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Sponsoring Party: Laclede Gas Company;
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**LACLEDE GAS COMPANY
MISSOURI GAS ENERGY**

**GR-2017-0215
GR-2017-0216**

REBUTTAL TESTIMONY

OF

TIMOTHY S. LYONS

OCTOBER 2017

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SCHEDULES

TSL-R1 Bill Impacts

1 **REBUTTAL TESTIMONY OF TIMOTHY S. LYONS**

2 **Q. PLEASE STATE YOUR NAME, OCCUPATION AND BUSINESS**
3 **ADDRESS.**

4 A. My name is Timothy S. Lyons. I am a Partner at ScottMadden, Inc. My business
5 address is 1900 West Park Drive, Suite 250, Westborough, Massachusetts 01581.

6
7 **Q. ARE YOU THE SAME TIMOTHY S. LYONS WHO PREVIOUSLY**
8 **SPONSORED DIRECT TESTIMONY IN THIS PROCEEDING?**

9 A. Yes, I am. I provided direct testimony (“Direct Testimony”) before the Missouri
10 Public Service Commission (the “Commission”) on behalf of Laclede Gas
11 (“LAC”) and Missouri Gas Energy (“MGE”), operating units of Laclede Gas
12 Company (“Laclede” or “Company”).

13
14 **Q. WHAT IS THE PURPOSE OF YOUR REBUTTAL TESTIMONY?**

15 A. The purpose of this rebuttal testimony (“Rebuttal Testimony”) is to respond to the
16 Staff of the Missouri Public Service Commission’s (“Staff”) Class Cost of Service
17 Report (“Staff Report”) related to the LAC and MGE proposed Class Cost of
18 Service Study (“CCOS”) and Rate Design. In addition, this rebuttal testimony
19 will respond to the direct testimony of Brian C. Collins on behalf of the Missouri
20 Industrial Energy Consumers (“MIEC”) related to the LAC and MGE CCOS and
21 Rate Design proposals.

22

1 **Q. HAVE YOU PREPARED SCHEDULES SUPPORTING YOUR REBUTTAL**
2 **TESTIMONY?**

3 A. Yes. Schedule TSL-R1 supports this rebuttal testimony. This Schedule was
4 prepared by me or under my direction and is incorporated herein by reference.

5

6 **I. SUMMARY OF POSITIONS**

7 **Q. PLEASE SUMMARIZE STAFF'S RECOMMENDATIONS RELATED TO**
8 **LAC AND MGE'S PROPOSED CCOS AND RATE DESIGN.**

9 A. Staff recommends the following changes to the LAC and MGE CCOS and Rate
10 Design proposals:

11 1. Consolidate LAC's three Commercial and Industrial General Service classes
12 into one General Service Class.

13 2. Consolidate MGE's Small and Large General Service classes into one General
14 Service Class.

15 3. Utilize Staff's CCOS as the basis for establishing revenue targets and rate
16 design.

17 4. Set LAC's revenue targets by apportioning the rate increase to each rate class
18 on an equal percentage basis. For the portion of the rate increase at or below

19 Staff's recommendation of \$12.0 million, apportion the rate increase to each
20 rate class on an equal percentage basis; however, the portion of the increase

21 that would be applicable to the Large Volume, Transportation and Interruptible
22 rate classes are allocated to the consolidated General Service class. For the

23 portion of the rate increase above Staff's recommendation of \$12.0 million,

1 apportion the rate increase to each rate class on an equal percentage basis.

2 The revenue targets reflect Staff’s approach that each rate class should not
3 overpay or underpay by more than 5.0 percent of their revenue requirement.

4 5. Set MGE’s revenue targets by apportioning the rate increase to each rate class
5 based on an equal percentage following a \$0.7 million shift in revenue
6 responsibility to the Large Volume rate class from the Residential rate class.

7 The revenue targets reflect Staff’s approach that each rate class should not
8 overpay or underpay by more than 5.0 percent of their revenue requirement.

9 6. Eliminate the Residential, C1, C2, and C3 Seasonal air conditioning customer
10 classes for LAC.

11 7. Revise LAC’s Residential rates to reflect a customer charge of \$26.00 per
12 month and a flat, per-therm volumetric rate. As an alternative, Staff prepared
13 an inclining block rate design.

14 8. Revise MGE’s Residential rates to reflect a customer charge of \$20.00 per
15 month and a flat, per therm volumetric rate. As an alternative, Staff prepared
16 an inclining block rate design.

17 9. Set LAC’s consolidated General Service rates to reflect a customer charge of
18 \$48.52 per month and a flat, per-therm volumetric rate.

19 10. Set MGE’s consolidated General Service rates to reflect a customer charge of
20 \$37.50 per month and a flat, per-therm volumetric rate.

21 11. Set LAC’s Large Volume, Large Volume Transport and Interruptible rates to
22 reflect no change in revenue requirement.

1 12. Set MGE's Large Volume and Unmetered Lighting Service to reflect an equal
2 percentage increase in each rate element.

3

4 **Q. PLEASE SUMMARIZE THE AREAS OF AGREEMENT WITH STAFF.**

5 A. LAC and MGE generally agree with many of Staff's CCOS and rate design
6 methodologies and recommendations, including:

7 1. The overall approach to developing the CCOS that determines each customer
8 class's responsibility to the overall cost of service. Staff's CCOS follows the
9 same underlying principle as the LAC and MGE CCOS: to allocate costs in a
10 manner that best reflects cost causation. However, there are some important
11 methodology differences between the studies that are discussed below.

12 2. Key principles considered in developing rate design recommendations. LAC
13 and MGE agree that rates should be fair, minimizing inter-and intra-class
14 inequities to the extent possible, and rate changes should be tempered by rate
15 continuity and equity concerns.

16 3. LAC and MGE generally agree with Staff's approach to simplify the rate
17 design, but only in the context of the proposed Revenue Stabilization
18 Mechanisms ("RSM"). The proposed RSM, as noted in direct testimony,
19 provides flexibility in the rate design that enables LAC and MGE to better
20 balance their rate design objectives, including moderating customer bill
21 impacts on low use customers and adopting a simpler rate design.

22

1 **Q. PLEASE SUMMARIZE LAC’S AND MGE’S POSITION ON STAFF’S**
2 **RECOMMENDATIONS.**

3 A. The position of LAC and MGE on Staff’s recommendation is presented below.

4 1. LAC and MGE continue to support their proposed Small General Service
5 (“SGS”) and Large General Service (“LGS”) rate classes. They believe that
6 the proposed rate classes better reflect the underlying cost differences in
7 serving different types of customers within the General Service class. The
8 General Service class includes customers that have a wide variety of gas
9 demands. The General Service class includes, for example, small, storefront
10 businesses whose gas demands are very similar to those of a residential
11 customer in addition to large commercial businesses whose gas demands are
12 substantially greater. The differences in gas demand have an impact on the
13 cost of service, with some customers, for example, having significantly higher
14 service connection costs (e.g., meters, regulators and services) than other
15 customers. In addition, the proposed SGS and LGS rate classes help to
16 mitigate bill impacts on General Service customers, especially low-use
17 customers through lower customer charges.

18 2. LAC and MGE continue to support the main, service and meter allocators
19 used in their respective CCOS studies since they are more consistent with
20 previously filed CCOS studies, are recognized by NARUC and other
21 authorities of utility rate design, better reflect the planning of facilities
22 investments, and better reflect the underlying cost of service than those
23 respective allocators used in Staff’s CCOS.

- 1 3. LAC and MGE continue to support their proposed revenue targets based on
2 the proposed rate increase since it moves each rate class – including the SGS
3 and LGS rate classes – closer to their individual class cost of service (i.e., at
4 equalized rates of return). The proposed revenue targets also better reflect
5 customer bill impact considerations when adjusted to align LAC’s and MGE’s
6 and Staff’s revenue requirement increases, especially for low-use SGS
7 customers.
- 8 4. LAC does not oppose the proposed elimination of the Residential, C1, C2, and
9 C3 seasonal air conditioning customer classes.
- 10 5. LAC and MGE continue to support, in the context of the proposed RSM, steps
11 to moderate the impact of customer charges on low-use customers as well as
12 remove the financial disincentive to promote customer conservation and
13 energy efficiency measures, which, without the RSM, would have an adverse
14 impact on utility earnings since traditional utility rate designs tie revenues to
15 customer use.
- 16 6. LAC and MGE continue to support, in the context of their proposed RSM,
17 setting volumetric charges through a single volumetric charge, with a few
18 exceptions for large Commercial and Industrial (“C&I”) customers.¹ LAC
19 and MGE do not support the alternative approach of an inclining block rate
20 design.

21

22 **Q. PLEASE DESCRIBE MIEC’S RECOMMENDATIONS.**

¹ Declining block rates for large industrial customers are supportive of increased economic output so long as the block margin exceeds the incremental cost of service

1 A. The MIEC proposes a correction to MGE's CCOS related to an incorrect cell
2 reference in the spreadsheet.² In addition, MIEC proposes to move class revenue
3 targets closer to their full cost of service.

4

5 **Q. DOES MGE AGREE WITH MIEC'S PROPOSED REVISION TO THE**
6 **CCOS?**

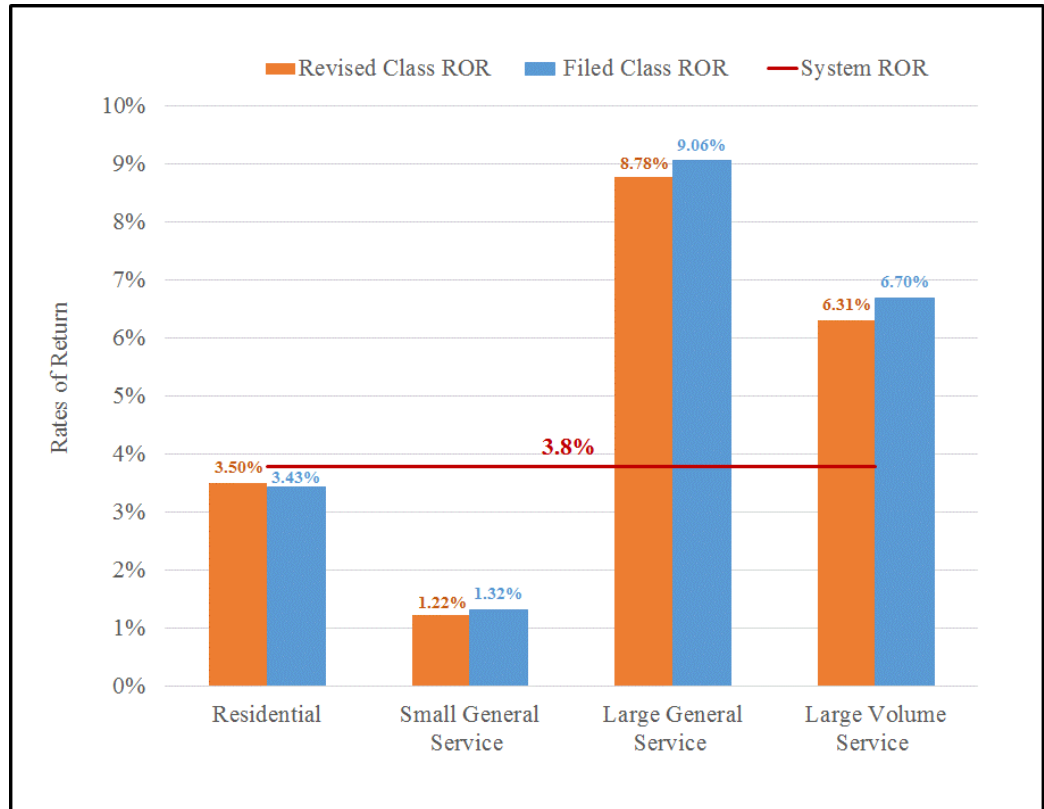
7 A. Yes, MGE has reviewed and agrees with MIEC's proposed correction to the
8 CCOS. Figure 1 illustrates the impact of that change. The revised CCOS is used
9 as the starting point for CCOS and rate design analysis included in this rebuttal
10 testimony.

11 While LAC and MGE agree with MIEC's goal to gradually move the class
12 revenue targets closer to their full cost of service, they have concerns with the
13 customer bill impacts associated with the proposed rate increases.

² Direct Testimony of Brian C. Collins on behalf of Missouri Industrial Energy Consumers, pg. 7

1

Figure 1: Revised Comparison of Class Rates of Return (MGE)



2

3

4 Q. WHY IS THE RSM IMPORTANT TO THE RATE DESIGN PROPOSALS?

5 A. Gas utility costs are largely fixed and change very little in the short run as usage
6 levels change. However, distribution rates, especially for residential and small
7 commercial customers, generally have a significant variable or usage-based
8 component (or per Therm) that changes customer bills and revenues substantially
9 as usage levels change. To the extent that actual usage is significantly lower than
10 the level assumed in rates, then the utility rates no longer recover the full cost of
11 service. Conversely, to the extent that actual usage is significantly higher than the
12 amount assumed in rates, then the utility rates recover revenues in excess of the
13 cost of service. This represents a misalignment between utility costs and rates.

1 There are many causes for variations in usage, including the impact of
2 weather, energy conservation, and installation of energy efficiency measures.

3
4 **Q. WHY IS THE MISALIGNMENT A PROBLEM?**

5 A. The misalignment between utility costs and rates is a problem for two reasons.
6 First, increases or decreases in usage will cause the utility to over- or under-
7 collect its fixed costs. This creates improper financial incentives, including
8 incentives for utilities to sell as much natural gas as possible. It also creates
9 financial disincentives for utilities to encourage customers to be more energy
10 efficient.

11 Second, the mismatch between utility costs and rates creates bill volatility
12 for customers as well as revenue and earnings volatility for utilities. For example,
13 colder-than-normal winter temperatures may lead to higher customer bills and
14 higher utility revenues without a corresponding increase in utility delivery costs, a
15 result that is exacerbated for customers as gas prices tend to also increase during
16 such winters. Conversely, warmer-than-normal winter temperatures may lead to
17 lower customer bills and lower utility revenues without a corresponding decrease
18 in utility delivery costs, and at a time when gas prices tend to moderate.

19
20 **Q. HOW DOES THE RSM CORRECT THIS PROBLEM?**

21 A. The RSM adjusts the relationship between the amount of natural gas delivered by
22 a utility and the rates it charges from such delivery in order to keep revenue and
23 the distribution portion of customers' bills more consistent. Such stabilization

1 impacts revenues due to weather and energy efficiency, but keeps the utility
2 accountable for maintaining customer levels and controlling costs. According to
3 The American Council for an Energy-Efficiency Economy (ACEEE) 2017
4 Scorecard, 22 states have implemented a decoupling mechanism for gas utilities,
5 and seven states have a form of partial decoupling know as a “Lost Revenue
6 Adjustment Mechanism (LRAM)”.³

7

8 **Q. WHAT ARE THE MAIN BENEFITS OF THE RSM?**

9 A. There are several benefits associated with the RSM. The RSM:

- 10 • Stabilizes customer bills and improves LAC’s and MGE’s ability to recover
11 their costs;
- 12 • Provides LAC and MGE with a more stable stream of revenues, and prevents
13 over-collection and under-collection of costs as actual sales vary from test
14 year sales due to weather and/or energy efficiency;
- 15 • Eliminates LAC’s and MGE’s financial disincentive to promote energy
16 efficiency; and
- 17 • Helps ensure fixed cost recovery while preventing over-recoveries.

18

19 **II. CONSOLIDATION OF GENERAL SERVICE CLASSES**

20 **Q. WHAT IS STAFF’S RECOMMENDATION REGARDING THE**
21 **PROPOSED CONSOLIDATION OF LAC’S THREE COMMERCIAL AND**

³ Berg et. al., *The 2017 State Energy Efficiency Scorecard* (2017), <http://aceee.org/research-report/u1710>.

1 **INDUSTRIAL GENERAL SERVICE CLASSES INTO ONE GENERAL**
2 **SERVICE CLASS?**

3 A. Staff proposes to consolidate LAC’s three Commercial and Industrial General
4 Service classes (*i.e.*, C1, C2 and C3) into one General Service Class, as well as
5 consolidate MGE’s Small and Large General Service classes into one General
6 Service.⁴ Staff’s rationale for the proposed consolidation is:

- 7 1. The billing determinants for the SGS and LGS rate classes do not reflect the
8 appropriate number of customers and usage associated with those rate classes
9 since some customers classified as SGS have annual usage consistent with the
10 LGS rate class, while some customers classified as LGS have annual usage
11 consistent with the SGS rate class.
- 12 2. Many customers would receive a lower bill for the same usage if served on a
13 rate schedule different than the schedule for their annual usage. This result is
14 inconsistent with the results of the CCOS. The issue is further complicated
15 following a rate change as customers move to their appropriate rate class
16 resulting in a shift of customers, usage and revenues among the rate classes.
- 17 3. Class consolidation would better mitigate bill impacts resulting from the
18 proposed increase.

19
20 **Q. WHAT IS THE GENERAL APPROACH TO ESTABLISHING RATE**
21 **CLASSES?**

⁴ Staff Class Cost of Service Report, pg. 14

1 A. The general approach to establishing rate classes is to group together those
2 customers with similar demand characteristics while keeping distinct those
3 customers with different demand characteristics. Demand characteristics are an
4 important driver of utility costs and thus an important driver of assigning costs to
5 each rate class.

6 The approach is discussed in industry literature related to developing sound rate
7 structures.⁵ The NARUC Gas Distribution Rate Design Manual notes,

8 “In order to design rates, it is first necessary to divide the utility’s
9 customers into various rate classes. This is done by defining rate
10 classes according to certain characteristics which are common to
11 all members of the class. The specific factors used to define rate
12 classes will depend upon the characteristics of the customer
13 population and the goals to be achieved. Factors which have been
14 used to define rate classes include: (1) size, (2) customer type, (3)
15 type of usage, (4) interruptible or firm service, (5) load factor, and
16 (6) alternate fuel capability...In determining which factors to use
17 in setting rate classes, it is necessary to consider the objectives to
18 be achieved. In theory utility rates could be designed for only a
19 single rate class. However, an appropriate division of customers
20 into rate classes can achieve a variety of goals, including economic
21 efficiency, fairness and equity, reflection of costs, social needs,
22 competitiveness, operating efficiency, business climate

⁵ See e.g., Bonbright, James, Danielsen, Albert, and Kamerschen, David. “Principles of Public Utility Rates.” Public Utilities Reports, Inc. pp. 377-407 (2nd ed. 1988).

1 development, rate stability, conservation and political feasibility.
2 The need for a reasonable division of rate classes to achieve these
3 goals exists whether the rates are designed based on cost of service
4 principles or some other means.”⁶

5 The proposed SGS and LGS classes represent customers with distinct demand
6 characteristics, as shown in Figure 2. Specifically, the LGS use per customer is
7 more than 30 times the SGS use per customer for LAC and more than 20 times for
8 MGE.

9 **Figure 2: Comparison of SGS and LGS Demand Characteristics**

Rate Classes	Use per Customer (Therms)	
	LAC	MGE
SGS	2,095	1,898
LGS	63,160	39,185

10

11 **Q. DO LAC AND MGE AGREE WITH STAFF’S RECOMMENDATION TO**
12 **CONSOLIDATE THE GENERAL SERVICE CLASS?**

13 A. No, LAC and MGE continue to support their proposed Small General Service
14 (“SGS”) and Large General Service (“LGS”) rate classes rather than Staff’s
15 proposed consolidation into one General Service class. LAC and MGE believe
16 that the proposed rate classes better reflect the underlying cost differences in
17 serving different types of customers within the General Service class. The
18 General Service class includes customers that have a wide variety of gas

⁶ National Association of Regulatory Utility Commissioners, Staff Subcommittee on Gas. “Gas Distribution Rate Design Manual” pp. 15-17 (June 1989).

1 demands. The General Service class includes, for example, small, storefront
2 businesses whose gas demands are very similar to those of a residential customer
3 in addition to large commercial businesses whose gas demands are substantially
4 greater. The differences in gas demand have an impact on the cost of service,
5 with some customers, for example, having significantly higher service connection
6 costs (e.g., meters and services) than other customers. In addition, the proposed
7 approach is consistent with the approach taken by other gas utilities in the
8 Midwest.

9 In addition, proposed SGS and LGS rate classes help to mitigate bill
10 impact on General Service customers, especially low-use customers.

11

12 **Q. DO LAC AND MGE AGREE THAT THE BILLING DETERMINANTS**
13 **USED TO DESIGN THE RATES MIGHT INCLUDE CUSTOMERS**
14 **CLASSIFIED IN ANOTHER RATE CLASS?**

15 A. No, LAC and MGE performed rate switching and classification adjustments as
16 part of the rate case process to reflect customers who switched rates throughout
17 the test year, as well as adjusting for customers who were determined would
18 switch customer classes based on an annual usage review.⁷

19

20 **Q. DOES LAC AGREE THAT MANY CUSTOMERS WOULD RECEIVE A**
21 **LOWER BILL FOR THE SAME USAGE IF SERVED ON A RATE**

⁷ Direct Testimony of Keri A. Feldman, pgs. 12-14.

1 **SCHEDULE DIFFERENT THAN THE SCHEDULE FOR THEIR ANNUAL**
2 **USAGE?**

3 A. It would depend on the rate class and annual usage. Schedule TSL-R1, page 1 of
4 7 compares for LAC the customer bill impacts of the proposed SGS and LGS
5 rates across a range of annual usage. Specifically, the Schedule shows that SGS
6 customers would have lower annual bills if billed on SGS rates rather than LGS
7 rates. In addition, most LGS customers would have lower annual bills if billed on
8 LGS rates rather than SGS rates, although there are cases where certain LGS
9 customers would have lower annual bills if billed on SGS rates, especially low
10 use customers due to the impact of the higher customer charge on the LGS rates
11 as compared to the SGS rates.

12
13 **Q. DOES MGE AGREE THAT MANY CUSTOMERS WOULD RECEIVE A**
14 **LOWER BILL FOR THE SAME USAGE IF SERVED ON A RATE**
15 **SCHEDULE DIFFERENT THAN THE SCHEDULE FOR THEIR ANNUAL**
16 **USAGE?**

17 A. Yes, however that situation exists today, and appears to be largely related to a
18 cross-subsidy in rates between the SGS and LGS rate classes. While it would be
19 desirable to eliminate such cross-subsidy to better reflect the underlying cost of
20 service differences between the SGS and LGS classes, MGE recognizes that in the
21 interest of bill continuity concerns, such disparity should be addressed over time
22 as reflected in the proposed rate design. There are, however, potential variations
23 to the proposed rate design that could help reduce the disparity, including

1 modifications to the proposed customer charges. In any case, however, General
2 Service consolidation would only mask the cost differences in the SGS and LGS
3 classes.

4
5 **Q. PLEASE EXPLAIN.**

6 A. Schedule TSL-R1, page 5 of 7, compares for MGE the customer bill impacts of
7 the proposed SGS and LGS rates across a range of annual usage. Specifically, the
8 Schedule shows that SGS customers would have lower annual bills if billed on
9 SGS rates rather than LGS rates. In addition, LGS customers would also have
10 lower annual bills if billed on the SGS rates rather than the LGS rates. This
11 reflects the approach used to develop the SGS and LGS rates, including setting of
12 revenue targets that reflect subsidies for the SGS class.

13 However, this is not a new issue. Presently, MGE's SGS customer and
14 volumetric charges are lower than that of LGS, as summarized in Figure 3.

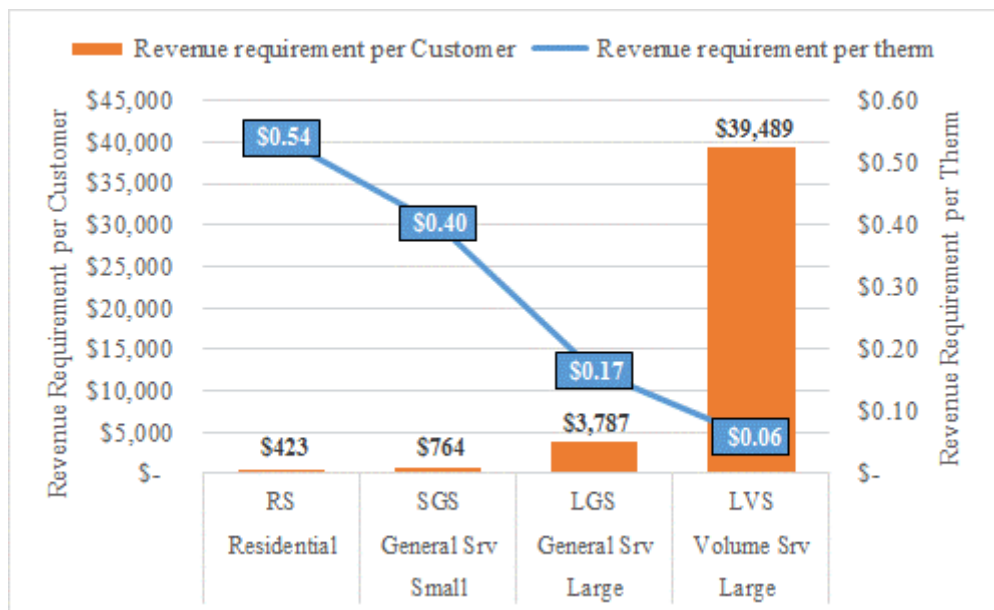
15 **Figure 3: Comparison of MGE's Current SGS and LGS Rates**

	SGS	LGS
Customer Charge	\$34.00	\$125.00
Volumetric Charge (Peak)	\$0.05430	\$0.13268
Volumetric Charge (Off-Peak)	\$0.05430	\$0.07647

16
17 Presently, the SGS customer charge of \$34.00 and volumetric charge of
18 \$0.05430 per therm are less than the LGS customer charge of \$125.00 and
19 volumetric charges of \$0.13268 in the peak and \$0.07647 in the off-peak.

1 However, SGS rates are lower than LGS rates not due to the underlying
 2 differences in the cost of service. SGS's cost of service is higher than LGS, as
 3 shown in Figure 4. Specifically, SGS's cost of service is \$0.40 per therm while
 4 the LGS's cost of service is \$0.17 per therm. While Figure 4 represents the
 5 results of the Company's CCOS, Staff's CCOS shows a similar result that SGS's
 6 cost of service on a \$ per therm basis is more than LGS's cost of service.

7 **Figure 4: MGE'S Cost of Service by Rate Class**



8
 9 Instead, SGS rates are lower than the LGS rates largely due to the cross
 10 subsidy between the SGS and LGS classes. Specifically, MGE's proposed SGS
 11 rates are based on a revenue target that is less than its revenue requirement by
 12 over \$1.9 million, or 8.5 percent. Conversely, MGE's proposed LGS rates are
 13 based on a revenue target that exceeds its revenue requirement by over \$1.9
 14 million, or 15.7 percent.

15 Thus, the approach to correct the misalignment between MGE's SGS and
 16 LGS rates and cost of service is not to consolidate the rate classes but to eliminate

1 the subsidies over a reasonable time period in recognition of the bill continuity
2 concerns discussed earlier. Consolidating the rate classes would only serve to
3 mask the underlying cost of service differences.

4 There are options to mitigate the misalignment between the SGS and LGS
5 rates and costs during the transition period to setting rates based on the cost of
6 service. For example, MGE could lower the SGS customer charge, which would
7 raise the volumetric charge to be higher than LGS volumetric charge. High-use
8 LGS customers would then have lower annual bills if billed on the LGS rates
9 rather than the SGS rates. This result could also occur with a higher LGS
10 customer charge and/or some combination of a lower SGS customer charge/
11 higher LGS customer charge.

12
13 **Q. DO YOU AGREE THAT THE PROPOSED CONSOLIDATION WOULD**
14 **MIGITATE CUSTOMER BILL IMPACTS?**

15 A. Not necessarily. Staff's comparison of customer bill impacts between rates based
16 on separate SGS and LGS rate classes and rates based on a consolidated General
17 Service class is based on different revenue requirements, making the comparison
18 an apples-to-oranges comparison. MGE's proposed SGS and LGS rates are based
19 on an overall rate increase of \$50.4 million while Staff's proposed consolidated
20 General Service rates are based on an overall rate increase of \$8.7 million.

21 To correct for that mismatch, MGE calculated a consolidated General
22 Service rate based on the combined proposed revenue targets for the SGS and

1 LGS rate classes based on the proposed revenue requirements. This reflects an
2 ‘apples-to-apples’ comparison.

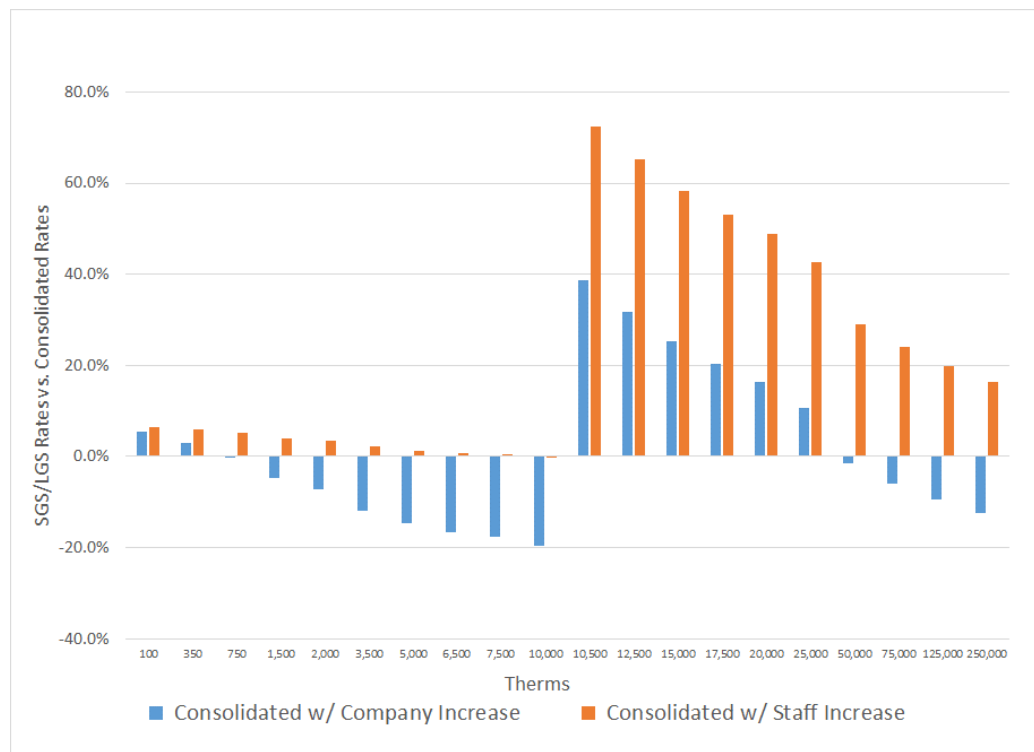
3

4 **Q. WHAT ARE THE CUSTOMER BILL IMPACTS ASSOCIATED WITH**
5 **THE APPLES-TO-APPLES COMPARISON?**

6 A. The customer bill impacts associated with the apples-to-apples comparison is
7 shown on Figure 5.

8

Figure 5: Comparison of Bill Impacts (MGE)



9

10 The Figure compares the percentage difference between annual bills based on the
11 proposed SGS and LGS rates and annual bills based on a consolidated General
12 Service class, separately calculated based on Staff’s proposed rate increase and
13 MGE’s proposed rate increase. Figure 5 shows lower percentage bill impacts

1 when the comparison is based on MGE’s proposed rate increase than Staff’s
2 proposed rate increase.

3 Even with the apples-to-apples comparison, there are large differences in
4 the LGS bill impacts to rates (i.e., annual usage of 10,000 therms and higher).
5 These are largely attributable to MGE’s proposed customer charge of \$125.00 per
6 month as compared to Staff’s proposed customer charge of \$37.50 per month. It
7 is important to note that MGE’s LGS customers today are assessed a customer
8 charge of \$115.00 per month, thus the changes reflected in Figure 5 are not
9 indicative of customer bill impacts.

10

11 **Q. PLEASE SUMMARIZE THE POSITIONS OF LAC AND MGE ON THE**
12 **PROPOSED CONSOLIDATION OF THE SGS AND LGS RATE CLASSES.**

13 A. LAC and MGE continue to support the proposed Small General Service (“SGS”)
14 and Large General Service (“LGS”) rate classes rather than Staff’s proposed
15 consolidation into one General Service Class. LAC and MGE believe that the
16 proposed rate classes better reflect the underlying cost differences in serving
17 different types of customers within the General Service class, and reduces the
18 potential for cross-subsidies that exist in the current SGS and LGS rate classes.
19 The misalignment between rates and costs could be addressed over time with
20 consideration for bill continuity concerns, or in the near-term with rate design
21 changes.

22

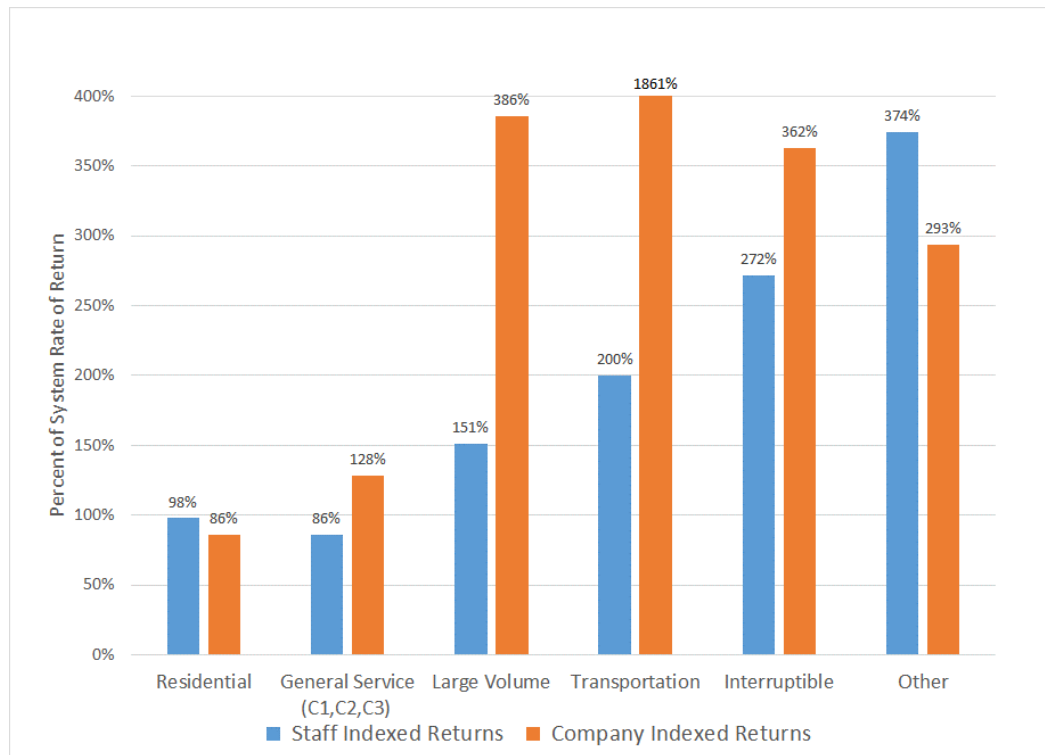
1 **III. CLASS COST OF SERVICE STUDIES**

2 **Q. HOW ARE THE RESULTS DIFFERENT BETWEEN LAC AND MGE'S**
3 **CCOS AND STAFF'S CCOS?**

4 A. Figures 6 and 7 summarize the results between the LAC and MGE CCOS and
5 Staff's CCOS, respectively. The Figures compare the CCOS studies based on
6 class returns as a percentage of the system rate of return since the CCOS studies
7 are based on different system rates of return.

8 Figure 6 shows that for LAC Staff's CCOS produced a higher residential
9 return as a percent of the system rate of return (98.0 percent) than LAC's CCOS
10 (86.0 percent). In general, Staff's CCOS produced higher relative returns for the
11 residential class and lower returns for the C&I classes.

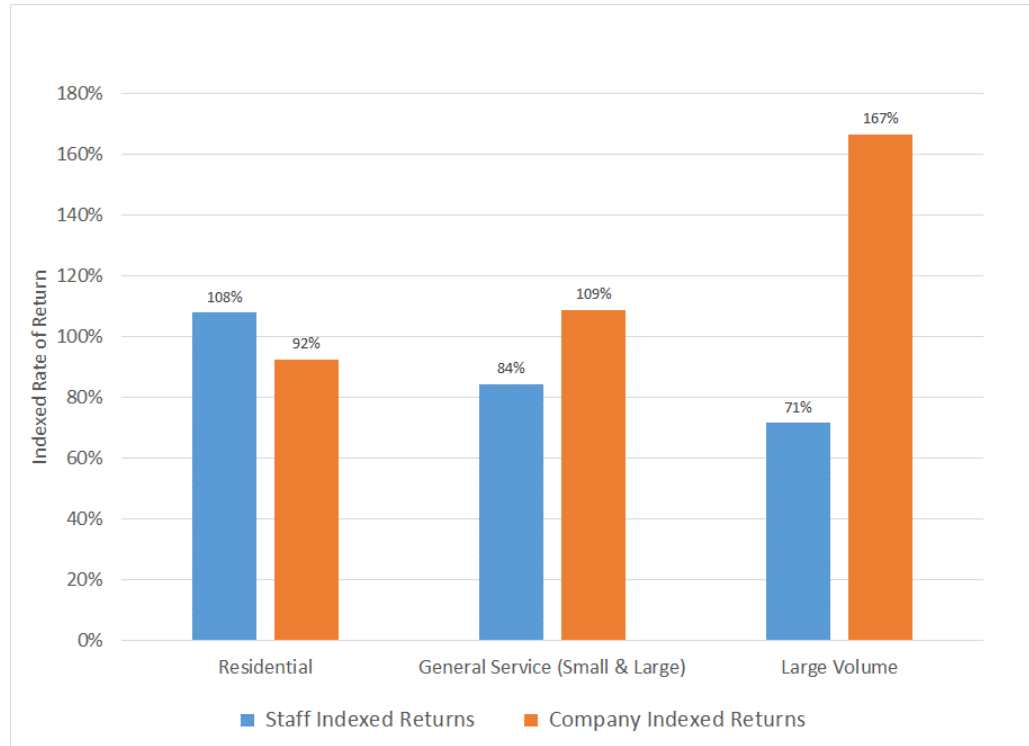
12 **Figure 6: Comparison of CCOS Studies (LAC)**



13

1 Figure 7 shows that Staff's CCOS for MGE produced a higher residential
2 return as a percent of the system rate of return (108.0 percent) than MGE's CCOS
3 (92.0 percent). In general, Staff's CCOS produced higher relative returns for the
4 residential class and lower returns for the C&I rate classes.

5 **Figure 7: Comparison of CCOS Studies (MGE)**



6
7
8 **Q. WHAT IS DRIVING THE DIFFERENCE?**

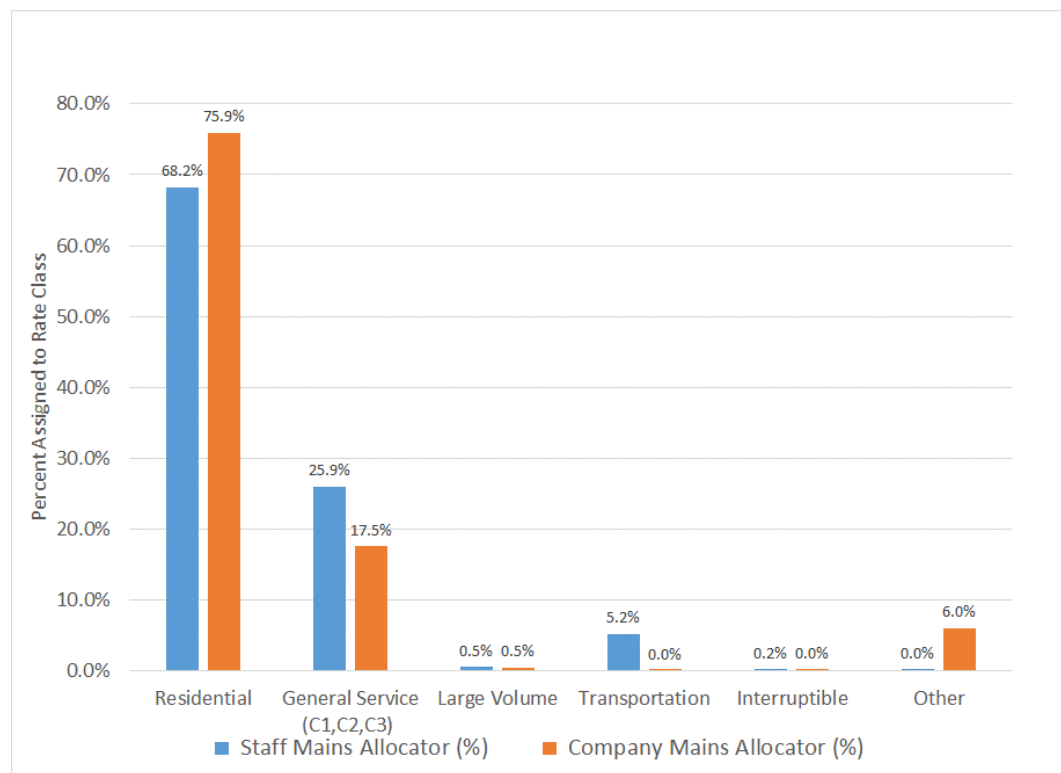
9 A. The key difference between the LAC and MGE CCOS and Staff's CCOS is
10 related to the allocation of plant investment in distribution mains, services and
11 meters. These investments contribute to approximately 85.0 percent of LAC's
12 and MGE's plant investments, which form the basis for allocation of other costs,
13 including general plant investment and O&M expenses.

14

1 **Q. WHAT IS THE DIFFERENCE BETWEEN LAC'S AND MGE'S AND**
2 **STAFF'S ALLOCATION OF DISTRIBUTION MAINS?**

3 A. Figures 8 and 9 show the difference between LAC's and MGE's and Staff's
4 allocation of distribution mains, respectively. The Figures compare the
5 percentage of distribution main allocated to each rate class. Figure 8 shows that
6 Staff's CCOS for LAC allocated 68.2 percent of distribution main investment to
7 the Residential class as compared to LAC's CCOS that allocated 75.9 percent of
8 distribution main investment to the Residential class.

9 **Figure 8: Comparison of Mains Allocator (LAC)**

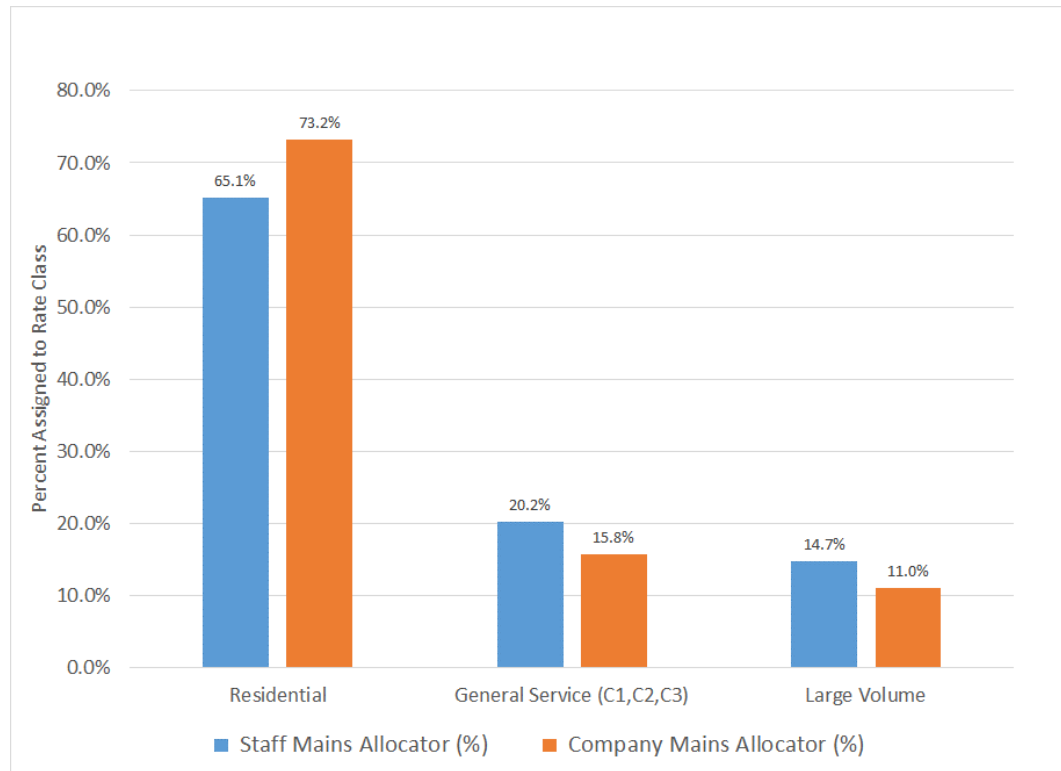


10

11 Figure 9 shows that Staff's CCOS for MGE allocated 65.1 percent of distribution
12 main investment to the Residential class as compared to MGE's CCOS that
13 allocated 73.2 percent of distribution main investment to the Residential class.

1

Figure 9: Comparison of Mains Allocator (MGE)



2

3

4 **Q. WHAT IS DRIVING THE DIFFERENCE IN ALLOCATION OF MAINS?**

5 A. The key difference between LAC and MGE's and Staff's allocation of mains is
6 related to methodology.

7

8

9

10

11

LAC and MGE's general approach to cost allocation was to assign or allocate the overall cost of service to each rate class in a manner that reflects the underlying cost drivers; *i.e.*, how costs are incurred. This approach is well established in industry literature and is consistent with past cost of service studies filed with the Commission.

12

13

14

There are two cost drivers associated with investment in distribution mains: (a) to provide customer access to the distribution system; and (b) to meet customer demands on the peak day or at their maximum demand.

1 The approach taken by LAC and MGE is consistent with those cost drivers
2 and was based on a zero-inch or zero-intercept analysis that is recognized by
3 NARUC⁸ and other authorities on utility rate design. The approach recognizes
4 that there are two cost drivers for distribution mains: (a) the number of customers,
5 since distribution mains are designed to provide customer access to the natural gas
6 system; and (b) design day demands, since distribution mains are designed to
7 serve customer demands on the design day.

8 Staff's approach to the allocation of distribution mains was based on a
9 Stand Alone/ Integrated System allocator. The Stand Alone component reflects
10 the cost to extend a main from one customer to the next if the diameter of that
11 main extension is the same diameter as that of customer's service line.⁹ The
12 Integrated System component reflects the cost of serving peak day demands.

13 There are several important differences between these approaches. First,
14 the zero-inch approach establishes a clear distinction between main investments to
15 provide customers access to the natural gas distribution system, i.e. customer-
16 related investment, and the remaining portion to providing service to meet the
17 customers' peak day demands, i.e. demand-related investment. However, this
18 distinction is not as clear in the Stand Alone/ Integrated System allocator since
19 customer classes are assigned different diameters of main.

20 Second, the Stand Alone/ Integrated System allocator appears to double-
21 count that portion of mains designed to serve customer peak demands since
22 General Service customers are allocated higher diameter mains in the Stand Alone

⁸ NARUC Gas Distribution Rate Design Manual, pg. 22

⁹ Staff Class Cost of Service Report, pg. 9

1 portion of the allocator and then allocated costs based on their peak demands in
2 the Integrated System portion of the allocator. The zero-inch study has no such
3 double count since the allocator assigns a portion of the mains to providing access
4 to the natural gas distribution system based on the number of customers and then
5 assigns the remaining portion of the mains to meeting peak day demands based on
6 peak day demands of the rate classes.

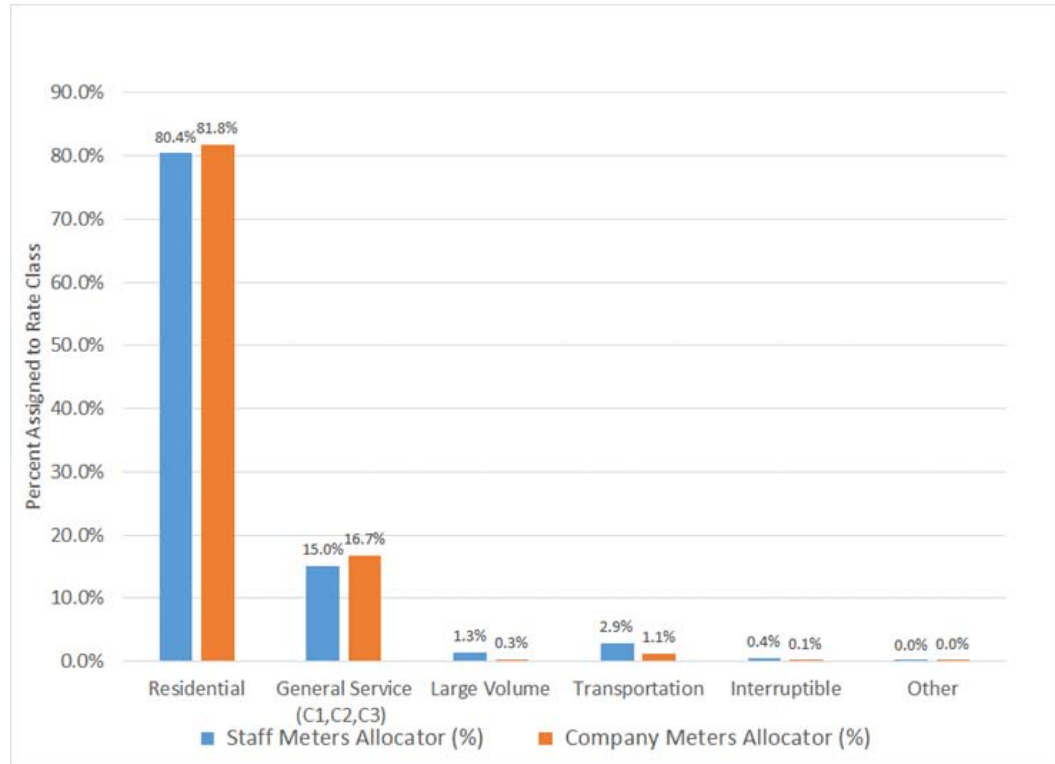
7 Finally, in the zero-inch study, the portion of mains used to meet peak
8 days demands are allocated based on class peak day demands, which are
9 calculated on the basis of the maximum heating degree days (“HDD”) of 72
10 HDD, consistent with how LAC and MGE designs its distribution mains. The
11 Stand Alone/ Integrated System allocator appears to use 58.3 HDD to determine
12 its class peak day demands, which is not consistent with how LAC and MGE
13 designs its distribution mains. Lower HDDs would result in a lower estimate of
14 peak day demands, and thus a lower allocation of peak day costs to the heating
15 class, including the residential class.

16
17 **Q. HOW ARE THE RESULTS DIFFERENT BETWEEN LAC AND MGE’S**
18 **AND STAFF’S ALLOCATION OF METERS?**

19 A. Figures 10 and 11 summarize the results between LAC and MGE’s and Staff’s
20 allocation of meter investment. The Figures compare the percentage of meter
21 investment allocated to each rate class. Figure 10 shows that Staff’s CCOS for
22 LAC allocated 80.4 percent of meter investment to the Residential class as

1 compared to LAC's CCOS that allocated 81.8 percent of meter investment to the
2 Residential class.

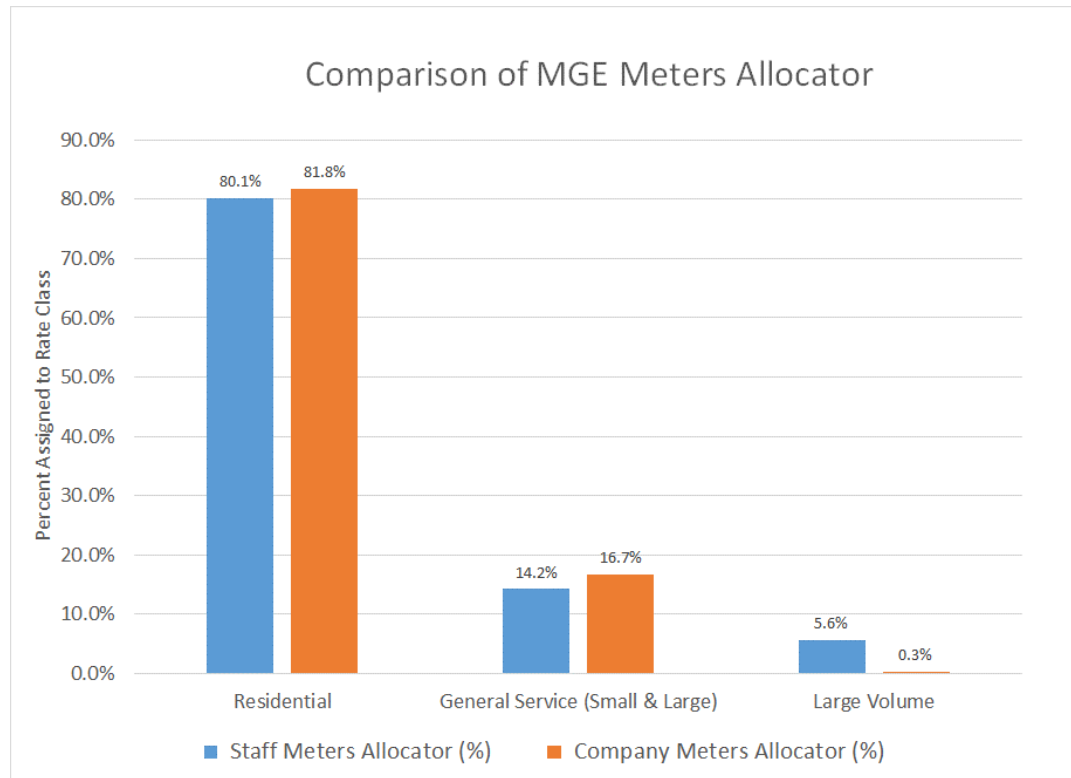
3 **Figure 10: Comparison of Meters Allocator (LAC)**



4
5 Figure 11 shows that Staff's CCOS for MGE allocated 80.1 percent of meter
6 investment to the Residential class as compared to MGE's CCOS that allocated
7 81.8 percent of meter investment to the Residential class.

1

Figure 11: Comparison of Meter Allocators (MGE)



2

3 **Q. WHAT IS DRIVING THE DIFFERENCE?**

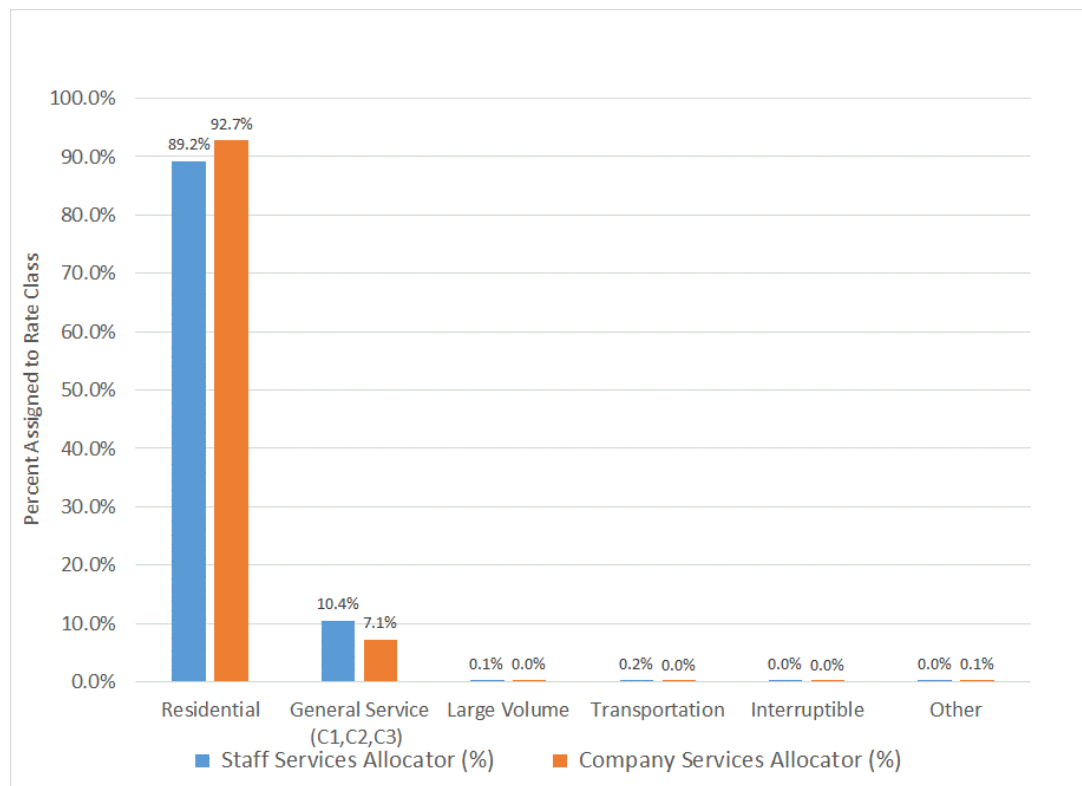
4 A. The approach taken by LAC and MGE relied on an analysis of all meters within a
 5 rate class. Rather than develop an allocator based on typical or a sample of meter
 6 types within a rate class, LAC and MGE prepared an analysis of all meter types
 7 within a rate class. This approach adds a level of precision to the allocator since
 8 there is a wide range of meters within each rate class. Staff’s approach appears to
 9 rely on a typical or sample of meters rather than the full population. There are
 10 certain meter types within a rate class, for example, that are included in the LAC
 11 and MGE study that are not included in Staff’s study.

12

13 **Q. HOW ARE THE RESULTS DIFFERENT BETWEEN LAC’S AND MGE’S**
 14 **AND STAFF’S ALLOCATION OF SERVICES?**

1 A. Figures 12 and 13 summarize the differences between LAC’s and MGE’s and
 2 Staff’s allocation of service investment. The Figures compare the percentage of
 3 service investment allocated to each rate class. Figure 12 shows that Staff’s
 4 CCOS for LAC allocated 89.2 percent of service investment to the Residential
 5 class as compared to LAC’s CCOS that allocated 92.7 percent of services
 6 investment to the Residential class.

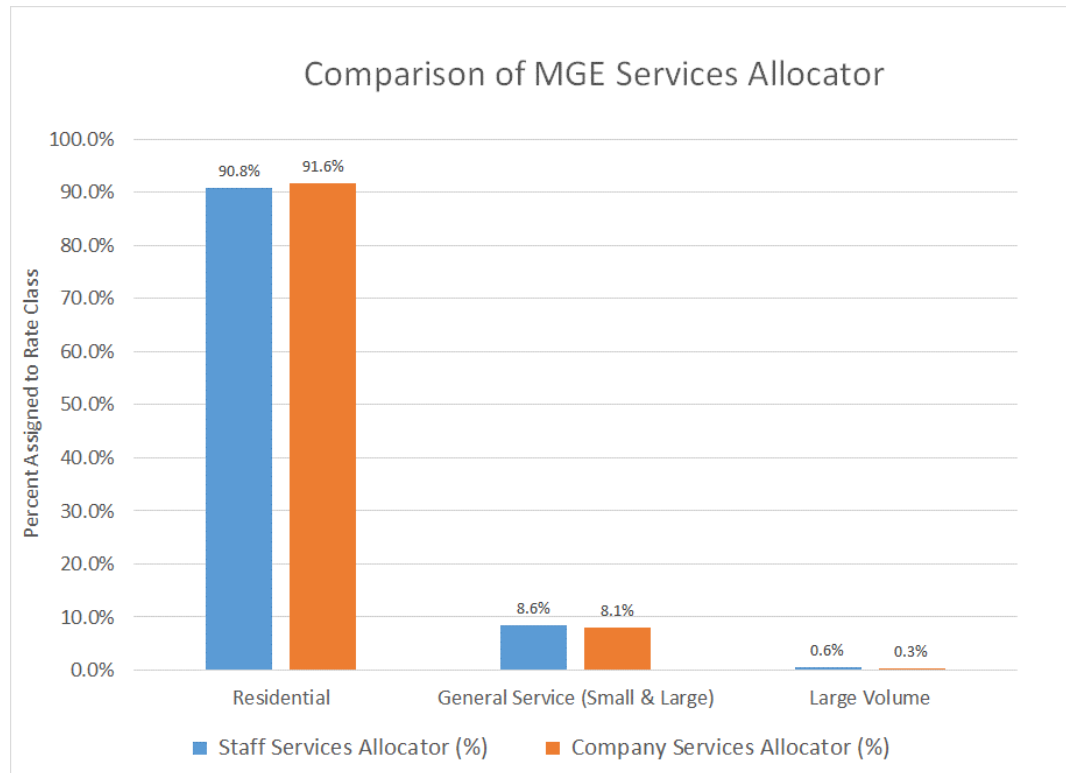
7 **Figure 12: Comparison of Services Allocator (LAC)**



8
 9 Figure 13 show that Staff’s CCOS for MGE allocated 90.8 percent of service
 10 investment to the Residential class as compared to MGE’s CCOS that allocated
 11 91.6 percent of services investment to the Residential class.

1

Figure 13: Comparison of Service Allocators (MGE)



2

3

4 **Q. WHAT IS DRIVING THE DIFFERENCE?**

5 A. LAC’s and MGE’s approach relied on an analysis of service investments that
 6 serve each meter type within a rate class. The analysis is based on the
 7 relationship between the size of the service line and the size of meter. The larger
 8 the meter, the larger the service line needed to serve the meter. Rather than
 9 develop an allocator based on a typical or sample of service lines that serves
 10 customers within the rate class, LAC and MGE prepared analysis of service lines
 11 that serve all meter types within a rate class. This approach adds a level of
 12 precision to the allocator since there is a wide range of meters and thus a wide
 13 range of service lines within each rate class. Staff’s approach appears to rely on a
 14 typical or sample of service lines rather than the full population.

1

2 **Q. PLEASE SUMMARIZE LAC AND MGE’S POSITION ON THE**
3 **DIFFERENCES IN THE CCOS STUDIES?**

4 A. LAC and MGE continue to support the mains, services and meter allocators used
5 in their CCOS study since they are more consistent with past studies they have
6 filed, are recognized by NARUC and other authorities of utility rate design, better
7 reflect LAC and MGE’s planning of facilities investments, and better reflect their
8 underlying cost of service than those used in Staff’s CCOS study.

9 In addition, MGE prepared a revised CCOS to reflect MIEC’s proposed
10 correction.

11

12 **IV. REVENUE TARGETS**

13 **Q. WHAT WAS LAC AND MGE’S APPROACH IN SETTING THE**
14 **PROPOSED REVENUE TARGETS?**

15 A. The proposed revenue targets were guided by several principles common
16 throughout the industry, including: (a) rates should recover the overall cost of
17 providing service; (b) rates should be fair, minimizing inter- and intra-class
18 inequities, to the extent possible; and (c) rate changes should be tempered by rate
19 continuity and equity concerns.¹⁰ Because these principles can conflict, the target
20 setting process also included a level of judgment to balance these principles.

¹⁰ See Bonbright, James, Danielsen, Albert, and Kamerschen, David. “Principles of Public Utility Rates.” Public Utilities Reports, Inc. pp. 377-407 (2nd Ed. 1988).

1 The specific approach to setting the proposed revenue targets was
2 based on the results of LAC and MGE's CCOS. The CCOS identified some
3 customer classes with rates of return less than the system rate of return, such as
4 the residential and SGS classes, and other customer classes with rates of return
5 higher than the system rate of return, such as the LGS, LV and Transportation
6 classes. One of the goals of the target setting process was to move customer
7 classes toward the system rate of return, *i.e.*, move customer classes toward the
8 system rate of return. To accomplish that objective, however, would require
9 substantial rate increases for certain classes. For example, the SGS class for LAC
10 would require a 27.6 percent increase to move to the system rate of return as
11 compared to the overall increase of 17.9 percent. Such a class increase would be
12 significant. LAC believed that such a class increase was not reasonable. Instead,
13 LAC proposed a class increase of 21.8 percent.

14 LAC and MGE also recognized the importance of customer bill impacts in
15 moving those classes with high returns to the system average. For example, the
16 LGS class for LAC would require a 10.6 percent decrease to move to the system
17 rate of return as compared to the overall increase of 17.9 percent. However, such
18 a decrease was not equitable since it would require a corresponding and
19 substantial increase in those classes whose rate of return was less than the system
20 average.

21 Thus, LAC and MGE's proposed revenue targets that reflected a balance
22 of moving classes toward the system rate of return, while recognizing the
23 customer bill impacts from such movement.

1 **Q. HOW ARE THE RESULTS DIFFERENT BETWEEN THE COMPANY**
2 **AND STAFF'S SETTING OF REVENUE TARGETS?**

3 A. Staff's revenue targets for each customer class were based on a total revenue
4 increase of \$12.0 million for LAC and \$8.7 million for MGE. Since LAC and
5 MGE proposed a total revenue increase of \$58.1 million for LAC and \$50.4
6 million for MGE, the specific revenue targets used to support the rate design are
7 not comparable.

8 Further, Staff's methodology to set revenue targets is based on the
9 magnitude of the rate increase. Specifically, the rate increase is allocated to each
10 customer class using one method up to Staff's proposed rate increase of \$12.0
11 million and \$8.7 million for LAC and MGE, respectively; and then allocated
12 using a second method for that portion of the rate increase above Staff's proposed
13 rate increase.

14 However, adjusting for the differences in the proposed rate increases, it
15 would appear that LAC and MGE's residential revenue targets are generally set
16 higher for the residential class than Staff's residential revenue targets.
17 Conversely, LAC and MGE's C&I revenue targets are generally set lower than
18 Staff's C&I revenue targets. The difference is largely related to differences in the
19 class cost of service study results, as discussed earlier.

20 **Q. WHAT IS LAC AND MGE'S POSITION ON MIEC'S PROPOSAL TO**
21 **MOVE THE CLASS REVENUE TARGETS CLOSER TO THEIR FULL**
22 **COST OF SERVICE?**

1 A. While LAC and MGE agree with MIEC's goal to gradually move the class
2 revenue targets closer to their full cost of service, LAC and MGE are concerned
3 with the customer bill impacts associated with the proposed rate increases.
4

5 V. RATE DESIGN

6 **Q. PLEASE SUMMARIZE THE POSITION OF LAC AND MGE ON KEY**
7 **DIFFERENCES WITH STAFF'S APPROACH TO RATE DESIGN? ¹¹**

8 A. The positions of LAC and MGE on the several key differences with Staff's
9 approach to rate design are discussed below.

10 1. LAC and MGE continue to support their proposed SGS and LGS rate
11 classes, as discussed earlier. The proposed rate classes better reflect the
12 cost differences between the SGS and LGS rate classes but also better
13 reflect cost differences within the SGS and LGS rate classes by setting
14 rates consistent with the underlying cost drivers. Specifically, the
15 proposed SGS and LGS rate classes enable LAC and MGE to set customer
16 charges consistent with the underlying customer-related cost of service for
17 SGS and LGS customers.

18 2. LAC and MGE continue to support their proposed approach to residential
19 customers in the context of the RSM to moderate the impact of its
20 customer charges on low-use customers by reducing customer charges.

21 The current customer charges were designed to recover customer-related

¹¹ Staff Class Cost of Service Report, pg. 11

1 costs as well as to mitigate the impact of weather on customer bills and
2 utility revenues.

3 3. LAC and MGE continue to support, in the context of their RSM proposal,
4 setting volumetric charges through a single volumetric charge, with a few
5 exceptions for large C&I customers.

6 4. LAC supports Staff's proposal to eliminate the Residential, C1, C2, and
7 C3 Seasonal air conditioning customer classes.

8 5. LAC and MGE do not support the alternative rate design of inclining
9 block rates. First, there is concern about the potential bill impacts related
10 to moving from declining block rates to inclining block rates, especially
11 for high-use customers. Second, LAC's proposal to migrate from
12 declining block rates to flat rates could be viewed as a first step toward
13 inclining block rates, since high-use customers will pay higher rates than if
14 LAC continued with a declining block rate structure. Third, LAC is
15 concerned about the potential intra-class subsidies associated with
16 inclining block rates along with certain unintended financial consequences
17 as discussed by Staff. This alternative should accordingly not be adopted,
18 especially in the absence of further analysis of the issues mentioned above.

19

20 **Q. HAVE LAC AND MGE CONDUCTED A BILL IMPACT ANALYSIS TO**
21 **COMPARE RESIDENTIAL RATES PROPOSED BY STAFF?**

22 A. Yes. The results of the bill impact analysis for LAC's residential customers show
23 lower percentage bill impacts for lower usage customers when based on LAC's

1 proposed rates than on Staff's proposed rate design, which was adjusted for
2 analysis purposes to reflect the proposed revenue requirements. LAC applied
3 Staff's recommended customer charge of \$26.00 to recover the revenue
4 requirement proposed by LAC, and derived the resulting volumetric charge. The
5 results of the bill impact analysis are provided in Schedule TSL-R1, page 4 of 7.
6

7 VI. CONCLUSION

8 **Q. PLEASE SUMMARIZE THE REBUTTAL POSITIONS OF LAC AND**
9 **MGE.**

10 A. LAC and MGE continue to support their CCOS methodology and rate design
11 proposals. These include:

- 12 1. Proposed SGS and LGS rate classes.
- 13 2. Results of LAC and MGE's CCOS study, including allocation of mains,
14 services and meters.
- 15 3. Proposed revenue targets.
- 16 4. Proposed customer charges.
- 17 5. Adoption of their proposed RSM.

18 LAC agrees with Staff's proposal to eliminate the air conditioning rates. In
19 addition, MGE has revised its CCOS to reflect MIEC's proposed correction.

20 **Q. DOES THIS CONCLUDE YOUR REBUTTAL TESTIMONY?**

21 A. Yes, it does.

LACLEDE GAS COMPANY

Bill Impacts: SGS vs. LGS Company Proposed Rates

		Customer Chg	Consumption Chg
Company	SGS	\$ 35.00	\$ 0.20318
Company	LGS	\$ 125.00	\$ 0.14625

Bill Impact Analysis				Annual Bill (w/o PGA)			
Annual Use	Cumulative Bills	Cumulative Use	Proposed SGS Bill	Proposed LGS Bill	Difference (\$)	Difference (%)	
SGS	50	6%	0%	\$ 430	\$ 1,507	(\$ 1,077)	-71.5%
SGS	200	16%	1%	\$ 461	\$ 1,529	(\$ 1,069)	-69.9%
SGS	500	34%	5%	\$ 522	\$ 1,573	(\$ 1,052)	-66.8%
SGS	1,000	54%	13%	\$ 623	\$ 1,646	(\$ 1,023)	-62.1%
SGS	1,750	68%	23%	\$ 776	\$ 1,756	(\$ 980)	-55.8%
SGS	2,500	76%	32%	\$ 928	\$ 1,866	(\$ 938)	-50.3%
SGS	3,500	83%	42%	\$ 1,131	\$ 2,012	(\$ 881)	-43.8%
SGS	4,500	87%	51%	\$ 1,334	\$ 2,158	(\$ 824)	-38.2%
SGS	5,000	89%	56%	\$ 1,436	\$ 2,231	(\$ 795)	-35.6%
SGS	5,500	90%	60%	\$ 1,537	\$ 2,304	(\$ 767)	-33.3%
SGS	6,000	92%	65%	\$ 1,639	\$ 2,377	(\$ 738)	-31.1%
SGS	6,500	93%	69%	\$ 1,741	\$ 2,451	(\$ 710)	-29.0%
SGS	7,000	94%	73%	\$ 1,842	\$ 2,524	(\$ 681)	-27.0%
SGS	7,500	95%	77%	\$ 1,944	\$ 2,597	(\$ 653)	-25.1%
SGS	8,000	96%	80%	\$ 2,045	\$ 2,670	(\$ 625)	-23.4%
SGS	9,000	98%	88%	\$ 2,249	\$ 2,816	(\$ 568)	-20.2%
LGS	10,000	1%	0%	\$ 2,452	\$ 2,962	(\$ 511)	-17.2%
LGS	12,500	23%	9%	\$ 2,960	\$ 3,328	(\$ 368)	-11.1%
LGS	15,000	38%	16%	\$ 3,468	\$ 3,694	(\$ 226)	-6.1%
LGS	17,500	48%	21%	\$ 3,976	\$ 4,059	(\$ 84)	-2.1%
LGS	20,000	56%	26%	\$ 4,484	\$ 4,425	\$ 59	1.3%
LGS	25,000	67%	35%	\$ 5,500	\$ 5,156	\$ 343	6.7%
LGS	30,000	74%	42%	\$ 6,515	\$ 5,887	\$ 628	10.7%
LGS	35,000	79%	47%	\$ 7,531	\$ 6,619	\$ 913	13.8%
LGS	45,000	85%	55%	\$ 9,563	\$ 8,081	\$ 1,482	18.3%
LGS	50,000	87%	58%	\$ 10,579	\$ 8,812	\$ 1,767	20.0%
LGS	55,000	89%	61%	\$ 11,595	\$ 9,544	\$ 2,051	21.5%
LGS	60,000	90%	64%	\$ 12,611	\$ 10,275	\$ 2,336	22.7%
LGS	70,000	92%	69%	\$ 14,643	\$ 11,737	\$ 2,905	24.8%
LGS	85,000	94%	74%	\$ 17,690	\$ 13,931	\$ 3,759	27.0%
LGS	100,000	96%	78%	\$ 20,738	\$ 16,125	\$ 4,613	28.6%
LGS	150,000	98%	87%	\$ 30,897	\$ 23,437	\$ 7,460	31.8%

LACLEDE GAS COMPANY

Bill Impacts: SGS and LGS Company Proposed Rates vs. Consolidated SGS/LGS Rate

(Consolidated SGS/LGS Rate based on Staff's Revenue Requirement)

		Customer Chg	Consumption Chg
Company	SGS	\$ 35.00	\$ 0.20318
Company	LGS	\$ 125.00	\$ 0.14625
Staff	SGS/LGS	\$ 48.52	\$ 0.14048

Bill Impact Analysis				Annual Bill (w/o PGA)			
Annual Use	Cumulative Bills	Cumulative Use	Proposed Company Bill	Proposed Staff SGS/LGS Bill	Difference (\$)	Difference (%)	
SGS	50	6%	0%	\$ 430	\$ 589	(\$ 159)	-27.0%
SGS	200	16%	1%	\$ 461	\$ 610	(\$ 150)	-24.5%
SGS	500	34%	5%	\$ 522	\$ 652	(\$ 131)	-20.1%
SGS	1,000	54%	13%	\$ 623	\$ 723	(\$ 100)	-13.8%
SGS	1,750	68%	23%	\$ 776	\$ 828	(\$ 53)	-6.3%
SGS	2,500	76%	32%	\$ 928	\$ 933	(\$ 5)	-0.6%
SGS	3,500	83%	42%	\$ 1,131	\$ 1,074	\$ 57	5.3%
SGS	4,500	87%	51%	\$ 1,334	\$ 1,214	\$ 120	9.9%
SGS	5,000	89%	56%	\$ 1,436	\$ 1,285	\$ 151	11.8%
SGS	5,500	90%	60%	\$ 1,537	\$ 1,355	\$ 183	13.5%
SGS	6,000	92%	65%	\$ 1,639	\$ 1,425	\$ 214	15.0%
SGS	6,500	93%	69%	\$ 1,741	\$ 1,495	\$ 245	16.4%
SGS	7,000	94%	73%	\$ 1,842	\$ 1,566	\$ 277	17.7%
SGS	7,500	95%	77%	\$ 1,944	\$ 1,636	\$ 308	18.8%
SGS	8,000	96%	80%	\$ 2,045	\$ 1,706	\$ 339	19.9%
SGS	9,000	98%	88%	\$ 2,249	\$ 1,847	\$ 402	21.8%
LGS	10,000	1%	0%	\$ 2,962	\$ 1,987	\$ 975	49.1%
LGS	12,500	23%	9%	\$ 3,328	\$ 2,338	\$ 990	42.3%
LGS	15,000	38%	16%	\$ 3,694	\$ 2,689	\$ 1,004	37.3%
LGS	17,500	48%	21%	\$ 4,059	\$ 3,041	\$ 1,019	33.5%
LGS	20,000	56%	26%	\$ 4,425	\$ 3,392	\$ 1,033	30.5%
LGS	25,000	67%	35%	\$ 5,156	\$ 4,094	\$ 1,062	25.9%
LGS	30,000	74%	42%	\$ 5,887	\$ 4,797	\$ 1,091	22.7%
LGS	35,000	79%	47%	\$ 6,619	\$ 5,499	\$ 1,120	20.4%
LGS	45,000	85%	55%	\$ 8,081	\$ 6,904	\$ 1,177	17.1%
LGS	50,000	87%	58%	\$ 8,812	\$ 7,606	\$ 1,206	15.9%
LGS	55,000	89%	61%	\$ 9,544	\$ 8,309	\$ 1,235	14.9%
LGS	60,000	90%	64%	\$ 10,275	\$ 9,011	\$ 1,264	14.0%
LGS	70,000	92%	69%	\$ 11,737	\$ 10,416	\$ 1,322	12.7%
LGS	85,000	94%	74%	\$ 13,931	\$ 12,523	\$ 1,408	11.2%
LGS	100,000	96%	78%	\$ 16,125	\$ 14,630	\$ 1,495	10.2%
LGS	150,000	98%	87%	\$ 23,437	\$ 21,654	\$ 1,783	8.2%

LACLEDE GAS COMPANY

Bill Impacts: SGS and LGS Company Proposed Rates vs. Consolidated SGS/LGS Rate

(Consolidated SGS/LGS Rate based on the Company's Revenue Requirement)

		Customer Chg	Consumption Chg
Company	SGS	\$ 35.00	\$ 0.20318
Company	LGS	\$ 125.00	\$ 0.14625
Staff	SGS/LGS	\$ 48.52	\$ 0.15464

Bill Impact Analysis				Annual Bill (w/o PGA)			
Annual Use	Cumulative Bills	Cumulative Use		Proposed	Proposed	Difference	Difference
				Company Bill	Staff SGS/LGS Bill	(\$)	(%)
SGS	50	6%	0%	\$ 430	\$ 590	(160)	-27.1%
SGS	200	16%	1%	\$ 461	\$ 613	(153)	-24.9%
SGS	500	34%	5%	\$ 522	\$ 660	(138)	-20.9%
SGS	1,000	54%	13%	\$ 623	\$ 737	(114)	-15.4%
SGS	1,750	68%	23%	\$ 776	\$ 853	(77)	-9.1%
SGS	2,500	76%	32%	\$ 928	\$ 969	(41)	-4.2%
SGS	3,500	83%	42%	\$ 1,131	\$ 1,123	8	0.7%
SGS	4,500	87%	51%	\$ 1,334	\$ 1,278	56	4.4%
SGS	5,000	89%	56%	\$ 1,436	\$ 1,355	80	5.9%
SGS	5,500	90%	60%	\$ 1,537	\$ 1,433	105	7.3%
SGS	6,000	92%	65%	\$ 1,639	\$ 1,510	129	8.5%
SGS	6,500	93%	69%	\$ 1,741	\$ 1,587	153	9.7%
SGS	7,000	94%	73%	\$ 1,842	\$ 1,665	178	10.7%
SGS	7,500	95%	77%	\$ 1,944	\$ 1,742	202	11.6%
SGS	8,000	96%	80%	\$ 2,045	\$ 1,819	226	12.4%
SGS	9,000	98%	88%	\$ 2,249	\$ 1,974	275	13.9%
LGS	10,000	1%	0%	\$ 2,962	\$ 2,129	834	39.2%
LGS	12,500	23%	9%	\$ 3,328	\$ 2,515	813	32.3%
LGS	15,000	38%	16%	\$ 3,694	\$ 2,902	792	27.3%
LGS	17,500	48%	21%	\$ 4,059	\$ 3,288	771	23.4%
LGS	20,000	56%	26%	\$ 4,425	\$ 3,675	750	20.4%
LGS	25,000	67%	35%	\$ 5,156	\$ 4,448	708	15.9%
LGS	30,000	74%	42%	\$ 5,887	\$ 5,221	666	12.8%
LGS	35,000	79%	47%	\$ 6,619	\$ 5,995	624	10.4%
LGS	45,000	85%	55%	\$ 8,081	\$ 7,541	540	7.2%
LGS	50,000	87%	58%	\$ 8,812	\$ 8,314	498	6.0%
LGS	55,000	89%	61%	\$ 9,544	\$ 9,087	456	5.0%
LGS	60,000	90%	64%	\$ 10,275	\$ 9,861	414	4.2%
LGS	70,000	92%	69%	\$ 11,737	\$ 11,407	330	2.9%
LGS	85,000	94%	74%	\$ 13,931	\$ 13,727	204	1.5%
LGS	100,000	96%	78%	\$ 16,125	\$ 16,046	79	0.5%
LGS	150,000	98%	87%	\$ 23,437	\$ 23,778	(341)	-1.4%

LACLEDE GAS COMPANY

Bill Impacts: Residential Company Proposed Rates vs. Staff Proposed Rates

(Staff Proposed Rates based on the Company's Revenue Requirement)

		Customer Chg	Consumption Chg
Company	Residential	\$ 17.00	\$ 0.37962
Staff	Residential	\$ 26.00	\$ 0.24556

Bill Impact Analysis - Residential				Annual Bill (w/o PGA)			
Annual Use	Cumulative Bills	Cumulative Use		Proposed Company Bill	Proposed Staff Bill	Difference (\$)	Difference (%)
226	5%	1%	\$	290	368	(78)	-21.1%
376	15%	6%	\$	347	404	(58)	-14.2%
476	27%	14%	\$	385	429	(44)	-10.3%
525	35%	19%	\$	403	441	(38)	-8.5%
725	64%	46%	\$	479	490	(11)	-2.2%
824	75%	58%	\$	517	514	3	0.5%
974	86%	72%	\$	574	551	23	4.1%
1,247	95%	87%	\$	677	618	59	9.6%
1,448	97%	91%	\$	754	667	86	12.9%
1,848	99%	95%	\$	905	766	140	18.2%

MISSOURI GAS ENERGY

Bill Impacts: SGS vs. LGS Company Proposed Rates

		Customer Chg	Consumption Chg	Consumption Chg
Company	SGS	\$ 40.00	\$ 0.11273	
Company	LGS	\$ 125.00	\$ 0.15293	\$ 0.08814

66.6% Peak Usage

Bill Impact Analysis				Annual Bill (w/o PGA)				
Annual Use	Cumulative Bills	Cumulative Use	Proposed SGS Bill	Proposed LGS Bill	Difference (\$)	Difference (%)		
SGS	100	6%	0%	\$ 491	\$ 1,513	\$ (1,022)		-67.5%
SGS	350	20%	2%	\$ 519	\$ 1,546	\$ (1,026)		-66.4%
SGS	750	43%	9%	\$ 565	\$ 1,598	\$ (1,034)		-64.7%
SGS	1,500	65%	22%	\$ 649	\$ 1,697	\$ (1,048)		-61.7%
SGS	2,000	72%	30%	\$ 705	\$ 1,763	\$ (1,057)		-60.0%
SGS	3,500	84%	48%	\$ 875	\$ 1,960	\$ (1,085)		-55.4%
SGS	5,000	91%	63%	\$ 1,044	\$ 2,156	\$ (1,113)		-51.6%
SGS	6,500	95%	76%	\$ 1,213	\$ 2,353	\$ (1,141)		-48.5%
SGS	7,500	97%	84%	\$ 1,325	\$ 2,485	\$ (1,159)		-46.7%
SGS	10,000	100%	100%	\$ 1,607	\$ 2,813	\$ (1,206)		-42.9%
LGS	10,500	6%	3%	\$ 1,664	\$ 2,879	\$ (1,215)		-42.2%
LGS	12,500	26%	13%	\$ 1,889	\$ 3,141	\$ (1,252)		-39.9%
LGS	15,000	43%	22%	\$ 2,171	\$ 3,469	\$ (1,298)		-37.4%
LGS	17,500	54%	31%	\$ 2,453	\$ 3,798	\$ (1,345)		-35.4%
LGS	20,000	63%	38%	\$ 2,735	\$ 4,126	\$ (1,391)		-33.7%
LGS	25,000	74%	48%	\$ 3,298	\$ 4,782	\$ (1,484)		-31.0%
LGS	50,000	94%	77%	\$ 6,116	\$ 8,065	\$ (1,948)		-24.2%
LGS	75,000	98%	86%	\$ 8,935	\$ 11,347	\$ (2,412)		-21.3%
LGS	125,000	99%	93%	\$ 14,571	\$ 17,912	\$ (3,340)		-18.6%
LGS	250,000	100%	98%	\$ 28,662	\$ 34,323	\$ (5,661)		-16.5%

MISSOURI GAS ENERGY

Bill Impacts: SGS and LGS Company Proposed Rates vs. Consolidated SGS/LGS Rate

(Consolidated SGS/LGS Rate based on Staff's Revenue Requirement)

		Customer Chg	Consumption Chg	Consumption Chg
Company	SGS	\$ 40.00	\$ 0.11273	
Company	LGS	\$ 125.00	\$ 0.15293	\$ 0.08814
Staff	SGS/LGS	\$ 37.50	\$ 0.11606	

Bill Impact Analysis				Annual Bill (w/o PGA)			
Annual Use	Cumulative Bills	Cumulative Use	Proposed Company Bill	Proposed Staff SGS/LGS Bill	Difference (\$)	Difference (%)	
SGS	100	6%	0%	\$ 491	\$ 462	\$ 30	6.4%
SGS	350	20%	2%	\$ 519	\$ 491	\$ 29	5.9%
SGS	750	43%	9%	\$ 565	\$ 537	\$ 28	5.1%
SGS	1,500	65%	22%	\$ 649	\$ 624	\$ 25	4.0%
SGS	2,000	72%	30%	\$ 705	\$ 682	\$ 23	3.4%
SGS	3,500	84%	48%	\$ 875	\$ 856	\$ 18	2.1%
SGS	5,000	91%	63%	\$ 1,044	\$ 1,030	\$ 13	1.3%
SGS	6,500	95%	76%	\$ 1,213	\$ 1,204	\$ 8	0.7%
SGS	7,500	97%	84%	\$ 1,325	\$ 1,320	\$ 5	0.4%
SGS	10,000	100%	100%	\$ 1,607	\$ 1,611	\$ (3)	-0.2%
LGS	10,500	6%	3%	\$ 2,879	\$ 1,669	\$ 1,210	72.5%
LGS	12,500	26%	13%	\$ 3,141	\$ 1,901	\$ 1,240	65.3%
LGS	15,000	43%	22%	\$ 3,469	\$ 2,191	\$ 1,278	58.4%
LGS	17,500	54%	31%	\$ 3,798	\$ 2,481	\$ 1,317	53.1%
LGS	20,000	63%	38%	\$ 4,126	\$ 2,771	\$ 1,355	48.9%
LGS	25,000	74%	48%	\$ 4,782	\$ 3,352	\$ 1,431	42.7%
LGS	50,000	94%	77%	\$ 8,065	\$ 6,253	\$ 1,812	29.0%
LGS	75,000	98%	86%	\$ 11,347	\$ 9,155	\$ 2,192	23.9%
LGS	125,000	99%	93%	\$ 17,912	\$ 14,958	\$ 2,954	19.7%
LGS	250,000	100%	98%	\$ 34,323	\$ 29,465	\$ 4,858	16.5%

MISSOURI GAS ENERGY

Bill Impacts: SGS and LGS Company Proposed Rates vs. Consolidated SGS/LGS Rate

(Consolidated SGS/LGS Rate based on the Company's Revenue Requirement)

		Customer Chg	Consumption Chg	Consumption Chg
Company	SGS	\$ 40.00	\$ 0.11273	
Company	LGS	\$ 125.00	\$ 0.15293	\$ 0.08814
Staff	SGS/LGS	\$ 37.50	\$ 0.15473	

Bill Impact Analysis				Annual Bill (w/o PGA)			
Annual Use	Cumulative Bills	Cumulative Use	Proposed Company Bill	Proposed Staff SGS/LGS Bill	Difference (\$)	Difference (%)	
SGS	100	6%	0%	\$ 491	\$ 465	\$ 26	5.5%
SGS	350	20%	2%	\$ 519	\$ 504	\$ 15	3.0%
SGS	750	43%	9%	\$ 565	\$ 566	\$ (2)	-0.3%
SGS	1,500	65%	22%	\$ 649	\$ 682	\$ (33)	-4.8%
SGS	2,000	72%	30%	\$ 705	\$ 759	\$ (54)	-7.1%
SGS	3,500	84%	48%	\$ 875	\$ 992	\$ (117)	-11.8%
SGS	5,000	91%	63%	\$ 1,044	\$ 1,224	\$ (180)	-14.7%
SGS	6,500	95%	76%	\$ 1,213	\$ 1,456	\$ (243)	-16.7%
SGS	7,500	97%	84%	\$ 1,325	\$ 1,610	\$ (285)	-17.7%
SGS	10,000	100%	100%	\$ 1,607	\$ 1,997	\$ (390)	-19.5%
LGS	10,500	6%	3%	\$ 2,879	\$ 2,075	\$ 804	38.7%
LGS	12,500	26%	13%	\$ 3,141	\$ 2,384	\$ 757	31.8%
LGS	15,000	43%	22%	\$ 3,469	\$ 2,771	\$ 698	25.2%
LGS	17,500	54%	31%	\$ 3,798	\$ 3,158	\$ 640	20.3%
LGS	20,000	63%	38%	\$ 4,126	\$ 3,545	\$ 581	16.4%
LGS	25,000	74%	48%	\$ 4,782	\$ 4,318	\$ 464	10.7%
LGS	50,000	94%	77%	\$ 8,065	\$ 8,187	\$ (122)	-1.5%
LGS	75,000	98%	86%	\$ 11,347	\$ 12,055	\$ (708)	-5.9%
LGS	125,000	99%	93%	\$ 17,912	\$ 19,791	\$ (1,880)	-9.5%
LGS	250,000	100%	98%	\$ 34,323	\$ 39,133	\$ (4,809)	-12.3%

