MEMORANDUM

TO: Missouri Public Service Commission Official Case File
File No. GR-2018-0346, Union Electric Company, d/b/a Ameren Missouri

FROM: Anne M. Crowe, Utility Regulatory Auditor IV – Procurement Analysis
Kwang Y. Choe, Ph.D., Regulatory Economist – Procurement Analysis
Jacob R. Robinett, Utility Engineering Specialist III – Procurement Analysis

/s/ David M. Sommerer 12-13-19
Project Coordinator / Date

/s/ Robert S. Berlin 12-13-19
Staff Counsel's Office / Date

/s/ Keenan B. Patterson, PE, 12-13-19
Utility Regulatory Engineer II/ Date

SUBJECT: Staff Recommendation in File No. GR-2018-0346, Union Electric Company, d/b/a Ameren Missouri, 2017-2018 Actual Cost Adjustment

DATE: December 13, 2019

EXECUTIVE SUMMARY

On October 18, 2018, Union Electric Company d/b/a Ameren Missouri ("Ameren Missouri" or "Company") filed its Actual Cost Adjustment ("ACA") for the 2017-2018 period. This filing revises the ACA rates based upon the Company's calculations of the ACA balances.

The Procurement Analysis Department Staff ("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.

For this ACA period, for gas cost recovery, Ameren Missouri had a single Purchased Gas Adjustment ("PGA")/ACA rate division plus an incremental one specifically applicable to the customers in the Rolla service area. In Ameren Missouri's most recent rate case (Case No. GR-2019-0077), the Rolla PGA/ACA area was combined, effective September 1, 2019. Ameren Missouri customers served from MoGas Pipeline ("MoGas") continued to pay an additional incremental PGA and ACA charge for MoGas transportation until the September 1, 2019 effective date when the PGA/ACA rates were combined into the one state-wide PGA/ACA division.

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,

- 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. However, 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. However, Staff's comments and recommendations regarding hedging practices are addressed in the Hedging section of the memorandum.

Staff has proposed no dollar adjustments to the Company's ACA account balances filed October 18, 2018. Staff recommends the Commission issue an order directing the Company to establish the ACA account balances shown in the table below to reflect the under or (over)-recovery balances as of August 31, 2018.

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

	Balances per Ameren Missouri Filing	**Current Period Staff Adjustments**	**Staff Recommended Ending Balances 8/31/18**
Firm Sales ACA	$ (6,969,149)	$ 0	$ (6,969,149)
Interruptible Sales ACA	$ (26,922)	$ 0	$ (26,922)
Rolla System	$ (81,820)	$ 0	$ (81,820)

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

STAFF'S TECHNICAL DISCUSSION AND ANALYSIS

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

I. Overview
II. Reliability Analysis and Gas Supply Planning
III. Gas Cost
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 Company, LP ("PEPL"), Trunkline (upstream, or prior to, PEPL), Texas Eastern Transmission, LP ("Texas Eastern" or "TETCO"), Natural Gas Pipeline Company of America, LLC ("NGPL"), Southern Star Central Gas Pipeline, Inc. ("SSC") and MoGas Pipeline ("MoGas"). PEPL and SSC serve approximately 106,500 customers in the Jefferson City/Columbia area. TETCO serves approximately 18,600 customers in the Cape Girardeau area. NGPL serves approximately 1,500 customers in the Marble Hill area. PEPL and MoGas serve approximately 3,800 customers in the Rolla, Salem, and Owensville area.

II. RELIABILITY ANALYSIS AND GAS SUPPLY PLANNING

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 Ameren Missouri'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 2017/2018 ACA period related to Reliability Analysis and Gas Supply Planning. Staff's review of the Company's service areas produced the following comments and concerns:

A. Storage Planning

The Company's storage plans do not allow for the possibility of warmer weather in November. For example, the storage plans provided in response to Data Request No. 0054 for the PEPL Service Area estimate storage at 99% at the end of October. Staff is concerned that if warmer weather was experienced in the first half of November that the Company may not have the flexibility it needs to put any excess gas into storage due to warmer weather. Staff recommends the Company adjust its ending October planned balances to accommodate the potential for warmer weather in the first half of November.

B. Reserve Margins

<u>Reserve Margin – Panhandle – Columbia/Jefferson City Region</u>

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** Staff encourages the Company to evaluate its capacity needs for the Columbia region on an annual basis. The reserve margin is a comparison of the contracted pipeline transportation capacity for a service area to the calculated peak demand. A small or negative reserve margin means the estimated peak demand is approaching or has exceeded the pipeline transportation capacity to that service area.

<u>Panhandle Eastern and MoGas Pipeline Reserve Margin – Rolla System</u>

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C. Design Flow Modeling

In light of the steps Ameren has needed to take to assure supply to Wentzville during especially cold events in recent winters, Staff has concerns about the Ameren's capacity to receive gas at city gate serving Wentzville and distribute gas in that system. The Company uses modeling software for flow analysis of each of its systems. This software allows the company to conduct flow analysis of the distribution system including critical load points and allows the Company to evaluate alternatives to address the system's capacity limitations. The Company is currently utilizing a consulting firm, Total Infrastructure Management Systems, to verify the flow analysis of the Wentzville distribution system. Staff recommends that the Company continue to develop the modeling system for the TETCO, NGPL, and PEPL systems, and that it closely monitor the capacity of city gates and its distribution system in the Wentzville area to assure it can provide adequate gas in very cold conditions. The Staff has recently been informed by the Company of its intent to install a Liquefied Natural Gas (LNG) facility in the Wentzville area to serve as a cold-day supply supplement to its Wentzville supplies.

III. GAS COST

During September and October 2017, Staff found the Company used an outdated FERC authorized storage injection rate in calculating the cost of its natural gas inventory with Dominion Energy

Transmission, Inc. Although the amount of this error was immaterial for this period, using incorrect pipeline rates has the potential to misstate gas costs. Staff recommends the company review its procedures to ensure it regularly updates the interstate pipeline rates used in the calculation of its gas in inventory.

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 (a portfolio that looks at price risk in future periods) and to dollar-cost-average (even-out the placement of hedges) 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 thirteen 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. The Staff reviewed Ameren Missouri's hedging practices for the winter months, November 2017 through March 2018. Ameren Missouri'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 use of financial natural gas swaps and costless collars for PEPL-UE. A natural gas "swap" is a financial instrument that replaces variable pricing with fixed pricing. A "costless collar" is a financial instrument that sets a floor and ceiling on how high or how low the gas price will be. By setting a floor, the cost of the price protection ceiling can be reduced.[1] Storage and swaps were utilized for TETCO-UE. The financial hedges were placed between mid-June 2013 and late-October 2017 for the winter heating season of November 2017 through March 2018. These resulted in ** ____ ** percent hedged overall for Ameren Missouri, based on actual delivered volumes for the winter months, and ** ____ ** percent based on normal volumes for the winter months.[2]

[1] It should be noted that sometimes the trade-off between lower price ceilings and higher price floors does result in a net premium cost. To the extent that there are no net premium costs the financial instrument is truly a costless collar in terms of premium costs for the options.

[2] 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 ** ____ ** and ** ____ ** hedged, respectively, for November 2017 through March 2018 based on actual delivered gas. PEPL-UE and TETCO-UE were ** ____ ** and ** ____ ** hedged based on normal volumes. Storage was utilized in the past for NGPL-UE but the storage contract expired in March 2015. Since there is one system-wide PGA rate, the specific regional differences are averaged to all systems.

Staff reviews the prudence of a Company's decisions based on what the Company knew, or should have reasonably known, at the time it made its hedging decisions. The Company's hedging planning should be flexible enough to incorporate changing market circumstances. The Company should evaluate its hedging strategy in response to changing market dynamics as to how much the existing hedging strategy actually benefits its customers while balancing market price risk. For example, the 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. Additionally, the Company should carefully plan for the price protected volumes based on the reasonably forecasted normal requirements consistent with its hedging goal.

V. RECOMMENDATIONS

Staff recommends the Commission issue an order directing the Company to establish the ACA account balances shown in the table below to reflect the under or (over)-recovery balances as of August 31, 2018.

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

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

3. Staff also requests the Commission to order Ameren Missouri to respond to all of the concerns, comments, and the recommendations contained herein 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 Purchased Gas Adjustment Tariff Filing	)))	Case No. GR-2018-0346

AFFIDAVIT OF ANNE M. CROWE

STATE OF MISSOURI	)	
	)	ss.
COUNTY OF COLE	)	

COMES NOW ANNE M. CROWE 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.

Anne M Crowe

ANNE M. CROWE

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 10th day of December 2019.

D. SUZIE MANKIN
Notary Public - Notary Seal
State of Missouri
Commissioned for Cole County
My Commission Expires: December 12, 2020
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 Purchased Gas Adjustment Tariff Filing	)))	Case No. GR-2018-0346

AFFIDAVIT OF KWANG Y. CHOE, PhD

STATE OF MISSOURI COUNTY OF COLE	)))	ss.

COMES NOW KWANG Y. CHOE, PhD 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.

Kwang Y. Choe

KWANG Y. CHOE, PhD

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 10th day of December 2019.

D. SUZIE MANKIN
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OF THE STATE OF MISSOURI

In the Matter of Union Electric Company d/b/a Ameren Missouri's Purchased Gas Adjustment Tariff Filing	)))	Case No. GR-2018-0346

AFFIDAVIT OF JACOB R. ROBINETT

STATE OF MISSOURI)
) ss.
COUNTY OF COLE)

COMES NOW JACOB R. ROBINETT 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.

Jacob R. Robinett

JACOB R. ROBINETT

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 10th day of December 2019.

D. SUZIE MANKIN
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State of Missouri
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Notary Public