

**MISSOURI PUBLIC SERVICE COMMISSION**

**STAFF REPORT**

**CLASS COST OF SERVICE**

**APPENDIX 2**

**Other Staff Schedules**

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

**LACLEDE GAS COMPANY and MISSOURI GAS ENERGY  
GENERAL RATE CASE**

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

*Jefferson City, Missouri  
September 2017*

## **Schedule CCOS-d1: Definitions**

### **A. Fundamental Concepts of Gas Class-Cost-of-Service**

Billing Determinants: the quantity of each charge type to be billed to collect an allowed revenue requirement. Every charge type that appears in a company's rate structure must have an associated billing determinant. Usage-related billing determinants are developed from the normalized and annualized usages and revenues Staff developed as part of its Cost of Service filing.

The normalized and annualized usages and revenues developed by Staff serve two purposes in each rate case. The first purpose is to determine the normalized and annualized level of revenue that is generated by existing tariffs. The second purpose is, along with the ordered revenue requirement resulting from a case, to determine the appropriate value for each rate element to be included in the compliance tariff sheets. This latter usage is commonly referred to as billing determinants.

Cost of Service: prudently incurred expenses and return on investment to provide safe and adequate service to its customers for a given time period in a given retail jurisdiction.

Class Cost of Service (CCOS) Study: a continuation and refinement of Staff's Cost-of-Service Revenue Requirement Study, resulting in an estimate of the non-gas costs incurred in providing natural gas service to each customer class of a utility in a time period.

The Staff CCOS Study consists of the following steps: 1) costs are categorized (functionalized) based upon the specific role they play in the operations of a utility; 2) costs are classified by whether they are customer related, demand related, or energy related; and 3) functionalized/classified costs are allocated to customer classes. The sum of all allocated costs to a customer class is called that class' cost of service.

The cost of service of each customer class is compared to the annualized, normalized revenues the utility collects from each class through its non-gas rates, plus each class' allocated share of revenues from other revenues. The results of a CCOS Study are expressed in terms of additional revenue, if any, required from each class for the utility to recover its cost of serving that class.

Cost Allocation: a procedure by which common or joint costs are apportioned among customers or classes of customers.

Cost Functionalization: the grouping of rate base and expense accounts according to the specific function they play in the operations of a utility.

Rate Design: Rate design is the relative pricing of one element of a rate structure to another, within or across classes. Cost causation is typically the driving factor of rate design, although other policies must be considered including minimization of rate shock to any one customer class or customers within a class, meeting of incremental costs, rate continuity, rate stability, revenue stability, consideration of promotional practices, and impact on energy efficiency policies. For purposes of rate design, cost causation is typically deemed as the distribution of costs that results from the allocation of a vertically integrated utility's gross revenue requirement net of other revenues. It is necessary to make an exception to this general assumption in certain instances when considering costs that would not be incurred but-for a customer, such as the cost of energy purchased through the integrated energy market to serve a customer.

Rate Design Study: while a CCOS Study focuses on the revenue responsibility of customer classes, a rate design study focuses on both the equitable pricing of the individual customers within each class and sending the proper price signal to customers. The purpose of the rate design process is to recover costs in each time period from each rate component for each customer in a way that equates the cost of providing service with the amount the customer is billed in accordance with the rate schedule.

Rate Schedule: one or more tariff sheets that describe the availability requirements and prices applicable to a particular type of retail gas service. A customer class used in a CCOS Study may consist of one or more rate schedules.

Rate Structure: rate structure is composed of the various types of monthly prices charged for the utility's products or services. At the most basic level there are:

- charges of a fixed dollar amount to be paid each month irrespective of the amount of the product taken and designed to collect the costs of providing service that do not vary by customer usage;
- charges of a variable monthly dollar amount that are described as a price per unit charged on the total units of the product consumed over the month and that are designed to collect the costs of providing service that do vary by customer usage;

Customers who use large amounts of natural gas, typically industrial customers, may also include a demand element based on an estimate of maximum daily usage. Natural gas utilities also include purchased gas adjustment (PGA) charges as an element of a customer's bill, which are intended to "pass-through" the wholesale cost of natural gas; this is not typically included in the discussion of retail revenue recovery.

A good rate structure is a compromise between the complexity necessary to match cost causation to revenue recovery as precisely as possible and the level of understandability and predictability of bills and revenues desired by utilities, customers, and regulators. The tension

between the interest in providing revenue stability and indicating cost causation should also be considered when reasonably designing rates and selecting rate structure components. Changes to rate structure may require additional metering or customer information system investment, and the cost of that investment should be weighed against the benefit of the increased complexity. Rate Values (Rates): the per-unit prices the utility charges to provide service to its customers. Rates are expressed as dollars per unit of volume (Ccf, Mcf) or per unit of energy (MMBtu, therm), etc.

Revenue neutral: the revenue shifts among classes do not change the utility's total system revenues.

Tariff: a document filed by a regulated entity with either a federal or state commission, listing the rates (prices) the regulated utility will charge to provide service to its customers as well as the terms and conditions that it will follow in providing service.

B. Units of Measurement:

Btu: British thermal unit.

MMBtu: one million Btus. One MMBtu is approximately the amount of energy contained in 1,000 Cf (or 1 Mcf) of natural gas, 83.3 pounds of coal, 10.917 gallons of propane, 8 gallons of gasoline, or 293.083 kWh or electricity.

Ccf: a unit of volume of one hundred cubic feet of natural gas, which contains approximately 1,000 Btus of energy.

Therm: 100,000 Btus of energy, approximately equal to the energy contained in 100 Cf of natural gas.

**Schedule CCOS-d2 – Staff’s CCOS Results**

<b>MGE CCOS Results</b>	<b>Residential</b>	<b>SGS</b>	<b>LGS</b>	<b>LV &amp; Transport</b>	
Customer Costs	\$ 96,422,208	\$ 7,166,387	\$ 2,785,286	\$ 1,750,817	\$ 108,124,698
All Other Costs	\$ 64,749,443	\$ 9,592,336	\$ 10,559,601	\$ 15,302,878	\$ 100,204,258
	\$ 161,171,651	\$ 16,758,723	\$ 13,344,887	\$ 17,053,695	\$ 208,328,956
Customer Charge	\$ 17.01	\$ 20.54	\$ 63.99	\$ 369.37	
Volumetric	\$ 0.1802	\$ 0.1810	\$ 0.1528	\$ 0.0568	

<b>LAC CCOS Results</b>	<b>Residential</b>	<b>General Service Class 1</b>	<b>General Service Class 2</b>	<b>General Service Class 3</b>	<b>Large Volume</b>	<b>LV Transport</b>	<b>Interruptible Sales</b>	
Customer Costs	\$ 191,673,259	\$ 11,962,727	\$ 6,867,947	\$ 4,784,106	\$ 1,050,083	\$ 2,485,826	\$ 344,994	\$ 219,168,942
All Other Costs	\$ 78,167,382	\$ 10,357,541	\$ 16,506,259	\$ 4,523,096	\$ 727,275	\$ 8,097,780	\$ 283,952	\$ 118,663,285
	\$ 269,840,641	\$ 22,320,268	\$ 23,374,206	\$ 9,307,202	\$ 1,777,358	\$ 10,583,606	\$ 628,946	\$ 337,832,227
Customer Charge	\$ 26.43	\$ 32.26	\$ 63.36	\$ 643.98	\$ 1,306.07	\$ 1,428.64	\$ 1,437.47	
Volumetric	\$ 0.15866	\$ 0.21013	\$ 0.15199	\$ 0.08529	\$ 0.06658	\$ 0.04373	\$ 0.04509	



**IMPORTANT CONTACT INFORMATION**

Customer service: 314 621-6960  
 Natural gas emergencies or odor: 314-342-0800  
 Toll-free: 1-800-887-4173  
 (if outside of the St. Louis Metropolitan area)

Additional information and phone numbers are on the back of the printed bill and at [lacledegas.com/bill/info.php](http://lacledegas.com/bill/info.php).



Statement Date: 06/13/2013  
 Account Number: 1234567890  
 Service Address: 123 MAIN ST

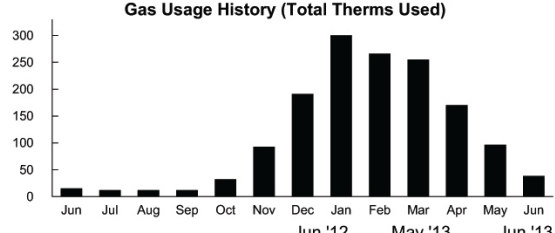
Bill at a Glance	Amount
Previous Balance	228.30
Payment - Thank you	(86.00)
Total Current Charges	51.42
Total Balance	193.72
<b>Amount Due</b>	<b>\$86.00</b>
<b>Due By</b>	<b>06/24/13</b>
<b>Delinquent After</b>	<b>07/08/13</b>



>020632 9189565 0003 092049 20Z

**JOHN Q SAMPLE**  
 123 MAIN ST  
 SAINT LOUIS, MO 63109-2801

Present Reading	Previous Reading	Usage (CCF) X	BTU Factor	= Therm
9925	9887	38	1.017	38.6
<b>Actual</b>		<b>Residential General Service</b>		



<b>Total Therms Used</b>	15.3	96.7	38.6
<b>Daily Average Therms</b>	0.5	3.1	1.3
<b>Days in Billing Cycle</b>	30.0	31.0	29.0

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

**Important Message**  
 Safety tip - before you dig, call 1-800-DIG-RITE or 811 (the national one-call number) or visit [www.mo1call.com](http://www.mo1call.com) to have underground utilities located and marked for free.  
 We appreciate your prompt payment record for this past year. Thank you for being a valuable customer. You may use this bill as a future credit reference.

Payment Plans	
General Budget Plan	86.00

Please retain this portion for your records.

See back of bill for other convenient ways to pay your bill.

Please detach and return this portion to **Laclede Gas Company, Drawer 2, St. Louis, MO 63171** with your payment. Please do not fold, staple or paper clip payment to your bill.

Account Number: 1234567890  
 Service Address: 123 MAIN ST

**Amount Due** \$86.00  
**Due By** 06/24/13  
**Delinquent After** 07/08/13

**Make Check Payable to:**

Laclede Gas Company  
 Drawer 2  
 St. Louis, MO 63171

**Amount Enclosed:**

Please do not write below.

126054000060000005142

20632 9189565 020637 020637 0001/0001



**Important Contact Information**  
 Customer service: 816-756-5252  
 Natural gas emergencies or odor: 800-582-0000  
 Toll-free: 800-582-1234

**Statement Date:** 07/29/2015  
**Account Number:** 999999999  
**Service Address:** 123 Main

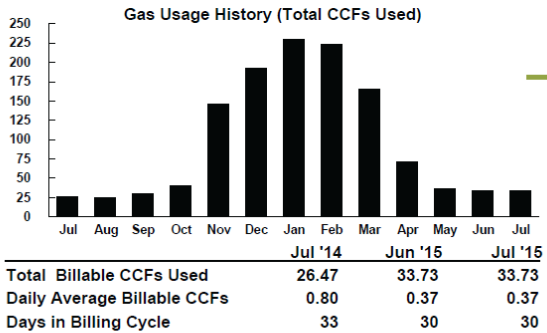
MISSOURI GAS ENERGY



00001 1 AV 0.391 5-D 63122 \*\*\*\*\*  
 >000001 2154909 0001 092049 1OZ  
 JOHN Q CUSTOMER  
 123 MAIN  
 KANSAS CITY, MO 64111

Bill at a Glance	Amount
Previous Balance	363.55
Payment - Thank you	(363.55)
<b>Total Current Charges</b>	<b>95.75</b>
<b>Total Balance</b>	<b>95.75</b>
Amount Due	\$120.00
Due By	08/14/15
Late Fee Assessed After	08/21/15

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



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

**Important Message**

**Did You Know?**  
 Natural gas water heaters cost less to operate than electric water heaters, can heat water twice as fast and work when the power is out.

Payment Plans	
General Budget Plan	120.00

Please retain this portion for your records.

See back of bill for other convenient ways to pay your bill.

Please detach and return this portion to Missouri Gas Energy, Drawer 2, St. Louis, MO 63171 with your payment. Please do not fold, staple or paper clip payment to your bill.

Account Number: 999999999  
 Service Address: 123 Main



**Amount Due** \$120.00  
**Due By** 08/14/15  
**Late Fee Assessed After** 08/21/15

**\$1** **Check the box to the left.**  
 Across the area, families are struggling to pay their heating bills and stay warm. DollarHelp is an easy way to lend a hand. Just check the red box to set up a one dollar monthly donation. Every dollar helps.

**Make Check Payable to:**

**Missouri Gas Energy  
 Drawer 2  
 St. Louis, MO 63171**

Amount Enclosed:

Please do not write below.

9999999997000011825

