Exhibit No.:
Issue: Cost Allocation - Mains, Services, Meters, and Regulators
Witness: Mallinckrodt
Type of Exhibit: Rebuttal 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

Rebuttal Testimony and Schedules of

JOHN W. MALLINCKRODT

On Behalf of

Missouri Industrial Energy Consumers

August 1999
Project 7065

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

LACLEDE GAS COMPANY
Case No. GR-99-315

AFFIDAVIT OF JOHN W. MALLINCKRODT

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

John W. Mallinckrodt, being of lawful age and duly affirmed, states the following:

1. My name is John W. Mallinckrodt. I am a consultant in the field of utility regulation and a member of Brubaker & Associates, Inc.

2. Attached hereto and made a part hereof for all purposes is my Rebuttal Testimony consisting of Pages 1 through 14, and Schedules 1 through 2, filed on behalf of the Missouri Industrial Energy Consumers.

3. I have reviewed the attached rebuttal testimony and hereby affirm that my testimony is true and correct to the best of my knowledge and belief.

John W. Mallinckrodt

Duly affirmed before this 5th day of August 1999.

CAROL SCHULZ
Notary Public - Notary Seal
STATE OF MISSOURI
St. Louis County
My Commission Expires: Feb. 26, 2000

Notary Public

My commission expires on February 26, 2000.

LACLEDE GAS COMPANY

Before the

Missouri Public Service Commission

Case No. GR-99-315

Rebuttal Testimony of John W. Mallinckrodt

Q PLEASE STATE YOUR NAME AND BUSINESS ADDRESS.

A John W. Mallinckrodt, Brubaker & Associates, Inc., 723 Gardner Road, Flossmoor, Illinois 60422.

Q ARE YOU THE SAME JOHN W. MALLINCKRODT WHO PREVIOUSLY SUBMITTED TESTIMONY IN THIS CASE?

A Yes, I am.

Q WHAT SUBJECTS WILL YOUR REBUTTAL TESTIMONY ADDRESS?

A My Rebuttal Testimony will address the positions of the Staff of the Missouri Public Service Commission (Staff) and the Office of Public Counsel (OPC) on allocation of the cost of mains, services, and meters and regulators (M&R). In addition, my Testimony will also address Laclede Gas Company's (Laclede) position in its cost of service study (COSS) on allocation of the above costs.

Q WHAT GENERAL COMMENTS DO YOU HAVE RELATIVE TO THE COST ALLOCATIONS OF LACLEDE, THE STAFF AND THE OPC?

A The findings of fact, conclusions of law and judgement of the Circuit Court of Cole County, Missouri in the case, Noranda Aluminum, Inc. vs. Public Service Commission of the State of Missouri, Case No. CV 198-122C, seems to offer some guidance. However, I understand that further appeals are pending, so the judgement is not final at this time. First, the Court found that the Commission's Order shall not result in the allocation of any distribution costs to "a customer who" is not connected to any distribution system but rather is connected directly to the transmission system. Second, the Court ordered the Commission not to allocate any regulator, meter and installation allocations cost "to a class" other than those actually used to serve "a customer or class" for the reason that it is not causing any costs to be incurred.

While I understand the Court's decision is not yet final, it certainly comports with cost of service principles we have long been supporting on behalf of MIEC. Moreover, the direction of the Court is instructional because to various extents Laclede, the Staff and the OPC are allocating distribution main costs to customers who are not connected to the parts of Laclede's distribution system comprised of the medium pressure and low pressure systems. The use of mains is more fully described in my Direct Testimony at pages 2 through 4. These customers and/or classes are not served by the medium and low pressure facilities and hence are not causing costs to be incurred.

Although some of its testimony in this case is not current, OPC renewed a proposal that the cost of mains 2" and smaller be allocated only to the general service class (OPC asserts that 2" mains and smaller are used only to serve general service customers). This is a step in the right conceptual direction and partially recognizes what the Court ordered regarding Associated Natural Gas. However, the determination of which facilities are connected and actually used should be based on a careful study of the pressure systems that serve the customer's and/or classes' facilities and not on the

size of the main. OPC's approach, while a step in the correct conceptual direction, is an arbitrary approximation. In contrast, I have carefully reviewed the records of Laclede to accurately define the facilities being used in service to the customer classes.

Allocation of Mains, Services and M&R Costs

Q WHAT HAVE STAFF, OPC AND THE COMPANY PROPOSED WITH RESPECT TO ALLOCATION OF TRANSMISSION AND DISTRIBUTION MAINS?

A STAFF

Staff witness Daniel I. Beck has sponsored the Staff's COSS. Witness Beck developed the COSS in this case by updating the COSS filed by the Staff in Case No. GR-98-374 which was Laclede's previous rate case. The allocators used in this case were developed in the previous case and apparently updated in this case to reflect the test year ending December 31, 1998. Witness Beck has not filed any testimony in this proceeding to support the allocators used in the Staff's COSS. Therefore, there is nothing in the record in this case to support or even describe the Staff's allocation factors. My comments are based on a review of the Staff's testimony in the last proceeding, and work papers.

However, in case the Commission should consider the Staff's allocators for transmission and distribution mains, I will in this Rebuttal Testimony address the Staff's allocation of mains using its capacity utilization method as it was described in the previous case. The capacity utilization method yields an allocation to the Large Volume Transportation and Sales (LVTS) Firm and Basic Transportation customer classes of approximately 2.81% and 4.39% respectively of both transmission and distribution mains.

OPC

OPC in the Testimony of Ms. Hong Hu has proposed that transmission and distribution mains be allocated by the use of a modified RSUM (Relative System Utilization Method) allocator. This is an unconventional method developed not by Ms. Hu, but supported by Mr. Barry Hall, a former OPC employee, in the last case. Ms. Hu appears to have submitted his work verbatim. For distribution mains, Ms. Hu has allocated all of the cost associated with mains having a diameter of 2 inches and less to the Residential and Commercial & Industrial general service classes, thereby excluding all other classes from these costs. She used RSUM allocators that were developed by in the former OPC engineer Barry Hall in Case No. GR-98-374. Again, his work has been adopted verbatim without update. Mr. Hall's method yields an allocation of distribution main costs to the LVTS Firm and Basic Transportation customer classes of approximately 4.20% and 7.30%, respectively. The difference in the transmission and distribution allocators is due to the OPC's treatment of the 2" and smaller mains.

LACLEDE

Laclede has proposed an allocation which uses a demand and throughput allocator for transmission mains and distribution mains. Demand is based on the non-coincident peak (NCP) demand of each class and is applied to 73.527% of the main cost. The throughput allocator was determined by applying the ratio of the total system average daily usage to the total NCP day usage and is applied to 26.473% of the main cost. This results in a demand allocation of 3.702% of transmission and distribution mains to the LVTS Firm Transportation class and 5.626% of mains to the LVTS Basic Transportation class, as shown in the cost of service study supporting the Direct Testimony of R. Lawrence Sherwin. The throughput allocation is 7.204% of transmission and distribution mains to the LVTS Firm Transportation class and 12.316% of mains to the LVTS Basic

Transportation class. This results in an overall allocation of approximately 4.63% of transmission and distribution mains to the LVTS Firm Transportation class and approximately 7.40% of mains to the LVTS Basic Transportation class. However, in his Direct Testimony, Mr. Sherwin states that his study is intended to serve as a means of determining the relative cost responsibility of the various rate classes. Like the Staff's, the study submitted by Mr. Sherwin has completely ignored the fact that many large customers are served without any use of the medium and low pressure mains.

Q PLEASE COMMENT ON THE APPROPRIATENESS OF THE COMPANY'S METHOD OF ALLOCATION OF MAINS.

A In Mr. Johnstone's Direct Testimony for the Missouri Industrial Energy Consumers (MIEC) group, he utilized Laclede's COSS as a starting point and then made adjustments to reflect changes that must be made to develop a proper study. Instead of Laclede's method for allocation of transmission and distribution mains using an NCP demand/throughput allocation and an approximately 73/27 percentage split between the two, Mr Johnstone proposed an NCP demand/customer allocation a 70/30 percentage split between the two. In addition, three NCP demand allocators were developed to accommodate the fact that the large volume customers are not served by the low pressure mains in Laclede's distribution system and many of the large volume customers are not served by the medium pressure mains. The use of a customer allocator instead of a commodity allocator better reflects the assignment of costs to each class because a portion of the cost is related to the ability to connect customers to the system. Also, the cost of mains is not a variable cost and is not related to the volume of gas moving through the mains at any point in time. Consequently, there is no good reason for allocating any portion of main costs based on throughput. The MIEC method of

allocation of mains reflects a reasonable allocation of the cost of transmission and distribution mains for this case.

Q PLEASE COMMENT ON THE APPROPRIATENESS OF THE STAFF'S METHOD OF ALLOCATION OF MAINS.

A The Staff's method does not allocate the proper amount of transmission and distribution main costs to the LVTS Firm and Basic Transportation classes. The Stand Alone method utilized by the Staff to derive the customer component generates similar results to the use of the customer component by MIEC and in a very general sense both are intended to account for costs that are incurred to serve customers notwithstanding peak capacity requirements. Staff and MIEC allocators also utilize similar demand allocation factors. Therefore, the single biggest problem in the Staff's method is the failure to account for the fact that lower pressure facilities are not used in providing service to large customers. When modified to incorporate the use of only certain mains by the large volume classes, the Staff study would then better reflect the use and cost of the transmission and distribution mains used to provide service to the classes. I also disagree with the capacity utilization method because, as the name implies, the method focuses on usage instead of cost causations.

Q PLEASE ADDRESS THE OPC'S METHODS OF ALLOCATION OF MAINS.

A The OPC's RSUM method does not allocate the proper main costs to the classes in part because it is based on monthly NCP and not on the annual NCP. Like the Staff capacity utilization method, it fails to focus on cost causation. Since the maximum usage is what drives the capacity component of the cost of mains, the cost allocation should be based on the annual NCP, as adjusted for the use or non-use of the different pressure system

mains by the various classes. This would reflect the costs which are incurred in order to meet the maximum daily gas demand imposed by customers. The capacity component of the distribution system and the related investment for the system is primarily a function of the peak demand of each rate class. Peak demand therefore better reflects the cost responsibility of the classes. This calculation combined with a customer-related factor and adjusted as described above for the non-use of mains reflects the appropriate allocation of the cost of transmission and distribution mains to the classes.

OPC has not allocated the cost of 2" and smaller mains to classes other than the general service class, however , this 2" threshold is arbitrary and does not reflect actual use of system facilities. Main costs should be accumulated based on the pressure system, as described more fully in my Direct Testimony. An allocator using the annual NCP demands on each pressure system reflects the investment in mains and the cost basis for mains while the monthly NCPs in the OPC's RSUM method do not reflect the reality of system usage.

Q HOW DOES THE MIEC PROPOSAL COMPARE TO THE OTHER PROPOSALS FOR ALLOCATION OF MAINS?

A A comparison of the allocators for distribution mains for the LVTS Firm and Basic Transportation classes is shown in the Table below.

MAINS ALLOCATION - AS FILED

Mains	LVTS Firm	LVTS Basic	*Reflects Usage by Pressure System*
Laclede	4.629%	7.397%	No
Staff	2.810%	4.390%	No
OPC	4.197%	7.292%	Arbitrary
MIEC	1.002%	1.564%	Yes

Q **WHAT HAS THE STAFF PROPOSED WITH RESPECT TO ALLOCATION OF METERS?**

A Mr. Beck used an allocation of meters which reflects the relative costs of the meters and the numbers of meters. Mr. Beck allocated meters by assigning 69.87% of costs using a customer allocator and 30.13% of meter costs using a demand allocator. An allocation factor for each customer class was, as developed in the last case, based on the percentage of customers in the class for the customer allocator and on the percentage of total demand in each class. This resulted in an overall allocation of meter costs to the LVTS Firm Transportation class of 1.14% and to the LVTS Basic Transportation class of 1.79%.

Q **DO YOU FIND MR. BECK'S APPROACH APPROPRIATE?**

A No. While it accounts for variations in costs by use of a weighted per unit cost, the demand component does not capture any element of cost causations not already addressed by directly accounting for variations in the costs of the meters.

Q **WHAT HAS THE OPC PROPOSED WITH RESPECT TO ALLOCATION OF METERS?**

A The OPC in the Testimony of Ms. Hong Hu allocated meters based on the current cost for the meters used by each class. The current meter and installation (regulator) costs of the Company were utilized to derive the average meter and installation cost for each customer class. This cost by class was compared to the cost for the residential class and a weight was developed from this. The estimated number of meters was developed from the number of customers in each class multiplied by a meter/customer ratio. The estimated number of meters was multiplied by the cost weighting to develop the weighted meter count which was used to calculate the meter allocation factor. The final meter and regulator allocators for the LVTS Firm Transportation and Basic Transportation classes are 1.284% and 2.037% respectively.

Q DO YOU FIND MS. HU'S APPROACH REASONABLE?

A Yes. It accounts for variations in costs based on costs by use of a weighted per unit cost. I have provided data to Mr. Johnstone so he could revise the MIEC study to incorporate Ms. Hu's approach.

Q WHAT HAS THE STAFF PROPOSED WITH RESPECT TO ALLOCATION OF REGULATORS?

A Staff witness Beck allocated regulators by determining the customer and demand components in the same manner as done for meters, except the cost was split 54.15% to customer and 45.85% to demand. This resulted in an allocation of regulator costs to the LVTS Firm Transportation class of 1.74% and to the LVTS Basic Transportation class of 2.71%.

Q WHAT HAS THE OPC PROPOSED WITH RESPECT TO ALLOCATION OF REGULATORS?

A As discussed above, the OPC in the Testimony of Ms. Hong Hu allocated regulators based on the meter allocators. This results in regulator allocators for the LVTS Firm and Basic Transportation classes which are the same as the meter allocators.

Q WHAT DID LACLEDE FILE WITH RESPECT TO ALLOCATION OF METERS, REGULATORS AND SERVICES?

A Laclede allocated meters and regulators using customer (50.213%), NCP demand (38.607%), and commodity (13.18%) related functions. The customer-related portion of the meters, regulators and services, was based on the cost of the minimum size of meters and services used in the Laclede system. The balance of the costs of meters and services was then divided between demand-related and commodity-related costs using the same procedures followed for the functionalization of mains. This resulted in an allocation of 2.475% of meters and regulators to the LVTS Firm Transportation class and 3.853% to the LVTS Basic Transportation class.

Q IS THE LACLEDE APPROACH REASONABLE?

A No. Unlike the approaches of Staff and OPC, it has little basis in causation. As a result Laclede would charge large volume customers for the costs actually incurred to provide service to general service customers.

Q DID THE MIEC COST STUDY FILED WITH MR. JOHNSTONE'S DIRECT TESTIMONY CORRECT THE PROBLEMS WITH THE LACLEDE APPROACH?

A No, however I will be providing data for a revised study to reflect the approach recommended by Ms. Hu as it provides a reasonable allocation founded in the costs of the meters, regulators and services used to provide service to the customer classes.

Q WHAT METHOD DID STAFF, OPC AND COMPANY UTILIZE FOR THE ALLOCATION OF SERVICE LINES?

A Mr. Beck for the Staff based his allocation of services on weighted customer numbers. The weights were based on the average cost of services for each class. These weights were applied to the customer numbers to derive weighted customer numbers. The OPC in the Direct Testimony of Ms. Hong Hu also allocated services based on an estimate of the cost of services for each class. She developed weighting relative to the residential class for each class which was multiplied by the number of customers in each class to develop a weighted service count for each class. This count was used to derive the service allocation factor.

The Staff's method of allocation of services resulted in an allocation of service costs to the LVTS Firm and Basic Transportation classes of 0.060% and 0.10%, respectively. The OPC's results in Ms. Hu's Direct Testimony allocated service costs to the LVTS Firm and Basic Transportation classes of 0.060% and 0.095% respectively.

Laclede based the allocation of services for the customer classes on the same method used for meters and regulators but the customer-related cost was set at 74.102% of the total cost. Laclede's method of allocation resulted in an allocation of approximately 1.45% of services to the LVTS Firm Transportation class and 2.167% to the LVTS Basic Transport class.

Q PLEASE COMMENT ON THE APPROPRIATENESS OF LACLEDE'S METHODS, OPC'S METHODS, AND STAFF'S METHODS OF ALLOCATION OF SERVICES.

A Laclede's method is not acceptable as it is based to heavily on the customer-related function, determined by the minimum size service, and also on the commodity-related function. The OPC and Staff methods are superior to Laclede's because they use the cost of services for each class to develop a weighting which is used to derive a cost weighted service count. It is more appropriate to base the cost allocation on the actual cost of services than on the customer, demand, and commodity-related components of cost, which would only at best approximate the cost.

Q WHAT APPROACH DID MIEC USE FOR THE ALLOCATION OF SERVICES?

A The MIEC COSS developed an allocator based 70% on NCP demand and 30% on customer-related functions. The Staff and OPC methods better reflect cost and produce essentially identical results.

I provided data to Mr. Johnstone so he could revise the MIEC study to incorporate the OPC approach. A comparison of the allocators for services for the LVTS Firm and Basic Transportation classes is shown in the Table below.

Meters	LVTS Firm	LVTS Basic
Laclede	1.450%	2.167%
Staff	0.060%	0.100%
OPC	0.060%	0.095%
MIEC (as modified)	0.060%	0.095%

Q IS IT POSSIBLE TO CORRECT THE MAIN DEMAND ALLOCATORS OF LACLEDE, STAFF AND OPC TO REFLECT ACTUAL USAGE OF THE PRESSURE SYSTEMS?

A Yes. I have, for each party's allocation, estimated the effect of allocating costs only where facilities are used in providing service to the customer. This will better reflect the principle of cost causation and the required essential equity and non-discrimination as discussed in the Order of the Circuit Court.

Q PLEASE DESCRIBE THE ADJUSTMENTS YOU HAVE MADE.

A Both the Staff and OPC's COSS were adjusted by revising the main demand allocators to account for the usage of mains. The studies were also adjusted for gas revenues as described in the Rebuttal Testimony of Mr. Johnstone. The results are set forth in my Rebuttal Schedules 1 and 2.

Q PLEASE SUMMARIZE THE MAIN POINTS OF YOUR TESTIMONY.

A The main points of my Testimony are as follows: (1) Staff, OPC and Laclede methods of allocation of mains should be rejected because they do not account for the fact that many large customers do not receive any service from medium and low pressure mains; (2) Mains should be allocated on an NCP demand/customer allocation with an approximately 70/30 percent split between the two and with the NCP demand allocator adjusted for customers not served by low pressure and medium pressures mains; (3) Meters and regulators should be allocated using the method proposed by OPC, which is quite similar in effect to the Staff method; (4) Services could be allocated as proposed by OPC (these results are equivalent to Staff's); and (5) MIEC endorses these

methods and incorporates the recommendation into the MIEC Recommended Cost of Service Study.

Q DOES THIS CONCLUDE YOUR REBUTTAL TESTIMONY AT THIS TIME?

A Yes, it does.

STAFF ANALYSIS AS MODIFIED BY MIEC
LACLEDE GAS COMPANY
CASE NO. GR-99-315
CLASS COST-OF-SERVICE SUMMARY
TEST YEAR ENDED DECEMBER 31, 1998

	TOTAL	RESIDENTIAL	SMALL GENERAL SERVICE	LIQUID PROPANE	LARGE VOLUME	INTERRUPT	FIRM TRANSPORT	BASIC TRANSPORT	UNMETERED GAS LIGHTS
RATE BASE	$512,139,000	$395,291,888	$89,959,156	$32,111	$7,442,856	$886,376	$7,115,120	$11,387,526	$23,966
REQUESTED RETURN	8.2700%	8.2700%	8.2700%	8.2700%	8.2700%	8.2700%	8.2700%	8.2700%	8.2700%
RETURN ON RATE BASE	$42,353,895	$32,690,639	$7,439,622	$2,656	$615,524	$73,303	$588,420	$941,748	$1,982
O & M EXPENSES	$103,634,000	$83,982,918	$14,907,718	$30,472	$1,160,525	$147,938	$1,297,671	$2,103,164	$3,594
DEPRECIATION EXPENSE	$21,280,000	$16,906,258	$3,348,173	$6,429	$254,502	$35,260	$276,601	$451,673	$1,104
AMORTIZATION EXPENSE	$1,018,000	$804,099	$156,717	$232	$12,331	$1,545	$16,524	$26,508	$46
EXPLORATION/DEVELOPMENT	$0	$0	$0	$0	$0	$0	$0	$0	$0
LACLEDE PIPELINE/OTHER	($415,000)	($274,146)	($94,165)	($22)	($9,647)	($1,395)	($13,861)	($21,747)	($17)
TAXES OTHER THAN INCOME	$17,205,000	$13,583,794	$2,841,887	$5,539	$217,663	$28,921	$201,127	$325,311	$759
INCOME TAXES	$16,293,000	$12,575,669	$2,861,927	$1,022	$236,784	$28,199	$226,358	$362,279	$762
TOTAL EXPENSES	$159,015,000	$127,578,592	$24,022,256	$43,670	$1,872,159	$240,468	$2,004,419	$3,247,187	$6,248
TOTAL C-O-S	$201,368,895	$160,269,231	$31,461,879	$46,326	$2,487,683	$313,772	$2,592,840	$4,188,936	$8,230
OTHER REVENUES	$2,074,000	$1,638,213	$319,284	$472	$25,122	$3,147	$33,665	$54,005	$93
REQUIRED MARGIN REVENUE	$199,294,895	$158,631,019	$31,142,595	$45,854	$2,462,561	$310,624	$2,559,175	$4,134,931	$8,137
CURRENT MARGIN REVENUES	$204,655,578	$156,923,403	$31,908,241	$48,467	$4,159,701	$373,323	$5,407,548	$5,801,825	$33,071
AVERAGE GAS REVENUES	$0	$0	$0	$0	$0	$0	$0	$0	$0
ZERO REVENUE INCREASE PLUG	$5,360,683	$4,266,896	$837,681	$1,233	$66,239	$8,355	$68,837	$111,222	$219
C-O-S MARGIN REVENUES @ 0%	$204,655,578	$162,897,915	$31,980,276	$47,088	$2,528,799	$318,979	$2,628,012	$4,246,153	$8,356
AVERAGE GAS COSTS	$0	$0	$0	$0	$0	$0	$0	$0	$0
REVENUE INCREASE AT	$0	$0	$0	$0	$0	$0	$0	$0	$0
REVENUE ABOVE (BELOW) COS	($0)	($5,974,512)	($72,035)	$1,380	$1,630,901	$54,344	$2,779,536	$1,555,672	$24,715
% INCREASE WITHOUT GAS COSTS	0.00%	3.81%	0.23%	-2.85%	-39.21%	-14.56%	-51.40%	-26.81%	-74.73%
% INCREASE WITH GAS COSTS & REVENUE INCREASE	0.00%	3.81%	0.23%	-2.85%	-39.21%	-14.56%	-51.40%	-26.81%	-74.73%

04-Aug-99 02:13 PM

Note:
1. MIEC has adjusted the allocation of the costs of mains to eliminate the allocations to large volume customers of the costs of facilities not used in service to large volume customers. MIEC continues to disagree with the Staff method of allocating the cost of mains.
2. Revenue adjustment for gas costs and revenues is based on the MIEC gas cost allocation method.

Rebuttal Schedule 1

OPC ANALYSIS AS MODIFIED BY MIEC
COST OF SERVICES RATE DESIGN SUMMARY

TOTAL COST OF SERVICE SUMMARY (000)		TOTAL	GS RESIDENTIAL	GS COM. & INDUSTRIAL	LARGE VOLUME	INTER-RUPTIBLE	FIRM	BASIC	LP	UMGL
1 O & M Expenses		103,218	75,294	23,234	1,988	266	903	1,504	23	5
2 Depreciation Expenses		21,666	15,997	4,642	473	63	182	302	4	2
3 Taxes		37,054	26,795	8,432	878	122	307	511	7	3
4										
5 TOTAL - Expenses and Taxes		161,938	118,087	36,307	3,339	451	1,392	2,318	34	10
6										
7 Current Revenue (non-gas)										
8 Rate Revenue (non-gas)		204,698	159,398	30,605	3,647	215	5,185	5,582	47	17
9 Late Payment Charges	20	3,020	2,197	680	65	9	25	42	1	0
10 Other Revenue (reverse S6.5)	20	(946)	(688)	(213)	(20)	(3)	(8)	(13)	(0)	(0)
11										
12 TOTAL - Current Revenues		206,772	160,907	31,072	3,692	221	5,203	5,611	47	17
13 Current Revenue Percentage		100.00%	77.82%	15.03%	1.79%	0.11%	2.52%	2.71%	0.02%	0.01%
14										
15 OPERATING INCOME		44,834	42,820	(5,235)	353	(230)	3,811	3,294	13	8
16		44,834								
17 TOTAL RATE BASE		512,141	369,256	117,486	12,656	1,784	4,063	6,771	84	41
18										
19 Implicit Rate of Return (ROR)		8.75%	11.60%	-4.46%	2.79%	-12.91%	93.79%	48.64%	15.87%	18.59%
20										
21 OPC Recommended Rate of Return		8.34%	8.34%	8.34%	8.34%	8.34%	8.34%	8.34%	8.34%	8.34%
22										
23 Recommended Operating Income With										
24 Equalized (OPC) Rates of Return		42,713	30,796	9,798	1,056	149	339	565	7	3
25		42,713								
26 Class COS at OPC's Recommended Rate of Return		204,651	148,883	46,106	4,395	600	1,731	2,882	41	13
27 Revenue Percentage		100.00%	72.75%	22.53%	2.15%	0.29%	0.85%	1.41%	0.02%	0.01%
28										
29 Allocation of Difference Between Current										
30 Revenue and Recommended Revenue	20	(2,121)	(1,543)	(478)	(46)	(6)	(18)	(30)	(0)	(0)
31		(2,121)								
32 Margin Revenue Required to Equalize										
33 Class ROR - Revenue Neutral		206,772	150,426	46,583	4,441	606	1,749	2,912	41	13
34 Revenue Percentage		100.00%	72.75%	22.53%	2.15%	0.29%	0.85%	1.41%	0.02%	0.01%
35		206,772								
36 Rev. Neutral Shift to Equalize Class ROR		0	(10,481)	15,511	748	385	(3,454)	(2,699)	(6)	(4)
37 Rev. Neutral Shift Percentage to Equalize Class ROR			-6.58%	50.68%	20.52%	179.10%	-66.61%	-48.36%	-12.68%	-23.42%
38										
39 Recommended Revenue Neutral Shift = 1/2 indicated shift			(5,241)	7,756	374	193	(1,727)	(1,350)	(3)	(2)
40 OPC Recommended Revenue Neutral Shift Percentage			-3.29%	25.34%	10.26%	89.55%	-33.31%	-24.18%	-6.34%	-11.71%
41 Class Revenue Percentages After Rec. Rev. Neutral Shift			75.28%	18.78%	1.97%	0.20%	1.68%	2.06%	0.02%	0.01%

Note:

1. MIEC has adjusted the allocation of the costs of mains to eliminate the allocations to large volume customers of the costs of facilities not used in service to large volume customers. MIEC continues to disagree with the RSUM method which remains a part of the OPC study.
2. Revenue adjustment for the gas costs and revenues is based on the MIEC gas cost allocation method.

Rebuttal Schedule 2