BEFORE THE PUBLIC SERVICE COMMISSION OF THE STATE OF MISSOURI

In the Matter of Union Electric Company, d/b/a Ameren Missouri's 2012-2013 ACA Audit	))	File No. GR-2014-0061

STAFF RECOMMENDATION TO ADJUST ACA BALANCES

COMES NOW the Staff of the Missouri Public Service Commission, by and through counsel, and for its recommendation in this matter hereby respectfully states:

1. On October 17, 2013, Union Electric Company d/b/a Ameren Missouri ("Ameren Missouri" or "Company") filed tariff sheets to make changes to the PGA and ACA components of its customers' bills. Ameren Missouri's PGA represents the Company's best estimate of the cost of gas for the upcoming period; the ACA represents the Company's true-up of its previous PGA estimate.

2. On October 30, 2013, the Commission approved the PGA rate on an interim basis, subject to refund. Also, the Commission ordered Staff's Procurement Analysis Unit to submit its results and recommendations regarding Ameren Missouri's ACA filing on or before December 19, 2014.

3. Staff's recommended adjustments are explained in Staff's *Memorandum*, attached hereto as Appendix A and incorporated by reference.

4. During its ACA review, Staff compares the Company's billed revenue with its actual gas cost, and evaluates the prudence of the Company's purchasing decisions during the ACA period. Staff also reviews the Company's ability to meet its peak demand requirements, and reviews the reasonableness of the Company's hedging programs.

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5. In this case, Staff made no prudence adjustments. Staff made an adjustment to reflect a previous ACA balance that has not yet been reflected on customers' bills. Staff also adjusted the ACA balance to correct a billed revenue error. Page 8 of Staff's *Memorandum* includes a table summarizing Staff's recommended adjustments and showing Staff's recommended ACA balances for the period ending 8/31/13.

6. Staff's *Memorandum* also includes certain comments and recommendations regarding Ameren Missouri's gas supply planning and hedging practices.

7. Staff recommends the Commission order Ameren Missouri to respond to Staff's adjustments and recommendations within 45 days.

WHEREFORE, Staff submits its recommendations attached here as Appendix A, and recommends the Commission order Ameren Missouri to respond to the recommendations within 45 days.

Respectfully Submitted,

STAFF OF THE MISSOURI
PUBLIC SERVICE COMMISSION

/s/ John D. Borgmeyer

John D. Borgmeyer
Deputy Staff Counsel
Missouri Bar No. 61992

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CERTIFICATE OF SERVICE

I hereby certify that true and correct copies of the foregoing were served electronically to all counsel of record this 18th day of December, 2014.

/s/ John D. Borgmeyer

MEMORANDUM

TO: Missouri Public Service Commission Official Case File
File No. GR-2014-0061, Union Electric Company d/b/a Ameren Missouri

FROM: Anne Crowe, Regulatory Auditor – Procurement Analysis
Kwang Choe, Ph.D., Regulatory Economist – Procurement Analysis
Kathleen McNelis, Utility Engineering Specialist III – Procurement Analysis

/s/ David M. Sommerer 12/17/14
Project Coordinator / Date

/s/ John Borgmeyer 12/17/14
Staff Counsel's Office / Date

/s/ Lesa Jenkins P.E., 12/17/14
Utility Regulatory Engineer II/ Date

SUBJECT: Staff Recommendation in File No. GR-2014-0061, Union Electric Company d/b/a Ameren Missouri, 2012-2013 Actual Cost Adjustment Filing

DATE: December 17, 2014

EXECUTIVE SUMMARY

On October 17, 2013, Union Electric Company d/b/a Ameren Missouri (Ameren Missouri or Company) filed its Actual Cost Adjustment (ACA) for the 2012-2013 period. This filing revised the ACA rates based upon the Company's calculations of the ACA balances.

The Procurement Analysis Unit (Staff) of the Missouri Public Service Commission has reviewed the Company's ACA filing. A comparison of billed revenue recovery with actual gas costs will yield either an over-recovery or under-recovery of the ACA balance.

Ameren Missouri has three Purchased Gas Adjustment (PGA) rates and three ACA rates (one for firm customers, one for interruptible service customers, and an incremental one for customers in the Rolla service area) for its Missouri service areas. The Rolla area Ameren Missouri customers served from MoGas Pipeline ("MoGas") pay an additional incremental PGA and ACA[1] charge for MoGas transportation.

Staff conducted the following analyses:

- a review of billed revenue compared with actual gas costs,
- a reliability analysis including a review of estimated peak-day requirements and the capacity levels needed to meet these requirements,

[1] The current Rolla area incremental ACA rate is negative and is a credit to customer bills.

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** **Denotes Highly Confidential Information** **

- a review of the Company's natural gas supply plans including a review of the Company's gas purchasing practices to evaluate the prudence of the Company's purchasing decisions for this ACA period; and,
- a hedging review to evaluate the reasonableness of the Company's hedging practices for this ACA period.

Staff has no dollar adjustments related to reliability analysis and gas supply planning. Staff's comments and recommendations regarding this area are discussed within the Reliability Analysis and Gas Supply Planning section of the memorandum.

Staff has no adjustments related to hedging. Staff's comments and recommendations regarding hedging practices are addressed in the Hedging section of the memorandum.

At this time, Staff has determined certain gas cost accounting adjustments as shown in the August 31, 2013, ending ACA balances in the table below.

An over-recovery reflects an amount that is owed to the customer by the Company and is shown as a negative number. An under-recovery is an amount that is owed to the Company by its customers and is shown in the table below as a positive number. The chart below shows Ameren Missouri's and Staff's calculations of the Company's ACA balances. Staff adjusted Ameren Missouri's calculations to reflect Staff's adjustments from the previous 2011-2012 ACA case (GR-2013-0100), which have not yet been reflected on customers' bills, as well as Staff's adjustments in this case. Staff recommends the Commission establish Ameren Missouri's ending ACA account balances as of August 12, 2013 (the last date of the ACA period under review in this case) as shown below:

	Balances per Ameren Missouri Filing	**Prior Period Staff Adjustments**	**Current Period Staff Adjustments**	**Ending Balances 8/31/13**
Firm Sales ACA	$ 629,370.91	$ (25,745.11)	$143,556.00	$ 747,181.80
Interruptible Sales ACA	$ (106,384.43)	$ (3,980.89)	0	$ (110,365.32)
Rolla System	$ (2,032,960.00)	0	$ (143,556.00)	$ (2,176,516.00)

Additionally, Staff recommends the Commission order the Company to respond to this Staff Recommendation Memorandum within 45 days.

STAFF'S TECHNICAL DISCUSSION AND ANALYSIS

Staff's discussion of its findings is organized into the following five sections:

I. Overview
II. Billed Revenue Error
III. Reliability Analysis and Gas Supply Planning
IV. Hedging
V. Recommendations

Each section explains Staff's concerns and recommendations.

I. OVERVIEW

Ameren Missouri's natural-gas operations are served by the following interstate pipelines: Panhandle Eastern Pipe Line (PEPL), Trunkline (upstream of PEPL), Texas Eastern Transmission Corporation (TETCO), Natural Gas Pipeline Company of America (NGPL), and MoGas Pipeline PEPL serves approximately 103,000 customers in the Jefferson City/Columbia area. TETCO serves approximately 19,000 customers in the Cape Girardeau area. NGPL serves approximately 1,700 customers in the Marble Hill area. PEPL and MoGas serve approximately 3,800 customers in the Rolla, Salem, and Owensville area.

II. BILLED REVENUE ERROR

The ACA rate is calculated by comparing the Company's billed revenues to its actual gas costs for the ACA period. During the 2012/2013 ACA period, Staff found the Company's ACA filing contained a billed revenue error for both its state-wide ACA and its Rolla area ACA. This $143,556 error understated the Rolla billed revenue and overstated the billed revenue for the state-wide ACA by an equal amount. To correct this error, Staff recommends an adjustment to increase the Rolla ACA over-recovery balance in the amount of $143,556 with a corresponding adjustment to increase the state-wide ACA under-recovery balance in the amount of $143,556.

III. RELIABILITY ANALYSIS AND GAS SUPPLY PLANNING

Reliability Analysis and Gas Supply Plan Review

As a regulated gas corporation providing natural gas service to Missouri customers, the Local Distribution Company (LDC) is responsible for: 1) conducting reasonable long-range supply planning, and 2) the decisions resulting from that planning. One purpose of the ACA process is to review the Company's planning for gas supply, transportation, and storage to meet its customers' needs. For this analysis, Staff reviewed the LDC's plans and decisions regarding estimated peak day requirements and the capacity levels to meet those requirements, peak day reserve margin and the rationale for this reserve margin, and natural gas supply plans for various weather conditions.

Staff has no proposed financial adjustments for the 2012/2013 ACA period related to Reliability Analysis and Gas Supply Planning.

Staff's review for the Ameren Missouri service areas produced the following comments and concerns:

1. Lost and Unaccounted for Gas: Rolla Area

   Nationally, there is growing regulatory concern and attention being paid to the issue of lost and unaccounted (L&U) natural gas.[2] In 2013, the National Regulatory Research Institute (NRRI) conducted a survey of state utility commissions to determine current regulatory practices regarding L&U gas.[3] This study summarized the regulatory concerns, including higher purchased gas costs for customers and safety. The NRRI grouped the response of surveys results received from 41 state commissions into the following categories:

   - Commissions devoting little effort to reviewing L&U allowing cost recovery with minimal oversight;
   - Commissions placing caps on allowed cost recovery or applying an explicit incentive mechanism; and
   - Commissions that routinely scrutinize levels of L&U gas to determine cost recovery or identify potential safety or other problems. These Commissions tend to act when levels of L&U are abnormal or deviate far from historical averages.

   The NRRI study cautioned against comparing L&U percentages across utilities at a given point in time for determining cost recovery and utility prudence, as it could lead to inappropriate action. The study said the best benchmark arguably comes from tracking an individual utility's L&U percentage over time.

   In this case, Ameren Missouri provided monthly Gas Usage and Supply (GUS) reports for each system by take point, organized by pipeline supplier. Staff reviewed this information and requested additional information regarding eight specific take points (Rolla, Blackwater, Rocheport, Wellsville, Clark, Center, Laddonia, and New London). The Company responded by submitting historical L&U trend plots for these eight systems from the period of January 2011 through December 2013. In seven (7) of the eight (8) trend plots, there did not appear to be an increasing trend for L&U over time, and in some cases L&U may have been decreasing over time.

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[2] "More study needed on lost and unaccounted for gas: think tank," Washington, Platts April 5, 2013. http://www.platts.com/latest-news/natural-gas/washington/more-study-needed-on-lost-and-unaccounted-for-7689865.

[3] *Lost-and-Unaccounted-for Gas: State Utility Commission Practices*, Ken Costello, NRRI, November 17, 2013. http://www narucmeetings.org/Presentations/Presentation-on-LAUF-Gas%20-NARUC-Gas-Subcommittee-November-17-2013-Costello.pdf.

For the Rolla area trend plot, however, there is some evidence of an increasing trend. Between January 2011 and April 2013, the sum of current-year unaccounted for volumes rose from -7,037 to +39,438 thousand cubic feet (Mcf)[4]. The 12-month L&U for Rolla reported in the 2012/2013 ACA was 8.3 percent (as compared to 2.75 percent for the Company overall). The Company explained that through its on-going investigations of the Rolla take-point, the Company determined that an error had been made in its calculation of the L&U values at this take-point. The Company states in its May 13, 2014 response that this error has been corrected. Staff agrees that the nature of this error was such that the amount of L&U gas could have been over stated for the Rolla area, and that the effect would have been cumulative in the calculated sum of current year L&U . If this is the case, now that the error has been corrected the sum of the current year L&U should be expected to decrease over time. Staff recommends that the Company continue to monitor L&U gas and take corrective actions, if appropriate, in the Rolla area.

2. Storage Ratchets and Reserve Margin for Cape Girardeau Service Area (TETCO)

Following the winter of 2012/2013, the Company retired its propane-air peaking facility which could have provided 4,600 MMBTU/day during a peak day event. The Company added 2,000 MMBTU/day of pipeline transportation capacity. This reduced the overall available resources to the Cape Girardeau area beginning with the 2013/2014 winter.

Staff is concerned that going forward, there will be less capacity available to meet peak day demand in the Cape Girardeau service area. Peak day capacity for the Cape Girardeau area has historically consisted of a combination of transportation contracts on Texas Eastern Transmission Corporation (TETCO), the propane-air peaking facility and two delivered storage[5] contracts. When considering capacity available to serve the Cape Girardeau area on a peak day, the ratchets[6] on the storage contracts must be considered. These ratchets are limits imposed by the storage contracts which reduce the Maximum Daily Withdrawal Quantity (MDWQ) as a function of storage inventory (e.g., when the storage inventory drops below a certain level, the MDWQ decreases). Because these are delivered storage contracts, as the Company withdraws storage during the winter and the

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[4] One (1) thousand cubic feet (mcf) of natural gas = approximately one (1) Dth (dekatherm) = approximately 10 therms = approximately one (1) Million British Thermal Units (MMBTU). Note: the exact conversion of units which represent the heating value of a fuel (e.g., Dth, therms, MMBTU) to units representing volumetric quantities (e.g., cubic feet) depends on the heating (caloric) content of the natural gas. The heating value can vary depending on the gas source. Energy Information Administration (EIA) reports that the average heat content in 2011 for residential, commercial and industrial sectors was approximately 1,023 BTU/Cubic Foot, which would correspond to one (1) Dth = 0.977 Mcf.

[5] Storage service may either be combined with transportation (delivered storage) or may be contracted separately from transportation. A delivered storage type contract includes transportation of the gas withdrawn from storage to a delivery point specified in the customer's contract. If the storage contract does not include transportation services, the customer would need to provide separately for transportation of the withdrawn gas.

[6] Ratchets means the injection and/or withdrawal rates are reduced as a function of inventory level. An example of withdrawal ratchets would be: 1) For storage inventory >75% and ≤100% full, MDWQ = 1,000 MMBTU/day, 2) For storage inventory > 50% and ≤ 75% full, MDWQ = 800 MMBTU/day, 3) For storage inventory ≤ 50% full, MDWQ = 500 MMBTU/day.

storage inventory decreases, these ratchets will begin to apply and will decrease the capacity available to meet peak day demand.

Staff evaluated the effect that the reduction in total capacity beginning in 2013/2014[7] could have on the Company's reserve margin[8] using the information available: the Company's 2012/2013 storage withdrawal plans and its 2010 demand study of the Cape Girardeau area. Staff considered the potential impacts the storage ratchets could have on the Company's expected reserve margin for the winter of 2013/2014, as shown in the table below:

Description	Staff Estimated Value for 2013/2014 Winter			
	Company's Peak Day Design (DR 74)	Capacity after 1st storage ratchet	Capacity after 2nd storage ratchet	Capacity after 3rd storage ratchet
Company's Estimate Firm Peak Day Requirement (not considering variability of peak day estimate)	** ____ **	** ____ **	** ____ **	** ____ **
Total Capacity on Transportation Only Contracts	** ____ **	** ____ **	** ____ **	** ____ **
Delivered Storage (SS-1 400211)	** __ **	** __ **	** __ **	** __ **
Delivered Storage (SS-1 400237)	** __ **	** __ **	** __ **	** __ **
Total Firm Capacity	** ____ **	** ____ **	** ____ **	** ____ **
Capacity Release[9]	** ____ **	** ____ **	** ____ **	** ____ **
Total Available Capacity[10]	** ____ **	** ____ **	** ____ **	** ____ **
Reserve[11]	** __ **	** __ **	** __ **	** ____ **
Reserve Margin[12]	** ____ **	** __ **	** __ **	** ____ **

Because the delivered storage contracts could have reduced available daily withdrawals in February, Staff will review the Company evaluation of the effect of the storage ratchets on

[7] Reduction due to replacing 4,600 propane-air capacity with 2,000 MMBTU transportation contract.
[8] Reserve margin is calculated as the total firm capacity available for peak day minus the peak day estimate divided by the peak day estimate. If a Company had exactly enough capacity as its peak day estimate, the reserve margin is 0 percent. A positive reserve margin indicates the Company has more than the minimum required capacity to meet its peak day demand estimate. A negative reserve margin indicates the Company does not have sufficient capacity to meet its peak day demand estimate.
[9] This is the capacity released to schools participating in the Missouri School Transportation Program, which is essentially non-recallable released capacity because the Company's tariff states that the Company will not recall such capacity unless requested by the school or by the school's agent. This does not include capacity released on a fully recallable basis, which would be available to the Company on a peak day if needed.
[10] Total available capacity is total firm capacity minus capacity released on a non-recallable basis.
[11] Reserve is calculated as available firm capacity minus the peak day forecast.
[12] Reserve margin is calculated as reserve divided by peak day, multiplied by 100 percent.

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reserve margin for February for its peak day planning beginning in 2013/2014, the year that the Company reduced its capacity.

IV. HEDGING

The Staff reviewed Ameren Missouri's hedging program. The Company's goal is to hedge prices to reduce market price volatility. In particular, Ameren Missouri's stated objective is to create a forward gas supply portfolio and to dollar-cost-average gas supply prices to mitigate price volatility for the PGA sales customers, among other objectives. The current planning horizon for gas supply purchases and price hedging is 13 seasons or six and one-half years. Gas supply transactions and price hedges for this period are phased in, based on factors including current futures prices, availability of gas supply, as well as general market conditions.

Ameren Missouri receives regular natural-gas market reports from energy and financial firms and regular market reports and assessments. Staff reviewed Ameren Missouri's hedging practices for the winter months, November 2012 through March 2013. The Company's hedging implementation plan is to protect approximately ** _____ ** percent of normal winter demand requirements against market price volatility for the three Ameren Missouri systems, PEPL-UE, TETCO-UE and NGPL-UE. The price protection, including storage, comes from financial natural gas swaps, costless collars and options for PEPL-UE, though only storage was utilized for TETCO-UE and NGPL-UE. The financial hedges were placed between late April 2009 and early October 2012 for the winter heating season of November 2012 through March 2013. These resulted in ** __ ** percent hedged overall for Ameren, based on actual delivered volumes for the winter months, and ** __ ** percent based on normal volumes for the winter months.[13]

Staff reviews the prudence of a company's decision-making based on what the company knew, or reasonably could have known, at the time it made its hedging decisions. A utility's hedging planning should be flexible enough to incorporate changing market circumstances. A company should evaluate its hedging strategy in response to changing market dynamics and consider how much the existing hedging strategy actually benefits its customers while balancing market price risk. For example, a company should continue to evaluate its current strategy of financially hedging summer storage injections regarding potentially less percentage coverage and using more cost-effective financial instruments under the current market where the market prices have become relatively less volatile.

In its evaluation of the volumes hedged using options, Ameren Missouri "delta" adjusts the volumes of its option positions. "Delta hedging" in general is a process of evaluating the effectiveness of a hedge by examining the relationship (the "delta") between the price of the

[13] Although the costs of hedging are spread across the three systems, operational impacts of the hedging may affect each system differently. PEPL-UE and TETCO-UE were ** __ ** percent and ** __ ** percent hedged, respectively, while NGPL-UE was ** __ ** percent hedged for November 2012 through March 2013 based on actual delivered gas. PEPL UE and TETCO-UE were ** __ ** percent and ** __ ** percent hedged based on normal volumes. For NGPL-UE, it was ** __ ** percent hedged based on normal volumes. Since there is one system-wide PGA rate, the specific regional differences are averaged to all systems.

hedging instrument and the price of the underlying commodity, with the goal of limiting fluctuations in the value of hedging instruments as the price of the underlying commodity (e.g., natural gas) changes. However, Staff is concerned that Ameren Missouri's use of delta hedging techniques may limit consideration of out-of-the-money call options, which may be cost-effective hedging instruments since the out-of-the-money call options may have a strike price that affords significant protection near current market prices but at a reduced premium cost. It appears that the Company's delta hedging approach would greatly limit out-of-the money call options as a possible hedge tool. However, Staff notes that the Company indicated during recent updates that it would re-consider the delta hedging in response to Staff's concern and it is Staff understanding that this change is being implemented. It is also noted that Ameren Missouri is using more option-based strategies in this ACA period.

Finally, Staff recommends the Company continue to assess and document the effectiveness of its hedges for the 2013-2014 ACA period and beyond. The analysis should include identifying the benefits/costs based on the outcomes from the hedging strategy; and evaluating any potential improvements on the future hedging plan and its implementation. During various proceedings in the past, at Staff's request, Ameren Missouri has provided a useful summary of how the Company's hedges (swaps) have performed against market pricing, i.e., the impact of purchases without the hedges. The Company has provided that analysis, which looks back over an extensive historical period. This hedge performance or mark-to-market summary is helpful in seeing the long term financial impact of the hedge program. The Staff recommends that Ameren Missouri continue to develop this summary in future ACA periods.

V. RECOMMENDATIONS

Staff recommends the following accounting adjustments as reflected in the August 31, 2013, ending ACA balances shown in the table below.

An over-recovery reflects an amount that is owed to the customer by the Company and is shown as a negative number. An under-recovery is an amount that is owed to the Company by its customers and is shown in the table below as a positive number.

	Balance per Ameren Missouri Filing	**Prior Period Staff Adjustments**	**Current Period Staff Adjustments**	**Staff Recommended Ending Balances 8/31/12**
Firm Sales ACA	$ 629,370.91	$ (25,745.11)	$143,556.00	$ 747,181.80
Interruptible Sales ACA	$ (106,384.43)	$ (3,980.89)	0	$ (110,365.32)
Rolla System	$ (2,032,960.00)	0	$ (143,556.00)	$ (2,176,516.00)

1. Staff has no dollar adjustments related to Reliability Analysis and Gas Supply Planning. However, Staff recommends the Commission order Ameren Missouri to respond to Staff's comments and recommendation in the Reliability Analysis and Gas Supply Planning section.

2. Staff also recommends the Commission order Ameren Missouri to respond to the concerns / comments / recommendations expressed by Staff in the Hedging Section. Staff has no dollar adjustments related to Hedging.

3. Staff also recommends the Commission to order Ameren Missouri to respond to the accounting adjustments reflected in the above table and to the concerns, comments, and the recommendations contained herein.

4. Staff recommends the Commission order Ameren Missouri to submit its response within 45 days.

BEFORE THE PUBLIC SERVICE COMMISSION

OF THE STATE OF MISSOURI

In the Matter of Union Electric Company d/b/a	)	
Ameren Missouri's 2012-2013 ACA Audit	)	File No. GR-2014-0061

AFFIDAVIT OF KWANG Y. CHOE, PHD

STATE OF MISSOURI	)	
	)	ss.
COUNTY OF COLE	)	

Kwang Y. Choe, PhD. being of lawful age, on his oath states: that as a Regulatory Economist II in the Procurement Analysis Unit of the Utility Services Department in the Regulatory Review Division, he has participated in the preparation of the foregoing memorandum consisting of 9 pages to be presented in the above case; that he has knowledge of the matters set forth in the Memorandum pertaining to *Hedging*; and that such matters are true and correct to the best of his knowledge and belief.

Kwang Y. Choe

Kwang Y. Choe, PhD

Subscribed and sworn to before me this 17th day of December, 2014.

D. SUZIE MANKIN
Notary Public - Notary Seal
State of Missouri
Commissioned for Cole County
My Commission Expires: December 12, 2016
Commission Number: 12412070

D Suzie Mankin

Notary Public

BEFORE THE PUBLIC SERVICE COMMISSION

OF THE STATE OF MISSOURI

In the Matter of Union Electric Company d/b/a)
Ameren Missouri's 2012-2013 ACA Audit) File No. GR-2014-0061

AFFIDAVIT OF ANNE M. CROWE

STATE OF MISSOURI)
) ss.
COUNTY OF COLE)

Anne M. Crowe, being of lawful age, on her oath states: that as a Utility Regulatory Auditor IV in the Procurement Analysis Unit of the Utility Services Department in the Regulatory Review Division, she has participated in the preparation of the foregoing memorandum consisting of 9 pages to be presented in the above case; that she has knowledge of the matters set forth in the Memorandum pertaining to *Billed Revenue Error;* and that such matters are true and correct to the best of her knowledge and belief.

Anne M. Crowe
Anne M. Crowe

Subscribed and sworn to before me this 17th day of December, 2014.

D. SUZIE MANKIN
Notary Public - Notary Seal
State of Missouri
Commissioned for Cole County
My Commission Expires: December 12, 2016
Commission Number: 12412070

D Suzie Mankin
Notary Public

BEFORE THE PUBLIC SERVICE COMMISSION

OF THE STATE OF MISSOURI

In the Matter of Union Electric Company d/b/a	)	
Ameren Missouri's 2012-2013 ACA Audit	)	File No. GR-2014-0061

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AFFIDAVIT OF KATHLEEN A. MCNELIS

STATE OF MISSOURI	)	
	)	ss.
COUNTY OF COLE	)	

Kathleen A. McNelis, being of lawful age, on her oath states: that as a Utility Engineering Specialist III in the Procurement Analysis Unit of the Utility Services Department in the Regulatory Review Division, she has participated in the preparation of the foregoing memorandum consisting of 9 pages to be presented in the above case; that she has knowledge of the matters set forth in the Memorandum pertaining to *Reliability Analysis and Gas Supply Planning*; and that such matters are true and correct to the best of her knowledge and belief.

Kathleen A. McNelis

Kathleen A. McNelis

Subscribed and sworn to before me this 17th day of December, 2014.

D. SUZIE MANKIN
Notary Public - Notary Seal
State of Missouri
Commissioned for Cole County
My Commission Expires: December 12, 2016
Commission Number: 12412070

D Suzie Mankin

Notary Public