TEX hibit \$ 21

FILED December 28, 2017 Data Center Missouri Public Service Commission

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 Staff______Exhibit No. 2)

Jefferson City, Missouriate 25-17 Reporter AC September 2017 File NOSR-2017 35 GR-2017 2010

Schedule CCOS-d1: Definitions

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

<u>Billing Determinants</u>: 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.

<u>Cost of Service</u>: 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.

<u>Class Cost of Service (CCOS) Study</u>: 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.

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

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

Schedule CCOS-d1 Page 1 of 3 <u>Rate Design</u>: 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.

<u>Rate Design Study</u>: 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.

<u>Rate Schedule</u>: 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.

<u>Rate Structure</u>: 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

Schedule CCOS-d1 Page 2 of 3 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. <u>Rate Values (Rates)</u>: 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.

<u>Tariff</u>: 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

.

.

MGE CCOS Results	Residential		SGS		LGS		LV & T	ransport	· · · ·
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
	S	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	

LAC CCOS Results	Residential		General Service	Class 1	General Class 2	Service	General	Service Class 3	Large	Volume	E LV	Transport	Interr	uptible	
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	

Schedule CCOS-d2



╶┍╍╢╢┑╗╍╢╬╫╢╢╢╍┍┶╍╎╢┑╝╢┚╗┑┱┑╢┙╝╝╢╢

>020632 7187565 0003 092049 20Z

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

Present	Previous	Usage	BTU	≓
Reading	Reading	(CCF) X	Factor	Therms
9925	9887	38	1.017	38.6
Ac	tual	Resider	itial General	Service

Laciede Delivery 05-13-2013 to 06-10-2013 28,68 19.50 Customer Charge Usage ≤ 30 Therms: 30 @ \$0.20132 6.04 Usage > 30 Therms: 8.6 @ \$0.15297 1.32 ISRŠ 1.82 20.68 Natural Gas Cost 16.08 Usage ≤ 30 Therms Usage > 30 Therms 4.60 2.06 Taxes St. Louis City Tax 2.06**Total Current Charges** \$51.42 Payment Plans

	Fayment Fiens	a na bar ba ta gla sh	2011 - D
General Budget Plan			86.00

Please retain this portion for your records.

Statement Date: Account Number: Service Address:

06/13/2013 1234567890 123 MAIN ST

Bill at a Glance	latest i des		ıA	nount
Previous Balance				228.30
Payment - Thank you	CREEK.	이 너 한국		(86.00)
Total Current Charge	s geraad	a station	aart jagd	51.42
Total Balance				193.72
Amount Due				\$86.00
Due 8y		ほうともな	06	/24/13 🔅



Important Message Safety tip - before you dig, call 1-800-DIG-RITE or 811 (the national one-call number) or visit 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.

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

Make Check Payable to:

Laclede Gas Company

St. Louis, MO 63171

Drawer 2

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 bit.

Account Number: 1234567890 Service Address: 123 MAIN ST

> Amount Due Due By Delinquent After

\$86.00 06/24/13 07/08/13

Amount Enclosed:

Please do not write below.

12605400006000005142

20632 9189565 020537 029637 0001//001

	MGCE Importan Customer Natural ga Toll-free: 6	t Contact Information service: 816-756-5252 is emergencies or odor: 300-582-1234	: 800-582-0000	Statement Date Account Numb Service Addres	: 07/29/2015 er: 9999999999 - s: 123 Main		The spectromentari
	Laciede Gas 	ı llılı rı ^l	ւիրովո	Bill at a Glam Previous Balar Payment - Tha Total Current Q Total Balance Amount Due Due By Late Fee Asses	ce ce nk you harges ssed After Usage History (Total	Am 3 (36 51) 08/ 08/ 08/	OUNT 63.55 3.55) 95.75 95.75 20.00 20.00 21/15
and ala	Present Reading 7308 Previous Reading 7207 U (C Actual Construction Construction Delivery Charge 06-28-2015 to Customer Charge 103 CCF @ .0738 Construction ISRS Natural Gas Cost Construction Vsage: 103 CCF Taxes City Tax Franchise Tax ISRS Tax Cther Charges City Charges Utility Late Charge Total Current Charges Charges	sage CF) X 101 Residential Ger 07-28-2015	= Billable CCFs 103,00 1eral 31.31 23,00 7.60 71 54.81 7.83 6.48 .06 6.48 .06 1.80 1.80	225 200 175 150 125 100 75 25 Jul Aug Sep Total Billable CCFr Daily Average Billa Days in Billing Cyc Did You Know? Natural gas water water heaters, ca power is out.	Oct Nov Dec Jun F Jui * a Used 26.4 ble CCFs 0.8 le 3 Important Messa r heaters cost less f n heat water twice a	eb Mar Apr Kay 14 Jun '15 7 33.73 0 0.37 3 30 ge	Jun Jul Jul 115 33.73 30 30 electric when the
	Please retain this portion for you Please retain this portion for you Please detach and return this portion to Account Number: 9999999999 Service Address: 123 Main Amount Due Due By Late Fee Assessed After Amount Enclosed: Please do not write below. 9999999999999700000111	nr records. 9 Missouri Gas Energy, Dr 99 \$120.00 08/14/15 08/21/15	120,00 rawer 2, St. Louis, Mr Check the stray way bend at this and st ban eary way be lead at the red bac to set up a on doction. Freey doctar best for an ear way be lead at the red bac to set up a on doctor. Freey doctar best for an ear way be lead at the red bac to set up a on doctor. Freey doctar best for an ear way here at an ear doctor. Freey doctar best for an ear way here at a for doctor. Freey doctar best for an ear way here at a for doctor. Freey doctar best for an ear way here at a for doctor. Freey doctar best for an ear way here at a for doctor. Free doctar best for an ear way here at a for doctor. Free doctar best for an ear way here at a for doctor. Free doctar best for an ear way here at a for doctar back at a for a for doctar back at a for a for a for a for doctar back at a for a for a for a for doctar back at a for a for a for a for doctar back at a for a for a for a for doctar back at a for a for a for a for doctar back at a for a for a for a for a for doctar back at a for a for a for a for a for doctar back at a for a for a for a for a for a for doctar back at a for a for a for a for a for doctar back at a for a for a for a for a for a for a for doctar back at a for a for doctar back at a for a for doctar back at a for a for doctar back at a for	See bac D 63171 with your payment. Der Heip box to the left. war, forsies are o pay their basing N your bedrikelip and Just check e defar monthy is. Luckade Cas	k of bill for other conv Please do not fold, staple lake Check Payat lissouri Gas Ener rawer 2 t. Louis, MO 6317	renient ways to pa or paper clip payment ole to: gy 1	y your bill. to your bal