MISSOURI PUBLIC SERVICE COMMISSION

STAFF REPORT

CLASS COST OF SERVICE

SPIRE MISSOURI, INC., d/b/a SPIRE

LACLEDE GAS COMPANY and MISSOURI GAS ENERGY
GENERAL RATE CASE

CASE NOS. GR-2017-0215
and GR-2017-0216

Jefferson City, Missouri
September 2017

** Denotes Confidential Information **

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LACLEDE GAS COMPANY and MISSOURI GAS ENERGY

GENERAL RATE CASE

Case Nos. GR-2017-0215 & GR-2017-0216

I. Executive Summary

Staff's direct-recommended revenue requirement increase is $11,958,306 to LAC's base rates, and $8,744,120 to MGE's base rates, based on a return on equity ("ROE") of 9.25%, which is the mid-point of Staff's recommended equity cost rate range of 9.0% to 9.5%. Staff recommends that the Companies' Infrastructure System Replacement Surcharge ("ISRS") be reset to zero as presented in the *Staff Direct Cost of Service Report ("COS Report").* LAC's approximately $12 million increase over current gross revenues of $326 million would produce a total revenue requirement of approximately $338 million, for an increase of approximately 3.67%. MGE's approximately $8.7 million increase over current gross revenues of approximately $200 million would produce a total revenue requirement of approximately $208 million, for an increase of approximately 4.38%. Staff's revenue requirement, as presented in its *Accounting Schedules* filed September 8, 2017, includes expected changes for a true-up ending September 30, 2017, based on current information. Staff will base its final recommendation on its true-up audit results. Staff's class cost-of-service ("CCOS") study is designed to determine what rate of return is produced by each customer class on that class's currently-tariffed rates, for recovery of the newly-determined revenue requirement amount. Staff's recommended interclass revenue responsibility shifts are designed to reasonably bring each class closer to producing the system-average rate of return used in determining Staff's recommended revenue requirement.

Staff's rate design recommendations provide intra-class shifts which will, where appropriate, redesign the rates that collect a particular class's revenues to better align that class's method of recovering revenue with the cost-causation for that class indicated by the class cost-of-service study. Staff performed a CCOS study for LAC and a separate CCOS study for MGE. Staff also addresses consolidation of the General Service Classes, similar to the

consolidations proposed by LAC. Further, Staff provides additional rate design options incorporating recent Commission guidance on certain rate design policy objectives.

II. Class Cost-of-Service and Rate Design Overview

The purpose of rate design is to reasonably relate the manner in which customers are charged for a service to the manner in which the company incurs non-gas costs and expenses to provide service and to make service available. However, various public policy concerns, ranging from bill understandability to mitigating company disincentives to promote energy conservation, temper strict adherence to the seemingly precise results of these cost-causation studies.

Non-gas costs and expenses are allocated or assigned to each class through the performance of a Class Cost of Service ("CCOS") study. The purpose of Staff's CCOS is to determine whether each class of customers is providing the utility with a level of revenue reasonably necessary to cover (1) the utility's investments required to provide service to that class of customers and (2) the utility's ongoing non-gas expenses to provide natural gas service to that class of customers. A CCOS study provides a basis for allocating and/or assigning to the customer classes the utility's total cost of providing natural gas service to all the customer classes in a manner that best reflects cost causation. Staff's CCOS study is a continuation and refinement of Staff's Cost-of-Service Study, resulting in an estimate of the non-gas costs incurred in providing natural gas service to each of Spire Missouri's customer classes separately in the LAC Division and the MGE Division for the test year. Because those costs equate to each division's non-gas revenue requirement, the results of a CCOS study determine class revenue requirements based on the cost responsibility of each customer class for its equitable share of the utility's total annual non-gas cost of providing natural gas service.

Schedule CCOS-d1 of Appendix 2 provides fundamental concepts, terminology, and definitions, used in CCOS studies and rate design. It addresses functionalization, classification and allocation, as used in CCOS studies.

In this case, rate continuity issues within LAC's General Service sub-classes and MGE's General Services classes appear to be driven by existing rate designs. Current MGE rate schedules include a Small General Service ("SGS") rate schedule, generally for customers using less than 10,000 ccf annually, and a Large General Service ("LGS") rate schedule, generally for customers using more than 10,000 ccf annually. However, some customers using less than

10,000 ccf are currently served on LGS, and some customers using more than 10,000 ccf are currently served on SGS. As described more fully below, a customer of any size would have a lower bill being served on SGS than LGS, although the Staff CCOS indicates that on a per therm or ccf basis a typical SGS customer should be paying more than a typical LGS customer. Similar problems exist for the LAC General Service Classes, which consist of three subclasses – C1, C2, and C3. To address these rate design and revenue recovery problems, Staff recommends consolidation of both LAC's and MGE's General Service classes into a single LAC General Service ("GS") class, and a single MGE GS class.

Staff's rate design recommendations in these cases are to:

- Consolidate LAC's three Commercial & Industrial General Service classes into one General Service Class with one customer charge level and a flat volumetric rate per therm;

- Consolidate MGE's Small and Large General Service classes into one General Service Class with one customer charge level and a flat volumetric rate per ccf, retaining the use of ccf for volumetric rates;

- Set a Residential customer charge for MGE of $20 with a flat rate of $0.1359 per ccf, and set a Residential customer charge for LAC of $26.00 with a flat rate of $0.16338 per therm;

- As an alternative, based on guidance from the Commission in previous cases, Staff has prepared an inclining block Residential rate design for each division as shown in the table below, with the volumetric charge per ccf and therm to increase for usage beyond 50 ccf and 50 therm, respectively.

Rates - Incline Option	**Customer Charge**	**First Block**	**Second Block**
Residential (MGE)	$ 20.00	$ 0.12473	$ 0.15149
Residential (LAC)	$ 26.00	$ 0.14704	$ 0.17824

- Eliminate the Residential, C1, C2, and C3 Seasonal Air Conditioning customer classes for LAC[1];

- Remove tariff language that allows MGE to reduce rates at its sole discretion as found on MGE's Tariff Sheet No. 43.

- Staff recommends for LAC that any increase resulting from this case up to the amount of Staff's currently recommended revenue requirement be determined as an equal percent increase applicable to each class; however, the portions of that

[1] MGE does not have seasonal air conditioning classes.

increase that would be applicable to the Large Volume Transport and Interruptible classes should be applied to the General Service class in addition to the portion applicable to the General Service class. Any increase beyond Staff's currently recommended revenue requirement should be applied as an equal percentage to all rate schedules after the above-described adjustments are made.

- Incorporating rate design and interclass shifts as described above for the LAC division results in the below rates:

Rate Design Recommendation (LAC)	Customer Charge	Volumetric
Residential	$ 26.00	$ 0.16338
General Service	$ 48.52	$ 0.14048
Large Volume, LV Transport, Interruptible	No Increase based on current Revenue Requirement	
Unmetered Lighting Service , General L.P. and Vehicular Fuel	Equal % increase to each rate element	

- For MGE, Staff recommends that $700,000 of revenue responsibility be shifted to the Large Volume class from the Residential class, prior to the application of any increase resulting from this case on an equal percentage basis.

- Incorporating rate design and interclass shifts as described above for MGE results in the below rates:

Rate Design Recommendation (MGE)	Customer Charge	Volumetric
Residential	$ 20.00	$ 0.13859
General Service	$ 37.50	$ 0.11606
Large Volume	Equal % increase to each rate element	
Unmetered Lighting Service	Equal % increase to each rate element	

Staff Expert/Witness: Robin Kliethermes

III. Staff's Class Cost-of-Service Study

Staff analyzed the costs and revenues of the following customer classes:

Laclede	MGE
Residential General Service (RG)	Residential Service (RS)
General Service (GS),	General Service (GS),
Large Volume Service (LV)	Large Volume Service (LV)
Large Volume Transportation and Sales Service	
Interruptible Service (IN)	
General L.P. Gas Service (LP)	
Unmetered Gas Light (SL)	Unmetered Gaslight Service (UG)
Vehicular Fuel (VF)	

The results of Staff's CCOS studies are shown below in Tables 1 and 2 for LAC and MGE, respectively. A more detailed summary of Staff's CCOS studies for LAC and MGE are found in Appendix 2, CCOS-d2. These studies only reflect the non-gas portion of a customer's bill; they do not include costs associated with the Purchased Gas Adjustment clause ("PGA"). The tables show the change in current retail[2] rate revenues for each customer class that is required to match each customer class' rate revenues with the cost to serve that class based on Staff's recommended revenue requirement. The results of the study estimate, on a revenue neutral basis, the revenue shifts (expressed as negative or positive dollar amounts or percentages) that are required to equalize the utility's rate of return from each retail customer class during the test year. For example, based on Table 1, the General Service customer class is providing approximately 8% less revenue to LAC than the cost to serve that class.

Table 1: Summary Results of Staff's CCOS Study - LAC

Customer Class	Revenue Above or Below Cost of Service	% Increase to meet CCOS	System Average
Residential	$ (10,184,665)	3.92%	3.67%
General Service	$ (4,133,557)	8.13%	3.67%
Large Volume	$ 121,931	-6.43%	3.67%
LV Transport	$ 1,999,877	-15.66%	3.67%
Interruptible Sales	$ 185,304	-22.80%	3.67%

Table 2: Summary Results of Staff's CCOS Study - MGE

Customer Class	Revenue Above or Below Cost of Service	% Increase to meet CCOS	System Average
Residential	$ (4,152,815)	2.64%	4.38%
General Service	$ (2,433,670)	8.80%	4.38%
Large Volume	$ (2,156,001)	14.47%	4.38%

"Revenue neutral" means that the revenue shifts among classes do not change the utility's total system revenues. The revenue neutral format aids in comparing revenue deficiencies between

[2] For purposes of this report Staff did not include LAC's vehicular fuel, lighting and liquid propane classes and MGE's lighting class in the tables and charts in this report since the classes represent less than 0.04% of total cost of service of LAC and MGE.

customer classes and makes it easier to discuss revenue neutral shifts between classes, if appropriate. This provides, by class, the expected change to LAC and MGE's cost to serve as shown in Tables 1 and 2.

Another consideration is identification of which classes produce revenues that are above and below the system average rate of return. Staff reviews the rates of return produced by each class at current rates and the rates of return that will result from a system-average application of the revenue requirement increase.

In the course of recommending rate designs and interclass shifts, Staff is mindful of a number of things:

> (1) Consideration of policy, such as rate continuity, rate stability, revenue stability, minimization of rate shock to any one-customer class, meeting of incremental costs, and consideration of promotional practices are also taken into account in Staff's ultimate recommendation of LAC and MGE's class revenue recovery through rate design. Staff endeavors to provide methods to implement in rates any Commission-ordered overall change in customer revenue responsibility promoting revenue stability and efficiency. Staff must also balance this, to the extent possible, with retaining existing rate schedules, rate structures, and important features of the current rate design that reduce the number of customers that switch rates looking for the lowest bill, and mitigate the potential for rate shock. Rate schedules should be understood by all parties, customers, and the utility as to proper application and interpretation.
>
> (2) Staff endeavors to provide the Commission with a rate design recommendation based on each customer class's relative cost-of-service responsibility and that will yield the total revenue requirement to all classes in a fair manner avoiding undue discrimination, including methods to recover costs in a timely manner. This ensures MGE and LAC receive an amount above the expenses associated with the service and each class is providing a contribution towards the rate of return.
>
> (3) CCOS studies should serve as a guide to setting rates and are not precise. For example, CCOS studies are based on a direct-filed revenue requirement, and the allocation of that revenue requirement among specific accounts, using a specific rate of return. Unless the Commission approves that exact set of accounting schedules as well as the direct-filed billing determinants in setting the revenue requirement in a particular case, there is an inherent disconnect between the CCOS study results used in providing a party's class cost of service and rate design recommendations, and the actual class cost of service that would result at the conclusion of a case.

(4) In a general rate case resulting in an increase in a utility's overall revenue requirement, Staff is reluctant to recommend reducing any class's rates while the overall revenue requirement is increasing.

(5) In providing its rate design recommendation, Staff will recommend revenue-neutral shifts so that once the rate increase has been applied, a given class does not underpay by greater than 5% of its revenue requirement while another class or classes do not overpay by greater than 5% of their revenue requirement.

Staff's recommended interclass shifts to revenue responsibility are:

- For LAC, Staff recommends that any increase resulting from this case up to the amount of Staff's currently recommended revenue requirement be determined as an equal percent increase applicable to each class; however, the portions of that increase that would be applicable to the Large Volume Transport and Interruptible classes should be applied to the General Service class in addition to the portion applicable to the General Service class. Any increase beyond Staff's currently recommended revenue requirement should be applied as an equal percentage to all rate schedules after the above-described adjustments are made.

- For MGE, Staff recommends that $700,000 of revenue responsibility be shifted to the Large Volume class from the Residential class, prior to the application of any increase resulting from this case on an equal percentage basis.

Specific rate design recommendations are made later in this report.

A. Data Sources

Staff's CCOS studies for MGE and LAC utilized Staff's revenue requirement positions as filed on September 8, 2017, for MGE's and LAC's cost-of-service. This data includes:

- Adjusted Missouri investment and cost data by FERC account;
- Annualized, normalized rate revenues;
- Other operating and maintenance expenses;
- Depreciation and amortizations; and
- Taxes.

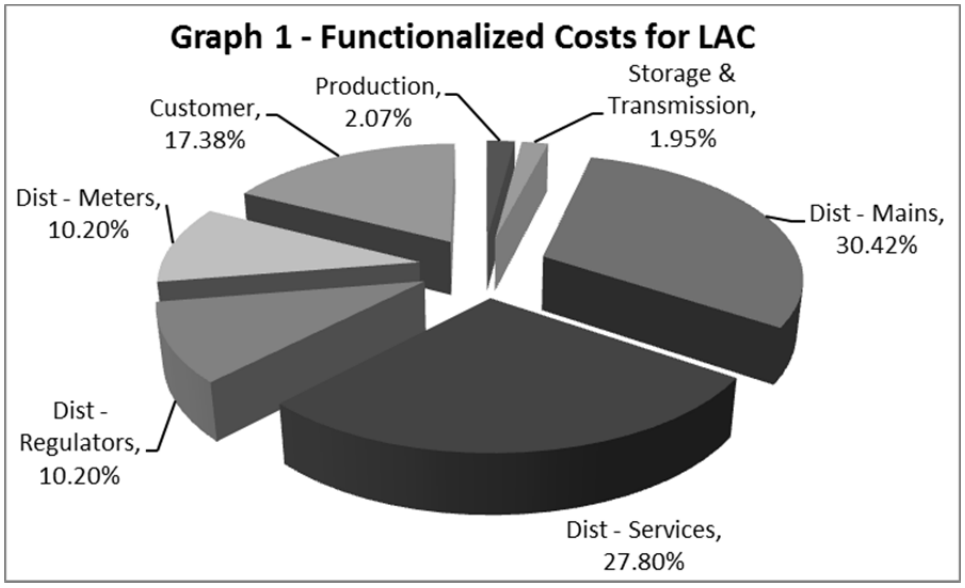
In addition, Staff reviewed LAC's and MGE's current CCOS studies and other current workpapers on the average cost of class meters and class billing information.

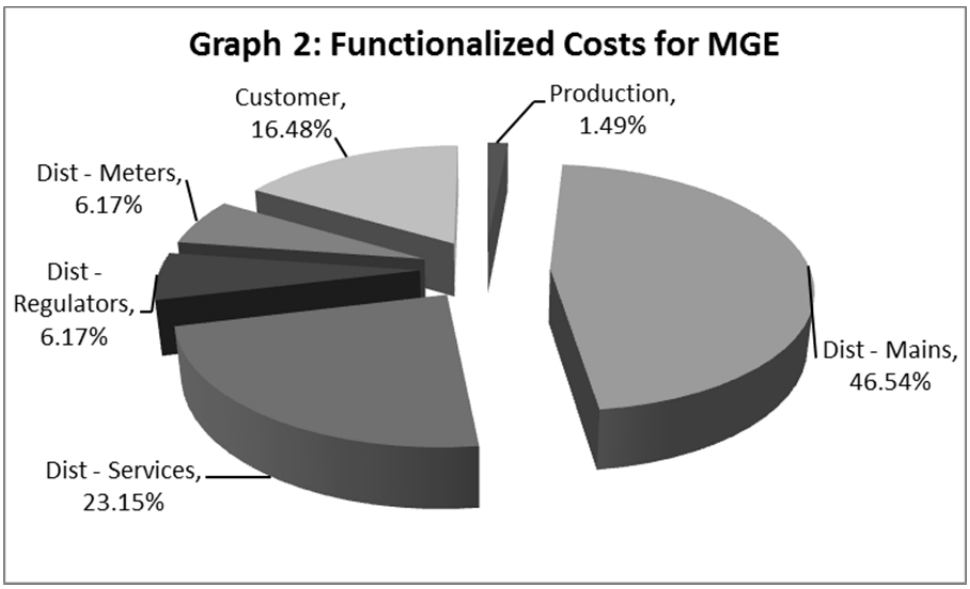
B. Functions

Natural Gas utilities differ from other utilities, such as electric, in that the production and transmission of the commodity is largely accomplished by entities other than the utility itself, and recovery of gas costs is made through the PGA, as opposed to the retail rates that are the subject of this general rate case. Thus, the major functional cost categories Staff used in its CCOS studies are Distribution and Customer. Within the Distribution Function, a distinction was made between the mains, which are generally designed to deliver natural gas to multiple customers, and the regulators, meters, and service lines used to deliver natural gas service to a specific customer. The functional categories used in Staff's CCOS studies include: Production, Storage & Transmission, Distribution Mains, Distribution Meters, Distribution Regulators, Distribution Services, Billing, Uncollectible Accounts, Deposits, Income Taxes, and Lighting.

The "Distribution Function" (combination of Distribution Mains, Distribution Meters, Distribution Regulators, and Distribution Services) is the single largest cost component, and represents 79% of the total cost for LAC, as shown in Graph 1, and 82% of the total cost for MGE, as shown in Graph 2.

The "Customer Function," at 17% (LAC) and 16% (MGE) of the total costs includes deposits, uncollectible accounts, and billing.





Staff Expert/Witness: Robin Kliethermes and

Staff Expert/Witness: Michael L. Stahlman

C. Allocation of Distribution Costs

Distribution is the link in the chain built to deliver natural gas from the wholesale system to LAC and MGE's customers' homes and businesses. MGE and LAC's distribution plant includes underground mains and laterals and meters, as well as service and labor expenses incurred for the operation and maintenance of these distribution facilities. The allocation factor for Distribution Mains that Staff developed is a Stand Alone/Integrated System factor. The Stand Alone component can be thought of as the cost to extend a main from one customer to the next if the diameter of that main extension is the same diameter as that customer's service line. To determine the split between the Stand Alone and Integrated System components, Staff analyzed data from a random sample of customers in each of the customer classes together with Geographical Information System data from the internet to estimate the length of main required to extend the system to each customer. Staff used the installed cost-per-foot estimates for services supplied by LAC and MGE in their previous rate cases. The combination of the length, installed costs per foot, and customer numbers result in a total Stand Alone component cost. Staff then used total current cost-of-mains data provided by LAC and MGE in their previous rate cases and computed the Stand Alone Component for the systems. The Stand Alone cost

component was then allocated to each of the classes using the same length and cost data. The Integrated System component was allocated using peak day demands. Staff developed peak day demands based on normal peak day weather for the various rate classes.

For the allocation of meters/regulators and service lines, Staff used a weighted customer allocator. For all allocators, the Residential Class is assumed to have a weight of 1 and the other classes typically have values greater than or equal to 1. Staff used data provided by LAC and MGE to develop the weights for meters/regulators and services.

Staff used current customer numbers, current estimates of peak day demands, and Staff's proposed rate classes to update the allocators for mains, meters, regulators and services developed by Staff for LAC and MGE's previous rate cases. While values like customer numbers and peak demands tend to vary over time, other values like the average length of a service and the relationship between cost and diameter are more stable.

Staff Expert/Witness: Daniel I. Beck, PE

D. Allocation of Customer Service Costs

Customer costs include expenses incurred for billing and customer services. Customer-related costs are costs necessary to make natural gas service available to the customer, regardless of whether or not the service was utilized. Examples of such costs include meter reading, billing, postage, customer accounting, and customer service expenses. Staff allocated these costs to customer classes based on the number of customers in the class.

E. Revenues

Operating revenues consist of (1) the revenue that the utility collects from the sale of natural gas to Missouri retail customers ("rate revenues"), and (2) the revenue the utility receives for providing other services ("other revenues"). Staff also uses rate revenues in developing its rate design recommendation and will use them to develop the rate schedules required to implement the Commission's ordered revenue requirement and rate design for LAC and MGE in these cases. Staff in its CCOS Study, used the normalized and annualized class rate revenues in Staff's COS Report filed September 8, 2017, totaling $337,936,996 for LAC and $208,330,567 for MGE.

F. Allocation of Taxes

Taxes consist of real estate and property taxes, payroll tax expenses and income taxes. Real estate and property tax expenses are directly related to the original cost investment in plant for MGE and LAC, so these expenses are allocated to customer classes on the basis of the sum of the previously allocated production, distribution and general plant investment.

Payroll tax expenses are directly related to payroll expenses for MGE and LAC, so these expenses are allocated to customer classes on the basis of previously allocated payroll expenses.

Lastly, Staff separately allocated income taxes for LAC and MGE to customer classes based on the percentage of net income produced by each customer class.

Staff Expert/Witness: Robin Kliethermes

IV. Rate Design

The process of determining how MGE and LAC's non-gas revenue requirement will be allocated among the different customer classes is known as rate design. However, it is important to note that the non-gas revenue requirement, the subject of this rate case, affects only a portion of a customer's bill. As seen in Figures1 and 2 below, the rate design discussed herein is related to the items underneath the "Laclede Delivery" and "Delivery Charge" portions of the bill. The items underneath "Natural Gas Cost," which can be approximately half of a customer's bill depending on usage, are subject to provisions in MGE and LAC's PGA tariffs. Sample bills for both LAC and MGE are attached as Appendix 2, Schedules CCOS-d3 and CCOS-d4.

Figure 1. Portion of LAC Sample Bill

Present Reading	Previous Reading	Usage (CCF) X	BTU Factor	= Therms
9925	9887	38	1.017	38.6
Actual		Residential General Service		

Laclede Delivery 05-13-2013 to 06-10-2013		**28.68**
Customer Charge	19.50	
Usage ≤ 30 Therms: 30 @ $0.20132	6.04	
Usage > 30 Therms: 8.6 @ $0.15297	1.32	
ISRS	1.82	
Natural Gas Cost		**20.68**
Usage ≤ 30 Therms	16.08	
Usage > 30 Therms	4.60	
Taxes		**2.06**
St. Louis City Tax	2.06	
Total Current Charges		**$51.42**

Figure 2. Portion of MGE Sample Bill

Present Reading	Previous Reading	Usage (CCF) X	Pressure Factor	= Billable CCFs
7308	7207	101	1.00	103.00
Actual		Residential General		

Delivery Charge 06-28-2015 to 07-28-2015		**31.31**
Customer Charge	23.00	
103 CCF @ .0738	7.60	
ISRS	.71	
Natural Gas Cost		**54.81**
Usage: 103 CCF		
Taxes		**7.83**
City Tax	1.29	
Franchise Tax	6.48	
ISRS Tax	.06	
Other Charges		**1.80**
Utility Late Charge	1.80	
Total Current Charges		**$95.75**

Rate design is the method used to determine the rates and rate components to be charged to individual classes of customers.

Of particular relevance to Staff's rate design in this case is:

- Addressing rate continuity issues in LAC's and MGE's General Service subclasses, and providing a recommendation to achieve the consolidation of those subclasses requested by LAC and MGE;

- Incorporating methods to implement in rates any Commission-ordered overall change in customer class revenue responsibility;

- Retaining, to the extent possible, existing rate schedules, rate structures, and important features of the current rate design.

Staff's rate design recommendations in this case are:

- Consolidate LAC's three Commercial & Industrial General Service classes into one General Service Class with one customer charge level and a flat volumetric rate per therm;

- Consolidate MGE's Small and Large General Service classes into one General Service Class with one customer charge level and a flat volumetric rate per ccf, retaining the use of ccf for volumetric rates;

- Set a Residential customer charge for MGE of $20 with a flat rate of $0.1359 per ccf, and set a Residential customer charge for LAC of $26.00 with a flat rate of $0.16338 per therm;

- As an alternative, based on guidance from the Commission in previous cases, Staff has prepared an inclining block Residential rate design for each division as

shown in the table below, with the volumetric charge per ccf and therm to increase for usage beyond 50 ccf and 50 therm, respectively;

Rates - Incline Option	Customer Charge	First Block	Second Block
Residential (MGE)	$ 20.00	$ 0.12473	$ 0.15149
Residential (LAC)	$ 26.00	$ 0.14704	$ 0.17824

- Eliminate the Residential, C1, C2, and C3 Seasonal Air Conditioning customer classes for LAC;

- Remove tariff language that allows the utility to reduce rates at its sole discretion found on MGE's Tariff Sheet No. 43;

- Staff recommends for LAC, that any increase resulting from this case up to the amount of Staff's currently recommended revenue requirement be determined as an equal percent increase applicable to each class; however, the portions of that increase that would be applicable to the Large Volume Transport and Interruptible classes should be applied to the General Service class in addition to the portion applicable to the General Service class. Any increase beyond Staff's currently recommended revenue requirement should be applied as an equal percentage to all rate schedules after the above-described adjustments are made;

- Incorporating rate design and interclass shifts as described above for LAC results in the below rates:

Rate Design Recommendation (LAC)	Customer Charge	Volumetric
Residential	$ 26.00	$ 0.16338
General Service	$ 48.52	$ 0.14048
Large Volume, LV Transport, Interruptible	No Increase based on current Revenue Requirement	
Unmetered Lighting Service , General L.P. and Vehicular Fuel	Equal % increase to each rate element	

- For MGE, Staff recommends that $700,000 of revenue responsibility be shifted to the Large Volume class from the Residential class, prior to the application of any increase resulting from this case on an equal percentage basis;

continued on next page

- Incorporating rate design and interclass shifts as described above for MGE results in the below rates:

Rate Design Recommendation (MGE)	Customer Charge	Volumetric
Residential	$ 20.00	$ 0.13859
General Service	$ 37.50	$ 0.11606
Large Volume	Equal % increase to each rate element	
Unmetered Lighting Service	Equal % increase to each rate element	

A. Consolidation of MGE and LAC General Service Classes

Current MGE rate schedules include a Small General Service ("SGS") rate schedule, generally for customers using less than 10,000 ccf annually, and a Large General Service ("LGS") rate schedule, generally for customers using more than 10,000 ccf annually. Similarly, LAC's General Service classes consist of C1, designed for serving customers consuming less than 5,000 therms annually; C2, designed for serving customers consuming more than 5,000 but less than 50,000 therms annually; and C3, for customers consuming over 50,000 therms, but not taking service on a different schedule. However, for both LAC and MGE's General Service classes, customers of all sizes are served on all schedules. Even for customers appropriately sized for the schedule under which service is taken the rate design causes revenue recovery to misalign with the allocated revenue requirement and basic cost recovery principles.

For MGE customers, no matter how large the customer, that customer will receive a lower bill on the SGS schedule than the LGS schedule, and for LAC customers, many customers would receive a lower bill for the same usage if served on a different schedule than the schedule indicated for that size. However, both the CCOS studies performed in this case and general cost principals indicate that the cost of providing service to the higher-consuming customers is lower per unit than the cost of providing service to the lower-consuming customers, absent changes in the demands those customers cause on the system.

The Staff CCOS indicates that more revenue requirement responsibility should be allocated to the MGE SGS class, and that the LGS class is contributing more to revenue requirement than other classes.

	SGS	LGS
Percent of System Average Rate of Return:	64.9%	106.8%

This means, that if the separate classes are maintained, at the current revenue requirement, the SGS class should get an increase, while the LGS class gets a decrease. The customer impacts that would result from changing the rates for each class to exactly match the allocated cost of service are provided in the tables below. These calculations are complicated by two factors: the first factor is that there are customers in both classes that are more appropriately served in the other class under current rates, but those customers' billing determinants, revenues, usage, HDD relationships, and system demands are currently recorded in the class in which they are currently taking service; the second factor is that once rates are adjusted to cost of service, additional customers would receive a billing benefit from taking service in the other class, which would require further adjustment of billing determinants, revenues, usage, HDD relationships, and system demands. The bill impacts on existing SGS and LGS customers of moving those classes' rates to recover the exact revenue requirement of each class are provided below:

MGE SGS			
Annual Usage	#of Customers ending usage	SGS Bill At Full Cost of Service	% Increase from Current Bill
-	371	$ 252.00	-38%
100	1,239	$ 270.10	-35%
500	6,529	$ 342.50	-21%
1,000	6,427	$ 433.00	-6%
2,500	6,897	$ 704.50	30%
5,000	3,507	$ 1,157.00	70%
7,500	1,448	$ 1,609.50	97%
10,000	377	$ 2,062.00	117%
12,500	90	$ 2,514.50	131%
15,000	37	$ 2,967.00	143%
20,000	39	$ 3,872.00	159%
25,000	23	$ 4,777.00	171%
30,000	13	$ 5,682.00	179%
35,000	7	$ 6,587.00	185%
40,000	4	$ 7,492.00	190%
45,000	2	$ 8,397.00	194%
50,000	2	$ 9,302.00	198%
55,000	0	$ 10,207.00	201%
60,000	2	$ 11,112.00	203%
65,000	2	$ 12,017.00	205%
75,000	1	$ 13,827.00	209%
100,000	1	$ 18,352.00	214%

MGE LGS			
Annual Usage	#of Customers ending usage	LGS Bill At Full Cost of Service	% Increase from Current Bill
-	18	$ 768.00	-45%
100	17	$ 783.28	-44%
500	54	$ 844.40	-41%
1,000	42	$ 920.80	-38%
2,500	68	$ 1,150.00	-30%
5,000	106	$ 1,532.00	-19%
7,500	251	$ 1,914.00	-10%
10,000	514	$ 2,296.00	-4%
12,500	552	$ 2,678.00	2%
15,000	361	$ 3,060.00	6%
20,000	461	$ 3,824.00	13%
25,000	244	$ 4,588.00	18%
30,000	164	$ 5,352.00	22%
35,000	113	$ 6,116.00	25%
40,000	84	$ 6,880.00	28%
45,000	52	$ 7,644.00	30%
50,000	29	$ 8,408.00	32%
55,000	25	$ 9,172.00	33%
60,000	17	$ 9,936.00	35%
65,000	15	$ 10,700.00	36%
75,000	28	$ 12,228.00	38%
100,000	27	$ 16,048.00	41%

Rather than moving the separate classes each to their currently-determined revenue requirement, which would result in relatively high customer impact and customer migration, the discrepancy in revenue recovery can be largely addressed with the consolidation of the classes into a single GS class with a single customer charge and a single variable rate charge. The consolidated rate structure and simplified rate design will mitigate customer impact from the changes that would be imposed from moving both classes to rates strictly based on the CCOS-allocated cost of service for each class, as shown below.

MGE SGS			
Annual Usage	#of Customers ending usage	Staff Recommended	Percent Increase
-	371	$ 450.00	10%
100	1,239	$ 461.61	12%
500	6,529	$ 508.03	17%
1,000	6,427	$ 566.06	22%
2,500	6,897	$ 740.15	36%
5,000	3,507	$ 1,030.30	52%
7,500	1,448	$ 1,320.45	62%
10,000	377	$ 1,610.60	69%
12,500	90	$ 1,900.75	75%
15,000	37	$ 2,190.90	79%
20,000	39	$ 2,771.20	85%
25,000	23	$ 3,351.50	90%
30,000	13	$ 3,931.80	93%
35,000	7	$ 4,512.10	95%
40,000	4	$ 5,092.40	97%
45,000	2	$ 5,672.70	99%
50,000	2	$ 6,253.00	100%
55,000	0	$ 6,833.30	101%
60,000	2	$ 7,413.60	102%
65,000	2	$ 7,993.90	103%
75,000	1	$ 9,154.50	104%
100,000	1	$ 12,056.00	107%

MGE LGS			
Annual Usage	#of Customers ending usage	Staff Recommended	Percent Increase
-	18	$ 450.00	-68%
100	17	$ 461.61	-67%
500	54	$ 508.03	-65%
1,000	42	$ 566.06	-62%
2,500	68	$ 740.15	-55%
5,000	106	$ 1,030.30	-45%
7,500	251	$ 1,320.45	-38%
10,000	514	$ 1,610.60	-32%
12,500	552	$ 1,900.75	-28%
15,000	361	$ 2,190.90	-24%
20,000	461	$ 2,771.20	-18%
25,000	244	$ 3,351.50	-14%
30,000	164	$ 3,931.80	-10%
35,000	113	$ 4,512.10	-8%
40,000	84	$ 5,092.40	-5%
45,000	52	$ 5,672.70	-4%
50,000	29	$ 6,253.00	-2%
55,000	25	$ 6,833.30	-1%
60,000	17	$ 7,413.60	0%
65,000	15	$ 7,993.90	1%
75,000	28	$ 9,154.50	3%
100,000	27	$ 12,056.00	6%

Not only is this single class better for MGE's General Service customers from an impact mitigation standpoint, it also eliminates the necessity of determining which customers would switch to redesigned classes and of determining the billing determinants and revenues, usage, HDD relationships, and system demands associated with those customers who would migrate.

Staff's CCOS for LAC indicates that more revenue responsibility should be allocated to the C1 class and that the C3 class is contributing more than the system average rate of return.

	C1	C2	C3
Percent of System Average Rate of Return:	23.6%	98.5%	215.8%

LAC has requested to combine the C1, C2 and C3 classes into an SGS class for customers using less than 10,000 therms annually and an LGS class for customers using over 10,000 therms annually. LAC would create these two general service classes by essentially splitting the C2 class where the lower usage customers are combined with current C1 customers to create an SGS class and the higher usage C2 customers are combined with the C3 class to create the LGS class. However, as shown in the charts below, customers of varying usage levels are currently served on three different rate schedules.

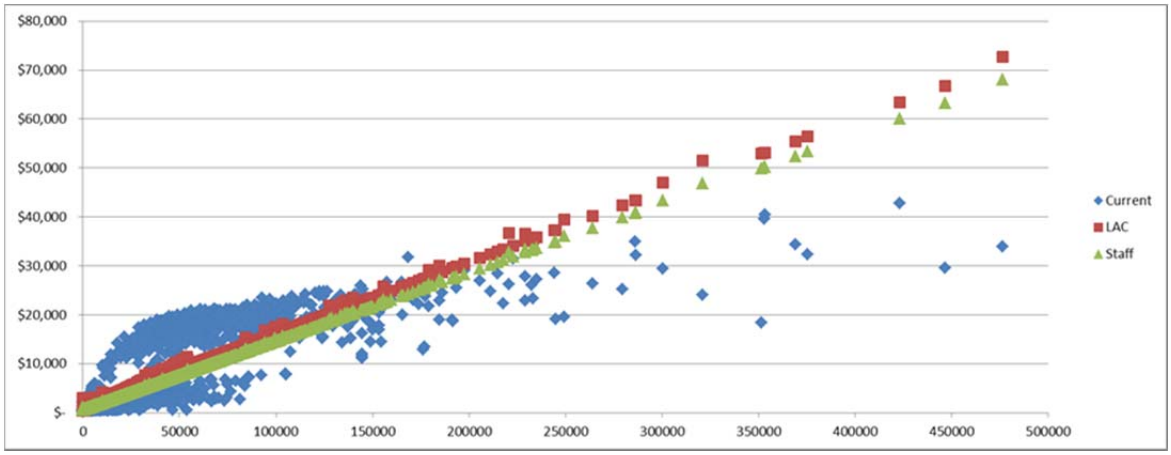
C1	
Annual Usage	**Total Customers**
Less than 20	2,133
30	417
50	811
100	1,891
500	10,818
1,000	7,556
2,000	6,301
2,500	1,532
3,500	1,931
4,000	618
5,000	674
6,000	363
7,000	204
8,000	121
10,000	153
12,000	81
Over 12000	154
Total	35,758

C2	
Annual Usage	**Total Customers**
Less than 100	317
500	351
1,000	317
2,000	519
5,000	1,911
8,000	2,119
12,000	1,725
20,000	1,416
30,000	685
40,000	279
50,000	93
60,000	37
75,000	21
100,000	8
200,000	7
300,000	-
over 300,000	1
Total	9,806

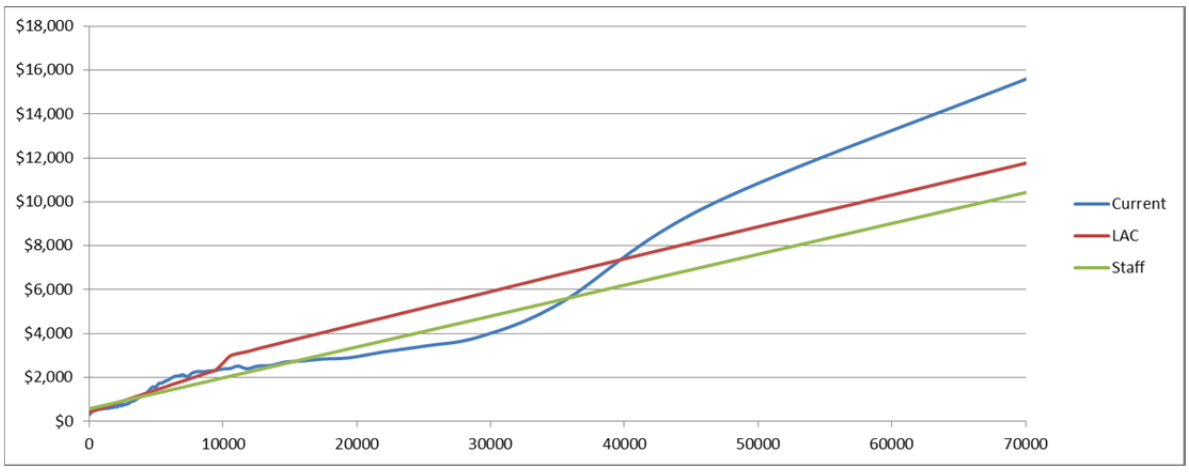
C3	
Annual Usage	**Total**
Less than 100	10
1,000	11
2,000	5
5,000	11
10,000	17
15,000	15
25,000	29
30,000	15
40,000	59
45,000	33
50,000	37
60,000	82
75,000	91
100,000	91
200,000	118
300,000	18
Over 300000	10
Total	652

A situation similar to that discussed above with MGE also exists with LAC's general service classes. Staff recommends consolidation of the LAC general services classes into a single general service class for the same reasons as discussed above. The lack of rate continuity within the existing C1, C2 and C3 classes is best illustrated by comparing what customers currently served on those classes pay across various levels of usage.

Staff provides below a comparison of customer bills as they exist today, as well as the rate designed proposed by LAC and recommended by Staff.



The graph above provides a comparison of individual customer bills under each rate design. The lack of rate continuity in the existing rate design becomes more apparent when this individual customer information is smoothed into cohorts[3] as provided below.



Staff's consolidation proposal is better for LAC's General Service customers from both an impact mitigation standpoint and from mitigation of customer rate switching.

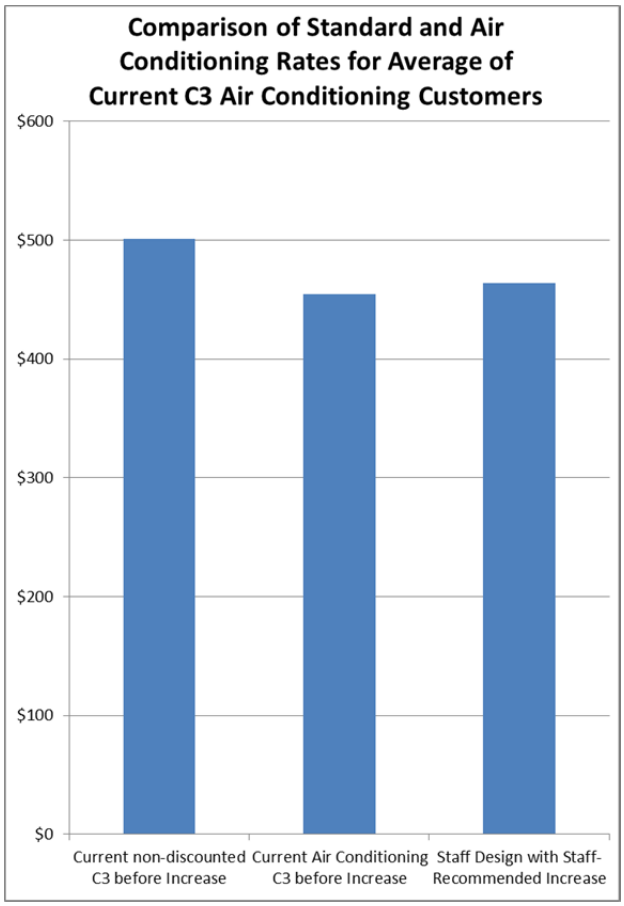
Staff Expert/Witness: Robin Kliethermes and

Staff Expert/Witness: Michael L. Stahlman

[3] Groupings of customers with similar usage.

B. LAC General Service Seasonal Air Conditioning Classes

Concurrent with the consolidation of the C1, C2, and C3 classes, Staff also recommends the elimination of the LAC C1, C2, and C3 Seasonal Air Conditioning classes. This rate option was intended to encourage the adoption of natural gas air conditioners by decreasing rates for the second block. However, under the current rate structure, the C1 Seasonal Air Conditioning class pays a lower rate than a regular C1 class only until a usage level of 375 therms per month. Additionally, Staff's analysis of the C2 Seasonal Air Conditioning class indicates that an average user would be better off on the regular C2 class. Finally, Staff's simplification of the GS class through consolidation results in non-discounted rates that are more favorable than existing non-discounted C3 rates for current C3 Seasonal Air Conditioning customers.



Therefore, given the issues regarding rate continuity as discussed in the consolidation of the C1, C2, and C3 classes, the limited number of customers in these rate classes, and the limited to non-existent benefits to customers in this rate class, Staff recommends eliminating the

C1, C2, and C3 Seasonal Air Conditioning classes and transferring all LAC customers to the proposed GS class.

Staff Expert/Witness: Michael L. Stahlman

C. Large Volume Service Tariff

Currently MGE's Tariff Sheet No. 43 gives MGE the sole discretion to reduce its Large Volume Service rate down to the minimum charge for certain customers. Staff recommends that MGE's current ability to unilaterally reduce rates applicable to Large Volume Service customers be consolidated with more defined customer retention and economic development provisions contained elsewhere in the proposed consolidated rules tariff.

D. Residential Rates

Currently LAC's residential rate consists of a customer charge of $19.50 and a seasonal volumetric charge of $0.91686 per therm for the first 30 therms used in the winter, but no charge for therms used after 30 in the winter, $0.31290 per therm for the first 30 therms in summer, and $0.15297 for all therms over 30 in the summer. MGE's residential rate currently consists of a customer charge of $23.00 and a flat volumetric rate of $0.07380 per ccf used.

Staff's CCOS found that per strict allocation, the cost to be recovered through the residential customer charge is approximately $26 per customer for LAC and $17.01 for MGE. Staff included the below costs in the calculation of the residential customer charge:

- Distribution – services (investment and expenses)
- Distribution – meters and regulators (investment and expenses)
- Distribution – customer installations
- Customer deposits
- Customer billing expenses
- Uncollectible accounts (write-offs)
- Customer service & information expenses
- Portion of income taxes

While LAC's customer charge is currently set at $19.50, the current rate design results in a flat charge of $47.01 for virtually all customers in winter billing months. There is no per-therm charge for LAC residential customers in the winter months after the first 30 therms, thus no non-gas cost-based price signal to control consumption. Staff's CCOS study indicates that the customer charge should be increased; however, Staff's recommended move to charge customers

for all usage, including usage after the 30th therm significantly moderates the customer impact of this increase to the customer charge. In fact, for winter months, a customer would have to use between 125 and 150 therms to equal the charge that the customer would have incurred for any usage over 30 therms under the existing rate design. The bill comparison of the current rate design and Staff's recommended rate design at each level of usage are provided below:[4]

Therm Use	Winter Current	Summer Current	Annual Average	Staff Proposed	Percent Increase
0	$ 19.50	$ 19.50	$ 19.50	$ 26.00	33.33%
10	$ 28.67	$ 22.63	$ 25.65	$ 27.63	7.74%
20	$ 37.84	$ 25.76	$ 31.80	$ 29.27	-7.96%
25	$ 42.42	$ 27.32	$ 34.87	$ 30.08	-13.73%
30	$ 47.01	$ 28.89	$ 37.95	$ 30.90	-18.57%
35	$ 47.01	$ 29.65	$ 38.33	$ 31.72	-17.25%
40	$ 47.01	$ 30.42	$ 38.71	$ 32.54	-15.95%
45	$ 47.01	$ 31.18	$ 39.09	$ 33.35	-14.69%
50	$ 47.01	$ 31.95	$ 39.48	$ 34.17	-13.44%
55	$ 47.01	$ 32.71	$ 39.86	$ 34.99	-12.22%
60	$ 47.01	$ 33.48	$ 40.24	$ 35.80	-11.03%
65	$ 47.01	$ 34.24	$ 40.62	$ 36.62	-9.86%
70	$ 47.01	$ 35.01	$ 41.01	$ 37.44	-8.70%
75	$ 47.01	$ 35.77	$ 41.39	$ 38.25	-7.57%
80	$ 47.01	$ 36.54	$ 41.77	$ 39.07	-6.46%
85	$ 47.01	$ 37.30	$ 42.15	$ 39.89	-5.38%
90	$ 47.01	$ 38.07	$ 42.54	$ 40.70	-4.31%
95	$ 47.01	$ 38.83	$ 42.92	$ 41.52	-3.25%
100	$ 47.01	$ 39.59	$ 43.30	$ 42.34	-2.22%
125	$ 47.01	$ 43.42	$ 45.21	$ 46.42	2.68%
150	$ 47.01	$ 47.24	$ 47.12	$ 50.51	7.18%
175	$ 47.01	$ 51.07	$ 49.04	$ 54.59	11.33%
200	$ 47.01	$ 54.89	$ 50.95	$ 58.68	15.17%
225	$ 47.01	$ 58.72	$ 52.86	$ 62.76	18.73%
250	$ 47.01	$ 62.54	$ 54.77	$ 66.85	22.04%
275	$ 47.01	$ 66.36	$ 56.69	$ 70.93	25.13%
300	$ 47.01	$ 70.19	$ 58.60	$ 75.01	28.02%
325	$ 47.01	$ 74.01	$ 60.51	$ 79.10	30.72%
350	$ 47.01	$ 77.84	$ 62.42	$ 83.18	33.26%
375	$ 47.01	$ 81.66	$ 64.33	$ 87.27	35.65%
400	$ 47.01	$ 85.49	$ 66.25	$ 91.35	37.90%
425	$ 47.01	$ 89.31	$ 68.16	$ 95.44	40.02%
450	$ 47.01	$ 93.13	$ 70.07	$ 99.52	42.03%
475	$ 47.01	$ 96.96	$ 71.98	$ 103.61	43.93%

MGE's current rate design includes a customer charge that over recovers the CCOS-determined residential average cost per customer and currently has a flat per-unit volumetric rate. Staff

[4] The percent increase is calculated in relation to the annual average.

recommends continuation of this volumetric rate design; however, Staff is concerned that complete movement from the current $23.00 customer charge to the $17.01 found in the CCOS would result in unnecessarily severe customer impact given the relative accuracy of a CCOS as a snapshot in time. The resulting bills and customer impact of the rate design that would result from strict adherence to the CCOS results as compared to Staff's recommended rate design and current bills is provided below:

CCF Use	Current Bill	Bill at CCOS	Percent Diff.	Staff Proposed	Percent Diff.
10	$ 23.74	$ 18.81	-20.75%	$ 21.39	-9.91%
20	$ 24.48	$ 20.61	-15.78%	$ 22.77	-6.96%
25	$ 24.85	$ 21.52	-13.40%	$ 23.46	-5.56%
30	$ 25.21	$ 22.42	-11.10%	$ 24.16	-4.19%
35	$ 25.58	$ 23.32	-8.86%	$ 24.85	-2.86%
40	$ 25.95	$ 24.22	-6.68%	$ 25.54	-1.57%
45	$ 26.32	$ 25.12	-4.57%	$ 26.24	-0.32%
50	$ 26.69	$ 26.02	-2.51%	$ 26.93	0.90%
55	$ 27.06	$ 26.92	-0.51%	$ 27.62	2.08%
60	$ 27.43	$ 27.82	1.44%	$ 28.32	3.24%
65	$ 27.80	$ 28.72	3.33%	$ 29.01	4.36%
70	$ 28.17	$ 29.62	5.18%	$ 29.70	5.45%
75	$ 28.54	$ 30.53	6.97%	$ 30.39	6.52%
80	$ 28.90	$ 31.43	8.73%	$ 31.09	7.55%
85	$ 29.27	$ 32.33	10.43%	$ 31.78	8.56%
90	$ 29.64	$ 33.23	12.10%	$ 32.47	9.55%
95	$ 30.01	$ 34.13	13.72%	$ 33.17	10.51%
100	$ 30.38	$ 35.03	15.31%	$ 33.86	11.45%
125	$ 32.23	$ 39.54	22.68%	$ 37.32	15.82%
150	$ 34.07	$ 44.04	29.26%	$ 40.79	19.72%
175	$ 35.92	$ 48.55	35.17%	$ 44.25	23.22%
200	$ 37.76	$ 53.05	40.49%	$ 47.72	26.37%
225	$ 39.61	$ 57.56	45.32%	$ 51.18	29.23%
250	$ 41.45	$ 62.06	49.72%	$ 54.65	31.84%
275	$ 43.30	$ 66.57	53.75%	$ 58.11	34.22%
300	$ 45.14	$ 71.07	57.44%	$ 61.58	36.41%
325	$ 46.99	$ 75.58	60.85%	$ 65.04	38.43%
350	$ 48.83	$ 80.08	64.00%	$ 68.51	40.30%
375	$ 50.68	$ 84.59	66.92%	$ 71.97	42.03%
400	$ 52.52	$ 89.09	69.63%	$ 75.44	43.63%
425	$ 54.37	$ 93.60	72.16%	$ 78.90	45.13%
450	$ 56.21	$ 98.10	74.52%	$ 82.37	46.53%
475	$ 58.06	$ 102.61	76.74%	$ 85.83	47.84%

As an alternative to Staff's recommended Residential rate design for LAC and MGE set forth above, based on guidance from the Commission pertaining to electric residential rates in Case

No. ER-2016-0285, Staff has prepared an alternative Residential rate design for the Commission's consideration, which includes an inclining block for each division as shown in the tables below, with the volumetric charge per ccf and therm to increase for usage beyond 50 ccf and 50 therm, respectively.

		November -March		April - October	
		Winter	Winter	Summer	Summer
MGE Rate Classes	Customer Charge	1st block energy charge	2nd block energy charge	1st block energy charge	2nd block energy charge
Residential Current	$ 23.00	$ 0.07380	$ 0.07380	$ 0.07380	$ 0.07380
Residential Incline	$ 20.00	$ 0.12473	$ 0.15149	$ 0.12473	$ 0.15149
Residential Staff Proposed	$ 20.00	$ 0.13859	$ 0.13859	$ 0.13859	$ 0.13859

CCF Use	Current Bill	Inclining Alternative	Percent Diff.	Staff Proposed	Percent Diff.
10	$ 23.74	$ 21.25	-10%	$ 21.39	-10%
20	$ 24.48	$ 22.49	-8%	$ 22.77	-7%
25	$ 24.85	$ 23.12	-7%	$ 23.46	-6%
30	$ 25.21	$ 23.74	-6%	$ 24.16	-4%
35	$ 25.58	$ 24.37	-5%	$ 24.85	-3%
40	$ 25.95	$ 24.99	-4%	$ 25.54	-2%
45	$ 26.32	$ 25.61	-3%	$ 26.24	0%
50	$ 26.69	$ 26.24	-2%	$ 26.93	1%
55	$ 27.06	$ 26.99	0%	$ 27.62	2%
60	$ 27.43	$ 27.75	1%	$ 28.32	3%
65	$ 27.80	$ 28.51	3%	$ 29.01	4%
70	$ 28.17	$ 29.27	4%	$ 29.70	5%
75	$ 28.54	$ 30.02	5%	$ 30.39	7%
80	$ 28.90	$ 30.78	6%	$ 31.09	8%
85	$ 29.27	$ 31.54	8%	$ 31.78	9%
90	$ 29.64	$ 32.30	9%	$ 32.47	10%
95	$ 30.01	$ 33.05	10%	$ 33.17	11%
100	$ 30.38	$ 33.81	11%	$ 33.86	11%
125	$ 32.23	$ 37.60	17%	$ 37.32	16%
150	$ 34.07	$ 41.39	21%	$ 40.79	20%
175	$ 35.92	$ 45.17	26%	$ 44.25	23%
200	$ 37.76	$ 48.96	30%	$ 47.72	26%
225	$ 39.61	$ 52.75	33%	$ 51.18	29%
250	$ 41.45	$ 56.53	36%	$ 54.65	32%
275	$ 43.30	$ 60.32	39%	$ 58.11	34%
300	$ 45.14	$ 64.11	42%	$ 61.58	36%
325	$ 46.99	$ 67.90	45%	$ 65.04	38%
350	$ 48.83	$ 71.68	47%	$ 68.51	40%
375	$ 50.68	$ 75.47	49%	$ 71.97	42%
400	$ 52.52	$ 79.26	51%	$ 75.44	44%
425	$ 54.37	$ 83.05	53%	$ 78.90	45%
450	$ 56.21	$ 86.83	54%	$ 82.37	47%
475	$ 58.06	$ 90.62	56%	$ 85.83	48%

		November -April		May - October	
		Winter	Winter	Summer	Summer
Laclede Rate Classes	Customer Charge	1st block energy charge	2nd block energy charge	1st block energy charge	2nd block energy charge
Residential Current	$ 19.50	$ 0.91686	$ -	$ 0.31290	$ 0.15297
Residential Incline	$ 26.00	$ 0.14704	$ 0.17824	$ 0.14704	$ 0.17824
Residential Staff Proposed	$ 26.00	$ 0.16338	$ 0.16338	$ 0.16338	$ 0.16338

Therm Use	**Annual Average**	**Inclining Alternative**	**Percent Diff.**	**Staff Proposed**	**Percent Diff.**
0	$ 19.50	$ 26.00	33%	$ 26.00	33%
10	$ 25.65	$ 27.47	7%	$ 27.63	8%
20	$ 31.80	$ 28.94	-9%	$ 29.27	-8%
25	$ 34.87	$ 29.68	-15%	$ 30.08	-14%
30	$ 37.95	$ 30.41	-20%	$ 30.90	-19%
35	$ 38.33	$ 31.15	-19%	$ 31.72	-17%
40	$ 38.71	$ 31.88	-18%	$ 32.54	-16%
45	$ 39.09	$ 32.62	-17%	$ 33.35	-15%
50	$ 39.48	$ 33.35	-16%	$ 34.17	-13%
55	$ 39.86	$ 34.24	-14%	$ 34.99	-12%
60	$ 40.24	$ 35.13	-13%	$ 35.80	-11%
65	$ 40.62	$ 36.03	-11%	$ 36.62	-10%
70	$ 41.01	$ 36.92	-10%	$ 37.44	-9%
75	$ 41.39	$ 37.81	-9%	$ 38.25	-8%
80	$ 41.77	$ 38.70	-7%	$ 39.07	-6%
85	$ 42.15	$ 39.59	-6%	$ 39.89	-5%
90	$ 42.54	$ 40.48	-5%	$ 40.70	-4%
95	$ 42.92	$ 41.37	-4%	$ 41.52	-3%
100	$ 43.30	$ 42.26	-2%	$ 42.34	-2%
125	$ 45.21	$ 46.72	3%	$ 46.42	3%
150	$ 47.12	$ 51.18	9%	$ 50.51	7%
175	$ 49.04	$ 55.63	13%	$ 54.59	11%
200	$ 50.95	$ 60.09	18%	$ 58.68	15%
225	$ 52.86	$ 64.54	22%	$ 62.76	19%
250	$ 54.77	$ 69.00	26%	$ 66.85	22%
275	$ 56.69	$ 73.46	30%	$ 70.93	25%
300	$ 58.60	$ 77.91	33%	$ 75.01	28%
325	$ 60.51	$ 82.37	36%	$ 79.10	31%
350	$ 62.42	$ 86.82	39%	$ 83.18	33%
375	$ 64.33	$ 91.28	42%	$ 87.27	36%
400	$ 66.25	$ 95.74	45%	$ 91.35	38%
425	$ 68.16	$ 100.19	47%	$ 95.44	40%
450	$ 70.07	$ 104.65	49%	$ 99.52	42%
475	$ 71.98	$ 109.11	52%	$ 103.61	44%

Generally, the functionalization of the fully allocated cost of service is the preferred basis for designing the rates applicable to a given customer class. However, various public policy concerns, ranging from bill understandability to mitigating company disincentives to promote energy conservation, temper strict adherence to the seemingly precise results of these cost-

causation studies. Selection of a policy-based inclining block rate design requires consideration of the delineations between the blocks, and the curve of the incline. MGE customers are accustomed to a flat rate, and will be experiencing an increase in that rate associated with Staff's recommended inter-class revenue requirement shifts. Moreover, LAC customers are accustomed to a significantly declining block rate design with no charge for usage beyond 30 therms in the winter months. This leads Staff to be cautious of adopting a steep incline. Another concern is that those using the most gas today may have the most gas equipment to upgrade or update. A significant incline would increase the financial barrier to these capital replacements by the ratepayers. This indicates the appropriateness of starting the incline at a relatively low level of consumption, so that there are more units to spread the incline out over. This moderation also benefits both LAC's and MGE's revenue stability and moderates customer bill volatility that could result from an atypically warm or cool bill cycle.

Staff Expert/Witness: Robin Kliethermes

V. Lost and Unaccounted for ("L&U") Gas Applicable to Large Transportation Customers

Lost and Unaccounted for Gas (also sometimes called "LNU", "L&U", or "LAUF") is the difference between the amount of gas purchased and the quantity of gas sold on a natural gas distribution system.[5] The difference is usually expressed as a percentage of unaccounted for gas (or "% L&U" or "% LNU"). The amount of L&U is first determined by subtracting the amount of gas sold from the amount of gas purchased. An example of this calculation is shown as follows:

Gas Purchased	50,000,000 Btu
Gas Sold	- 48,000,000 Btu
	2,000,000 Btu

The 2,000,000 Btu is the amount of L&U. The percentage is then calculated as follows:

$$\%\ L\&U = \frac{2{,}000{,}000\ \text{Btu}}{50{,}000{,}000\ \text{Btu}} * 100 = 4\%$$

[5] Although Laclede injects gas into its own local storage downstream of the city-gate, those volumes are not considered L&U but are considered part of storage inventory. In essence, purchases at the city-gate are adjusted so that they do not incorporate gas injected into storage when considering the system L&U amount.

Conceptually, the percentage of L&U should always be positive or zero; however, the calculation of L&U can result in a negative figure, which would mean that the amount of gas sold was greater than the amount of gas purchased. There are many factors that can contribute to L&U, and are categorized as operational or accounting. Data entry and bill cycles are two accounting factors that can impact the amount of L&U gas.

The data collected at each meter reading is entered into a utility's computer system and used to determine the percentage of L&U. Accuracy of the data depends on several factors, including how automated the meter-reading procedure is. If this process is manual, there will be an increased possibility of error, which can potentially become a source for unaccounted for gas. A Local Distribution Company ("LDC") typically purchases and is billed for gas purchases on an end of month basis. However, the LDC cannot typically collect the meter measurements simultaneously at the end of the month due to the number of measurements recorded, especially for the residential classification. The readings need to be broken into multiple readings, thus bill cycles are created. These billing cycles make it difficult to reconcile purchases and sales due to the staggered timing. For example, if there is a colder winter month followed by a relatively mild month, then there could be more gas purchased by the LDC in the prior month than what was billed to its customers; hence, there will be positive unaccounted for gas. There are also many operational factors that can affect L&U.

Leakage, measurement, pressure, third party damage, and theft are a few operational factors that can impact the calculation of L&U gas. Leaks can occur anywhere along the distribution system. The more connections (i.e. welds, fittings, tees, etc.) there are on the system, the greater the likelihood of leaks occurring. Gas, if not completely dry and pure, can have minor contaminants, which can cause nicks in the orifice plates that are used to measure gas. Grit and debris can get into the mechanisms of the meter causing miscalibration of the meters, causing them to over/under measure (sometimes called "long or short" or "fast or slow"). For example, if a meter measures 2% fast, assuming 100,000 cubic feet is purchased, 102,000 cubic feet will register on the [purchase] meter. If the [sales] meter for the customer measures 1% slow (measures 99,000 cubic feet) the total L&U would be the difference between what is purchased [measured] and what is sold [measured], which would be 3,000 cubic feet (or 3% L&U). It is important to frequently calibrate meters to accurately measure gas. As the weather gets colder, the distribution system pressures are increased slightly to maintain increased

reliability. If there are leaks on the system, then as the pressures increase, the leakage amount increases too. Unfortunately, at times, contractors (third parties) can dig into a gas line, causing gas to leak from the system. These leaks are difficult to measure and estimates are made for these occurrences, which also contribute to lost and unaccounted for gas. All of these factors, and more, can contribute to L&U, therefore, it is important for a LDC to track its L&U.

L&U is important because it allows a gas utility to know the integrity of its system. If the L&U percentages start to increase for a gas utility, the increase should be identified. Some questions to be asked would be: 1) How frequently is the system being leak surveyed? 2) Are there appropriate procedures for checking connections (weldment testing, or soap-testing leaks)? 3) How often are meters being calibrated? 4) Are pressure regulators being responsive to changes in flow? 5) Does the LDC need to increase its "call before digging" campaign to increase awareness? 6) Do meters have seals for tamper resistance? These are just a few factors and questions to be asked to keep L&U percentages low. There is less waste of gas (and gas costs) when there is a lower percentage of L&U.

LAC is requesting that the transportation provision of its tariff be changed to include a 1% L&U factor. Prior to this request, LAC's tariffs have not had a provision for L&U for the Transportation customer classification. The firm sales customers have been paying for L&U via the PGA/ACA reconciliation process. In essence, there is a risk that the firm sales customers may be subsidizing the current Transport classification, since they have not been charged for L&U gas. Currently, the transportation provision of MGE's tariff includes a two percent (2%) L&U factor. The Company is proposing to recover costs for L&U gas in the same manner for both operating units [MGE and LAC] by applying it to all customers, including LAC's transportation customers.[6] LAC's proposed new tariff language for L&U is as follows:

> 7. Retainage: The gas retained by the Company shall be one percent of the volume delivered to the Company for transportation to the customer as compensation for Company's lost and unaccounted for and Company use gas; provided however, that upon agreement of the Company and customer in situations where actual lost and unaccounted for gas attributable to facilities serving the customer may be measured accurately, such actual measurement may be used in lieu of the one percent retainage otherwise provided in this subsection.

[6] Scott A. Weitzel, Laclede Gas Company, Direct Testimony for GR-2017-0215 and GR-2017-0216, Lines 17-19, page 30.

Staff does not object to changing the LAC L&U factor from zero percent for the Transportation class; however Staff does question whether the one percent is appropriate. To be consistent with the MGE operating division, Staff recommends a two percent L&U factor for LAC. The two percent factor would decrease the burden on the firm sales customers. The Company has not provided Staff an L&U study or analysis to determine an actual percentage factor for the Transportation class.[7]

Staff Expert/Witness: Derick A. Miles, P.E.

VI. Tariff Changes

A. Territory issues

LAC Service Area Description

Currently, LAC provides a metes and bounds description of its service area (including areas formerly served by Missouri Natural Gas Company) on Tariff Sheet No. 1, as provided below.

> LACLEDE GAS COMPANY DIVISION
>
> City of St. Louis and St. Louis County, Missouri and All Areas and Communities Served in St. Charles County, Missouri. The portion of the Company's service area in St. Charles County south of U.S. Highway 61 and Interstate Highway No. 70 excludes the following areas, all of which are specifically defined in the Stipulation and Agreement in Case Nos. GA-99-107 and GA-99-236, Consolidated: part of Township 47 North, Range East, part of Township 47
> North, Range 2 East, part of Township 46 North, Range I East, and part of Township 46 North,
> Range 2 East. The portion of the Company's service area in St. Charles County north of U.S. Highway 61 and Interstate Highway No. 70 includes all unincorporated areas, certain incorporated areas and certain portions within the City of Wentzville along the main that serves the General Motors Assembly Plant site as more specifically set forth in the Commission's May 4, 1999 Order in the aforementioned cases.
>
> MISSOURI NATURAL GAS COMPANY DIVISION
>
> All Areas and Communities Served in Butler, Iron, Jefferson, Madison, St. Francois, and Ste. Genevieve Counties, Missouri plus the Franklin County District. The

[7] See Data Request Nos. 0329 and 0331 for GR-2017-0215.

> Franklin County District Service Area Generally Consists of Eastern Franklin County and Northeast Crawford County and is Set Out in Detail in the Revised Metes and Bounds Description Filed by the Company on December 4, 1 992 in its Application To Relinquish Certificate of Convenience and Necessity. The Franklin County District also includes the City of Sullivan, Oak Grove Village and certain unincorporated areas of Crawford County, Missouri.

However, for certain areas this description is not specific enough to determine exactly where LAC serves without referring back to the specific Commission cases in which the certificate was approved. For example, LAC's description of its service area regarding the City of Wentzville states, "and certain portions within the City of Wentzville along the main that serves the General Motors Assembly Plant site as more specifically set forth in the Commission's May 4, 1999, Order in the aforementioned cases." Further the description used to explain the service area of the previous Missouri Natural Gas Company that is now part of LAC refers to the Franklin County District as, "generally consists of Eastern Franklin County and Northeast Crawford County and is set out in Detail in the Revised Metes and Bounds Description filed by the Company on December 4, 1992, in its Application To Relinquish Certificate of Convenience and Necessity."

Unless a customer were to conduct a more detailed search of past Commission cases involving Certificates of Convenience and Necessity ("CCN") it would be difficult for them to determine whether or not they are in LAC's service area based on the above descriptions.

As part of Commission Rule 4 CSR 240-3.205, when a gas utility submits an application for a CCN, two of the submission requirements are: a legal description of the area to be certificated and a plat drawn to scale of one-half inch (1/2") to the mile on maps comparable to county highway maps issued by the Missouri Department of Transportation or a plat drawn to scale of two thousand feet (2,000') to the inch.

Unlike LAC, MGE's current effective tariffs provide the township, range and section in each county to which MGE provides service. Below is an example of MGE's service area listed in its currently effective tariffs for Barton County.

continued on next page

Township	Range	Sections
Barton County		
T3Dn	R29w	2,3,4,5,6
T30n	R30w	1,2,3,4,5,6,7
T30n	R31w	1,11,12
T31n	R29w	19,20,21,22,23,26,27,28,29,30,31,32,33,34,35
T31n	R30w	6,7,18,19,20,21,22,23,24,25,26,27,28,29,30,31,32, 33,34,35,36
T31n	R31w	1,12,13,24,25,36
T32n	R30w	19,20,29,30,31,32
T32n	R31w	1,2,11,12,13,14,23,24,25,26,35,36
T33n	R31w	1,2,3,11,12,13,14,23,24,25,26,35,36

MGE's service area description offers more clarity to customers where in the county MGE does or does not provide service. Since, for purposes of a CCN the Company has to provide a legal description of the service area Staff recommends that the legal descriptions provided in past CCN cases pertaining to LAC's service area be added to LAC's tariffs in place of the general description provided in the beginning of this section.

Staff Expert/Witness: Robin Kliethermes

Tariff Changes pertaining to Excess Flow Valves

Staff witness Kathleen A. McNelis addresses necessary tariff changes regarding Excess Flow Valves (EFV) due to changes at the federal level. In addition, LAC and MGE customers who request the installation of an EFV currently pay a cost as outlined in their currently effective tariffs for the installation. Staff will review and address any tariff sheets LAC or MGE may file to address federally required changes to these charges.

Staff Expert/Witness: Robin Kliethermes

B. Tariff Changes Pursuant to Stipulation and Agreement

GC-2016-0149 Tariff Changes

In the Stipulation filed in Case No. GC-2016-0149, MGE agreed, in its next general rate case, to amend its tariff rule 7.02 (Tariff Sheet No.R-47) to clarify and confirm that it will pro-rate all monthly fixed charges on both short bills (less than 26 days) and long bills (more than 35 days). The Stipulation also stated that LAC may add similar confirming language.

MGE and LAC have addressed this additional language in their revised Tariff Sheet No. R-6. The additional language specifically describes the proration calculation that LAC and MGE will use. Staff has concluded that the proposed additional language complies with the Stipulation and Agreement filed in Case No. GC-2016-0149.

GC-2015-0147 Tariff Changes

In the *Unanimous Stipulation and Agreement* filed in Case No. GC-2015-0147 Laclede agreed to the five items below in order to resolve the case.

> (1) Laclede information technology employees and consultants have developed a report that identifies situations where an autopay start date has been scheduled, and one automatic payment should have been made, but no automatic connection exists between the customer's account and a bank. Customer service personnel will monitor the report and take appropriate action as needed. In the event a clerical or technological error by Laclede results in no automatic payment occurring as scheduled, Laclede agrees to: (1) remove from the customer's account any charges or fees that occur as a result of the error, and (2) refund or provide a credit to the customer for charges that are subsequently automatically withdrawn during a subsequent billing cycle as a result of the error.
>
> (2) Laclede agrees to continue to reflect customer credit balances upon the customer's accounts, and promptly return such balances to customers upon their request.
>
> (3) Laclede agrees that, in accordance with Commission Rule 4 CSR 240-13.025(1)(C), Laclede will offer residential customers, in person or via telecommunication or writing, the opportunity to repay undercharges over a period that is twice as long as the period of the undercharge.
>
> (4) Laclede agrees that, in accordance with revised Commission Rule 4 CSR 240-13.020(2)(C)(6), Laclede uses, and will continue to use, customer-supplied readings whenever viable (i.e., in line with prior usage or seasonal usage). Each customer read received by Laclede is entered into Laclede's customer care and billing system. The customer reads are reviewed and, based on the likely accuracy of the read, a designation is added indicating whether the read should, or should not, be used for billing purposes.
>
> (5) Laclede agrees that, in accordance with Commission Rule 4 CSR 240-13.020(2)(B), it will not render a bill based on estimated usage for more than three (3) consecutive billing periods, or one (1) year, whichever is less, based on the conditions described in 4 CSR 240-13.020(2)(A)(6), that is, when it does not obtain an accurate or correct meter reading due to equipment or mechanical failure, including a remote meter reading

> device's failure to transmit a reliable reading. Notwithstanding the allowance of three estimated bills, Laclede intends to continue its current practice of attempting to contact the customer, either in person or by letter, or both, within 30 days after Laclede determines that it is not obtaining an accurate or correct meter reading due to equipment or mechanical failure, and in particular a failure of its AMR devices to transmit a reading, as provided in 4 CSR 240-13.020(2)(A)6.

MGE and LAC in their proposed tariff sheets filed in conjunction with their requests for rate increases in these cases have revised both MGE and LAC Tariff Sheet Nos. R-10, R-6A and R-6 to address items 3, 4 and 5 above, respectively.

Staff Expert/Witness: Joseph P. Roling

C. Removal of "Form of Service Agreements" from Tariffs (MGE)

Staff proposes that LAC adopt MGE's long-standing policy of providing the standard form of service agreement in its tariff. A standard form of service agreement is the standard contract available to customers wishing to receive transportation service under a Local Distribution Company's ("LDC") tariffs. The benefit of having this contract as part of the tariff is that all parties have the ability to know the standard provisions in the contract. If there is any material deviation contemplated from the standard contract in the utility's tariffs, the utility should seek Commission approval for the material deviation.

MGE's standard contracts are currently available in its tariff as follows:

LGS – Tariff Sheets 32-35

LVS – Tariff Sheets 50-53

STP – Tariff Sheets 58.1-58.4

LAC does not have a standard form of service agreement contained in its current tariffs. Staff proposes that MGE's standard contract for LV service be included in LAC's tariffs (with the appropriate name change). Since LAC provided no current contract for its "Experimental School Aggregation Service" and no contract is referenced under those provisions as found in Sheets 41-45, Staff is currently not proposing a standard service contract for STP service.

If LAC is using a standard contract for its Experimental School Aggregation Service, that contract, after Commission review, should be incorporated in LAC's tariffs.

As an administrative matter, MGE's standard contracts that are found in its current tariffs should be updated to reflect its current name. In a similar manner, LAC should update its name when it incorporates a standard contact in tariffs.

D. Purchased Gas Adjustment ("PGA") and Actual Cost Adjustment ("ACA")

In its Cost of Service Report filed herein on September 8, 2017, Staff included a 13 month average level of natural gas and propane inventories in rate base for both LAC and MGE[8], which results in elimination of LAC's Gas Inventory Carrying Cost Recovery (GICCR) mechanism. Therefore, Staff recommends that references to the GICCR found in current tariffs be eliminated. Those references are found in LAC's tariff sheets 15 (A.1.a., A.1.b.), sheet 17 and sheet 28-h. In addition, Staff recommends that LAC's current PGA/ACA recovery of "line of credit fees" be eliminated from LAC tariff sheet No. 22 to be consistent with Staff's proposed elimination of the Gas Inventory Carrying Cost Recovery mechanism.

Staff Expert/Witness: David M. Sommerer

E. Excess Flow Valves: Consistency with requirements of the Federal Pipeline Safety Regulations

Excess Flow Valves ("EFV") are safety devices that automatically shut off or greatly reduce the flow of natural gas on the customer's service line when the downstream flow of natural gas exceeds the design limits of the EFV. When installed on natural gas distribution service lines, EFVs can protect the customer from the negative consequences of accidental damage to the service line, such as a break in the service line from ground movement, natural disasters or excavation damage.

The currently effective regulatory requirements to install EFVs are detailed in a Final Rule published in the Federal Register on October 14, 2016. The United States Department of Transportation (DOT) Pipeline and Hazardous Materials Safety Administration (PHMSA) amended 49 CFR 192.383 to expand the requirement for installation of EFVs, effective April 14, 2017. After April 14, 2017, 49 CFR 192.383(b) requires that each operator must install an

[8] Staff Cost of Service Report, page 62.

EFV on any new or replaced service line[9] serving the following types of services before the line is activated:

(1) A single service line to one single family residence (SFR)[10];

(2) A branched service line[11] to a SFR installed concurrently with the primary SFR service line (i.e., a single EFV may be installed to protect both service lines);

(3) A branched service line to a SFR installed off a previously installed SFR service line that does not contain an EFV;

(4) Multifamily residences with known customer loads not exceeding 1,000 SCFH[12] per service, at time of service installation based on installed meter capacity, and

(5) A single, small commercial customer served by a single service line with a known customer load not exceeding 1,000 SCFH, at the time of meter installation, based on installed meter capacity.

There are some exceptions to the regulatory requirements to install EFVs. 49 CFR 192.383(c) states that an operator need not install an excess flow valve if one or more of the following conditions are present:

(1) The service line does not operate at a pressure of 10 psig[13] or greater throughout the year;

(2) The operator has prior experience with contaminants in the gas stream that could interfere with the EFV's operation or cause loss of service to a customer;

(3) An EFV could interfere with necessary operation or maintenance activities, such as blowing liquids from the line; or

(4) An EFV meeting the performance standards in 49 CFR 192.381 is not commercially available to the operator.

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[9] In the cited regulation, replaced service line means a gas service line where the fitting that connects the service line to the main is replaced or the piping connected to this fitting is replaced.

[10] In the cited regulation, service line serving single-family residence means a gas service line that begins at the fitting that connects the service line to the main and serves only one single-family residence (SFR).

[11] In the cited regulation, branched service line means a gas service line that begins at the existing service line or is installed concurrently with the primary service line but serves a separate residence.

[12] SCFH means standard cubic foot per hour.

[13] psig means pounds per square inch gauge.

Requirements for the installation of EFVs on customers' existing service lines are found in 49 CFR 192.383(d), which states that existing service line customers who desire an EFV on service lines not exceeding 1,000 SCFH and who do not qualify for one or the exceptions in 49 CFR 192.383(c) may request an EFV to be installed on their service lines. If an eligible service line customer requests an EFV installation, an operator must install the EFV at a mutually agreeable date. The operator's rate-setter determines how and to whom the costs of the requested EFVs are distributed.

There are specific requirements for how an operator must notify customers of their right to request an EFV. The notification must be made in the following manner:

> (1) Except as specified in 49 CFR 192.383(c) and except for operators of master meter systems and liquefied petroleum gas operators with fewer than 100 customers, each operator must provide written or electronic notification to customers of their right to request the installation of an EFV. Electronic notification can include emails, Web site postings, and e-billing notices.
>
> (2) The notification must include an explanation for the service line customer of the potential safety benefits that may be derived from installing an EFV. The explanation must include information that an EFV is designed to shut off the flow of natural gas automatically if the service line breaks.
>
> (3) The notification must include a description of EFV installation and replacement costs. The notice must alert the customer that the costs for maintaining and replacing an EVF may later be incurred, and what those costs will be to the extent known.
>
> (4) The notification must indicate that if a service line customer requests installation of an EFV and the load does not exceed 1,000 SCFH and the conditions of 49 CFR 192.383(c) are not present, the operator must install an EFV at a mutually agreeable date.

The Missouri Public Service Commission has not yet adopted the most recent federal amendments to 49 CFR 192.383 into Missouri pipeline regulations in 4 CSR 240-40.030. These federal amendments are one of the subjects of the June 22, 2017 Staff Motion to Initiate Review of Necessary Revisions to the Commission's Rules Regarding Natural Gas Safety in docket AW-2017-0336. The Commission subsequently opened docket GW-2017-0347 so that Staff

could begin taking measures to adopt these federal amendments into Missouri pipeline safety regulations.

LAC/MGE was made aware of these amendments to the federal regulation in a letter the Commission Staff sent on October 20, 2016, containing information regarding the publication of the Final Rule. The letter was addressed to all Missouri Natural Gas Operators and was sent to each operator's designated recipient(s). LAC/MGE has taken actions to comply with these federal amendments by providing notification to customers through its web sites and through customer mailings.

However, the revised P.S.C MO. No. 5 Consolidated, Original Sheet No. R-41 is inconsistent with the regulatory requirements for EFVs. There are two inconsistencies to note:

(1) Rules and Regulations No. 31 is silent regarding the rights of existing service line customers to request EFVs. Staff's position is that this issue must be addressed in the tariff because 49 CFR 192.383(d) requires that the operator's rate-setter determines how and to whom the costs of the requested EFVs are distributed.

(2) Rule and Regulations No. 31 states that the Company shall notify customers of the availability of the option for the Company to install an excess flow valve prior to the installation of a new or replacement service line that is operated at a pressure of at least 10 psig, and such installation shall be made only upon agreement of the customer to pay the installation cost and future maintenance, replacement or removal costs that are specified on Tariff Sheet No. 31-2. Rules and Regulations No. 31 therefore conflicts with 49 CFR 192.383(b) which requires the operator to install an excess flow valve on all new or replacement service lines meeting the conditions of 49 CFR 192.383(b) discussed above. Staff recommends that Rule and Regulations No. 31 of the tariff be amended and that there should not be any charge to customers for installation, future maintenance, replacement or removal of an EFV that is installed due to the requirements of 49 CFR 192.383(b).

Staff Expert/Witness: Kathleen A. McNelis. PE

F. Master Meters: Consistency with PSC Pipeline Safety Regulations (MGE)

The currently effective MGE tariff contains provisions for mobile home service in the General Terms and Conditions for Gas Service in Section 10 - Mobile Home Service[14]. The provisions of this section require among other things that the Company conduct leakage surveys (10.05(A)) and that the Company provides written result of all leak surveys to the court owner (10.05(B)).

The proposed tariff eliminates Section 10 of the currently effective tariff.

Based on Company responses to Staff data requests[15], there is at least one existing customer currently subject to the provisions of Section 10 of the currently effective MGE tariff. Staff's position is that the Company must either maintain this tariff section, or make other amendments to the tariff so that the same services in the currently effective Section 10 of the tariff continue to be provided to the customers currently subject to this tariff provision.

Staff Expert/Witness: Kathleen A. McNelis, PE

G. School Transportation Program ("STP")

The STP was an issue Staff raised in MGE's ACA Case Nos. GR-2013-0422, GR-2014-0324, and GR-2015-0203, regarding the balancing of gas by MGE STP customers. The issue was described in Staff's recommendations for those cases as follows:

> In accordance with Section 393.310 RSMo, MGE's tariff permits schools to participate in a School Transportation Program ("STP"). This program allows the schools to aggregate purchasing of their gas supplies and pipeline transportation. Schools choosing to participate in this program are responsible for obtaining their own natural gas supplies and interstate pipeline capacity to transport their gas to MGE's system. MGE then transports the schools' gas to their premises.[16]
>
> "Balancing" by a transportation customer or a pool of transportation customers means the amount of gas put into MGE's system (receipts) is equal to the amount used or taken out of MGE's system (deliveries). When a transportation customer puts more or less gas into MGE's system than they use, this is referred to as an "imbalance."[17]

[14] Tariff Sheet Nos. R-61 through R-70.

[15] GR-2017-0215, Highly Confidential Staff Data Request No. 0196.3.

[16] Staff Memorandum Case No. GR-2013-0422.

[17] Ibid.

Transportation customers' imbalances may impact MGE's management of its gas supply which can have an effect on the gas costs of its firm sales customers. Transportation customers' imbalances could cause MGE to buy additional, higher-priced gas in the daily gas market; inject or withdraw natural gas in storage; and/or increase or decrease MGE's monthly gas supply purchases. All of these actions could cause the firm sales customers' gas costs to be higher.

MGE's transportation tariffs contain a "Cash Out" provision which reconciles a transportation customer's imbalance by requiring MGE to either buy or sell gas to the transportation customer equal to the customer's monthly imbalance. At the end of each month, if the transporter used more gas than it put into MGE's system, then the transporter pays MGE for the additional gas supplies it used. If the transporter used less gas than it put into the system, MGE purchases this gas from the transportation customer through a credit on the customer's bill. The purchase or sale price of supply is tied to a monthly index[18] and that monthly index price either increases or decreases depending upon the magnitude of a transporter's imbalance. The greater the imbalance, the higher the price the transporter pays or the more discounted the price it receives for its gas supply. The Cash Out provision is important because it provides an incentive for transportation customers to minimize their imbalances. The cost of the gas purchased or sold to transportation customers through the Cash Out process flows through the PGA/ACA account.

MGE tariff Sheet No. 58 states that the STP customers are subject to the Cash Out provisions as found in Tariff Sheet No. 61.2 of MGE's general transportation service.

In the ACA cases noted above, Staff found MGE's practice with regard to the imbalances of its STP customers is not consistent with its tariff, because MGE is not Cashing Out its STP customers.

MGE's explanation for not cashing out the schools is:

> …that it has spread the schools' accounts across 18 different meter read cycles. The school aggregation statute (Section 393.310, RSMo) prohibits MGE's STP tariff from requiring telemetry or special metering, except for individual school meters over one hundred thousand therms annually. As a

[18] The Federal Energy Regulatory Commission glossary defines a price index as: A representative price usually computed and published by a trade journal or transaction venues (e.g., ICE), using information from actual fixed price transactions. Buyers and sellers not active in a market may transact at a price index that is representative of the market. It is also used by state regulators as a benchmark for distributor pass-through of commodity costs to consumers. Market participants who are active and willing to transact at fixed prices during the trading period, in effect, are the ones forming the index prices. A price index based on large volumes, many transactions and many counterparties, is representative of a liquid and competitive market point, but indices formed at points with few transactions may be less reliable.

result, MGE stated that it has been unable to determine monthly imbalances because it cannot match calendar month nominations to usage over multiple meter read cycles. MGE has argued that the Company is not out of compliance with the tariff's cash out provision because it cannot feasibly measure imbalances from which to cash out under the constraints MGE believes are imposed by the school aggregation statute.[19]

** _____ [20] _____ _____ **[21] ** _____ _____ _____ _____ _____ **[22] ** _____ _____ ** it appears MGE may have the ability to match monthly pipeline nominations with STP customers' actual monthly usage and therefore have the ability to cash out its STP customers in accordance with its tariff provision. Staff recommends MGE follow its currently effective tariff and Cash Out its STP customers beginning ** _____ **.

In the alternative if the Commission decides Cash Outs do not apply to MGE's STP customers, Staff recommends increasing the balancing fees paid by the STP customers. MGE's STP tariff sheet no. 55 states:

Balancing Fee

An eligible school entity enrolled in the STP shall be assessed a Balancing Fee of $.001 per ccf for all gas delivered through any meter on which EGM equipment is not installed. This fee is intended to recover costs for such customers associated with any difference between actual daily deliveries and actual daily consumption. This fee shall be credited to the Purchased Gas Adjustment Clause and is subject to adjustment on an annual basis.

[19] Case No. GR-2014-0324 Partial Stipulation and Agreement ("Stipulation"). This Stipulation was filed in Case No. GR-2014-0324, however due to the timing of the *Missouri School Boards' Association Application to Intervene and Motion to Suspend Partial Stipulation and Agreement* and MGE's rate case, the Stipulation was never approved by the Commission and this case was closed.

[20] ** _____ **

[21] DR365 part c (Highly Confidential).

[22] DR365 part h (Highly Confidential).

Based on Staff's review of three years of STP customers' estimated imbalances in conjunction with MGE's cost of injecting and withdrawing gas from storage, Staff recommends increasing the balancing fee in MGE's tariff from $.001 per ccf to $.003 per ccf.

Staff Expert/Witness: Anne M. Crowe

H. Gas Supply Incentive Plan

LAC's current Gas Supply Incentive Plan (GSIP) was established "For purposes of reducing the impact of upward natural gas commodity price volatility on the Company's customers…"[23] The GSIP theory is to encourage LAC to purchase the cheapest reliable gas supply while recognizing that price hedging its gas supplies also affects its gas costs. The requirements are set out in LAC's tariff sheet nos. 28-b.1, 28-b.2, and 28-b.3. The GSIP works by establishing an Annual Benchmark Price for gas supply. If LAC purchases gas below this benchmark price and if LAC's annual Net Commodity Gas Price falls within a pre-defined pricing tier, LAC is allowed to keep 10% of the savings it achieves, up to a maximum of $3 million.

The current GSIP structure was implemented in LAC's 2002 rate case with minor modifications to the tier prices and benchmark structure in subsequent rate cases. In order to determine whether LAC is eligible to participate in the incentive, first, the Annual Benchmark Price and Net Commodity Gas Price are calculated. The Annual Benchmark Price is developed using the First-of-Month (FOM) index prices[24] for locations where Laclede buys its gas supply. The FOM indexes are then weighted by LAC's actual purchase volumes to arrive at the Annual Benchmark Price. LAC's Net Commodity Gas Price is the "…total commodity cost of natural gas supplies purchased for on-system consumers, inclusive of the cost and price reductions associated with the Company's use of financial instrument divided by actual purchase volumes for on-system customers…"[25] The Annual Benchmark Price and Net Commodity Gas Price are

[23] Laclede's tariff P.S.C. MO. No. 5 Consolidated, Second Revised Sheet No. 28-b.1.

[24] The FOM index is a gas price developed and published by Platt's in its trade publication, *Inside FERC's Gas Market Report.* The index price is generally based on a volume-weighted average of fixed price gas supply transactions occurring during the last five business days of the month at a specific location. It is common for an LDC to use index pricing to set the price of gas it buys from its suppliers. Once the FOM index is set at the beginning of the month, it does not change throughout the month.

[25] Laclede's tariff P.S.C. MO. No. 5 Consolidated, Second Revised Sheet No. 28-b.1.

then analyzed to determine if LAC is eligible for incentive compensation. The natural gas pricing tiers and the incentive compensation eligibility requirements are:

	TIER LEVELS
Tier 1	less than or equal to $4.00 per MMBtu
Tier 2	greater than $4.00 per MMBtu and less than or equal to the Incentive Sharing Ceiling set forth below
Tier 3	greater than the Incentive Sharing Ceiling set forth below

The Incentive Sharing Ceiling price shall be as follows:

$8.00 per MMBtu effective October 1, 2007

$8.48 per MMBtu effective October 1, 2008

$8.99 per MMBtu effective October 1, 2009

In order for the Company to be able to receive incentive compensation, Net Commodity Gas Price per MMBtu must be below the Annual Benchmark Price per MMBtu and the Net Commodity Gas Price per MMBtu must fall within Tier 1 or Tier 2. Further, the Annual Benchmark Price per MMBtu must fall within Tier 2 or Tier 3.[26]

If LAC's Annual Benchmark Price falls within Tier 1, it is considered a low priced market environment, and thus, LAC is not rewarded for reducing gas prices further. If LAC's Net Commodity Gas Price falls within Tier 3, it is considered a higher price environment and rewards to LAC are suspended at this point. LAC is eligible for incentive compensation only when LAC's annual Net Commodity Gas Price is within Tier 2 and below the Annual Benchmark Price, which means under the current tariff, LAC receives incentives when its Net Commodity Price is between $4.00 and $8.99 per MMBtu and below the Annual Benchmark Price.

Staff recommends eliminating the GSIP currently in effect for LAC and does not recommend implementing a similar GSIP for MGE.

[26] Ibid.

An incentive mechanism must be a benefit to the company and the ratepayers; this means the ratepayers should be better off (i.e., have lower gas costs) with an incentive plan than without an incentive plan and the Company is rewarded for superior performance. In a recent filing, LAC notes that "Because of the structure of this GSIP, since 2003, Laclede has only qualified for an incentive payment twice, and even those were relatively modest awards. As a result, it is difficult to determine whether the program is effective in motivating superior performance."[27] Based on the history of LAC's eligibility for incentive payments from 2003 through the fiscal year ended September 2016, Staff questions whether the LAC GSIP is producing benefits to the ratepayers in the form of lower gas prices. If there is a question whether the LAC GSIP is producing ratepayer benefits, then a similar GSIP for MGE is not appropriate.

LAC recently entered into a Precedent Agreement with Spire STL Pipeline, LLC, (STL Pipeline) in which LAC will execute a firm transportation service agreement to transport 350,000 Dth per day to St. Louis beginning November 2018 (the anticipated service commencement date).[28] If the STL Pipeline is built, the locations where LAC buys its gas supply will change significantly. Since the current GSIP is based on the locations where LAC currently buys its gas supply, the introduction of the STL Pipeline into LAC's portfolio will make the GSIP outdated in the near future. There is too much uncertainty surrounding LAC's gas supply portfolio and the locations from which LAC will purchase gas supplies in the near future.

In addition, it is possible with the current structure of the GSIP that the incentive calculation will show an artificial "savings" such that LAC receives incentive payments at the same time its customers' overall gas costs increase. LAC's GSIP does not take any pipeline transportation cost into consideration in determining whether LAC should receive an incentive. With the addition of STL Pipeline to the gas supply portfolio, it is possible that LAC may be able to acquire gas supply below the benchmark price, but when the costs of STL Pipeline and Rockies Express Pipeline, LLC,[29] are taken into consideration, that the overall gas costs would increase.

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[27] Case No. GR-2015-0201 Supplemental Response to Staff's Recommendation Regarding Two Specific Issues, page 2.

[28] Laclede Gas Company Securities and Exchange Commission Form 8-K dated January 30, 2017.

[29] Rockies Express Pipeline LLC is the upstream pipeline that will be connecting with STL Pipeline.

For these reasons, Staff recommends eliminating the GSIP currently in effect for LAC and does not recommend implementing a similar GSIP for MGE. However, if the Commission determines the GSIP is appropriate for both LAC and MGE, the LAC GSIP should continue in its current form and an MGE GSIP should be structured similarly to LAC's GSIP with the same gas pricing tiers and an overall cap. Staff suggests $2,500,000[30] for the MGE cap which is a similar amount per customer as LAC's current cap.[31]

Staff Expert/Witness: Anne M. Crowe

I. Off-System Sale Margins and Capacity Release Credits (OSS/CR) Sharing Mechanism

LAC and MGE contract for interstate pipeline capacity/space to transport gas supply to their distribution systems to meet their customers' heating demands on very cold days. Since customers' actual usage varies significantly depending on the weather, LAC and MGE do not need all of their pipeline capacity at all times. When LAC and MGE do not need all of their transportation capacity they can "release" (or "sell") unneeded capacity to a third-party. This selling of unneeded capacity is called a capacity release and is subject to Federal Energy Regulatory Commission (FERC) rules. In order to reserve capacity on the pipeline, LAC and MGE pay capacity reservation fees, which are passed through to their customers via the Purchased Gas Adjustment (PGA)/Actual Cost Adjustment (ACA) mechanism in their tariffs. LAC and MGE receive credits on their pipeline bills for the amount of capacity released to other parties, and these credits reduce gas costs for their customers.

An off-system sale occurs when LAC or MGE sells natural gas to a customer outside of its service area. Depending on the off-system sales location, LAC and MGE may transport the gas to a different location to be sold. LAC and MGE make a margin/profit from off-system sales, which is calculated by subtracting the cost of the gas supply, transportation, and fuel, associated with the sale, from the gross revenues received from the sale. Like capacity release, the off-system sales profits also reduce the overall gas costs of LAC's and MGE's customers.

LAC's and MGE's ratemaking treatment for OSS/CR has varied over the years from being included as a revenue requirement offset in a general rate case to being flowed through the

[30] This was calculated by multiplying approximately 500,000 customers in the MGE service by $5.00.

[31] Laclede's cap is $3 million which is approximately $5.00 per customer ($3,000,000 cap / 600,000 customers).

PGA/ACA as a reduction to gas costs. The current OSS/CR ratemaking treatment for MGE is a result of the Commission's decision in Case No. GR-2004-0209, which moved MGE's OSS/CR from being included as a revenue requirement offset in a general rate case to being flowed through the PGA/ACA as a reduction to gas costs. In addition, the Commission authorized MGE to keep an increasing percentage, or share, of OSS/CR as an incentive for MGE to maximize its OSS/CR levels with the remainder flowed through the PGA/ACA as a reduction to gas costs.

LAC's current OSS/CR sharing grid is similar to MGE's except the dollar sharing tiers are based on $2,000,000 increments for LAC instead of $1,200,000 increments for MGE. MGE's and LAC's current sharing percentages are shown in the tables below.

MGE (Tariff Sheet No. 24.2)		
Annual Capacity Release Credits and Off-System Sales Margins	MGE Retention Percentage	Firm Sales Customer Percentage
First $1,200,000	15%	85%
Next $1,200,000	20%	80%
Next $1,200,000	25%	75%
Amounts Over $3,600,000	30%	70%

LAC (Tariff Sheet No. 28-i)		
Annual Off-System Sales Margins and Capacity Release Revenues	Firm Sales & Firm Transportation Customers Share	Company Share
First $2,000,000	85%	15%
Next $2,000,000	80%	20%
Next $2,000,000	75%	25%
Over $6,000,000	70%	30%

Staff is not opposed to LAC's and MGE's request of a flat percentage sharing of OSS/CR with 25% retained by the respective company and 75% to the ratepayers through the PGA/ACA as a reduction to gas costs. The 25% and 75% sharing is in line with LAC's and MGE's OSS/CR sharing percentages over the last three years and administratively easier for Spire Missouri. However, Staff recommends the customers' share of OSS/CR should remain distinct to each division of Spire Missouri. LAC and MGE have different gas supply portfolios and PGA/ACA rates, therefore MGE customers' credit should be based on the OSS/CR achieved with the MGE supply portfolio and LAC customers' credit should be based on the OSS/CR achieved using the LAC supply portfolio. Another reason Staff recommends the OSS/CR should remain divided by division is that the firm transportation customers of LAC receive a share of the OSS/CR because (unlike MGE's transporters) they pay a portion of pipeline capacity reservation charges. Additionally, 100% of capacity release credits received from LAC's experimental school aggregation service customers are credited to LAC's firm customers.

If the Commission determines a flat percentage sharing of OSS/CR with 25% retained by LAC / MGE and 75% to the ratepayers through the PGA/ACA is not reasonable, Staff recommends the OSS/CR sharing grids for LAC and MGE remain unchanged. Staff's alternative recommendation is consistent with the Commission's decision in Case No. GR-2004-0209, as subsequently updated in Case No. GR-2009-0355.

Staff Expert/Witness: Anne M. Crowe

J. Energy Efficiency and Low Income Programs

Conservation and Energy Efficiency Programs

A group of cost effective energy efficiency programs was created for both MGE and LAC customers, pursuant to the Commission Order in Case No. GR-2013-0171, and the Stipulation and Agreement approved in Case No. GR-2010-0171.

The MGE Energy Efficiency Program and Collaborative were formed subsequent to the Commission Order in Case No. GR-2006-0422. MGE's Energy Efficiency program was given an annual funding goal of 0.5% of gross operating revenues and funding recovery was ordered by the Commission in Case Nos. GR-2009-0355 and GR-2014-0007.

i. Residential High Efficiency Rebate Program

The Residential High Efficiency Rebate Program provides residential customers with rebates for the installation of high efficiency heating systems and thermostats. This program is co-delivered and available for owners of, or customers living in, individually metered units. All eligible customers must apply through MGE and/or LAC, or through a participating heating, ventilating, and air conditioning ("HVAC") or plumbing contractor. Eligible customers are limited to a maximum of two heating system rebates (furnace or boiler), two water heater rebates, or two combination unit rebates, and two thermostat rebates. Staff will address MGE and LAC program change proposals in Rebuttal Testimony.

ii. Residential Natural Gas Energy Efficiency Initiatives

The Residential Natural Gas Energy Efficiency Initiative is a program that will provide energy efficiency education, and high-efficiency natural gas heating and space heating incentives to residential customers within the MGE service area. Individual dwelling units are eligible for a maximum of two heating system rebates, two water heater rebates, and two programmable thermostat rebates. Owners of multiple individually metered dwelling units are limited to a maximum of 50 heating system rebates, 50 water heater rebates, or 50 combination unit rebates, and 50 thermostat rebates during one program year. Funding levels and recovery for this program are subject to the Stipulation and Agreement approved in Case No. GR-2014-0007. The program is administered in-house by MGE (where applicable), and/or via a contracted vendor. Staff will address MGE program change proposals in Rebuttal Testimony.

iii. Residential Direct-Install Low Income Program

The Residential Direct-Install Low Income Program is a LAC program co-delivered in partnership with the local electric utility provider, designed to provide natural gas conservation education, and long-term natural gas savings and bill reductions to low income multifamily and single family customers within the LAC service area. These savings will be provided to the customer through direct-install water consumption reduction and heat measures, which include programmable setback thermostats; low-flow faucet aerators; low-flow showerheads, and insulating water-heater pipe wrap. A program administrator will be chosen by the Energy Efficiency Collaborative, to develop, implement, and maintain services associated with the program. Staff will address LAC program change proposals in Rebuttal Testimony.

iv. Income Eligible Multi-Family Direct Install Program

The Income Eligible Multi-Family Direct Install Program is a MGE program co-delivered in partnership with KCP&L and KCP&L GMO, intended to provide long-term energy savings and bill reductions to income-eligible customers, within the MGE service area, who also meet one of the two following requirements: 1) reside in federally subsidized housing units and fall within the federal programs income guidelines; and/or 2) reside in non-subsidized housing with income levels at or below 200% of federal poverty guidelines. These direct-install measures will include low-flow faucet aerators, low-flow shower-heads, and insulating water-heater pipe wrap, at no cost to the customer. The Energy Efficiency Collaborative, which was formed in Case No. GR-2009-0355 will provide oversight, and the Company will provide funding on an annual basis, toward the goal of 0.5% of the Company's gross operating revenues. Program funding and recovery is subject to the Stipulation and Agreement in Case No. GR-2014-0007. Staff will address MGE program change proposals in Rebuttal Testimony.

v. Independence Power & Light (IPL) Pilot Weatherization Program

The Independence Power & Light ("IPL") Pilot Weatherization Program is an MGE co-delivered low-income program provided in partnership with IPL and is designed to provide weatherization improvement measures to create long-term savings for low-income natural gas customers within the MGE service area. The program will be administered by Truman Heritage/Habitat for Humanity ("THHFH"). Weatherization costs for services provided to any single household may not exceed $7,500 with the total allocated 50% (IPL), and 50% (MGE). Staff will address MGE program change proposals in Rebuttal Testimony.

vi. Whole House Efficiency Program

The Whole House Efficiency Program is designed to promote residential customers to implement house wide improvements via promotion of home energy assessments, comprehensive retrofit services and high efficiency furnaces and water heating equipment. This program will be administered by KCP&L for MGE, pursuant to a written contract between KCP&L and MGE. The Energy Efficiency Collaborative, which was formed in Case No. GR-2009-0355, will provide oversight, and the Company will provide funding on an annual basis, toward the goal of 0.5% of the Company's gross operating revenues. Program funding and

recovery is subject to the Stipulation and Agreement approved in Case No. GR-2014-0007. Staff will address MGE program change proposals in Rebuttal Testimony.

vii. Commercial and Industrial ("C/I") Rebate Program

The C/I Rebate program was designed to provide incentives through standard rates to commercial and industrial customers, for the advancement of natural gas energy efficiency measures, including coverage of all, or part of the cost associated with an energy audit intended to identify a measure that results in a rebate through this program. Non-Profit customers may qualify for specific rebates, commercial and industrial customers may receive prescriptive rebates, and all other rebates that fall within this program will receive customized financial incentives or individually determined incentives using the Societal Benefit/Cost Test. Staff will address LAC program change proposals in Rebuttal Testimony.

viii. Custom Rebates (C/I)

The C/I Rebate program is designed to provide custom rebates for installation of natural gas related energy efficiency improvements to C/I customers who do not qualify for a prescriptive rebate. The custom rebates will be determined on an individual basis, and are also analyzed to properly ensure they pass the Society Benefit/Cost Test. During a program year, a commercial or industrial customer's total rebate is limited to $100,000 or the remaining uncommitted budget for the current program year, whichever is lower. Any remaining uncommitted program budgets may be reallocated by the Energy Efficiency Collaborative to other programs if not part of unexpired rebate pre-approvals committed for proposed customer projects. Staff will address LAC program change proposals in Rebuttal Testimony.

ix. Low income Weatherization

The Low Income Weatherization Program is designed to educate low income residential customers about energy efficiency, and to assist these customers by providing cost-effective weatherization of their homes, to reduce their natural gas bill. This program is delivered in cooperation with the Mo DED Division of Energy. The MGE Weatherization Program tariff sheets need to be revised and updated to reflect that the United Services Community Action Agency ("USCAA") is now the Community Action Agency of Greater Kansas City. The AARA Variance is obsolete (sheets 97a & 97b). Staff will address MGE and LAC program change proposals in Rebuttal Testimony.

Red Tag Program

Red Tag refers to a piece of equipment that has been determined to be unsafe. A technician turns off and "tags out" the equipment, traditionally with a red tag, listing the problem. For natural gas appliances, this can mean a problem within the equipment that creates an unsafe situation, or a problem with venting and duct work that causes exhaust gases to enter the home. The Red Tag program, which both LAC and MGE provide, has two components: Heating Only for Low Income and Avoid Red Tags.

Heating Only for Low Income is an assistance program for low income customers to repair "tagged out" natural gas space heating appliances. Customers with a household income at 185% of the Federal Poverty Level or less qualify for this program. The program is limited to those situations where a household would lack space heating, and the gas supply is or will be shut off due to the red tagged equipment. The eligible red tagged equipment is not limited to heating appliances, but also includes other natural gas appliances that because of an unsafe situation require that gas be shut off to the household. The current program makes available $450 per household in assistance to effect repairs. This assistance from the utility can also be combined with assistance from other sources and money from the customer to cover the cost of more costly repairs or replacements.

Both MGE and LAC have Heating Only for Low Income programs, and they are nearly identical. Currently both companies provide up to $450 per household. LAC currently provides up to $25,000 per year to the program, while MGE provides a total of $100,000. The companies now propose $100,000 in each territory, and propose to increase assistance for furnaces to $700 per household. Repairs to other gas appliances would still be limited to no more than $450. Staff will address these proposed changes in rebuttal.

Avoid Red Tags is a program whereby a utility Field Service Representative who notes a problem with an appliance that would require a Red Tag can instead effect repairs themselves at no cost to the customer. These repairs are limited to situations where the repair can be conducted in 15 minutes or less and costs $20 or less. MGE and LAC currently have identical Avoid Red Tags programs without specified funding levels. The current tariff language does not limit this program to low income customers. Neither company has proposed changes to these programs. Staff will address this proposal in rebuttal.

i. Low Income Energy Assistance Program

LAC provides this program in conjunction with Community Action Agencies to low income customers. It consists of the Arrearage Repayment Program ("ARP") and the Winter Bill Payment Assistance Program. In order to access either form of assistance, customers must apply and be qualified by a Community Action Agency. The Agency will help identify cost free energy saving options available to the customer, assist them with household budgeting, and identify customers for LAC that are candidates for assistance. Currently both programs divide the attributed funding among ranges of household income percentage of the Federal Poverty Level.

The ARP provides assistance to customers who are past due on their bills in an effort to eliminate the past due balance, and is available to customers with a household income up to 185% of the Federal Poverty Level. It requires that customers pay their current bill, as well as make a minimum monthly payment toward the past due amount. The ARP matches this minimum payment amount. The amount of ARP matching payment is separated among two categories of the Federal Poverty Level. In its proposed tariff the Company has decreased funding from $400,000 to $300, but based on other information in the tariff it is believed this amount was intended to be $300,000. Staff will address these proposed changes in rebuttal.

The Winter Bill Payment Assistance Program provided by LAC is a series of monthly bill credits to qualifying customers made during the months of November – April, and is available to customers with a household income of up to 150% of the Federal Poverty Level. The amount of credit available is separated among three categories of the Federal Poverty Level, and then different amounts on different months. The current funding level is $550,000. LAC has proposed to reduce that funding by 45% to $300,000. LAC has proposed to eliminate the tiered credit system and to instead credit $30 per month, which is a reduction of 25-62%. In its proposed tariff LAC failed to include how a Community Action Agency would determine eligibility for the revised program. Staff will address these proposed changes in rebuttal.

ii. Temporary Low Income Energy Affordability Program

This MGE program is available to customers with incomes at 185% of the Federal Poverty Level or less. For customers with past due amounts, it provides assistance up to $600 based on the amount in arrearage and their payments under the Cold Weather Rule. The program is currently funded at $400,000, and is to be discontinued in the Company's

proposed tariff. Instead, MGE customers would be offered the ARP listed above, with funding reduced to $250,000. Staff will address these proposed changes in rebuttal.

Staff Expert/Witness: Jarrod J. Robertson and

Staff Expert/Witness: Curt B. Gateley

VII. LAC/MGE Natural Gas Energy Efficiency Collaboratives

There are no Commission statutes or rules governing the operation of natural gas energy efficiency collaboratives. The LAC collaborative was established and modified in various stipulations and agreements ("S&A") in Case Nos. GR-2005-0284, GR-2007-0208, GR-2010-0171 and GR-2013-0171. The collaborative design anticipates stakeholders will negotiate in good faith on LAC energy efficiency issues.

The MGE collaborative was also established and modified through various S&As, beginning with Case No. GT-2008-0005. One of the guidelines of the MGE collaborative process was the requirement that collaborative members reach consensus for implementing energy efficiency programs. In Case No. GR-2009-0355, Staff raised concerns with this form of collaborative, stating:

> **C. Continuation/Form of Collaborative:**
>
> Staff advises the Commission to reauthorize the Energy Efficiency Collaborative ["EEC"] **as an advisory group with no direct control over Company expenditures.** Decisions about the EE programs ultimately need to be Company decisions. Staff and other stakeholders should not directly determine the expenditure of funds by the Company. Staff and other stakeholders need to be able to do independent analysis of the effectiveness of EE programs; consequently Staff agrees with Mr. Buchanan that the EEC be reconstituted as an advisory group. (Exh. Warren Surrebuttal p. 7, lns. 4-8.) Therefore, Staff supports the continuation of the EEC **with the collaborative modified such that it acts in an advisory capacity.** This is similar to the way other Missouri utilities' EECs are structured. (emphasis added)[32]

The Commission rejected Staff's recommendation, stating "The energy efficiency collaborative formed after MGE's most recently concluded rate case should remain a consensus group, and should not be modified to an advisory group."[33]

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[32] *Staff's Initial Brief*. In the Matter of Missouri Gas Energy and Its Tariff Filing to Implement a General Rate Increase for Natural Gas Service. Case No. GR-2009-0355. page 21.

[33] *Report and Order*. In the Matter of Missouri Gas Energy and Its Tariff Filing to Implement a General Rate Increase for Natural Gas Service. Case No. GR-2009-0355. page 67.

Since the acquisition of MGE, the LAC and MGE energy efficiency collaboratives have implemented best practices for providing energy efficiency programs to both service territories. In February 2014, the utilities combined stakeholders meetings in an attempt to better facilitate discussions for both utilities' energy efficiency programs.

The LAC/MGE S&A processes appeared to work efficiently until Staff began participating in Missouri Energy Efficiency Investment Act ("MEEIA") collaboratives established by 4 CSR 240-20.094(8) and MEEIA S&As.

Of pertinent part, 4 CSR 240.094(8) states:

> (A) Utility-specific Collaboratives. Each electric utility and its stakeholders shall for a utility-specific advisory collaborative for **input on the design, implementation, and review** of demand-side programs… (emphasis added)

Further guidance is provided in MEEIA S&As. For instance, an Ameren Missouri S&A in Case No. EO-2012-0142[34] states:

> 14. Stakeholder Meetings. Ameren Missouri will continue meeting at least quarterly with its stakeholder group which shall consult with and advise Ameren Missouri on at least the topics the stakeholder group currently addresses, with Ameren Missouri providing at least information of the nature it currently provides. The stakeholder group will consist of the Signatories who choose to participate and their invitees. The stakeholder group will: (a) receive program updates from Ameren Missouri and EM&V updates and report presentations from Ameren Missouri's evaluators; (b) ***consult with and advise*** Ameren Missouri on the possible expansion of energy efficiency and demand response programs, and the design of such programs (possibly including co-delivery of programs with gas/water utilities); and (c) ***consult with and advise*** Ameren Missouri on issues related to EM&V (including Ameren Missouri's proposed EM&V Requests for Proposals, the scope of work for future EM&V projects, and issues relating to net-to-gross ratios that may be used in future MEEIA plans), and the TRM. Ameren Missouri will circulate a draft agenda for each stakeholder group meeting approximately one week prior to the scheduled meeting date. Any stakeholder group member can suggest items for the agenda for a stakeholder group meeting. ***A suggested agenda item will be included on the agenda for a stakeholder group meeting so long as a majority of the Signatories voting on inclusion of the suggested item believe it is appropriate to do so.*** This stakeholder group fulfills the

[34] *Unanimous Stipulation and Agreement Resolving Ameren Missouri's MEEIA Filing*. In the Matter of Union Electric Company d/b/a Ameren Missouri's Filing to Implement Regulatory Changes in Furtherance of Energy Efficiency as Allowed by MEEIA, Filed July 5, 2012, approved August 1, 2012.

requirements of 4 CSR 240-20.094(8)(A) regarding a utility specific collaborative. The Signatories agree to support efforts to develop a statewide TRM as set forth in 4 CSR 240- 20.094 (8)(B). If a statewide TRM is approved by the Commission prior to the end of Ameren Missouri's initial three-year MEEIA programs, the Signatories agree that Ameren Missouri's TRM will continue to be used for the Plan. (emphasis added, footnotes omitted)

Similarly, another Ameren Missouri S&A, in Case No. EO-2015-0055[35], states:

9. Identification of Additional Energy Savings.

a. ***Ameren Missouri agrees to a collaborative process with the Signatories and other interested parties to address*** new, unserved, or underserved customer markets and identify additional cost-effective energy and demand savings strategies (a possible additional 300 to 400 gigawatt-hours ("GWh") of savings) that could be considered for implementation for Program years 2017 and 2018 if all customers within the customer class realize a benefit. The possible additional 300 to 400 GWh of savings is neither a floor nor a cap. Although there may be disagreement among the Signatories about whether or how easily additional savings could be achieved***, the Signatories agree to work together through the collaborative process to identify strategies to increase cost-effective savings, to determine the feasibility of implementing additional programs or measures, and to prioritize any additional programs or measures the collaborative proposes to implement.*** The collaborative will also identify any increase in the Stipulated Plan's budget necessary to implement additional programs or measures. Cost-effective strategies to be assessed may include, but are not limited to: expanding upstream programs to include additional lighting, HVAC, and consumer electronics; using whole building benchmarking as a tool to prioritize existing buildings over 50,000 square feet for delivery of a streamlined bundle of energy efficiency services (including retro-commissioning); refining target markets so as to reduce the potential for free riders; evaluating and re-evaluating incentive payment levels with a view to modifying them if appropriate; evaluating charging participants for Program services at just and reasonable rates ***to be approved by the Commission***, evaluating earnings opportunity in relationship to participant payments; using a single point of contact to increase participation rates and reduce customer acquisition costs; working with large employers in the service territory to market energy efficiency services to their employees; providing assistance with whole building deep energy savings for new construction and existing buildings; utilizing whole home

[35] *Non-Unanimous Stipulation and Agreement.* In the Matter of Union Electric Company d/b/a Ameren Missouri's 2nd Filing to Implement Regulatory Changes in Furtherance of Energy Efficiency as Allowed by MEEIA. File No. EO-2015-0055. Filed February 5, 2016. Approved February 10, 2016.

> approaches for new and existing homes; and co-delivery with gas utilities. The Signatories also agree to consider low-income approaches not already addressed in the MFLI Program, which need not pass a cost effectiveness test. The Signatories agree to have these discussions between the fourth and sixth months after the effective date of tariff sheets implementing the Stipulated Plan. The Signatories further agree the Company will develop and file in this docket a report summarizing the collaborative discussions described above. The cost to the Company of the collaborative process and the associated report will be recovered through the DSIM as part of the Research & Development budget specified in paragraph 6.
>
> b. ***The Company must seek and receive Commission approval prior to adding any new programs and their associated savings targets*** (megawatt ("MW"), megawatt-hour ("MWh")) and budgets, identified in the collaborative process. (emphasis added)

The point of these examples is to demonstrate that unlike the process created for the LAC and MGE collaboratives, the MEEIA practice is to establish an advisory group or collaborative where stakeholders can provide input, feedback, and advice on utility MEEIA programs, not "vote," "negotiate," or "reach consensus" on issues.

The current LAC/MGE arrangement places collaborative members, and particularly Staff, in the awkward position of "approving" tariff,[36] budget, and program changes outside a transparent Commission process. Therefore, Staff recommends the operation of the LAC/MGE energy efficiency collaborative(s) be modified to be more consistent with the process used for MEEIA collaboratives (i.e., the LAC/MGE collaborative members provide input and advice to LAC/MGE and any changes to budget or program design will be submitted to the Commission for approval).

Staff Expert/Witness: Natelle Dietrich

Appendices

Appendix 1 - Staff Credentials

Appendix 2 - Other Staff Schedules

[36] Some submittal letters included with tariff filings that result from collaboratives have even indicated Staff's (or collaborative members') support/approval of the tariff filing.

BEFORE THE PUBLIC SERVICE COMMISSION

OF THE STATE OF MISSOURI

In the Matter of Laclede Gas Company's Request to Increase Its Revenues for Gas Service	)))	Case No. GR-2017-0215
In the Matter of Laclede Gas Company d/b/a Missouri Gas Energy's Request to Increase Its Revenues for Gas Service	)))	Case No. GR-2017-0216

AFFIDAVIT OF DANIEL I. BECK, PE

STATE OF MISSOURI)
) ss.
COUNTY OF COLE)

COMES NOW DANIEL I. BECK, PE and on his oath declares that he is of sound mind and lawful age; that he contributed to the foregoing Staff Report - Class Cost of Service; and that the same is true and correct according to his best knowledge and belief.

Further the Affiant sayeth not.

Daniel I Beck

DANIEL I. BECK, PE

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 21st day of September, 2017.

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 Laclede Gas Company's Request to Increase Its Revenues for Gas Service	)))	Case No. GR-2017-0215
In the Matter of Laclede Gas Company d/b/a Missouri Gas Energy's Request to Increase Its Revenues for Gas Service	)))	Case No. GR-2017-0216

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 Report - Class Cost of Service; 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 21st day of September 2017.

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 Laclede Gas Company's Request to Increase Its Revenues for Gas Service	)))	Case No. GR-2017-0215
In the Matter of Laclede Gas Company d/b/a Missouri Gas Energy's Request to Increase Its Revenues for Gas Service	)))	Case No. GR-2017-0216

AFFIDAVIT OF NATELLE DIETRICH

STATE OF MISSOURI)
) ss.
COUNTY OF COLE)

COMES NOW NATELLE DIETRICH and on her oath declares that she is of sound mind and lawful age; that she contributed to the foregoing Staff Report - Class Cost of Service; and that the same is true and correct according to her best knowledge and belief.

Further the Affiant sayeth not.

Natelle Dietrich
NATELLE DIETRICH

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 21st day of September 2017.

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 Laclede Gas Company's Request to Increase Its Revenues for Gas Service	)))	Case No. GR-2017-0215
In the Matter of Laclede Gas Company d/b/a Missouri Gas Energy's Request to Increase Its Revenues for Gas Service	)))	Case No. GR-2017-0216

AFFIDAVIT OF CURT B. GATELEY

STATE OF MISSOURI)
) ss.
COUNTY OF COLE)

COMES NOW CURT B. GATELEY and on his oath declares that he is of sound mind and lawful age; that he contributed to the foregoing Staff Report - Class Cost of Service; and that the same is true and correct according to his best knowledge and belief.

Further the Affiant sayeth not.

CURT B. GATELEY

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 21st day of September, 2017.

D. SUZIE MANKIN
Notary Public - Notary Seal
State of Missouri
Commissioned for Cole County
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Notary Public

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OF THE STATE OF MISSOURI

In the Matter of Laclede Gas Company's Request to Increase Its Revenues for Gas Service	)))	Case No. GR-2017-0215
In the Matter of Laclede Gas Company d/b/a Missouri Gas Energy's Request to Increase Its Revenues for Gas Service	)))	Case No. GR-2017-0216

AFFIDAVIT OF ROBIN KLIETHERMES

STATE OF MISSOURI)
) ss.
COUNTY OF COLE)

COMES NOW ROBIN KLIETHERMES and on her oath declares that she is of sound mind and lawful age; that she contributed to the foregoing Staff Report - Class Cost of Service; and that the same is true and correct according to her best knowledge and belief.

Further the Affiant sayeth not.

ROBIN KLIETHERMES

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 21st day of September 2017.

D. SUZIE MANKIN
Notary Public - Notary Seal
State of Missouri
Commissioned for Cole County
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BEFORE THE PUBLIC SERVICE COMMISSION

OF THE STATE OF MISSOURI

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In the Matter of Laclede Gas Company d/b/a Missouri Gas Energy's Request to Increase Its Revenues for Gas Service	)))	Case No. GR-2017-0216

AFFIDAVIT OF KATHLEEN A. McNELIS, PE

STATE OF MISSOURI)
) ss.
COUNTY OF COLE)

COMES NOW KATHLEEN A. McNELIS, PE and on her oath declares that she is of sound mind and lawful age; that she contributed to the foregoing Staff Report - Class Cost of Service; and that the same is true and correct according to her best knowledge and belief.

Further the Affiant sayeth not.

KATHLEEN A. McNELIS, PE

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 21st day of September 2017.

D. SUZIE MANKIN
Notary Public - Notary Seal
State of Missouri
Commissioned for Cole County
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Notary Public

BEFORE THE PUBLIC SERVICE COMMISSION

OF THE STATE OF MISSOURI

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In the Matter of Laclede Gas Company d/b/a Missouri Gas Energy's Request to Increase Its Revenues for Gas Service	)))	Case No. GR-2017-0216

AFFIDAVIT OF DERICK A. MILES, PE

STATE OF MISSOURI)
) ss.
COUNTY OF COLE)

COMES NOW DERICK A. MILES, PE and on his oath declares that he is of sound mind and lawful age; that he contributed to the foregoing Staff Report - Class Cost of Service; and that the same is true and correct according to his best knowledge and belief.

Further the Affiant sayeth not.

DERICK A. MILES, PE

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 21st day of September, 2017.

D. SUZIE MANKIN
Notary Public - Notary Seal
State of Missouri
Commissioned for Cole County
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OF THE STATE OF MISSOURI

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AFFIDAVIT OF JARROD J. ROBERTSON

STATE OF MISSOURI)
) ss.
COUNTY OF COLE)

COMES NOW JARROD J. ROBERTSON and on his oath declares that he is of sound mind and lawful age; that he contributed to the foregoing Staff Report - Class Cost of Service; and that the same is true and correct according to his best knowledge and belief.

Further the Affiant sayeth not.

JARROD J. ROBERTSON

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 21st day of September, 2017.

D. SUZIE MANKIN
Notary Public - Notary Seal
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AFFIDAVIT OF JOSEPH P. ROLING

STATE OF MISSOURI)
) ss.
COUNTY OF COLE)

COMES NOW JOSEPH P. ROLING and on his oath declares that he is of sound mind and lawful age; that he contributed to the foregoing Staff Report - Class Cost of Service; and that the same is true and correct according to his best knowledge and belief.

Further the Affiant sayeth not.

Joseph P. Roling

JOSEPH P. ROLING

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 21st day of September, 2017.

D. SUZIE MANKIN
Notary Public - Notary Seal
State of Missouri
Commissioned for Cole County
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D Suzie Mankin

Notary Public

BEFORE THE PUBLIC SERVICE COMMISSION

OF THE STATE OF MISSOURI

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AFFIDAVIT OF DAVID M. SOMMERER

STATE OF MISSOURI)
) ss.
COUNTY OF COLE)

COMES NOW DAVID M. SOMMERER and on his oath declares that he is of sound mind and lawful age; that he contributed to the foregoing Staff Report - Class Cost of Service; and that the same is true and correct according to his best knowledge and belief.

Further the Affiant sayeth not.

David M. Sommerer

DAVID M. SOMMERER

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 21st day of September, 2017.

D. SUZIE MANKIN
Notary Public - Notary Seal
State of Missouri
Commissioned for Cole County
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D. Suzie Mankin

Notary Public

BEFORE THE PUBLIC SERVICE COMMISSION

OF THE STATE OF MISSOURI

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AFFIDAVIT OF MICHAEL L. STAHLMAN

STATE OF MISSOURI)
) ss.
COUNTY OF COLE)

COMES NOW MICHAEL L. STAHLMAN and on his oath declares that he is of sound mind and lawful age; that he contributed to the foregoing Staff Report - Class Cost of Service; and that the same is true and correct according to his best knowledge and belief.

Further the Affiant sayeth not.

MICHAEL L. STAHLMAN

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 21st day of September, 2017.

D. SUZIE MANKIN
Notary Public - Notary Seal
State of Missouri
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