PRUDENCE REVIEW OF COSTS
RELATED TO THE FUEL ADJUSTMENT CLAUSE
FOR THE ELECTRIC OPERATIONS
OF

UNION ELECTRIC COMPANY
d/b/a AMEREN MISSOURI

October 1, 2012 through May 31, 2014

MISSOURI PUBLIC SERVICE COMMISSION

STAFF REPORT

FILE NO. EO-2015-0060

Jefferson City, Missouri

February 27, 2015

****<u>Denotes Highly Confidential Information</u>****

Appendix A

NP

Table of Contents

Prudence Review of Costs Report

I. Background

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 general rate cases, Case Nos. ER 2010-0036, ER-2011-0028, and ER-2012-0166.

Missouri statute and Commission rule, Section 386.266.4(4) RSMo (Supp. 2009) and 4 CSR 240-20.090(7), respectively, require prudence reviews of an electric utility's FAC no less frequently than at eighteen-month intervals.

On August 31, 2010, the Commission's Staff ("Staff") filed its First Prudence Review Report of Ameren Missouri's FAC in File No. EO-2010-0255. That report covered the first two four-month accumulation periods of Ameren Missouri's FAC—the period March 1, 2009 through September 30, 2009. Staff's second prudence review of Ameren Missouri's FAC is contained in File No. EO-2012-0074 and covered the third, fourth, fifth, sixth and seventh four-month accumulation periods of Ameren Missouri's FAC—the period October 1, 2009 through May 31, 2011. Staff's third prudence review is contained in file EO-2013-0407, and covered the eighth, ninth, tenth and eleventh accumulation periods of Ameren Missouri's FAC—the period June 1, 2011 through September 30, 2012.

II. Executive Summary

In this fourth prudence review of Ameren Missouri's FAC, Staff analyzed items affecting Ameren Missouri's total fuel and purchased power costs net of off-system sales for the twelfth, thirteenth, fourteenth, fifteenth, and sixteenth four-month accumulation periods of Ameren Missouri's FAC. Ameren Missouri's twelfth FAC accumulation period was October 1, 2012 through January 31, 2013. The thirteenth accumulation period was February 1, 2013 through May 31, 2013. The fourteenth accumulation period was June 1, 2013 through September 30, 2013. The fifteenth accumulation period was October 1, 2013 through January 31, 2014. The sixteenth accumulation period was February 1, 2014 through

May 31, 2014. Thus, the period of this prudence review covers the twenty (20) months from October 1, 2012 through May 31, 2014[1].

In evaluating prudence, Staff reviews whether a reasonable person making the same decision would find both the information the decision-maker relied on and the process the decision-maker employed was reasonable based on the circumstances at the time the decision was made, *i.e.*, without the benefit of hindsight. The decision actually made is disregarded and the review is an evaluation, instead, of the reasonableness of the information the decision-maker relied on and the decision-making process the decision-maker employed. If either the information relied upon or the decision-making process employed was imprudent, then Staff examines whether the imprudent decision caused any harm to ratepayers. Only if an imprudent decision resulted in harm to ratepayers, will Staff recommend a refund.

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 found no evidence of imprudence by Ameren Missouri for the items it examined for the period of October 1, 2012 through May 31, 2014.

III. Introduction

A. General Description of Ameren Missouri's FAC

Table 1 identifies Ameren Missouri's Commission-approved FAC tariff sheets which were applicable for service provided by Ameren Missouri to its customers during the period October 1, 2012 through May 31, 2014:

Table 1

October 1, 2012 through January 1, 2013	**January 2, 2013, through May 31, 2014**
Original Sheet No. 71	Original Sheet No. 72
Original Sheet No. 71.1	Original Sheet No. 72.1
Original Sheet No. 71.2	Original Sheet No. 72.2
Original Sheet No. 71.3	Original Sheet No. 72.3
Original Sheet No. 71.4	Original Sheet No. 72.4
Original Sheet No. 71.5	Original Sheet No. 72.5
	Original Sheet No. 72.6
	Original Sheet No. 72.7
	Original Sheet No. 72.8

[1] Rate adjustments based on the five (5) four-month accumulation periods during this fourth prudence audit period were the subject of File Nos. ER-2013-0433, ER-2014-0023, ER-2014-0163, ER-2014-0261 and ER-2015-0022.

Ameren Missouri's FAC requires that it accumulate its Actual Net Energy Cost[2] defined generally as variable fuel, purchased power, transmission costs and net emissions costs less off-system sales revenue during four-month accumulation periods ("AP").[3] Each four-month accumulation period is followed by an eight-month[4] recovery period ("RP")[5] during which ninety-five percent (95%) of the over- or under-recovery of Actual Net Energy Cost during the previous four-month accumulation period relative to the Base Energy Cost amount[6] is flowed through to ratepayers as part of an increase or decrease in the FAC Fuel and Purchased Power Adjustment ("FPA") per kWh rate. Because the total amount charged through the FPA rarely, if ever, will exactly match the required offset, Ameren Missouri's FAC is designed to true-up[7] the difference between the revenues billed and the revenues authorized for collection during recovery periods including interest at the Ameren Missouri's short-term interest rate. Any disallowance the Commission orders as a result of a FAC prudence review shall include interest at Ameren Missouri's short-term interest rate and will be accounted for as an adjustment[8] item when calculating the FPA for a future recovery period.

B. 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.

[2] "Actual Net Energy Cost" (ANEC) is 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.

[4] In Ameren Missouri's initial FAC, recovery periods lasted twelve (12) months. In Case No. ER-2011-0028, recovery periods were changed from a twelve (12) -month duration to an eight (8) -month duration. Recovery Period 7, which began on October 1, 2011, was the first recovery period with an eight (8) -month duration.

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

[6] "Base Energy Cost" (B) as defined on Ameren Missouri's Original Sheet No.72.6.

[7] True-up of FAC is defined on Ameren Missouri's Original Sheet No. 72.8.

[8] See line item 6 on Ameren Missouri's Original Sheet No. 72.7.

> 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 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 ratepayers based on imprudence; the Commission must determine the detrimental impact of that imprudence on the utility's ratepayers. *Id*. at 529-30. This is the prudence standard Staff has followed in this review. The Staff reviewed for prudence the areas identified and discussed below for Ameren Missouri's twelfth, thirteenth, fourteenth, fifteenth, and sixteenth four-month accumulation periods.

III. Actual Net Energy Costs

The Ameren Missouri FAC defines Actual Net Energy Costs to include 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. Table 2 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, 2012 through May 31, 2014:

Table 2
Highly Confidential

Component	Costs or Revenues	Percentage of Component	Percentage of FC + PP + E
Fuel Costs (FC)			
Coal	** **	** **	** **
Nuclear	** **	** **	** **
Natural Gas	** **	** **	** **
Oil	** **	** **	** **
Landfill Gas	** **	** **	** **
Total FC	** **	100.0%	** **
Costs of Purchased Power (PP)			
Long Term Contracts	** **	** **	** **
Master Enabling Contracts	** **	** **	** **
Replacement Power Insurance	** **	** **	** **
Transmissions Costs	** **	** **	** **
***less* Transmission Revenues**	** **	** **	** **
Total PP	** **	100.0%	** **
Net Emissions Allowance Costs (E)	** **	100.0%	** **
Total FC + PP + E	** **		100.0%
***less* Off-System Sales Revenues**	** **		
Actual Net Energy Costs	** **		

A. Utilization of Generation Capacity

1. Description

Ameren Missouri's Generation consists of a mixture of Nuclear, Coal, Natural Gas and Hydro generating stations as indicated in Addendum A attached to this report.

NP

2. Summary of Cost Implications

"Ameren Missouri offers all of its generation into the MISO day-ahead market and bids its forecasted load into the MISO day-ahead market. When Ameren Missouri's cleared generation MWh in a given hour exceed its cleared load MWh in that hour, Ameren Missouri has a net off-system energy sale equal to the difference between the cleared generation MWh and load MWh."[9]

Ameren Missouri's generation resources are dispatched in the MISO market as a function of their offered cost relative to the MISO Locational Marginal Price ("LMP") at the unit node and subject to the unit's operating characteristics and commitment status.[10] Units will be dispatched to run by MISO when the LMP is below the units' offered cost.[11] This method of dispatching the generating units assures that only the most cost effective supply-side resources are used to service Ameren Missouri's load requirements.

** ____

____

____

____

____

____

____

____

____ **

3. Conclusion

Staff did not find any evidence of imprudent utilization of generation resources during the time period examined in this prudence review.

4. Documents Reviewed

a. Ameren Missouri's responses to Staff Data Requests Nos. 0005, 0012, 0023, 0029, 0030, 0044 and 0045;

---

9 Direct Testimony of James R. Dauphinais, Case No. ER-2012-0166, page 11, lines 16-20.
10 Ameren Missouri Response to Staff Data Request 0336 for Case No. ER-2014-0258.
11 Ibid.
12 Ameren Missouri Response to Staff Data Request 0030

b. Ameren Missouri Response to Staff Data Request 0336 for Case No. ER-2014-0258; and

c. Direct testimony of James R. Dauphinais, Case No. ER-2012-0166, page 11, lines 16-20.

Staff Expert: Randy S. Gross

B. Risk Management

1. Description

Ameren Missouri's risk management strategies encompass a wide range of activities. Its *Ameren Missouri Commodity Risk Management Policy (CRMP)*[13] identifies the following strategies it will pursue to manage commodities' risks:

> Long-Term Energy Hedging (energy and capacity sales/purchases)
> Short-term energy Hedging
> Fuel, Carbon and Emissions Hedging
> Nuclear Fuel Cycle Hedging
> MISO/PJM[14] Congestion Hedging
> Arbitrage
> Speculation
> Renewable energy Credits (REC)

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

> **1.1 Background, Purpose, and Scope of Policy**
>
> Ameren Corporation ("Ameren") has charged Asset Management & Trading (AM&T) as a function within Union Electric Company d/b/a Ameren Missouri (Ameren Missouri) with the responsibility of engaging in wholesale energy, capacity, electricity, FTR/ARRs, and transmission transactions on its behalf. Ameren Corporation has charged Ameren Missouri with the responsibility of engaging in the purchase and sale of select fuel and emission commodities on its own behalf. Ameren Missouri has charged Nuclear Fuel Cycle Management (NFCM) with the responsibility of engaging in the purchase and sale of uranium, conversion services, enrichment services, and fabrication services on its behalf.
>
> It is the intent of management that this Risk Management Policy governs all financial risk taking and risk management/mitigation activities associated with

[13] Ameren Missouri Commodity Risk Management Policy, Version -2014.3, 07/31/2014.

[14] PJM Interconnection is a regional transmission organization (RTO) 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.

> the above activities. In order to fulfill the responsibilities described above in a financially disciplined manner, AM&T, Ameren Missouri, and NFCM may enter into the transactions that are defined in this Risk Management Policy as approved by the Risk Management Steering Committee (RMSC)… .

2. Summary of Cost Implications

Ameren Missouri employs risk management strategies in an attempt to mediate the market volatility risk of fuel, energy, capacity, emissions, and transmission congestion prices. A discussion related to hedging strategy employed for various components are discussed in the report under the Natural Gas Costs, Coal and Rail Transportation Costs, Fuel Oil Costs, Nuclear Fuel Costs and Transmission Costs sections of this report. For the period in review, Ameren Missouri experienced unusually large hedging losses related to financial swaps placed for the months January 2014 through March 2014. Staff's review revealed that the hedging losses associated with these financial swaps during this period were due, in major part, to the unforeseen Polar Vortex that caused an extreme rise in energy market prices above the price that Ameren Missouri had locked in prior to this unforeseen event. 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 did not find Ameren Missouri acted imprudently in the administration of its risk management strategies.

4. Documents Reviewed

a. Ameren Missouri's responses to Staff Data Requests 0001, 0002, 0014, 0018, 0019, 0021 and 0022; and

b. Teleconference conducted on February 18, 2014, related to Ameren Missouri's responses to Staff's hedging related data requests. Company personnel present: Jaime Haro.

Staff Expert: Matthew J. Barnes

C. Purchased Power Contracts

1. Description

During the period October 1, 2012 to May 31, 2014, Ameren Missouri did not issue any request for proposals, nor did it execute any contracts for energy delivery[15]. However, Ameren Missouri's response to Data Request 0012 in this case referenced a purchased power agreement ("PPA") supplied to Staff in Data Request 0017 in File No. EO-2012-0074. Staff reviewed the Renewable Resource Power Purchase Agreement by and between Pioneer Prairie Wind Farm I, LLC, and Ameren Missouri ("Pioneer Prairie PPA"). The Pioneer Prairie PPA is a ** ______________ ** that expires ** _____________ ** and provides a capacity of ** ____ ** MW and estimated annual energy purchases of ** ______ ** MWhs at a price of ** _____ ** per MWh of which ** _____ ** per MWh is for the purchase of energy which flows through the FAC and ** _____ ** per MWh is for the purchase of renewable energy attributes which may be used for compliance with 4 CSR 240-20.100 Electric Utility Renewable Energy Standard Requirements and do not flow through the FAC. When Ameren Missouri was asked[16] to provide a copy of all purchased power contracts that were in effect during the period October 1, 2012 through May 31, 2014, 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.

---

[15] Staff's Data Request 0012 in File No. EO-2015-0060.
[16] Ibid.

2. Summary of Cost Implications

If Ameren Missouri was imprudent by purchasing additional power or capacity to meet its demand, ratepayer harm could result from that imprudence through an increase in Ameren Missouri's FAC charges.

3. Conclusion

Staff found no evidence of imprudence related to Ameren Missouri's long-term purchased power agreements.

4. Documents Reviewed

Ameren Missouri's Responses to Staff Data Request 0012.

Staff Expert: Matthew J. Barnes

D. Purchased Power Costs

1. Description

For the period October 1, 2012 to May 31, 2014, ** ___________ ** was purchased power costs. In addition to the long-term purchased-power contract discussed above, Ameren Missouri also purchases short-term energy in the MISO and PJM day-ahead markets (hourly) and through bilateral agreements. Typically, Ameren Missouri relies on these short-term energy sources to help it meet its load during forced, planned or derating[17] 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.

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, ratepayer harm could result from that imprudence through an increase in FAC charges.

3. Conclusion

Staff found no evidence 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.

---

[17] See. E. Plant Outages section of the Prudency Review Report for definitions of forced, planned and derating outages.

NP

4. Documents Reviewed

Ameren Missouri's response to Staff Data Request 0001 and work papers in File Nos. ER-2013-0433, ER-2014-0022, ER-2014-0163, ER-2014-0261, and ER-2015-0022.

Staff Expert: Matthew J. Barnes

E. Plant Outages

1. Description

Ameren Missouri generates most of the energy for its retail customers with its own generating units. Outages occurring at any of the generating units can have an impact on how much Ameren Missouri will pay for fuel and purchased power and could result in Ameren Missouri paying more for fuel and purchased power cost than is necessary.

Generating unit outages generally can be classified as scheduled outages, forced outages or partial outages (derating). Scheduled outages consist of either a planned outage or a maintenance outage. A planned outage for a given generating unit is scheduled well in advance, has a predetermined duration and occurs only once or twice a year. A maintenance outage is an outage that can be deferred beyond the end of the next weekend but must be taken before the next planned outage. A forced outage is an outage that cannot be deferred beyond the next weekend and a partial outage or derating is a condition that exists that requires the unit to be limited to an energy output below maximum capacity. 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.

Staff examined the planned outages and the timing of these outages to determine if the planned outages were prudently taken. An example of an imprudent planned outage would be planning an outage of a large coal unit during peak demand times or not performing recommended or required maintenance that results in equipment failure that directly increases the forced outage rate.

Outage duration is dependent upon many factors that include the following; the number of activities planned, available skilled manpower, unforeseen events, unanticipated additional scope or activities, weather, physical condition of equipment and materials, required testing and the results of that testing, quality assurance inspections and testing, installation of the installed equipment and materials, etc. The outage planning process includes utilizing detailed computer programs that contain all the planned activities, scheduled and actual completion dates, manpower required to complete these activities, major and minor completion milestones, contingencies, etc.

During planned outages, the detailed project schedule is reviewed and updated on a continuous basis to reflect actual conditions and to incorporate "work arounds" to the extent possible (without sacrificing quality or safety, that may include adding additional manpower, overtime hours, or splitting tasks into smaller scope activities that may be performed in parallel) to keep the project as close to the original schedule duration as possible.

This Table **Is Deemed** **Highly Confidential** **In Its Entirety**

2. Summary of Cost Complications

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

[18] Ameren Missouri response to Staff Data Request 0033.

3. Conclusion

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

4. Documents Reviewed

a. Ameren Missouri's responses to Staff Data Requests Nos. 0033 and 0034; and

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

Staff Expert: Randy Gross

F. Natural Gas Costs

1. Description

For the period October 1, 2012 to May 31, 2014, ** __________ ** of Ameren Missouri's fuel costs were associated with natural gas used in the generation of electricity. This amount includes Ameren Missouri's natural gas fuel costs for all Ameren Missouri generating stations producing electrical energy for retail sales and off-system sales, and various miscellaneous charges such as firm transportation service charges and other miscellaneous fuel handling expenses.

Ameren Missouri's procurement strategy for natural gas used for the generation of electricity is described in the Ameren Missouri's response to Staff's Data Request 0021, which contained the Ameren Missouri Commodity Risk Management Policy, July 31, 2014. Pages 14 and 15 of the Policy document describe Ameren Missouri's procurement strategy:

** ______________________ **

** ____
________ **

** ____
____
____
____
____
____
__________________ **

** **

** **

** **

** **
** **
** **
** **
** **
** **
** **
** **
** **

NP

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

Financial hedges can be described as:

> 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).[19]

Staff has reviewed the various components of Ameren Missouri's natural gas supply strategy, and determined that Ameren Missouri has complied with these stated perimeters.

2. Summary of Cost Implications

If Staff found that Ameren Missouri was imprudent in its purchasing decisions relating to natural gas, ratepayer harm could result from that imprudence by an increase in FAC charges.

3. Conclusion

Staff found no indication of imprudence associated with Ameren Missouri's natural gas purchases for the period October 1, 2012 to May 31, 2014.

4. Documents Reviewed

Ameren Missouri's response to Data Request 0021.

Staff Expert: Matthew J. Barnes

G. Coal and Rail Transportation Costs

1. Description

For the period October 1, 2012 to May 31, 2014, ** ____________ ** of Ameren Missouri's Actual Net Energy Cost was associated with coal burned to generate electricity. This amount includes the cost of coal used for all Ameren Missouri generating stations producing electrical energy for retail sales and off-system sales plus various miscellaneous

[19] www.investopedia.com

NP

costs such as charges for rail and other ground transportation service, and other miscellaneous coal handling expenses.

Staff reviewed the Ameren Missouri 2014 Commodity Risk Management Policy. Ameren Missouri's coal procurement strategy is summarized in the Commodity Risk Management Policy, page 14;

** **

Staff has reviewed the various components of Ameren Missouri's coal supply strategy, and Ameren Missouri has complied with these stated parameters.

Ameren Missouri also utilizes a rail fuel surcharge hedge program in an effort to minimize price volatility associated with rail transportation of coal. Ameren Missouri's rail fuel surcharge hedge program is summarized in the Ameren Missouri Commodity Risk Management Policy, page 14;

**

NP

____

____ **

Staff has reviewed the various components of Ameren Missouri's rail fuel surcharge strategy, and determined that Ameren Missouri has complied with these stated parameters.

2. Summary of Cost Implications

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

3. Conclusion

Staff found no imprudence by Ameren Missouri for its purchase of coal and its rail fuel surcharge hedging practices for the period October 1, 2012 to May 31, 2014.

4. Documents Reviewed

Ameren Missouri's response to Staff Data Request 0021.

Staff Expert: Matthew J. Barnes

H. Fuel Oil Costs

1. Description

For the period October 1, 2012 to May 31, 2014, ** _________ ** of Ameren Missouri's cost of fuel was for fuel oil used in the generation of electricity. This amount includes the cost of fuel oil used for all Ameren Missouri generating stations producing electrical energy for retail sales and off-system sales plus various miscellaneous costs, such as ground transportation service charges and other miscellaneous fuel handling expenses.

Ameren Missouri's response to Staff Data Request 0021 describes in detail Ameren Missouri's policies for the procurement of fuel oil. Staff reviewed the document titled; Ameren Missouri Commodity Risk management Policy, which describes on page 14 Ameren Missouri's fuel oil procurement strategy:

** ____ ________ ___

____

_______ **

[20] Ameren manages oil hedges similar to how it manages its coal hedges.

Staff has reviewed the various components of Ameren Missouri's fuel oil procurement strategy, and determined that Ameren Missouri has complied with these stated parameters.

2. Summary of Cost Implications

If Ameren Missouri was imprudent in its purchasing decisions relating to fuel oil, ratepayer harm could result from the imprudence by an increase in FAC charges.

3. Conclusion

Staff found no indication of imprudence by Ameren Missouri related to the purchase of fuel oil for the period October 1, 2012 to May 31, 2014.

4. Documents Reviewed

Ameren Missouri's response to Staff Date Request 21.

Staff Expert: Matthew J. Barnes

I. Nuclear Fuel

1. Description

For the period October 1, 2012 to May 31, 2014, ** ____________ ** of Ameren Missouri's cost of fuel was associated with nuclear fuel used in the generation of electricity at Ameren Missouri's Callaway facility. This amount includes the amount associated with the cost of nuclear fuel used to produce electrical energy for retail sales and off-system sales. The cost of nuclear fuel includes various miscellaneous costs, such as Westinghouse credits, ground transportation service charges and other miscellaneous nuclear fuel handling expenses.

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.

2. Summary of Cost Implications

If Ameren Missouri was imprudent in purchasing nuclear fuel, ratepayer harm could result from that imprudence by an increase in customer FAC charges.

3. Conclusion

Staff found no indication of imprudence related to the purchase of nuclear fuel for the review period October 1, 2012 to May 31, 2014.

4. Documents Reviewed

Ameren Missouri's response to Staff Data Request 0021.

Staff Expert: Matthew J. Barnes

J. SO2 Allowances

1. Description

The EPA's Clean Air Interstate Rule (CAIR), issued in 2005, and was developed to address the transport of pollutants from upwind to downwind states. States in the eastern half of the country are required, over a six-year compliance period (2009-2015), to participate in a federal program intended to reduce emissions of sulfur dioxide (SO_2) by 57 percent (57%) from 2003 levels and Nitrogen Oxides (NO_x) by 61 percent (61%) from 2003 levels.

The primary mechanism of the rule is a cap-and-trade program that allows major sources of NO_x and/or SO_2 to trade excess allowances when its emissions of a specific pollutant fall below its cap for that pollutant. Ameren Missouri receives its NO_x and SO_2 allowances from the EPA on a yearly basis. 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 the CAIR. Under the CAIR, starting in 2010, the power plants are required to submit two SO_2 allowances for each ton of SO_2 emitted. This ratio is further tightened in 2015 to 2.86 allowances for each ton of SO_2 emitted.

Ameren Missouri received permission to manage and trade all CAIR SO2 allowances on December 15, 1998, under case EO-98-401, and, under the same case number, on October 28, 2011, the MO PSC Commission granted authority for Ameren Missouri to approval to sell excess vintage 2011 and earlier CAIR NO_x allowances with proceeds from the sale of NO_x emissions allowances to flow through Ameren Missouri's FAC. On January 4, 2012, the MO PSC Commission conditionally granted (1) a one-time exchange of 1,050 surplus sulfur dioxide ("SO_2") emission allowances for 500 annual nitrogen oxide ("NO_x ") emission allowances.

Beginning on January 1, 2007, Ameren Missouri was required to account for all SO_2 premiums, net of any SO_2 discounts, in a regulatory liability account. The Commission also ordered that all gains from SO_2 allowance sales, in excess of $5,000,000, be recorded in this same regulatory liability account. This regulatory liability account, referred to as the SO_2 Tracker, also accumulates interest at Ameren Missouri's short-term borrowing rate. This SO_2

tracker was continued as part of Case No. ER-2008-0318; however, as a result of the rate proceeding in File No. ER-2010-0036, the SO_2 tracker was discontinued. The cost associated with the SO_2 premiums, net of discounts, and the revenues from gains on the sale of SO_2 emission allowances are now included in Ameren Missouri's Fuel Adjustment Clause.

Ameren Missouri did not purchase the inventory of emission allowances consumed during the review period of October 1, 2012 through May 31, 2014. Approximately ** ________ ** of net emission allowance costs were generated from the sale of allowances during the review period.

The management of emission allowances is described in Ameren Missouri response to Staff's Data Request No. 0015, 0038, 0039, 0040 and 0041. Staff reviewed the document titled *Ameren Missouri Hedge plan* and an Ameren Missouri Risk Management Steering Committee Report concerning emission allowances.

2. Summary of Cost Implications

If Ameren Missouri imprudently used, purchased, sold or banked its SO_2 and NO_x allowances, ratepayer harm could result from an increase in Ameren Missouri's FAC charges.

3. Conclusion

Staff found no indication of imprudence associated with Ameren Missouri's management of its emission allowances.

4. Documents Reviewed

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

b. Ameren Missouri FAR filings in File Nos. ER-2013-0433, ER-2014-0022, ER-2014-0163, ER-2014-0261, and ER-2015-0022.

Staff Expert: David Roos

K. Off-System Sales Revenue

1. Description

Ameren Missouri's MO P.S.C Schedule No 6 Original Sheet No. 72.4 describes off-system sales revenues or "OSSR" as:

OSSR = Costs and revenues in FERC Account 447 for:

1. Capacity;
2. Energy;

NP

3. 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);
4. Make-whole payments, including;
    A. Price volatility; and
    B. Revenue sufficiency guarantee; and
5. Hedging.

For the prudence review period of October 1, 2012 to May 31, 2014, Ameren Missouri's off-system sales revenue was ** ___________ **.

Staff reviewed the off-system sales quantities, revenues and costs over the prudence review period.

2. Summary of Cost Implications

Ameren Missouri's revenues from off-system sales are offset against total fuel, purchased power and net emissions allowance costs. This is because Ameren Missouri's ratepayers pay for the fuel and other resources used to produce the electrical energy that Ameren Missouri sells off system, although serving the "native load" of retail customers or ratepayers is a higher priority than making an off-system sale. If Ameren Missouri was imprudent either because it made or did not make off-system sales, ratepayers could be harmed by that imprudence through an increase in FAC charges.

3. Conclusion

Staff found no imprudence related to off-system sales for the review period October 1, 2012 to May 31, 2014.

4. Documents Reviewed

Ameren Missouri's response to Staff Data Request 0001 and Ameren's Fuel Adjustment Rate (FAR) filings during the review period.

Staff Expert: Matthew J. Barnes

L. Transmission Costs and Revenues

1. Description

For the period October 1, 2012 to May 31, 2014, ** __________ ** of Ameren Missouri's fuel costs were for transmission costs associated with purchased power costs for the generation of electricity. As a result of Ameren Missouri's last general rate case, File No. ER-2012-0166, Ameren Missouri began flowing transmission revenues through the FAC. For

NP

the review period, ** __________ ** were for transmission revenues that off-set transmission costs.

Ameren Missouri's response to Staff Data Request 0021 describes in detail Ameren Missouri's policies for hedging transmission costs. Staff reviewed the document titled; Ameren Missouri Commodity Risk Management Policy, page 12 and 13; this document describes Ameren Missouri's hedging strategy to mitigate transmission costs:

** ____
____
____
____
____
____
____
__________________________________ **

** ____
____
____
____
____
____ **

** ____ **

2. Summary of Cost Implications

If Ameren Missouri was imprudent in hedging transmission expense, ratepayer harm could result from that imprudence through an increase in customer FAC charges.

3. Conclusion

Staff found no indication of imprudence related to transmission costs and hedging transmission costs for the review period October 1, 2012 to May 31, 2014.

4. Documents Reviewed

Ameren Missouri's response to Staff Data Request 0021.

Staff Expert: Matthew J. Barnes

M. Demand Response Program

1. Description

The only current Ameren Missouri electric tariff sheet which contains any "interruptible" provision is Rider M-Option Based Curtailment Rider; however, no customers are currently under contract for this program. During the prudence review period, there were no curtailments called, load interrupted or payments made under the provisions of Rider M.[21] Ameren Missouri did have a Rider L Peak Power Rebate program, but it expired at the end of 2011.

2. Summary of Cost Implications

Although Staff understands the current economic conditions, excess capacity and reduced load have generally depressed capacity prices and utilizing demand response may not be the least cost option for every peak load situation, these conditions can change.

Staff believes that Ameren Missouri should have demand response ("DR") programs. Without the DR option, Ameren Missouri could be required to either purchase power or run its more expensive generating units resulting in increased energy costs to its customers compared to exercising a voluntary load curtailment and/or a direct load control option to satisfy peak load demands.

The Commission has previously expressed its concern that Ameren Missouri did not evaluate and allow demand-side resources to compete on an equal basis with supply-side resources. In its March 28, 2012 Report *and Order* in Case No. EO-2011-0271 regarding Ameren Missouri's 2011 Chapter 22 Electric Utility Resource Planning filling, the Commission stated:

> "In its analysis, Ameren Missouri considered the use of demand-side efficiency and energy management measures only in the circumstances where it had identified a capacity shortfall. When it determined that it would need additional capacity, it treated demand-side and supply-side resources equivalently. However, Ameren Missouri did not evaluate whether existing supply-side resources could be replaced with less costly demand-side resources. In other words, demand-side resources were not allowed to compete on the basis of PVRR with existing supply-side resources."

That is an important distinction, because Ameren Missouri is considering the possible retirement of part of its coal-fired generation fleet and is considering very expensive

[21] Company response to Staff Data Request MPSC 0043

environmental upgrades to the portion of its fleet that is not being retired. In Ameren Missouri's 2014 Integrated Resource Plan, Ameren Missouri states that MISO capacity markets indicate that demand response opportunities have little market capacity value for the immediate future. Since Ameren Missouri is not projecting a need for demand response for reliability purposes, the business case for demand response for Ameren Missouri customers is dependent on the MISO capacity market.[22] Ameren Missouri is considering a pilot program in 2016-2018 to test residential and commercial and industrial customers' tolerance for the frequency and duration of DR events.[23]

3. Conclusion

Staff did not find any evidence of imprudence during the time period of this prudence review.

4. Documents Reviewed

a. Company response to Staff Data Request 0043; and

b. Company response to Data Request 0027 in Ameren Missouri MEEIA Filing Case No. EO-2012-0142.

Staff Expert: Randy Gross

N. Renewable Energy

1. Description

The Missouri Renewable Energy Standard ("RES")[24] was adopted through a voters' ballot initiative (Proposition C) on November 4, 2008,[25] and requires all investor-owned electric utilities in Missouri to provide at least two percent (2%) of its retail electricity sales using renewable energy resources annually in each calendar year 2011 through 2013, and to increase that percentage over time to at least fifteen percent (15%) by 2021.[26] The Commission's administrative rule that sets the definitions, structure, operations and

[22] Ameren Missouri, 2014 Integrated Resource Plan, Chapter 8, page 7
[23] Ameren Missouri, 2014 Integrated Resource Plan, Chapter 8, page 13
[24] 111 Mo. Rev. Stat. § 393.1020 (2010) and116 Mo. Rev. Stat. § 393.1030 .1(1) (2010)
[25] Section 393.1030, RSMo.
[26] However, the annual level of required renewable energy resources may be constrained due to 4 CSR 240-20.100(5) Retail Rate Impact. (A) The retail rate impact, as calculated in subsection (5)(B), may not exceed one percent (1%) for prudent costs of renewable energy resources directly attributable to RES compliance. The retail rate impact shall be calculated on an incremental basis for each planning year that includes the addition of renewable generation directly attributable to RES compliance through procurement or development of renewable energy resources, averaged over the succeeding ten (10)-year period, and shall exclude renewable energy resources owned or under contract prior to the effective date of this rule.

procedures for RES compliance is contained in Rule 4 CSR 240-20.100, which first became effective September 30, 2010.

In May 2009, Ameren Missouri entered into an agreement with Fred Weber, Inc., to install three (3) combustion turbines capable of generating electricity by burning methane gas captured from Fred Weber, Inc.'s solid waste landfill at Maryland Heights, Missouri. The generation facility is known as the Maryland Heights Energy Center ("Maryland Heights"). In December 2010, IESI MO Champ Landfill, LLC., acquired the Fred Weber Sanitary Landfill. According to Ameren Missouri, this project is intended to boost its renewable energy capabilities as well as meet state and federal regulatory requirements to generate or procure a specified percentage of retail electric sales through renewable sources.[27] Based on Staff's on-site observation of the facility supplemented by review of test records, operating logs, computer data, and other documentation, the Maryland Heights generating units successfully met all of the in-service criteria and were fully operational and used for service on June 16, 2012.

On December 12, 2012, the Commission issued its *Report and Order* in Case No. ER-2012-0166. Beginning on page 118 of its *Report and Order* the Commission's discussion and approval of Ameren Missouri's request for a variance from Commission Rule 4 CSR 240-20.100(6)(A)16, which provides that "RES compliance costs" are not to be considered for cost recovery through a fuel adjustment clause (FAC) or interim energy charge. "RES compliance costs" are "prudently incurred costs, both capital and expense, directly related to compliance with the Renewable Energy Standard." 4 CSR 240-20.100(1)(N). In its variance request, Ameren Missouri has committed:

> "… to working with the Staff and other interested parties to resolve the issue of whether and to what extent some or all of the fuel costs for Maryland Heights and other potential renewable generation energy costs[4] are RES compliance costs, and committing to have that work completed before another Company general electric rate case would be filed. The Company hereby makes that commitment. In that way, the parties can ensure that a similar issue does not come up in a future rate case. If it is determined that any of the cost of Maryland Heights fuel is a cost directly related to RES compliance, then it (or the appropriate portion of it) would not be included in net base fuel costs in a future rate proceeding. On the other hand, if it is determined that the fuel cost, or some portion of it, is not directly related to RES compliance, it could be considered for inclusion.

[27] Staff COS ER-2012-0166

> 6. The Company also commits to keep track of the RES compliance cost of the Maryland Heights landfill gas facility so that it can and will properly be taken into account for purposes of applying the one percent rate cap provided for in the RES statute and the Commission's RES rules. Consequently, granting the requested waiver or variance will have no impact on the application of that rate cap.
> [4] This may be another renewable energy generating unit or the energy charges for renewable energy through purchased power agreements."

Based on Ameren Missouri response to Staff Data Request 0054, potential renewable energy costs that are imbedded in FAC calculations include the cost of the landfill gas. For the review period of October 1, 2012 to May 31, 2014, the total cost for these components is ** __________ **

2. Summary of Cost Implications

If Ameren Missouri imprudently included RES compliance costs through its FAC resulting in increases to Ameren Missouri's FPA per kWh rates, ratepayer harm could result from an increase in FAC charges.

3. Conclusion

Staff has worked with Ameren Missouri and interested parties to reach a resolution of this issue. Staff anticipates that following Ameren Missouri's current general rate case, Case No. ER-2014-0258, RES compliance costs will no longer flow through its FAC.[28]

4. Documents Reviewed

a. Staff COS Report, Rate Case File ER-2013-0166;

b. Staff COS Report, Rate Case File ER-2014-0258; and

c. Staff Data Request 0054.

Staff Expert: David Roos

IV. Interest

1. Description

For each month of the FAC accumulation and recovery periods Ameren Missouri is required to calculate the interest associated with the over- or under-recovered balance of fuel and purchased power costs less off-system sales revenues. Ameren Missouri applies its short-term interest rate to the over- or under-recovered balance and the interest is compounded on a

[28] On August 22, 2013, Staff contacted Ameren Missouri and initiated a process necessary to accomplish the objective of this sentence.

NP

monthly basis. This interest amount is component "I" of the FPA calculation described on Original Sheet No. 72.7. Ameren Missouri's short-term debt rate is based on Ameren Corporation's short-term debt credit rating. Ameren Missouri's short-term debt credit rating is A-2.

For the review period October 1, 2012 to May 31, 2014, Ameren Missouri applied an interest amount of ** ________ ** to the over- or under recovered balance of fuel and purchased power costs less off-system sales revenues.

2. Summary of Cost Implications

If Ameren Missouri was imprudent in its calculation of the interest amounts or used an interest rate that was higher than Ameren Missouri's short-term interest rate, ratepayers could be harmed through increased FAC charges.

3. Conclusion

Staff found no imprudence with regard to the Ameren Missouri's interest rates and the calculation of interest amounts applied to the over- or under-recovered balance.

4. Documents Reviewed

a. Ameren Missouri's interest calculation work papers in support of the calculation of interest amounts on the over- under-recovered balance; and

b. Ratings Direct, Ameren Missouri dated May 8, 2014.

Staff Expert: Matthew J. Barnes

BEFORE THE PUBLIC SERVICE COMMISSION

OF THE STATE OF MISSOURI

In the Matter of the Fourth Prudence Review of Costs Subject to the Commission-Approved Fuel Adjustment Clause of Union Electric Company d/b/a Ameren Missouri	)))))	Case No. EO-2015-0060

AFFIDAVIT OF MATTHEW J. BARNES

STATE OF MISSOURI)
) **ss**
COUNTY OF COLE)

Matthew J. Barnes, of lawful age, on his oath states: that he has participated in the preparation of the foregoing Staff Report; that he has knowledge of the matters set forth in such Report; and that such matters are true to the best of his knowledge and belief.

Matthew J. Barnes

Matthew J. Barnes

Subscribed and sworn to before me this 27th day of February, 2015.

SUSAN L. SUNDERMEYER
Notary Public - Notary Seal
State of Missouri
Commissioned for Callaway County
My Commission Expires: October 28, 2018
Commission Number: 14942086

Susan L. Sundermeyer

Notary Public

BEFORE THE PUBLIC SERVICE COMMISSION

OF THE STATE OF MISSOURI

In the Matter of the Fourth Prudence Review of Costs Subject to the Commission-Approved Fuel Adjustment Clause of Union Electric Company d/b/a Ameren Missouri	)))))	Case No. EO-2015-0060

AFFIDAVIT OF RANDY S. GROSS

STATE OF MISSOURI)
) ss
COUNTY OF COLE)

Randy S. Gross, of lawful age, on his oath states: that he has participated in the preparation of the foregoing Staff Report; that he has knowledge of the matters set forth in such Report; and that such matters are true to the best of his knowledge and belief.

.

Randy S. Gross

Subscribed and sworn to before me this 27th day of February, 2015.

SUSAN L. SUNDERMEYER
Notary Public - Notary Seal
State of Missouri
Commissioned for Callaway County
My Commission Expires: October 28, 2018
Commission Number: 14942086

Susan L Sundermeyer
Notary Public

BEFORE THE PUBLIC SERVICE COMMISSION

OF THE STATE OF MISSOURI

In the Matter of the Fourth Prudence Review of Costs Subject to the Commission-Approved Fuel Adjustment Clause of Union Electric Company d/b/a Ameren Missouri	)))))	Case No. EO-2015-0060

AFFIDAVIT OF DAVID C. ROOS

STATE OF MISSOURI)
) **ss**
COUNTY OF COLE)

David C. Roos, of lawful age, on his oath states: that he has participated in the preparation of the foregoing Staff Report; that he has knowledge of the matters set forth in such Report; and that such matters are true to the best of his knowledge and belief.

David C. Roos

David C. Roos

Subscribed and sworn to before me this 27th day of February, 2015.

SUSAN L. SUNDERMEYER
Notary Public - Notary Seal
State of Missouri
Commissioned for Callaway County
My Commission Expires: October 28, 2018
Commission Number: 14942086

Susan L. Sundermeyer

Notary Public

Addendum A

Is Deemed

Highly Confidential

In Its Entirety