

## MEMORANDUM

**TO:** Missouri Public Service Commission Official Case File  
Case No. GR-2019-0124, The Empire District Gas Company

**FROM:** Catherine F. Lucia, Regulatory Auditor IV – Procurement Analysis  
Kwang Y. Choe, PhD, Regulatory Economist – Procurement Analysis  
Jacob R. Robinett, Utility Engineering Specialist III – Procurement Analysis

/s/ David M. Sommerer 12/12/19                      /s/ Karen Bretz 12/12/19  
Project Coordinator / Date                              Staff Counsel's Office / Date

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

**SUBJECT:** Staff Recommendation in Case No. GR-2019-0124,  
The Empire District Gas Company 2017-2018 Actual Cost Adjustment Filing

**DATE:** December 12, 2019

### EXECUTIVE SUMMARY

On November 2, 2018, The Empire District Gas Company (“Empire” or “Company”) filed its Actual Cost Adjustment (ACA) for the 2017-2018 annual period for rates to become effective December 1, 2018. This filing revised the ACA rates based upon the Company’s calculations of the ACA balance for the 2017-2018 period. The Commission authorized merger of The Empire District Electric Company and Liberty Sub Corp. in Case No. EM-2016-0213 on September 7, 2016.

The Procurement Analysis Department (“Staff”) of the Missouri Public Service Commission 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. An over-recovery, represented by a negative ACA balance, must be returned to the Company’s customers; an under-recovery, represented by a positive ACA balance, must be recovered from customers.

Staff conducted the following analyses:

1. A review of billed revenue compared with actual gas costs;
2. A reliability analysis including a review of estimated peak day requirements and the capacity levels needed to meet these requirements;
3. A review of the Company’s gas purchasing practices to evaluate the prudence of the Company’s purchasing decisions for this ACA period; and

4. A hedging review to evaluate the reasonableness of the Company’s hedging practices for this ACA period.

Based on its review, Staff recommends the following adjustments to the Company’s filed ACA balances:

<b>Description + Under-recovery (-) Over-recovery</b>	<b>8-31-18 Ending Balances Per Filing</b>	<b>Staff Adjustments For 2017-2018 ACA</b>	<b>8-31-18 Staff Recommended Ending Balances</b>
<b>South System: Firm ACA</b>	(\$817,183)	\$0	(\$817,183)
<b>Interruptible ACA</b>	\$0	\$0	\$0
<b>Take-or-Pay (TOP)</b>	\$0	\$0	\$0
<b>Transition Cost (TC)</b>	\$0	\$0	\$0
<b>Refund</b>	\$0	\$0	\$0
<b>North System: Firm ACA</b>	\$372,861	\$3,000 <sup>1</sup>	\$375,861
<b>Interruptible ACA</b>	\$0	\$0	\$0
<b>Take-or-Pay (TOP)</b>	\$0	\$0	\$0
<b>Transition Cost (TC)</b>	\$0	\$0	\$0
<b>Refund</b>	\$0	\$0	\$0
<b>Northwest System: Firm ACA</b>	(\$178,540)	(\$945) <sup>2</sup>	(\$179,485)
<b>Interruptible ACA</b>	\$0	\$0	\$0
<b>Take-or-Pay (TOP)</b>	\$0	\$0	\$0
<b>Transition Cost (TC)</b>	\$0	\$0	\$0
<b>Refund</b>	\$0	\$0	\$0

<sup>1</sup> This was a LV Cashouts data entry error for the month of January 2018. The entry for the North System Tracker was \$(39,926.01), but it should have been \$(36,926.01). Data Request No. 0035, Empire Electronic Binders; “Cashouts Folder” 0118 Prod – Cashouts per FSX017\_Gas\_MonthlyCompCrg\_2018-02.

<sup>2</sup> This is storage transportation costs not included in the Northwest System Tracker column labeled “Total Storage” provided in response to Data Request No. 0001. The worksheet attached as Appendix B provides support for this adjustment.

The individual adjustments recommended by Staff are discussed in greater detail in the sections below. Additionally, Staff makes recommendations which are discussed in the Reliability Analysis and Gas Supply Planning section, and the Hedging section of the memorandum.

### **STAFF’S TECHNICAL DISCUSSION AND ANALYSIS**

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

<b>Section No.</b>	<b>Topic</b>	<b>Page</b>
I	Overview	3
II	Billed Revenue and Actual Gas Costs	3
III	Reliability Analysis and Gas Supply Planning	4
IV	Hedging	5
V	Recommendations	7

Each section explains Staff’s concerns and recommendations.

#### **I. OVERVIEW**

Empire separates its gas operations into a South System, a North System, and a Northwest (NW) System.

The larger communities served on the South System include Sedalia, Marshall, Nevada, Clinton, Higginsville, Lexington, and Richmond in southwest and central Missouri and Platte City near Kansas City.

On the North System, the larger communities include Chillicothe, Brookfield, Marceline, and Trenton in north-central Missouri.

The largest community on the NW System is Maryville, in northwestern Missouri. Southern Star Central Gas Pipeline (SSCGP) serves customers on the South System. Panhandle Eastern Pipe Line Company (“PEPL”) serves customers on the North System while ANR Pipeline Company (“ANR”) serves customers on the NW System.

During this ACA period there was an average of 28,252 firm sales customers on the South System, 9,241 on the North System, and 5,575 on the NW System. There were no interruptible sales customers during this ACA period.

## **II. BILLED REVENUE AND ACTUAL GAS COSTS**

Staff reviewed Empire's purchasing practices during this period and recommends the following adjustments based upon that review.

During review of the Tracker<sup>3</sup> provided for the North System, Staff discovered a data entry error related to the total amount of cashouts<sup>4</sup> for the month of December 2017. The amount entered in the Tracker was (\$39,926.01), but the correct amount found in supporting documentation provided through Data Request No. 0035 was (\$36,926.01). This error resulted in an understatement of purchased gas costs in the amount of \$3,000.00.

Upon review of the purchased gas invoices and the Tracker provided for the Northwest System, Staff discovered an inconsistency in how the storage injection<sup>5</sup> was recorded in the Tracker. The storage injections were not netted against the storage transportation costs in the Tracker for every month related to this ACA period. This error resulted in an overstatement of storage transportation costs in the amount of \$945.32.

## **III. RELIABILITY ANALYSIS AND GAS SUPPLY PLANNING**

As a gas corporation providing natural gas service to Missouri customers, the Company is responsible for conducting reasonable long-range supply planning and implementing the decisions resulting from that planning. One purpose of the ACA process is to examine the reliability of the Local Distribution Company's (LDC) gas supply, transportation, and storage capabilities. For this analysis, Staff reviews 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's review for Empire's service areas produced the following comments and concerns:

### **Storage Planning**

The Company's storage plans do not allow for flexibility in responding to the possibility of warmer weather than expected in the fall. For example, the storage plans provided in Data Request No. 0085 for the North, Northwest, and South service areas (served by Panhandle Eastern Pipe Line Company, ANR Pipeline Company, and Southern Star Central Gas Pipeline respectively) estimate storage to be at 95% at the end of October. Staff is concerned that if warmer weather is experienced in November that the Company may not have the flexibility it needs to put any excess

---

<sup>3</sup> The "Tracker" contains monthly detail of invoiced purchased gas costs that are used to calculate the Ending ACA Recovery Balance for the ACA period.

<sup>4</sup> Monthly cashout is a method of balancing gas transportation customers' monthly actual use with nominated gas use. If customers nominate more gas than actually used, the utility buys the excess gas from them. If customers use more gas than nominated, they buy the additional gas from the utility.

<sup>5</sup> Gas is injected into storage during periods of low demand resulting in a reduction to storage transportation costs.

gas into storage due to warmer weather. Staff recommends the Company review its ending October planned balances to accommodate a potential warmer fall or winter.

**Reserve Margins**

The reserve margin for the Empire North service area is 31%, and the South service area is 44%. These reserve margins concerned Staff, however, it was determined after consulting with the Company that the North and South service area contracts expired on November 1, 2018, which is outside this review period. The changes to these contracts will be reviewed during the 2018-2019 ACA review. The Company is planning to reduce the transportation volumes of the service areas. The Empire Northwest service area has a reserve margin of 80%, however the contract for this service area is a commodity only contract. Staff encourages the Company to continue to monitor its pipeline contracts and maintain an appropriate reserve margin for each service area. Staff will review Empire’s actions in this regard in future ACA filings.

**IV. HEDGING**

Empire has individual gas supply portfolios for each of its three service areas. Staff’s comments are provided for each.

\*\* \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_ 6 \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_ \*\*

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. The Company’s hedging planning should be flexible enough to incorporate changing market circumstances. The Company should continue to 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 evaluate more cost-effective financial instruments under the current market where the market prices have become relatively less volatile.

6 \*\* \_\_\_\_\_ \*\*

Recently Empire started incorporating call options in its hedging program to supplement the use of swap instruments. Financial swaps are a type of financial instrument that allow the conversion of a floating or variable gas price arrangement into a fixed price arrangement. Since many of Empire’s supply contracts are tied to a floating or variable index price, a swap allows Empire to set a known price for a particular quantity of gas. Call options put a ceiling on prices while allowing participation in downward price movements, albeit at a cost premium for the option. For example, out-of-the-money calls may have a strike price that still affords significant protection near current market prices but at a reduced premium cost. The Company should continue to evaluate the appropriate volumes associated with various hedging instruments going forward.

## V. RECOMMENDATIONS

Staff recommends that the Commission issue an order requiring Empire to:

1. Adjust the balances in its 2017-2018 ACA filing to reflect the ending (over)/under recovery balances for the ACA, TOP, TC, and Refund accounts per the following table:

<b>Description + Under-recovery (-) Over-recovery</b>	<b>8-31-18 Ending Balances Per Filing</b>	<b>Staff Adjustments For 2017-2018 ACA</b>	<b>8-31-18 Staff Recommended Ending Balances</b>
<b>South System: Firm ACA</b>	(\$817,183)	\$0	(\$817,183)
<b>Interruptible ACA</b>	\$0	\$0	\$0
<b>Take-or-Pay (TOP)</b>	\$0	\$0	\$0
<b>Transition Cost (TC)</b>	\$0	\$0	\$0
<b>Refund</b>	\$0	\$0	\$0
<b>North System: Firm ACA</b>	\$372,861	\$3,000	\$375,861
<b>Interruptible ACA</b>	\$0	\$0	\$0
<b>Take-or-Pay (TOP)</b>	\$0	\$0	\$0
<b>Transition Cost (TC)</b>	\$0	\$0	\$0
<b>Refund</b>	\$0	\$0	\$0
<b>Northwest System: Firm ACA</b>	(\$178,540)	(\$945)	(\$179,485)
<b>Interruptible ACA</b>	\$0	\$0	\$0
<b>Take-or-Pay (TOP)</b>	\$0	\$0	\$0
<b>Transition Cost (TC)</b>	\$0	\$0	\$0
<b>Refund</b>	\$0	\$0	\$0

2. Respond to Staff's recommendations in the Billed Revenue and Actual Gas Costs section.
3. Respond to Staff's recommendations in the Hedging section.
4. Respond to Staff's recommendations in the Reliability Analysis and Gas Supply Planning section.
5. Respond to all recommendations included herein within 45 days.

**APPENDIX B**

**HAS BEEN DEEMED**

**CONFIDENTIAL**

**IN ITS ENTIRETY**



BEFORE THE PUBLIC SERVICE COMMISSION

OF THE STATE OF MISSOURI

In the Matter of The Empire District Gas            )  
Company's Purchase Gas Adjustment            )        Case No. GR-2019-0124  
Tariff Filing    )

**AFFIDAVIT OF CATHERINE F. LUCIA**

STATE OF MISSOURI        )  
  )        ss.  
COUNTY OF COLE        )

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


Further the Affiant sayeth not.

  
\_\_\_\_\_  
**CATHERINE F. LUCIA**

**JURAT**

Subscribed and sworn before me, a duly constituted and authorized Notary Public, in and for the County of Cole, State of Missouri, at my office in Jefferson City, on this 12<sup>th</sup> 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

  
\_\_\_\_\_  
Notary Public

**BEFORE THE PUBLIC SERVICE COMMISSION**

**OF THE STATE OF MISSOURI**

In the Matter of The Empire District Gas            )  
Company's Purchase Gas Adjustment            )     Case No. GR-2019-0124  
Tariff Filing    )

**AFFIDAVIT OF KWANG Y. CHOE, PhD**

STATE OF MISSOURI     )  
                                  )     ss.  
COUNTY OF COLE     )

**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, 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 12<sup>th</sup> 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

  
\_\_\_\_\_  
Notary Public

**BEFORE THE PUBLIC SERVICE COMMISSION**  
**OF THE STATE OF MISSOURI**

In the Matter of The Empire District Gas            )  
Company's Purchase Gas Adjustment            )        Case No. GR-2019-0124  
Tariff Filing    )

**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.

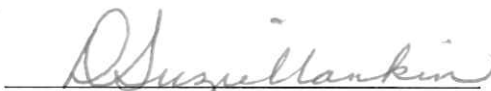
Further the Affiant sayeth not.

  
\_\_\_\_\_  
**JACOB R. ROBINETT**

**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 12<sup>th</sup> 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
--

  
\_\_\_\_\_  
Notary Public