Exhibit No.: _____
Issue: Class Cost of Service & Rate Design
Witness: Johnstone
Type of Exhibit: Direct Testimony
Sponsoring Party: Missouri Industrial Energy Consumers
Case No.: GR-99-315

Before the

MISSOURI PUBLIC SERVICE COMMISSION

Case No. GR-99-315

LACLEDE GAS COMPANY

Testimony and Schedules of

DONALD E. JOHNSTONE

On Behalf of

Missouri Industrial Energy Consumers

July 1999
Project 7065

Brubaker & Associates, Inc.
St. Louis, MO 63141-2000

LACLEDE GAS COMPANY

Before the

Missouri Public Service Commission

Case No. GR-99-315

Direct Testimony of Donald E. Johnstone

Q PLEASE STATE YOUR NAME AND BUSINESS ADDRESS.

A Donald E. Johnstone; 1215 Fern Ridge Parkway, Suite 208; St. Louis, Missouri 63141-2000. My qualifications are set forth in Appendix A.

Q ON WHOSE BEHALF ARE YOU TESTIFYING IN THIS CASE?

A I am appearing on behalf of a group of large customers of Laclede Gas Company (Laclede), collectively known as the Missouri Industrial Energy Consumers (MIEC). These customers purchase transportation and sales services from Laclede.

Q ON WHAT SUBJECTS HAVE YOU BEEN ASKED TO TESTIFY?

A I have been asked to testify in regard to the class cost of service, the spread of the increase, the design of the rates, and tariff issues.

Q PLEASE SUMMARIZE THE MAIN POINTS OF YOUR TESTIMONY.

A 1. There are large differences among the customer classes in regard to the amount of usage and the pattern of usage, and the result is that the average costs incurred by Laclede vary widely among customer classes. A variety of rates are needed because of the cost differences.

2. I have prepared a class cost of service study which demonstrates that the Large Volume Transportation and Sales Service (LVTS) rates are above cost and should be lowered.

3. Rates should be adjusted so that the gas and non-gas revenues provided by the customer classes will more accurately collect the cost of providing service. After the cost adjustments, any increase or decrease approved in this proceeding should be spread among the customer classes in proportion to the non-gas revenues of each class.

4. Laclede's transportation tariff should be modified as proposed herein.

Gas Utility Cost Structure

Q COULD YOU PLEASE EXPLAIN WHY THERE ARE DIFFERENT RATE SCHEDULES FOR DIFFERENT USERS?

A The rates are different because the costs of providing service are different. The costs are different because customer size and usage patterns are different.

To analyze gas rates we must first look at the structure of Laclede, a gas distribution company. Laclede takes delivery of the natural gas it purchases for resale from Mississippi River Transmission Corporation (MRT), Missouri Pipeline Company (MPC), and Williams Gas Pipelines Central (Williams). Laclede receives its system gas from the pipelines at various city gate receipt points and resells the gas to its sales customers. Since December 1989, Laclede has also taken delivery of customer-owned gas at the city gates for distribution to its transportation customers. From the city gate points, Laclede distributes both system gas and customer-owned gas within its service area.

Laclede's sales rates contain two principal components -- one amount to cover the cost of purchased gas and one amount (the "margin") to recover the cost of its distribution service. Under both sales and transportation rates Laclede provides a delivery service -- it receives gas at the city gate and delivers it to homes, offices,

schools, hospitals and factories. This rate case will focus primarily on how much it costs Laclede to provide that delivery service in total and under each rate schedule.

The distinction between gas cost and delivery cost is reflected in part by the Purchased Gas Adjustment (PGA) clause. Changes in the cost of purchased gas have been passed through to sales customers under the PGA, subject to periodic review and a Gas Supply Incentive Plan (GSIP). Gas cost changes, therefore, have not generally had an effect on earnings, except for the effect of the GSIP. Also the cost of the customer-owned gas of transportation customers obviously does not affect earnings. However, if average distribution costs increase and Laclede has not achieved either increased delivery volumes or increased efficiencies that offset the cost increases, Laclede must increase its margin if it is to maintain earnings. But to do so it must file, as it has in this proceeding, a rate case before this Commission. Concomitantly, the cost of service under each rate schedule must also be determined. The distribution cost per therm is much more for some users than for others and such differences, along with gas cost differences, are important reasons for multiple rates. Finally, multiple rates are also needed because the requirements of some customers are firm while others are interruptible.

Analysis of Distribution Costs

Q WHY ARE DISTRIBUTION COSTS DIFFERENT FOR THE VARIOUS TYPES OF USERS?

A Laclede's costs -- and those of any gas utility -- are not all directly related to the number of therms sold. Indeed, other than the cost of purchased gas, most of Laclede's costs do not vary with the annual volumes sold.

For example, there are customer costs -- the costs of attaching and maintaining customers on the system. Customer-related costs do not change from month-to-month, regardless of how much or how little gas a particular customer uses. The customer costs include such things as the investment in, and maintenance of, the service line (the pipe from the street to the customer's premises) and the meter, a portion of the cost of distribution mains, the monthly cost of meter reading, billing, accounting, and so on. To recover a portion of the customer costs, Laclede's rates contain a "customer charge" -- a fixed charge per month. In the General Service rate, that charge is currently $12.00 per month for residential customers. (This amount does not recover the full monthly costs.) On the other hand, the Large Volume rates have a monthly customer charge of $500.00 for sales customers and $790.00 for transportation customers.

Next are the fixed capacity-related costs incurred to meet seasonal demands. Most of Laclede's sales are made during the winter season. As a result, the system must be sized to meet the winter load. Customers who use gas primarily for heating use very little gas outside of the winter season. Accordingly, the cost of facilities required to meet the heating demand of those customers must be recovered from sales that occur only in the winter season. In the case of customers who use gas at a relatively steady rate, the fixed costs are to be spread over a greater number of units.

Q ARE THERE LARGE DIFFERENCES IN CUSTOMER USAGE PATTERNS?

A Yes. The usage of general service customers drops off sharply during the summer, while the usage of large customers served under Large Volume and Interruptible sales rates and the LVTS is not nearly so seasonal. This difference shows up in the annual load factor, the ratio of average daily usage to peak design day usage. With a load factor of only 23%, general service customers purchase about 84 therms annually for

each therm of peak day demand. (The load factors of all classes are set forth on Schedule 1-1.) Therefore, the fixed costs of meeting one therm of winter demand are spread over only 84 therms of sales. In contrast, transportation customers purchase about 202 therms annually for each therm of peak day demand. Thus, the fixed costs of meeting seasonal and peak day capacity requirements are spread over many more therms, resulting in a lower amount per therm.

Q YOU POINTED OUT THAT CUSTOMER-RELATED COSTS ARE REFLECTED IN LACLEDE'S RATE SCHEDULES. IS THIS ALSO TRUE OF DEMAND-RELATED COSTS?

A Yes, although in different ways. For the firm Large Volume and LVTS rates, this component of Laclede's cost is reflected in a demand charge. In addition to the volumetric charge which the large volume transportation customer pays each month, he must also currently pay 45¢ per therm for his maximum daily usage during the winter. For example, if a customer's maximum daily demand in January is 1,000 therms, he must pay an additional charge of $450 (1,000 therms x 45¢) for each of the next eleven months over and above the charge for volumes of gas actually used. This means that a large customer who uses gas heavily during the winter, but not during the summer, will pay more than a customer who uses the same total amount of gas annually, but at a much steadier rate from month to month. This is appropriate in concept for firm customers although the demand charges are, in total, too high for LVTS customers.

In contrast, the General Service (GS) rate has no explicit demand charge and, therefore, the commodity charge must include demand-related costs. Because both demand-related and commodity-related costs are recovered in the commodity charge,

the commodity charge must be higher than the commodity charges in the Large Volume and LVTS rates. However in this case, Laclede is proposing a demand charge for GS customers of $0.4087 per demand therm in the summer months and $2.4249 per demand therm in the winter months and reduced commodity charges.

Q ARE THERE ANY OTHER COST DIFFERENCES AMONG USERS?

A Yes. There are also significant economies of scale in gas distribution mains. An eight-inch main can carry more than forty times as much load as a two-inch main, but the cost is not nearly forty times as much to install. Laclede has a very extensive system of two-inch mains covering the St. Louis area, primarily to serve residential and small commercial users. All large volume customers are served from larger mains -- most from eight-inch to twelve-inch, and none smaller than a four-inch main.

The average Large Volume Transportation and Sales customer uses as much gas as about 1,100 General Service customers. This illustrates that the per therm investment in mains required to serve one large customer is much less than the amount required to deliver gas to 1,100 separate locations. First, because the smaller mains are of no use (value) in providing large volume service and second, because the economy of the larger mains produces a lower unit cost.

Rates Should be Based on Costs

Q HOW SHOULD LACLEDE'S GAS RATES BE DESIGNED?

A Just as cost of service is the basis for the determination of Laclede's overall revenue requirement, it should also be the basis used to determine the revenues to be derived from each customer class, and to design the specific rate schedules for each customer

class. The fundamental starting point and guideline should be the cost of serving each customer and each class. To the extent rates for a class deviate from cost of service, movement of the rates to cost of service is essential considering factors such as simplicity, gradualism, and ease of administration.

Q WHY SHOULD COST BE USED FOR THESE PURPOSES?

A The basic reasons for adhering to the cost of service principle throughout the rate design process may be summarized as stability, conservation, engineering efficiency (cost-minimization), and equity.

With respect to stability, when rates are closely tied to costs, and when customer use patterns change, the earnings impact on the utility will be minimized as changes in revenues will tend to track changes in the level of costs. From the customer's perspective, cost-based rates provide a more stable basis for determining future levels of energy costs. If rates are based on factors other than cost, it is much more difficult to translate expected utility-wide cost changes into changes in the rates charged to particular customer classes. This reduces the attractiveness of expansion by new and existing industries because of the lessened ability to plan.

With respect to conservation, which is properly defined as the avoidance of wasteful or inefficient use (and not just less use), only when rates are based on costs do customers receive a balanced price signal against which to make their consumption decisions. If rates are not based on costs, then the choices will be distorted.

In terms of engineering efficiency, when rates are designed so that demand, customer and commodity costs are properly reflected in the rate structure, customers are provided with the proper incentive to minimize their costs, which will in turn minimize the costs to the utility.

With respect to equity, when rates are based on costs, each customer pays what it costs the utility to serve him, no more and no less. To the extent rates are not based on costs, some customers are required to pay part of the costs associated with service supplied to other customers, which clearly violates the principle of equity.

Also, to the extent that rates do not reflect costs, multi-plant firms will be encouraged to shift production from high energy cost plants to lower energy cost plants in order to remain competitive. Such a shifting of production would reduce employment and the overall contribution of the manufacturing concern to the state and local economies. This would require that the rates to the remaining customers be increased if Laclede's fixed cost coverage were to be maintained, which, in turn, would be self-defeating to the presumed beneficiaries of below-cost rates. To the extent that industrial customers are intentionally overcharged in an attempt to extract from them a higher contribution to fixed costs, a potential for load loss is greatly increased.

Laclede's Cost of Service Study

Q HAS LACLEDE PREPARED A CLASS COST OF SERVICE STUDY?

A Yes. Laclede has prepared a study based on the year ended September 30, 1998. The study is intended to develop the cost to serve customers under each of the Company's existing rate schedules, but it falls short of achieving the intended purpose because several of the procedures do not properly reflect the principle of cost-causation.

Q PLEASE EXPLAIN HOW THE VARIATION FROM COST IS MEASURED FOR EACH RATE SCHEDULE.

A The variation from cost is the dollar amount by which the revenues from a customer class either fall short of, or exceed, the revenues required to produce the system average rate of return.

MIEC Cost of Service Study

Q HAVE YOU PREPARED A CLASS COST OF SERVICE STUDY?

A Yes. I began with the Laclede study, but found it necessary to modify it in several important respects.

Q WHAT MODIFICATIONS HAVE YOU MADE?

A The changes are as follows:

1. Separate the Cost of Service Analysis into gas and non-gas components.
2. Account for differences in the service provided by the low, medium and high pressure mains in the distribution system.
3. Change the allocation of supervision and "all other" expenses within the distribution operation and maintenance functions.
4. Classify the investments in service lines to demand and customer.
5. Adjust the interruptible sales demand used in cost allocation to reflect a 100% load factor.
6. Adjust the coincident and non-coincident peak demands to reflect design day conditions.
7. Allocate various costs incurred for the reservation of gas supply capacity based on winter seasonal requirements.

Q WHY HAVE YOU SEPARATED THE COST OF SERVICE ANALYSIS INTO GAS AND NON-GAS COMPONENTS?

A This is pursuant to an agreement reached in the 1996 rate case and the consolidated complaint case. Attachment A to the Commission's Final Order in Case Nos. GR-96-193 and GC-96-13 is a stipulation and agreement of the parties. According to Paragraph 5C, all parties agreed to provide class cost service studies which state the results separately for gas cost and non-gas cost. Also, the Commission Order contained the following statement:

> "The Commission strongly encourages the parties to implement the cooperation called for by paragraph 5 and to prepare cost of service studies in the future that can be directly compared to one another and more easily assessed for reasonableness."

The value in stating the gas and non-gas components separately is that it will facilitate comparison of the studies provided by the various parties. In the past those comparisons have been made more difficult because of inconsistent inclusion or exclusion of gas cost among the various studies.

Q WHAT HAVE YOU DEFINED AS GAS REVENUES IN YOUR STUDY?

A For the purpose of illustration, I defined the gas revenues as though each class paid the system average gas revenue. However, the costs vary by class and there has never been a clear definition of the gas component in the various rates of Laclede. For the purpose of illustration I assumed a rate component equal to the system average gas cost. It would be preferable to define a gas component consistent with the gas cost incurred.

Q WHAT HAVE YOU DEFINED AS GAS COST IN YOUR STUDY?

A Gas costs, as stated in the study I have prepared, include only those costs which are tracked under the purchased gas adjustment mechanism. It will be necessary to ensure that all parties used a similar definition before direct comparisons will be possible. The various cost components have been allocated among the classes based on the principle of cost causation. The commodity related costs are allocated on the annual sales gas therms of each class and the demand related cost are allocated on the contribution to the coincident peak demand, but with some adjustments.

For the purposes of defining costs the coincident peak demand would not include any demand for the interruptible customers or the basic transportation customers since neither has a right to consume system gas, except to the extent it is made available after the needs of other customers are met. However, in this study I allocated demand costs based on a 100% load factor for interruptible service and based on a 120% load factor for gas sold to basic transportation customers. The intent is not to define cost per se, but to define a reasonable contribution to the average demand costs since these customers use the capacity off peak and on peak only to the extent Laclede does not need the capacity for firm customers. The load factor assumptions result in a capacity cost contribution approximately equal to 50% of the cost of firm service at an equivalent load factor.

Q PLEASE EXPLAIN THE FUNCTIONALIZATION OF DISTRIBUTION MAINS.

A A significant portion of the cost of distribution mains does not depend on either capacity requirements or the volume of gas that is moved through the system over a period of time. That portion is properly classified as customer-related and allocated among rate

schedules based on the number of customers served under each. The remaining cost of distribution mains depends upon the capacity requirements which must be met to provide service to customers.

Many of the large customers are served from high pressure mains which account for only 3% of the total miles of mains that are installed in the Laclede system. My colleague, Mr. John Mallinckrodt, has in his testimony explained the identification of the high pressure mains and the cost separation between high, medium, and lower pressure mains. 32% of the cost is associated with the lower pressure mains, 55% of the cost allocated with the medium pressure mains and 13% with the high pressure mains. This breakdown is applied to the 70% of main cost which is demand-related and yields a total functionalized cost of distribution mains which is 30% customer-related, 22% lower pressure demand-related, 39% medium pressure demand related and 9% high pressure demand-related.

Q ARE THE LOWER PRESSURE MAINS USED IN ANY WAY IN SERVICE TO LARGE VOLUME CUSTOMERS?

A No. Therefore none of the demand-related costs of the lower pressure mains are allocated to large volume customers.

Q HAVE YOU MADE CHANGES TO THE ALLOCATION OF CERTAIN DISTRIBUTION OPERATION AND MAINTENANCE EXPENSES?

A Yes, I have. In particular, there are two categories that were changed. The category associated with supervisory cost and a category which consists of "all other." As an example of the procedure followed, I will discuss the supervisory cost associated with

distribution operations. As a first step, the accounts within distribution operations were allocated based on the principal of cost causation. A subtotal of these allocated costs was created and that subtotal was used to allocate the supervisory costs associated with distribution operations. The same subtotal was used for the allocation of "all other" distribution operation expense. An analogous procedure was followed with respect to the distribution maintenance expense.

Q HOW DID YOU CLASSIFY THE COSTS ASSOCIATED WITH THE SERVICE LINES THAT ARE USED TO CONNECT INDIVIDUAL CUSTOMERS TO THE DISTRIBUTION MAINS?

A The cost of service lines is not a variable cost and is not related to the volume of gas moving through a service line at any point in time. Consequently, there is no good reason for allocating any portion of these costs based on customer class throughput. Instead, these costs are most directly related to the number of service line installations and the capacity of the service lines. I have allocated 30% of the cost of service lines based on the number of customers in each class and 70% of the cost based on the non-coincident peak demand of the class. These are the two factors that primarily lead to the creation of these costs.

Q PLEASE DESCRIBE THE CHANGES YOU HAVE MADE IN THE DEMAND ALLOCATION FACTORS.

A Laclede developed the demand for the interruptible sales class based on an estimated 50% load factor. I have changed the computation to reflect an assumed 100% load factor. This approach gives better recognition to the interruptible nature of the service

that is provided to these customers and provides a reasonable target for rate design at this time. It must be stressed that even the 100% load factor approach is not, as a general rule, appropriate as a demand allocator for interruptible service. The demand assigned to interruptible capacity should be zero for the purpose of defining cost. Also, a load factor significantly higher than 100%, perhaps 200% or more, could be more appropriate for rate design purposes in other circumstances.

It was also necessary to create a demand allocation factor to be used in the allocation of the demand related gas supply cost. With respect to interruptible sales customers the assumption of a 100% load factor was used to create a demand. Similarly, it was necessary to create a demand component with respect to the limited amount of sales service that is provided to basic transportation customers. Like interruptible customers, basic transportation customers are not apt to receive gas sales service under system design conditions and the cost incurred to provide this component of service is therefore zero. For the purpose of defining a contribution to the fixed costs on behalf of these non-firm gas supply customers, I adopted a 120% load factor assumption. Since the actual load factor of basic customers (based on throughput as opposed to sales) is 58%, the 120% load factor represents a contribution to the fixed costs that is again approximately 50% of what it would be if Laclede were to provide the service on a firm basis and actually incur fixed cost. As with interruptible sales service, it would also be reasonable to assume higher load factors which would have the affect of lowering the contribution to fixed costs that have not been incurred on behalf of these customers.

Q WHAT ARE THE RESULTS OF THE MIEC RECOMMENDED CLASS COST OF *SERVICE STUDY*?

A The MIEC study shows that the General Service gas and non-gas rates are below cost, while the rates for the large volume customers are currently priced above cost.

Q HOW DO THE PRESENT REVENUES OF THE CLASSES RELATE TO THE COST RESPONSIBILITIES INDICATED BY THE MIEC STUDY?

A Schedule 2 is a summary of the MIEC study, including the class variations from cost under present rates. This study shows that the interruptible sales and large volume customers are providing total revenues that substantially exceed cost. While the general service class is less than cost, the amount of variation is not nearly so large in percentage terms, 1.1% of present revenue. While the percentage variation is 23% for transportation customers, a substantial adjustment of the large volume classes to reflect the cost of service will not create any significant impact problems for the general service class. That occurs simply because the general service class represents approximately $470 million in revenue while LVTS (transportation) revenue represents approximately $15 million.

Company Proposed Increase

Q WHAT INCREASE HAS BEEN PROPOSED BY THE COMPANY AND HOW HAS THE PROPOSED INCREASE IN REVENUES BEEN SPREAD AMONG THE CUSTOMER CLASSES?

A Laclede has proposed an overall increase of $30.5 million and the proposed overall increase is spread as an equal percentage of non-gas revenues to all classes. The increases to the major customer classes are:

	Company Proposed Increase	
	Percent of Total Revenue	Percent of Non-Gas Revenue
General Service	6.1%	15.5%
Industrial Classes		
Large Volume	3.0	15.5
IN	3.2	15.5
LVTS	9.2	15.5

Schedule 3 quantifies the proposed dollar increases for each customer class.

Q DO YOU HAVE A RECOMMENDATION THAT WILL REDUCE THE VARIATIONS FROM COST OF SERVICE FOR THE LARGE VOLUME CUSTOMERS?

A Yes. It is my recommendation that the rates for all of the large volume services provided by Laclede be adjusted to better reflect the cost of providing the services. It is important that the rates be moved to a cost basis as soon as possible so as to resolve the inequities that are created by rates that are not based upon costs. With respect to other classes, I would also generally recommend cost based adjustments, but I will leave specific recommendations to parties with a more direct interest.

More specifically, I recommend adjustment of the rates to remove 50% of the variation from the cost of service, as illustrated on Schedule 4-1. Previously, the gas cost has not been specifically defined for each rate schedule. At this time I recommend the adjustment of gas rates and revenues to the cost of service as set forth on Schedule

4-2. This leaves the nongas revenues to absorb the remainder of the variations from cost. The specific adjustments by class are set forth on Schedule 4-3 for the non-gas component of revenues.

Q WHAT RATES DO YOU RECOMMEND FOR THE COLLECTION OF THE GAS RELATED COST OF SERVICE?

A The recommend gas component of the rates is set forth in column 5 on Schedule 4-2. With the gas component well defined it will be possible in the future to better track the cost recovery and to address separately the gas and non gas revenues in various cases. For example, in proceedings designed to adjust non gas revenues (such as the instant proceeding), it would be possible to focus on just the nongas component of rates. This approach would be responsive to the expressed desire of the Commission in Docket GR-96-193. Conversely, gas costs and revenues would be addressed in proceedings convened for that express purpose.

Q WHAT IS YOUR RECOMMENDATION WITH RESPECT TO ADJUSTMENTS TO THE NON-GAS RATES FOR LARGE VOLUME CUSTOMERS?

A The adjustments I recommend to class nongas revenues are set forth on Schedule 4-3. The revenues in column 4 are those to be collected to satisfy the nongas revenue requirement of the Company, before adjustment for any rate increase or decrease, as the case may be. Since my recommendation is in conjunction with the recommended definition of gas related rates and revenues as defined on Schedule 4-2, these recommended nongas revenues cannot be considered as a separate stand alone adjustment in this proceeding. However, that would be the result for future proceedings.

Once this procedure is established it will be a more straightforward procedure to track cost recoveries and to develop revenue adjustments that will better reflect the cost of service.

Design of the Large Volume Rates

Q PLEASE DESCRIBE THE TYPES OF SERVICE THAT ARE PROVIDED UNDER THE LARGE VOLUME RATE SCHEDULES.

A One type is the fully bundled Large Volume sales service that has been in place for many years, and the other is LVTS, for transportation service that became available in December 1989. Under Rate LVTS, two types of transportation are provided: Firm and Basic. Both are firm with respect to the transportation service, but the transportation service that is Firm in name includes firm backup gas supply service, Basic transportation does not include the firm backup gas supply service. Interruptible transportation service is not an option Laclede offers to its customers.

Under these schedules, large customers are billed in part based on a customer charge, on annual maximum demand reservation and on volumetric throughput. The non-gas demand and volumetric charges are similar in structure, but vary in the level of charges between sales and transportation customers. This approach should be continued with the development of new rates based on the approved revenue requirement in the proceeding.

Q WHAT IS THE SERVICE THAT IS PROVIDED IN CONJUNCTION WITH THE CAPACITY RESERVATION CHARGE APPLIED TO FIRM TRANSPORTATION *CUSTOMERS?*

A. The service is a supply of gas to backup the gas of the customer that is being delivered via firm transportation service. The rate changes from time to time pursuant to the Purchased Gas Adjustment clause. The adjustment process will not need to change except to calibrate the current adjustment factor of .8 to accommodate the approved level of capacity reservation charge. My recommendation is a charge of $.0315 per therm, as identified on Schedule 4-2.

Q IS THE CURRENT RATE ABOVE COST?

A Yes. This occurs primarily because the costs, which consist of upstream demand charges, do not adequately reflect the very substantial difference in load factor between Firm LVTS customers and other firm customers. For example, the Firm LVTS class load factor is 52% while that for general service customers is 20%. As a result of the difference in load factors and the fact that the subject costs consist of the demand charges (for transportation and storage services Laclede purchases from upstream suppliers) the rate for firm LVTS customers should be lowered consistent with the cost of service as recommended herein.

Q HOW HAVE YOU ALLOCATED THOSE COSTS RELATED TO THE PURCHASE OF GAS SUPPLIES?

A I have allocated commodity costs on the basis of the quantity of gas sold to each customer class. With respect to demand and reservation costs, I have used a peak allocation adjusted to include a demand factor for interruptible service and for the limited sales to Basic transportation customers. This approach follows the cost causation principle in that these are reservation costs that depend primarily on peak day supply

requirements. Also, there is also a defined contribution from customers that benefit from the peak capacity when it is not needed for the firm customers.

Q ARE THERE ANY LIMITATIONS TO THE APPROACH YOU HAVE FOLLOWED?

A. Yes. In allocating these costs on a demand basis the implicit assumption is that all the capacity costs are the same regardless of the load factor associated with the annual peak demand that is placed on Laclede. While that approach is not unreasonable, it should be recognized that the very low load factor associated with the seasonal use of gas creates costs that are related strictly to the Winter season. For example, Laclede incurs gas supply demand costs that are higher in the Winter than they are in the Summer. It also incurs storage costs solely for the Winter season and as well as some Winter only transportation costs. As a result, there are higher costs associated with the demands of the very low load factor customer classes as compared to the average cost to serve the relatively higher load factor customer classes. Thus, the demand allocation approach I followed for the purpose of this case will overstate somewhat the cost to serve high load factor customers and may appropriately be revisited in future cases. It is however a straightforward procedure that will be easily followed or adjusted in future cases. Also, by making this change in conjunction with the development of new nongas charges, there is no problem of an extraordinary impact.

PROPOSED TARIFF CHANGES

Q DO YOU PROPOSE ANY CHANGES IN THE TERMS AND CONDITIONS OF TRANSPORTATION SERVICE?

A Yes. The Company proposed and was allowed in the last rate case to add to its tariff a right to limit the amount of gas that may be introduced to the Laclede distribution system on behalf of transportation customers. Laclede's current tariff limits on a daily basis the gas introduced to their system to 115% of the deliveries being made to a customer whenever Laclede calls a Period of Excess Receipts. Any excess receipts during this period are purchased by Laclede at 70% of the lesser of the first of the month index or the daily index published in the Gas Daily for MRT west leg deliveries.

Q HAS THE CHANGE IN THE TARIFF BEEN CLEAR AND UNAMBIGUOUS AS TO ITS APPLICATION AND AFFECT?

A No. In the Company's direct testimony in the last rate case, Mr. Cline testified that the Company will be creating a new "period of limitation" during which daily balancing will be required (now defined as "Period of Excess Receipts"). The Company's revision was "designed to deter those gas supply problems which can be created by excess receipts." Mr. Cline went on to testify that "During certain periods, especially when the weather is warm or gas prices are low, transportation customers' receipts may exceed deliveries, ...".

The first Period of Excess Receipts occurred in November and December, 1998. The period lasted from November 26, 1998 through December 21, 1998, a period of 25 days. The length of the period was not in accordance with the explanation of Laclede when it proposed this tariff change. In fact, it was used not for a limited period, but for an extended period. There is no need for daily balancing for such an extended period if the system is otherwise in balance at the start of the period of excess receipts. Instead, Laclede used the period of excess receipts in large part to cure a cumulative imbalance problem that existed before the unusual weather began.

Q WHY IS THE PERIOD OF EXCESS RECEIPTS, AS PRESENTLY STRUCTURED, NOT A GOOD SOLUTION?

A It imposes very significant penalties based on daily imbalances, even though individual daily imbalances are not the root cause of the problem.

Q DO YOU DISAGREE WITH THE NEW (IN THE LAST CASE) TARIFF PROVISIONS?

A Yes and no. It appears that the problem is being caused by relatively few customers and/or marketers. I do not disagree with the notion that the tariff change may help to address the concerns made by Mr. Cline and Laclede in the last case. However, I am concerned that the tariff, as applied, is overly restrictive with respect to the vast majority of customers and I therefore suggest an alternative approach that will better address the problem while not restricting customers unnecessarily.

Q WHAT IS YOUR RECOMMENDATION?

A First, I recommend that any Period of Excess Receipts be limited to only 6 days in a month. Second, before a Period of Excess Receipts is called, any individual customers who are causing a problem due to a large cumulative imbalance should be dealt with by limiting their deliveries as necessary to get them back into balance. Laclede should establish clear guidelines for this purpose in this proceeding so that parties will have an opportunity to respond. Third, during a Period of Excess Receipts, I recommend customers be required to reduce their average daily scheduled quantity to no more than 115% of the gas consumed during the Period of Excess Receipts. In addition, Laclede should purchase any excess receipts above 115% of average at a rate equal to the rate

for interruptible service less $.05 per therm. This charge will be straight forward and will deter abuse while not being unduly punitive.

Q PLEASE SUMMARIZE YOUR TESTIMONY IN REGARD TO THE PROPOSED CHANGE IN THE TRANSPORTATION TARIFF TERMS AND CONDITIONS.

A I agree that is appropriate to address the problem created in part by extraordinary weather or usage patterns and in part by customers who introduce more gas into the Laclede system than they are consuming during these extraordinary periods. The specific language I recommend is in the attached Schedule 5. This language will reduce ambiguity in the application of the tariff and provide a solution that is more easily implemented by customers while also addressing the problem raised by Laclede.

Q DOES THIS CONCLUDE YOUR TESTIMONY?

A Yes, it does.

Qualifications of Donald E. Johnstone

Q PLEASE STATE YOUR NAME AND ADDRESS.

A Donald E. Johnstone. My business mailing address is P. O. Box 412000, 1215 Fern Ridge Parkway, Suite 208, St. Louis, Missouri 63141-2000.

Q PLEASE STATE YOUR OCCUPATION.

A I am a consultant in the field of public utility regulation and am a principal in the firm of Brubaker & Associates, Inc., energy, economic and regulatory consultants.

Q PLEASE SUMMARIZE YOUR EDUCATIONAL BACKGROUND AND EXPERIENCE.

A In 1968, I received a Bachelor of Science Degree in Electrical Engineering from the University of Missouri at Rolla. After graduation, I worked in the customer engineering division of a computer manufacturer until I entered the United States Air Force in 1969. From 1969 to 1973, I was an officer in the Air Force, where most of my work was related to the Aircraft Structural Integrity Program in the areas of data processing, data base design and economic cost analysis. Also in 1973, I received a Master of Business Administration Degree from Oklahoma City University.

From 1973 through 1981, I was employed by a large midwestern utility and worked in the Power Operations and Corporate Planning Functions. While in the Power Operations Function, I had assignments relating to the peak demand and net output forecasts and load behavior studies which included such factors as weather, conservation and seasonality. I also analyzed the cost of replacement energy associated with forced outages of generation facilities. In the Corporate Planning

Function, my assignments included developmental work on a generation expansion planning program and work on the peak demand and sales forecasts. From 1977 through 1981, I was Supervisor of the Load Forecasting Group where my responsibilities included the Company's sales and peak demand forecasts and the weather normalization of sales.

In November 1981, I joined Drazen-Brubaker & Associates, Inc., and in April 1995, I continued my consulting work at the firm of Brubaker & Associates, Inc. Since 1981, I have participated in the analysis of various utility rate cases, including the analysis and preparation of cost of service studies and rate analyses. In addition to rate cases, I have participated in electric fuel and gas cost reviews and planning proceedings, policy proceedings, market price surveys, generation capacity evaluations, and assorted matters related to the restructuring of the electric and gas industries.

I have testified before the state regulatory commissions of Delaware, Hawaii, Illinois, Iowa, Kansas, Massachusetts, Missouri, Montana, New Hampshire, Ohio, Pennsylvania, Tennessee, Virginia and West Virginia.

The firm of Brubaker & Associates, Inc. provides consulting services in the field of energy procurement and public utility regulation to many clients, including large industrial and institutional customers, some utilities, and on occasion, state regulatory agencies. More specifically, we provide analysis of energy procurement options based on consideration of price flexibility and reliability as related to the needs of the client; prepare rate, feasibility, economic and cost of service studies relating to energy and utility services; prepare depreciation and feasibility studies relating to utility service; and assist in contract negotiations for utility services.

In addition to our main office in St. Louis, the firm also has branch offices in Kerrville, Texas; Plano, Texas; Denver, Colorado; Chicago, Illinois; and Washington, DC.

LACLEDE GAS COMPANY

Load Factors by Customer Class
Based on Design Day Conditions
Twelve Months Ended September 1998

Line	Customer Class	Annual Usage Therms (1)	Average Daily Usage Therms (2)	Design Day Usage Therms (3)	Load Factor (4)
1	General Service	776,564,945	2,127,575	10,564,282	20.14%
2	Air Conditioning	2,428,077	6,652	-	-
3	Large Volume	33,745,019	92,452	242,618	38.11%
4	Interruptible	5,868,407	16,078	-	-
	Transportation:				
5	Firm	73,356,428	200,977	390,118	51.52%
6	Basic	125,419,090	343,614	592,927	57.95%
7	Total Transportation	198,775,518	544,590	983,045	55.40%
8	Vehicular Fuel	636,179	1,743	1,743	100.00%
9	L.P. Gas	170,099	466	1,864	25.00%
10	Unmetered Gas Light	133,157	365	365	99.95%

Note: Totals may not add due to rounding.

LACLEDE GAS COMPANY

Average Monthly Usage per Customer
Twelve Months Ended September 1998

Line	Customer Class	Annual Usage Therms (1)	Average Number of Customers (2)	Average Monthly Usage per Customer Therms (3)
1	General Service	776,564,945	620,719	104
2	Air Conditioning	2,428,077	248	817
3	Large Volume	33,745,019	140	20,134
4	Interruptible	5,868,407	15	33,343
	Transportation:			
5	Firm	73,356,428	56	108,515
6	Basic	125,419,090	90	116,452
7	Total Transportation	198,775,518	146	113,392
8	Vehicular Fuel	636,179	5	10,603
9	L.P. Gas	170,099	247	57
10	Unmetered Gas Light	133,157	119	93

Note: Totals may not add due to rounding.

LACLEDE GAS COMPANY
COST OF SERVICE SUMMARY
(Dollars in Thousands)

Line	Description	General Service	A/C	UMGL	Vehicular Fuel	Large Volume	Inter-rupitible	Firm Trans-portation	Basic Trans-portation	L.P. Gas	Total
	GAS COST OF SERVICE										
							0.30947		0.30677		
1	Cost of Gas	$290,240	$712	$41	$197	$11,332	$1,816	$3,519	$1,179	$71	$309,108
2	Gas Revenues	287,042	714	49	235	12,473	1,726	5,376	1,421	71	309,108
3	Gas Revenue above (below) Cost of Service	($3,197)	$2	$8	$38	$1,141	($90)	$1,857	$242	$0	$0
	NON GAS COST OF SERVICE										
4	Peaking Expense - Excluding Cost of Gas	$1,518	$0	$0	$0	$35	$2	$56	$0	$0	$1,611
5	Distribution Operation Expense	26,459	12	2	8	421	41	539	855	8	28,345
6	Customer Accounts Expense	26,180	14	5	8	303	34	180	208	9	26,941
7	Sales Expense	3,541	7	1	2	116	16	67	53	1	3,804
8	Administrative & General Expense - Net	24,063	12	4	7	328	34	381	589	8	25,426
9	Maintenance Expense	17,472	5	2	4	281	24	369	502	5	18,664
10	Depreciation and Amortization	23,804	8	3	6	357	31	444	645	7	25,305
11	Taxes Other than Income Taxes - Excl GRT	15,661	6	2	4	241	22	308	466	5	16,715
12	Income Taxes	11,526	3	1	3	194	16	203	230	3	12,179
13	Total Utility Operating Income	40,451	12	3	10	681	58	711	809	11	42,746
14	Deduct Other Income	(426)	0	0	0	(10)	(1)	(16)	0	0	(453)
15	Deduct Forfeited Disc and Misc Revenue	(3,951)	(12)	(1)	0	(85)	(15)	(24)	(27)	(2)	(4,117)
16	NonGas Cost of Service	$186,298	$67	$22	$52	$2,862	$262	$3,218	$4,330	$55	$197,166
17	NonGas Revenue Excluding GRT	184,273	261	24	21	2,988	443	3,532	5,572	51	197,166
18	NonGas Revenue above (below) Cost of Ser	($2,025)	$194	$2	($31)	$126	$181	$314	$1,242	($4)	$0
	TOTAL COST OF SERVICE										
19	Cost	$476,538	$779	$63	$249	$14,194	$2,078	$6,737	$5,509	$126	$506,274
20	Revenue	471,315	975	74	256	15,461	2,168	8,909	6,993	122	506,274
	Revenue above (below) Cost of Service										
21	Revenue	($5,223)	$196	$10	$7	$1,267	$90	$2,171	$1,484	($4)	$0
22	Percent of Present Revenue	-1.1%	20.1%	14.2%	2.9%	8.2%	4.2%	24.4%	21.2%	-3.0%	0.0%
23	Revenue per therm	($0.0067)	$0.0806	$0.0788	$0.0117	$0.0375	$0.0154	$0.0296	$0.0118	($0.0216)	$0.0000

Schedule 2

Note: The gas revenues are illustrated assuming each class is responsible for system average gas cost. This is not agreed or approved by the Commission.

LACLEDE GAS COMPANY

Company Proposed Increase
Twelve Months Ended September 1998

Line	Customer Class	Present Total Revenues (1)	Present Non-Gas Revenues (2)	Company Proposed Increase (3)	Percent of: Total Revenues (4)	Percent of: Non-Gas Revenues (5)
1	General Service	$469,436,351	$184,273,935	$28,469,187	6.06%	15.45%
2	Air Conditioning	974,616	260,761	60,454	6.20%	23.18%
3	Large Volume	15,379,810	2,988,302	462,021	3.00%	15.46%
4	Interruptible	2,168,253	442,942	68,477	3.16%	15.46%
	Transportation:					
5	Firm	8,566,193	3,532,493	543,385	6.34%	15.38%
6	Basic	6,788,711	5,572,025	863,281	12.72%	15.49%
7	Total Transportation	15,354,904	9,104,518	1,406,666	9.16%	15.45%
8	Vehicular Fuel	254,786	21,175	3,243	1.27%	15.32%
9	L.P. Gas	122,359	51,318	7,934	6.48%	15.46%
10	Unmetered Gas Light	73,362	24,466	3,782	5.16%	15.46%
11	Total	$503,764,441	$197,167,417	$30,481,764	6.05%	15.46%

Schedule 3

LACLEDE GAS COMPANY

MIEC Total Cost of Service Adjustment
Twelve Months Ended September 1998
(Dollars in Thousands)

Line	Customer Class	Present Total Revenues (1)	Cost of Service Adjustment (2)	Percent of Total Revenues (3)	Recommended Total Revenues (4)
1	General Service	$471,315	$2,611	0.55%	$473,926
2	Air Conditioning	975	(98)	-10.05%	877
3	Large Volume	15,461	(634)	-4.10%	14,827
4	Interruptible	2,169	(45)	-2.07%	2,124
	Transportation:				
5	Firm	8,908	(1,086)	-12.19%	7,822
6	Basic	6,993	(742)	-10.61%	6,251
7	Total Transportation	15,902	(1,828)	-11.50%	14,074
8	Vehicular Fuel	256	(3)	-1.17%	253
9	L.P. Gas	122	2	1.64%	124
10	Unmetered Gas Light	73	(5)	-6.82%	68
11	Total	$506,273	$0	0.00%	$506,273

Note: Totals may not add due to rounding.

LACLEDE GAS COMPANY

MIEC Gas Cost of Service Adjustment
Twelve Months Ended September 1998
(Dollars in Thousands)

Line	Customer Class	Present Gas Revenues (1)	Cost of Service Adjustment (2)	Percent of Gas Revenues (3)	Recommended Gas Revenues (4)	Recommended Gas Component of Rates (5)
1	General Service	$287,042	$3,197	1.11%	$290,239	$0.3737
2	Air Conditioning	714	(2)	-0.28%	712	$0.2932
3	Large Volume	12,473	(1,141)	-9.15%	11,332	$0.3358
4	Interruptible	1,726	90	5.21%	1,816	$0.3095
	Transportation:					
5	Firm - Total	5,376	(1,856)	-34.52%	3,520	
6	Capcity Reservation				2,311	$0.0315
7	Sales				1,209	$0.2933
8	Basic - Sales	1,421	(242)	-17.03%	1,179	$0.3068
9	Total Transportation	6,797	(2,098)	-30.87%	4,699	
10	Vehicular Fuel	235	(38)	-16.17%	197	$0.3097
11	L.P. Gas	71	0	0.00%	71	$0.4174
12	Unmetered Gas Light	49	(8)	-16.33%	41	$0.3073
13	Total	$309,107	$0	0.00%	$309,107	

Note: Totals may not add due to rounding.

LACLEDE GAS COMPANY

MIEC NonGas Cost of Service Adjustment
Twelve Months Ended September 1998
(Dollars in Thousands)

Line	Customer Class	Present NonGas Revenues (1)	Cost of Service Adjustment (2)	Percent of NonGas Revenues (3)	Recommended NonGas Revenues (4)
1	General Service	$184,273	($586)	-0.32%	$183,687
2	Air Conditioning	261	(96)	-36.82%	165
3	Large Volume	2,988	507	16.97%	3,495
4	Interruptible	443	(135)	-30.48%	308
	Transportation:				
5	Firm	3,532	770	21.80%	4,302
6	Basic	5,572	(500)	-8.97%	5,072
7	Total Transportation	9,105	270	2.97%	9,375
8	Vehicular Fuel	21	35	165.29%	56
9	L.P. Gas	51	2	3.90%	53
10	Unmetered Gas Light	24	3	12.19%	27
11	Total	$197,166	($0)	-0.00%	$197,166

Note: Totals may not add due to rounding.

MIEC TARIFF LANGUAGE REVISION
REVISED PARAGRAPH 6., SHEET 34
PERIOD OF EXCESS RECEIPTS

6. Period of Excess Receipts - Effective at the beginning of any day, as such term is defined in Paragraph 1.1 of Section D hereof, and with the same notice requirements as in B.1. above, any Customer may be ordered to limit its DSQ to 115% of the deliveries made to such Customer. **For the purpose of compliance with the 115% restriction, the average of the DSQ's during the period of Excess Receipts shall be compared to the average deliveries to the Customer during the period of Excess Receipts. Periods of excess receipts: (1) shall not remain in effect for more than 6 consecutive days, (2) shall begin no sooner than the fifth day after the prior period of excess receipts, and (3) shall not amount to more than 6 days in any calendar month.** When such limitation order is in effect, the Company will purchase from such Customer any excess receipts **at the PGA adjusted cost for interruptible gas supply less $.05 per therm**. Such purchases by the Company shall be used to satisfy the Company's system supply requirements.

NOTE: New language is underlined and in bold print.