Exhibit No.:
Witness: Charles D. Laderoute
Type of Exhibit: Rebuttal
Issue: Cost of Service Study, Rate Design and Tariff Issues
Sponsoring Party: Midwest Gas Users' Association
Case No.: GR-2001-292

MISSOURI PUBLIC SERVICE COMMISSION

MISSOURI GAS ENERGY

CASE NO. GR-2001-292

REBUTTAL TESTIMONY OF

CHARLES D. LADEROUTE

May 22, 2001

BEFORE THE PUBLIC SERVICE COMMISSION
OF THE STATE OF MISSOURI

In the Matter of Missouri Gas Energy's tariff sheets designed to increase rates for gas service in the Company's Missouri service area.	)))))	GR-2001-292

AFFIDAVIT OF CHARLES D. LADEROUTE

STATE OF MISSOURI)
) ss
COUNTY OF JACKSON)

Charles D. Laderoute, of lawful age, on his oath states: That he has reviewed the attached written testimony in question and answer form, all to be presented in the above case, that the answers in the attached written testimony were given by him; that he has knowledge of the matters set forth in such answers; that such matters are true to the best of his knowledge, information and belief.

Charles D. Laderoute

Subscribed and sworn to before me this 21st day of May, 2001.

Notary Public

[SEAL]

My Commission expires: 11/03/03

CAROLYN R. BELDEN
Jackson County
My Commission Expires
November 3, 2003

REBUTTAL TESTIMONY OF
CHARLES D. LADEROUTE

Q. Please state your name, occupation and address.

A. My name is Charles D. Laderoute. I am an energy consultant and President of Charles D. Laderoute, Ltd., 5114 Amazonia Road, St. Joseph, Missouri 64505.

Q. Are you the same Charles D. Laderoute who has previously filed testimony in this case?

A. Yes.

Q. What is the purpose of your Rebuttal Testimony in this proceeding?

A. I will address the Direct Testimony and cost of service allocation studies ("COSS") prepared by Staff Witness Beck and Office of the Public Counsel ("OPC") Witness Busch. I also address certain issues raised by OPC Witness Hu, OPC Witness Colton and MGE Witness Cummings. I am also sponsoring Revised Schedules (Schedule CDL-Reb-1) which were distributed to all parties at the May 8, 2001 Prehearing Conference. Finally, I am proposing an alternative method for setting the rate class revenue levels in this case.

Q. Please identify the Schedules which you are sponsoring in this Rebuttal testimony.

A. I am sponsoring the following Schedules, all of which are part of this exhibit and all of which were prepared by me:

Schedule	Description
CDL-Reb-1 p. 1	Schedule CDL-6 Revised Page 1 of 3
CDL-Reb-1 p. 2	Schedule CDL-6 Revised Page 2 of 3
CDL-Reb-1 p. 3	Schedule CDL-6 Revised Page 3 of 3
CDL-Reb-1 p. 4	Schedule CDL-7 Revised Page 1 of 26
CDL-Reb-1 p. 5	Schedule CDL-7 Revised Page 2 of 26
CDL-Reb-1 p. 6	Schedule CDL-7 Revised Page 3 of 26
CDL-Reb-1 p. 7	Schedule CDL-7 Revised Page 10 of 25
CDL-Reb-1 p. 8	Schedule CDL-7 Revised Page 19 of 25
CDL-Reb-1 p. 9	Schedule CDL-10 Revised Page 1 of 1
CDL-Reb-1 p. 10	Schedule CDL-14 Revised Page 1 of 3
CDL-Reb-1 p. 11	Schedule CDL-14 Revised Page 2 of 3
CDL-Reb-1 p. 12	Schedule CDL-14 Revised Page 3 of 3
CDL-Reb-1 p. 13	Schedule CDL-15 Revised Page 1 of 26
CDL-Reb-1 p. 14	Schedule CDL-15 Revised Page 2 of 26
CDL-Reb-1 p. 15	Schedule CDL-15 Revised Page 3 of 26
CDL-Reb-1 p. 16	Schedule CDL-15 Revised Page 10 of 25
CDL-Reb-1 p. 17	Schedule CDL-15 Revised Page 19 of 25
CDL-Reb-1 p. 18	Schedule CDL-16 Revised Page 1 of 26
CDL-Reb-1 p. 19	Schedule CDL-16 Revised Page 2 of 26
CDL-Reb-1 p. 20	Schedule CDL-16 Revised Page 3 of 26
CDL-Reb-1 p. 21	Schedule CDL-16 Revised Page 10 of 25
CDL-Reb-1 p. 22	Schedule CDL-16 Revised Page 19 of 25
CDL-Reb-2	Comparison of Cost of Service Studies Assuming Revenue Neutrality
CDL-Reb-3 p. 1	Comparison of Parties COSS - Revenue Neutral COSS Percents-Exclude UMGL
CDL-Reb-3 p. 2	Comparison of A/C 376 Mains Allocation
CDL-Reb-4 p. 1	Determination of Difference Between MGUA & OPC COSS-Margin Revenue
CDL-Reb-4 p. 2	Distribution PIS Allocation - MGUA
CDL-Reb-4 p. 3	Distribution PIS Allocation - MGUA COSS Modified for OPC Mains Allocation
CDL-Reb-4 p. 4	MGUA Revenue Neutral Summary Page
CDL-Reb-4 p. 5	MGUA Revenue Neutral Summary Page reflecting MGUA COSS Modified for OPC Mains Allocation

CDL-Reb-5 p. 1 Differences Between COSS- MGUA vs Staff & OPC - LVS Class
CDL-Reb-5 p. 2 Impact Upon MGUA COSS Costs Allocated to LVS Class of Using Various Staff Allocation Methods
CDL-Reb-5 p. 3 Impact Upon MGUA COSS Costs Allocated to LVS Class of Using Various OPC Allocation Methods
CDL-Reb-6 p. 1 Summary of Proposed Revenue Changes
CDL-Reb-6 p. 2 Summary of COSS and Proposed Revenue Spread Fractions
CDL-Reb-6 p. 3 Proposed First Year Revenue Spread
CDL-Reb-6 p. 4 Proposed Second Year Revenue Spread
CDL-Reb-6 p. 5 Proposed Third Year Revenue Spread
CDL-Reb-6 p. 6 Summary of Revenue Change from Years 1 to 2 and 2 to 3
CDL-Reb-6 p. 7 Revenue Requirement Spread on MGUA Mod I Revised COSS - Full
CDL-Reb-6 p. 8 MGE Original Proposal - Spread on Current Revenue

Q. Please describe the Revised Schedules which were distributed to all parties at the May 8, 2001 Prehearing Conference.

A. While preparing for the May 8, 2001 prehearing conference (hereafter "prehearing conference"), reviewing my work, and beginning to prepare material for Rebuttal, I discovered two errors that traced back to my original COSS that was submitted as Schedule CDL-7. Unfortunately, these were carried forward to the later COSS studies and also affected other schedules. I made the necessary changes to correct the errors, duplicated the affected sheets of the schedules and distributed them to all parties. The material has been included as Schedule CDL-Reb-1. Within this schedule are the various pages of the other schedules that were affected.

Q. Please summarize the most important portions of this Rebuttal Testimony.

A. The key areas that I address in this testimony are:

- The Staff COSS allocates more Mains Plant in Service ("PIS") to the Residential class than my study.
- The Staff COSS allocates approximately the same amount of Mains PIS to rate class LVS as my study.
- Cost items other than Mains are the driving force behind the difference between the amount of costs allocated to the LVS class in my study versus that of Staff.
- Contrasting the OPC COSS with my study, the allocation of Mains accounts for only about 28% of the difference for the two studies of costs allocated to the LVS class.
- The RSUM method used by OPC to allocate demand related Mains PIS does not properly reflect cost causation.
- Based upon analysis of 16 items in my COSS using Staff allocation methods, I am able to explain 96% of the difference of costs allocated to the LVS class.
- Based upon analysis of 17 items (including Mains) in my COSS using OPC allocation methods, I am able to explain 91% of the difference of costs allocated to the LVS class.
- My COSS is more accurate than either the OPC or Staff studies because: it more closely reflects cost causation, for the LVS and LGS classes it reflects actual costs for Services, Meters and Regulators and it specifically assigns other costs correctly to the rate classes causing the costs.
- I also propose an alternative method to spread the revenue increase in this case.

Q. Turning to your rebuttal of other party's COSS, there are significant differences between the results of the three COSS studies submitted in your Direct and Supplemental Direct and that of Staff Witness Beck and OPC Witness Busch, is that correct?.

A. Yes.

Q. Have you prepared a schedule to compare and contrast the results?

A. Yes. Actually, I have prepared two schedules which serve to illustrate the differences. The first is shown on Schedule CDL-REB-2. This schedule is exactly like that sponsored by Staff Witness Beck in Case No. GR-98-140 where he included his Schedule 1 in Rebuttal Testimony. Schedule CDL-Reb-2 contrasts the "revenue neutral" COSS results for the three parties preparing COSS in the instant case. One problem with this approach is that my COSS was based on the numbers originally filed by Missouri Gas Energy ("MGE") while the Staff and OPC used the Staff numbers prepared by Staff for the revenue requirements portion of this case. Lines 1 and 2 compared with Line 3 is not a valid comparison - an "apples and oranges "situation.

To account for the difference, I adjusted the Midwest Gas Users' Association ("MGUA") numbers to synchronize with the Staff numbers. On my schedule, I have identified all of the data sources and beginning at Line 6 I show how I made this synchronization. The approach at Lines 8 - 11 is analogous to the method that Mr. Beck used in Case No. GR-98-140 against the MGE numbers in that case. The calculations shown at Lines 13 - 19 are analogous to the method used by Mr. Beck in this case on Schedule 1 of his Direct Testimony.

Q. Is there a better approach to compare the COSS results from different parties?.

A. I believe that an approach based on each rate class's proportion of total cost responsibility is a better approach. This approach is known as **cost of service fractions**. It is nothing new. Mr. Beck shows cost of service fractions on Schedule 1 of his Direct Testimony at the bottom line entitled "Class' Share of Total Margin Revenues" which should have the word Required inserted after the word Total. Mr. Busch on Schedule JAB-RD2 shows cost of service fractions at Line 33, though the line is labeled as Margin Revenue it is actually Total Operating Revenue which is the sum of Margin Revenue and Other Operating Revenue.

At least one benefit of using cost of service fractions is that it facilitates comparisons when two or more parties are using different Revenue Requirements values. It is unitless. Looking at Schedule CDL-Reb-2 Line 3, the values by rate class are driven by the numbers MGE filed and are a function of the revenue neutral margin revenue. For my original numbers, the values shown at Line 3 are a function of the existing margin revenue value of $131,882,802 (Line 8 Column b). Using my values applied against the Staff's Margin Revenue value of $135,461,461 (Line 11 Column b), gives the different units shown on Line 4. The **cost of service fractions** method has the added benefit that it facilitates other determinations as I will illustrate.

On Schedule CDL-Reb-3, I illustrate this approach. At the top of this schedule, I show the COSS required values for the three COSS studies. Under the values at Lines 1, 8 and 13 (MGUA, Staff and OPC respectively) I have calculated the COSS fractions. These simply take each rate class's revenue requirements as a fraction of the total requirements. One interprets these values as follows: the Residential required revenue requirements are 74.4710377% of total revenue requirements based on my COSS while they are 70.7673321% based on the Staff study.

At Lines 16 - 19, I show the difference between my study and that of Staff and OPC. At Lines 22 - 25, I show the values as percents to two decimals rather than fractions. Much of the balance of my analyses and comparison will use this approach which will further illustrate how **cost of service fractions** can be used.

Q. Mr. Laderoute, a significant portion of the difference between the three COSS is due to allocation of Mains, is that correct?

A. No.

Q. But isn't the allocation of Mains, Account 376, one of the differences between the three studies?

A. Yes, that is correct. Mr. Busch, in the OPC COSS, used the Relative System Utilization Method ("RSUM") method. I used Peak Month's consumption. Mr. Beck, in his Direct Testimony, did not indicate how he allocated anything. He indicated that he updated the model used in MGE's Case No. GR-98-140 with data that Staff updated based on the numbers that Staff developed in the instant case. In Case No. GR-98-140, Mr. Beck also did not provide much information as to how he performed his COSS, but indicated that it was an update of the study that he had prepared for Case No. GR-96-285. So,

unfortunately, in order to find out how Mr. Beck's COSS was performed, one has to go back and review his testimony in Case No. GR-96-285. There, we find that he allocated Mains Plant in Service ("PIS") based on two components - a **stand-alone component** and an **integrated system component.** The impact of the stand-alone component is much like that of a minimum system and the costs, determined by class, are assigned by class. Mr. Beck indicated in his Rebuttal Testimony in Case No. GR-98-140 at page 5 that:

> Staff's "Underlying Cost" mains allocator determined the percentage of the cost of mains that could be considered to be stand-alone costs (which are similar to customer related costs) versus integrated system costs (which are similar to capacity related costs) to be 28% and 72% respectively.

Presumably this is still the case. According to his Direct Testimony in Case No. GR-96-285 at pages 7-8:

> Because the integrated system is sized to meet the coincident peak demand of all customers, it is allocated to all rate classes in direct proportion to each class' coincident peak demand.

Presumably this is also still the case. At the pre-hearing conference, Mr. Beck confirmed that he used this approach in the instant case.

Q. So, although the three different COSS in this case use a different demand allocation method for Mains PIS A/C 376,

you state that a significant portion of the difference between the three is *not* due to the allocation of Mains?

A. Between my study and that of Staff, yes, that is correct. The different demand allocation method for Mains accounts for only about 22% of the difference between my study and that of the OPC for the residential class. The major differences between the three is not due to the allocation of Mains PIS, but is due to the allocation of other cost items. In fact, comparing the allocation of Mains in the Staff COSS with that in my COSS, the Staff allocates more Mains to the Residential rate class. Our allocations to the LVS class are almost identical. No doubt, some will find that surprising. See Schedule CDL-Reb-3 Page 2 where I have summarized the amount of Mains allocated to each class in the three COSS. Note that for Mains, all three studies are using the same dollar value. Moreover, the actual impact of the Staff value versus mine is even more on a relative basis considering the levels of total Rate Base in the three COSS. The amounts are, $518,824,134, $486,933,326 and $486,933,-326, for MGUA, Staff and OPC, respectively. (Taken from Schedule CDL-15 Page 1, Beck Direct Schedule 1 and Busch Schedule JAB-RD2, respectively.)

Focusing on the Staff values versus my values, considering just Residential and LVS, clearly my study's Mains allocation is **not** what is causing the Residential class to bear a higher relative portion of costs in my study compared to the Staff study. For the LVS class, the difference of Mains allocation is trivial.

Q. Looking at your COSS results versus that of the OPC study, given that the results of the RSUM allocation is so much dramatically different than your allocation, is that the primary driving force between your study's results and that of the OPC?

A. Again, the answer is no. Certainly the level of Mains PIS that are allocated to the Residential class is more in my study versus the amount reflected in the OPC study. However, only about **22%** of the COSS difference between the two studies is a function of the difference in the allocation of Mains related costs. Please see Schedule CDL-Reb-4 Page 1. At Line 1, I indicate the level of revenue neutral margin revenue from my Mod I COSS as revised. Within my COSS, I allocate Mains Accumulated Depreciation and Mains Distribution Expense on the basis of Mains PIS (see Supplemental Testimony Schedule CDL-15 Page 9 Line 4 and Schedule CDL-15 Page 17 Line 9, respectively). Therefore, if the Mains PIS

is allocated on a **different** basis and everything else in the COSS is held the same (aside from internal calculations that flow through the allocation), the impact on revenue neutral margin revenue will reflect the change caused only by using the different Mains allocation factor.

Thus, I modified my Mod I Revised COSS by allocating Mains PIS on the basis of the OPC Mains allocator. Schedule CDL-Reb-4 Page 2 shows the results of the allocation of Distribution PIS as I described in my original prefiled Direct Testimony. This page comes from my Supplemental Testimony and reflects the modifications discussed there. At Page 3 of Schedule CDL-Reb-4, I have modified the page in two ways so as to use the OPC Mains allocator. First, while both the OPC COSS and my COSS reflects assigning the Mains less than 3 inches to Residential and SGS, the manner in which we did it differs. I did it directly (see previous page 2 of Schedule CDL-Reb-4) and allocated to the two classes. As described in the Testimony of OPC Witness Hu at Pages 6, 13 and Schedule DIR HH-1, OPC assigned these costs indirectly by modifying their RSUM allocator. Therefore, I zeroed out the value in the Total column at Line 5 on Schedule CDL-REB-4 Page 3. Second, I input the OPC RSUM allocator directly

at Line 31. The COSS then reallocated the values at Line 7 based on the OPC Mains allocator.

The only other page of importance to see the impact is the summary page. Schedule CDL-Reb-4 Page 4 shows the Revenue Neutral bottom up page for the Mod I Revised COSS before the change. Page 5 of Schedule CDL-Reb-5 shows this summary page after the change for the Mains allocator had flowed through the COSS. The highlighted lines show all the changes, though only Line 27 is of importance. These values were then carried back to Line 4 of Schedule CDL-Reb-4 page 1. Focusing on Residential and LVS, this shows at Line 6 the difference in my COSS for revenue neutral margin revenue by simply changing the Mains allocator to the OPC RSUM method. The changes are roughly the same - a decrease to Residential of $1,639,893 and an increase to LVS of $1,776,714. (Referring back to Schedule CDL-Reb-2 Line 3, clearly the $1,639,893 is ***not*** the driving force in the cost differences.)

At Lines 9 - 17, I have simply copied the information from above and determined cost of service fractions. At Line 21, I show the impact in terms of the differences of the fractions. This difference is caused by the change to the OPC

Mains allocator. At Line 25, I have brought the information from Schedule CDL-Reb-3 Page 1 Line 19 which is the difference between the cost of service fractions from my COSS and the OPC COSS. Line 26 is the difference due to the Mains allocator change determined at Line 21. Line 27, therefore, shows the cost of service fractions that are different due to other cost allocations; that is, cost differences between the two COSSs are not due to the different allocator being used for Mains. At Lines 30 and 31, I show the percent amounts due to the Mains allocation and other factors. For Residential, this shows that approximately 22% of the difference between revenue requirements in my study and the OPC are due to the different Mains allocation factor used while about 78% is due to other allocations within the respective studies.

Q. What conclusions do you draw?

A. With respect to my COSS versus Staff's, my Mains allocator allocates less costs to Residential than Staff does - therefore, the Mains allocator is not the cause of my COSS showing a larger revenue deficiency than Staff for Residential. Regarding LVS, the two studies are not too far different, so the differences in revenue sufficiency for LVS is not due to my Mains allocator used. With respect to my study versus

the OPC study, for Residential, less than 25% of the difference is due to the Mains allocator while approximately 28% of the difference between the studies for LVS is due to the Mains allocator. Thus, with respect to either of the other studies, the major cost differences are caused by allocations other than **Mains**.

Q. Do you have some thoughts as to what might be causing the major differences in the COSS results?

A. Yes. There are many differences between our studies other than the method used to allocate Mains. Within my study, for many items, I specifically assigned costs. I did not cherry pick and just load assignments to classes other than LVS. On the contrary, I assigned costs to just the LVS class for costs that they incur - e.g. Electronic Gas Measuring equipment in Account 385. Other costs were assigned only to rate classes other than LVS. This is part of the differences. Additional differences are clearly a function of allocations *per se* -- that is, the method and the resulting allocator. For example, both OPC and Staff allocated costs associated with AMR equipment to the LVS class. There is no logical reason for doing so. There is no regulatory precept that would lead one to do this. The numbers are easily and clearly identifiable and the amount of time to

allow for an analyst to model this in a COSS is trivial - particularly given the level of dollars involved. This is unfair and unjust. The LVS customers have paid up to $5,000 per customer specifically for their own automated meter reading devices referred to as Electronic Gas Measurement ("EGM") equipment. And just as LVS customers should ***not*** pay any of the costs of AMR equipment, so too the classes other than LVS should ***not*** pay for any of the costs of EGM equipment. In sum, the LVS class could never use the AMR meters even if they wanted to. So they are not a **cost causer** of these costs. Some might rejoin that AMR reduced Meter Reading costs. That may well be, but is immaterial. The LVS meters have been automatically read since first installed beginning in 1993. Further, the LVS is being allocated in my study Meter Reading costs as well. That item is weighted using a weight of 45 for LVS in my COSS. Messrs. Beck and Busch both used a weight of 8.76 for LVS.

In total, I have identified 8 specific areas which includes 16 items where I have significant concern as to how costs were allocated within the OPC and Staff studies - aside from the method that they used to allocate Mains. These areas of concern are:

AMR related costs - General plant, Intangible plant, Depreciation, et cetera

Storage Gas Inventory in Working Capital

Working Cash for Purchased Gas in Working Capital

Utilization of specific investment information for assignment of Meters, Services and Regulators

Allocation of Other Operating Revenues

Gas Supply related costs included in A&G Expenses

Gas component of Uncollectibles Expense

Sales Expenses

Q. Have you analyzed these differences and if so, what conclusion can be drawn?

A. Yes. Please see Schedule CDL-Reb-5. At the bottom of this schedule, I show that by analyzing 16 different cost items, I can account for approximately 96% of the difference between my COSS and that of Staff and 91% for OPC. At page 2 of Schedule CDL-Reb-5, I show the determination of the effect upon my COSS of using the allocation methods (allocators) used by Staff. That is, using the COSS that I prepared, what change to the amount allocated to the LVS class is brought about when changing from my allocation method to that used by Staff. The same values for OPC has been determined on Schedule CDL-Reb-5 Page 3. I have provided source

explanation on the schedules which explains where the numbers came from or how they are developed.

I will walk through this for AMR to explain what I did. First, note that there are four separate entries for cost items pertaining to AMR shown at the following Lines: 1, 2, 19 and 20. As indicated above, the LVS class should bear **none** of the costs of AMR equipment. It is simply a fluke that they are accounted for as General plant rather than in a Distribution Plant account (e.g. Meters). They are after all, a metering device. Regardless, the costs are easily identifiable in the original MGE Schedules and workpapers and should be allocated to Rate classes Residential, SGS and LGS only. My allocations are shown on Schedule CDL-15 of the Supplemental Testimony at Page 8 for both AMR General Plant A/C 397.1 and Intangible-AMR related, and Page 17 for AMR Beta Amortization and Depreciation of General Plant Account 397.1. At Page 8, you can see that I assigned the costs to Sales customers (Rates: Residential, SGS and LGS) and then allocated to those classes on the basis of number of customers. (My study in Schedule CDL-16 described in my Supplemental Testimony accounts for the one Sales customer in the LVS rate class.) Note that while I also separately allocated Accumulated Depreciation for AMR equipment in my

COSS at Page 9, it was not necessary for my analysis here, which I will explain below.

Focusing on Line 1 of Schedule CDL-Reb-5 Page 2, AMR Equipment A/C 397.1 was allocated by Staff using Total P, T & D PIS. Since MGE has no Production or Transmission PIS, this means that this item was allocated by Staff on the basis of each class' portion of Total Distribution PIS. The factor they used is shown at Column d. The amount in Column b to be allocated was taken from my COSS. That value may be found in Supplemental Testimony Schedule CDL-15 Page 8, Line 2, Total column. At Column e on Page 2 of Schedule CDL-Reb-5, I indicate the amount that would be allocated using the Staff allocator. At Column f, I indicate the amount of zero as the value from my COSS, since the class should bear none of these costs. (See Schedule CDL-15 Page 8 Line 2.) At Column g, I indicate the fraction that my allocator is of the Total for the LVS class. I show at Column h the extra amount that is allocated using the Staff allocator compared to the amount that I have allocated for each item. Negative values mean that my COSS allocates **more** costs for an item than the Staff COSS. For the Rate Base related items shown on Lines 1 - 8, I have calculated Fixed Charge Factors in the Footnote 3 at the bottom of the schedule. Two factors

are shown since the Working Capital items have Return and FIT, but no associated Depreciation. The Fixed Charge Factors are then carried to Column i and multiplied by the values in Column h to determine the Revenue Requirements related values shown at Column j. I then applied this methodology to all of the Rate Base cost items. For items other than Rate Base, the values determined in Column h are carried to Column j. This same approach was used on Page 3 of Schedule CDL-Reb-5 to determine the difference between my COSS results and that shown in the OPC COSS.

The final values on Pages 2 and 3 were carried forward to Page 1 of this schedule where I simply added the amounts for Staff and OPC to my values. Note that while we were using different Total Revenue Requirements inputs, my values shown at Lines 5 and 12 on Page 1 of Schedule CDL-Reb-5 are in the vicinity of those determined by Staff and OPC in their Direct Testimony, respectively, Schedule 1 C-O-S Margin Revenue @ 0% and Schedule JAB-RD2 Line 32 (excluding the $323,207 of Other Revenue at Line 9). In the middle portion of Page 1 of Schedule CDL-Reb-5, I have determined COSS fractions. I then compare my COSS values for COSS Fractions adjusted for Staff and OPC allocators against the Staff and OPC fractions shown. As a result, my COSS for revenue

neutral costs adjusted for Staff and OPC allocators for the LVS are nearly identical to the fractions for the Staff and OPC . While many different values can be grouped, the cost items that I selected for this analysis were key to me since, for each, I believe that the Staff and OPC methods are **inappropriate**.

Q. Mr. Laderoute, in general are the differences between the COSS caused by the choice of some method or allocator to allocate a common cost item?

A. Aside from the differences between the OPC and MGUA study with respect to the Mains allocator - No. Definitionally, within a COSS, common cost items are those for which there is no one unique allocator; e.g. Mains PIS. As I discussed in my Supplemental Direct Testimony at Pages 8 and 9, when a cost analyst can assign costs, they should. In practice, cost assignment is done in several ways. One of the most important factors used is the process of elimination. That is, can one assign costs specifically to one or more rate class? If so, those costs should be specifically assigned to that class or classes. The foundation upon which this is based is **cost causation**. While it is a revenue item rather than a cost item, current Residential revenue is accounted for in a COSS since it offsets the required revenue require-

ment - for example, existing revenue is $100,000, but $150,000 is needed. Would it make any rational or logical sense to assign or allocate some portion of Residential revenue to the LGS or LVS rate classes? Of course not! And that holds for costs as well. Does it make any sense to allocate costs for EGM equipment, which is in place to serve only LVS customers, to any other class? No.

A second important factor in cost assignment is determining the appropriate costs to assign. In some cases, a special study may be performed to determine the costs by rate class. Sometimes a direct approach is not available, so some indirect approach must be used. In my experience, I have found several problematical or key areas here with respect to assignment of cost and special studies: ignorance, lack of effort and lack of data. Ignorance is not meant in a derogatory sense, but in the sense that an analyst just is not aware of how to do something. Lack of effort means that the analyst does not take the time necessary to make a determination whose end result is more accurate than some other approach. In some cases this just may be that they are lazy. In other cases, for whatever reason, they just do not take the time necessary to perform a study to determine an appropriate methodology. Or they do something simply be-

cause that is the way it has always been done - regardless of whether it is right or wrong. Finally, there are times when data is simply not available. For larger companies such as MGE, I have seldom seen this to be a legitimate issue. Usually it boils down to asking the question the right way or finding the right person in order to get requisite data.

Q. Could you please elaborate and give an example of what you are describing?

A. Certainly. Let's focus on Services - Distribution PIS A/C 380. In a perfect world we would have the cost of Services or Meters for every customer. In the real world that is not possible. However, it is often the case that some data for certain classes may be available. In my experience, I usually find that detailed information for larger customers is often available - if one asks the right question to the right person. When I performed my initial COSS, there were many outstanding Data Requests to MGE including a request for actual Meters and Services cost by rate class. In order to get my COSS done, I had to determine costs in the form of weights for Services, Meters, Regulators and Meter Installations. Messrs. Busch and Beck also used a weighted customer approach, though our methods differed. I initially used the

weighted costs supplied by MGE to Witness Hu in Case No. GR-98-140. I had reservations in using that data. See my Direct Testimony at Pages 40 - 43. This is the same data that OPC Witness Busch used in his COSS - compare his Direct Testimony Schedule JAB-RD1 data with the data I show on Schedule CDL-11 attached to my Supplemental Testimony. For example, we both used $14,524.80 as Services cost for LVS.

As it turned out, my reservations were on the mark. As I discussed in my Supplemental Testimony, MGE supplied **actual** cost information for Meters, Services and Regulators for the **actual** LGS and LVS customers (Response to DR Nos. 181 and 221.) See Schedule CDL-12 in my Supplemental Testimony. The actual average cost per Meter, Service and Regulator for LGS and LVS data is more **accurate** since it in **fact** represents the actual average embedded historical cost. Therefore, applying the number of customers in my COSS for LGS and LVS multiplied by the average cost per item gives me the assignable costs. See Schedule CDL-12. After assigning the costs for LGS and LVS any residual costs for Meters, Services and Regulators are a result of Residential and SGS customers.

At Schedule CDL-7 Page 25 of my Direct and Schedule CDL-15 Page 25 of My Supplemental Direct, I show the per customer unit costs for Services, Meters, Meter Installations and House Regulators. Comparing the numbers you can see the dramatic impact that using the actual data has. For LVS Services, the cost per customer was **reduced** from $11,396.77 to $2,784.74. The latter is based on actual embedded historical costs. And those costs are what are used for setting revenue requirements in this State and for this utility.

Note that in doing this, I assigned costs to two classes because MGE was able to provide me with actual data for those two classes. Whatever costs remain after assigning the costs to those two classes are costs attributable to Residential and SGS customers.

Q. Please describe why you think the Staff and OPC allocation methods are inappropriate for each of the 16 items identified on Pages 2 and 3 of Schedule CDL-Reb-5.

A. I have already clearly stated why Staff and OPC COSS are incorrect with respect to the four items related to **AMR** equipment. Note from Schedule CDL-Reb-5 Pages 2 and 3, Staff and OPC, respectively, allocate $340,876 and $428,095

of AMR costs to the LVS class. These values should be **zero**. I will discuss the more important differences for the other items.

Working Capital Gas Inventory, shown at Line 3, should not be allocated to Transportation customers. These costs are associated with gas held in inventory to serve Sales customers. Transportation customers provide their own gas and, moreover, have no right to use Storage Gas. If they did, they would get hit with a penalty charge from MGE. Both OPC and Staff allocated costs associated with Working Capital Gas Inventory to the LVS class, respectively, $321,870 and $731,633. There is no logical reason for doing so. There is no regulatory precept that would lead one to do this. This is unfair and unjust. The LVS customers pay for their own gas and cannot use gas in storage without incurring penalties. They are not a cost causer of these costs. The cost causers are the Sales customers on Rates Residential, SGS and LGS. And while there may be one Sales customer in the LVS class, I have already identified the cost to serve him in my Supplemental Testimony Schedule CDL-16 as Revised in Schedule CDL-Reb-1 at Pages 18-22. MGE wanted to close the LVS rate class in their last case. I have accounted for the cost to serve that customer in my Schedule CDL-16. As

can be seen at Schedule CDL-Reb-1 Page 12, this one customer causes $109,603. The customer came to LVS from LGS during 2000. Given that the additional cost to serve this customer is $0.79 per Mcf, they should be placed back on LGS and LVS should be closed to Sales customers. Moreover, for whatever reason Staff had in the last case to argue (and prevail) for retaining Sales customers on LVS, this is no reason that costs attributable to Sales classes Residential, SGS and LGS should be borne by the other 440 LVS customers. In the balance of this testimony, I will not address this customer, because I believe that this customer properly should not be on this rate and because I would otherwise have to insert a provisio on each comment. The existence of this customer should not deflect attention from the issues of proper costs for the other 440 LVS customers who are transporters.

Like Working Capital Gas Inventory, **Working Capital Working Cash - O&M Purchased Gas**, shown at Line 4, should not be allocated to Transportation customers. These costs are associated with gas purchased to serve Sales customers. Transportation customers provide their own gas and, moreover, have no right to use any gas purchased by MGE. If they did use MGE gas, they would get hit with a penalty charge from MGE. Both OPC and Staff allocated costs associ-

ated with this item to the LVS class. There is no logical reason for doing so. There is no regulatory precept that would lead one to do this. This is unfair and unjust. The LVS customers pay for their own gas and cannot use gas purchased by MGE for its Sales customers without incurring penalties. They are not a cost causer of these costs. The cost causers are the Sales customers on Rates Residential, SGS and LGS. And yet, the Staff and OPC respectively, allocate $145,681 and $72,641 of these costs to the LVS class.

The difference in the allocation of **Services**, Line 5, is significant with respect to the value used by OPC. In our case, as I describe in my Supplemental Testimony and above, MGE provided us with the **actual** cost incurred for LGS and LVS customers with respect to Meters, Services and Regulators. That is, we have not had to rely on weights - we used the **actual embedded** costs that MGE has incurred, costs caused by LGS and LVS customers, to determine their costs for these three items.

In addition to my earlier comments, here is the impact of the difference between my assignment/allocation for Services and that of the OPC. At Schedule CDL-Reb-5 Page 3 Line 5

Column h, I show that the OPC allocation method, when applied to my data, allocates $3,897,398 **more** costs than my COSS to LVS. In total, Column e, their approach allocates/assigns $5,209,009. Based on LVS customer count of 471 (441 plus additional 30 Meters & Services), their approach results in a per customer unit cost of **$11,059.47** for Services. Clearly this is inaccurate when the actual average cost of Services for LVS customers is actually **$2,784.74**. Their method imputes $8,274.73 of additional cost of Services per customer that just simply does not exist. Column j of this schedule shows that the OPC method inappropriately allocates $480,608 of revenue requirements to the LVS class for just this item alone.

My biggest concern with **Meters PIS A/C 381**, is the Meter per Customer ratio used by OPC Witness Busch. At Page 6, Line 23 of his Direct Testimony, he indicates that a large percent of LGS and LVS customers have multiple meters. Yet on Schedule JAB-RD1 he shows a meter per customer ratio of 1.00 for LVS and .86 for LGS. The latter implies that there is only 86/100ths of a meter for an LGS customer or conversely 1.16 customers per meter for LGS. This is illogical as these are large customers who one would expect would have at least one meter per customer. His own calculations show 412

meters for 482 LGS customers. And the ratio of 1.00 does not support his statement that LVS customers have multiple meters. Throughout my study, I acknowledged that there were 441 LVS customers with 471 Meters and Services.

At Page 7, Lines 14 - 22 of his testimony, OPC Witness Busch describes his approach to spreading "unaccounted for" meters to non-residential classes. Aside from providing no rationale for this, it is just plain wrong. MGE holds meters in inventory for a variety of reasons, two of the most important being replacements and growth. Since the most dramatic growth (and the largest number of customers) is in the Residential class, a large number of Meters is held there for growth and replacement in the Residential class. So his meter/customer ratio is just plain wrong.

Regarding **Electronic Gas Measurement Equipment** A/C 385, this is only used by, and as is required for, LVS customers. These costs should be assigned only to the LVS rate class. The Staff allocated these costs to LGS and LVS. OPC allocated these costs to all rate classes other than Residential which is incorrect. In fact, for their allocator applied against my costs, they would only allocate $2,218 to LVS

since they allocate these on the basis of C & I customers which loads the costs almost entirely on SGS customers.

As I noted earlier, I wanted to assign costs appropriately and as part of my Data Requests, I asked MGE numerous questions in an attempt to get costs that could be assigned - including the assignment of costs to the LVS class. With respect to **Accounts 920-1**, MGE identified $35,208 attributable to customers on rate LVS. I assigned these to the LVS customers and neither Staff nor OPC made a similar assignment.

I asked MGE to provide costs associated with **Gas Supply and Gas Accounting in Account 923** as part of Data Request Number 150. I specifically assigned these costs to the classes Residential - LGS since these costs are associated with providing commodity gas for sales. These costs are **not** caused by LVS customers. These costs are associated with personnel related to activities to serve Sales customers. Transportation customers provide their own gas and, moreover, have no right to use MGE's gas. Neither the OPC nor Staff acknowledged this in their allocated costs. There is no logical reason that the LVS customers should pay <u>any</u> costs associated with the supply of commodity gas. There is

no regulatory precept that would lead one to do this. This is unfair and unjust. The LVS customers pay for their own gas and cannot use gas procured by MGE. They are not a cost causer of these costs. The cost causers are the Sales customers on Rates Residential, SGS and LGS.

Uncollectibles A/C 904 should be broken down into two components - a portion due to gas commodity cost and a portion due to margin revenue. I did so in my study, while OPC and Staff did not. While I subscribe to the notion that this is an overhead cost that must be borne by all customers, I also subscribe to the notion that only Sales customers should bear the cost responsibility for the Uncollectibles costs associated with commodity gas. LVS customers provide their own gas. They do not buy gas from MGE. Therefore, the portion of Uncollectibles attributable to the gas commodity portion should only be allocated to those who buy MGE's gas - rate classes Residential, SGS and LGS. Due to their allocation of Uncollectibles in toto, Staff and OPC allocate respectively, $212,589 and $279,900 to LVS class that should be borne by the other classes.

Other Operating Revenues are a cost offset. That is, they serve to offset the costs within a COSS. These are however,

treated as a line item in a COSS - they are not treated as a cost of service class or column. Because of that, there are costs allocated to rate classes within a COSS which underlie the cost of providing the service that generates these Other Revenues. These costs are buried in the COSS at various locations and are allocated across rate classes. It sometimes helps to think of Other Operating Revenues as similar to Uncollectibles except that rather than being an overhead cost, these Other Operating Revenues are an overhead benefit. Since the costs are allocated elsewhere to the various classes, the benefit should also be shared across the rate classes. In order to provide some matching between the costs and the benefits, all rate classes should share. In my COSS, I allocated these Other Operating Revenues across all classes on the basis of a 50-50 weighting between volumes and customers. In my mind this is a fair apportionment. Staff on the other hand assigned these revenues to Residential and SGS and allocated them to those classes on the basis of Residential and SGS bills. I understand the logic. The logic for that is that most of these Other Operating Revenues are generated by the Residential and SGS classes. BUT, most Uncollectibles are generated by the same two classes. In order to be logically consistent between Uncollectibles and Other Operating Revenues, the benefit of

the latter must also accrue to other rate classes. In fact, there is even more of a case to be made with respect to Other Operating Revenue since the customer accounting costs and other operating costs for the personnel who deal with disconnects, reconnects and so on have been allocated elsewhere in the to all classes. The Staff approach allocates $660,825 **less** of cost offsetting Other Operating Revenue to LVS than my study. It all boils down to cost (in this case benefit) causation. The impact of the OPC allocation is not quite as dramatic as they use the more broad based "cost of service" allocator.

Q. Mr. Laderoute, let's return to the RSUM allocator that the OPC used to allocate Demand related Mains PIS. Did you invent the Relative System Utilization Method (RSUM)?

A. Yes, in the early 1980s.

Q. And yet you do not believe that it is a reasonable method for the allocation of Demand related Mains PIS? Please explain.

A. Like Staff, which used estimated Peak Coincident day demand for the allocation of demand related Mains PIS, I believe that the most appropriate allocator for demand related Mains is a measure of Peak loads. The Mains system is sized to

meet the coincident demands of all customers. In my case, I used the coincident monthly Mcf consumption for the month of the system peak. Thus, to allocate demand related Mains, I used each rate class' Mcf contribution to peak month's total consumption.

I categorically believe that when directly applied, RSUM does not result in a fair apportionment of demand related Mains cost. It imputes loads that simply do not exist in terms of cost causation. It results in costs being borne by others than who caused the cost in the first place. The system is in fact designed and sized based on coincident loads - not some fabricated loads. In the case of the data that I used, the LVS class causes 20.27% of the peak month load. See Schedule CDL-8 in my Direct Testimony. Based on its workpapers, the Staff used a Coincident Day demand allocator of 19.25% for the LVS rate class. The OPC unadjusted RSUM allocator for the LVS class is 24.77%. From a pure cost causation point of view, the OPC allocator imputes or attributes an additional 4.5% (24.77-20.27) of load that a system planner would <u>not</u> take into consideration.

As Professor Bonbright states in his Principles of Public Utility Rates (1969) at page 354 when comparing various demand allocation methods:

> Of the three formulas just described, the one that would probably come closest to receiving support from the economists, at least viewed from the standpoint of cost analysis, is the system-peak responsibility method.

Indirectly, there are uses of RSUM where it might be appropriate. In the case where demand related costs have been allocated to rate classes on the basis of some notion of peak responsibility, the class demand related costs could be allocated to costing periods on the basis of RSUM. Thus, these costs, be they LDC Mains costs or pipeline Reservation Charges could be allocated to say, an On Peak and Off Peak period on the basis of relative RSUM weights after the costs have been allocated to classes on the basis of a peak responsibility method.

Q. Turning to some specific issues addressed in Staff Witness Beck's Testimony, do you agree with his conclusion at Page 3 Lines 16-17 that most of the rate classes are at or near their class revenue responsibility?

A. No. My COSS is much more accurate than both the Staff and OPC in terms on reflecting cost causation. At Page 13 of Schedule CDL-Reb-1 (Schedule CDL-15 Revised Page 1), my Top

Down analysis based on the numbers filed by MGE, shows that with a total Rate of Return ("ROR") of 5.88%, Residential is earning 4.85% while LVS is earning 11.43%. LVS is earning an Index of 194 or 1.94 times the system actual ROR while Residential is earning .82 times the overall ROR. The next page shows that for a Revenue Neutral position, the LVS class would have to be **reduced** by $3,220,603 and Residential **increased** by $6,369,575 for all rate classes to earn the same (held constant) overall Return of 5.88%. Even at the total revenue increase requested by MGE, Page 15 of Schedule CDL-Reb-1 shows that the LVS revenues should be decreased.

Q. Staff Witness Beck indicates in his Testimony at Page 4 Lines 7 - 13, that most current Customer Charges are at or above the indicated customer related costs from the COSS. Do you agree?

A. No. My COSS is much more accurate than either the Staff or OPC studies - particularly with respect to Customer Related Costs. The unit Customer related costs are driven in large part by the amount of investment in Services, Meters and Regulators. Moreover, the costs associated with AMR equipment should be included in the Customer Charge since they are a Customer Related cost no different that the costs associated with a Meter. Schedule CDL-17 of my Supplemental

Testimony contrasts the results of my COSS modifications to costs based on assigning actual costs for Meters, Services and Regulators for the LVS and LGS rate classes. Compared with my original results shown at Line 1, the adjusted values based on the Modifications 3-8 described in my Supplemental Testimony show higher Customer related costs for Residential and SGS and lower values for LGS and LVS. In fact, my results show that Residential through LGS Customer Charges can be supported at higher levels, while the level for LVS could be reduced. Please note that these values were unaffected by the revisions that I included in Schedule CDL-Reb-1.

Q. OPC Witness Busch indicates in his Direct Testimony at Page 5, Lines 15 - 16 that he tried to allocate costs to the "actual cost causers" with respect to Meters, Regulators and Services. Please comment.

A. As I indicated earlier in this testimony, in fact my study does attribute these costs much more accurately than either the OPC study (in particular) or the Staff study based on who is causing the costs. It is one thing to state that costs should be allocated to who causes costs, yet quite another to actually perform a COSS that actually reflects proper cost causation.

Q. In his Direct Testimony at Page 1, Lines 21 - 22 and Page 2 Lines 22 - 23, OPC Witness Busch states that the COSS should provide an estimate of the cost of providing service and that he used allocators to distribute a reasonable share of costs to each customer class. Do you agree that his study does that?.

A. No. As I indicated at length above, his study in fact allocates unfairly much too many costs to the LVS class. Based on my study using his allocation methods and allocators, he allocates over $3 million inappropriately to the LVS class **excluding** the allocation of Mains.

Q. Turning to the Testimony of OPC Witness Hu, at Page 15 Lines 1 - 9, she indicates a number of factors that should be considered in setting a just and reasonable rate level. Please comment.

A. I will address each of the factors that she has identified. With respect to these, she gives us no indication of the relative weight that cost should bear in a Commission decision. I will. A cost of service study should serve as the **primary input** in determining rate class revenue levels. Otherwise, why waste all the time performing such studies? In my opinion and in general, the cost of service study should weigh no less than 80 to 90% in the final balancing

of factors. The other factors might be weighted at 10 to 20% of the final decision.

With respect to **value of service**, this is a term that is often misused. In actual practice for a gas LDC, it is of most importance when there are competitive alternatives. For example, if oil is a valid alternative for some customers and the cost of service is too high relative to the costs for those customers to use oil, based on value of service, if it desired to keep those customers on system, some discount from cost based rates is necessary. The same holds true in cases where a customer or customers may bypass the system and attach directly to a pipeline. Most often, the term value of service is misused in the sense of charging some class whatever the traffic will bear.

Affordability is a term that is so twisted and turned it becomes meaningless. Affordable to who and in what circumstances? This past winter the price of gas went up for everyone - transporters and residential customers alike. Should that be a factor in this case? No, it isn't an issue. If there were a recession, should rate levels be set lower for C & I customers because they have a hard time affording to pay their gas bills? No. Usually,

affordability becomes a political issue directed at residential customers. The notion is typically that residential customers cannot afford the service, but somehow C & I customers can. This issue, in my mind, has no place in regulation. If society sees fit to subsidize one group over another - i.e. income transfers - that is a political issue that should be left to the legislators.

Rate impact is another term that is confusing or often misused or abused. Assume that a rate class (Class A) revenue levels should go up by 25% in order to reflect costs. That may or may no be viewed as a large impact. Regardless, if that class is not brought up by 25%, then by definition, some other class or classes must intentionally subsidize that class in order for the company to remain whole. Moreover, this is an issue that can have a self fulfilling prophecy and create a systemic problem. Assume that rate levels are not set at allocated costs - the reason being rate impact. The next time the utility files for a rate case the hole gets deeper as revenues are not recovering costs and the disparity between costs and revenues gets larger. So, perhaps rather than requiring a 25% increase to get rate levels to costs, the class chosen to be the recipi-

ent of intentional subsidization, Class A, now would require a 32% increase.

This can be a particular problem when one considers who is in fact causing the costs to be incurred. As I indicated in my Direct Testimony and on Schedule CDL-3, AMR costs are a significant factor in this case; well over $5,000,000 in revenue requirements. Those costs were <u>not</u> caused by the LVS class. In reviewing the rate impact of this case, the Commission should surely consider that those costs are not attributable to LVS - regardless of the impact on Rates Residential, SGS and LGS.

Since its last rate case, MGE has added substantially to Mains with most of the customer growth being in the classes Residential and SGS. While impact of the growth related Mains may have a substantial rate impact, the Commission should in fact consider that most of the associated costs for the growth related Mains was added not to serve LGS and LVS, but the other two classes. So while the rate impact may be significant, the cost causers should bear the costs.

Rate Continuity is a term that is more appropriate in view of the actual rate structure - not the rate level. In this

case, a rate continuity issue would be the proposal by MGE to move the Residential rate class from a Customer charge to a Minimum Bill. The former includes no consumption, while MGE has proposed a Minimum bill that includes the first 20 Ccf.

Q. OPC Witness Hu in Direct Testimony at Page 15, Lines 19 - 21 proposes that "no customer class should receive a net decrease as the combined result of the revenue neutral shift that is applied to that class and the share of the total revenue increase that is applied to that class". Do you agree?

A. There are a couple of problems with this logic. First, it is a function of accepting a two step process premised on accepting someone's definition of a revenue neutral shift in concert with a revenue increase. Second, it depends on how one approaches the revenue neutral shift. In this case, OPC recommends 50% movement or revenue shift based on the revenue neutral shift shown in their study. There is nothing magic about this 50%. Further, it is based on their study. As I have indicated above, their revenue neutral COSS is inaccurate. Finally, and most importantly the overall approach is illogical. Essentially, it suggests that no class can get a net rate decrease while another class is

getting a rate increase. (Witness Hu has stated just that at Page 19, Lines 6 - 7.) This approach certainly benefits if there are lots of classes. What would happen if there were only two rate classes? One could never set rate levels at cost - even if they wanted to. So if an approach is illogical when there are only two rate classes, it suddenly becomes logical when there are four rate classes? Of course not.

Q. Are there portions of MGE Witness Dr. Cumming's Direct Testimony that you wish to address?

A. Yes, three areas: cost causation relative to Other Operating Revenue items, the Company proposal to spread the revenue increase on the basis of existing class revenues, and Dr. Cumming's list of factors other than cost that should be considered in setting rate levels.

Q. At Page 7 Lines 6 - 18 of MGE Witness Dr. Cumming's Direct Testimony, he discusses "cost causation" with respect to setting the levels of charges that are booked to Other Operating Revenues. Please comment.

A. I simply find it interesting that the Company thinks that setting the levels for miscellaneous service charges should be set based on cost causation, yet cost causation in their

opinion should mean essentially nothing in setting margin revenues. As proposed by MGE in this case, the former amount to $4,858,301 while the latter amounts to $131,-882,267, including an increase of $39,882,003.

Please note that I am not suggesting that their proposed levels of charges for these miscellaneous service charges are inappropriate. On the contrary, I am all for setting utility services to levels based on costs.

Q. Like OPC Witness Hu, MGE Witness Dr. Cumming's in his Direct Testimony at Page 9, Lines 13 - 16 lists factors other than costs that in his opinion should be taken into consideration in setting rate class revenue levels. Please comment.

A. Dr. Cummings list five factors other than costs that should be considered in setting rate levels. Of his list, there is probably only one that I share to any degree - **fairness**. In my mind, the level of revenues for a rate class should be fair. But in my mind, they can only be fair if they are based on a reasonable cost of service study. Otherwise, how does one decide what is in fact fair? One cannot when not measured against the cost benchmark.

With respect to **customer acceptance**, obviously all customers hate to see their rates go up. But how does one measure the level of customer acceptance? No doubt, in this case the Residential customers (numbering something on the order of 431,000) would be happy to see the rate increase spread to the C & I customers in SGS, LGS and LVS. But is sheer numbers of customers in a class an important factor in setting rate levels? In my mind, this is one of the least important "other" factors to consider in setting rate levels.

Stability perhaps is a noble goal. Unfortunately, it is a function of how frequently a utility files rate cases. To the extent that the rate levels do not in fact recover the correct amount of costs by rate class, the utility will be in with a general rate increase more often.

Gradualism is an important factor when tied in with the goal of moving rate levels to the levels indicated in a cost of service study. In order to do this, though, there must be a goal of setting rates on costs.

Social considerations have no place in regulation. They are purely a political issue. Customers do not have a chance to

vote for Commission members. Moreover, one of the goals of regulation is to bring about a result that one might expect from a competitive market. Most consumers look to their legislators, not the business marketplace for solutions to society's problems.

Q. What issue do you take with MGE's proposal to spread the increase on the basis of existing class revenues?

A. There is no evidence in this case that such a proposal would bring the rate levels of this company any closer to a cost basis. In fact, the Company did not even file a cost study. If all of these other factors indicated by Dr. Cummings (and OPC Witness Hu for that matter) are so important and existing class revenue levels are viewed as fair, then the entire second portion of a rate case should be disbanded as a waste of time, resources and effort. Since all of these other factors and existing class revenues have nothing to do with costs, how can one set up a benchmark against which to measure rate levels? In short, one cannot.

With respect to the Residential and LVS classes, the former's percentage of current revenues is 69.6% while their costs are 74% of total. The same values for LVS are 8.2% and 5.7% respectively. Thus, the ratio of current revenue

fractions to costs are 94.2% and 136.6% for Residential and LVS, respectively. See Schedule CDL-Reb-6 Page 2.

Q. Do you take issue with any of the Testimony of OPC Witness Colton?

A. Yes, several points. While there may be significant merit in MGE changing its business practices, of course introducing his low income rate is in fact social ratemaking. Colton testimony at Page 38 Line 31. His proposal would take money out of the pocket of other Residential (this class only at this point) ratepayers and use it to subsidize a subgroup of Residential customers. This is a political decision best left in the hands of the legislators.

While he has provided quite a rationale to create a specific class of customers, one could do the same for many subgroups. For example, in the community that I live (MGE service territory), the area that I live in is older while the other side of town has new expensive houses where newer Main has been laid to reach these customers. There is no reason that MGE could not have a separate rate for the part of town that I live in and a higher rate for the other side of town. Mr. Colton himself points out similar thoughts at pages 48 and 49 of his testimony.

Though this is a different cost issue and presented in a different manner, there is little difference between the issue here and the issues in GE-2001-393. The only difference is a different pool of dollars, different subsidizors and different recipients.

Finally, while the subsidizing group may be proposed to be other Residential customers in this case (an issue of fairness in and of itself) there is little reason to believe that another Commission at a later date might not decide that all rate classes should be providing the subsidy.

Q. Mr. Laderoute, MGE, OPC and you in your Direct Testimony have proposed methods to spread the increased revenues to rate classes while the Staff did not make a specific proposal. Please comment.

A. I have addressed the other proposals earlier. With respect to the proposal that I laid out in My Direct Testimony, I wish to replace that with an alternative. Schedule CDL-Reb-6 lays out a proposed method that I think would be reasonable, given the historical background for this Company. Essentially, what I propose is phasing in over a 3 year period cost based rates based on my cost study. The results for each of the three years is shown at Page 1 of this

schedule for various levels of rate increase. At the lower portion of Page 2, I show the values to use for each year. In the first year, revenue requirements would be spread on the basis of a weighted factor - 75% current revenue and 25% full COSS. The values used in the derivation are shown at the top of this page. In the second year there would be a Company revenue neutral reallocation between the classes. In this year the factor would be weighted at 40% current revenue and 60% full costs. In the third year there would be another reallocation based on the full COSS fractions. Pages 3 - 5 shows the determinations for each year. Note that these show how the values would be allocated by year - not the year by year changes. Page 6 shows the year by year changes. Page 7 shows how the revenues would be spread based on using just my COSS results at this time. Page 8 shows the MGE proposal in contrast.

Note on Pages 1 and 6, the Residential class receives the largest impact in the first year. Using the Point of Reference of a $10,000,000 increase, the first year share is so significant because they represent 69.6% of current revenues. (Schedule CDL-Reb-6 Page 2 Line 2) Under the MGE proposal shown at Page 8 of this schedule, the Residential class would receive $6,964,131. The additional amount of

$1,532,203 reflected in my proposal (8,496,334 - 6,964,131) is due to the weighting in an attempt to match revenues with costs. The net result of this proposal is that over a three year period, the rates would be set on costs as they exist at this point.

Q. Is it your opinion that this proposal is better than the alternatives that have been suggested in this case?

A. Yes. And it reflects what I view as a reasonable compromise in heading toward cost based rates.

Q. Does this conclude your Rebuttal testimony?

A. Yes, at this time it does. But there are outstanding responses to several data requests that we made to other parties including Staff and Public Counsel on May 2. I would respectfully reserve the ability to supplement this testimony and certain schedules as might be indicated when these responses are received.

FILE: MGE_COSfix
DATE: 08-May-01
NAME: SUMPAGE1
NR: SCH1A

Missouri Gas Energy
Gas Cost of Service Allocation Study
Test Year: 12 Months Ended December 31, 2000
Normalized - Peak Month

Laderoute, Ltd.
COSt Analyst I v. 6 (tm)
(c) 1986-2001

SCHED. # SCH1A
PAGE # 1

TITLE: **SUMMARY - PAGE 1 - REALIZED or TOP DOWN**

LINE	A/C #	ITEM	ALLOCATION BASIS	CR	SYSTEM TOTAL	Residential Service	Small Gen Service	Large Gen Service	Large Vol Service
1									
2	480-489	Sales of Gas & Transport Revenue	Schedule 2		131,882,267	91,844,916	26,298,088	2,923,751	10,815,512
3									
4	488-495	Tot Other Operating Revenue	Schedule 2		4,858,301	3,259,231	730,025	77,988	791,057
5									
6		Total Gas Operating Revenue Excl GCR	Schedule 2		136,740,568	95,104,147	27,028,113	3,001,739	11,606,569
7									
8		Expenses							
9		Gas O&M Exp Excl Gas Costs	Schedule 14		62,907,928	46,248,665	11,393,178	1,034,156	4,231,929
10		Depr & Amort Expense	Schedule 15		26,966,363	20,859,379	4,188,741	344,762	1,573,481
11		Interest on Customer Deposits	Schedule 16		791,258	449,265	224,634	24,974	92,384
12		Taxes Other than Inc Taxes	Schedule 16		9,063,142	6,428,627	1,630,529	158,538	845,448
13									
14		Total Op Exp Before Inc Taxes	Sum (L.9-13)		99,728,691	73,985,936	17,437,082	1,562,431	6,743,242
15									
16		Net Income Before Inc Taxes	L. 6 - L. 14		37,011,877	21,118,211	9,591,031	1,439,308	4,863,327
17									
18		Total Income Taxes	Schedule 17-B		6,502,977	2,636,446	2,268,575	418,398	1,179,558
19									
20		Total Op Expenses Plus Inc Taxes Excl Gas	L. 14 + L. 17 + L. 18		106,231,668	76,622,382	19,705,657	1,980,829	7,922,800
21									
22		Net Utility Operating Income	L. 6 - L. 20		30,508,900	18,481,765	7,322,456	1,020,910	3,683,769
23									
24		Rate Base	Schedule 8		518,824,134	371,872,699	98,252,944	10,144,114	38,554,376
25									
26		Rate of Return Before Income Taxes	L. 16/L. 24		7.13%	5.68%	9.76%	14.19%	12.61%
27		Index of Return Before Income Taxes			100	80	137	199	177
28									
29		**Rate of Return - Realized**	L. 22/L. 24		**5.88%**	**4.97%**	**7.45%**	**10.06%**	**9.55%**
30		**Index of Return - Realized**			**100**	**85**	**127**	**171**	**162**

Schedule CDL-Reb-1 Page 1 of 22

Case No.
Exhibit No.
Witness: CD Laderoute
Exhibit CDL-6 Revised
Page # 1 of 3

FILE: MGE_COSfix
DATE: 08-May-01
NAME: SUMPAGE2-A
NR: SCH1B-A

Missouri Gas Energy
Gas Cost of Service Allocation Study
Test Year: 12 Months Ended December 31, 2000
Normalized - Peak Month

Revenue (ROR) Neutral

SCHED. # SCH1B-A
PAGE # 1

TITLE: **SUMMARY - PAGE 2-A - REQUIRED or BOTTOM UP**

LINE	A/C #	ITEM		ALLOCATION BASIS		CR	SYSTEM TOTAL	Residential Service	Small Gen Service	Large Gen Service	Large Vol Service
1		Rate Base		Schedule 8			518,824,134	371,872,699	98,252,944	10,144,114	38,554,376
2		Rate of Return - Ideal Target			Actual ROR %	5.880	5.880%	5.880%	5.880%	5.880%	5.880%
3		Index of Return - Ideal Target			Request ROR %	**10.562**	100	100	100	100	100
4											
5		Return Required at Target ROR		L. 1 * L. 2			30,508,900	21,867,578	5,777,660	596,514	2,267,149
6		Realized Net Utility Op Income		Schedule 17			30,508,900	18,481,765	7,322,456	1,020,910	3,683,769
7		Change in Net Income Required		L. 5 - L. 6			0	3,385,813	(1,544,797)	(424,396)	(1,416,620)
8											
9		Realized Tot Inc Taxes		Schedule 17			6,502,977	2,636,446	2,268,575	418,398	1,179,558
10		Change in FIT @	0.628855	* L. 7			0	2,129,185	(971,453)	(266,884)	(890,849)
11		Required Total FIT		L. 9 + L. 10			6,502,977	4,765,632	1,297,122	151,514	288,709
12											
13		Change in Net Income		L. 7			0	3,385,813	(1,544,797)	(424,396)	(1,416,620)
14		Change in FIT		L. 10			0	2,129,185	(971,453)	(266,884)	(890,849)
15											
16		Total Revenue Change		Sum (L.13-15)			0	5,514,998	(2,516,250)	(691,280)	(2,307,469)
17											
18		Revenue Change Grossed up for Uncollectibles		Factor	1.01030600		0	5,571,836	(2,542,182)	(698,404)	(2,331,249)
19		Revenue Change Grossed down for Late Pay Fee		Factor	0.997761		0	5,559,361	(2,536,490)	(696,841)	(2,326,030)
20											
21		Gas Operating Revenue Excl PGA		Schedule 2			136,740,568	95,104,147	27,028,113	3,001,739	11,606,569
22		Required Gas Operating Rev Excl PGA		L. 19 + L. 21			136,740,568	100,663,508	24,491,623	2,304,899	9,280,539
23		Increased Operating Revenue - %		L. 19/L. 21			0.00%	5.85%	-9.38%	-23.21%	-20.04%
24											
25		Sales of Gas Rev & Trans Excl PGA		Schedule 2			131,882,267	91,844,916	26,298,088	2,923,751	10,815,512
26		**Percent of Total Current Revenue**					**100.00**	**69.64**	**19.94**	**2.22**	**8.20**
27		Req Sales of Gas Rev & Trans Ex PGA		L. 19 + L. 25	Excludes Gas Lights		131,882,267	97,404,277	23,761,598	2,226,910	8,489,482
28		**Percent of Total Cost of Service**					**100.00**	**73.86**	**18.02**	**1.69**	**6.44**
29		Increased Revenue - %		L. 19/L. 25			0.00%	6.05%	-9.65%	-23.83%	-21.51%
30											
31		Ave Monthly Customers		Schedule 18-A			492,190	431,374	59,903	472	441
32		Realized Sales of Gas & Tran Rev Ex PGA		L. 25/L. 31	per Cust per year		268	213	439	6,198	24,506
33		Required Sales of Gas & Trans Rev Ex PGA		L. 27/L. 31	per Cust per year		268	226	397	4,721	19,236
34		Increased Sales of Gas & Tran Rev Ex PGA		L. 33 - L. 32	per Cust per year		0	13	(42)	(1,477)	(5,270)
35											
36		PGA Revenue		Schedule 2			307,289,585	211,738,095	81,377,305	14,174,185	0
37		Realized Sales of Gas & Tran Rev Incl PGA		L. 25 + L. 36			439,171,852	303,583,011	107,675,393	17,097,936	10,815,512
38		Required Sales of Gas & Trans Rev Incl PGA		L. 27 + L. 36			439,171,852	309,142,372	105,138,903	16,401,095	8,489,482
39		**Percent Increase**					**0.00**	**1.83**	**(2.36)**	**(4.08)**	**(21.51)**
40		Realized Sales of Gas & Tran Rev Incl PGA		L. 37/L. 31	per Cust per year		892	704	1,798	36,245	24,506
41		Required Sales of Gas & Trans Rev Incl PGA		L. 38/L. 31	per Cust per year		892	717	1,755	34,768	19,236

Schedule CDL-Reb-1 Page 2 of 22

Case No.
Exhibit No.
Witness: CD Laderoute
Exhibit CDL-6 Revised
Page # 2 of 3

FILE: MGE_COSfix
DATE: 08-May-01
NAME: SUMPAGE2-A
NR: SCH1B-A

Missouri Gas Energy
Gas Cost of Service Allocation Study
Test Year: 12 Months Ended December 31, 2000
Normalized - Peak Month

Includes Requested ROR

SCHED. # SCH1B-A
PAGE # 1

TITLE: **SUMMARY - PAGE 2-A - REQUIRED or BOTTOM UP**

LINE	A/C #	ITEM		ALLOCATION BASIS		CR	SYSTEM TOTAL	Residential Service	Small Gen Service	Large Gen Service	Large Vol Service
1		Rate Base		Schedule 8			518,824,134	371,872,699	98,252,944	10,144,114	38,554,376
2		Rate of Return - Ideal Target			Actual ROR %	5.880	10.562%	10.562%	10.562%	10.562%	10.562%
3		Index of Return - Ideal Target			Request ROR %	**10.562**	100	100	100	100	100
4											
5		Return Required at Target ROR		L. 1 * L. 2			54,798,205	39,277,194	10,377,476	1,071,421	4,072,113
6		Realized Net Utility Op Income		Schedule 17			30,508,900	18,481,765	7,322,456	1,020,910	3,683,769
7		Change in Net Income Required		L. 5 - L. 6			24,289,305	20,795,430	3,055,020	50,511	388,344
8											
9		Realized Tot Inc Taxes		Schedule 17			6,502,977	2,636,446	2,268,575	418,398	1,179,558
10		Change in FIT @	0.628855	* L. 7			15,274,451	13,077,310	1,921,164	31,764	244,212
11		Required Total FIT		L. 9 + L. 10			21,777,428	15,713,756	4,189,739	450,162	1,423,770
12											
13		Change in Net Income		L. 7			24,289,305	20,795,430	3,055,020	50,511	388,344
14		Change in FIT		L. 10			15,274,451	13,077,310	1,921,164	31,764	244,212
15											
16		Total Revenue Change		Sum (L.13-15)			39,563,756	33,872,740	4,976,184	82,276	632,556
17											
18		Revenue Change Grossed up for Uncollectibles		Factor	1.01030600		39,971,500	34,221,832	5,027,469	83,123	639,075
19		Revenue Change Grossed down for Late Pay Fee		Factor	0.997761		39,882,003	34,145,209	5,016,212	82,937	637,645
20											
21		Gas Operating Revenue Excl PGA		Schedule 2			136,740,568	95,104,147	27,028,113	3,001,739	11,606,569
22		Required Gas Operating Rev Excl PGA		L. 19 + L. 21			176,622,571	129,249,357	32,044,325	3,084,677	12,244,213
23		Increased Operating Revenue - %		L. 19/L. 21			29.17%	35.90%	18.56%	2.76%	5.49%
24											
25		Sales of Gas Rev & Trans Excl PGA		Schedule 2			131,882,267	91,844,916	26,298,088	2,923,751	10,815,512
26		**Percent of Total Current Revenue**					**100.00**	**69.64**	**19.94**	**2.22**	**8.20**
27		Req Sales of Gas Rev & Trans Ex PGA		L. 19 + L. 25	Excludes Gas Lights		171,764,270	125,990,125	31,314,300	3,006,688	11,453,157
28		**Percent of Total Cost of Service**					**100.00**	**73.35**	**18.23**	**1.75**	**6.67**
29		Increased Revenue - %		L. 19/L. 25			30.24%	37.18%	19.07%	2.84%	5.90%
30											
31		Ave Monthly Customers		Schedule 18-A			492,190	431,374	59,903	472	441
32		Realized Sales of Gas & Tran Rev Ex PGA		L. 25/L. 31	per Cust per year		268	213	439	6,198	24,506
33		Required Sales of Gas & Trans Rev Ex PGA		L. 27/L. 31	per Cust per year		349	292	523	6,374	25,951
34		Increased Sales of Gas & Tran Rev Ex PGA		L. 33 - L. 32	per Cust per year		81	79	84	176	1,445
35											
36		PGA Revenue		Schedule 2			307,289,585	211,738,095	81,377,305	14,174,185	0
37		Realized Sales of Gas & Tran Rev Incl PGA		L. 25 + L. 36			439,171,852	303,583,011	107,675,393	17,097,936	10,815,512
38		Required Sales of Gas & Trans Rev Incl PGA		L. 27 + L. 36			479,053,855	337,728,220	112,691,605	17,180,873	11,453,157
39		**Percent Increase**					**9.08**	**11.25**	**4.66**	**0.49**	**5.90**
40		Realized Sales of Gas & Tran Rev Incl PGA		L. 37/L. 31	per Cust per year		892	704	1,798	36,245	24,506
41		Required Sales of Gas & Trans Rev Incl PGA		L. 38/L. 31	per Cust per year		973	783	1,881	36,421	25,951

Schedule CDL-Reb-1 Page 3 of 22

Case No.
Exhibit No.
Witness: CD Laderoute
Exhibit CDL-6 Revised
Page # 3 of 3

FILE: MGE_COSfix
DATE: 08-May-01
NAME: SUMPAGE1
NR: SCH1A

Missouri Gas Energy
Gas Cost of Service Allocation Study
Test Year: 12 Months Ended December 31, 2000
Normalized - Peak Month

Laderoute, Ltd.
COSt Analyst I v. 6 (tm)
(c) 1986-2001

SCHED. # SCH1A
PAGE # 1

TITLE: **SUMMARY - PAGE 1 - REALIZED or TOP DOWN**

LINE	A/C #	ITEM	ALLOCATION BASIS	CR	SYSTEM TOTAL	Residential Service	Small Gen Service	Large Gen Service	Large Vol Service
1									
2	480-489	Sales of Gas & Transport Revenue	Schedule 2		131,882,267	91,844,916	26,298,088	2,923,751	10,815,512
3									
4	488-495	Tot Other Operating Revenue	Schedule 2		4,858,301	3,259,231	730,025	77,988	791,057
5									
6		Total Gas Operating Revenue Excl GCR	Schedule 2		136,740,568	95,104,147	27,028,113	3,001,739	11,606,569
7									
8		Expenses							
9		Gas O&M Exp Excl Gas Costs	Schedule 14		62,907,928	46,248,665	11,393,178	1,034,156	4,231,929
10		Depr & Amort Expense	Schedule 15		26,966,363	20,859,379	4,188,741	344,762	1,573,481
11		Interest on Customer Deposits	Schedule 16		791,258	449,265	224,634	24,974	92,384
12		Taxes Other than Inc Taxes	Schedule 16		9,063,142	6,428,627	1,630,529	158,538	845,448
13									
14		Total Op Exp Before Inc Taxes	Sum (L.9-13)		99,728,691	73,985,936	17,437,082	1,562,431	6,743,242
15									
16		Net Income Before Inc Taxes	L. 6 - L. 14		37,011,877	21,118,211	9,591,031	1,439,308	4,863,327
17									
18		Total Income Taxes	Schedule 17-B		6,502,977	2,636,446	2,268,575	418,398	1,179,558
19									
20		Total Op Expenses Plus Inc Taxes Excl Gas	L. 14 + L. 17 + L. 18		106,231,668	76,622,382	19,705,657	1,980,829	7,922,800
21									
22		Net Utility Operating Income	L. 6 - L. 20		30,508,900	18,481,765	7,322,456	1,020,910	3,683,769
23									
24		Rate Base	Schedule 8		518,824,134	371,872,699	98,252,944	10,144,114	38,554,376
25									
26		Rate of Return Before Income Taxes	L. 16/L. 24		7.13%	5.68%	9.76%	14.19%	12.61%
27		Index of Return Before Income Taxes			100	80	137	199	177
28									
29		**Rate of Return - Realized**	L. 22/L. 24		**5.88%**	**4.97%**	**7.45%**	**10.06%**	**9.55%**
30		**Index of Return - Realized**			**100**	**85**	**127**	**171**	**162**

Schedule CDL-Reb-1 Page 4 of 22

Case No.
Exhibit No.
Witness: CD Laderoute
Exhibit CDL-7 Revised
Page # 1 of 24

FILE: MGE_COSfix
DATE: 08-May-01
NAME: SUMPAGE2-A
NR: SCH1B-A

Missouri Gas Energy
Gas Cost of Service Allocation Study
Test Year: 12 Months Ended December 31, 2000
Normalized - Peak Month

Revenue (ROR) Neutral

SCHED. # SCH1B-A
PAGE # 1

TITLE: **SUMMARY - PAGE 2-A - REQUIRED or BOTTOM UP**

LINE	A/C #	ITEM		ALLOCATION BASIS		CR	SYSTEM TOTAL	Residential Service	Small Gen Service	Large Gen Service	Large Vol Service
1		Rate Base		Schedule 8			518,824,134	371,872,699	98,252,944	10,144,114	38,554,376
2		Rate of Return - Ideal Target			Actual ROR %	5.880	5.880%	5.880%	5.880%	5.880%	5.880%
3		Index of Return - Ideal Target			Request ROR %	**10.562**	100	100	100	100	100
4											
5		Return Required at Target ROR		L. 1 * L. 2			30,508,900	21,867,578	5,777,660	596,514	2,267,149
6		Realized Net Utility Op Income		Schedule 17			30,508,900	18,481,765	7,322,456	1,020,910	3,683,769
7		Change in Net Income Required		L. 5 - L. 6			0	3,385,813	(1,544,797)	(424,396)	(1,416,620)
8											
9		Realized Tot Inc Taxes		Schedule 17			6,502,977	2,636,446	2,268,575	418,398	1,179,558
10		Change in FIT @	0.628855	* L. 7			0	2,129,185	(971,453)	(266,884)	(890,849)
11		Required Total FIT		L. 9 + L. 10			6,502,977	4,765,632	1,297,122	151,514	288,709
12											
13		Change in Net Income		L. 7			0	3,385,813	(1,544,797)	(424,396)	(1,416,620)
14		Change in FIT		L. 10			0	2,129,185	(971,453)	(266,884)	(890,849)
15							---	---	---	---	---
16		Total Revenue Change		Sum (L.13-15)			0	5,514,998	(2,516,250)	(691,280)	(2,307,469)
17											
18		Revenue Change Grossed up for Uncollectibles		Factor	1.01030600		0	5,571,836	(2,542,182)	(698,404)	(2,331,249)
19		Revenue Change Grossed down for Late Pay Fee		Factor	0.997761		0	5,559,361	(2,536,490)	(696,841)	(2,326,030)
20											
21		Gas Operating Revenue Excl PGA		Schedule 2			136,740,568	95,104,147	27,028,113	3,001,739	11,606,569
22		Required Gas Operating Rev Excl PGA		L. 19 + L. 21			136,740,568	100,663,508	24,491,623	2,304,899	9,280,539
23		Increased Operating Revenue - %		L. 19/L. 21			0.00%	5.85%	-9.38%	-23.21%	-20.04%
24											
25		Sales of Gas Rev & Trans Excl PGA		Schedule 2			131,882,267	91,844,916	26,298,088	2,923,751	10,815,512
26		**Percent of Total Current Revenue**					**100.00**	**69.64**	**19.94**	**2.22**	**8.20**
27		Req Sales of Gas Rev & Trans Ex PGA		L. 19 + L. 25	Excludes Gas Lights		131,882,267	97,404,277	23,761,598	2,226,910	8,489,482
28		**Percent of Total Cost of Service**					**100.00**	**73.86**	**18.02**	**1.69**	**6.44**
29		Increased Revenue - %		L. 19/L. 25			0.00%	6.05%	-9.65%	-23.83%	-21.51%
30											
31		Ave Monthly Customers		Schedule 18-A			492,190	431,374	59,903	472	441
32		Realized Sales of Gas & Tran Rev Ex PGA		L. 25/L. 31	per Cust per year		268	213	439	6,198	24,506
33		Required Sales of Gas & Trans Rev Ex PGA		L. 27/L. 31	per Cust per year		268	226	397	4,721	19,236
34		Increased Sales of Gas & Tran Rev Ex PGA		L. 33 - L. 32	per Cust per year		0	13	(42)	(1,477)	(5,270)
35											
36		PGA Revenue		Schedule 2			307,289,585	211,738,095	81,377,305	14,174,185	0
37		Realized Sales of Gas & Tran Rev Incl PGA		L. 25 + L. 36			439,171,852	303,583,011	107,675,393	17,097,936	10,815,512
38		Required Sales of Gas & Trans Rev Incl PGA		L. 27 + L. 36			439,171,852	309,142,372	105,138,903	16,401,095	8,489,482
39		**Percent Increase**					**0.00**	**1.83**	**(2.36)**	**(4.08)**	**(21.51)**
40		Realized Sales of Gas & Tran Rev Incl PGA		L. 37/L. 31	per Cust per year		892	704	1,798	36,245	24,506
41		Required Sales of Gas & Trans Rev Incl PGA		L. 38/L. 31	per Cust per year		892	717	1,755	34,768	19,236

Schedule CDL-Reb-1 Page 5 of 22

Case No.
Exhibit No.
Witness: CD Laderoute
Exhibit CDL-7 (Reb.)
Page # 2 of 26

FILE: MGE_COSfix
DATE: 08-May-01
NAME: SUMPAGE2-A
NR: SCH1B-A

Missouri Gas Energy
Gas Cost of Service Allocation Study
Test Year: 12 Months Ended December 31, 2000
Normalized - Peak Month

Includes Requested ROR

SCHED. # SCH1B-A
PAGE # 1

TITLE: **SUMMARY - PAGE 2-A - REQUIRED or BOTTOM UP**

LINE	A/C #	ITEM		ALLOCATION BASIS		CR	SYSTEM TOTAL	Residential Service	Small Gen Service	Large Gen Service	Large Vol Service
1		Rate Base		Schedule 8			518,824,134	371,872,699	98,252,944	10,144,114	38,554,376
2		Rate of Return - Ideal Target			Actual ROR %	5.880	10.562%	10.562%	10.562%	10.562%	10.562%
3		Index of Return - Ideal Target			Request ROR %	**10.562**	100	100	100	100	100
4											
5		Return Required at Target ROR		L. 1 * L. 2			54,798,205	39,277,194	10,377,476	1,071,421	4,072,113
6		Realized Net Utility Op Income		Schedule 17			30,508,900	18,481,765	7,322,456	1,020,910	3,683,769
7		Change in Net Income Required		L. 5 - L. 6			24,289,305	20,795,430	3,055,020	50,511	388,344
8											
9		Realized Tot Inc Taxes		Schedule 17			6,502,977	2,636,446	2,268,575	418,398	1,179,558
10		Change in FIT @	0.628855	* L. 7			15,274,451	13,077,310	1,921,164	31,764	244,212
11		Required Total FIT		L. 9 + L. 10			21,777,428	15,713,756	4,189,739	450,162	1,423,770
12											
13		Change in Net Income		L. 7			24,289,305	20,795,430	3,055,020	50,511	388,344
14		Change in FIT		L. 10			15,274,451	13,077,310	1,921,164	31,764	244,212
15							---	---	---	---	---
16		Total Revenue Change		Sum (L.13-15)			39,563,756	33,872,740	4,976,184	82,276	632,556
17											
18		Revenue Change Grossed up for Uncollectibles		Factor	1.01030600		39,971,500	34,221,832	5,027,469	83,123	639,075
19		Revenue Change Grossed down for Late Pay Fee		Factor	0.997761		39,882,003	34,145,209	5,016,212	82,937	637,645
20											
21		Gas Operating Revenue Excl PGA		Schedule 2			136,740,568	95,104,147	27,028,113	3,001,739	11,606,569
22		Required Gas Operating Rev Excl PGA		L. 19 + L. 21			176,622,571	129,249,357	32,044,325	3,084,677	12,244,213
23		Increased Operating Revenue - %		L. 19/L. 21			29.17%	35.90%	18.56%	2.76%	5.49%
24											
25		Sales of Gas Rev & Trans Excl PGA		Schedule 2			131,882,267	91,844,916	26,298,088	2,923,751	10,815,512
26		**Percent of Total Current Revenue**					**100.00**	**69.64**	**19.94**	**2.22**	**8.20**
27		Req Sales of Gas Rev & Trans Ex PGA		L. 19 + L. 25	Excludes Gas Lights		171,764,270	125,990,125	31,314,300	3,006,688	11,453,157
28		**Percent of Total Cost of Service**					**100.00**	**73.35**	**18.23**	**1.75**	**6.67**
29		Increased Revenue - %		L. 19/L. 25			30.24%	37.18%	19.07%	2.84%	5.90%
30											
31		Ave Monthly Customers		Schedule 18-A			492,190	431,374	59,903	472	441
32		Realized Sales of Gas & Tran Rev Ex PGA		L. 25/L. 31	per Cust per year		268	213	439	6,198	24,506
33		Required Sales of Gas & Trans Rev Ex PGA		L. 27/L. 31	per Cust per year		349	292	523	6,374	25,951
34		Increased Sales of Gas & Tran Rev Ex PGA		L. 33 - L. 32	per Cust per year		81	79	84	176	1,445
35											
36		PGA Revenue		Schedule 2			307,289,585	211,738,095	81,377,305	14,174,185	0
37		Realized Sales of Gas & Tran Rev Incl PGA		L. 25 + L. 36			439,171,852	303,583,011	107,675,393	17,097,936	10,815,512
38		Required Sales of Gas & Trans Rev Incl PGA		L. 27 + L. 36			479,053,855	337,728,220	112,691,605	17,180,873	11,453,157
39		**Percent Increase**					**9.08**	**11.25**	**4.66**	**0.49**	**5.90**
40		Realized Sales of Gas & Tran Rev Incl PGA		L. 37/L. 31	per Cust per year		892	704	1,798	36,245	24,506
41		Required Sales of Gas & Trans Rev Incl PGA		L. 38/L. 31	per Cust per year		973	783	1,881	36,421	25,951

Schedule CDL-Reb-1 Page 6 of 22

Case No.
Exhibit No.
Witness: CD Laderoute
Exhibit CDL-7 Revised
Page # 3 of 26

FILE: MGE_COSfix
DATE: 08-May-01
NAME: WORKCAP1
NR: SCH7A

Missouri Gas Energy
Gas Cost of Service Allocation Study
Test Year: 12 Months Ended December 31, 2000
Normalized - Peak Month

SCHED. # SCH7A
PAGE # 1

TITLE: **WORKING CAPITAL**

LINE	A/C #	ITEM	ALLOCATION BASIS	CR	SYSTEM TOTAL	Residential Service	Small Gen Service	Large Gen Service	Large Vol Service
1									
2									
3		Materials & Supplies	Tot Dist PIS	DCU	2,036,063	1,450,079	375,685	36,271	174,028
4		Prepayments	Tot Dist PIS	DCU	415,611	295,997	76,687	7,404	35,523
5		Gas Inventory	Excess Gas Use-Sales	D	52,457,645	36,777,295	13,449,251	2,231,099	0
6		Working Cash - O&M-Purchased Gas	Ccf-Sales Rates	CO	5,584,312	3,847,874	1,478,853	257,585	0
7		Working Cash - O&M-Other	Tot O&M Ex Gas Cost	DCC	3,788,576	2,785,286	686,144	62,281	254,864
8		Working Cash - Taxes - Property	Total PIS	DCU	(2,547,278)	(1,828,144)	(457,653)	(43,106)	(218,376)
9		Working Cash - Taxes - Gross Receipts	Ccf-Sales Rates	CO	(821,937)	(566,356)	(217,668)	(37,913)	0
10		Working Cash - Taxes - FICA,FUTA&SUTA	Tot O&M Ex Gas Cost	DCC	184,281	135,480	33,375	3,029	12,397
11		Working Cash - Taxes - Other	Total PIS	DCU	292,050	209,600	52,471	4,942	25,037
12		Est. Offsets	Total PIS	DCU	(3,080,319)	(2,210,700)	(553,421)	(52,126)	(264,073)
13		Prepaid Pension	Tot O&M Ex Gas Cost	DCC	7,822,837	5,751,195	1,416,785	128,601	526,256
14									
15		Total Working Capital		DCC	66,131,841	46,647,607	16,340,509	2,598,067	545,657
16									
17		Demand Related		D	53,105,233	37,127,227	13,596,308	2,251,536	130,162
18		Commodity Related		CO	10,647,519	7,548,555	2,376,579	333,665	388,720
19		Customer Related		CU	2,379,089	1,971,825	367,622	12,866	26,776
20				ck	66,131,841				
21									
22		Allocation Factor							
23		1 Sys 31	Tot Dist PIS	DCU	1.000000000	0.712197583	0.184515603	0.017814206	0.085472607
24		2 Sys 4	Excess Gas Use-Sales	D	1.000000000	0.701085520	0.256383040	0.042531439	0.000000000
25		3 Sys 38	Total PIS	DCU	1.000000000	0.717685260	0.179663463	0.016922288	0.085728989
26		4 Sys 44	Tot O&M Ex Gas Cost	DCC	1.000000000	0.735180227	0.181108786	0.016439200	0.067271786
27		5 Sys 74	Gas Sales&Trans+PGA Rev	C/C	1.000000000	0.691262451	0.245178266	0.038932222	0.024627061
28		6 Sys 70	Sales Rev Incl PGA	C/C	1.000000000	0.708716045	0.251368739	0.039915216	0.000000000
29		7 Sys 46	A & G Expenses	DCC	1.000000000	0.726368860	0.182099765	0.016703272	0.074828104
30		8 Sys 6	Ccf-Sales Rates	CO	1.000000000	0.689050672	0.264822855	0.046126473	0.000000000
31		9 G&TPT-13	Dem Rel-Dist PIS	D	0.471368596	0.399989965	0.564027828	0.705707205	0.828474959
32		10 G&TPT-15	Cust Rel-Dist PIS	CU	0.528631404	0.600010035	0.435972172	0.294292795	0.171525041
33		11 SUMOM-4	Dem Rel-Tot O&M & Gas	D	0.169943749	0.136437192	0.202492619	0.275037600	0.422810729
34		12 SUMOM-5	Comm Rel-Tot O&M & Gas	CO	0.498923109	0.492049854	0.522113626	0.587864830	0.489869454
35		13 SUMOM-6	Cust Rel-Tot O&M & Gas	CU	0.331133142	0.371512954	0.275393756	0.137097570	0.087319816
36		14 G&TPT-13	Dem Rel-TotPIS	D	0.471368596	0.399989965	0.564027828	0.705707205	0.828474959
37		15 G&TPT-15	Cust Rel-TotPIS	CU	0.528631404	0.600010035	0.435972172	0.294292795	0.171525041
38									
39									

Schedule CDL-Reb-1 Page 7 of 22

Case No. _____
Exhibit No. _____
Witness: CD Laderoute
Exhibit CDL-7 Revised
Page # 10 of 25

FILE: MGE_COSfix
DATE: 08-May-01
NAME: TAXES1
NR: SCH17A

Missouri Gas Energy
Gas Cost of Service Allocation Study
Test Year: 12 Months Ended December 31, 2000
Normalized - Peak Month

SCHED. # SCH17A
PAGE # 1

TITLE: **INCOME TAXES - PAGE 1**

LINE	A/C #	ITEM	ALLOCATION BASIS	CR	SYSTEM TOTAL	Residential Service	Small Gen Service	Large Gen Service	Large Vol Service
1		TOTAL GAS OPERATING REVENUE Ex PGA	Schedule 2 L. 25		136,740,568	95,104,147	27,028,113	3,001,739	11,606,569
2									
3		Less: Operation & Maintenance Exp Ex Gas	Schedule 14	DCC	62,907,928	46,248,665	11,393,178	1,034,156	4,231,929
4		Depr & Amort Expense	Schedule 15	DCC	26,966,363	20,859,379	4,188,741	344,762	1,573,481
5		Interest on Customer Deposits	Schedule 16		791,258	449,265	224,634	24,974	92,384
6		Taxes Other than Inc	Schedule 16	DCC	9,063,142	6,428,627	1,630,529	158,538	845,448
7									
8		Total Op Exp Before IT	Sum (L. 3-6)	DCC	99,728,691	73,985,936	17,437,082	1,562,431	6,743,242
9									
10		NET INCOME BEFORE TAXES	L. 1 - L. 8		37,011,877	21,118,211	9,591,031	1,439,308	4,863,327
11									
12		ADJUSTMENTS - BOOK TO TAXABLE INC							
13									
14	Plus:	Equity Portion of SLRP Deferrals	Services PIS 380	CU	1,370,858	1,168,043	162,200	10,927	29,687
15	Plus:	COLI Amortization	Total PIS	DCU	303,497	217,815	54,527	5,136	26,018
16	Less:	Interest on Long Term Debt	Total PIS	DCU	21,074,636	15,124,956	3,786,342	356,631	1,806,707
17									
18		Total Tax Adjustments			(19,400,281)	(13,739,097)	(3,569,615)	(340,568)	(1,751,002)
19									
20		Net Taxable Income			17,611,596	7,379,114	6,021,416	1,098,740	3,112,325
21									
22		Tax @ Effective Rate of 0.386071755			6,799,340	2,848,868	2,324,699	424,193	1,201,581
23									
24	Less:	Income Tax Reduction per Case GM-94-40	Total Rate Base		296,363	212,421	56,124	5,795	22,023
25									
26		NET INCOME TAX			6,502,977	2,636,446	2,268,575	418,398	1,179,558
27									
28									
29									
30		Allocation Factor							
31		1 Sys 19	Services PIS 380	CU	1.000000000	0.852052806	0.118320219	0.007971172	0.021655802
32		2 Sys 38	Total PIS	DCU	1.000000000	0.717685260	0.179663463	0.016922288	0.085728989
33		3 Sys 40	Total Rate Base	DCC	1.000000000	0.716760603	0.189376202	0.019552125	0.074311069

Schedule CDL-Reb-1 Page 8 of 22

Case No.
Exhibit No.
Witness: CD Laderoute
Exhibit CDL-7 Revised
Page # 19 of 25

Case No.
Exhibit No.
Witness: CD Laderoute
Exhibit CDL-10 Revised
Page # 1 of 1

File: MiscCalcRev.xls
Tab: RevSpread
Date: May 8 , 2001
Source: COSS
Prep: CDL

Missouri Gas Energy
2000 Cost of Service Study
Spread of Revenue Requirements Based on COSS
Case No GR-2001-292

MGUA COSS - Full - Original COSS

Line	Item	Total	Residential Service	Small Gen Service	Large Gen Service	Large Vol Service
1	COSS	171,764,270	125,990,125	31,314,300	3,006,688	11,453,157
2	COSS Percents	1.000000000	0.733506014	0.182309744	0.017504737	0.066679505
3						
4	Increased Levels	171,764,270	125,990,125	31,314,300	3,006,688	11,453,157
5	of Total Revenue	165,000,000	121,028,492	30,081,108	2,888,282	11,002,118
6		160,000,000	117,360,962	29,169,559	2,800,758	10,668,721
7		154,882,267	113,607,074	28,236,546	2,711,173	10,327,473
8		150,000,000	110,025,902	27,346,462	2,625,711	10,001,926
9		140,000,000	102,690,842	25,523,364	2,450,663	9,335,131
10		135,000,000	99,023,312	24,611,815	2,363,139	9,001,733
11		131,882,267	96,736,436	24,043,422	2,308,564	8,793,844
12		130,000,000	95,355,782	23,700,267	2,275,616	8,668,336
13						
14	Current Revenue	131,882,267	91,844,916	26,298,088	2,923,751	10,815,512
15						
16	Revenue Increases	39,882,003	34,145,209	5,016,212	82,937	637,645
17	(Decreases)	33,117,733	29,183,576	3,783,020	(35,469)	186,606
18		28,117,733	25,516,046	2,871,471	(122,993)	(146,791)
19		23,000,000	21,762,158	1,938,458	(212,578)	(488,039)
20		18,117,733	18,180,986	1,048,374	(298,040)	(813,586)
21		8,117,733	10,845,926	(774,724)	(473,088)	(1,480,381)
22		3,117,733	7,178,396	(1,686,273)	(560,612)	(1,813,779)
23		0	4,891,520	(2,254,666)	(615,187)	(2,021,668)
24		(1,882,267)	3,510,866	(2,597,821)	(648,135)	(2,147,176)

File: CompareRev.xls
Date: May 8, 2001
Source: Sch. CDL-7, 15 & 16
Prep: CDL

Missouri Gas Energy
Case No. GR-2001-292
Comparison of Cost Allocation Results - CDL Study as filed and Modifications

Line	Item	Total	Residential	SGS	LGS	LVS	Revised COSS Study
	(a)	(b)	(c)	(d)	(e)	(f)	(g)
	Rate & Index of Return						
1	Rate of Return - Realized	5.88%	4.97%	7.45%	10.06%	9.55%	Original
2	Index of Return - Realized	100	85	127	171	162	Original
3							
4	Rate of Return - Realized	5.88%	4.85%	7.33%	10.90%	11.43%	Mod I
5	Index of Return - Realized	100	82	125	185	194	Mod I
6							
7	Rate of Return - Realized	5.88%	4.86%	7.35%	10.93%	11.24%	Mod II
8	Index of Return - Realized	100	83	125	186	191	Mod II
9							
10	**Revenue (ROR) Neutral - Change & Required Revenue**						
11	Revenue Change	0	5,559,361	(2,536,490)	(696,841)	(2,326,030)	Original
12	Req Sales of Gas Rev & Trans Ex PGA	131,882,267	97,404,277	23,761,598	2,226,910	8,489,482	Original
13							
14	Revenue Change	0	6,369,575	(2,356,494)	(792,478)	(3,220,603)	Mod I
15	Req Sales of Gas Rev & Trans Ex PGA	131,882,802	98,214,491	23,941,594	2,131,273	7,595,444	Mod I
16							
17	Revenue Change	0	6,293,839	(2,383,676)	(796,853)	(3,113,310)	Mod II
18	Req Sales of Gas Rev & Trans Ex PGA	131,882,802	98,138,755	23,914,412	2,126,898	7,702,737	Mod II
19							
20	**Including Requested ROR**						
21	Revenue Change	39,882,003	34,145,209	5,016,212	82,937	637,645	Original
22	Req Sales of Gas Rev & Trans Ex PGA	171,764,270	125,990,125	31,314,300	3,006,688	11,453,157	Original
23							
24	Revenue Change	39,881,464	35,193,555	5,243,474	(53,427)	(502,137)	Mod I
25	Req Sales of Gas Rev & Trans Ex PGA	171,764,266	127,038,471	31,541,562	2,870,324	10,313,910	Mod I
26							
27	Revenue Change	39,881,464	35,116,202	5,215,697	(57,901)	(392,534)	Mod II
28	Req Sales of Gas Rev & Trans Ex PGA	171,764,266	126,961,118	31,513,785	2,865,850	10,423,513	Mod II

Case No. _____
Exhibit No. _____
Witness: CD Ladenroute
Exhibit CDL-14 Revised
Page # 1 of 2

File: CompareRev.xls
Date: May 8, 2001
Source: Sch. CDL-7, 15 & 16
Prep: CDL

Missouri Gas Energy
Case No. GR-2001-292
Comparison of Required and Current Revenues

Line	Item		Total	Residential	SGS	LGS	LVS	Revised COSS
	(a)		(b)	(c)	(d)	(e)	(f)	(g)
1	Req Sales of Gas Rev & Trans Ex PGA		171,764,266	127,038,471	31,541,562	2,870,324	10,313,910	Mod II
2	Current Sales of Gas Rev & Trans Ex PGA		131,882,802	91,844,916	26,298,088	2,923,751	10,816,047	Mod II
3		Difference	39,881,464	35,193,555	5,243,474	(53,427)	(502,137)	
4								
5								
6								

Schedule CDL-Reb-1 Page 11 of 22

Case No.
Exhibit No.
Witness: CD Laderoute
Exhibit CDL-14 Revised
Page # 2 of 3

File: CompareRev.xls
Date: May 8, 2001
Source: Sch. CDL-7, 15 & 16
Prep: CDL

Missouri Gas Energy
Case No. GR-2001-292
Determination of Additional Costs Due to Sales Customer
on Rate LVS

Line	Item		Total	Residential	SGS	LGS	LVS	Revised COSS Study
	(a)		(b)	(c)	(d)	(e)	(f)	
1	Req Sales of Gas Rev & Trans Ex PGA		171,764,266	126,961,118	31,513,785	2,865,850	10,423,513	Mod I
2	Req Sales of Gas Rev & Trans Ex PGA		171,764,266	127,038,471	31,541,562	2,870,324	10,313,910	Mod II
3		Difference	0	(77,353)	(27,776)	(4,474)	109,603	
4								
5						Mcf	138,548	
6								
7						Avg cost /mcf	0.79	
8								
9						Curr Rev	31,874	
10						Ave Curr Rev	0.230058117	

Schedule CDL-Reb-1 Page 12 of 22

Case No.
Exhibit No.
Witness: CD Laderoute
Exhibit CDL-14 Revised
Page # 3 of 3

FILE: MGE_COSModIfix
DATE: 08-May-01
NAME: SUMPAGE1
NR: SCH1A

Missouri Gas Energy
Gas Cost of Service Allocation Study
Test Year: 12 Months Ended December 31, 2000
Normalized - Peak Month

Laderoute, Ltd.
COSt Analyst I v. 6 (tm)
(c) 1986-2001

SCHED. # SCH1A
PAGE # 1

TITLE: **SUMMARY - PAGE 1 - REALIZED or TOP DOWN**

LINE	A/C #	ITEM	ALLOCATION BASIS	CR	SYSTEM TOTAL	Residential Service	Small Gen Service	Large Gen Service	Large Vol Service
1									
2	480-489	Sales of Gas & Transport Revenue	Schedule 2		131,882,802	91,844,916	26,298,088	2,923,751	10,816,047
3									
4	488-495	Tot Other Operating Revenue	Schedule 2		4,858,301	3,259,027	729,948	77,976	791,350
5									
6		Total Gas Operating Revenue Excl GCR	Schedule 2		136,741,103	95,103,943	27,028,036	3,001,727	11,607,397
7									
8		Expenses							
9		Gas O&M Exp Excl Gas Costs	Schedule 14		62,907,928	46,503,555	11,473,138	1,047,013	3,884,223
10		Depr & Amort Expense	Schedule 15		26,966,363	21,133,692	4,232,146	282,450	1,318,075
11		Interest on Customer Deposits	Schedule 16		791,258	449,265	224,631	24,974	92,388
12		Taxes Other than Inc Taxes	Schedule 16		9,063,142	6,483,898	1,641,506	149,511	788,226
13									
14		Total Op Exp Before Inc Taxes	Sum (L.9-13)		99,728,691	74,570,411	17,571,421	1,503,948	6,082,912
15									
16		Net Income Before Inc Taxes	L. 6 - L. 14		37,012,412	20,533,532	9,456,616	1,497,779	5,524,486
17									
18		Total Income Taxes	Schedule 17-B		6,503,183	2,362,511	2,207,483	449,764	1,483,425
19									
20		Total Op Expenses Plus Inc Taxes Excl Gas	L. 14 + L. 17 + L. 18		106,231,874	76,932,922	19,778,904	1,953,712	7,566,336
21									
22		Net Utility Operating Income	L. 6 - L. 20		30,509,229	18,171,021	7,249,132	1,048,014	4,041,061
23									
24		Rate Base	Schedule 8		518,824,134	374,975,610	98,869,160	9,614,426	35,364,938
25									
26		Rate of Return Before Income Taxes	L. 16/L. 24		7.13%	5.48%	9.56%	15.58%	15.62%
27		Index of Return Before Income Taxes			100	77	134	218	219
28									
29		**Rate of Return - Realized**	L. 22/L. 24		**5.88%**	**4.85%**	**7.33%**	**10.90%**	**11.43%**
30		**Index of Return - Realized**			**100**	**82**	**125**	**185**	**194**

Schedule CDL-Reb-1 Page 13 of 22

Case No.
Exhibit No.
Witness: CD Laderoute
Exhibit CDL-15 Revised
Page # 1 of 26

FILE: MGE_COSModIfix
DATE: 08-May-01
NAME: SUMPAGE2-A
NR: SCH1B-A

Missouri Gas Energy
Gas Cost of Service Allocation Study
Test Year: 12 Months Ended December 31, 2000
Normalized - Peak Month

Revenue (ROR) Neutral

SCHED. # SCH1B-A
PAGE # 1

TITLE: **SUMMARY - PAGE 2-A - REQUIRED or BOTTOM UP**

LINE	A/C #	ITEM		ALLOCATION BASIS		CR	SYSTEM TOTAL	Residential Service	Small Gen Service	Large Gen Service	Large Vol Service
1		Rate Base		Schedule 8			518,824,134	374,975,610	98,869,160	9,614,426	35,364,938
2		Rate of Return - Ideal Target			Actual ROR %	5.880	5.880%	5.880%	5.880%	5.880%	5.880%
3		Index of Return - Ideal Target			Request ROR %	######	100	100	100	100	100
4											
5		Return Required at Target ROR		L. 1 * L. 2			30,509,229	22,050,278	5,813,958	565,372	2,079,620
6		Realized Net Utility Op Income		Schedule 17			30,509,229	18,171,021	7,249,132	1,048,014	4,041,061
7		Change in Net Income Required		L. 5 - L. 6			0	3,879,257	(1,435,174)	(482,642)	(1,961,441)
8											
9		Realized Tot Inc Taxes		Schedule 17			6,503,183	2,362,511	2,207,483	449,764	1,483,425
10		Change in FIT @	0.628855	* L. 7			0	2,439,490	(902,516)	(303,512)	(1,233,462)
11		Required Total FIT		L. 9 + L. 10			6,503,183	4,802,001	1,304,967	146,252	249,963
12											
13		Change in Net Income		L. 7			0	3,879,257	(1,435,174)	(482,642)	(1,961,441)
14		Change in FIT		L. 10			0	2,439,490	(902,516)	(303,512)	(1,233,462)
15							---	---	---	---	---
16		Total Revenue Change		Sum (L.13-15)			0	6,318,748	(2,337,690)	(786,154)	(3,194,903)
17											
18		Revenue Change Grossed up for Uncollectibles		Factor	1.01030600		0	6,383,869	(2,361,782)	(794,256)	(3,227,830)
19		Revenue Change Grossed down for Late Pay Fee		Factor	0.997761		0	6,369,575	(2,356,494)	(792,478)	(3,220,603)
20											
21		Gas Operating Revenue Excl PGA		Schedule 2			136,741,103	95,103,943	27,028,036	3,001,727	11,607,397
22		Required Gas Operating Rev Excl PGA		L. 19 + L. 21			136,741,103	101,473,518	24,671,542	2,209,249	8,386,795
23		Increased Operating Revenue - %		L. 19/L. 21			0.00%	6.70%	-8.72%	-26.40%	-27.75%
24											
25		Sales of Gas Rev & Trans Excl PGA		Schedule 2			131,882,802	91,844,916	26,298,088	2,923,751	10,816,047
26		**Percent of Total Current Revenue**					**100.00**	**69.64**	**19.94**	**2.22**	**8.20**
27		Req Sales of Gas Rev & Trans Ex PGA		L. 19 + L. 25	Excludes Gas Lights		131,882,802	98,214,491	23,941,594	2,131,273	7,595,444
28		**Percent of Total Cost of Service**					**100.00**	**74.47**	**18.15**	**1.62**	**5.76**
29		Increased Revenue - %		L. 19/L. 25			0.00%	6.94%	-8.96%	-27.10%	-29.78%
30											
31		Ave Monthly Customers		Schedule 18-A			492,190	431,374	59,903	472	441
32		Realized Sales of Gas & Tran Rev Ex PGA		L. 25/L. 31	per Cust per year		268	213	439	6,194	24,526
33		Required Sales of Gas & Trans Rev Ex PGA		L. 27/L. 31	per Cust per year		268	228	400	4,515	17,223
34		Increased Sales of Gas & Tran Rev Ex PGA		L. 33 - L. 32	per Cust per year		0	15	(39)	(1,679)	(7,303)
35											
36		PGA Revenue		Schedule 2			307,289,585	211,738,095	81,377,305	14,174,185	0
37		Realized Sales of Gas & Tran Rev Incl PGA		L. 25 + L. 36			439,172,387	303,583,011	107,675,393	17,097,936	10,816,047
38		Required Sales of Gas & Trans Rev Incl PGA		L. 27 + L. 36			439,172,387	309,952,586	105,318,899	16,305,458	7,595,444
39		**Percent Increase**					**0.00**	**2.10**	**(2.19)**	**(4.63)**	**(29.78)**
40		Realized Sales of Gas & Tran Rev Incl PGA		L. 37/L. 31	per Cust per year		892	704	1,797	36,224	24,526
41		Required Sales of Gas & Trans Rev Incl PGA		L. 38/L. 31	per Cust per year		892	719	1,758	34,545	17,223

Case No. _____
Exhibit No. _____
Witness: CD Laderoute
Exhibit CDL: 15 Revised
Page # 2 of 26

FILE: MGE_COSModIfix
DATE: 08-May-01
NAME: SUMPAGE2-A
NR: SCH1B-A

Missouri Gas Energy
Gas Cost of Service Allocation Study
Test Year: 12 Months Ended December 31, 2000
Normalized - Peak Month

Includes Requested ROR

SCHED. # SCH1B-A
PAGE # 1

TITLE: **SUMMARY - PAGE 2-A - REQUIRED or BOTTOM UP**

LINE	A/C #	ITEM		ALLOCATION BASIS		CR	SYSTEM TOTAL	Residential Service	Small Gen Service	Large Gen Service	Large Vol Service
1		Rate Base		Schedule 8			518,824,134	374,975,610	98,869,160	9,614,426	35,364,938
2		Rate of Return - Ideal Target			Actual ROR %	5.880	10.562%	10.562%	10.562%	10.562%	10.562%
3		Index of Return - Ideal Target			Request ROR %	######	100	100	100	100	100
4											
5		Return Required at Target ROR		L. 1 * L. 2			54,798,205	39,604,924	10,442,561	1,015,476	3,735,245
6		Realized Net Utility Op Income		Schedule 17			30,509,229	18,171,021	7,249,132	1,048,014	4,041,061
7		Change in Net Income Required		L. 5 - L. 6			24,288,976	21,433,903	3,193,429	(32,539)	(305,816)
8											
9		Realized Tot Inc Taxes		Schedule 17			6,503,183	2,362,511	2,207,483	449,764	1,483,425
10		Change in FIT @	0.628855	* L. 7			15,274,244	13,478,817	2,008,204	(20,462)	(192,314)
11		Required Total FIT		L. 9 + L. 10			21,777,428	15,841,328	4,215,687	429,302	1,291,111
12											
13		Change in Net Income		L. 7			24,288,976	21,433,903	3,193,429	(32,539)	(305,816)
14		Change in FIT		L. 10			15,274,244	13,478,817	2,008,204	(20,462)	(192,314)
15							---	---	---	---	---
16		Total Revenue Change		Sum (L.13-15)			39,563,221	34,912,720	5,201,632	(53,001)	(498,130)
17											
18		Revenue Change Grossed up for Uncollectibles			Factor	1.01030600	39,970,959	35,272,530	5,255,240	(53,547)	(503,264)
19		Revenue Change Grossed down for Late Pay Fee			Factor	0.997761	39,881,464	35,193,555	5,243,474	(53,427)	(502,137)
20											
21		Gas Operating Revenue Excl PGA		Schedule 2			136,741,103	95,103,943	27,028,036	3,001,727	11,607,397
22		Required Gas Operating Rev Excl PGA		L. 19 + L. 21			176,622,567	130,297,498	32,271,510	2,948,300	11,105,260
23		Increased Operating Revenue - %		L. 19/L. 21			29.17%	37.01%	19.40%	-1.78%	-4.33%
24											
25		Sales of Gas Rev & Trans Excl PGA		Schedule 2			131,882,802	91,844,916	26,298,088	2,923,751	10,816,047
26		**Percent of Total Current Revenue**					**100.00**	**69.64**	**19.94**	**2.22**	**8.20**
27		Req Sales of Gas Rev & Trans Ex PGA		L. 19 + L. 25	Excludes Gas Lights		171,764,266	127,038,471	31,541,562	2,870,324	10,313,910
28		**Percent of Total Cost of Service**					**100.00**	**73.96**	**18.36**	**1.67**	**6.00**
29		Increased Revenue - %		L. 19/L. 25			30.24%	38.32%	19.94%	-1.83%	-4.64%
30											
31		Ave Monthly Customers		Schedule 18-A			492,190	431,374	59,903	472	441
32		Realized Sales of Gas & Tran Rev Ex PGA		L. 25/L. 31	per Cust per year		268	213	439	6,194	24,526
33		Required Sales of Gas & Trans Rev Ex PGA		L. 27/L. 31	per Cust per year		349	294	527	6,081	23,388
34		Increased Sales of Gas & Tran Rev Ex PGA		L. 33 - L. 32	per Cust per year		81	82	88	(113)	(1,139)
35											
36		PGA Revenue		Schedule 2			307,289,585	211,738,095	81,377,305	14,174,185	0
37		Realized Sales of Gas & Tran Rev Incl PGA		L. 25 + L. 36			439,172,387	303,583,011	107,675,393	17,097,936	10,816,047
38		Required Sales of Gas & Trans Rev Incl PGA		L. 27 + L. 36			479,053,851	338,776,566	112,918,867	17,044,509	10,313,910
39		**Percent Increase**					**9.08**	**11.59**	**4.87**	**(0.31)**	**(4.64)**
40		Realized Sales of Gas & Tran Rev Incl PGA		L. 37/L. 31	per Cust per year		892	704	1,797	36,224	24,526
41		Required Sales of Gas & Trans Rev Incl PGA		L. 38/L. 31	per Cust per year		973	785	1,885	36,111	23,388

Schedule CDL-Reb-1 Page 15 of 22

Case No.
Exhibit No.
Witness: CD Ladegaard
Exhibit CDL: 15 Revised
Page # 3 of 26

FILE: MGE_COSModlfix
DATE: 08-May-01
NAME: WORKCAP1
NR: SCH7A

Missouri Gas Energy
Gas Cost of Service Allocation Study
Test Year: 12 Months Ended December 31, 2000
Normalized - Peak Month

SCHED. # SCH7A
PAGE # 1

TITLE: **WORKING CAPITAL**

LINE	A/C #	ITEM	ALLOCATION BASIS	CR	SYSTEM TOTAL	Residential Service	Small Gen Service	Large Gen Service	Large Vol Service
1									
2									
3		Materials & Supplies	Tot Dist PIS	DCU	2,036,063	1,465,990	378,574	33,167	158,332
4		Prepayments	Tot Dist PIS	DCU	415,611	299,245	77,276	6,770	32,320
5		Gas Inventory	Excess Gas Use-Sales	D	52,457,645	36,777,295	13,449,251	2,231,099	0
6		Working Cash - O&M-Purchased Gas	Ccf-Sales Rates	CO	5,584,312	3,847,874	1,478,853	257,585	0
7		Working Cash - O&M-Other	Tot O&M Ex Gas Cost	DCC	3,788,576	2,800,637	690,960	63,055	233,924
8		Working Cash - Taxes - Property	Total PIS	DCU	(2,547,278)	(1,846,003)	(460,894)	(39,620)	(200,761)
9		Working Cash - Taxes - Gross Receipts	Ccf-Sales Rates	CO	(821,937)	(566,356)	(217,668)	(37,913)	0
10		Working Cash - Taxes - FICA,FUTA&SUTA	Tot O&M Ex Gas Cost	DCC	184,281	136,226	33,609	3,067	11,378
11		Working Cash - Taxes - Other	Total PIS	DCU	292,050	211,648	52,842	4,543	23,018
12		Est. Offsets	Total PIS	DCU	(3,080,319)	(2,232,296)	(557,341)	(47,911)	(242,772)
13		Prepaid Pension	Tot O&M Ex Gas Cost	DCC	7,822,837	5,782,892	1,426,728	130,200	483,018
14									
15		Total Working Capital		DCC	66,131,841	46,677,152	16,352,191	2,604,042	498,456
16									
17		Demand Related		D	53,104,154	37,128,253	13,596,420	2,251,044	128,438
18		Commodity Related		CO	10,647,519	7,584,560	2,387,304	335,378	340,278
19		Customer Related		CU	2,380,167	1,964,339	368,467	17,620	29,741
20				ck	66,131,841				
21									
22		Allocation Factor							
23		1 Sys 31	Tot Dist PIS	DCU	1.000000000	0.720012049	0.185934446	0.016289600	0.077763905
24		2 Sys 4	Excess Gas Use-Sales	D	1.000000000	0.701085520	0.256383040	0.042531439	0.000000000
25		3 Sys 38	Total PIS	DCU	1.000000000	0.724696226	0.180935995	0.015553866	0.078813913
26		4 Sys 44	Tot O&M Ex Gas Cost	DCC	1.000000000	0.739232021	0.182379835	0.016643575	0.061744569
27		5 Sys 74	Gas Sales&Trans+PGA Rev	C/C	1.000000000	0.691261609	0.245177967	0.038932174	0.024628249
28		6 Sys 70	Sales Rev Incl PGA	C/C	1.000000000	0.708716045	0.251368739	0.039915216	0.000000000
29		7 Sys 46	A & G Expenses	DCC	1.000000000	0.730950107	0.186401260	0.017715155	0.064933478
30		8 Sys 6	Ccf-Sales Rates	CO	1.000000000	0.689050672	0.264822855	0.046126473	0.000000000
31		9 G&TPT-13	Dem Rel-Dist PIS	D	0.471368596	0.396117518	0.560056771	0.767787174	0.901201764
32		10 G&TPT-15	Cust Rel-Dist PIS	CU	0.528631404	0.603882482	0.439943229	0.232212826	0.098798236
33		11 SUMOM-4	Dem Rel-Tot O&M & Gas	D	0.169934674	0.135710868	0.201060884	0.269958887	0.460774501
34		12 SUMOM-5	Comm Rel-Tot O&M & Gas	CO	0.498923109	0.493481995	0.523460186	0.589368085	0.467209389
35		13 SUMOM-6	Cust Rel-Tot O&M & Gas	CU	0.331142217	0.370807137	0.275478930	0.140673028	0.072016110
36		14 G&TPT-13	Dem Rel-TotPIS	D	0.471368596	0.396117518	0.560056771	0.767787174	0.901201764
37		15 G&TPT-15	Cust Rel-TotPIS	CU	0.528631404	0.603882482	0.439943229	0.232212826	0.098798236
38									
39									

Case No.
Exhibit No.
Witness: CD Lederoute
Exhibit CDL-15 Revised
Page # 10 of 25

FILE: MGE_COSModIfix
DATE: 08-May-01
NAME: TAXES1
NR: SCH17A

Missouri Gas Energy
Gas Cost of Service Allocation Study
Test Year: 12 Months Ended December 31, 2000
Normalized - Peak Month

SCHED. # SCH17A
PAGE # 1

TITLE: **INCOME TAXES - PAGE 1**

LINE	A/C #	ITEM	ALLOCATION BASIS	CR	SYSTEM TOTAL	Residential Service	Small Gen Service	Large Gen Service	Large Vol Service
1		TOTAL GAS OPERATING REVENUE Ex PGA	Schedule 2 L. 25		136,741,103	95,103,943	27,028,036	3,001,727	11,607,397
2									
3		Less: Operation & Maintenance Exp Ex Gas	Schedule 14	DCC	62,907,928	46,503,555	11,473,138	1,047,013	3,884,223
4		Depr & Amort Expense	Schedule 15	DCC	26,966,363	21,133,692	4,232,146	282,450	1,318,075
5		Interest on Customer Deposits	Schedule 16		791,258	449,265	224,631	24,974	92,388
6		Taxes Other than Inc	Schedule 16	DCC	9,063,142	6,483,898	1,641,506	149,511	788,226
7									
8		Total Op Exp Before IT	Sum (L. 3-6)	DCC	99,728,691	74,570,411	17,571,421	1,503,948	6,082,912
9									
10		NET INCOME BEFORE TAXES	L. 1 - L. 8		37,012,412	20,533,532	9,456,616	1,497,779	5,524,486
11									
12		ADJUSTMENTS - BOOK TO TAXABLE INC							
13									
14	Plus:	Equity Portion of SLRP Deferrals	Services PIS 380	CU	1,370,858	1,193,394	165,721	4,494	7,249
15	Plus:	COLI Amortization	Total PIS	DCU	303,497	219,943	54,914	4,721	23,920
16	Less:	Interest on Long Term Debt	Total PIS	DCU	21,074,636	15,272,709	3,813,160	327,792	1,660,975
17									
18		Total Tax Adjustments			(19,400,281)	(13,859,372)	(3,592,525)	(318,577)	(1,629,806)
19									
20		Net Taxable Income			17,612,131	6,674,160	5,864,090	1,179,201	3,894,680
21									
22		Tax @ Effective Rate of 0.386071755			6,799,546	2,576,705	2,263,960	455,256	1,503,626
23									
24	Less:	Income Tax Reduction per Case GM-94-40	Total Rate Base		296,363	214,194	56,476	5,492	20,201
25									
26		NET INCOME TAX			6,503,183	2,362,511	2,207,483	449,764	1,483,425
27									
28									
29									
30		Allocation Factor							
31		1 Sys 19	Services PIS 380	CU	1.000000000	0.870545154	0.120888756	0.003278361	0.005287729
32		2 Sys 38	Total PIS	DCU	1.000000000	0.724696226	0.180935995	0.015553866	0.078813913
33		3 Sys 40	Total Rate Base	DCC	1.000000000	0.722741263	0.190563919	0.018531185	0.068163633

Case No.
Exhibit No.
Witness: CD Laderoute
Exhibit CDL-15 Revised
Page # 19 of 25

FILE: MGE_COSModIIfix
DATE: 08-May-01
NAME: SUMPAGE1
NR: SCH1A

Missouri Gas Energy
Gas Cost of Service Allocation Study
Test Year: 12 Months Ended December 31, 2000
Normalized - Peak Month

Laderoute, Ltd.
COSt Analyst I v. 6 (tm)
(c) 1986-2001

SCHED. # SCH1A
PAGE # 1

TITLE: **SUMMARY - PAGE 1 - REALIZED or TOP DOWN**

LINE	A/C #	ITEM	ALLOCATION BASIS	CR	SYSTEM TOTAL	Residential Service	Small Gen Service	Large Gen Service	Large Vol Service
1									
2	480-489	Sales of Gas & Transport Revenue	Schedule 2		131,882,802	91,844,916	26,298,088	2,923,751	10,816,047
3									
4	488-495	Tot Other Operating Revenue	Schedule 2		4,858,301	3,259,027	729,948	77,976	791,350
5									
6		Total Gas Operating Revenue Excl GCR	Schedule 2		136,741,103	95,103,943	27,028,036	3,001,727	11,607,397
7									
8		Expenses							
9		Gas O&M Exp Excl Gas Costs	Schedule 14		62,907,928	46,432,433	11,447,628	1,042,910	3,984,957
10		Depr & Amort Expense	Schedule 15		26,966,363	21,133,688	4,232,145	282,450	1,318,080
11		Interest on Customer Deposits	Schedule 16		791,258	449,265	224,631	24,974	92,388
12		Taxes Other than Inc Taxes	Schedule 16		9,063,142	6,481,887	1,640,785	149,395	791,075
13									
14		Total Op Exp Before Inc Taxes	Sum (L.9-13)		99,728,691	74,497,273	17,545,189	1,499,729	6,186,500
15									
16		Net Income Before Inc Taxes	L. 6 - L. 14		37,012,412	20,606,669	9,482,848	1,501,998	5,420,898
17									
18		Total Income Taxes	Schedule 17-B		6,503,183	2,390,760	2,217,615	451,394	1,443,414
19									
20		Total Op Expenses Plus Inc Taxes Excl Gas	L. 14 + L. 17 + L. 18		106,231,874	76,888,033	19,762,804	1,951,123	7,629,914
21									
22		Net Utility Operating Income	L. 6 - L. 20		30,509,229	18,215,910	7,265,232	1,050,604	3,977,483
23									
24		Rate Base	Schedule 8		518,824,134	374,954,574	98,861,429	9,613,144	35,394,987
25									
26		Rate of Return Before Income Taxes	L. 16/L. 24		7.13%	5.50%	9.59%	15.62%	15.32%
27		Index of Return Before Income Taxes			100	77	134	219	215
28									
29		**Rate of Return - Realized**	L. 22/L. 24		**5.88%**	**4.86%**	**7.35%**	**10.93%**	**11.24%**
30		**Index of Return - Realized**			**100**	**83**	**125**	**186**	**191**

Schedule CDL-Reb-1 Page 18 of 22

Case No.
Exhibit No.
Witness: CD Laderoute
Exhibit CDL-16 Revised
Page # 1 of 26

FILE: MGE_COSModIIfix
DATE: 08-May-01
NAME: SUMPAGE2-A
NR: SCH1B-A

Missouri Gas Energy
Gas Cost of Service Allocation Study
Test Year: 12 Months Ended December 31, 2000
Normalized - Peak Month

Revenue (ROR) Neutral

SCHED. # SCH1B-A
PAGE # 1

TITLE: **SUMMARY - PAGE 2-A - REQUIRED or BOTTOM UP**

LINE	A/C #	ITEM		ALLOCATION BASIS		CR	SYSTEM TOTAL	Residential Service	Small Gen Service	Large Gen Service	Large Vol Service
1		Rate Base		Schedule 8			518,824,134	374,954,574	98,861,429	9,613,144	35,394,987
2		Rate of Return - Ideal Target			Actual ROR %	5.880	5.880%	5.880%	5.880%	5.880%	5.880%
3		Index of Return - Ideal Target			Request ROR %	######	100	100	100	100	100
4											
5		Return Required at Target ROR		L. 1 * L. 2			30,509,229	22,049,041	5,813,504	565,297	2,081,387
6		Realized Net Utility Op Income		Schedule 17			30,509,229	18,215,910	7,265,232	1,050,604	3,977,483
7		Change in Net Income Required		L. 5 - L. 6			0	3,833,132	(1,451,729)	(485,307)	(1,896,096)
8											
9		Realized Tot Inc Taxes		Schedule 17			6,503,183	2,390,760	2,217,615	451,394	1,443,414
10		Change in FIT @	0.628855	* L. 7			0	2,410,484	(912,927)	(305,188)	(1,192,370)
11		Required Total FIT		L. 9 + L. 10			6,503,183	4,801,244	1,304,689	146,206	251,045
12											
13		Change in Net Income		L. 7			0	3,833,132	(1,451,729)	(485,307)	(1,896,096)
14		Change in FIT		L. 10			0	2,410,484	(912,927)	(305,188)	(1,192,370)
15											
16		Total Revenue Change		Sum (L.13-15)			0	6,243,616	(2,364,655)	(790,495)	(3,088,466)
17											
18		Revenue Change Grossed up for Uncollectibles		Factor	1.01030600		0	6,307,963	(2,389,025)	(798,641)	(3,120,296)
19		Revenue Change Grossed down for Late Pay Fee		Factor	0.997761		0	6,293,839	(2,383,676)	(796,853)	(3,113,310)
20											
21		Gas Operating Revenue Excl PGA		Schedule 2			136,741,103	95,103,943	27,028,036	3,001,727	11,607,397
22		Required Gas Operating Rev Excl PGA		L. 19 + L. 21			136,741,103	101,397,782	24,644,360	2,204,874	8,494,088
23		Increased Operating Revenue - %		L. 19/L. 21			0.00%	6.62%	-8.82%	-26.55%	-26.82%
24											
25		Sales of Gas Rev & Trans Excl PGA		Schedule 2			131,882,802	91,844,916	26,298,088	2,923,751	10,816,047
26		**Percent of Total Current Revenue**					**100.00**	**69.64**	**19.94**	**2.22**	**8.20**
27		Req Sales of Gas Rev & Trans Ex PGA		L. 19 + L. 25	Excludes Gas Lights		131,882,802	98,138,755	23,914,412	2,126,898	7,702,737
28		**Percent of Total Cost of Service**					**100.00**	**74.41**	**18.13**	**1.61**	**5.84**
29		Increased Revenue - %		L. 19/L. 25			0.00%	6.85%	-9.06%	-27.25%	-28.78%
30											
31		Ave Monthly Customers		Schedule 18-A			492,190	431,374	59,903	472	441
32		Realized Sales of Gas & Tran Rev Ex PGA		L. 25/L. 31	per Cust per year		268	213	439	6,194	24,526
33		Required Sales of Gas & Trans Rev Ex PGA		L. 27/L. 31	per Cust per year		268	228	399	4,506	17,467
34		Increased Sales of Gas & Tran Rev Ex PGA		L. 33 - L. 32	per Cust per year		0	15	(40)	(1,688)	(7,060)
35											
36		PGA Revenue		Schedule 2			307,289,585	211,244,254	81,187,507	14,141,126	716,697
37		Realized Sales of Gas & Tran Rev Incl PGA		L. 25 + L. 36			439,172,387	303,089,170	107,485,595	17,064,877	11,532,744
38		Required Sales of Gas & Trans Rev Incl PGA		L. 27 + L. 36			439,172,387	309,383,009	105,101,919	16,268,024	8,419,435
39		**Percent Increase**					**0.00**	**2.08**	**(2.22)**	**(4.67)**	**(27.00)**
40		Realized Sales of Gas & Tran Rev Incl PGA		L. 37/L. 31	per Cust per year		892	703	1,794	36,154	26,151
41		Required Sales of Gas & Trans Rev Incl PGA		L. 38/L. 31	per Cust per year		892	717	1,755	34,466	19,092

Case No. _____
Exhibit No. _____
Witness: CD Laderoute
Exhibit CDL-16 Revised
Page # 2 of 26

FILE: MGE_COSModIIfix
DATE: 08-May-01
NAME: SUMPAGE2-A
NR: SCH1B-A

Missouri Gas Energy
Gas Cost of Service Allocation Study
Test Year: 12 Months Ended December 31, 2000
Normalized - Peak Month

Includes Requested ROR

SCHED. # SCH1B-A
PAGE # 1

TITLE: **SUMMARY - PAGE 2-A - REQUIRED or BOTTOM UP**

LINE	A/C #	ITEM		ALLOCATION BASIS		CR	SYSTEM TOTAL	Residential Service	Small Gen Service	Large Gen Service	Large Vol Service
1		Rate Base		Schedule 8			518,824,134	374,954,574	98,861,429	9,613,144	35,394,987
2		Rate of Return - Ideal Target			Actual ROR %	5.880	10.562%	10.562%	10.562%	10.562%	10.562%
3		Index of Return - Ideal Target			Request ROR %	#######	100	100	100	100	100
4											
5		Return Required at Target ROR		L. 1 * L. 2			54,798,205	39,602,702	10,441,744	1,015,340	3,738,419
6		Realized Net Utility Op Income		Schedule 17			30,509,229	18,215,910	7,265,232	1,050,604	3,977,483
7		Change in Net Income Required		L. 5 - L. 6			24,288,976	21,386,792	3,176,512	(35,263)	(239,065)
8											
9		Realized Tot Inc Taxes		Schedule 17			6,503,183	2,390,760	2,217,615	451,394	1,443,414
10		Change in FIT @	0.628855	* L. 7			15,274,244	13,449,191	1,997,565	(22,176)	(150,337)
11		Required Total FIT		L. 9 + L. 10			21,777,428	15,839,951	4,215,181	429,218	1,293,077
12											
13		Change in Net Income		L. 7			24,288,976	21,386,792	3,176,512	(35,263)	(239,065)
14		Change in FIT		L. 10			15,274,244	13,449,191	1,997,565	(22,176)	(150,337)
15											
16		Total Revenue Change		Sum (L.13-15)			39,563,221	34,835,984	5,174,077	(57,439)	(389,402)
17											
18		Revenue Change Grossed up for Uncollectibles			Factor	1.01030600	39,970,959	35,195,004	5,227,402	(58,031)	(393,415)
19		Revenue Change Grossed down for Late Pay Fee			Factor	0.997761	39,881,464	35,116,202	5,215,697	(57,901)	(392,534)
20											
21		Gas Operating Revenue Excl PGA		Schedule 2			136,741,103	95,103,943	27,028,036	3,001,727	11,607,397
22		Required Gas Operating Rev Excl PGA		L. 19 + L. 21			176,622,567	130,220,145	32,243,733	2,943,826	11,214,863
23		Increased Operating Revenue - %		L. 19/L. 21			29.17%	36.92%	19.30%	-1.93%	-3.38%
24											
25		Sales of Gas Rev & Trans Excl PGA		Schedule 2			131,882,802	91,844,916	26,298,088	2,923,751	10,816,047
26		**Percent of Total Current Revenue**					**100.00**	**69.64**	**19.94**	**2.22**	**8.20**
27		Req Sales of Gas Rev & Trans Ex PGA		L. 19 + L. 25	Excludes Gas Lights		171,764,266	126,961,118	31,513,785	2,865,850	10,423,513
28		**Percent of Total Cost of Service**					**100.00**	**73.92**	**18.35**	**1.67**	**6.07**
29		Increased Revenue - %		L. 19/L. 25			30.24%	38.23%	19.83%	-1.98%	-3.63%
30											
31		Ave Monthly Customers		Schedule 18-A			492,190	431,374	59,903	472	441
32		Realized Sales of Gas & Tran Rev Ex PGA		L. 25/L. 31	per Cust per year		268	213	439	6,194	24,526
33		Required Sales of Gas & Trans Rev Ex PGA		L. 27/L. 31	per Cust per year		349	294	526	6,072	23,636
34		Increased Sales of Gas & Tran Rev Ex PGA		L. 33 - L. 32	per Cust per year		81	81	87	(123)	(890)
35											
36		PGA Revenue		Schedule 2			307,289,585	211,244,254	81,187,507	14,141,126	716,697
37		Realized Sales of Gas & Tran Rev Incl PGA		L. 25 + L. 36			439,172,387	303,089,170	107,485,595	17,064,877	11,532,744
38		Required Sales of Gas & Trans Rev Incl PGA		L. 27 + L. 36			479,053,851	338,205,372	112,701,293	17,006,976	11,140,210
39		**Percent Increase**					**9.08**	**11.59**	**4.85**	**(0.34)**	**(3.40)**
40		Realized Sales of Gas & Tran Rev Incl PGA		L. 37/L. 31	per Cust per year		892	703	1,794	36,154	26,151
41		Required Sales of Gas & Trans Rev Incl PGA		L. 38/L. 31	per Cust per year		973	784	1,881	36,032	25,261

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FILE: MGE_COSModIIfix
DATE: 08-May-01
NAME: WORKCAP1
NR: SCH7A

Missouri Gas Energy
Gas Cost of Service Allocation Study
Test Year: 12 Months Ended December 31, 2000
Normalized - Peak Month

SCHED. # SCH7A
PAGE # 1

TITLE: **WORKING CAPITAL**

LINE	A/C #	ITEM	ALLOCATION BASIS	CR	SYSTEM TOTAL	Residential Service	Small Gen Service	Large Gen Service	Large Vol Service
1									
2									
3		Materials & Supplies	Tot Dist PIS	DCU	2,036,063	1,465,990	378,574	33,167	158,332
4		Prepayments	Tot Dist PIS	DCU	415,611	299,245	77,276	6,770	32,320
5		Gas Inventory	Excess Gas Use-Sales	D	52,457,645	36,777,295	13,449,251	2,231,099	0
6		Working Cash - O&M-Purchased Gas	Ccf-Sales Rates	CO	5,584,312	3,838,899	1,475,404	256,984	13,024
7		Working Cash - O&M-Other	Tot O&M Ex Gas Cost	DCC	3,788,576	2,796,353	689,424	62,808	239,991
8		Working Cash - Taxes - Property	Total PIS	DCU	(2,547,278)	(1,846,003)	(460,894)	(39,620)	(200,761)
9		Working Cash - Taxes - Gross Receipts	Ccf-Sales Rates	CO	(821,937)	(565,035)	(217,160)	(37,825)	(1,917)
10		Working Cash - Taxes - FICA,FUTA&SUTA	Tot O&M Ex Gas Cost	DCC	184,281	136,018	33,534	3,055	11,673
11		Working Cash - Taxes - Other	Total PIS	DCU	292,050	211,648	52,842	4,543	23,018
12		Est. Offsets	Total PIS	DCU	(3,080,319)	(2,232,295)	(557,341)	(47,911)	(242,772)
13		Prepaid Pension	Tot O&M Ex Gas Cost	DCC	7,822,837	5,774,047	1,423,555	129,690	495,544
14									
15		Total Working Capital		DCC	66,131,841	46,656,163	16,344,466	2,602,760	528,452
16									
17		Demand Related		D	53,104,154	37,128,253	13,596,420	2,251,044	128,438
18		Commodity Related		CO	10,647,519	7,563,570	2,379,579	334,096	370,274
19		Customer Related		CU	2,380,167	1,964,339	368,467	17,620	29,740
20				ck	66,131,841				
21									
22		Allocation Factor							
23		1 Sys 31	Tot Dist PIS	DCU	1.000000000	0.720012049	0.185934446	0.016289600	0.077763905
24		2 Sys 4	Excess Gas Use-Sales	D	1.000000000	0.701085520	0.256383040	0.042531439	0.000000000
25		3 Sys 38	Total PIS	DCU	1.000000000	0.724696142	0.180935983	0.015553866	0.078814009
26		4 Sys 44	Tot O&M Ex Gas Cost	DCC	1.000000000	0.738101460	0.181974322	0.016578357	0.063345862
27		5 Sys 74	Gas Sales&Trans+PGA Rev	C/C	1.000000000	0.690137129	0.244745795	0.038856899	0.026260177
28		6 Sys 70	Sales Rev Incl PGA	C/C	1.000000000	0.690137129	0.244745795	0.038856899	0.026260177
29		7 Sys 46	A & G Expenses	DCC	1.000000000	0.730075162	0.186085797	0.017664091	0.066174950
30		8 Sys 6	Ccf-Sales Rates	CO	1.000000000	0.687443586	0.264205203	0.046018892	0.002332319
31		9 G&TPT-13	Dem Rel-Dist PIS	D	0.471368596	0.396117564	0.560056807	0.767787179	0.901200668
32		10 G&TPT-15	Cust Rel-Dist PIS	CU	0.528631404	0.603882436	0.439943193	0.232212821	0.098799332
33		11 SUMOM-4	Dem Rel-Tot O&M & Gas	D	0.169934674	0.135918738	0.201508929	0.271020897	0.449126783
34		12 SUMOM-5	Comm Rel-Tot O&M & Gas	CO	0.498923109	0.492706154	0.522398262	0.587752672	0.480677570
35		13 SUMOM-6	Cust Rel-Tot O&M & Gas	CU	0.331142217	0.371375108	0.276092809	0.141226431	0.070195648
36		14 G&TPT-13	Dem Rel-TotPIS	D	0.471368596	0.396117564	0.560056807	0.767787179	0.901200668
37		15 G&TPT-15	Cust Rel-TotPIS	CU	0.528631404	0.603882436	0.439943193	0.232212821	0.098799332
38									
39									

Case No. _____
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FILE: MGE_COSModIIfix
DATE: 08-May-01
NAME: TAXES1
NR: SCH17A

Missouri Gas Energy
Gas Cost of Service Allocation Study
Test Year: 12 Months Ended December 31, 2000
Normalized - Peak Month

SCHED. # SCH17A
PAGE # 1

TITLE: **INCOME TAXES - PAGE 1**

LINE	A/C #	ITEM	ALLOCATION BASIS	CR	SYSTEM TOTAL	Residential Service	Small Gen Service	Large Gen Service	Large Vol Service
1		TOTAL GAS OPERATING REVENUE Ex PGA	Schedule 2 L. 25		136,741,103	95,103,943	27,028,036	3,001,727	11,607,397
2									
3		Less: Operation & Maintenance Exp Ex Gas	Schedule 14	DCC	62,907,928	46,432,433	11,447,628	1,042,910	3,984,957
4		Depr & Amort Expense	Schedule 15	DCC	26,966,363	21,133,688	4,232,145	282,450	1,318,080
5		Interest on Customer Deposits	Schedule 16		791,258	449,265	224,631	24,974	92,388
6		Taxes Other than Inc	Schedule 16	DCC	9,063,142	6,481,887	1,640,785	149,395	791,075
7									
8		Total Op Exp Before IT	Sum (L. 3-6)	DCC	99,728,691	74,497,273	17,545,189	1,499,729	6,186,500
9									
10		NET INCOME BEFORE TAXES	L. 1 - L. 8		37,012,412	20,606,669	9,482,848	1,501,998	5,420,898
11									
12		ADJUSTMENTS - BOOK TO TAXABLE INC							
13									
14	Plus:	Equity Portion of SLRP Deferrals	Services PIS 380	CU	1,370,858	1,193,394	165,721	4,494	7,249
15	Plus:	COLI Amortization	Total PIS	DCU	303,497	219,943	54,914	4,721	23,920
16	Less:	Interest on Long Term Debt	Total PIS	DCU	21,074,636	15,272,707	3,813,160	327,792	1,660,977
17									
18		Total Tax Adjustments			(19,400,281)	(13,859,371)	(3,592,525)	(318,577)	(1,629,808)
19									
20		Net Taxable Income			17,612,131	6,747,299	5,890,322	1,183,420	3,791,090
21									
22		Tax @ Effective Rate of 0.386071755			6,799,546	2,604,941	2,274,087	456,885	1,463,633
23									
24	Less:	Income Tax Reduction per Case GM-94-40	Total Rate Base		296,363	214,182	56,472	5,491	20,218
25									
26		NET INCOME TAX			6,503,183	2,390,760	2,217,615	451,394	1,443,414
27									
28									
29									
30		Allocation Factor							
31		1 Sys 19	Services PIS 380	CU	1.000000000	0.870545154	0.120888756	0.003278361	0.005287729
32		2 Sys 38	Total PIS	DCU	1.000000000	0.724696142	0.180935983	0.015553866	0.078814009
33		3 Sys 40	Total Rate Base	DCC	1.000000000	0.722700717	0.190549017	0.018528714	0.068221551

Schedule CDL-Reb-1 Page 22 of 22

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Witness: CD Laderoute
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File: RebuttalCDL.xls
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Prep: CDL

Missouri Gas Energy - Case No. GR-2001-292

Comparison of Cost of Service Studies Assuming Revenue Neutrality

Margin Revenue Above (Below) COS

Line	Item	Total (3)	Residential Service	Small Gen Service	Large Gen Service	Large Vol Service	Source
	(a)	(b)	(c)	(d)	(e)	(f)	(g)
1	Staff	(243)	(2,942,878)	2,396,407	782,184	(235,956)	Beck Schedule 1
2	OPC	40	(312,393)	2,555,937	634,299	(2,877,803)	Busch Schedule JAB-RD2
3	MGUA	0	(6,369,575)	2,356,494	792,478	3,220,603	Schedule CDL-Rab-1 Page 14 Line 19
4	MGUA - Adj (1)	0	(8,028,283)	3,588,527	773,714	3,666,042	Determined Below
5							
6	(1) Determination of the MGUA Adjusted Value to Synchronize with Staff Numbers (2)						
7							
8	MGUA Required Margin Revenue	131,882,802	98,214,491	23,941,594	2,131,273	7,595,444	Schedule CDL-Rab-1 Page 14 Line 27
9	Fractions		0.744710376	0.181536892	0.016160356	0.057592377	Fraction of total
10							
11	Staff Required Margin Revenue	135,461,461	100,879,555	24,591,253	2,189,105	7,801,547	Total=Beck Schedule 1 Excl UMGL
12							Rate Class values spread on Line 9
13	Staff Current Margin Revenue	137,310,519	94,228,285	28,515,452	2,992,701	11,574,081	Beck Schedule 1
14							
15	Zero Revenue Increase Plug	(1,849,058)	(1,377,013)	(335,672)	(29,881)	(106,492)	Diff Col B spread on Line 9
16							
17	COS Margin Revenue @ 0%	135,461,461	92,851,272	28,179,780	2,962,820	11,467,589	Line 13 plus Line 15
18							
19	Revenue Above (Below) COS	0	(8,028,283)	3,588,527	773,714	3,666,042	Line 27 less Line 11
20							
21							

22 (2) Necessary since the MGUA COSS was based on original filed MGE numbers. To compare like values this adjustment is needed.
23 Lines 8-11 same method as Mr. Beck used as described in his Rebuttal Testimony in GR-98-140 at page 2 lines 5-10
24 Lines 13-19 is the samee method as Mr. Beck used in this case on Schedule 1 of his Direct Testimony.
25 (3) Totals are off for Staff & OPC due to UMGL exclusion.

Schedule CDL-Reb-2

File: RebuttalCDL.xls
Date: May 16 , 2001
Prep: CDL

Missouri Gas Energy - Case No. GR-2001-292

Comparison of Parties COSS - Revenue Neutral COSS Percents-Exclude UMGL

Line	Item	Total	Residential Service	Small Gen Service	Large Gen Service	Large Vol Service	Source
	(a)	(b)	(c)	(d)	(e)	(f)	(g)
1		**MGUA Mod I Revised COSS - ROR/Rev Neutral - Margin Revenue**					
2							
3	COSS Mod I Rev	131,882,802	98,214,491	23,941,594	2,131,273	7,595,444	Schedule CDL-Reb-1 Page 14 Line 27
4	Fractions	1.000000000	0.744710377	0.181536889	0.016160356	0.057592378	Fraction of total
5							
6		**Staff COSS @ Zero Excl UMGL - Margin Revenue**					
7							
8	COSS	137,310,762	97,171,163	26,119,045	2,210,517	11,810,037	Beck Sch. 1C-O-S- Margin Rev. @ 0%
9	Fractions	1.000000000	0.707673321	0.190218484	0.016098643	0.086009551	Fraction of total
10							
11		**OPC COSS @ Zero Excl UMGL - Margin Revenue (1)**					
12							
13	COSS	137,309,759	94,540,678	25,959,515	2,358,402	14,451,164	Footnote 1
14	Fractions	1.000000000	0.688521185	0.189058048	0.017175778	0.105244988	Fraction of total
15							
16		**Difference Between MGUA Mod I Rev COSS & Other Parties - Margin Revenue - Fractions**					
17							
18	MGUA less Staff	0.000000000	0.037037055	(0.008681595)	0.000061713	(0.028417173)	Line 4 less Line 9
19	MGUA less OPC	0.000000000	0.056189192	(0.007521159)	(0.001015422)	(0.047652611)	Line 4 less Line 14
20							
21							
22		**Difference Between MGUA Mod I Rev COSS & Other Parties - Margin Revenue - Percents**					
23							
24	MGUA less Staff	0.00	3.70	(0.87)	0.01	(2.84)	Line 18 times 100
25	MGUA less OPC	0.00	5.62	(0.75)	(0.10)	(4.77)	Line 19 times 100
26							
27							
28							
29	(1) Determination of OPC values with COS based on Margins						
30							
31	Margin + Other Rev	140,373,661	96,649,468	26,538,721	2,411,101	14,774,371	Busch Schedule JAB-RD2 Line 31
32	Less:Other Rev	3,063,902	2,108,790	579,206	52,699	323,207	Busch Schedule JAB-RD2 Line 9
33	Net Margin	137,309,759	94,540,678	25,959,515	2,358,402	14,451,164	Difference
34							
35	Fractions	1.000000000	0.688521185	0.189058048	0.017175778	0.105244988	Fraction of total

File: RebuttalCDL.xls
Date: May 16 , 2001
Prep: CDL

Missouri Gas Energy

Comparison of A/C 376 Mains Allocation - Case No. GR-2001-292

Line	Item		Total	Residential Service	Small Gen Service	Large Gen Service	Large Vol Service	UMGL	Source
	(a)		(b)	(c)	(d)	(e)	(f)	(g)	
1	Staff	376 Mains	278,969,931	171,205,667	58,827,876	8,060,712	40,873,140	2,536	(1)
2	MGUA	376 Mains	278,969,931	168,879,645	62,384,375	7,167,048	40,538,863		Supp Dir Sch CDL-15 page 20
3									
4	**Staff less MGUA**		0	2,326,022	(3,556,499)	893,664	334,277	2,536	Line 1 less Line 2
5		Percent-MGUA as Base		1.38	(5.70)	12.47	0.82		
6									
7									
8	OPC	376 Mains	278,969,931	156,613,719	61,178,106	7,281,115	53,896,991	0	(2)
9									
10	**OPC less MGUA**		0	(12,265,925)	(1,206,269)	114,067	13,358,127	0	Line 8 less Line 2
11		Percent-MGUA as Base		(7.83)	(1.97)	1.57	24.78		
12									

13 (1) Staff disk file STAFFcos.xls file - Response by Staff to MGUA DR No. 1
14 (2) OPC disk file COS Study II - Rate design.xls file - Response by OPC to MGUA DR No.1

File: RebuttalCDL.xls
Date: May 16 , 2001
Prep: CDL

Missouri Gas Energy - Case No. GR-2001-292

Determination of Difference Between MGUA & OPC COSS-Margin Revenue

Line	Item	Total	Residential Service	Small Gen Service	Large Gen Service	Large Vol Service	Source
	(a)	(b)	(c)	(d)	(e)	(f)	(g)
1		**MGUA Mod I Revised COSS - ROR/Rev Neutral - Margin Revenue**					
2							
3	MGUA COSS	131,882,802	98,214,491	23,941,594	2,131,273	7,595,444	Schedule CDL-Reb-1 Page 14 Line 27
4	MGUA - OPC Mains (1)	131,882,802	96,574,598	23,813,743	2,122,303	9,372,158	Schedule CDL-Reb-4 Page 4 Line 27
5							
6	Difference	0	1,639,893	127,851	8,970	(1,776,714)	Line 3 less Line 4
7							
8							
9		**MGUA Mod I Revised COSS - ROR/Rev Neutral**					
10							
11	MGUA COSS As filed	131,882,802	98,214,491	23,941,594	2,131,273	7,595,444	Line 3 above
12	Fractions	1.000000000	0.744710377	0.181536889	0.016160356	0.057592378	Fraction of total
13							
14		**MGUA Mod I Revised COSS - ROR/Rev Neutral-Using OPC Allocation for Mains**					
15							
16	MGUA - OPC Mains (1)	131,882,802	96,574,598	23,813,743	2,122,303	9,372,158	Line 4 above
17	Fractions	1.000000000	0.732275904	0.180567461	0.016092345	0.071064291	Fraction of total
18							
19		**Difference Between MGUA Mod I Rev COSS & MGUA COSS Using OPC Mains Allocation - Fractions**					
20							
21	Impact	0.000000000	0.012434472	0.000969429	0.000068011	(0.013471913)	Line 12 less Line 17
22							
23		**Difference Between MGUA Mod I Rev COSS & OPC COSS - Fractions**					
24							
25	MGUA less OPC	0.000000000	0.056189192	(0.007521159)	(0.001015422)	(0.047652611)	Schedule CDL-Reb-3 Page 1 Line 19
26	Mains Portion	0.000000000	0.012434472	0.000969429	0.000068011	(0.013471913)	Line 21 above
27	Balance of Difference	0.000000000	0.043754719	(0.008490587)	(0.001083434)	(0.034180698)	Line 25 less Line 26
28	As Percent	0.00	4.38	(0.85)	(0.11)	(3.42)	Line 27 times 100
29							
30	Portion due to Mains Allocation		22.1	(12.9)	(6.7)	28.3	Line 26 / Line 25
31	Portion due to Other Items		77.9	112.9	106.7	71.7	Line 27 / Line 25
32	Total		100.0	100.0	100.0	100.0	
33							
34							
35	(1) Impact on MGUA Mod I Revised COSS - ROR/Rev Neutral - Margin Revenue based on changing only						
36	the allocation of Distribution Mains A/C 376 using OPC Composite Mains Allocator						

FILE: MGE_COSModIfix
DATE: 08-May-01
NAME: DPT
NR: SCH4

Missouri Gas Energy
Gas Cost of Service Allocation Study
Test Year: 12 Months Ended December 31, 2000
Normalized - Peak Month

SCHED. # SCH4
PAGE # 1

TITLE: **DISTRIBUTION PLANT IN SERVICE**

LINE	A/C #	ITEM	ALLOCATION BASIS	CR	SYSTEM TOTAL	Residential Service	Small Gen Service	Large Gen Service	Large Vol Service
1		DISTRIBUTION PLANT							
2									
3	374	Land & Land Rights	Peak Month	D	1,233,940	686,109	253,450	44,226	250,155
4	375	Structures & Improvements	Peak Month	D	6,021,033	3,347,883	1,236,713	215,802	1,220,635
5	376	Mains - Assigned < 3 "	Res & SGS Peak Month	D	79,003,720	57,692,157	21,311,563	0	0
6	376	Mains - Customer	Mains Cust Factor	D	0	0	0	0	0
7	376	Mains - Capacity	Peak Month	D	199,966,211	111,187,487	41,072,812	7,167,048	40,538,863
8	378	Meas. & Reg. Equipment-Gen	Peak Month	D	10,422,024	5,794,972	2,140,671	373,539	2,112,842
9	379	Meas. & Reg. Equip-City Gate	Peak Month	D	3,074,013	1,709,248	631,398	110,177	623,190
10	380	Services	A/C 380 Services Fact Ex LGS&LV	CU	248,048,065	215,937,041	29,986,222	813,191	1,311,611
11	381	Meters	A/C 381 Meters Fact Ex LGS&LVS	CU	28,150,505	16,253,033	9,971,778	863,932	1,061,762
12	381	Meters - Metretek				0	0	0	0
13	381	Meters - Itron				0	0	0	0
14	381	Meters - Other			-	0	0	0	0
15	382	Meter Installations	A/C 382 Meter Installs Factor	CU	49,974,693	41,770,713	5,800,514	590,783	1,812,682
16	383-4	House Regulators & Install	A/C 383 Hse Reg Fact Ex LGS&LV	CU	9,540,154	3,372,217	5,803,530	177,488	186,920
17	385	Electronic Gas Measurement	Transport Customers	CU	320,088	0	0	0	320,088
18									
19		Subtotal Dist PIS		D/CU	635,754,446	457,750,861	118,208,651	10,356,185	49,438,749
20									
21	386	Other Prop. on Cust. Premises	Subtotal Dist PIS	D		0	0	0	0
22	387	Other Equipment	Subtotal Dist PIS	D		0	0	0	0
23									
24		TOTAL DIST PIS		D/CU	635,754,446	457,750,861	118,208,651	10,356,185	49,438,749
25									
26		Demand Related-DPIS		D	299,720,941	180,417,857	66,646,607	7,910,791	44,745,686
27		Commodity Related-DPIS		CO					
28		Customer Related-DPIS		CU	336,033,505	277,333,004	51,562,044	2,445,394	4,693,063
29				ck	635,754,446				
30		Allocation Factor							
31		1 Sys 1	Peak Month	D	1.000000000	0.556031376	0.205398762	0.035841295	0.202728567
32		2 Sys 65	Res & SGS Peak Month	D	1.000000000	0.730246083	0.269753917	0.000000000	0.000000000
33		3 Sys 5	Total Ccf	CO	1.000000000	0.465194326	0.178788142	0.031141068	0.324876465
34		4 Sys 56	A/C 380 Services Fact Ex LGS&LV	CU	1.000000000	0.878066753	0.121933247	0.000000000	0.000000000
35		5 Sys 57	A/C 381 Meters Fact Ex LGS&LVS	CU	1.000000000	0.619757866	0.380242134	0.000000000	0.000000000
36		6 Sys 58	A/C 382 Meter Installs Factor	CU	1.000000000	0.835837319	0.116069033	0.011821650	0.036271998
37		7 Sys 59	A/C 383 Hse Reg Fact Ex LGS&LV	CU	1.000000000	0.367514151	0.632485849	0.000000000	0.000000000
38		8 Sys 60	Mains Cust Factor	D	1.000000000	0.878066753	0.121933247	0.000000000	0.000000000
39		9 Sys 3	Average Cust	CU	1.000000000	0.876437961	0.121707064	0.000958979	0.000895995
40		10 Sys 8	Transport Customers	CU	1.000000000	0.000000000	0.000000000	0.000000000	1.000000000
41		11 Sys 9	Sales Customers	CU	1.000000000	0.877223950	0.121816211	0.000959839	0.000000000
42		12 DPT-12	Subtotal Dist PIS	D/CU	1.000000000	0.720012049	0.185934446	0.016289600	0.077763905
43		13 DPT-13	Dem Rel-Main&SerPIS	D	0.471441361	0.394139853	0.563804818	0.763871131	0.905073187
44		14 DPT-14	Cust Rel-Main&SerPIS	CU	0.528558639	0.605860147	0.436195182	0.236128869	0.094926813
45		15 DPT-15	Dem Rel-Dist PIS	D	0.471441361	0.394139853	0.563804818	0.763871131	0.905073187
46		16 DPT-16	Cust Rel-Dist PIS	CU	0.528558639	0.605860147	0.436195182	0.236128869	0.094926813

Source: Supplemental Testimony Schedule CDL-15 page 7

Schedule CDL-Reb-4
Page 2 of 5

FILE: MGE_COSModIfixOPC
DATE: 08-May-01
NAME: DPT
NR: SCH4

Missouri Gas Energy
Gas Cost of Service Allocation Study
Test Year: 12 Months Ended December 31, 2000
Normalized - Peak Month

MGUA COSS Modified for OPC Mains Allocation

SCHED. # SCH4
PAGE # 1

TITLE: **DISTRIBUTION PLANT IN SERVICE**

LINE	A/C #	ITEM	ALLOCATION BASIS	CR	SYSTEM TOTAL	Residential Service	Small Gen Service	Large Gen Service	Large Vol Service
1		DISTRIBUTION PLANT							
2									
3	374	Land & Land Rights	OPC Mains Allocator	D	1,233,940	692,734	270,603	32,206	238,397
4	375	Structures & Improvements	OPC Mains Allocator	D	6,021,033	3,380,208	1,320,413	157,149	1,163,264
5	376	Mains - Assigned < 3 "		D	0	0	0	0	0
6	376	Mains - Customer	Mains Cust Factor	D	0	0	0	0	0
7	376	Mains - Capacity	OPC Mains Allocator (1)	D	278,969,931	156,613,719	61,178,106	7,281,115	53,896,991
8	378	Meas. & Reg. Equipment-Gen	OPC Mains Allocator	D	10,422,024	5,850,924	2,285,550	272,015	2,013,535
9	379	Meas. & Reg. Equip-City Gate	OPC Mains Allocator	D	3,074,013	1,725,751	674,131	80,232	593,899
10	380	Services	A/C 380 Services Fact Ex LGS&L\	CU	248,048,065	215,937,041	29,986,222	813,191	1,311,611
11	381	Meters	A/C 381 Meters Fact Ex LGS&LV\	CU	28,150,505	16,253,033	9,971,778	863,932	1,061,762
12	381	Meters - Metretek				0	0	0	0
13	381	Meters - Itron				0	0	0	0
14	381	Meters - Other				0	0	0	0
15	382	Meter Installations	A/C 382 Meter Installs Factor	CU	49,974,693	41,770,713	5,800,514	590,783	1,812,682
16	383-4	House Regulators & Install	A/C 383 Hse Reg Fact Ex LGS&L\	CU	9,540,154	3,372,217	5,803,530	177,488	186,920
17	385	Electronic Gas Measurement	Transport Customers	CU	320,088	0	0	0	320,088
18									
19		Subtotal Dist PIS		D/CU	635,754,446	445,596,340	117,290,846	10,268,111	62,599,149
20									
21	386	Other Prop. on Cust. Premises	Subtotal Dist PIS	D		0	0	0	0
22	387	Other Equipment	Subtotal Dist PIS	D		0	0	0	0
23									
24		TOTAL DIST PIS		D/CU	635,754,446	445,596,340	117,290,846	10,268,111	62,599,149
25									
26		Demand Related-DPIS		D	299,720,941	168,263,336	65,728,802	7,822,717	57,906,086
27		Commodity Related-DPIS		CO					
28		Customer Related-DPIS		CU	336,033,505	277,333,004	51,562,044	2,445,394	4,693,063
29				ck	635,754,446				
30		Allocation Factor							
31		1 Sys 1	OPC Mains Allocator (1)	D	1.000000000	0.561400000	0.219300000	0.026100000	0.193200000
32		2 Sys 65	Res & SGS Peak Month	D	1.000000000	0.730246083	0.269753917	0.000000000	0.000000000
33		3 Sys 5	Total Ccf	CO	1.000000000	0.465194326	0.178788142	0.031141068	0.324876465
34		4 Sys 56	A/C 380 Services Fact Ex LGS&L\	CU	1.000000000	0.878066753	0.121933247	0.000000000	0.000000000
35		5 Sys 57	A/C 381 Meters Fact Ex LGS&LV\	CU	1.000000000	0.619757866	0.380242134	0.000000000	0.000000000
36		6 Sys 58	A/C 382 Meter Installs Factor	CU	1.000000000	0.835837319	0.116069033	0.011821650	0.036271998
37		7 Sys 59	A/C 383 Hse Reg Fact Ex LGS&L\	CU	1.000000000	0.367514151	0.632485849	0.000000000	0.000000000
38		8 Sys 60	Mains Cust Factor	D	1.000000000	0.878066753	0.121933247	0.000000000	0.000000000
39		9 Sys 3	Average Cust	CU	1.000000000	0.876437961	0.121707064	0.000958979	0.000895995
40		10 Sys 8	Transport Customers	CU	1.000000000	0.000000000	0.000000000	0.000000000	1.000000000
41		11 Sys 9	Sales Customers	CU	1.000000000	0.877223950	0.121816211	0.000959839	0.000000000
42		12 DPT-12	Subtotal Dist PIS	D/CU	1.000000000	0.700893785	0.184490800	0.016151064	0.098464351
43		13 DPT-13	Dem Rel-Main&SerPIS	D	0.471441361	0.377613820	0.560391577	0.761845742	0.925029926
44		14 DPT-14	Cust Rel-Main&SerPIS	CU	0.528558639	0.622386180	0.439608423	0.238154258	0.074970074
45		15 DPT-15	Dem Rel-Dist PIS	D	0.471441361	0.377613820	0.560391577	0.761845742	0.925029926
46		16 DPT-16	Cust Rel-Dist PIS	CU	0.528558639	0.622386180	0.439608423	0.238154258	0.074970074

(1) Source: OPC Witness Hu Direct Testimony Schedule DIR HH-1

Schedule CDL-Reb-4
Page 3 of 5

FILE: MGE_COSModIfix
DATE: 08-May-01
NAME: SUMPAGE2-A
NR: SCH1B-A

Missouri Gas Energy
Gas Cost of Service Allocation Study
Test Year: 12 Months Ended December 31, 2000
Normalized - Peak Month

Revenue (ROR) Neutral

SCHED. # SCH1B-A
PAGE # 1

TITLE: **SUMMARY - PAGE 2-A - REQUIRED or BOTTOM UP**

LINE	A/C #	ITEM		ALLOCATION BASIS		CR	SYSTEM TOTAL	Residential Service	Small Gen Service	Large Gen Service	Large Vol Service
1		Rate Base		Schedule 8			518,824,134	374,975,610	98,869,160	9,614,426	35,364,938
2		Rate of Return - Ideal Target			Actual ROR %	5.880	5.880%	5.880%	5.880%	5.880%	5.880%
3		Index of Return - Ideal Target			Request ROR %	**10.562**	100	100	100	100	100
4											
5		Return Required at Target ROR		L. 1 * L. 2			30,509,229	22,050,278	5,813,958	565,372	2,079,620
6		Realized Net Utility Op Income		Schedule 17			30,509,229	18,171,021	7,249,132	1,048,014	4,041,061
7		Change in Net Income Required		L. 5 - L. 6			0	3,879,257	(1,435,174)	(482,642)	(1,961,441)
8											
9		Realized Tot Inc Taxes		Schedule 17			6,503,183	2,362,511	2,207,483	449,764	1,483,425
10		Change in FIT @	0.628855	* L. 7			0	2,439,490	(902,516)	(303,512)	(1,233,462)
11		Required Total FIT		L. 9 + L. 10			6,503,183	4,802,001	1,304,967	146,252	249,963
12											
13		Change in Net Income		L. 7			0	3,879,257	(1,435,174)	(482,642)	(1,961,441)
14		Change in FIT		L. 10			0	2,439,490	(902,516)	(303,512)	(1,233,462)
15							---	---	---	---	---
16		Total Revenue Change		Sum (L.13-15)			0	6,318,748	(2,337,690)	(786,154)	(3,194,903)
17											
18		Revenue Change Grossed up for Uncollectibles		Factor	1.01030600		0	6,383,869	(2,361,782)	(794,256)	(3,227,830)
19		Revenue Change Grossed down for Late Pay Fee		Factor	0.997761		0	6,369,575	(2,356,494)	(792,478)	(3,220,603)
20											
21		Gas Operating Revenue Excl PGA		Schedule 2			136,741,103	95,103,943	27,028,036	3,001,727	11,607,397
22		Required Gas Operating Rev Excl PGA		L. 19 + L. 21			136,741,103	101,473,518	24,671,542	2,209,249	8,386,795
23		Increased Operating Revenue - %		L. 19/L. 21			0.00%	6.70%	-8.72%	-26.40%	-27.75%
24											
25		Sales of Gas Rev & Trans Excl PGA		Schedule 2			131,882,802	91,844,916	26,298,088	2,923,751	10,816,047
26		**Percent of Total Current Revenue**					**100.00**	**69.64**	**19.94**	**2.22**	**8.20**
27		Req Sales of Gas Rev & Trans Ex PGA		L. 19 + L. 25	Excludes Gas Lights		131,882,802	98,214,491	23,941,594	2,131,273	7,595,444
28		**Percent of Total Cost of Service**					**100.00**	**74.47**	**18.15**	**1.62**	**5.76**
29		Increased Revenue - %		L. 19/L. 25			0.00%	6.94%	-8.96%	-27.10%	-29.78%
30											
31		Ave Monthly Customers		Schedule 18-A			492,190	431,374	59,903	472	441
32		Realized Sales of Gas & Tran Rev Ex PGA		L. 25/L. 31	per Cust per year		268	213	439	6,194	24,526
33		Required Sales of Gas & Trans Rev Ex PGA		L. 27/L. 31	per Cust per year		268	228	400	4,515	17,223
34		Increased Sales of Gas & Tran Rev Ex PGA		L. 33 - L. 32	per Cust per year		0	15	(39)	(1,679)	(7,303)
35											
36		PGA Revenue		Schedule 2			307,289,585	211,738,095	81,377,305	14,174,185	0
37		Realized Sales of Gas & Tran Rev Incl PGA		L. 25 + L. 36			439,172,387	303,583,011	107,675,393	17,097,936	10,816,047
38		Required Sales of Gas & Trans Rev Incl PGA		L. 27 + L. 36			439,172,387	309,952,586	105,318,899	16,305,458	7,595,444
39		**Percent Increase**					**0.00**	**2.10**	**(2.19)**	**(4.63)**	**(29.78)**
40		Realized Sales of Gas & Tran Rev Incl PGA		L. 37/L. 31	per Cust per year		892	704	1,797	36,224	24,526
41		Required Sales of Gas & Trans Rev Incl PGA		L. 38/L. 31	per Cust per year		892	719	1,758	34,545	17,223

Source: Schedule CDL-Reb-1 Page 14

FILE: MGE_COSModlfixOPC
DATE: 08-May-01
NAME: SUMPAGE2-A
NR: SCH1B-A

Missouri Gas Energy
Gas Cost of Service Allocation Study
Test Year: 12 Months Ended December 31, 2000
Normalized - Peak Month

MGUA COSS Modified for OPC Mains Allocation

Revenue (ROR) Neutral

SCHED. # SCH1B-A
PAGE # 1

TITLE: **SUMMARY - PAGE 2-A - REQUIRED or BOTTOM UP**

LINE	A/C #	ITEM		ALLOCATION BASIS		CR	SYSTEM TOTAL	Residential Service	Small Gen Service	Large Gen Service	Large Vol Service
1		Rate Base		Schedule 8			518,824,134	367,488,138	98,337,243	9,535,913	43,462,840
2		Rate of Return - Ideal Target			Actual ROR %	5.880	5.880%	5.880%	5.880%	5.880%	5.880%
3		Index of Return - Ideal Target			Request ROR %	**10.562**	100	100	100	100	100
4											
5		Return Required at Target ROR		L. 1 * L. 2			30,509,229	21,609,981	5,782,679	560,755	2,555,813
6		Realized Net Utility Op Income		Schedule 17			30,509,229	18,729,466	7,295,718	1,048,860	3,435,184
7		Change in Net Income Required		L. 5 - L. 6			0	2,880,515	(1,513,039)	(488,105)	(879,371)
8											
9		Realized Tot Inc Taxes		Schedule 17			6,503,183	2,944,781	2,254,198	451,993	852,211
10		Change in FIT @	0.628855	* L. 7			0	1,811,426	(951,482)	(306,947)	(552,997)
11		Required Total FIT		L. 9 + L. 10			6,503,183	4,756,207	1,302,716	145,046	299,215
12											
13		Change in Net Income		L. 7			0	2,880,515	(1,513,039)	(488,105)	(879,371)
14		Change in FIT		L. 10			0	1,811,426	(951,482)	(306,947)	(552,997)
15											
16		Total Revenue Change		Sum (L.13-15)			0	4,691,940	(2,464,521)	(795,052)	(1,432,367)
17											
18		Revenue Change Grossed up for Uncollectibles			Factor	1.01030600	0	4,740,296	(2,489,920)	(803,246)	(1,447,129)
19		Revenue Change Grossed down for Late Pay Fee			Factor	0.997761	0	4,729,682	(2,484,345)	(801,448)	(1,443,889)
20											
21		Gas Operating Revenue Excl PGA		Schedule 2			136,741,103	95,103,943	27,028,036	3,001,727	11,607,397
22		Required Gas Operating Rev Excl PGA		L. 19 + L. 21			136,741,103	99,833,625	24,543,691	2,200,279	10,163,508
23		Increased Operating Revenue - %		L. 19/L. 21			0.00%	4.97%	-9.19%	-26.70%	-12.44%
24											
25		Sales of Gas Rev & Trans Excl PGA		Schedule 2			131,882,802	91,844,916	26,298,088	2,923,751	10,816,047
26		**Percent of Total Current Revenue**					**100.00**	**69.64**	**19.94**	**2.22**	**8.20**
27		Req Sales of Gas Rev & Trans Ex PGA		L. 19 + L. 25	Excludes Gas Lights		131,882,802	96,574,598	23,813,743	2,122,303	9,372,158
28		**Percent of Total Cost of Service**					**100.00**	**73.23**	**18.06**	**1.61**	**7.11**
29		Increased Revenue - %		L. 19/L. 25			0.00%	5.15%	-9.45%	-27.41%	-13.35%
30											
31		Ave Monthly Customers		Schedule 18-A			492,190	431,374	59,903	472	441
32		Realized Sales of Gas & Tran Rev Ex PGA		L. 25/L. 31	per Cust per year		268	213	439	6,194	24,526
33		Required Sales of Gas & Trans Rev Ex PGA		L. 27/L. 31	per Cust per year		268	224	398	4,496	21,252
34		Increased Sales of Gas & Tran Rev Ex PGA		L. 33 - L. 32	per Cust per year		0	11	(41)	(1,698)	(3,274)
35											
36		PGA Revenue		Schedule 2			307,289,585	211,738,095	81,377,305	14,174,185	0
37		Realized Sales of Gas & Tran Rev Incl PGA		L. 25 + L. 36			439,172,387	303,583,011	107,675,393	17,097,936	10,816,047
38		Required Sales of Gas & Trans Rev Incl PGA		L. 27 + L. 36			439,172,387	308,312,693	105,191,048	16,296,488	9,372,158
39		**Percent Increase**					**0.00**	**1.56**	**(2.31)**	**(4.69)**	**(13.35)**
40		Realized Sales of Gas & Tran Rev Incl PGA		L. 37/L. 31	per Cust per year		892	704	1,797	36,224	24,526
41		Required Sales of Gas & Trans Rev Incl PGA		L. 38/L. 31	per Cust per year		892	715	1,756	34,526	21,252

File: RebuttalCDL.xls
Date: May 14 , 2001
Prep: CDL

Missouri Gas Energy - Case No. GR-2001-292
Differences Between COSS - MGUA vs Staff & OPC
LVS Class

Line	Item	$	Source
	MGUA Required Revenue Neutral Revenues Adjusted for Staff & OPC Allocation Methods		
1	Required Revenue Neutral Revenue per MGUA COSS	7,595,444	Schedule CDL-Reb-1 Page 14 Line 27
2			
3	Plus: Added Rev Req based on Staff Allocation Methods	3,269,020	Schedule CDL-Reb-5 Page 2
4			
5	**Total MGUA COSS Req Rev Neutral Rev with Staff Allocations**	**10,864,464**	
6			
7			
8	Required Revenue Neutral Revenue per MGUA COSS	7,595,444	Schedule CDL-Reb-1 Page 14 Line 27
9			
10	Plus: Added Rev Req based on OPC Allocation Methods	4,992,681	Schedule CDL-Reb-5 Page 3
11			
12	**Total MGUA COSS Req Rev Neutral Rev with OPC Allocations**	**12,588,125**	
13			
14			
15			
16	**Determination of COSS Fractions**		
17		Other	
18		Total Classes	LVS
19	MGUA COSS Mod I Revised	131,882,802 124,287,358	7,595,444 Schedule CDL-Reb-1 Page 14 Line 27
20	Fractions	1.000000000 0.942407622	0.057592378 Fraction of total
21			
22	MGUA COSS with Staff Allocations	131,882,802 121,018,338	10,864,464 Line 5
23	Fractions	1.000000000 0.917620313	0.082379687 Fraction of total
24			
25	MGUA COSS with OPC Allocations	131,882,802 119,294,677	12,588,125 Line 12
26	Fractions	1.000000000 0.904550673	0.095449327 Fraction of total
27			
28			
29	Staff Filed COSS Fractions	1.000000000 0.91399086	0.08600914 Beck Testimony Schedule 1
30			
31	OPC Filed COSS Fractions	1.000000000 0.894752021	0.105247979 Busch Testimony Schedule JAB-RD2
32			
33			
34	**Percentage of Differences Explained**		
35			
36	MGUA vs Staff	**96**	Line 21 / Line 27
37			
38	MGUA vs OPC including Mains	**91**	Line 24 / Line 29

File: RebuttalCDL.xls
Date: May 14 , 2001
Prep: CDL

Missouri Gas Energy - Case No. GR-2001-292

Impact Upon MGUA COSS Costs Allocated to LVS of Using Various Staff Allocation Methods

Line	Item	Total to be Allocated	Staff Allocation Basis	Staff Allocation Factor	Allocated Costs on Staff Allocator	MGUA Allocated Costs	Fraction	Excess Cost Allocation Using Staff Allocator	Fixed Charge Factor (3)	Revenue Requirement Impact Staff
	(a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)	(i)	(j)
1	AMR Communication Equipment - A/C 397.1	32,969,219	Total P, T & D PIS	0.083991283	2,769,127	0	0.00000000	2,769,127	0.0713	197,547
2	AMR Intangible related PIS	415,236	C-O-S Revenues (1)	0.086009136	35,714	0	0.00000000	35,714	0.0713	2,548
3	Working Capital Gas Inventory	52,457,645	C-O-S Revenues	0.086009136	4,511,837	0	0.00000000	4,511,837	0.0713	321,870
4	Working Capital - Working Cash - O&M Purchased Gas	5,584,312	Volumes	0.365683019	2,042,088	0	0.00000000	2,042,088	0.0713	145,681
5	Services A/C 380	248,048,065	Service Allocator	0.007566860	1,876,945	1,311,611	0.00528773	565,334	0.0713	40,330
6	Meters A/C 381	28,150,505	WTD CUST. - METERS	0.053323930	1,501,096	1,061,762	0.03771733	439,334	0.0713	31,342
7	House Regulators & Install A/C 383-4	9,540,154	WTD CUST. - REGULATORS	0.020918586	199,567	186,920	0.01959298	12,647	0.0713	902
8	EGM Equipment A/C 385	320,088	LARGE VOLUME SALES (2)	0.924238932	295,838	320,088	1.00000000	(24,250)	0.0713	(1,730)
9	Total Rate Base Related Costs							10,351,830		738,490
10										
11										
12	A/C 920-1 Assigned to Transports	35,208				35,208	1.00000000	(35,208)		(35,208)
13	A/C 923 Assigned to Sales	1,485,054				1,485,054	1.00000000	1,485,054		1,485,054
14	Uncollectibles-A/C 904	3,455,836	C-O-S Revenues	0.086009136	297,233	84,644	0.02449306	212,589		212,589
15	Sales Expenses	773,040	C-O-S Revenues	0.086009136	66,489	0	0.00000000	66,489		66,489
16	Total O&M Exp Related Costs									1,728,924
17										
18										
19	AMR Amortization - AMR Beta	27,682	Total P, T & D PIS	0.083991283	2,325	0	0.00000000	2,325		2,325
20	AMR Depreciation - Gen Pt A/C 397.1	1,648,461	Total P, T & D PIS	0.083991283	138,456	0	0.00000000	138,456		138,456
21	Total Depr & Amort Related Costs									140,781
22										
23										
24	Other Op Rev-Late Pay Charge A/C 487	983,440	NUMBER OF RES/SGS BILLS	0.000000000	0	160,189	0.16288640	160,189		160,189
25	Other Op Rev-Misc Service Chg A/C 488	3,073,529	NUMBER OF RES/SGS BILLS	0.000000000	0	500,636	0.16288638	500,636		500,636
26	Total Offsetting Revenue Related									660,825
27										
28	Subtotal - AMR Related									340,876
29	Subtotal - Other									2,928,144
30	**Grand Total**									**3,269,020**
31										
32										

(1) Actually total COS or Required Margin Revenue
(2) Actually LVS & LGS

(3) Fixed Charged Rates

Return	30,509,229	0.058804568
FIT	6,503,183	0.012534465
Depreciation	26,966,363	0.051975923
Rate Base	518,824,134	
Return, FIT & Depr		0.123314956
Return & FIT Only		0.071339033

Sources: Column

b	Various pages from Schedule CDL-15 and as revised at Schedule CDL-Reb-1
c	Staff COSS model in this case
d	Staff COSS model in this case
e	Column b times Column d
f	Various pages from Schedule CDL-15 and as revised at Schedule CDL-Reb-1
g	Column f divided by Column b
h	Column e less Column f
i	Footnote 3 - Data from CDL-Reb-1 Page 14
j	Lines 1-8 Column h tims Column i Other Lines equal Column h

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Missouri Gas Energy - Case No. GR-2001-292

Impact Upon MGUA COSS Costs Allocated to LVS of Using Various OPC Allocation Methods

Line	Item	Total to be Allocated	OPC Allocation Basis	OPC Allocation Factor	Allocated Costs on OPC Allocator	MGUA Allocated Costs	MGUA Fraction	Excess Cost Allocation Using OPC Allocator	Fixed Charge Factor (3)	Revenue Requirement Impact OPC
	(a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)	(i)	(j)
1	AMR Communication Equipment - A/C 397.1	32,969,219	Cost of Service	0.105486530	3,477,809	0	0.00000000	3,477,809	0.0713	248,103
2	AMR Intangible related PIS	415,236	Cost of Service	0.105486530	43,802	0	0.00000000	43,802	0.0713	3,125
3	Working Capital Gas Inventory	52,457,645	Total Rate Base	0.113101619	5,933,045	0	0.00000000	5,933,045	0.0713	423,258
4	Working Capital - Working Cash - O&M Purchased Gas	5,584,312	Cost of Service	0.105486530	589,070	0	0.00000000	589,070	0.0713	42,024
5	Services A/C 380	248,048,065	Services Weighted Customers	0.021000000	5,209,009	1,311,611	0.00528773	3,897,398	0.0713	278,037
6	Meters A/C 381	28,150,505	Meters Weighted Customers	0.045000000	1,266,773	1,061,762	0.03771733	205,011	0.0713	14,625
7	House Regulators & Install A/C 383-4	9,540,154	Regulators Weighted Customers	0.032000000	305,285	186,920	0.01959298	118,365	0.0713	8,444
8	EGM Equipment A/C 385	320,088	C & I Customers	0.006928119	2,218	320,088	1.00000000	(317,870)	0.0713	(22,677)
9	Total Rate Base Related Costs									994,939
10										
11										
12	A/C 920-1 Assigned to Transports	35,208			0	35,208	1.00000000	(35,208)		(35,208)
13	A/C 923 Assigned to Sales	1,485,054			0	1,485,054	1.00000000	1,485,054		1,485,054
14	Uncollectibles-A/C 904	3,455,836	Cost of Service	0.105486530	364,544	84,644	0.02449306	279,900		279,900
15	Sales Expenses	773,040	Cost of Service	0.105486530	81,545	0	0.00000000	81,545		81,545
16	Total O&M Exp Related Costs									1,811,291
17										
18										
19	AMR Amortization - AMR Beta	27,682	Gross NON-GENERAL PLANT	0.107519598	2,976	0	0.00000000	2,976		2,976
20	AMR Depreciation - Gen Pt A/C 397.1	1,648,461	Total COS	0.105486530	173,890	0	0.00000000	173,890		173,890
21	Total Depr & Amort Related Costs									176,867
22										
23										
24	Other Op Rev-Late Pay Charge A/C 487	983,440	Cost of Service	0.105486530	103,740	160,189	0.16288640	56,449		56,449
25	Other Op Rev-Misc Service Chg A/C 488	3,073,529	Cost of Service	0.105486530	324,216	500,636	0.16288638	176,420		176,420
26	Total Offsetting Revenue Related									232,869
27										
28	Subtotal - AMR Related								428,095	
29	Subtotal - Other								2,787,872	
30	**Subtotal - this page**									**3,215,967**
31										
32	**Mains Costs** from Schedule CDL-Reb-4 Page 1									1,776,714
33										
34	**Grand Total**									**4,992,681**
35										

36 (1) Actually total COS or Required Margin Revenue
37 (2) Actually LVS & LGS

Sources: Column

b	Various pages from Schedule CDL-15 and as revised at Schedule CDL-Reb-1
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38
39 (3) Fixed Charged Rates

41 Return	30,509,229	0.058804568
42 FIT	6,503,183	0.012534465
43 Depreciation	26,966,363	0.051975923
44		
45 Rate Base	518,824,134	
46		
47 Return, FIT & Depr		0.123314956
48 Return & FIT Only		0.071339033

Schedule CDL-Reb-5
Page 3 of 3

File: MiscCalcRev.xls
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Source: COSS
Prep: CDL

Missouri Gas Energy
Case No GR-2001-292

Summary of Proposed Revenue Changes

Line	Item		Rate Increase this Case	Residential Service	Small Gen Service	Large Gen Service	Large Vol Service
					First Year		
1			15,000,000	12,032,395	2,411,911	132,100	423,593
2		(1) --->	10,000,000	8,496,334	1,434,601	28,077	40,988
3			8,000,000	7,081,910	1,043,677	(13,532)	(112,055)
4			5,000,000	4,960,273	457,291	(75,946)	(341,618)
5							
6					Second Year		
7							
8			15,000,000	2,220,677	(810,829)	(280,615)	(1,129,233)
9		(1) --->	10,000,000	2,145,084	(783,228)	(271,063)	(1,090,793)
10			8,000,000	2,114,846	(772,188)	(267,242)	(1,075,417)
11			5,000,000	2,069,490	(755,627)	(261,510)	(1,052,353)
12							
13					Third Year		
14							
15			15,000,000	2,537,917	(926,662)	(320,703)	(1,290,552)
16		(1) --->	10,000,000	2,451,524	(895,118)	(309,786)	(1,246,621)
17			8,000,000	2,416,967	(882,500)	(305,419)	(1,229,048)
18			5,000,000	2,365,132	(863,574)	(298,869)	(1,202,689)
19							
20					Total Changes over 3 Years		
21							
22			15,000,000	16,790,989	674,420	(469,217)	(1,996,192)
23		(1) --->	10,000,000	13,092,942	(243,745)	(552,771)	(2,296,426)
24			8,000,000	11,613,723	(611,010)	(586,193)	(2,416,520)
25			5,000,000	9,394,895	(1,161,909)	(636,325)	(2,596,661)
26							
27	(1) Point of reference only						

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Source: COSS
Prep: CDL

Missouri Gas Energy
Case No GR-2001-292

Summary of COSS and Proposed Revenue Spread Fractions

Line	Item		Total	Residential Service	Small Gen Service	Large Gen Service	Large Vol Service
1	MGE Current Revenue		131,882,802	91,844,916	26,298,088	2,923,751	10,816,047
2	Revenue Percents			0.696413138	0.199404984	0.022169312	0.082012566
3							
4			**MGUA Mod I Revised COSS - ROR/Rev Neutral**				
5							
6	COSS		131,882,802	98,214,491	23,941,594	2,131,273	7,595,444
7	COSS Percents		1.000000000	0.744710377	0.181536889	0.016160356	0.057592378
8							
9							
10			**MGUA Mod I Revised COSS - Full Rev Req**				
11							
12	COSS		171,764,266	127,038,471	31,541,562	2,870,324	10,313,910
13	COSS Percents		1.000000000	0.739609430	0.183632850	0.016710832	0.060046888
14							
15	Ratio of Current Revenue Fractions			94.2	108.6	132.7	136.6
16	to Full Cost Fractions - %						
17							
18							
19			**Proposed First Year Spread**				
20							
21		Weight					
22	Cur Rev	0.750000	1.000000000	0.707212211	0.195461950	0.020804692	0.076521146
23	Full COSS	0.250000					
24							
25			**Proposed Second Year Spread**				
26							
27		Weight					
28	Cur Rev	0.400000	1.000000000	0.722330913	0.189941704	0.018894224	0.068833159
29	Full COSS	0.600000					
30							
31			**Proposed Third Year Spread**				
32							
33		Weight					
34	Cur Rev	0.000000	1.000000000	0.739609430	0.183632850	0.016710832	0.060046888
35	Full COSS	1.000000					

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Missouri Gas Energy
Case No GR-2001-292

Proposed First Year Revenue Spread

Line	Item	Spread on Weighted Total	0.75 Residential Service	Current Rev Small Gen Service	0.25 Large Gen Service	Full COSS Large Vol Service
1						
2	Rev Spread	1.000000000	0.707212211	0.195461950	0.020804692	0.076521146
3						
4	Increased Levels	171,764,270	121,473,789	33,573,379	3,573,503	13,143,599
5	of Total Revenue	156,882,802	110,949,433	30,664,618	3,263,898	12,004,852
6		151,882,802	107,413,372	29,687,309	3,159,875	11,622,246
7		146,882,802	103,877,311	28,709,999	3,055,851	11,239,640
8	(1) --->	141,882,802	100,341,250	27,732,689	2,951,828	10,857,035
9		139,882,802	98,926,826	27,341,765	2,910,219	10,703,992
10		136,882,802	96,805,189	26,755,379	2,847,805	10,474,429
11		131,882,802	93,269,128	25,778,070	2,743,781	10,091,823
12		130,000,000	91,937,587	25,410,054	2,704,610	9,947,749
13						
14	Current Revenue	131,882,802	91,844,916	26,298,088	2,923,751	10,816,047
15						
16	Revenue Increases	39,881,468	29,628,873	7,275,291	649,752	2,327,552
17	(Decreases)	25,000,000	19,104,517	4,366,530	340,147	1,188,805
18		20,000,000	15,568,456	3,389,221	236,124	806,199
19		15,000,000	12,032,395	2,411,911	132,100	423,593
20	(1) --->	10,000,000	8,496,334	1,434,601	28,077	40,988
21		8,000,000	7,081,910	1,043,677	(13,532)	(112,055)
22		5,000,000	4,960,273	457,291	(75,946)	(341,618)
23		0	1,424,212	(520,018)	(179,970)	(724,224)
24		(1,882,802)	92,671	(888,034)	(219,141)	(868,298)
25						
26	(1) Point of reference only					

File: MiscCalcRev.xls
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Missouri Gas Energy
Case No GR-2001-292

Proposed Second Year Revenue Spread

	Spread on Weighted	0.400000	Current Rev	0.6	Full COSS
Line	Item	Total	Residential Service	Small Gen Service	Large Gen Service	Large Vol Service
1						
2	Rev Spread	1.000000000	0.722330913	0.189941704	0.018894224	0.068833159
3						
4	Increased Levels	171,764,270	124,070,642	32,625,198	3,245,353	11,823,077
5	of Total Revenue	156,882,802	113,321,298	29,798,587	2,964,179	10,798,739
6		151,882,802	109,709,643	28,848,878	2,869,708	10,454,573
7		146,882,802	106,097,988	27,899,170	2,775,237	10,110,407
8	(1) --->	141,882,802	102,486,334	26,949,461	2,680,765	9,766,242
9		139,882,802	101,041,672	26,569,578	2,642,977	9,628,575
10		136,882,802	98,874,679	25,999,753	2,586,294	9,422,076
11		131,882,802	95,263,025	25,050,044	2,491,823	9,077,910
12		130,000,000	93,903,019	24,692,421	2,456,249	8,948,311
13						
14	Current Revenue	131,882,802	91,844,916	26,298,088	2,923,751	10,816,047
15						
16	Revenue Increases	39,881,468	32,225,726	6,327,110	321,602	1,007,030
17	(Decreases)	25,000,000	21,476,382	3,500,499	40,428	(17,308)
18		20,000,000	17,864,727	2,550,790	(54,043)	(361,474)
19		15,000,000	14,253,072	1,601,082	(148,514)	(705,640)
20	(1) --->	10,000,000	10,641,418	651,373	(242,986)	(1,049,805)
21		8,000,000	9,196,756	271,490	(280,774)	(1,187,472)
22		5,000,000	7,029,763	(298,335)	(337,457)	(1,393,971)
23		0	3,418,109	(1,248,044)	(431,928)	(1,738,137)
24		(1,882,802)	2,058,103	(1,605,667)	(467,502)	(1,867,736)
25						
26	(1) Point of reference only					

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Missouri Gas Energy
Case No GR-2001-292

Proposed Third Year Revenue Spread

	Spread on Weighted	0.000000	Current Rev	1.000000	Full COSS
Line	Item	Total	Residential Service	Small Gen Service	Large Gen Service	Large Vol Service
1						
2	Rev Spread	1.000000000	0.739609430	0.183632850	0.016710832	0.060046888
3						
4	Increased Levels	171,764,270	127,038,474	31,541,562	2,870,324	10,313,910
5	of Total Revenue	156,882,802	116,032,000	28,808,836	2,621,642	9,420,324
6		151,882,802	112,333,953	27,890,672	2,538,088	9,120,090
7		146,882,802	108,635,905	26,972,508	2,454,534	8,819,855
8	(1) --->	141,882,802	104,937,858	26,054,343	2,370,980	8,519,621
9		139,882,802	103,458,639	25,687,078	2,337,558	8,399,527
10		136,882,802	101,239,811	25,136,179	2,287,426	8,219,386
11		131,882,802	97,541,764	24,218,015	2,203,871	7,919,152
12		130,000,000	96,149,226	23,872,271	2,172,408	7,806,095
13						
14	Current Revenue	131,882,802	91,844,916	26,298,088	2,923,751	10,816,047
15						
16	Revenue Increases	39,881,468	35,193,558	5,243,474	(53,427)	(502,137)
17	(Decreases)	25,000,000	24,187,084	2,510,748	(302,109)	(1,395,723)
18		20,000,000	20,489,037	1,592,584	(385,663)	(1,695,957)
19		15,000,000	16,790,989	674,420	(469,217)	(1,996,192)
20	(1) --->	10,000,000	13,092,942	(243,745)	(552,771)	(2,296,426)
21		8,000,000	11,613,723	(611,010)	(586,193)	(2,416,520)
22		5,000,000	9,394,895	(1,161,909)	(636,325)	(2,596,661)
23		0	5,696,848	(2,080,073)	(719,880)	(2,896,895)
24		(1,882,802)	4,304,310	(2,425,817)	(751,343)	(3,009,952)
25						
26	(1) Point of reference only					

File: MiscCalcRev.xls
Tab: RevSpreadRebuttal
Date: May 16 , 2001
Source: COSS
Prep: CDL

Missouri Gas Energy
Case No GR-2001-292

Summary of Revenue Change from Years 1 to 2 and 2 to 3

Line	Item	Rate Increase this Case	Residential Service	Small Gen Service	Large Gen Service	Large Vol Service
			Change from First to Second Year			
1	Revenue Increases	39,881,468	2,596,853	(948,181)	(328,150)	(1,320,522)
2	(Decreases)	25,000,000	2,371,864	(866,032)	(299,720)	(1,206,113)
3		20,000,000	2,296,271	(838,431)	(290,167)	(1,167,673)
4		15,000,000	2,220,677	(810,829)	(280,615)	(1,129,233)
5	(1) --->	10,000,000	2,145,084	(783,228)	(271,063)	(1,090,793)
6		8,000,000	2,114,846	(772,188)	(267,242)	(1,075,417)
7		5,000,000	2,069,490	(755,627)	(261,510)	(1,052,353)
8		0	1,993,897	(728,026)	(251,958)	(1,013,913)
9		(1,882,802)	1,965,431	(717,632)	(248,361)	(999,438)
10						
11						
12			**Change from Second to Third Year**			
13						
14	Revenue Increases	39,881,468	2,967,832	(1,083,636)	(375,029)	(1,509,167)
15	(Decreases)	25,000,000	2,710,702	(989,751)	(342,537)	(1,378,415)
16		20,000,000	2,624,310	(958,206)	(331,620)	(1,334,483)
17		15,000,000	2,537,917	(926,662)	(320,703)	(1,290,552)
18	(1) --->	10,000,000	2,451,524	(895,118)	(309,786)	(1,246,621)
19		8,000,000	2,416,967	(882,500)	(305,419)	(1,229,048)
20		5,000,000	2,365,132	(863,574)	(298,869)	(1,202,689)
21		0	2,278,739	(832,029)	(287,952)	(1,158,758)
22		(1,882,802)	2,246,207	(820,151)	(283,841)	(1,142,215)
23						
24	(1) Point of reference only					

File: MiscCalcRev.xls
Tab: RevSpreadRebuttal
Date: May 16 , 2001
Source: COSS
Prep: CDL

Missouri Gas Energy
Case No GR-2001-292

Revenue Requirement Spread on MGUA Mod I Revised COSS - Full

Line	Item	Total	Residential Service	Small Gen Service	Large Gen Service	Large Vol Service
1	COSS	171,764,266	127,038,471	31,541,562	2,870,324	10,313,910
2	COSS Percents	1.000000000	0.73960943	0.18363285	0.016710832	0.060046888
3						
4	Increased Levels	171,764,270	127,038,474	31,541,562	2,870,324	10,313,910
5	of Total Revenue	156,882,802	116,032,000	28,808,836	2,621,642	9,420,324
6		151,882,802	112,333,953	27,890,672	2,538,088	9,120,090
7		146,882,802	108,635,905	26,972,508	2,454,534	8,819,855
8	(1) --->	141,882,802	104,937,858	26,054,343	2,370,980	8,519,621
9		139,882,802	103,458,639	25,687,078	2,337,558	8,399,527
10		136,882,802	101,239,811	25,136,179	2,287,426	8,219,386
11		131,882,802	97,541,764	24,218,015	2,203,871	7,919,152
12		130,000,000	96,149,226	23,872,271	2,172,408	7,806,095
13						
14	Current Revenue	131,882,802	91,844,916	26,298,088	2,923,751	10,816,047
15			1.3092942			
16	Revenue Increases	39,881,468	35,193,558	5,243,474	(53,427)	(502,137)
17	(Decreases)	25,000,000	24,187,084	2,510,748	(302,109)	(1,395,723)
18		20,000,000	20,489,037	1,592,584	(385,663)	(1,695,957)
19		15,000,000	16,790,989	674,420	(469,217)	(1,996,192)
20	(1) —>	10,000,000	13,092,942	(243,745)	(552,771)	(2,296,426)
21		8,000,000	11,613,723	(611,010)	(586,193)	(2,416,520)
22		5,000,000	9,394,895	(1,161,909)	(636,325)	(2,596,661)
23		0	5,696,848	(2,080,073)	(719,880)	(2,896,895)
24		(1,882,802)	4,304,310	(2,425,817)	(751,343)	(3,009,952)
25						
26	(1) Point of reference only					

File: MiscCalcRev.xls
Tab: RevSpreadRebuttal
Date: May 16 , 2001
Source: COSS
Prep: CDL

Missouri Gas Energy
Case No GR-2001-292

MGE Original Proposal - Spread on Current Revenue

Line	Item	Total	Residential Service	Small Gen Service	Large Gen Service	Large Vol Service
1	Current Revenue	131,882,802	91,844,916	26,298,088	2,923,751	10,816,047
2	Percents	1.000000000	0.696413138	0.199404984	0.022169312	0.082012566
3						
4	Increased Levels	171,764,270	119,618,894	34,250,651	3,807,896	14,086,829
5	of Total Revenue	156,882,802	109,255,244	31,283,213	3,477,984	12,866,361
6		151,882,802	105,773,179	30,286,188	3,367,137	12,456,298
7		146,882,802	102,291,113	29,289,163	3,256,291	12,046,235
8	(1) --->	141,882,802	98,809,047	28,292,138	3,145,444	11,636,173
9		139,882,802	97,416,221	27,893,328	3,101,105	11,472,148
10		136,882,802	95,326,982	27,295,113	3,034,598	11,226,110
11		131,882,802	91,844,916	26,298,088	2,923,751	10,816,047
12		130,000,000	90,533,708	25,922,648	2,882,011	10,661,634
13						
14	Current Revenue	131,882,802	91,844,916	26,298,088	2,923,751	10,816,047
15						
16	Revenue Increases	39,881,468	27,773,978	7,952,563	884,145	3,270,782
17	(Decreases)	25,000,000	17,410,328	4,985,125	554,233	2,050,314
18		20,000,000	13,928,263	3,988,100	443,386	1,640,251
19		15,000,000	10,446,197	2,991,075	332,540	1,230,188
20	(1) --->	10,000,000	6,964,131	1,994,050	221,693	820,126
21		8,000,000	5,571,305	1,595,240	177,354	656,101
22		5,000,000	3,482,066	997,025	110,847	410,063
23		0	0	0	0	0
24		(1,882,802)	(1,311,208)	(375,440)	(41,740)	(154,413)
25						
26	(1) Point of reference only					