustment⁷ item when calculating the FPA for a 12 13 future recovery period.

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C. Regulatory Accounting for Ameren Missouri's FAC

As a public utility Ameren Missouri is required to maintain its books and records in
accordance with the Federal Energy Regulatory Commission's ("FERC") Uniform System of
Accounts ("USoA"). The major account numbering plan as used in the USoA is as follows:

18	100-199 Assets and other debits.
19	200-299 Liabilities and other credits
20	300-399 Plant accounts
21	400-432, 464-435 Income accounts
22	433, 436-439 Retained earnings accounts.
23	440-459 Revenue accounts
24	500-599 Production, transmission and distribution expenses
25	900-949 Customer accounts, customer service and informational,
26	sales and general and administrative expenses
~ -	

- 27 Staff has reviewed all FERC accounts related to Ameren Missouri FAC for this review period.
- 28 FERC accounts subject for this FAC review are; 411.8 Gains from Disposition of Allowances,

⁴ 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.

⁵ "Base Energy Cost" (B) as defined on Ameren Missouri's Sheet Nos.73.11 and 74.13.

⁶ True-up of FAC is defined on Ameren Missouri's Sheet Nos. 73.9 – 73.10 and 74.9.

⁷ See line item 4.3 on Ameren Missouri's Sheet Nos. 73.11 and 74.13.

411.9 Losses from Disposition of Allowances, 447 Sales for Resale, 456, Other Electric
 Revenues⁸, 501 Fuel, 502 Steam Expense, 509 Allowances, 518 Nuclear Fuel Expense,
 547 Fuel, 555 Purchased Power, 565 Transmission by Others.

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D. Staff Review and Reconciliation of FERC Accounts

Staff created three independent work papers, ANEC General Ledger, ANEC Monthly Reports, ANEC FAR Reports which are based on three separate sources provided by Ameren Missouri. These work papers were created for the purpose to review and reconcile the FERC Accounts in Table 3 and included in the calculation of the components of the ANEC presented in Table 4.

Ameren Missouri provides its monthly General Ledger⁹ and General Journal¹⁰ to the
Commission as ongoing surveillance data which is a summary of all accounting transactions
for the expenses and revenues encompassed in the ANEC in Table 4. Staff sorted the General
Ledger by each account reflected in the FERC Accounts listed in Table 3.

Table 3

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Account Name	FERC Account Number
Fuel used for Steam	501 and 502
Nuclear Fuel	518
Fuel/Natural Gas	547
Short-Term Purchased Power Contracts	555
Long-Term Purchased Power Contracts	555
Transmission Expense	565
Net Emission Allowances	411 and 509
Transmission Revenue	456
Off System Sales Revenue	447

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16 Staff sorted these transactions in ascending order by the corresponding Minor¹¹ account 17 number assigned to each Major account number listed in Table 3. This same process was 18 applied to transactions in the General Journal.

⁸ Effective April 1, 2017, per File No.ER-2016-0179, 1.71% of allowable transmission revenues residing in FERC account 456.1 are includable in the FAC.

⁹ See Addendum A of this report for full description of General Ledger.

¹⁰ See Addendum A of this report for full description of General Journal.

¹¹ See Addendum B of this report for Ameren Missouri's FERC Account Major, Minor, and Activity Codes.

The transactions and totals for each FERC account by month and year from the General Ledger were compared to those in the General Journal. In addition to verifying 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 allow in the FAC's definition of ANEC.

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E. Staff Regulatory Accounting Summary

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, Net Emissions Allowance Costs, Off-System Sales Revenues for the ANEC.

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F. Participation with Regional Transmission Organizations

15 As part of this review Staff reviewed Ameren Missouri's participation in Regional Transmission Organizations (RTOs). Ameren Missouri participates directly with 2 RTOs; 16 Midcontinent Independent System Operator¹² (MISO) and PJM¹³. The Staff reviewed a wide 17 18 variety of Ameren Missouri's practices and procedures related to the RTOs, specifically 19 MISO. Ameren Missouri directly participates in MISO's Day Ahead Market and Real-time 20 Market. At a high level these markets allow Ameren Missouri to offer-in and - if cleared in 21 the market - to sell the energy it generates to MISO. In turn Ameren Missouri must purchase 22 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 was required 23 to developed specialized front and back office¹⁴ practices and procedures to manage the large 24

¹² 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.

¹³ PJM Interconnection 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.

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.

amounts of data associated with its market participation. Ameren Missouri utilizes specialized software¹⁵ to manage key components of the bid-to-settlement trading cycle and analysis modes for the Day-Ahead Market and Real-time Market bidding. 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 the Staff met with Ameren Missouri personnel at Ameren Missouri headquarters on October 18, 2017 and discussed 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 managing its participation in these markets effectively and maintains appropriate procedures and processes to account for the results of such participation.

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III. ACTUAL NET ENERGY COSTS

The Ameren Missouri FAC definition of Actual Net Energy Costs includes three components of costs – fuel costs ("FC"), costs of purchased power ("PP") and net emissions allowance costs ("E"), and one component of revenue – off-system sales revenues ("OSSR"). Table 4 is a breakdown of Ameren Missouri's fuel costs, costs of purchased power, net emissions allowance costs and off-system sales revenues for the period of October 1, 2015 through May 31, 2017:

continued on next page

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

Table 4

Component	Costs or Revenues	Percentage of Component	Percentage of FC + PP + E
Fuel Costs (FC)			
Coal	\$1,074,074,758	85.4%	68.2%
Oil	\$4,685,274	0.4%	0.3%
Nuclear	\$153,442,417	12.2%	9.7%
Natural Gas	\$ 25,098,097	2.0%	1.6%
Total FC	\$1,257,300,546	100.0%	79.8%
· · · · · ·			
Costs of Purchased Power (PP)			
Long-Term Contracts	\$21,977,184	6.9%	1.4%
Short-Term Contracts	\$294,234,845	92.3%	18.7%
Replacement Power Insurance	\$0.00	0.0%	0.0%
Transmission Costs	\$2,571,282	0.8%	0.1%
Plus: Transmission Revenues	\$(77,664)	0.0%	0.0%
Total Purchased Power	\$318,705,647	100.0%	20.2%
Net Emissions Allowance Costs (E)	\$(191,283)	100.0%	0.0%
Total FC + PP + E	\$1,575,814,910		100.0%
Less: Off-System Sales Revenues	\$539,210,623		
Actual Net Energy Costs	\$1,036,604,287		

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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")¹⁶ identifies the
 following strategies it will pursue to manage commodities' risks:

- Energy and Transmission Hedging
- 9 Asset Optimization
- 10 Capacity Transactions
- 11 Congestion Hedging
- 12 Energy Arbitrage

¹⁶ Ameren Missouri Commodity Risk Management Policy, Versions: 2015.5, October 6, 2015; 2015.6, October 23, 2015; 2015.7, December 7, 2015; 2016.1, January 1, 2016; 2016.2, March 1, 2016; 2016.3, July 25, 2016; 2016.4, September 26, 2016; 2017.1, January 1, 2017; 2017.2, January 27, 2017; 2017.3, May 1, 2017; 2017.4, and October 1, 2017.

1	Natural Gas LDC Supply and & Transportation Hedging
2	Natural Gas Generation Supply & Transportation Strategies
3	Coal Buy for Burn Procurement
4	Rail Fuel Surcharge Hedging
5	Fuel Oil Purchases
6	Nuclear Fuel Cycle Hedging
7	Renewable Energy Credits
8	Emissions Hedging
9	Carbon Compliance Hedging
10	Ameren Missouri's risk management strategies are directly controlled by the guidelines
11	contained in its CRMP. A policy overview is given in the CRMP as follows:
12	1.1 Background, Purpose, and Scope of Policy
13	Ameren Corporation ("Ameren") has charged three functional
14	units within Union Electric Company d/b/a Ameren Missouri
15	("Ameren Missouri") with the responsibility of managing all of
16	Ameren's generation, load, and other obligations in a manner
17	consistent with the policy set forth herein. The three functional
18	units are Asset Management & Trading ("AM&T"), Fuel
19	Commodities & Operations ("FC&O"), and Nuclear Fuel Cycle
20	Management ("NFCM"). AM&T manages generation assets,
21	load and other obligations, and natural gas supply by engaging
22	in wholesale energy, capacity, electricity, FTR/ARR,
$\frac{23}{24}$	select power plant fuel supplies (e.g. coal fuel oil) and
25	emissions requirements NFCM manages nuclear fuel
26	requirements through the purchase and sale of uranium.
27	conversion services, enrichment services, and fabrication
28	services.
29	It is the intent of management that this Risk Management Policy
30	("this Policy") governs all financial risk taking and risk
31	management/mitigation activities associated with the above
32	activities. In order to fulfill the responsibilities described above
33	in a financially disciplined manner, AM&T, FC&O, and NFCM
34	may enter into transactions that are defined in this Policy as
35	approved by the Risk Management Steering Committee
36	("RMSC").
37	2. Summary of Cost Implications
38	Ameren Missouri employs commodity risk management strategies in an attempt to
39	mediate the market volatility risk of fuel, energy, capacity, emissions, and transmission

40 congestion prices. A discussion related to hedging strategy employed for various components

is contained in the sections of this report: Natural Gas Costs, Coal and Rail Transportation
 Costs, Fuel Oil Costs, Nuclear Fuel Costs and Transmission Costs. If Ameren Missouri did
 not manage its risk management strategies prudently it could result in an increase in fuel costs
 that are collected from customers through the Ameren Missouri FAC charge.

3. Conclusion

Staff reviews Ameren Missouri's CRMP for reasonableness and it's adherence to the CRMP. Staff reviews individual transactions made by Ameren Missouri traders and considers the facts known to the traders at the time of the transaction. As part of this review Staff reviews a wide array of market conditions which include; historic and future fuel commodity pricing, energy market forecasts,¹⁷ US and global economic trends, technology changes, and proposed environmental regulations. Staff did not find any evidence that Ameren Missouri acted imprudently in the administration of its risk management strategies during the prudence review period.

4. Documents Reviewed

a. Ameren Missouri's responses to Staff Data Request Nos. 0021, 0021.1, 0083
and 0083.1.

17 Staff Expert/Witness: Dana E. Eaves

B. Disaggregation of Commodity Fuel Cost

Table 5 represents all of the individual fuel components from each FERC Account as accounted for by Ameren Missouri for its FAC¹⁸.

continued on next page

¹⁷ <u>https://www.eia.gov/outlooks/steo/</u>.

¹⁸ Information provided in Ameren Missouri's monthly FAC reports, tab 5Mp1, as filed with the Commission.

FERC 501 Disaggregation	For the Period October 1, 2015 through May 31, 2017			
<u>Coal Commodity</u> - Includes quality and SO2 adjustments, semi-annual inventory adjustments, broker fees and coal hedging (gains)/losses	\$490,406,928	39.0%		
Coal Freight - Includes trucking expenses for high sulfur coal, fuel surcharges (net of hedging) and semi-annual inventory adjustments	\$535,445,481	42.6%		
<u>Railcar</u> - Includes depreciation, lease costs, switching, repair and maintenance	\$31,079,562	2.5%		
Coal (Gains)/Losses on Coal Sales	\$	0.00%		
Fly Ash (Revenues)/Expenses	\$4,805,106	0.4%		
Oil Costs	\$4,685,274	0.4%		
Gas Costs	\$1,599,856	0.1%		
FERC 501 subtotal	\$1,068,022,205	85.5%		
FFRC 502 Disaggregation				
	\$4.651.929	0.4%		
Activated Carbon	\$6,085,898	0.5%		
FERC 502 subtotal	\$10,737,827	0.9%		
FERC 518 Disaggregation				
Nuclear Fuel Commodity - Includes nuclear fuel hedging costs	\$153,442,416	12.2%		
Waste Disposal Expense	\$	0.0%		
FERC 518 subtotal	\$153,442,416	12.2%		
FERC 547 Disaggregation	\$11 292 482	0.9%		
Gas Connoity Pasaryotion	\$11,292,402	0.9%		
	\$228.064	0.0%		
	\$1 361 828	0.070		
	\$(120,962)	0.1%		
Caine)/Lesses on Cas Salas	\$(120,702)	0.0%		
(Gams) Losses on Gas Sales	\$891 105	0.070		
CII CUSIS	\$25,098,098	2.0%		
Fuel Costs Grand Total	\$1,257,300,545			

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C. FERC Acct 501

1. Description

Ameren Missouri is required to account for fuel costs used in the production of steam 4 for the generation of electricity in FERC account 501. For the review period, \$1,068,022,205 5 or 84.95% of Ameren Missouri's total fuel costs are booked to FERC Account 501; see Table 5 for disaggregation of this account. Ameren Missouri generates the majority of it 6 7 electricity with its coal-fired generation facilities, and, therefore, the majority of its fuel costs 8 are related to cost of coal and the cost of transportation of coal to these facilities. 9 The amounts for physical coal commodity was \$490,406,928, the transportation/freight of the 10 coal commodity was \$535,445,481 and \$31,079,562 railcar expenses, for a total of 11 \$1,056,931,970 directly related to coal commodity costs. During the review period Ameren Missouri burned ** ** tons of coal which translates to an average ** 12 13 per ton including transportation/freight and other rail charges. Staff reviews public sources as well as subscription services in an effort to determine the reasonableness of prices paid by 14 15 Ameren Missouri for its coal supply. Staff monitors U.S. Energy Information 16 Administration (EIA) and SNL Energy for past and future market prices, supply forecasts and other market trends.¹⁹ 17

Also, contained within FERC account 501 and reviewed during this review are fuel oil costs of \$4,685,274 and natural gas costs of \$1,599,856, these fuels are included in FERC account 501 as they are used as support fuels (startup and/or burn stabilization) in the production of steam with the coal fired generation facilities.

The other component of FERC account 501 included in this review is the cost associated with the handling of fly ash and its disposal associated with the burning of coal in the amount of \$4,805,106.²⁰

Ameren maintains ** = ** short and long-term coal purchase contracts, ** = ** rail
transportation contracts, ** = ** rail lease contracts, and ** = ** rail storage contracts.
The counterparties for the contracts are shown below in Table 6:

¹⁹ See Staff work papers for forecast reports and other reference materials.

²⁰ Effective April 1, 2017, per File No. ER-2016-0179, fly ash and fuel additive costs/revenues which reside in FERC accounts 501 and 502 are no longer includable in the FAC.





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3	**
4	Staff has reviewed Ameren Missouri's rail fuel surcharge strategy, and determined that
5	Ameren Missouri has complied with these stated parameters.
6	2. Summary of Cost Implications
7	If Ameren Missouri was imprudent in its purchasing decisions relating to the purchase
8	of coal, transportation and the handling of the rail fuel surcharge hedging policy, customer
9	harm could result from such imprudence through an increase in Ameren Missouri customer
10	FAC charges.
11	3. Conclusion
12	Staff identified no imprudence by Ameren Missouri in its purchase of coal,
13	transportation or other component contained in FERC account 501 for the prudence
14	review period.
15	4. Documents Reviewed
16	a. Ameren Missouri's response to Staff Data Request Nos. 0001, 0002, 0006,
17	0007, 0008, 0014, 0018, 0021, 0021.1, 0023, 0024, 0035, 0042, 0055, 0057; and,
18	b. Market research: <u>https://www.eia.gov/, http://www.cmegroup.com/</u> and
19	https://platform.mi.spglobal.com/.
20	Staff Expert/Witness: Dana E. Eaves
21	D. Steam Expense FERC Account 502
22	1. Description
23	Ameren Missouri uses FERC account 502 to account for costs associated with
24	chemicals used to reduce emissions as a result of burning fossil fuels. The costs are for
25	limestone in the amount of \$4,651,929 and activated carbon in the amount of \$6,085,898.

2. Summary of Cost Implications

If Ameren Missouri was imprudent in purchasing chemicals used to reduce emissions, customer harm could result from such imprudence through an increase in customer FAC charges.

3. Conclusion

Staff observed no indication of imprudence related to the purchase of chemicals used to reduce emissions for the prudence review period.

4. Documents Reviewed

a. Ameren Missouri's response to Staff Data Request Nos. 0001, 0002, 0006, 0007, 0008, 0014, 0018, 0021, 0021.1, 0023, 0024, 0035, 0042, 0055, and 0057.

- 11 Staff Expert/Witness: Dana E. Eaves

E. Nuclear Fuel - FERC Account 518

1. Description

For the prudency review period, \$153,442,416 or 12.2% of Ameren Missouri's cost of fuel is associated with nuclear fuel used in the generation of electricity at Ameren Missouri's Callaway facility. The nuclear fuel Ameren Missouri uses at Callaway facility requires several processes before it becomes a product that can be used in the generation of electricity. For the review period, Ameren Missouri generated from its Callaway facility ** ______ ** MWhs with an average cost of ** _____ ** per MWh for nuclear fuel.

Ameren Missouri had 5 nuclear fuel contracts, 3 conversion contracts, 4 enrichment contracts, 2 storage contracts and 1 fabrication contract that were in place during the review period. However, not all contracts that were in place during the review period had deliveries, and, therefore, no costs were incurred for those contracts in the review period. Each contract provides term and conditions for primary delivery locations and price. The nuclear fuel contracts in effect are either: fixed price, market spot price, contract price with escalation factor or a combination of these pricing scenarios. The counterparties and contract pricing terms are shown in Table 7 below:

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Table 7 - Confidential

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Ameren Missouri's response to Staff Data Request No. 0021 describes in detail
 Ameren Missouri's policies for the procurement of nuclear fuel. Staff reviewed the
 March 1, 2016, Commodity Risk Management Policy, which states on page 14 and 15:

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Ameren Missouri's Commodity Risk Management Policy is the controlling document for the acquisition and control of nuclear fuel for the Callaway facility. Staff has reviewed the various components of Ameren Missouri's nuclear fuel purchasing practices and determined that Ameren Missouri has complied with these stated parameters.

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2. Summary of Cost Implications

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

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3. Conclusion

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

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4. Documents Reviewed

5 a. Ameren Missouri's response to Staff Data Request Nos. 0021, 0019, 0028 6 and 0044.

7 Staff Expert/Witness: Dana E. Eaves

F. FERC Account 547

1. Description

10 For the review period, \$25,098,098 or 2.0% of Ameren Missouri's total fuel costs is associated with FERC Account 547. Ameren Missouri accounts for the majority of it natural 12 gas and natural gas transportation capacity costs used in its generation facilities in FERC account 547 because its natural gas generation fleet is made up of non-steam 14 generation facilities. The total natural gas cost recorded in FERC account 547 is comprised of several comments. The natural gas commodity is \$11,292,482, \$11,188,749 for the capacity 16 reservation fees, and \$228,064 for the transportation of the natural gas commodity. Other expenses related to Ameren Missouri's natural gas generation facilities are natural gas storage of \$1,361,828, natural gas hedging expense (losses) of \$120,962, and natural gas sales 19 of \$14,908.

Ameren Missouri's natural gas generation facilities are combustion turbines generators (CTGs). Ameren Missouri's CTGs are used for peaking units which mean they are used generally when demand for electricity increases to a point other baseload units can't meet that demand. CTG's by nature are less efficient than other baseload units in Ameren Missouri's generation fleet, and, therefore, are more expensive to operate. During the review period, Ameren Missouri's CTGs generated ** ** MWhs which translates to an average of ** ** per MWh for natural gas to fuel its CTG units.

27 Midcontinent Independent System Operator (MISO) dispatches Ameren Missouri's 28 generation fleet, which in effect decreases Ameren Missouri's dispatching control over 29 these facilities other than insuring the units are operational. Even if MISO did not dispatch these units Ameren Missouri still must insure these combustion turbines have
 adequate fuel to operate.

3 The following table identifies Ameren Missouri's peaking generating units that burn
4 natural gas:

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<u>Table 0</u>
Audrain 1, 2, 3, 4, 5, 6, 7, and 8;
Fairgrounds
Goose Creek 1, 2, 3, 4, 5, and 6;
Kinmundy 1 and 2
Meramec CTG 1, 2;
Mexico
Moberly
Moreau
Peno Creek 1, 2, 3, and 4;
Pinckneyville 1, 2, 3, 4, 5, 6, 7, and 8;
Raccoon Creek 1, 2, 3, and 4;
Venice CTG 2, 3, 4, and 5;

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Staff reviewed the Ameren Missouri Commodity Risk Management Policy(s) that were in
effect during the review period. Ameren Missouri's natural gas procurement strategy is
summarized in the May 1, 2017, Commodity Risk Management Policy, page 13, as part of
Data Request No. 0021:



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5	Ameren Missouri employs hedging activities in an attempt to mitigate the impacts of market
6	volatility in natural gas prices and aid in providing a reliable fuel commodity.
7	Financial hedges can be described as:
8 9 10 11 12 13 14 15 16	Making an investment to reduce the risk of adverse price movements in an asset. Normally, a hedge consists of taking an offsetting position in a related security, such as a futures contract. An example of a hedge would be if you owned a stock, then sold a futures contract stating that you will sell your stock at a set price, therefore avoiding market fluctuations. Investors use this strategy when they are unsure of what the market will do. A perfect hedge reduces your risk to nothing (except for the cost of the hedge). ²¹
17	For the prudency review period, \$891,105 or 0.07% of Ameren Missouri's total fuel costs,
18	cost of purchased power, transmission costs, and net emission costs is associated with the fuel
19	oil used in generating electricity. The cost of fuel oil includes various other miscellaneous
20	charges such as rail and/or ground transportation service charges and other various fuel
21	handling expenses.
22	Ameren Missouri's response to Staff Data Request No. 0021 describes in detail
23	Ameren Missouri's policies for the procurement of fuel oil. Staff reviewed the May 1, 2017,
24	Commodity Risk Management Policy, which states on page 14:
25	**
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28	Staff has reviewed the various components of Ameren Missouri's fuel oil procurement
29	strategy, and determined that Ameren Missouri has complied with these stated parameters.

²¹ www.investopedia.com.

Ameren includes fuel oil costs in FERC accounts 501 and 547 as it used as a support fuel²² in 1 2 Ameren Missouri's coal or natural gas generation facilities.

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2. Summary of Cost Implications

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

3. Conclusion

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

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4. Documents Reviewed

Ameren Missouri's response to Staff Data Request Nos. 0001, 0002, 0006, a. 0007, 0008, 0014, 0018, 0021, 0021.1, 0023, 0024, 0035, 0042, 0055, 0057; and,

13 Market research: https://www.eia.gov/, http://www.cmegroup.com/, b. and https://platform.mi.spglobal.com/. 14

15 Staff Expert/Witness: Dana E. Eaves

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G. **FERC Account 555 - Purchased Power**

1. Description

18 The total costs of purchased power in the ANEC is comprised of long-term 19 and short-term contracts, replacement power insurance, transmission costs, and transmission revenues.

21 During the period October 1, 2015, through May 31, 2017, Ameren Missouri did not 22 issue any request for proposals, nor did it execute any contracts for energy delivery.²³ 23 However, Ameren Missouri's response to Data Request No. 0012 in this case referenced a 24 purchased power agreement ("PPA") supplied in response to Staff Data Request No. 0017 in File No. EO-2012-0074.

²⁵

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

²³ Staff's Data Request No. 0012 in File No. EO-2018-0067.

When Ameren Missouri was asked²⁴ to provide a copy of all purchased power
 contracts that were in effect during the period October 1, 2015, through May 31, 2017,
 Mark J. Peters, Ameren Missouri's Manager, Asset and Trade Optimization, responded
 as follows:

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

In addition to review of purchased power agreements, Staff requested the supporting documentation for the transactions found in the General Ledger for FERC account 555 during this review period of October 1, 2015 through May 31, 2017. Invoices were requested and analyzed for transactions in this account with the following descriptions; **

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28 ** Staff was able to reconcile these invoices to the transactions located in
 29 FERC account 555 Purchased Power.

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H. FERC Account 555 - Purchased Power – Long Term and Short Term Contracts

1. Description

For the period October 1, 2015, through May 31, 2017, \$316,212,029 was attributed to
 long-term and short-term purchased power contracts. The total purchased power costs related

²⁴ Ibid.

to long-term contracts for this review period is \$21,977,184 which is comprised of the Pioneer
Prairie Wind contract for ** _______ ** and the remaining balance of ** _______ ** to
other long-term contracts, boundary line agreements, with **

**. Ameren Missouri also purchases short-term energy in the
MISO and PJM day-ahead markets (hourly) and through bilateral agreements. For this review
period the total amount attributable to short term contracts is \$294,234,845. Typically,
Ameren Missouri relies on these short-term energy sources to help it meet its load during
forced, planned or derating²⁵ generation plant outages and when the market price for that
short-term energy is both below the marginal cost of providing that energy from Ameren
Missouri's generating units and below the cost of longer-term capacity purchases.

11 Staff reviewed the Renewable Resource Power Purchase Agreement by and between 12 Pioneer Prairie Wind Farm I, LLC, and Ameren Missouri ("Pioneer Prairie PPA"). The Pioneer Prairie PPA is a ** _____ ** that expires ** _____ ** and provides 13 a capacity of ** ** MW and estimated annual energy purchases of ** 14 MWhs at a price of ** _____ ** per MWh of which ** _____ ** per MWh is for 15 the purchase of energy which flows through the FAC and ** ** per MWh is for 16 17 the purchase of renewable energy attributes which may be used for compliance with 4 CSR 18 240-20.100 Electric Utility Renewable Energy Standard Requirements and do not flow 19 through the FAC.

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2. Summary of Cost Implication

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

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3. Conclusion

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

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

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

4. Documents Reviewed

a. Ameren Missouri's responses to Staff Data Request Nos. 0001, 0012, 0027, 0085, 0086, 0086.1, 0087; and,

b. Ameren Missouri's work papers in File Nos. ER-2016-0243, ER-2017-0024, ER-2017-0147, ER-2017-0243, and ER-2018-0030.

Staff Expert/Witness: Catherine F. Lucia

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I. FERC Account 555 - Purchased Power - Transmission Costs and Revenues

1. Description

For the period October 1, 2015 through May 31, 2017, \$2,571,282 of Ameren 12 13 Missouri's FAC costs were for MISO transmission costs associated with purchased power 14 costs. As a result of Ameren Missouri's general rate case, Case No. ER-2012,-0166, Ameren 15 Missouri began flowing MISO transmission revenues through the FAC. As a result of 16 Ameren Missouri's 2014 general rate case, Case No. ER-2014-0258, Ameren Missouri was ordered by the Commission to include 3.5 percent of MISO transmission costs²⁶ through the 17 FAC and exclude all transmission revenues.²⁷ The effective date of this modification to the 18 19 FAC is May 30, 2015, which impacted the first fourteen (14) months of this sixteen (16) 20 month review period in this matter.

For the review period, \$77,664 represents transmission revenues that off-set transmission costs. As a result of Ameren Missouri's 2017 general rate case, Case No. ER-2017-0179,²⁸ Ameren Missouri was ordered by the Commission to include 1.71 percent of MISO transmission revenues and 1.71 percent MISO transmission costs in the FAC. The effective date of this modification to the FAC is April 1, 2017 which impacts the last two (2) months of this sixteen (16) month review period in this matter.

²⁶ In the Matter of Union Electric Company, d/b/a/ Ameren Missouri's Tariff to Increase Its Revenues for Electric Service, Report and Order, Effective Date: May 12, 2015, page 114.

²⁷ In the Matter of Union Electric Company, d/b/a/ Ameren Missouri's Tariff to Increase Its Revenues for Electric Service, Report and Order, Effective Date: May 12, 2015, page 117.

²⁸ Effective April 1, 2017, Ameren Missouri's MO.P.S.C. Schedule No. 6, Original Sheet No. 74.3.

1 Ameren Missouri's response to Staff Data Request No. 0021 describes in detail 2 Ameren Missouri's policies for hedging transmission costs. Staff reviewed the document 3 titled; Ameren Missouri Commodity Risk Management Policy, section 2.5 on page 10; this document describes Ameren Missouri's hedging strategy to mitigate transmission costs: 4

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21	2. Summary of Cost Implications
22	If Ameren Missouri was imprudent in hedging transmission expense or in accounting
23	for its transmission costs, customer harm could result from that imprudence through an
24	increase in customer FAC charges.
25	3 Conclusion
25	
26	Staff identified no indication of imprudence related to transmission costs, transmission
27	revenues, and hedging transmission costs for the prudence review period.
28	4. Documents Reviewed
29	a. Ameren Missouri's response to Staff Data Request No. 0021.
30	Staff Expert/Witness: Catherine F. Lucia

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J. **Emission Allowances**

1. Description

The Cross-State Air Pollution Rule ("CSAPR") is a ruling by the Unites States Environmental Protection Agency ("EPA") that requires a number of states, including Missouri, to reduce power plant emissions that contribute to ozone and/or fine particle pollution in other states. The CSAPR requires Missouri to reduce its annual emissions of sulfur dioxide (SO_2) and nitrous oxides (NO_x) to help downwind states attain the 24-hour National Ambient Air Quality Standards ("NAAQS"). The CSAPR also requires Missouri to reduce ozone season emissions of NO_x to help downwind states attain the 8-hour NAAQS.

On September 7, 2016, the EPA revised the CSAPR ozone season NOX program by finalizing an update to CSAPR for the 2008 ozone NAAQS, known as the CSAPR Update. The CSAPR Update ozone season NOX Program will largely replace the original CSAPR ozone season NOX program starting on May 1, 2017. The CSAPR Update will further reduce summertime NOx emissions from power plants in the eastern U.S.

The requirements of CSAPR were in effect for the entire review period from September 29, 2015 through December 31, 2016. The requirements for the CSAPR Update are outside of the review period.

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

24 The Cross State Air Pollution Rule (CSAPR) was finalized on July 6, 2011, replacing CAIR. CSAPR established new allowances for the annual NOx and SO2 programs and the seasonal NOx program. CSAPR uses newly created allowances and thus there is no bank to rely on for any potential shortfall. CSAPR was slated to become effective January 1, 2012, but the rule was stayed by a federal court decision on December 30, 2011, in response to 29 several legal challenges. On June 26, 2014, the EPA filed a motion with the U.S. Court of Appeals for the D.C. Circuit to (1) remove the stay of CSPAR and (2) delay for three years all

of the compliance deadlines that had not already passed when the stay was enacted. On
 October 23, 2014, the D.C. Circuit court lifted the stay. On December 3, 2014, the EPA
 implemented a 3 year delay that moved the starting date for Phase 1 of CSAPR to January 1,
 2015 and January 1, 2017, for Phase 2. Ameren Missouri units are in compliance with the
 CSAPR limits for both SO2 and NOx.

The cost associated with the SO2 premiums, net of discounts, and the revenues from gains on the sale of SO2 emission allowances have been included in Ameren Missouri's Fuel Adjustment Clause since July 8, 2010, as a result of Case No. ER-2010-0036.

Ameren Missouri during this review period sold emission allowances that it is credited as a result of it fossil fuel plants. Ameren Missouri does not currently need to purchase emission allowances. Staff verified the sale of emissions in accumulation periods 21, 22 and 25 for which sales were made in the mount of \$191,283 by reviewing the FAC monthly reports, tab 5C page 1. Staff reviewed the work papers supporting the fuel and purchase power costs for load and off-system sales for accumulation periods 21-25.

15 The management of emission allowances is described in Ameren Missouri's 16 response to Staff's Data Request Nos. 0015, 0038, 0039, 0040 and 0041. Staff reviewed 17 Ameren Missouri's Hedge plan and an Ameren Missouri Risk Management Steering 18 Committee Report concerning emission allowances. Staff found that Ameren Missouri has 19 appropriate practices and processes in place to effectively manage its emission allowances for 20 this review period.

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2. Summary of Cost Implications

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

3. Conclusion

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

4. Documents Reviewed

a. Ameren Missouri response to Staff Data Request Nos. 0015, 0038, 0039, 0040,
0041; and,

1	b. Work papers for Ameren Missouri FAR filings in File Nos. ER-2016-0243,
2	ER-2017-0024, ER 2017-0147, ER-2017-0243 and ER-2018-0030.
3	Staff Expert/Witness: Kory J. Boustead
4	K. FERC 447 - Off-System Sales Revenue ("OSSR")
5	1. Description
6	Staff reviewed the off-system sales quantities and off-system sales revenues and costs
7	(reduction due to power broker fees) in FERC Account 447 for the prudence review period.
8	Ameren Missouri's MO P.S.C Schedule No 6 Original Sheet No. 74.4 describes off-system
9	sales revenues or "OSSR" as:
10	OSSR = Costs and revenues in FERC Account 447 for:
11 12 13 14 15 16 17 18 19 20 21	 A. Capacity; B. Energy; C. Ancillary services, including: a. Regulating reserve service (MISO Schedule 3, or its successor); b. Energy Imbalance Service (MISO Schedule 4, or its successor); c. Spinning reserve service (MISO Schedule 5, or its successor); and d. Supplemental reserve service (MISO Schedule 6, or its successor); D. Make-whole payments, including: a. Price volatility; and b. Revenue sufficiency guarantee; and
22	For the review period Ameren Missouri's OSSR amount is \$539,210,623.
23	With respect to A. Capacity and in reference to electricity, capacity transactions
24	(sales) as defined by FERC; "The acquisition of a specified quantity of generating capacity
25	from another utility for a specified period of time. The utility selling the power is obligated to
26	make available to the buyer a specified quantity of power." For the review period the total
27	amount of revenue from capacity sales was \$289,399,548. Per Ameren Missouri's Commodity
28	Risk Management Policy, section 2.4 page 10; "After supplying load and reserve margin,
29	Ameren Missouri will attempt to sell any excess capacity in the bilateral or RTO markets."
30	With respect to B. Energy and as defined by FERC; "The transfer of title to an energy
31	commodity from a seller to a buyer for a price or the quantity transferred during a specified
32	period". For the review period the total amount of revenue from energy sales was

1 \$230,906,313. In accordance with the MISO tariff and provided in Ameren Missouri's 2 response to Staff Data Request No. 0026, "Ameren Missouri clears and sells all of its 3 economic (in the money) generation in the market on the basis of cost based offers. Outside 4 the operation of the MISO market, Ameren Missouri may also make spot sales with other 5 entities which could be either physical or financial in nature."

6 With respect to **C. Ancillary services** as defined by FERC: "those services necessary to support the transmission of electric power from seller to purchaser given the obligations of control areas and transmitting utilities within those control areas to maintain reliable operations of the interconnected transmission system."

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a. Regulating reserve service is defined in FERC's Electric Tariff, Schedule 3;

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

For the review period Ameren Missouri received ** ** for

regulating reserve services provided to MISO.

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

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

For the review period Ameren Missouri received ** ** for

Energy Imbalance Services provided to MISO.

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

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

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d. Supplemental Reserve Service is described in FERC Electric Tariff, Schedule 5:

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

For the review period Ameren Missouri received \$4,284,474 for Supplemental Reserve Services provided to MISO.

With respect to **D. Make Whole Payments** provides a process to guarantee electric utilities the recovery of production offers for energy and ancillary services for resources committed by MISO. These revenue payments are a result of MISO's dispatch instructions given to Ameren Missouri and guarantees the generators do not incur additional costs related to MISO's operational decisions. Since Ameren Missouri has little or no control over this process, Staff only reviewed these transactions for accounting accuracy. For the review period Ameren Missouri received \$1,576,274 in make whole payments.

18 With respect to **E. Hedging** (Financial Energy Swaps) are financial energy 19 transactions related to the trading of power future contracts in organized markets such as 20 Intercontinental Exchange (ICE) and Nodal Exchange (NEX). Ameren Missouri is able to 21 achieve benefits by trading in these markets, because of Ameren Missouri's abundance of 22 economical generation. These transactions settle outside of MISO and the results are 23 accounted for as off-system sales revenue. Ameren Missouri has experienced a decrease in 24 OSSR since MISO has created the day-ahead and real-time market and optimized pricing. 25 Ameren Missouri uses several different futures products in an effort to broaden its 26 opportunities to make additional off-system sales. The following is a list of financial products 27 Ameren Missouri uses in its trading activities in the ICE and NEX trading platforms.

MISO Indiana Hub Real-Time Peak Fixed Price Future
MISO Indiana Hub Real-Time Peak Daily Fixed Price Future
MISO Indiana Hub Day-Ahead Peak Daily Fixed Price Future
MISO Indiana Hub Day-Ahead Peak Fixed Price Future
MISO Indiana Hub Day-Ahead Peak Fixed Price Future
MISO Cinergy Hub RT LMP, Peak Monthly
PJM Western Hub Real-Time Peak Daily
MISO INDIANA.HUB Monthly Day Ahead On-Peak Power Contract

1 2 3	MISO INDIANA.HUB Monthly Real Time On-Peak Power Contract MISO AMIL.BGS6 Monthly Day Ahead On-Peak Power Contract MISO.AMIL.BGS9 Day Ahead On Peak Power Contract
4	For the review period Ameren Missouri made ** ** in additional energy sales
5	with additional gains of ** ** related to its financial energy swaps.
6	2. Summary of Cost Implications
7	Ameren Missouri's revenues from off-system sales and ancillary services are offset
8	against total fuel, purchased power and net emissions allowance costs. If Ameren Missouri
9	was imprudent, either because it did not maximize or did not make off-system sales
10	and ancillary services, customers could be harmed by that imprudence through an increase in
11	FAC charges.
12	3. Conclusion
13	Staff identified no incidents of imprudence related to off-system sales and ancillary
14	services for the prudence review period.
15	4. Documents Reviewed
16	a. Ameren Missouri's response to Staff Data Request Nos. 0001, 0020, 0026; and
17	b. Ameren's Fuel Adjustment Rate (FAR) filings during the review period.
18 19	Staff Experts/Witnesses: Catherine F. Lucia (Energy and Capacity) Dana E. Eaves
20	L. N Factor
21	1. Description
22	On January 12, 2016, a Non-Unanimous Stipulation and Agreement
23	("First Stipulation") was filed in Case No. ER-2016-0130, under which the Signatories agreed
24	that an amount in dispute arising from the calculation of an adjustment triggered by
25	Noranda Aluminum, Inc.'s ("Noranda") load changes (an adjustment commonly referred to as
26	the "N Factor") would not be included in the Fuel Adjustment Rate ("FAR") called for by the
27	Company's Fuel Adjustment Clause ("FAC"). The FAR to be made arose from changes in
28	net energy costs for the FAC accumulation period of June 1, 2015 through September 30,

29 2015 ("Accumulation Period 20"). The Signatories all agreed that an N Factor adjustment in

some amount should be made arising from Accumulation Period 20, but they were not in
 agreement on the methodology to calculate the adjustment.

Consequently, the First Stipulation reflected the Signatories' agreement to exclude an N Factor adjustment from the new FARs that were to take effect starting with Ameren Missouri's February 2016 billing cycle (which began January 27, 2016), pending a later determination on the calculation of the N Factor adjustment. The First Stipulation provided that the Signatories would either agree on a methodology for calculating the adjustment or, if an agreement could not be reached, would file a Joint Proposed Procedural Schedule designed to bring the issue before the Commission for decision. Moreover, the Signatories agreed that the methodology determined by them by agreement (or the Commission ordered methodology, if necessary) would be implemented for Accumulation Period 20 by including the agreed upon or ordered N Factor adjustment for Accumulation Period 20 in the first FAR adjustment to occur after the agreement (or Commission order) becomes effective, and that the agreed upon (or ordered) methodology for the N Factor adjustment would also be used for calculating future FAR adjustments post-Accumulation Period 20.

By order dated January 26, 2016, the Commission approved a tariff sheet implementing new FARs arising from Accumulation Period 20, but excluding any N Factor adjustment for Accumulation Period 20, as was agreed upon in the First Stipulation.

On March 7, 2016, Ameren Missouri, Commission Staff, the Office of the Public Counsel, and Missouri Industrial Energy Consumers filed a *Second Non-Unanimous Stipulation and Agreement* ("Second Agreement") that provided a methodology to calculate the N Factor adjustment and requested a variance to Commission rule 4 CSR 240.20-090(4) to effectuate the Second Agreement.²⁹ The methodology used to calculate the N Factor is provided in Exhibit A of the Second Agreement filed in Case No. ER-2016-0130.

Per the Second Agreement, AP21 was the first accumulation period to be impacted by the N Factor adjustment which resulted in an under-recovery or additional charge to customers. The N Factor adjustment continued to have an impact in the FAC through AP25. However, as of April 1, 2017, the OSSR adjustments resulting from Service Classification 12M or 13M billings falling 40,000,0000 kWh below the normalized monthly billing

Page 35

²⁹ Case No. ER-2016-0130.

determinants were eliminated from the FAC; therefore, only the first two (2) months in AP25
 were impacted.

The total cumulative OSSR impact attributable to the N Factor and reflected in the FAR filings submitted by Ameren Missouri for AP21 through AP25 was \$92,524,691 and reflected in Table 9.

Table 9

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	AP21	AP22	AP23	AP24	AP25	TOTAL
Adjustment to						
Decrease Off-System						
Energy Sales (Acct	\$6,416,512	\$16,719,131	\$25,241,546	\$29,078,954	\$15,068,548	\$92,524,691
447)						
			L			1
Adjustment to S_{AP}	305 313 109	846 466 855	1 017 495 239	1 140 337 143	650 178 712	3 959 791 058
(kWh)	505,515,107	0-0,-00,035	1,017,495,259	1,140,337,143	050,170,712	3,737,71,030
Base Factor- (\$/kWh)	\$.01729	\$.01729	\$.01796	\$.01729	\$.01729	
Adjustment to Net	\$5.278.864	\$14.635.412	\$18,274,214	\$19,716,429	\$11.241.590	\$69,146,509
Base Energy Costs	¢0,270,001	¢11,000,112	\$10,27 i,21 i	¢1),/10,12)	¢11,211,090	<i>\$65,12.0,205</i>
N Factor Adjustment	\$1,137,648	\$2,083,719	\$6,967,331	\$9,362,525	\$3,826,958	\$23,378,181
Customer	\$1,080,766	\$1,070,533	\$6 618 965	\$8 804 300	\$3 635 610	\$22 200 273
Responsibility (95%)	\$1,000,700	φ1, <i>719</i> ,333	\$0,010,90 <u>0</u>	\$0,074,399	\$5,055,010	φ <i>22,2</i> 09,273

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2. Summary of Cost Implications

If Ameren Missouri was imprudent in its calculation of the N Factor customers could be harmed through increased FAC charges.

3. Conclusion

Staff observed no evidence Ameren Missouri acted imprudently with regard to Ameren Missouri's application of the N Factor during the review period.

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4. Documents Reviewed

a. Ameren Missouri's work papers in support of the calculation of the N Factor
for AP 20, AP 21, AP 22, AP 23, AP 24, AP 25; and,

b. Ameren Missouri FAR Filing Case No. ER-2016-0130, ER-2016-0243,
ER-2017-0024, ER-2017-0147, ER-2017-0147, ER-2017-0243, and ER-2018-0030.

19 Staff Expert/Witness: Catherine F. Lucia

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IV. Interest

1. Description

For each month of the FAC accumulation periods and recovery periods, 3 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 9 FPA calculation described on 1st Revised Sheet No. 73.8 and Original Sheet No. 74.8. 10 Interest is calculated monthly at a rate equal to the daily weighted average interest rate paid 11 on the Company's short-term debt, then applied to the month-end balance over-under 12 recovery amount.

For the review period, Ameren Missouri applied an interest amount of \$4,764 to the over- or under recovered balances for the FAC. Staff reviewed Ameren Missouri's monthly source data for short-term interest rates, calculation of its monthly weighted average interest rates, and calculations of the monthly interest amounts. Staff found all calculations to be correct.

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2. Summary of Cost Implications

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

3. Conclusion

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

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4. Documents Reviewed

Ameren Missouri's interest calculation work papers in support of the calculation of
interest amounts on the over-under recovered balance; and Ameren Missouri's response to
Staff Data Request No. 0001.

30 Staff Expert/Witness: Kory J. Boustead

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V. FERC ROE Cases/Entergy Dispute

1. Description

3 The Signatories agreed in Docket No. ER-2016-0179 (pages 7 - 8) that the regulatory 4 liability arising from FERC Docket No. EL12-12-002 (the "First FERC ROE Case") would be 5 deferred for recovery beginning with the effective date of new rates in Ameren Missouri's 6 next general rate proceeding, based on actual refunds Ameren Missouri received from the 7 First FERC ROE Case. The Signatories further agreed that the revenue requirement treatment 8 of any refunds Ameren Missouri receives that arise from FERC Docket No. EL15-45-0000 9 (the "Second FERC ROE Case") shall be addressed in Ameren Missouri's next general rate 10 proceeding, which has not yet been filed.

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2. Summary of Cost Implications

If Ameren Missouri was imprudent in its handling of the revenue requirement treatment of any refunds resulting from the FERC ROE case, customers could be harmed through increased FAC charges.

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3. Conclusion

Staff will address any regulatory liability arising from the FERC ROE Impact Cases/Entergy Dispute in Ameren Missouri's next general rate proceeding.

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4. Documents Reviewed

19a.Ameren Missouri's responses to Staff Data Request Nos. 0082, 0082.1 and200082.2.

21 Staff Expert/Witness: Catherine F. Lucia

VI. Failure to Follow Dispatch Instructions

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1. Description

As a member of MISO, Ameren Missouri is provided and expected to follow electronic dispatching instructions as directed MISO. These dispatch instructions are tailored to each generation resource based upon a specific set of operational characteristic predefined for each generation resource as well as the type of service being offered. Periodically, Ameren Missouri is unable to meet these specific instructions based upon various operational reasons. When these deviations occur, MISO charges Ameren Missouri for each specific
occurrence. These occurrences do not happen at a single location or at a single generation
facility because MISO provides dispatch instruction for each of Ameren Missouri's
generation units for each hour of every day. For this review period MISO charged Ameren
Missouri an additional \$4,753 for these occurrences.

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2. Summary of Cost Implications

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

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3. Conclusion

10 Staff is not recommending a disallowance for this review period related to Ameren 11 Missouri's failure to follow dispatch instructions. Ameren Missouri and others are involved 12 with changes/modifications to MISO processes³⁰ related to this issue. Staff will monitor 13 MISO's progress and final determination, if any, on this issue. Staff reserves the right to 14 review the \$4,753 for failure to follow dispatch instructions in future FAC prudence reviews 15 and/or general rate cases.

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4. Documents Reviewed

Ameren Missouri's responses to Staff Data Request Nos. 0049 and 0049.1.

18 Staff Expert/Witness: Dana E. Eaves

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VII. Utilization of Generation Capacity

1. Description

Ameren Missouri's generation consists of a mixture of Nuclear, Coal, Natural Gas, Solar, Methane Gas, #2 Fuel Oil and Hydro generating stations as indicated in Table 10. Table 11 contains the net-generation and reported nameplate capacity rating for Ameren Missouri's fleet. Table 12 contains the net-generation broken down by unit type for the Ameren Missouri's fleet. These tables illustrate how Ameren Missouri's generation fleet is being called upon by MISO in actual operation throughout the period from October 1, 2015 through May 31, 2017.

³⁰ <u>https://www.rtoinsider.com/ameren-miso-ramp-rates-77425/</u>.

Table 10³¹ - Confidential

Unit Name	Unit Type	Fuel	Year of Commercial Operation
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³¹ Ameren response to Staff Data Request No. 0030.

Table 11 - Confidential

Unit Name	Reported Nameplate Rating (MW) ³²	Net Generation for Prudence Review Period ³³ (MWh)		
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³² *Ibid.* ³³ Ameren response to Staff Data Request No. 0044.

<u>Table 12</u> Confidential

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Unit Type	Net Generation ³⁴ (MWh)	Percentage of Total Net Generation
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2. Summary of Cost Implications

6 Ameren Missouri's electricity generating units are dispatched in the MISO day-ahead 7 market as a function of each generating unit's offered cost per kWh relative to the 8 MISO Locational Marginal Price ("LMP") at the unit node and subject to the unit's 9 operating characteristics and commitment status as provided by Ameren Missouri. 10 Ameren Missouri's role in the dispatch decisions is to provide MISO with the necessary 11 economic and operating parameters for each generation unit for inclusion in MISO's Security 12 Constrained Economic Dispatch (SCED) algorithm. The algorithm is capable of clearing, 13 dispatching, and pricing Energy, Operating Reserve, Up Ramp Capability, and Down Ramp 14 Capability in a simultaneously co-optimized basis that minimizes Production Costs and 15 Operating Reserve Costs while enforcing multiple security constraints. In order to perform 16 proper optimization of commitment and dispatch calculations, MISO requires production cost 17 data for generators to be provided in a three-part offer format: startup cost, no-load cost, and incremental energy cost.³⁵ 18

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Units which are must run in normal operations, may be offered into the MISO market as economic when returning from an outage, (and before the unit has been restarted) by the Trade Floor, based upon their knowledge and experience, and upon review of next day market conditions. By doing so, the MISO day-ahead market process is used to determine when it is

³⁴ Ibid.

³⁵ Ameren Response to Staff Data Request No. 0071.

1 economical to return the unit to service. This mitigates the risk of restarting the unit in a 2 non-profitable period without incurring additional stress on the units such as that which would 3 be expected to occur with unit cycling (as the unit was already off line for the outage).³⁶

For Meramec 1-4, the Trade Floor analyzes the near term markets to determine if removing these units from service would reasonably be expected to result in a reduction in cost (net of lost sales opportunities). The units are must run during periods of expected profitable operation, and allowed to cycle off as a function of the MISO day-ahead market when market prices are expected to be below incremental operating costs for an extended period. Given that the MISO markets do not optimize unit operations beyond the next day in their day-ahead algorithms, not must running the units in actual operations would result in frequent cycling of the unit, in excess of those levels identified by plant operating management as reasonable for a facility of its age. The methodology employed by the Trade Floor balances concerns with additional costs arising from frequent cycling with the economic impact of operating the unit in low price periods.³⁷

16 17 18 ** 38 19 20 3. Conclusion

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

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4. Documents Reviewed

24 Ameren Missouri's responses to Staff Data Request Nos. 0004, 0005, 0006, a. 25 0030, 0043, 0047, 0071, 0072, 0073, and 0081.

26 Staff Expert/Witness: J Luebbert

³⁶ Ameren Response to Staff Data Request No. 0047.

³⁷ Ibid.

³⁸ Ameren response to Staff Data Request No. 0030.

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VIII. Heat Rates

1. Description

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

2. Summary of Cost Implications

8 Heat rates are inversely related to the efficiency of the generating unit. Increasing heat 9 rates of specific units over time may be an indication that a specific unit's efficiency is 10 declining. Heat rates can vary greatly depending on operating conditions including but not 11 limited to load, hours of operation, shut downs and startups, unit outages, derates, and weather 12 conditions. Therefore, a good indication of unit performance for those units that are utilized 13 frequently is an analysis of the trend of heat rates over time. A permanent increase in 14 monthly heat rates is commonly the result of a decrease in a generating unit's efficiency 15 whenever additional emissions reduction equipment is added to the backend of the generating 16 unit. Continued utilization of units with sustained elevated heat rates could result in Ameren 17 incurring higher fuel costs per unit of electricity generated than it would otherwise have 18 incurred. If Ameren was imprudent in response to the ongoing trend of a unit's heat rate, 19 customer harm could result from an increase in the fuel costs that are collected through Ameren's FAC charges. 20

The monthly heat rates for Meramec 3 and 4 demonstrate a slight positive trend from 2010 to present. However, dispatch frequencies and durations have also declined. As the full load hours per start declines, it is reasonable that the monthly heat rates will increase slightly.³⁹

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The monthly heat rates for Sioux 2 demonstrated a positive heat rate trend from October 2016 through December 2016 due to operation without top water heaters in service due to a leak. The top water heaters returned to service resulting in decreasing heat rates. Testing performed in 2017 confirmed that the air heater on Sioux Unit 2 has been degrading. Significant air heater component replacements are currently scheduled in the next major

³⁹ Ameren response to Staff Data Request No. 0063.1.

outage which should improve air heater performance and potentially result in further
 decreases in monthly heat rates.⁴⁰

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3. Conclusion

In reviewing the monthly heat rates of the Ameren's generating units dating back to May 2012, Staff found no indication that Ameren acted imprudently during the Review Period.

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4. Documents Reviewed

a. Ameren's responses to Staff Data Request Nos. 0044, 0063, 0063.1, 0076; and,

9 b. Monthly Outage data submitted by Ameren in compliance with Rule 4 CSR
10 240-3.190.

11 Staff Expert/Witness: J Luebbert

IX. Plant Outages

1. Description

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

Staff examined the outages of Ameren Missouri's generation fleet and the timing of these outages to determine if the outages were imprudently taken. Any planned outage during peak load demand times or a period of high replacement energy prices has the potential result of Ameren Missouri paying more for fuel and purchased power costs than it would have paid if the outage were planned during forecasted low load times. Periodic planned outages are required to maintain each generating unit in peak operating condition to minimize forced or maintenance outages that could occur during peak load demand or periods of high

⁴⁰ Ibid.

1 replacement energy prices. Ameren Missouri has little or no control over the timing of 2 maintenance or forced outages of the generating stations it owns and operates when such 3 outages are the result of unforeseen events. These types of outages are not included as a part 4 of this prudence review.

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2. Summary of Cost Complications

6 An imprudent outage could result in Ameren Missouri purchasing expensive spot market energy or running its more expensive units to meet demand and could result in 8 customer harm through an increase in customer FAC charges.

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3. Conclusion

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

4. Documents Reviewed

13 a. Ameren Missouri's responses to Staff Data Requests Nos. 0030, 0033, 0034, 14 0068, 0069, 0077, 0077.1 and 0077.2.

15 Staff Expert/Witness: J Luebbert

OF THE STATE OF MISSOURI

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

File No. EO-2018-0067

AFFIDAVIT OF CATHERINE F. LUCIA

STATE OF MISSOURI)	
)	SS.
COUNTY OF COLE)	

COMES NOW CATHERINE F. LUCIA and on her oath declares that she is of sound mind and lawful age; that she contributed to the foregoing Staff Recommendation in Memorandum form; and that the same is true and correct according to her best knowledge and belief.

Further the Affiant sayeth not.

CATHERINE F. LUCIA

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 28^{H} day of February 2018.

D. SUZIE MANKIN Notary Public - Notary Seal State of Missouri Commissioned for Cole County My Commission Expires: December 12, 2020 Commission Number: 12412070

Norary Public

OF THE STATE OF MISSOURI

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

File No. EO-2018-0067

AFFIDAVIT OF DANA E. EAVES

STATE OF MISSOURI)	
)	SS.
COUNTY OF COLE)	

COMES NOW DANA E. EAVES and on his oath declares that he is of sound mind and lawful age; that he contributed to the foregoing Staff Recommendation in Memorandum form; and that the same is true and correct according to his best knowledge and belief.

Further the Affiant sayeth not.

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DANA E. EAVES	\bigcirc

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 $28^{\frac{1}{10}}$ day of February 2018.

D. SUZIE MANKIN Notary Public - Notary Seal State of Missouri Commissioned for Cole County My Commission Expires: December 12, 2020 Commission Number: 12412070

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OF THE STATE OF MISSOURI

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

File No. EO-2018-0067

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 Recommendation in Memorandum form; and that the same is true and correct according to her best knowledge and belief.

Further the Affiant sayeth not.

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 28% day of February 2018.

D. SUZIE MANKIN Notary Public - Notary Seal State of Missouri Commissioned for Cole County My Commission Expires: December 12, 2020 Commission Number: 12412070

OF THE STATE OF MISSOURI

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

File No. EO-2018-0067

AFFIDAVIT OF J LUEBBERT

STATE OF MISSOURI COUNTY OF COLE

SS.

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)

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 Recommendation in Memorandum form; and that the same is true and correct according to his best knowledge and belief.

Further the Affiant sayeth not.

hullist 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 28^{44} day of February 2018.

D. SUZIE MANKIN Notary Public - Notary Seal State of Missouri Commissioned for Cole County My Commission Explres: December 12, 2020 Commission Number: 12412070

Addendum A

Description of General Ledger, Subsidiary Ledger, General Journal, and Special Journal

General Ledger is the source of the accounting information of an organization in which the summaries of all financial transactions (collected from subsidiary ledgers) during an accounting period are recorded. Also referenced to as the book of final entry, it provides the data from individual accounts needed for preparing financial statements for the organization.

Subsidiary Ledger is used because the general ledger holds all the historical journal entries, some key general ledger accounts become so complex that a separate ledger is needed to keep track of its transactions. For example, a company's general ledger might include only one accounts receivable account yet the company may have thousands of customers. Therefore, it is necessary to create a subsidiary ledger to hold each customer account and include the grand total of that ledger in the general ledger.

General Journal is a common type of journal used in keeping a chronological record of financial transactions of a firm not belonging to other (special) journals, or where no special journal exists. Types of entries recorded in the General Journal would be asset sales, depreciation, stock sales and write off of bad debts.

Special Journal is used to record specific transactions and keep organized records outside of the general journal. In other words, this system is a way to categorize transactions into different types and groups. The most common special journals include the sales, cash receipts, purchases, and cash disbursements journals.

Addendum B

This addendum was provided as an example of transactions reviewed by Staff but is not all inclusive due to the voluminous number of transactions in these accounts for the review period of October 1, 2015 through May 31, 2017.

411.008, 411.009* and 509* Major - Net Emission Allowances						
Minor		Business Division		Activity		
008 Gain on Dispositon of Allowance	20	Corporate Missouri	BSO2	SO2 Allowance Trading		
008 Gain on Disposition of Allowance	20	Corporate Missouri	BSO2	SO2 Allowance Trading		
008 Gain on Disposition of Allowance	50	Meramac Enery Ctr	BSO2	SO2 Allowance Trading		
008 Gain on Disposition of Allowance	53	Sioux Energy Cntr	BSO2	SO2 Allowance Trading		
008 Gain on Disposition of Allowance	58	Labadie Energy Ctr	BSO2	SO2 Allowance Trading		
008 Gain on Disposition of Allowance	63	Rush Island Energy Ctr	BSO2	SO2 Allowance Trading		
008 Gain on Disposition of Allowance	50	Meramac Enery Ctr	BSO2	SO2 Allowance Trading		
008 Gain on Disposition of Allowance	53	Sioux Energy Cntr	BSO2	SO2 Allowance Trading		
008 Gain on Disposition of Allowance	58	Labadie Energy Ctr	BSO2	SO2 Allowance Trading		
008 Gain on Disposition of Allowance	63	Rush Island Energy Ctr	BSO2	SO2 Allowance Trading		
* No transactions recorded to 411,009 or 509 that impact the FA	C.					

	447 Major - Off System Sales Revneue					
	Minor		Business Division		Activity	
998	Supplie Fee - IPA Procurement	5A	UE Generation - Common	ADMIN	Administrative Support Other	
AEE	AEP Energy Partners Inc	5A	UE Generation - Common	DERE	Demand Response	
AIC	Ameren Illinois Company	5A	UE Generation - Common	ENER	Energy	
COC	Interchange - Conoco Inc	5A	UE Generation - Common	DERE	Demand Response	
DTE	Interchange - DTE Trading Inc	5A	UE Generation - Common	DERE	Demand Response	
EXL	Interchange - Exelon Generation Company	5A	UE Generation - Common	DERE	Demand Response	
MIS	Interchange - MISO	5A	UE Generation - Common	MIDV	RTO Inadvertent Distrib	
NEE	Interchange - Next Era Energy	5A	UE Generation - Common	DERE	Demand Response	
PJM	Interchange - PJM Interconnect	5A	UE Generation - Common	ENER	Energy	
STR	Interchange - Strategic Energy LLC	5A	UE Generation - Common	DERE	Demand Response	
MIS	Interchange - MISO	5A	UE Generation - Common	MIDV	RTO Inadvertent Distrib	
MIS	Interchange - MISO	5A	UE Generation - Common	DERE	Demand Response	
MIS	Interchange - MISO	5A	UE Generation - Common	ENER	Energy	
MIS	Interchange - MISO	5A	UE Generation - Common	RFRS	RTO Ancillary Reg and Freq Res	
MIS	Interchange - MISO	5A	UE Generation - Common	SPRS	RTO Ancillary Spinning	
MIS	Interchange - MISO	5A	UE Generation - Common	SURS	RTO Ancillary Supplemental	
NEE	Interchange - Next Era Energy	5A	UE Generation - Common	DERE	Demand Response	
SOY	Interchange - Prairie Power	5A	UE Generation - Common	DERE	Demand Response	
SOY	Interchange - Prairie Power	5A	UE Generation - Common	ENER	Energy	
PJM	Interchange - PJM Interconnect	5A	UE Generation - Common	ENER	Energy	
PJM	Interchange - PJM Interconnect	5A	UE Generation - Common	DERE	Demand Response	
NSP	Interchange - Northern States Power Co	5A	UE Generation - Common	DERE	Demand Response	
JPM	Interchange - PJ Morgan Chase Bank	5A	UE Generation - Common	PRSG	PJM Rev Sufficiency Guarantee	
XXX	Revenue Price Swaps	5A	UE Generation - Common	ENER	Energy	
SCS	Interchange - Southern Company Services	5A	UE Generation - Common	ENER	Energy	
031	Sales for Resale - Billed	2D	Little Dixie Electric	SCON	Customer Sales on System	
031	Sales for Resale - Billed	2H	Green Hills	SCON	Customer Sales on System	
MIS	Interchange - MISO	22	MO Transmission Lines	ASMP	Recapture of ASM Payments	
MIS	Interchange - MISO	22	MO Transmission Lines	RFRS	RTO Ancillary Reg and Freq Res	
MIS	Interchange - MISO	22	MO Transmission Lines	SPRS	RTO Ancillary Spinning	
MIS	Interchange - MISO	22	MO Transmission Lines	SURS	RTO Ancillary Supplemental	
MIS	Interchange - MISO	22	MO Transmission Lines	DERE	Demand Response	
MIS	Interchange - MISO	22	MO Transmission Lines	ENER	Energy	

	456* Major - Transmission Revenue					
	Minor		Business Division		Activity	
100	Revenue - Transmission of Electricy to Other	22	MO Transmission Lines	SC07	RTO sch 7 Firm PTP Trans	
100	Revenue - Transmission of Electricy to Other	22	MO Transmission Lines	SC08	RTO sch 8 Non-Firm PTP Trans	
100	Revenue - Transmission of Electricy to Other	22	MO Transmission Lines	SC26	RTO sch 26 Network Upgrade Trans	
100	Revenue - Transmission of Electricy to Other	22	MO Transmission Lines	SC37	MTEP Project Cost Rec-ATSI Zone	
100	Revenue - Transmission of Electricy to Other	22	MO Transmission Lines	SC38	MTEP Project Cost Recovery CIN Zone	
100	Revenue - Transmission of Electricy to Other	22	MO Transmission Lines	TSEN	Transmission Sales Energy	
CAL	Other Electric Rev - City of California	22	MO Transmission Lines	TSEN	Transmission Sales Energy	
CEN	Other Electric Rev - City of Centralia	22	MO Transmission Lines	TSEN	Transmission Sales Energy	
FAR	Other Electric Rev - City of Farmington	22	MO Transmission Lines	TSEN	Transmission Sales Energy	
FRD	Other Electric Rev - City of Fredericktown	22	MO Transmission Lines	TSEN	Transmission Sales Energy	
HAN	Other Electric Rev - City of Hannibal	22	MO Transmission Lines	TSEN	Transmission Sales Energy	
JKN	Other Electric Rev - City of Jackson	22	MO Transmission Lines	TSEN	Transmission Sales Energy	
KAH	Other Electric Rev - City Kahoka	22	MO Transmission Lines	TSEN	Transmission Sales Energy	
KIR	Other Electric Rev - City of Kirkwood	22	MO Transmission Lines	TSEN	Transmission Sales Energy	
LIN	Other Electric Rev - City of Linneus	22	MO Transmission Lines	S26A	Multi Value Project Usage Rate	
LIN	Other Electric Rev - City of Linneus	22	MO Transmission Lines	SC26	RTO sch 26 Network Upgrade Trans	
LIN	Other Electric Rev - City of Linneus	22	MO Transmission Lines	TSEN	Transmission Sales Energy	
MAC	Other Electric Rev - City of Marceline	22	MO Transmission Lines	TSEN	Transmission Sales Energy	
MIS	Other Electric Rev - MISO	22	MO Transmission Lines	SC01	RTO sch 1 Sys Centrl/Dsptch	
MIS	Other Electric Rev - MISO	22	MO Transmission Lines	SC02	RTO sch 2 React Supp Volt Cntr	
MIS	Other Electric Rev - MISO	22	MO Transmission Lines	SC24	RTO sch 24 Cntl Area Recovery	
PRY	Other Electric Rev - City of Perry, MO	22	MO Transmission Lines	S26A	Multi Value Project Usage Rate	
PRY	Other Electric Rev - City of Perry, MO	22	MO Transmission Lines	SC01	RTO sch 1 Sys Centrl/Dsptch	
PRY	Other Electric Rev - City of Perry, MO	22	MO Transmission Lines	SC02	RTO sch 2 React Supp Volt Cntr	
PRY	Other Electric Rev - City of Perry, MO	22	MO Transmission Lines	SC26	RTO sch 26 Network Upgrade Trans	
ROL	Other Electric Rev - Rolla Municipal Utilities	22	MO Transmission Lines	TSEN	Transmission Sales Energy	
STJ	Other Electric Rev - St James Municipal Utilities	22	MO Transmission Lines	TSEN	Transmission Sales Energy	
*As a i	result of File No. Er-2016-0179, effective April 1, 2017	1.71%	of allowable transmission rev	venues resi	iding in FERC account 456.1 are includable in the	
FAC.						

	501* Major - Coal						
	Minor		Business Division		Activity		
030	Fuel - Coal and Oil Purchasing Costs	AE	Ameren Energy	ADMIN	Admin Support Other		
020	Fuel - Coal and Oil Purchasing Costs	20	Corporate Missouri	CAFP	Coal and Alt Fuels Procurement		
020	Fuel - Coal and Oil Purchasing Costs	20	Corporate Missouri	CAPA	Coal and Alt Fuels Planning and Admin		
020	Fuel - Coal and Oil Purchasing Costs	20	Corporate Missouri	FTOP	Fuel Trans Operations		
020	Fuel - Coal and Oil Purchasing Costs	20	Corporate Missouri	FTPA	Fuel Trans Planning and Admin		
020	Fuel - Coal and Oil Purchasing Costs	20	Corporate Missouri	RAMA	Railcare Maintenance		
030	Fuel - Gas Purchasing Costs	20	Corporate Missouri	MISO	RTO Activities		
000	Fuel Purchasing Costs	50	Meramac Enery Ctr	OOFS	Oper for Other Fueld Support		
001	Fuel - Coal	50	Meramac Enery Ctr	FBFO	Fuel Burned Base Load Fossil		
001	Fuel - Coal	50	Meramac Enery Ctr	LBSV	Lab Services Loading		
001	Fuel - Oil	50	Meramac Enery Ctr	FBFO	Fuel Burned Base Load Fossil		
003	Steam Ops - Fuel - Natural Gas Base Load	50	Meramac Enery Ctr	GCVC	Gas Costs Variable Costs		
005	Fuel - Coal Crushing and Converying	50	Meramac Enery Ctr	OSFH	Oper Sys and Equip for Fuel Handling		
006	Fuel - Fly Ash	50	Meramac Enery Ctr	APFA	Ash Management - FAC		
013	Fuel - Natural Gas Interchange Sales	50	Meramac Enery Ctr	GCVC	Gas Costs Variable Costs		
110	Fuel - Freight	50	Meramac Enery Ctr	FBFO	Fuel Burned Base Load Fossil		
110	Fuel - Freight	50	Meramac Enery Ctr	ISFO	Fuel Burn Interchg Sales Fossil		
000	Fuel Purchasing Costs	53	Sioux Energy Cntr	FUOT	Fuel Other		
001	Fuel - Coal	53	Sioux Energy Cntr	FBFO	Fuel Burned Base Load Fossil		
001	Fuel - Coal	53	Sioux Energy Cntr	ISFO	Fuel Burn Interchg Sales Fossil		
001	Fuel - Coal	53	Sioux Energy Cntr		Lab Services Loading		
001	Fuel Coal	53	Sioux Energy Chu Sioux Energy Chtr	EBEO	Fuel Burned Base L and Fossil		
002	Fuel - Coal Crushing and Converving	53	Sioux Energy Chu Sioux Energy Chtr	RMIS	Project Rmy for Misc		
005	Fuel - Coal Crushing and Converying	53	Sioux Energy Chtr	PMIS	Mtce Prev for Misc		
005	Fuel - Coal Crushing and Converying	53	Sioux Energy Cntr	CMIS	Mtce Corr for Misc		
005	Fuel - Coal Crushing and Converying	53	Sioux Energy Cntr	CSFA	Mtce Corr for Safety First Aid		
005	Fuel - Coal Crushing and Converying	53	Sioux Energy Cntr	CTOL	Mtce Corr for Tools and Equip		
005	Fuel - Coal Crushing and Converying	53	Sioux Energy Cntr	CBYS	Mtce Corr for Bldg Yard Structure		
005	Fuel - Coal Crushing and Converying	53	Sioux Energy Cntr	CSTE	Mtce Corr for Safety First Aid		
005	Fuel - Coal Crushing and Converying	53	Sioux Energy Cntr	POSC	Mtce Prev for Oil Storage		
005	Fuel - Coal Crushing and Converying	53	Sioux Energy Cntr	PSTE	Mtce Prev for Steam Plant		
005	Fuel - Coal Crushing and Converying	53	Sioux Energy Cntr	PSFA	Mtce Prev for Safety First Aid		
005	Fuel - Coal Crushing and Converying	53	Sioux Energy Cntr	RMIS	Project Rmv for Misc		
110	Fuel Freight	53	Sioux Energy Chtr	APFA FREO	Asn Management - FAC		
110	Fuel - Freight	53	Sioux Energy Chu Sioux Energy Chtr	ISEO	Fuel Burn Intercha Sales Fossil		
012	Fuel - Oil Interchange Sales	53	Sioux Energy Chu Sioux Energy Chu	ISFO	Fuel Burn Interchg Sales Fossil		
000	Fuel Purchasing Costs	58	Labadie Energy Ctr	CBFW	Mtce Corr for Boiler Feeder		
000	Fuel Purchasing Costs	58	Labadie Energy Ctr	FUOT	Fuel Other		
000	Fuel Purchasing Costs	58	Labadie Energy Ctr	CMIS	Mtce Corr for Misc		
000	Fuel Purchasing Costs	58	Labadie Energy Ctr	PMIS	Mtce Prev for Misc		
001	Fuel - Coal	58	Labadie Energy Ctr	FBFO	Fuel Burned Base Load Fossil		
001	Fuel - Coal	58	Labadie Energy Ctr	ISFO	Fuel Burn Interchg Sales Fossil		
001	Fuel - Coal	58	Labadie Energy Ctr	LBSV	Lab Services Loading		
001	Fuel - Coal	58	Labadie Energy Ctr	FUOT	Fuel Other		
001	Fuel - Coal	58	Labadie Energy Ctr	USFH FREO	Evel Burned Base Load Eccel		
002	Fuel - Coal Crushing and Converving	58	Labadie Energy Ctr	OSFH	Oper Sys and Equip for Fuel Handling		
005	Fuel - Fly Ash	58	Labadie Energy Ctr	APFA	Ash Management - FAC		
012	Fuel - Oil Interchange Sales	58	Labadie Energy Ctr	ISFO	Fuel Burn Interchg Sales Fossil		
110	Fuel - Freight	58	Labadie Energy Ctr	FBFO	Fuel Burned Base Load Fossil		
110	Fuel - Freight	58	Labadie Energy Ctr	ISFO	Fuel Burn Interchg Sales Fossil		
000	Fuel Purchasing Costs	63	Rush Island Energy Ctr	FUOT	Fuel Other		
001	Fuel - Coal	63	Rush Island Energy Ctr	FBFO	Fuel Burned Base Load Fossil		
001	Fuel - Coal	63	Rush Island Energy Ctr	ISFO	Fuel Burn Interchg Sales Fossil		
001	Fuel - Coal	63	Rush Island Energy Ctr	LBSV	Lab Services Loading		
001	Fuel - Coal	63	Rush Island Energy Ctr	FUOT	Fuel Other		
001	Fuel - Coal	63	Rush Island Energy Ctr	USFH	Uper Sys and Equip for Fuel Handling		
002	Fuel - Coal Crushing and Converging	62	Rush Island Energy Ctr	USED	Fuel Burned Base Load Fossil		
012	Fuel - Oil Interchange Sales	63	Rush Island Energy Ctr	ISEO	Fuel Burn Interche Sales Fossil		
110	Fuel - Freight	63	Rush Island Energy Ctr	FRFO	Fuel Burned Base Load Fossil		
110	Fuel - Freight	63	Rush Island Energy Ctr	ISFO	Fuel Burn Interchg Sales Fossil		
* 4 5 9 1	*As a result of File No. ED 2016 0170 affective April 1, 2017 fly ash and fuel additive costs/revenues which reside in EEDC accounts 501 are no longer						

*As a result of File No. ER-2016-0179, effective April 1, 2017, fly ash and fuel additive costs/revenues which reside in FERC accounts 501 are no longer includable in the FAC.

			502* Major - Coal		
	Minor		Business Division		Activity
000	Steam Ops Expenses	50	Meramac Enerv Ctr	LBSV	Lab Services Loading
000	Steam Ops Expenses	50	Meramac Enery Ctr	CPMS	Mtce Corr for Pollution Montioring
000	Steam Ops Expenses	50	Meramac Enery Ctr	CTOL	Mtce Corr for Tools and Equip
000	Steam Ops Expenses	50	Meramac Enery Ctr	OGEN	Oper for Maint Generator
000	Steam Ops Expenses	50	Meramac Enery Ctr	OHVA	Oper for HVAC
000	Steam Ops Expenses	50	Meramac Enery Ctr	PCRS	Mtce Prev for Coald Receiving
000	Steam Ops Expenses	50	Meramac Enery Ctr	PELV	Mtce Prev for Elev, Crane and Hoists
000	Steam Ops Expenses	50	Meramac Enery Ctr	PSBS	Mtce Prev for Soot Blowing
000	Steam Ops Expenses	50	Meramac Enery Ctr	CBFW	Mtce Corr for Boiler Feeder
000	Steam Ops Expenses	50	Meramac Enery Ctr	OAPS	Oper for Ash Pond System
000	Steam Ops Expenses	50	Meramac Enery Ctr	OBCF	Oper for Boiler Chemical Fd
000	Steam Ops Expenses	50	Meramac Enery Ctr	OBDS	Oper for Boller Dft System
000	Steam Ops Expenses	50	Meramac Enery Ctr	OPLD	Oper for Boil Feedwater
000	Steam Ops Expenses	50	Meramac Enery Ctr	OCAS	Oper for Compressed Air
000	Steam Ops Expenses	50	Meramac Enery Ctr	OCHP	Oper for Coal Handling
000	Steam Ops Expenses	50	Meramac Enery Ctr	OCRS	Oper for Coal Receiving
000	Steam Ops Expenses	50	Meramac Enery Ctr	OCWS	Oper for Circ Water
000	Steam Ops Expenses	50	Meramac Enery Ctr	OFAR	Operation for Flyas Removal
000	Steam Ops Expenses	50	Meramac Enery Ctr	OFPS	Oper for Fire Protection
000	Steam Ops Expenses	50	Meramac Enery Ctr	OOFS	Oper for Other Fuel Support
000	Steam Ops Expenses	50	Meramac Enery Ctr	OGIC	Oper for Gen Instrument and Ctlr
000	Steam Ops Expenses	50	Meramac Enery Ctr	OPFS	Oper for Pulverized Fuel
000	Steam Ops Expenses	50	Meramac Enery Ctr	OMIS	Oper for Misc
000	Steam Ops Expenses	50	Meramac Enery Ctr	OPMS	Oper for Pollution Monitoring
000	Steam Ops Expenses	50	Meramac Enery Ctr	OSEP	Op Sys and Equipr for Elec Prod Gen
000	Steam Ops Expenses	50	Meramac Enery Ctr	OSFH	Op Sys and Equip Fuel Handling
000	Steam Ops Expenses	50	Meramac Enery Ctr	OSSD	Oper for Sanitary Sewage Disposl
000	Steam Ops Expenses	50	Meramac Enery Ctr	OTRB	Oper for Main Turbine
000	Steam Ops Expenses	50	Meramac Enery Ctr	PAPS	Mice Prev for Ash Pond System
000	Steam Ops Expenses	50	Meramac Enery Ctr	PBAK	Mice Prev for Bottom Ash Removal
000	Steam Ops Expenses	50	Meramac Enery Ctr	DREW	Mte Prev for Boilder Feed Water
000	Steam Ops Expenses	50	Meramac Enery Ctr	PCAS	Mtce Prev for Compressed Air
000	Steam Ops Expenses	50	Meramac Enery Ctr	PCRS	Mtce Prev for Coal Receiving
000	Steam Ops Expenses	50	Meramac Enery Ctr	PCWS	Mtce Prev for Circ Water
000	Steam Ops Expenses	50	Meramac Enery Ctr	PELV	Mtce Corr for Elev, Cranes, and Hoists
000	Steam Ops Expenses	50	Meramac Enery Ctr	PEXS	Mtce Prev for Extraction Steam
000	Steam Ops Expenses	50	Meramac Enery Ctr	PFPS	Mtce Prev for Fire Protection Gen
000	Steam Ops Expenses	50	Meramac Enery Ctr	PGEN	Mtce Prev for Main Generator
000	Steam Ops Expenses	50	Meramac Enery Ctr	POSC	Mtce Prev for Oil Storage
000	Steam Ops Expenses	50	Meramac Enery Ctr	PPFS	Mtce Prev for Pulverized Fuel
000	Steam Ops Expenses	50	Meramac Enery Ctr	PPMS	Mtce Prev for Pollution Monitoring
000	Steam Ops Expenses	50	Meramac Enery Ctr	PSBS	Mtce Prev for Soot Blowing
001	Fuel - Coal	50	Meramac Enery Ctr	FBFO	Fuel Burned Base Load Fossil
001	Fuel - Coal	50	Meramac Enery Ctr	ISFO	Fuel Burn Interchg Sales Fossil
000	Steam Ops Expenses	53	Stoux Energy Cntr	LBSV	Lab Services Loading
000	Steam Ops Expenses	53	Sioux Energy Cntr	OBCE	Oper for Bottom Ash Removal
000	Steam One Expenses	53	Sioux Energy Cntr	OBCF	Oper for Boiler Off System
000	Steam Ops Expenses	53	Sioux Energy Chtr	OBEW	Oper for Boil Feedwater
000	Steam Ons Expenses	53	Sioux Energy Chu Sioux Energy Chtr	OBLR	Oper for Boiler
000	Steam Ops Expenses	53	Sioux Energy Chu Sioux Energy Chu	OCAS	Oper for Compressed Air
000	Steam Ops Expenses	53	Sioux Energy Chtr	OCRC	Oper for Coal Reclaim
000	Steam Ops Expenses	53	Sioux Energy Cntr	OFPS	Oper for Fire Protection
000	Steam Ops Expenses	53	Sioux Energy Cntr	OLAB	Oper for Lab and Test Equip
000	Steam Ops Expenses	53	Sioux Energy Cntr	OHVA	Oper for HVAC
000	Steam Ops Expenses	53	Sioux Energy Cntr	OTOL	Oper for Tools and Equip
000	Steam Ops Expenses	53	Sioux Energy Cntr	OWWS	Oper for Waste Water
000	Steam Ops Expenses	53	Sioux Energy Cntr	PBAR	Mtce Prev for Bottmo Ash Removal
000	Steam Ops Expenses	53	Sioux Energy Cntr	PBDS	Maint Prev for Boiler Dft System
000	Steam Ops Expenses	53	Sioux Energy Cntr	PCRC	Mtce Prev for Coal Reclaim
000	Steam Ops Expenses	53	Sioux Energy Cntr	PELV	Mtce Prev for Elev, Crane, and Hoits
000	Steam Ops Expenses	53	Sioux Energy Cntr	PGEN	Mtce Prev for Main Generator

	502* Major - Coal (cont'd)						
	Minor		Business Division		Activity		
000	Steam Ops Expenses	53	Sioux Energy Cntr	PGIC	Mtce Prev for Gen Instr and Ctrl		
000	Steam Ops Expenses	53	Sioux Energy Cntr	PHVA	Mtce Prev for HVAC Gen		
000	Steam Ops Expenses	53	Sioux Energy Cntr	PPMS	Mtce Prev for Pollution Monitoring		
000	Steam Ops Expenses	53	Sioux Energy Cntr	PSSE	Mtce Prev for Station Svc Elec		
000	Steam Ops Expenses	58	Labadie Energy Ctr	LBSV	Lab Services Loading		
000	Steam Ops Expenses	58	Labadie Energy Ctr	PBCW	Mtce Prev for Boiler Circ Water		
000	Steam Ops Expenses	58	Labadie Energy Ctr	L2RCM L2R2M	Mitce Prev for Soot Blowing		
000	Steam Ops Expenses	58	Labadie Energy Cu	CRIR	Mtee Corr for Roiler Feeder		
000	Steam Ons Expenses	58	Labadie Energy Cu	CCAS	Mice Corr for Compressed Air		
000	Steam Ops Expenses	58	Labadie Energy Ctr	CFPS	Mtce Corr for Fire Protection Gen		
000	Steam Ops Expenses	58	Labadie Energy Ctr	OAPS	Oper for Ash Pond System		
000	Steam Ops Expenses	58	Labadie Energy Ctr	OBAR	Oper for Bottom Ash Removal		
000	Steam Ops Expenses	58	Labadie Energy Ctr	OBFW	Oper for Boil Feedwater		
000	Steam Ops Expenses	58	Labadie Energy Ctr	OBLR	Oper for Boiler		
000	Steam Ops Expenses	58	Labadie Energy Ctr	OBYS	Oper for Bldg Yard Structure		
000	Steam Ops Expenses	58	Labadie Energy Ctr	OCAS	Oper for Compressed Air		
000	Steam Ops Expenses	58	Labadie Energy Ctr	OCON	Oper for Condenser and Aux		
000	Steam Ops Expenses	58	Labadie Energy Ctr	OCRC	Oper for Coal Reclaim		
000	Steam Ops Expenses	58	Labadie Energy Ctr	OCWS	Oper for Circ Water		
000	Steam Ops Expenses	58	Labadie Energy Ctr	ODEM	Oper for Demin		
000	Steam Ops Expenses	58	Labadie Energy Ctr	OEUS OFL V	Oper for Elevators Cranes and Hoists		
000	Steam Ops Expenses	58	Labadie Energy Ctr	OFGC	Oper for Flue Gas Conditioning		
000	Steam Ops Expenses	58	Labadie Energy Ctr	OFPS	Oper for Fire Protection		
000	Steam Ops Expenses	58	Labadie Energy Ctr	OGEN	Oper for Main Generator		
000	Steam Ops Expenses	58	Labadie Energy Ctr	OGIC	Oper for Gen Insturment and Ctrl		
000	Steam Ops Expenses	58	Labadie Energy Ctr	OHVA	Oper for HVAC		
000	Steam Ops Expenses	58	Labadie Energy Ctr	OJAW	Oper for jacket and Aux Clng		
000	Steam Ops Expenses	58	Labadie Energy Ctr	OLAB	Oper for Lab and Test Equip		
000	Steam Ops Expenses	58	Labadie Energy Ctr	OMIS	Oper for Misc		
000	Steam Ops Expenses	58	Labadie Energy Ctr	OMPR	Oper for Pyrite Rmvl		
000	Steam Ops Expenses	58	Labadie Energy Ctr	ODES	Oper for Other Ash Kmvi		
000	Steam Ons Expenses	58	Labadie Energy Cu	OSBS	Oper for Soot Blowing		
000	Steam Ops Expenses	58	Labadie Energy Ctr	OSEP	On Sys and Fouin for Fuel Handling		
000	Steam Ops Expenses	58	Labadie Energy Ctr	OSFA	Oper for Safety First Aid		
000	Steam Ops Expenses	58	Labadie Energy Ctr	OSSD	Oper for Sanitary Sewage Disposl		
000	Steam Ops Expenses	58	Labadie Energy Ctr	OSSE	Oper for Station Svc Elec		
000	Steam Ops Expenses	58	Labadie Energy Ctr	OTOL	Oper for Tools and Equip		
000	Steam Ops Expenses	58	Labadie Energy Ctr	OTRB	Oper for Main Turbine		
000	Steam Ops Expenses	58	Labadie Energy Ctr	PBCW	Mtce Prev for Boiler Circ Water		
000	Steam Ops Expenses	58	Labadie Energy Ctr	PBDS	Mtce Prev for Boiler Dft System		
000	Steam Ops Expenses	58	Labadie Energy Ctr	PBFW	Mice prev for Boiler Feedwater		
000	Steam Ops Expenses	58	Labadie Energy Ctr	PBLK	Mtce prev for Condenser and Aux		
000	Steam Ons Expenses	58	Labadie Energy Cu	PCRC	Mice Prev for Coal Reclaim		
000	Steam Ops Expenses	58	Labadie Energy Ctr	PDEM	Mtce Prev for Demin		
000	Steam Ops Expenses	58	Labadie Energy Ctr	PELV	Mtce Corr for Elev, Cranes, and Hoists		
000	Steam Ops Expenses	58	Labadie Energy Ctr	PFAR	Mtce Prev for Flyash Removal		
000	Steam Ops Expenses	58	Labadie Energy Ctr	PFPS	Mtce Prev for Flyash Removal		
000	Steam Ops Expenses	58	Labadie Energy Ctr	PGEN	Mtce Prev for Gen Instr and Ctrl		
000	Steam Ops Expenses	58	Labadie Energy Ctr	PGIC	Mtce Prev for Gen Instr and Ctrl		
000	Steam Ops Expenses	58	Labadie Energy Ctr	PMIS	Mtce Prev for Misc		
000	Steam Ops Expenses	58	Labadie Energy Ctr	PPFS	Mtce Prev for Pulverized Fuel		
000	Steam Ops Expenses	58	Labadie Energy Ctr	PPMS	Mtce Prev for Pollution Monitoring		
000	Steam Ops Expenses	58	Labadie Energy Ctr	PPMS	Mtce Prev for Pollution Monitoring		
000	Steam Ops Expenses	58	Labadie Energy Cir	PPKC	Mice prev for Precipitator		
000	Steam Ops Expenses	58	Labadie Energy Cu	DCCE	Mtce Prev for Soot Blowing		
000	Steam Ons Expenses	58	Labadie Energy Ctr	PTOL	Mice prev for Tools and Equip		
000	Steam Ops Expenses	58	Labadie Energy Ctr	PTRB	Mtce prev for Main Turbin		
000	Steam Ops Expenses	63	Rush Island Energy Ctr	LBSV	Lab Services Loading		
000	Steam Ops Expenses	63	Rush Island Energy Ctr	OCRC	Oper for Coal Reclaim		
000	Steam Ops Expenses	63	Rush Island Energy Ctr	OVME	Oper for Mobile Equip		
000	Steam Ops Expenses	63	Rush Island Energy Ctr	PELV	Mtce Corr for Elev, Cranes, and Hoists		

Addendum B Page 5 of 9

	502* Major - Coal (cont'd)					
	Minor		Business Division		Activity	
000	Steam Ops Expenses	63	Rush Island Energy Ctr	PGEN	Mtce Prev for Gen Instr and Ctrl	
000	Steam Ops Expenses	63	Rush Island Energy Ctr	CMIS	Mtce Corr for Misc	
000	Steam Ops Expenses	63	Rush Island Energy Ctr	OBDS	Oper for Boiler Dft System	
000	Steam Ops Expenses	63	Rush Island Energy Ctr	OBLR	Oper for Boiler	
000	Steam Ops Expenses	63	Rush Island Energy Ctr	OBYS	Oper for Bldg Yard Structure	
000	Steam Ops Expenses	63	Rush Island Energy Ctr	OCAS	Oper for Compressed Air	
000	Steam Ops Expenses	63	Rush Island Energy Ctr	OCHP	Oper for Coal Handling	
000	Steam Ops Expenses	63	Rush Island Energy Ctr	OCRS	Oper for Coal Reclaim	
000	Steam Ops Expenses	63	Rush Island Energy Ctr	OFPS	Oper for Fire Protection	
000	Steam Ops Expenses	63	Rush Island Energy Ctr	OLAB	Oper for Lab and Test Equip	
000	Steam Ops Expenses	63	Rush Island Energy Ctr	OMIS	Oper for Misc	
000	Steam Ops Expenses	63	Rush Island Energy Ctr	OOFS	Oper for Other Fuel Support	
000	Steam Ops Expenses	63	Rush Island Energy Ctr	OPDW	Oper for Portable Water	
000	Steam Ops Expenses	63	Rush Island Energy Ctr	OPRC	Oper for Precipitator	
000	Steam Ops Expenses	63	Rush Island Energy Ctr	OSEP	Op Sys and Equip for Elec Prod Gen	
000	Steam Ops Expenses	63	Rush Island Energy Ctr	OTRB	Oper for Main Turrbine	
000	Steam Ops Expenses	63	Rush Island Energy Ctr	OVME	Oper for Mobile Equip	
000	Steam Ops Expenses	63	Rush Island Energy Ctr	PBAR	Mtce Prev for Bottom Ash Removal	
000	Steam Ops Expenses	63	Rush Island Energy Ctr	PBLR	Mtce prev for Boiler	
000	Steam Ops Expenses	63	Rush Island Energy Ctr	PBYS	Mtce Prev for Bldg Yard Structure	
000	Steam Ops Expenses	63	Rush Island Energy Ctr	PCAS	Mtce Prev for Compressed Air	
000	Steam Ops Expenses	63	Rush Island Energy Ctr	PCWS	Mtce Prev for Circ Water	
000	Steam Ops Expenses	63	Rush Island Energy Ctr	PDEM	Mtce Prev for Demin	
000	Steam Ops Expenses	63	Rush Island Energy Ctr	PFPS	Mtce Prev for Fire Protection Gen	
000	Steam Ops Expenses	63	Rush Island Energy Ctr	PGIC	Mtce Prev for Gen Instr and Ctrl	
000	Steam Ops Expenses	63	Rush Island Energy Ctr	PHVA	Mtce Prev for HVAC Gen	
000	Steam Ops Expenses	63	Rush Island Energy Ctr	PJAW	Mtce Prev for Jacket and Aux Clng	
000	Steam Ops Expenses	63	Rush Island Energy Ctr	PLAB	Mtce Prev for Lab and Test Equip	
000	Steam Ops Expenses	63	Rush Island Energy Ctr	PPMS	Mtce Prev for Pollution Monitoring	
001	Fuel - Coal	53	Sioux Energy Cntr	FBFO	Fuel Burned Base Load Fossil	
001	Fuel - Coal	53	Sioux Energy Cntr	ISFO	Fuel Burn Interchg Sales Fossil	
001	Fuel - Coal	58	Labadie Energy Ctr	FBFO	Fuel Burned Base Load Fossil	
001	Fuel - Coal	58	Labadie Energy Ctr	ISFO	Fuel Burn Interchg Sales Fossil	
001	Fuel - Coal	63	Rush Island Energy Ctr	FBFO	Fuel Burned Base Load Fossil	
001	Fuel - Coal	63	Rush Island Energy Ctr	ISFO	Fuel Burn Interchg Sales Fossil	
002	Fuel - Oil	53	Sioux Energy Cntr	FBFO	Fuel Burned Base Load Fossil	
002	Fuel - Oil	58	Labadie Energy Ctr	FBFO	Fuel Burned Base Load Fossil	
002	Fuel - Oil	63	Rush Island Energy Ctr	FBFO	Fuel Burned Base Load Fossil	
003	Steam Ops - Fuel - Natural Gas Base Load	50	Meramac Enery Ctr	GCVC	Gas Costs Variable Costs	
012	Fuel - Oil Interchange Sales	53	Sioux Energy Cntr	ISFO	Fuel Burn Interchg Sales Fossil	
012	Fuel - Oil Interchange Sales	58	Labadie Energy Ctr	ISFO	Fuel Burn Interchg Sales Fossil	
012	Fuel - Oil Interchange Sales	63	Rush Island Energy Ctr	ISFO	Fuel Burn Interchg Sales Fossil	
013	Fuel - Natural Gas Interchange Sales	50	Meramac Enery Ctr	GCVC	Gas Costs Variable Costs	
110	Fuel - Freight	50	Meramac Enery Ctr	FBFO	Fuel Burned Base Load Fossil	
110	Fuel - Freight	50	Meramac Enery Ctr	ISFO	Fuel Burn Interchy Sales Fossil	
110	Fuel - Freight	53	Sioux Energy Cntr	FBFO	Fuel Burned Base Load Fossil	
110	Fuel - Freight	53	Sioux Energy Cntr	ISFO	Fuel Burn Interchy Sales Fossil	
110	Fuel - Freight	58	Labadie Energy Ctr	FBFO	Fuel Burned Base Load Fossil	
110	Fuel - Freight	58	Labadie Energy Ctr	ISFO	Fuel Burn Interchy Sales Fossil	
110	Fuel - Freight	63	Rush Island Energy Ctr	FBFO	Fuel Burned Base Load Fossil	
110	Fuel - Freight	63	Rush Island Energy Ctr	ISFO	Fuel Burn Interchy Sales Fossil	
**	L CE'L N ED 2016 0150 CC - L 114 201	7 0		1.101.0		
*As a res	As a result of File No. ER-2016-0179, effective April 1, 2017, fly ash and fuel additive costs/revenues which reside in FERC account 502 are no longer includable in the FAC.					

518 Major - Nuclear					
	Minor		Business Division		Activity
002	Nuclear Fuel - Other Nuclear	65	Callaway Energy Ctr	FBNU	Fuel Burned Base Load Nuclear

	547 Major - Natural Gas					
	Minor		Business Division		Activity	
		Μ	Maryland Heights Landfill			
004	Other Power Ops - Fuel - Landfill Gas Base Load	Y	CTG	GCVC	Gas Costs Variable Costs	
003	Other Power Ops - Fuel - Natural Gas Base Load	5A	UEC Generation - Common	FBFO	Fuel Burned Base Load Fossil	
003	Other Power Ops - Fuel - Natural Gas Base Load	7A	Audrain CTG	GCFC	Gas Costs Fixed Costs	
003	Other Power Ops - Fuel - Natural Gas Base Load	7A	Audrain CTG	GCVC	Gas Costs Variable Costs	
013	Other Power Ops - Fuel - Natural Gas Interchange Sale	7A	Audrain CTG	GCFC	Gas Costs Fixed Costs	
013	Other Power Ops - Fuel - Natural Gas Interchange Sale	7A	Audrain CTG	GCVC	Gas Costs Variable Costs	
013	Other Power Ops - Fuel - Natural Gas Interchange Sale	7G	Goose Creek CTG	GCFC	Gas Costs Fixed Costs	
013	Other Power Ops - Fuel - Natural Gas Interchange Sale	7G	Goose Creek CTG	GCVC	Gas Costs Variable Costs	
013	Other Power Ops - Fuel - Natural Gas Interchange Sale	7K	Kinmundy CTG	GCFC	Gas Costs Fixed Costs	
013	Other Power Ops - Fuel - Natural Gas Interchange Sale	7K	Kinmundy CTG	GCVC	Gas Costs Variable Costs	
003	Other Power Ops - Fuel - Natural Gas Base Load	7R	Raccoon Creek CTG	GCFC	Gas Costs Fixed Costs	
003	Other Power Ops - Fuel - Natural Gas Base Load	62	Venice CTG	GCFC	Gas Costs Fixed Costs	
003	Other Power Ops - Fuel - Natural Gas Base Load	62	Venice CTG	GCVC	Gas Costs Variable Costs	
013	Othr Powr Ops - Fuel - Natural Gas Interchange Sale	62	Venice CTG	GCFC	Gas Costs Fixed Costs	
013	Othr Powr Ops - Fuel - Natural Gas Interchange Sale	62	Venice CTG	GCVC	Gas Costs Variable Costs	
013	Othr Powr Ops - Fuel - Natural Gas Interchange Sale	72	Meramec CTG	GCVC	Gas Costs Variable Costs	
013	Othr Powr Ops - Fuel - Natural Gas Interchange Sale	7G	Goose Creek CTG	GCFC	Gas Costs Fixed Costs	
013	Othr Powr Ops - Fuel - Natural Gas Interchange Sale	7G	Goose Creek CTG	GCVC	Gas Costs Variable Costs	
013	Othr Powr Ops - Fuel - Natural Gas Interchange Sale	7K	Kinmundy CTG	GCFC	Gas Costs Fixed Costs	
013	Othr Powr Ops - Fuel - Natural Gas Interchange Sale	7K	Kinmundy CTG	GCVC	Gas Costs Variable Costs	
013	Othr Powr Ops - Fuel - Natural Gas Interchange Sale	7P	Pinckneyville CTG	GCFC	Gas Costs Fixed Costs	
013	Othr Powr Ops - Fuel - Natural Gas Interchange Sale	7P	Pinckneyville CTG	GCVC	Gas Costs Variable Costs	
003	Other Power Ops - Fuel - Natural Gas Base Load	7R	Raccoon Creek CTG	GCFC	Gas Costs Fixed Costs	
003	Other Power Ops - Fuel - Natural Gas Base Load	7R	Raccoon Creek CTG	GCVC	Gas Costs Variable Costs	
013	Other Power Ops - Fuel - Natural Gas Interchange Sale	7R	Raccoon Creek CTG	GCFC	Gas Costs Fixed Costs	
013	Other Power Ops - Fuel - Natural Gas Interchange Sale	7R	Raccoon Creek CTG	GCVC	Gas Costs Variable Costs	
002	Other Power Ops - Fuel Oild Base Load	71	Howard Bend CTG	FBFO	Fuel Burned Base Load Fossil	
002	Other Power Ops - Fuel Oild Base Load	72	Meramec CTG	FBFO	Fuel Burned Base Load Fossil	
003	Other Power Ops - Fuel - Natural Gas Base Load	72	Meramec CTG	GCVC	Gas Costs Variable Costs	
012	Other Power Ops - Fuel - Oil Interchange Sales	72	Meramec CTG	ISFO	Fuel Burn Interchg Sales Fossil	
002	Other Power Ops - Fuel Oild Base Load	73	Fairgrounds CTG	FBFO	Fuel Burned Base Load Fossil	
012	Other Power Ops - Fuel - Oil Interchange Sales	73	Fairgrounds CTG	ISFO	Fuel Burn Interchg Sales Fossil	
003	Other Power Ops - Fuel - Natural Gas Base Load	74	Kirksville CTG	GCVC	Gas Costs Variable Costs	
013	Othr Powr Ops - Fuel - Natural Gas Interchange Sale	74	Kirksville CTG	GCVC	Gas Costs Variable Costs	
002	Other Power Ops - Fuel Oild Base Load	75	Moreau CTG	FBFO	Fuel Burned Base Load Fossil	
012	Other Power Ops - Fuel - Oil Interchange Sales	75	Moreau CTG	ISFO	Fuel Burn Interchg Sales Fossil	
002	Other Power Ops - Fuel Oild Base Load	76	Moberly CTG	FBFO	Fuel Burned Base Load Fossil	
012	Other Power Ops - Fuel - Oil Interchange Sales	76	Moberly CTG	ISFO	Fuel Burn Interchg Sales Fossil	
002	Other Power Ops - Fuel Oild Base Load	77	Mexico CTG	FBFO	Fuel Burned Base Load Fossil	
012	Other Power Ops - Fuel - Oil Interchange Sales	77	Mexico CTG	ISFO	Fuel Burn Interchg Sales Fossil	
013	Othr Powr Ops - Fuel - Natural Gas Interchange Sale	98	Peno Creek CTG	GCFC	Gas Costs Fixed Costs	
013	Othr Powr Ops - Fuel - Natural Gas Interchange Sale	98	Peno Creek CTG	GCVC	Gas Costs Variable Costs	

	555 Major - Short-Term and Long-Term Purchased Power Contracts						
	Minor		Business Division		Activity		
001	Other Powr Supply - Purchased Power Expense	20	Corporate Missouri	PPBL	Purchased Power Base Load		
AEB	Purchased Power - Associated Electric Coop Borderline	22	MO Transmission Lines	PPBL	Purchased Power Base Load		
AEC	Purchased power - Associated Electric Cooperative	22	MO Transmission Lines	PPBL	Purchased Power Base Load		
AEC	Purchased power - Associated Electric Cooperative	5A	UE Generation - Common	PPIS	Purchased Power Interchg Sales		
AEC	Purchased power - Associated Electric Cooperative	5A	UE Generation - Common	PPBL	Purchased Power Base Load		
MIS	Purchased Power - MISO	5A	UE Generation - Common	SPRS	RTO Ancillary Spinning		
MIS	Purchased Power - MISO	5A	UE Generation - Common	SC24	RTO Sch 24 Cntl Area Recovery		
PJM	Purchased Power - PJM Interconnect	5A	UE Generation - Common	PCNG	PJM Congestion Charges		
PJM	Purchased Power - PJM Interconnect	5A	UE Generation - Common	PPIS	Purchased Power Interchg Sales		
TVA	Purchased Power - Tennessee Valley Authority	5A	UE Generation - Common	PPIS	Purchased Power Interchg Sales		
CON	Purchased Power - Consolidated Electric Cooperative	22	MO Transmission Lines	PPBL	Purchased Power Base Load		
KCP	Purchased Power - Kansas City Power and Light	22	MO Transmission Lines	PPBL	Purchased Power Base Load		
MIS	Purchased Power - MISO	22	MO Transmission Lines	DCBL	Demand Charges Base Load		
MIS	Purchased Power - MISO	22	MO Transmission Lines	MARR	RTO Auction Revenue Rights		
MIS	Purchased Power - MISO	22	MO Transmission Lines	MCNG	RTO Congestion		
MIS	Purchased Power - MISO	22	MO Transmission Lines	MFTR	RTO Financial Transmission Rights		
MIS	Purchased Power - MISO	22	MO Transmission Lines	MIDV	RTO Inadvertent Distrib		
MIS	Purchased Power - MISO	22	MO Transmission Lines	MLOS	RTO Losses		
MIS	Purchased Power - MISO	22	MO Transmission Lines	MRNU	RTO Revenue Neutrality Uplift		
MIS	Purchased Power - MISO	22	MO Transmission Lines	MRSG	RTO Rev Sufficiency Guarantee		
MIS	Purchased Power - MISO	22	MO Transmission Lines	PPBL	Purchased Power Base Load		
MIS	Purchased Power - MISO	22	MO Transmission Lines	RFRS	RTO Ancillary Reg and Freq Res		
MIS	Purchased Power - MISO	22	MO Transmission Lines	SPRS	RTO Ancillary Spinning		
MIS	Purchased Power - MISO	22	MO Transmission Lines	SURS	RTO Ancillary Supplemental		
MIS	Purchased Power - MISO	22	MO Transmission Lines	SC24	RTO Sch 24 Cntl Area Recovery		
MIS	Purchased Power - MISO	5A	UE Generation - Common	MARR	RTO Auction Revenue Rights		
MIS	Purchased Power - MISO	5A	UE Generation - Common	MARR	RTO Auction Revenue Rights		
MIS	Purchased Power - MISO	5A	UE Generation - Common	MFTR	RTO Financial Transmission Rights		
MIS	Purchased Power - MISO	5A	UE Generation - Common	MFTR	RTO Financial Transmission Rights		
MIS	Purchased Power - MISO	5A	UE Generation - Common	MIDV	RTO Inadvertent Distrib		
MIS	Purchased Power - MISO	5A	UE Generation - Common	MLOS	RTO Losses		
MIS	Purchased Power - MISO	5A	UE Generation - Common	MRNU	RTO Revenue Neutrality Uplift		
MIS	Purchased Power - MISO	5A	UE Generation - Common	MRSG	RTO Rev Sufficiency Guarantee		
MIS	Purchased Power - MISO	5A	UE Generation - Common	PPIS	Purchased Power Interchg Sales		
PJM	Purchased Power - PJM Interconnect	5A	UE Generation - Common	PCNG	PJM Congestion Charges		
PJM	Purchased Power - PJM Interconnect	5A	UE Generation - Common	PLOS	PJM Losses		
PJM	Purchased Power - PJM Interconnect	5A	UE Generation - Common	PPIS	Purchased Power Interchg Sales		
PJM	Purchased Power - PJM Interconnect	5A	UE Generation - Common	PRSG	PJM Rev Sufficiency Guarantee		
PPW	Purchased Power - Pioneer Prairie Wind Farm	22	MO Transmission Lines	PPBL	Purchased Power Base Load		
PRY	Purchased Power - City of Perry, MO	22	MO Transmission Lines	MFTR	RTO Financial Transmission Rights		
SKB	Purchased Power - Sikeston (Borderline)	22	MO Transmission Lines	PPBL	Purchased Power Base Load		
TCE	Purchased Power - Tri-County Electric Coop	22	MO Transmission Lines	PPBL	Purchased Power Base Load		

565 Major - Transmission Expense						
Minor			Business Division		Activity	
AEC	Transmission - Associated Electric	22	MO Transmission Lines	TRUN	Transmission Unbundled	
KCP	Transmission - Kansas City Power and Light	22	MO Transmission Lines	TRUN	Transmission Unbundled	
MIS	Transmission - MISO	22	MO Transmission Lines	S26A	Multi Value Project Usage Rate	
MIS	Transmission - MISO	22	MO Transmission Lines	S42A	Entergy Charge to Recover Interest	
MIS	Transmission - MISO	22	MO Transmission Lines	S42B	Entergy Credit Assoc with AFUDC	
MIS	Transmission - MISO	22	MO Transmission Lines	SC01	RTO sch 1 Sys Centrl/Dsptch	
MIS	Transmission - MISO	22	MO Transmission Lines	SC02	RTO sch 2 React Supp Volt Cntr	
MIS	Transmission - MISO	22	MO Transmission Lines	SC26	RTO sch 26 Network Upgrade Trans	
MIS	Transmission - MISO	22	MO Transmission Lines	SC41	Charge to Recover Entergy Storm Securitization	
MIS	Transmission - MISO	22	MO Transmission Lines	SC45	Cost Recovery of NERC Recommendation or	
MIS					Essential Action	
MIS	Transmission - MISO	22	MO Transmission Lines	TRUN	Transmission Unbundled	
MIS	Transmission - MISO	22	MO Transmission Lines	S26A	Multi Value Project Usage Rate	
MIS	Transmission - MISO	22	MO Transmission Lines	SC01	RTO sch 1 Sys Centrl/Dsptch	
MIS	Transmission - MISO	22	MO Transmission Lines	SC02	RTO sch 2 React Supp Volt Cntr	
MIS	Transmission - MISO	22	MO Transmission Lines	SC07	RTO sch 7 Firm PTP Trans	
MIS	Transmission - MISO	22	MO Transmission Lines	SC08	RTO sch 8 Non-Firm PTP Trans	
MIS	Transmission - MISO	22	MO Transmission Lines	SC33	RTO Sch 33 Black Start Service	
MIS	Transmission - MISO	5A	UE Generation - Common	S26A	Multi Value Project Usage Rate	
MIS	Transmission - MISO	5A	UE Generation - Common	S26A	Multi Value Project Usage Rate	
PJM	Transmission of Electric by PJM	5A	UE Generation - Common	PITR	PJM Transmission Fees	
PJM	Transmission of Electric by PJM	5A	UE Generation - Common	RSVC	Reactive Supply/Voltage Cont	
PJM	Transmission of Electric by PJM	5A	UE Generation - Common	SSCD	Schedule Sys Ctrl and Disp Service	
PJM	Transmission of Electric by PJM	5A	UE Generation - Common	PITR	PJM Transmission Fees	