

3. Based on its review, as discussed in detail in the accompanying Staff Recommendation Memorandum, Staff recommends the Commission issue an order requiring Empire to adjust the ACA account balances in its next ACA filing to reflect the adjustments to the Company's filed ACA balances and to reflect the Staff balances for 2015-2016 (ending August 31, 2016) as shown in the table in the "Recommendations" section of the Staff Recommendation Memorandum.

4. In addition to the monetary adjustments referenced above, based on its review Staff has certain recommendations as reflected in the accompanying Staff Recommendation Memorandum regarding the Company's Billed Revenue and Actual Gas Costs; Reliability Analysis and Gas Supply Planning; and Hedging. Staff recommends the Commission order Empire to respond to these recommendations within forty-five (45) days.

WHEREFORE, for the reasons stated above and discussed in detail in the accompanying Staff Recommendation Memorandum, Staff recommends the Commission issue an order directing Empire to respond within 45 days to Staff's recommendations discussed in Sections I through III of Staff's Recommendation Memorandum, and to reflect the adjustments and establish Empire's ending ACA account balances as of August 31, 2016, as shown in the "8-31-16 Staff Recommended Ending Balances" column of the table in the "Recommendations" section of the Staff Recommendation Memorandum.

Respectfully submitted,

/s/ Whitney Payne

Whitney Payne

Legal Counsel

Missouri Bar No. 64078

Attorney for the Staff of the

Missouri Public Service Commission

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CERTIFICATE OF SERVICE

I hereby certify that a true and correct copy of the foregoing was served by electronic mail, or First Class United States Postal Mail, postage prepaid, on this 14th day of December, 2017, to all counsel of record.

/s/ Whitney Payne

MEMORANDUM

TO: Missouri Public Service Commission Official Case File
Case No. GR-2017-0134, The Empire District Gas Company

FROM: David M. Sommerer, Regulatory Manager – Procurement Analysis
Kwang Y. Choe, Ph.D., Regulatory Economist – Procurement Analysis
Jacob R. Robinett, Utility Engineering Specialist III – Procurement Analysis

/s/ David M. Sommerer 12/14/17 /s/ Whitney Payne 12/14/17
Project Coordinator / Date Staff Counsel’s Office / Date

/s/ Derick A. Miles, P.E., 12/14/17
Utility Regulatory Engineer II/ Date

SUBJECT: Staff Recommendation in Case No. GR-2017-0134,
The Empire District Gas Company 2015-2016 Actual Cost Adjustment Filing

DATE: December 14, 2017

EXECUTIVE SUMMARY

On November 1, 2016, The Empire District Gas Company (“Empire” or “Company”) filed its Actual Cost Adjustment (ACA) for the 2015-2016 annual period for rates to become effective November 16, 2016. This filing revised the ACA rates based upon the Company’s calculations of the ACA balance for the 2015-2016 period. The Commission authorized a merger transaction of Empire District Electric in Case No. EM-2016-0213 on September 7, 2016.

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. 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:

- 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 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.

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

Description + Under-recovery (-) Over-recovery	8-31-16 Ending Balances Per Filing	Commission Approved Adjustments prior to 2015-2016 ACA	Staff Adjustments For 2015-2016 ACA	8-31-16 Staff Recommended Ending Balances
South System: Firm ACA	\$505,713	\$12,001	\$0	\$517,714
Interruptible ACA	\$0	\$0	\$0	\$0
Take-or-Pay (TOP)	\$0	\$0	\$0	\$0
Transition Cost (TC)	\$0	\$0	\$0	\$0
Refund	\$0	\$0	\$0	\$0
North System: Firm ACA	\$495,593	(\$13,082)	(\$11,112)	\$471,399
Interruptible ACA	\$0	\$0	\$0	\$0
Take-or-Pay (TOP)	\$0	\$0	\$0	\$0
Transition Cost (TC)	\$0	\$0	\$0	\$0
Refund	\$0	\$0	\$0	\$0
Northwest System: Firm ACA	(\$190,494)	(\$8,397)	\$0	(\$198,891)
Interruptible ACA	\$0	\$0	\$0	\$0
Take-or-Pay (TOP)	\$0	\$0	\$0	\$0
Transition Cost (TC)	\$0	\$0	\$0	\$0
Refund	\$0	\$0	\$0	\$0

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:

Section No.	Topic	Page
I	Overview	3
II	Billed Revenue and Actual Gas Costs	3
III	Reliability Analysis and Gas Supply Planning	4
IV	Hedging	4, 5
V	Recommendations	6

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 Pipeline Company (“PEPL”) serves customers on the North System while ANR Pipeline (“ANR”) serves customers on the NW System. In addition, Cheyenne Plains Gas Pipeline Company (“CPGP”) delivers gas from the Cheyenne Hub located south of Cheyenne, Wyoming to Greensburg, Kansas. CPGP can deliver gas to each of the interstate pipeline systems (SSCGP, PEPL and ANR) that serve Empire’s customers.

During this ACA period there was an average of 28,212 firm sales to customers on the South System, 9,210 on the North System, and 5,515 on the NW System. There were no interruptible sales to customers during this ACA period.

II. BILLED REVENUE AND ACTUAL GAS COSTS

Gas Procurement Practices

Staff reviewed Empire’s purchasing practices during this period and recommends no adjustments based upon that review.

However, one series of adjustments is necessary due to the Commission’s February 16, 2017 order approving ACA balances in Case No. GR-2016-0099. Since the Company’s ACA filing in this case was made in November 2016, the Company did not incorporate certain approved adjustments from the prior ACA case into the filing made in November 2016. These adjustments have been incorporated into the recommended ACA balances.

In addition, Staff noted that the Company had filed a \$335,089 under-recovery balance for the North System’s starting ACA balance as of 8-31-2015. In Case No. GR-2016-0099, the Commission had approved the North System’s ACA balance as of 8-31-2015 at an under-recovery of \$323,977. Staff proposes an \$11,112 adjustment to reflect the Commission’s

approved balance for the North System from Case No. GR-2016-0099. That adjustment has the effect of decreasing the under-recovery ending balance for the North System.

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 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 the Empire District Gas company service areas produced the following comments and concerns:

Storage Planning

The Company's storage plans do not allow for the flexibility of warmer weather in the fall. For example, the storage plans provided in DR56 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 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 a 29%, and for the South service area is 36%. These reserve margins were of concern to Staff, however, it was determined after consulting with the company that the contracts are set to expire on November 1, 2018, for the North and South service area. The company is planning to reduce the transportation capacity 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 and therefore the higher reserve margin is not impacted with additional costs. Staff encourages the Company to continue to monitor its pipeline contracts and maintain an appropriate reserve margin for each service area.

IV. HEDGING

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

Empire's hedging planned target was at 70% - 90% of normal winter requirements while actual overall coverage was 81% based on the 2015/2016 normal winter volumes.

For the South System, Empire hedged about 74% of the normal winter requirements through a combination of storage (37%), and financial instruments (37%). Empire purchased the financial instruments between January 2015 and September 2015.

For the North and NW Systems, Empire depended on storage for its hedging strategies. For the North System, Empire hedged all of the normal winter requirements by using storage, while about 87% of the NW System's normal winter requirements came from storage.

The 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.

Recently Empire started incorporating call options in its hedging program to supplement the use of swap instruments, though the Company utilized swaps for this ACA period. 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 the cost of a 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.

Finally, Staff recommends the Company continue to assess and document the effectiveness of its hedges for the 2016-2017 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. For example, the Company should provide a summary of how the Company's financial hedges have performed against market pricing. This would be useful for understanding the impact of purchases without the hedges. This hedge performance or mark-to-market summary conducted over an extensive historical period is helpful in seeing the long term financial impact of the hedge program. Because of the need to better understand the impact of the hedging program, Staff recommends that Empire develop this summary in future ACA periods.

V. RECOMMENDATIONS

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

1. Adjust the balances in its 2015-2016 ACA filing to reflect the ending (over)/under recovery balances for the ACA, TOP, TC, and Refund accounts per the following table:

TABLE 1

Description + Under-recovery (-) Over-recovery	8-31-16 Ending Balances Per Filing (A)	Commission Approved Adjustments prior to 2015-2016 ACA (A-1)	Staff Adjustments For 2015-2016 ACA	8-31-16 Staff Recommended Ending Balances
South System: Firm ACA	\$505,713	\$12,001	\$0	\$517,714
Interruptible ACA	\$0	\$0	\$0	\$0
Take-or-Pay (TOP)	\$0	\$0	\$0	\$0
Transition Cost (TC)	\$0	\$0	\$0	\$0
Refund	\$0	\$0	\$0	\$0
North System: Firm ACA	\$495,593	(\$13,082)	(\$11,112) (B)	\$471,399
Interruptible ACA	\$0	\$0	\$0	\$0
Take-or-Pay (TOP)	\$0	\$0	\$0	\$0
Transition Cost (TC)	\$0	\$0	\$0	\$0
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Take-or-Pay (TOP)	\$0	\$0	\$0	\$0
Transition Cost (TC)	\$0	\$0	\$0	\$0
Refund	\$0	\$0	\$0	\$0

A) Includes 2013-2014 ACA adjustments per Commission order.

A-1) Commission order issued February 16, 2017 on Case GR-2016-0099 approving adjusted amounts from 2014-2015 ACA. Due to the timing of Commission's order, Empire has not included these adjustments in its 2015-2016 ACA filing.

B Restates North System 8-31-15 Firm ACA balance to \$323,977 under-recovery as approved in Case No. GR-2016-0099. The Company had filed \$335,089 under-recovery requiring the \$11,112 staff adjustment.

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 recommendations included herein within 45 days.

BEFORE THE PUBLIC SERVICE COMMISSION

OF THE STATE OF MISSOURI

In the Matter of The Empire District Gas) Case No. GR-2017-0134
Company's Purchased Gas Adjustment)
(PGA) 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.

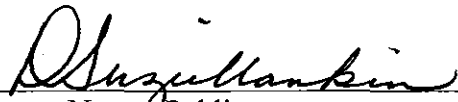


KWANG Y. CHOE, PhD

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 14th day of December, 2017.

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) Case No. GR-2017-0134
Company's Purchased Gas Adjustment)
(PGA) 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.

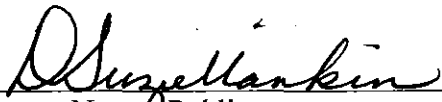


JACOB R. ROBINETT

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 14th day of December, 2017.

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

