Exhibit No.:	
Issue:	Customer Charge; Class Cost of Service Study; Separation of General Service Rate
Witness:	R. Lawrence Sherwin
Type of Exhibit:	Rebuttal Testimony
Sponsoring Party:	Laclede Gas Company
Case No.:	GR-99-315

Laclede Gas Company

CASE NO. GR-99-315

REBUTTAL TESTIMONY

OF

R. LAWRENCE SHERWIN

August 1999

<u>REBUTTAL TESTIMONY OF R. LAWRENCE SHERWIN</u>

Q. Please state your name and address.

A. My name is R. Lawrence Sherwin, and my business address is 720 Olive Street, St. Louis Missouri 63101.

Q. Are you the same R. Lawrence Sherwin who previously filed direct testimony on behalf of Laclede Gas Company ("Laclede" or the "Company") in this proceeding?

A. Yes, I am.

Q. What is the purpose of your rebuttal testimony?

A. The purpose of my rebuttal testimony is to respond to the direct testimony filed by Daniel I. Beck on behalf of the Missouri Public Service Commission, to the direct testimony filed by Hong Hu on behalf of the Office of the Public Counsel ("OPC" or "Public Counsel"), and to the direct testimony of Donald Johnstone and of John W. Mallinkrodt, both on behalf of Missouri Industrial Energy Consumers.

The three issues I will be addressing are: (1) the Customer Charge level for Residential General Rate customers; (2) differences in the Class Cost of Service Studies ("C-O-S studies") sponsored by various parties; and (3) separation of the General Service rate into two distinct classes, namely (a) Residential and (b) Commercial and Industrial.

Q. Is rebuttal testimony also being provided by any other witness on behalf of the Company?

A. Yes, several Company witnesses are filing rebuttal testimony.

CUSTOMER CHARGE FOR RESIDENTIAL GENERAL

Q. What is your understanding of Staff's position on the customer charge?

A. On page 3, lines 20-22 of his direct testimony, Mr. Beck states that his C-O-S study "indicates that most classes currently have customer charges that are above the calculated customer charge". He accordingly recommends that if a revenue increase is granted in the instant case, the customer charge for the Commercial and Industrial customers within the General Service class be increased to the Company's proposed $13.80. Mr. Beck makes no recommendation regarding the customer charge for Residential customers.

Q. Please comment on Mr. Beck's general conclusion regarding the customer charge.

A. A review of the workpapers provided by Staff reveals that the Staff C-O-S study understates the cost properly allocable to the customer charges. Mr. Beck has improperly omitted costs which are related to costs that he allocates to customer charges. For example, Mr. Beck includes meter reading and customer billing expenses in his customer charge calculation, but excludes employee benefits costs and payroll taxes related to meter readers and customer billing employees. Property taxes on mains, services, meters and regulators - items of property included at least partially in Mr. Beck's customer charge - are similarly excluded despite the fact these taxes relate directly to this property. Also, certain supervision expenses were omitted despite the typical convention to allocate these costs based on the costs of those workers being supervised. Mr. Beck consistently relies on this convention in conducting his study except in the determination of customer charge amounts.

Q. Have you determined the effect of changing the Staff C-O-S study for these items?

A. Yes. After including costs that are related to the costs Mr. Beck does include, I find the customer charges currently in effect and those proposed by the Company are cost-justified. My recalculation of Mr. Beck's methodology results in a monthly amount of $12.34 for Residential General customers. I have prepared a schedule to demonstrate the development of this level (Schedule 1).

Q. What is OPC's recommendation concerning the customer charge?

A. Ms. Hu's relevant testimony begins on page 18, line 16. She indicates that her analysis supports a residential customer charge of $6.30. Laclede's current General Service rate residential customer charge is $12.00, and the Company is proposing to increase this charge to $12.50, so I was surprised at such a disparate end-result of the OPC study. Based upon the results of her cost study, Ms. Hu recommends a customer charge of $8.50.

Q. Please comment on Ms. Hu's recommendation.

A. Ms. Hu's recommendation flies in the face of recommendations made by OPC in several Laclede Gas Company rate cases in the 1990's. Until Laclede's 1998 rate case, OPC's studies of customer-related costs for the General Service rate class closely tracked with the Company's own studies. In 1994 and 1996 the OPC witness determined that the average customer-related cost for the General Service rate schedule was $11.82 and $12.69, respectively. Further, during this same time frame and consistent with its cost studies, direct testimony filed by the OPC supported increasing the residential customer charge to $11.00 in 1994 and to $11.50 in 1996. I would not expect to find costs declining from these levels, but rather would expect that today costs would be higher.

Q. Did OPC have reasons in addition to cost to support these increased customer charges?

A. Yes. OPC conducted studies of the impact of such increases on low-income customers. In direct testimony filed in 1994, Philip Thompson, Chief Economist for the OPC, concluded that such increases tended to benefit such customers because of the apparent U-shaped correlation between income and gas consumption. That is, gas consumption appeared to be high at low income levels, then it declined as income rose into middle income, and gas consumption then rose with higher income, forming a U-shape when expressed graphically.

Q. How do you account for the disparity between OPC's results now and those of only a few years ago?

A. Upon review of the workpapers for this case supplied by Ms. Hu, I found similar conditions to those I found in reviewing Staff's study. For example, the OPC study similarly excludes supervision, employee benefit costs, payroll and property taxes from customer charge costs. I do not think this is because of a theoretical difference as much as an allocation of direct costs without the careful inclusion of related indirect costs. In addition, the formula used by Ms. Hu for determining the O&M amount for the various customer classes includes two apparent errors: a spreadsheet "cell reference" to main dollars instead of service dollars, and a more important "cell reference" to the wrong customer classifications across the board. That is, for the residential customer charge, the formula refers to commercial/industrial O&M costs by using the wrong column reference in the spreadsheet formula.

Q. Did you modify the worksheet to correct these errors and to more appropriately fully allocate costs related to the direct costs?

A. Yes. As modified and corrected, I find that the OPC worksheet would support the establishment of customer charges at levels consistent with or even greater than Laclede's proposed levels in this case. For residential general rate customers, my correction of Ms. Hu's worksheet and my further allocation of related costs results in a monthly customer cost of $12.64. See Schedule 2.

CLASS COST OF SERVICE STUDIES

Q. Please summarize the class cost of service study issues.

A. Laclede, Staff, OPC and MIEC each filed a class cost of service study in this case. The methods of study differed greatly among the four studies, and the results are predictably varied. The variety of different methodologies for functionalizing, classifying and allocating a utility's costs can give rise to highly theoretical and complex discussions, which I will strive to avoid here by discussing the studies on a more practical level.

Q. Is there a common problem that runs through both Staff's and OPC's studies?

A. Yes. A major problem with both the Staff and the OPC study is that gas cost is excluded from each study. Regarding the commodity part of our gas cost, this may present little or no problem. However, the pipeline capacity charges (or "demand charges") paid by the

Company are a different matter. Our Purchased Gas Adjustment clause allocates pipeline capacity charges above the level built into base rates based upon total firm annual volumes, an approach which leaves the determination of class responsibility for these capacity charges to the class cost of service studies. Neither the Staff or the OPC witness includes any allocation of the cost of gas - not even the pipeline capacity charges. This exclusion of gas costs presents a significant problem in making use of either study as a basis for shifting revenues between classes.

Q. Please explain.

A. The appropriate allocation of fixed gas cost charges such as pipeline capacity charges between classes depends on the various load factors of the respective classes. Mr. Beck and Ms. Hu each devote significant effort to funtionalize, classify and allocate the Company's cost of service, excluding gas costs, and compare their results to a revenue amount which supposedly excludes gas cost recovery. However, in conducting their studies, neither Mr. Beck nor Ms. Hu performed any analysis to determine the amount of gas costs that are properly allocable to each of the rate classes. Instead, they simply removed gas costs from the classes based on the system average for all firm or interruptible classes. Without a definitive determination of the gas costs properly includable in revenues by rate class, and an allocation of at least the fixed components of gas costs, the Commission can have no confidence in Staff's and OPC's C-O-S studies. I believe that all class cost of service studies used for a review of revenue responsibility in this case should include all costs of service.

Q. Do you have any other comments on Ms. Hu's class cost of service study?

A. Yes. I have reviewed Ms. Hu's testimony, exhibits and workpapers including material on the relative system utilization method (RSUM) allocator for mains. She notes in her testimony that this method was developed in 1988 and was modified in 1992 by an OPC economist, Mr. Philip Thompson. Ms Hong uses an ***r*** factor for the method based upon the choice made by Mr. Barry F. Hall, an OPC witness in Laclede's last rate case. In his direct testimony in that past case, Mr. Hall stated that he calculated the ***r*** factor "for at least three separate data sets" since he had been participating in C-O-S studies. According to Mr. Hall, "the results are very consistent. The exponent ***r*** is typically about 0.3." Mr. Hall did not testify or imply that he looked at Laclede Gas Company data for his determination of the 0.3 figure, nor did he testify or imply which if any of the C-O-S studies involved gas companies. The reader is left wondering why Mr. Hall was so ambiguous in discussing how he chose the important ***r*** factor. In the absence of further validation, the Commission cannot properly rely on Ms. Hu's ***r*** factor.

Q. Do you agree with Ms. Hu's statement on page 9, lines 19-20 that the Average and Peak method "allocate[s] too much cost to peak users …"?

A. No. I believe she uses the term Average and Peak method to refer to the Average and Excess method employed in my study. This method balances peak and average use of the system and is appropriate for a gas utility such as Laclede. The use of twelve monthly peaks such as are used in the RSUM method results in allocation factors which do not give enough weight to the peak use of the system, which indeed represents the driving force of the design and the critical operation of our system.

Q. Ms. Hu testifies that in view of rate impact and affordability, the OPC believes that a maximum of half of the revenue shifts indicated in the OPC C-O-S study be made. Do you agree?

A. I agree that impact is an important consideration for determining the level of revenue shifts. The magnitude of the shifts proposed by OPC lead me to conclude that implementation of half of the end-result would be far too high. I would recommend no more than a fourth of such a large amount be implemented if such a revenue shift decision were made.

Q. Do you have comments regarding the MIEC study?

A. Yes. I would first note that this study does allocate all costs including gas cost, which should be a basic requirement of all studies in this case. My primary concern with Mr. Johnstone's study and the support work of Mr. Mallinkrodt is the basis for allocating the higher pressure main cost between large users and other customers. The analyst performing such an allocation needs to look at more than raw volumes of gas to arrive at a reasonable end-result. Mr. Mallinkrodt recommends that larger customers should pay no part of lower pressure mains in Laclede's distribution system, because such lower pressure mains are not used in the delivery of gas to large customers. However, there may similarly be segments of the higher pressure system which exist only to serve large customers, and for which smaller customers should bear no or little part. I believe that this consideration would need to be fully evaluated to determine whether the concept of separately allocating the investment in mains of different pressures has merit.

SEPARATION OF GENERAL SERVICE RATE

Q. Please provide a summary of this issue.

A. Public Counsel recommends allocating costs separately to two classes within the General Service rate: (1) Residential and (2) Commercial and Industrial ("C&I"). Ms. Hu claims the current rate design results in an under-recovery from C&I customers of $13.4 million and an over-recovery in excess of this amount from Residential customers. In contrast, Mr. Beck's study would indicate an under-recovery of costs from Residential customers using current rates of about $2.5 million. This is a difference of $15.9 million

Q. Is the difference in the direction of over/under cost recovery you mentioned indicative of a problem in one or both of the studies?

A. Without knowing the respective allocation of gas costs, it is impossible to say with any degree of certainty. However, it appears that Ms. Hu's study for OPC is largely based on a limited sample of C&I customers which Public Counsel requested from the Company. In supplying the requested data, the Company did not indicate it agreed that the sample is indicative of the characteristics of the C&I group as a whole. This group includes customers with very broad and diverse load characteristics, ranging from very low annual volumes to very large annual consumption, and with a wide variety of load factors. Because the C&I group is so diverse, the Company has serious reservations whether the sample data was statistically valid and was appropriately used by Ms. Hu to determine C&I revenue responsibility. These reservations cannot be ignored given the significant revenue shift that would result from Ms. Hu's analysis.

Q. Is this your only concern about the separation of Residential from C&I proposed by Staff and OPC?

A. No. Both allocations depend in some measure on the average load characteristics of these two classes, and there is no definitive determination of peak day volumes attributable to the separate classes. This peak day data is probably most important to the Staff study, but it would also affect the OPC study in their respective analyses of non-gas cost. Further, as the studies are completed by including an allocation of gas costs, both studies would be affected in large part by the peak day profiles of the separate classes. I have reviewed monthly data in an attempt to estimate the likely difference in load factors of the two classes, but find the results are not conclusive.

Q. What is your recommendation?

A. I recommend the General Service rate remain as is, including both Residential and C&I customer groups.

Q. Does this complete your rebuttal testimony?

A. Yes.

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MODIFIED CUSTOMER CHARGE TABLE
Based upon Staff Model, As Adjusted

	TOTAL	RESIDENTIAL	SMALL GENERAL SERVICE	LIQUID PROPANE	LARGE VOLUME	INTERRUPTIBLE	FIRM TRANSPORTATION	BASIC TRANSPORTATION	UNMETERED GAS LIGHTS
TOTAL REVENUES TO COLLECT FROM CLASS	$204,904,735	$161,850,291	$31,544,236	$46,603	$2,481,986	$310,963	$3,325,982	$5,335,508	$9,166
AMOUNT TO BE COLLECTED IN CUSTOMER CHARGE:									
STAND-ALONE COMPONENT OF MAINS	$9,329,312	$7,107,070	$2,105,626	$2,799	$51,311	$5,598	$21,457	$33,586	$933
DIRECT & RELATED SERVICE LINE COSTS	$37,328,057	$32,970,397	$4,218,744	$15,100	$55,626	$6,411	$22,816	$35,670	$3,293
DIRECT & RELATED METER COSTS	$24,770,113	$20,926,302	$2,884,899	$8,714	$195,365	$28,242	$283,354	$443,238	$0
DIRECT & RELATED REGULATOR COSTS	$3,155,988	$2,514,802	$456,438	$983	$37,499	$5,432	$54,775	$85,682	$376
DIRECT & RELATED BILLING COSTS	$18,819,896	$17,303,520	$1,154,422	$7,060	$162,831	$17,264	$67,585	$107,214	$0
DIRECT & RELATED METER READING COSTS	$7,670,785	$6,220,167	$1,419,248	$2,538	$13,229	$1,403	$5,491	$8,710	$0
TOTAL AMOUNT TO COLLECT IN CUSTOMER CHARGE		$87,042,259	$12,239,377	$37,194	$515,861	$64,349	$455,477	$714,099	$4,602
NO. OF BILLS	7,534,801	7,056,100	470,755	2,879	1,660	176	689	1,093	1,449
CUSTOMER CHARGE FROM COS		$12.34	$26.00	$12.92	$310.76	$365.62	$661.07	$653.34	$3.18

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Corrected and Modified Customer Charge Worksheet
Based upon Office of Public Counsel Model, as Adjusted

	TOTAL	General Service Residential	General Service Comm'l & Ind.	Large Volume Service	Interruptible	L V T & S S Firm	L V T & S S Basic	LP
CUSTOMER CHARGE DOLLARS (000):								
RATE BASE	265,295	202,628	53,136	4,338	460	1,798	2,852	83
8.34% RETURN (times 1.5 for Fixed Charges)		25,349	6,647	543	58	225	357	10
O & M:								
Mains & Svc Exp	2,653	2,332	311	4	0	2	3	1
Mtr & Hse Regul Exp	11,275	6,941	3,571	349	37	145	230	3
Cust Inst Exp	2,980	1,835	944	92	10	38	61	1
Oper Supv	4,081	2,947	930	75	9	46	74	1
Mtce Svcs	6,342	5,576	744	9	1	4	6	2
Mtce Mtr & Hse Regul	1,181	727	374	37	4	15	24	0
Mtce Supv	1,110	908	186	8	1	3	4	0
Cust Accts Excluding Bad Debts	21,099	17,106	3,905	37	4	16	25	7
Total O & M Excluding A & G	50,722	38,372	10,964	610	65	268	426	16
Admin & Gen'l	12,095	9,117	2,614	157	17	72	114	4
Total O & M	62,817	47,489	13,579	767	82	339	541	19
Depreciation & Other	11,381	8,875	2,136	168	18	70	111	4
Payroll Taxes	3,749	2,830	812	46	5	21	33	1
Property Taxes	6,132	4,681	1,231	101	11	41	65	2
	=	=	=	=	=	=	=	
TOTAL - Annual		89,224	24,405	1,625	174	696	1,106	36
TOTAL - Monthly		7,435	2,034	135	15	58	92	3
Monthly bills (000)		588.01	39.23	0.14	0.01	0.06	0.09	0.24
Monthly Customer Charge		$ 12.64	$ 51.84	$ 979.13	$ 986.19	$ 1,010.10	$ 1,012.32	$ 12.56

Schedule 2
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Sherwin Rebuttal

BEFORE THE PUBLIC SERVICE COMMISSION

OF THE STATE OF MISSOURI

In the Matter of the Laclede Gas Company's Tariff to Revise Natural Gas Rate Schedules	)))	Case No. GR-99-315

A F F I D A V I T

STATE OF MISSOURI)
) SS.
CITY OF ST. LOUIS)

R. Lawrence Sherwin, of lawful age, being first duly sworn, deposes and states:

1. My name is R. Lawrence Sherwin. My business address is 720 Olive Street, St. Louis, Missouri 63101; and I am Assistant Vice President - Regulatory Administration of Laclede Gas Company.

2. Attached hereto and made a part hereof for all purposes is my rebuttal testimony, consisting of pages 1 to 12, and Schedule Nos. 1 to 2, inclusive.

3. I hereby swear and affirm that my answers contained in the attached testimony to the questions therein propounded and the information contained in the attached schedule are true and correct to the best of my knowledge and belief.

R Lawrence Sherwin

R. Lawrence Sherwin

Subscribed and sworn to before me this 5th day of August, 1999.

Joyce L Jansen

JOYCE L. JANSEN
Notary Public — Notary Seal
STATE OF MISSOURI
St. Louis County
My Commission Expires: July 2, 2001