Exhibit No.:	
Issue(s):	Cost of Service Rate Design
Witness:	Barb Meisenheimer
Type of Exhibit:	Surrebuttal
Sponsoring Party:	Public Counsel
Case Number:	GR-2009-0355
Date Testimony Prepared:	October 14, 2009

SURREBUTTAL TESTIMONY

OF

BARBARA A. MEISENHEIMER

Submitted on Behalf of
the Office of the Public Counsel

MISSOURI GAS ENERGY

Case No. GR-2009-0355

October 14, 2009

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.	))))	Case No. GR-2009-0355

AFFIDAVIT OF BARBARA A. MEISENHEIMER

STATE OF MISSOURI)
) ss
COUNTY OF COLE)

Barbara A. Meisenheimer, of lawful age and being first duly sworn, deposes and states:

1. My name is Barbara A. Meisenheimer. I am Chief Utility Economist for the Office of the Public Counsel.

2. Attached hereto and made a part hereof for all purposes is my surrebuttal testimony.

3. I hereby swear and affirm that my statements contained in the attached testimony are true and correct to the best of my knowledge and belief.

Barbara A. Meisenheimer

Subscribed and sworn to me this 14th day of October 2009.

NOTARY PUBLIC NOTARY SEAL STATE OF MISSOURI

SHYLAH C. BROSSIER
My Commission Expires
June 8, 2013
Cole County
Commission #09812742

Shylah C. Brossier
Notary Public

My Commission expires June 8th, 2013.

SURREBUTTAL TESTIMONY

OF

BARBARA MEISENHEIMER

CASE NO. GR-2009-0355

MISSOURI GAS ENERGY

I. INTRODUCTION

Q. PLEASE STATE YOUR NAME, TITLE, AND BUSINESS ADDRESS.

A. Barbara A. Meisenheimer, Chief Utility Economist, Office of the Public Counsel, P. O. 2230, Jefferson City, Missouri 65102.

Q. HAVE YOU TESTIFIED PREVIOUSLY IN THIS CASE?

A. Yes, I filed direct testimony on rate design issues on September 3, 2009. I also filed rebuttal testimony on September 28, 2009.

Q. WHAT IS THE PURPOSE OF YOUR TESTIMONY?

A. The purpose of my testimony is to respond to portions of the rebuttal testimony of Russell Feingold, Jay F. Cummings and Phillip Thompson filed on behalf of Missouri Gas Energy (MGE), and the rebuttal testimony of Anne Ross filed on behalf of the Missouri Public Service Commission Staff (Staff).

II. RESPONSE TO REBUTTAL ON LOW INCOME CONSUMPTION

Q. COMPANY WITNESS DR. PHILIP B. THOMPSON SUBMITTED THE RESULTS OF A STUDY HE CONDUCTED ON 1998 TO 2000 DATA THAT ATTEMPTS TO DRAW THE CONCLUSION THAT LOW INCOME CUSTOMERS USE MORE GAS THAN HIGHER INCOME CUSTOMERS AND THEREFORE HIGHER CUSTOMER CHARGES ARE NOT

REGRESSIVE. WHAT IS YOUR RESPONES TO THE STUDY AND THE CONCLUSIONS THAT DR. THOMPSON DRAWS FROM IT?

A. Based on a description of the data used, Dr. Thompson's study is based on characteristics aggregated for customers within zip code. He then compares the characteristics of these zip codes. It is not based on an examination of comparing individual customers' income and usage characteristics. For example, a metropolitan area might include zip codes populated by a mix of high income and low income customers with differing use characteristics. His study blends these characteristics. Some zip codes might include a small geographic area consisting of a few city blocks while others might include the population of an entire town. I do not believe that Dr. Thompson's study is sufficiently disaggregated to compare specific patterns of income and consumption for low and high income households. Further, Dr. Thompson's study contradicts both historic and recent evidence regarding the relationship between income and consumption for low income households relative to households at higher income levels. Information from the U.S. Department of Energy, the U.S. Department of Health and Human Services (which administers the Low-Income Home Energy Assistance Program (LIHEAP)) and the U.S. Bureau of Labor Statistics Consumer Expenditures Survey (CES) demonstrate that on average low-income households actually have **lower** natural gas usage than higher income households.

A 2001 analysis of national energy use by household income derived from the 1997 Residential Energy Consumption Survey (RECS), appears on the U.S. Department of Energy website. This analysis concludes "...natural gas

consumption and expenditures per household did vary by household income—higher income households consumed more and spent more on average. Higher income households lived in larger housing units, which require more energy for heating." The 2001 and 2005 updates of the 1997 RECS also show that higher income households consume more natural gas and live in larger housing units than do low income households. See BAM SUR Schedules 3-5.

These DOE findings are consistent with results published in the LIHEAP Home Energy Notebook for Fiscal Years 2004 and 2007, by the Division of Energy Assistance within the Office of Community Services, U.S. Department of Health and Human Services. The LIHEAP Home Energy Notebook provides information on consumption by geographic region. For both 2004 and 2007, for the Midwest Region, West North Central Division that includes Missouri higher income households in the Midwest have higher average natural gas consumption than low income households. See BAM SUR Schedules 1-2.

The finding that high income consumers on average use more than low income consumers is also supported by the annual Consumer Expenditures reported by the U.S. Department of Labor, Bureau of Labor Statistics. Based on actual data provided by households, there is a direct relationship between income and natural gas expenditures. The results of the Consumer Expenditure Survey for 1998 to 2008 are shown below.

Average Annual Expenditures On Natural Gas									
	Before Tax Income								
Year	Less than $5,000	$5,000 to $9,999	$10,000 to $14,999	$15,000 to $19,999	$20,000 to $29,999	$30,000 to $39,999	$40,000 to $49,999	$50,000 to $69,999	$70,000 and Over
1998	139	193	205	241	266	254	292	324	415
1999	129	162	199	233	233	241	270	302	398
2000	165	172	227	259	263	292	307	359	458
2001	214	226	317	307	352	382	403	464	579
2002	158	164	221	237	279	319	340	342	485
2003	189	207	295	320	325	350	382	423	564
2004	159	210	282	301	357	384	434	450	617
2005	250	233	306	372	394	401	447	499	676
2006	261	256	345	365	430	431	475	555	696
2007	216	215	286	348	352	405	427	481	709
2008	253	292	331	340	411	474	507	536	742

With very few exceptions, higher incomes are associated with higher natural gas expenditures.

Q. IN ADDITION TO HIS STUDY, DR. THOMPSON REVIEWED DATA PROVIDED BY MGE REGARDING THE CONSUMPTION OF LIHEAP CUSTOMERS. FROM THIS REVIEW HE CONCLUDED THAT LIHEAP RECIPIENTS EXHIBIT HIGHER THAN AVERAGE NATURAL GAS CONSUMPTION. IS DR. THOMPSON'S RESULT INCONSISTENT WITH THE STUDY RESULTS DESCRIBED ABOVE?

A. No. LIHEAP recipients receive a subsidy specifically targeted to offset the cost of natural gas consumption; it is not surprising that they have use similar to higher income households. However, LIHEAP recipients represent only a subset of low income households and are not representative of the total population of low income households. In fact, only about 30% of households eligible for LIHEAP actually receive assistance. The result is that despite the higher natural gas consumption by LIHEAP households the average natural gas consumption for all low income households (including LIHEAP recipients) is lower than for higher income households.

This result is supported by both the information from the Department of Energy and Department of Health and Human Services which acknowledges that LIHEAP recipients have higher average use than the total population of low income households, but that in total, the average use for low income households is lower than for higher income households.

Q. HAVE YOU PERFORMED AN ADDITIONAL ANALYSIS THAT INDICATES THAT LIHEAP RECIPIENTS ARE ONLY A FRACTION OF THE LOW-INCOME POPULATION?

A. Yes. Using 2000 US Census data for the Missouri counties that MGE serves, I found that approximately 20% of households in those counties had household incomes below 150% of the Federal Poverty Level. MGE serves approximately 438,000 residential customers in Missouri. Assuming MGE customers have a similar income distribution to the household incomes in the counties that MGE serves, the Company serves approximately 90,446 households below 150% of the Federal Poverty Level. However, Mr. Thompson's testimony implies that only 12,495 of MGE's customers are LIHEAP recipients, which represents only about 14% of households that can be considered low-income.

Q. HAVE YOU PERFORMED ADDITIONAL AN ANALYSIS THAT INDICATES THAT LIHEAP RECIPIENTS EXHIBIT HIGHER NATURAL GAS CONSUMPTION THAN THE AVERAGE CONSUMPTION OF THE LOW-INCOME POPULATION?

A. Yes. Using a weighted sample of individual household income and consumption data from the Department of Energy's 2005 Residential Energy Consumption Survey for the Midwest Region, West North Central Division that includes

Missouri, I calculated the average consumption by categories of income relative to the poverty level for households with reported natural gas usage. I performed the calculations for all households and the subset of households receiving energy assistance for households at or below the Federal Poverty Level (FPL), at or below 125% of the FPL, at or below 150% of the FPL. The results indicate that for each level of household income relative to the FPL, low-income households receiving targeted energy assistance used more than the average of all low income customers and that for each level of household income, low-income customers on average used less than households above 150% of the FPL.

Q. BASED ON YOUR INVESTIGATION DO YOU BELIEVE THAT REINSTATING A TRADITIONAL RATE DESIGN WOULD BE REGRESSIVE?

A. No. On average, low-income households use less natural gas than higher income households so a traditional rate design would not be regressive.

III. RESPONSE TO RATE DESIGN REBUTTAL

Q. MS. ROSS CLAIMS TO BE STRUCK BY THE WAY IN WHICH YOUR TESTIMONY USES THE TERM "SFV" BECAUSE SHE FOCUSES ON THE IMPACT ON THE TOTAL BILL AS OPPOSED TO THE IMPACT ON THE NON-GAS PORTION OF THE CUSTOMER'S BILL. WHY IS IT APPROPRIATE TO FOCUS ON THE IMPACT OF THE SFV ON THE NON-GAS PORTION OF THE BILL?

A. As Ms Ross appears to agree, the gas commodity rates are not at issue in this case. Theoretically, the PGA rate represents a dollar for dollar pass-through of

the cost of gas and does not recover the cost of MGE's local distribution system. The focus of my direct testimony was that recovering all non-gas costs through a fixed charge removes the price signal associated with the non-gas charges on the bill and contradicts the cost studies submitted by MGE, Staff and OPC that allocate at least some portion of costs on the basis of commodity and peak demand related factors.

Q. MS. ROSS CRITICIZES THE COMPARISON OF THE INCREASED RATES PAID BY RESIDENTIAL CUSTOMERS UNDER THE SFV RATE DESIGN AND THE CONSERVATION SAVINGS DESCRIBED IN YOUR DIRECT TESTIMONY ARGUING THAT THE TIME PERIOD REFLECTED IN THE COMPARISON HAS A SIGNIFICANT IMPACT ON THE RESULTS. PLEASE COMMENT ON YOUR USE OF THE 21 MONTH TIME PERIOD RUNNING FROM APRIL 2007 – DECEMBER 2008.

A. My choice of the 21 month time period was based on Company witness Hendershot's direct testimony and the date on which the SFV rates went into effect. On page 4, line 31, of his direct testimony, Mr. Hendershot provided an estimate of the annual Ccf savings resulting from the conservation program as of December of 2008. The SFV rates became effective in April 2007. If I had extended the comparison through April 2009, which includes an additional winter the comparison would have still resulted in MGE collecting millions more in rates than the savings attributable to the program. I fully acknowledge that the period over which the comparison is made has a significant impact on the results but this highlights one of the many deficiencies of the SFV rate

design. While the SFV rate design was granted in exchange for conservation programs, the over or under collection of revenue during any period under the SFV bears no relation to the level of conservation actually achieved. Public Counsel's witness Ryan Kind has proposed a mechanism in rebuttal testimony that aligns the actual saving to customers from conservation to the revenue provided to MGE for conducting conservation programs.

Q. FROM PAGE 5, LINE 12, THROUGH PAGE 7, LINE 11, OF HER REBUTTAL TESTIMONY, MS. ROSS DISCUSSES DR. BONBRIGHT'S DESCRIPTION OF FIXED COSTS AND VARIABLE COSTS AND ATTEMPTS TO LINK YOUR DISCUSSION OF HOW COSTS SHOULD BE RECOVERED TO THESE DESCRIPTIONS. DO YOU BELIEVE THAT MS. ROSS HAS FAIRLY CHARACTERIZED YOUR TESTIMONY?

A. No. While I agree with Dr. Bonbright's description of fixed and variable costs, Ms. Ross confuses the characteristics of fixed and variable costs with appropriate methods of recovery of those costs based on how costs are incurred. Ms. Ross fails to recognize that the level of fixed costs incurred may depend on a number of factors including usage based and geographic considerations. Once an investment is made, it may be considered a fixed cost but it does not dictate the manner in which the fixed cost should be recovered. For example, the cost of mains depends in part on the level of demand reflected in planning for capacity requirements. Design day demand which is used for planning capacity requirements is developed based on historic demand during extremely cold weather that reflects variation in use across customers. Higher anticipated demand causes larger sized mains to be placed and a larger level of total mains

investment. Because the level of fixed cost in mains investment depends in part on demand that varies among customers, the investment should not be recovered in a uniform fixed charge. Similarly, the level of mains investment may be related to the dispersion of customer dwellings and businesses across the service territory, but the investment to reach each customer is not uniform so it is not required by cost causative principles to recover the fixed cost of the investment in a uniform fixed charge.

Q. ARE THERE ADDITIONAL EXAMPLES ILLUSTRATING THAT MS. ROSS CONFUSES CHARACTERISTICS OF FIXED AND VARIABLE COSTS WITH APPROPRIATE METHODS OF RECOVERY BASED ON HOW COSTS ARE INCURRED?

A. Yes. Ms Ross states that I claim that there are not many, if any, fixed costs. However, I made no statement in my direct testimony regarding the level of costs that are fixed cost or variable costs.

She also states the following regarding my direct testimony;

> A. OPC does not have a definition for variable cost, but implies in the discussion that any cost that *is in any* way related to a customer's usage is a variable cost. For example, on p. 9, lines 13-18, Ms. Meisenheimer states that: The SFV rate design is inappropriate for recovering all non-gas costs because while the SFV is a fixed fee that recovers all non-gas costs, a portion of costs vary with use. The Company's cost of service studies identify a significant portion of costs as demand related. As illustrated below, the Company study shows over 20% of the costs of serving the Residential class is demand related.

This statement quoted from my testimony was taken out of context. The question and answer that appeared in my testimony addresses the problem of

using a uniform fixed fee to collect costs that are caused in part based on demand;

> Q. DOES THE SFV RATE DESIGN MEET THE OBJECTIVE OF DESIGNING RATES BASED ON COST CAUSATION?
>
> A. No. The SFV rate design is inappropriate for recovering all non-gas costs because while the SFV is a fixed fee that recovers all non-gas costs, a portion of costs vary with use. Even the Company acknowledges that some portion of costs vary with use. The Company's cost of service studies identify a significant portion of cost as demand related. As illustrated below, the Company study shows over 20% of the cost of serving the Residential class is demand related.…

Q. MS. ROSS STATES THAT YOU CLAIM THAT ADOPTION OF THE SFV RATE DESIGN ELIMINATED ALL OF MGE'S EARNINGS RISK CITING YOUR DIRECT TESTIMONY AT PAGE 18. HAS SHE CORRECTLY CHARACTERIZED YOUR TESTIMONY?

A. No. The portion of my testimony quoted by Ms. Ross was a general statement. It is inaccurate to characterize the statement in my testimony as applying to eliminating earnings risk associated with all customer classes. As she acknowledges later in her testimony, the elimination of risk I associated with the SFV was the weather-related risk that is shifted from MGE to its residential customers.

Q. HOW CAN ELIMINATION OF WEATHER RISK DIMINISH THE MOTIVATION FOR EFFICIENCY CHARACTERISTIC OF COMPETITIVE FIRMS?

A. Competitive firms that are not assured stable revenue and profit streams have significant motivation to minimize costs. The SFV assures MGE a fixed level of revenue per customer each year, between rate cases, which MGE is not

guaranteed under a traditional rate design. This coupled with a regulatory structure that allows the Company a dollar for dollar pass through of gas costs and the ability to seek non-gas rate increases associated with increases in non-gas costs creates more stable revenue and profit streams from residential customers than would be expected in a competitive environment subject to similar weather related risk.

Q. PLEASE RESPOND TO THE CLAIM BY MS. ROSS THAT APPEARS AT PAGE 8, LINE 21, OF HER REBUTTAL TESTIMONY THAT THE SFV RATE DESIGN HAS ACTUALLY ELIMINATED WEATHER RISK FOR MGE'S RESIDENTIAL CUSTOMERS.

A. In support of her claim that the SFV stabilizes residential bills and the Company's earnings, Ms. Ross argues that during the test year ending December 31, 2008, the Company collected approximately $2.2 million less in residential rates than would have been collected under a traditional rate design. She fails to acknowledge that over the entire period during which the SFV rate design has been in effect, the SFV collected over $2.9 million more than would have been collected under a traditional rate design or that for the 12 months ending at the update to the test year, April 30, 2008, the SFV would have collected $1.66 million more than a traditional rate design.

Ms. Ross also focuses her support for the SFV on the impact of space heating customers based on an assumption that the cost of serving residential customer's is uniform despite acknowledging on page 7, that some costs have a demand related component. For example, the Staff uses a method of allocating

over 50% of mains investment and the expenses associated with mains to customer classes based on the class share of use of incremental capacity by month. This method assigns the residential class a larger proportion of mains cost based on higher demand during winter months. As can be seen by the chart on page 15, of Ms. Ross's rebuttal testimony, residential use of capacity in February is approximately 13 times higher than in August. However, the Staff ignores this cost driver in designing rates by continuing to support a rate design that collects the same amount of non-gas costs in a winter month as in a summer month. Traditional rate design on the other hand would collect a higher amount of costs consistent with higher winter use.

Q. DOES MS. ROSS DISPUTE THAT USE PER CUSTOMER PER MONTH VARIES SIGNIFICANTLY WITHIN THE RESIDENTIAL CLASS?

A. No. Ms. Ross includes Schedule 1 to her testimony which contains a portion of the MGE data request response that confirms that the monthly use per customer varies significantly within the class ranging from as little as 0-50 Ccfs per month to over 5000 Ccf per month. Schedule 1 to her testimony also illustrates that the pattern of use differs between months. For example, in the summer months of July and August, 99% of customers have use in the range of 0-50 Ccf while in the winter month of February, the use for 99% of customers is distributed over usage ranges of up to 301-400 Ccf.

Q. WHY IS THIS VARIATION SIGNIFICANT IN DESIGNING RATES?

A. The significant variation in demand per customer, and the seasonal variation in the distribution of use illustrate that the residential class is not as homogeneous as alleged by MGE and Staff.

Q. MS ROSS CONTENDS THAT YOUR CHARACTERIZATION OF USAGE DIFFERENCES AMONG RESIDENTIAL CUSTOMERS AS 'SIGNIFICANT' FOR PURPOSES OF COST ALLOCATION AND RATE DESIGN IN THIS CASE IS MISLEADING. DO YOU AGREE?

A. No. As I explained above, the significance in the range of residential use is to illustrate that use within the class is not uniform and does not justify uniform recovery of demand or commodity related costs.

Q. MS. ROSS CONTENDS THAT YOUR CHARACTERIZATION OF THE DIFFERENCES OF A RESIDENTIAL CUSTOMER ON THE CURRENT SFV RATE DESIGN AND TRADITIONAL RATE DESIGN IS MISLEADING. DO YOU AGREE?

A. No. I thought it appropriate to show the Commission the full range of potential bill impacts, both positive and negative as well as the average impact as shown in the table in my direct testimony.

Q. MS. ROSS CONTENDS THAT YOUR STATEMENT THAT THE SFV RATE DESIGN MEANS THAT CUSTOMERS DO NOT HAVE ANY CONTROL OVER THE CHARGES THEY PAY TO THE SERVICE PROVIDER IS INCORRECT. HOW DO YOU RESPOND?

A. The statement Ms. Ross quotes was intended to describe a customer's lack of control over the non-gas charges paid to MGE under the SFV rate design.

Q. MR. FEINGOLD DISAGREES WITH YOUR ALLOCATION OF MEASURING EQUIPMENT BASED ON ANNUAL VOLUMES AND ARGUES THAT THE MEASURING EQUIPMENT IS SIZED BASED ON DEMAND AND THAT AS A FIXED COST, THE COST DOES NOT VARY ONCE THE COST IS INCURRED. PLEASE RESPOND.

A. The following descriptions from the Uniform System of Accounts prescribed for natural gas companies describe the cost included in Account 378 Measuring and regulating station equipment—General and Account 379 Measuring and regulating station equipment—City gate check stations.

> **378 Measuring and regulating station equipment—General.**
> This account shall include the cost installed of meters, gauges and other equipment used in measuring and regulating gas in connection with distribution system operations other than the measurement of gas deliveries to customers.
> Items
> 1. Automatic control equipment.
> 2. Foundations.
> 3. Gauges and instruments.
> 4. Governors or regulators.
> 5. Meters.
> 6. Odorizing equipment.
> 7. Oil fogging equipment.
> 8. Piping.
> 9. Pressure relief equipment.
> 10. Vaults or pits, including valves contained therein.
> Note: By-passes outside governor pits are includible in account 376, Mains.
> **379 Measuring and regulating station equipment—City gate check stations.**
> This account shall include the cost installed of meters, gauges, and other equipment used in measuring and regulating the receipt of gas at entry points to distribution systems.
>
> Note: Pipeline companies, including companies who measure deliveries of gas to their own distribution system, shall include in the transmission function classification city gate and main line industrial measuring and regulating stations.
> Items
> (See account 378 for items.)

Both Accounts contain cost described as used in measuring and regulating gas, activities associated with gas flows throughout the year not just on the peak day. While I agree that sizing some of the equipment included in the account might incrementally affect the costs and be reasonably considered demand related, the SFV rate design collects these costs uniformly from residential customers ignoring any demand or commodity related components. To suggest that once a cost is incurred it becomes fixed and should be collected in a manner that does not reflect the drivers underlying the level of cost is unreasonable.

Q. ON PAGE 5, MR. FEINGOLD'S REBUTTAL TESTIMONY CLAIMS THAT BASED ON ASSUMPTIONS OF CUSTOMER DENSITY, PRESSURE AND DESIGN DAY LOAD CHARACTERISTICS, 99% OF RESIDENTIAL CUSTOMERS CAN BE SERVED BY THE MINIMUM SIZED DISTRIBUTION MAIN. PLEASE RESPOND.

A. Mr. Feingold's analysis based on a hypothetical system of 2" mains does not reflect that customers are actually served by an integrated network of mains or that the Company actually serves customers with mains smaller than 2".

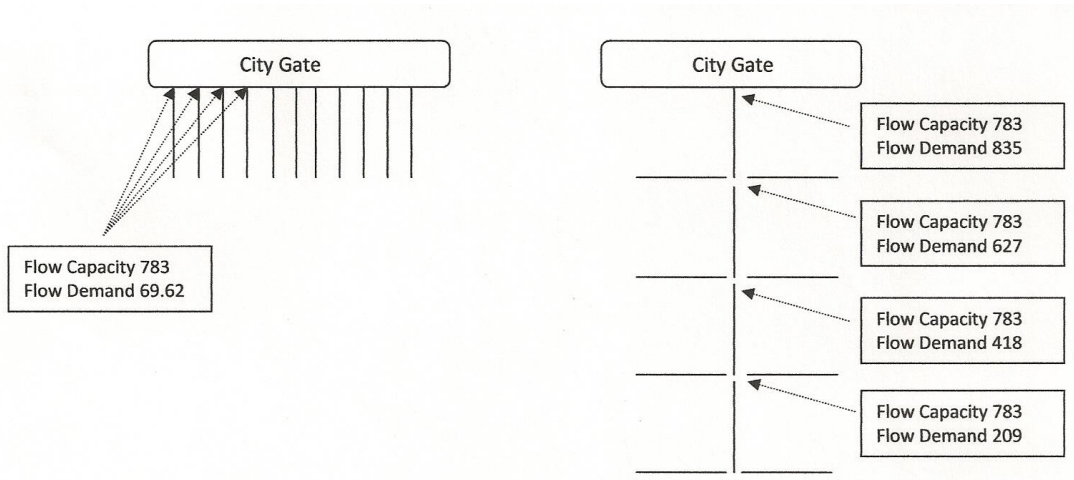
Q. DOES THE COMPANY COST WITNESS PROVIDE TESTIMONY THAT RECOGNIZES THAT A CUSTOMER DOES NOT RECEIVE SERVICE THROUGH A CERTAIN LENGTH OF MAIN BUT IS INSTEAD SERVED THROUGH AN INTEGRATED NETWORK OF MAINS?

A. Yes. Mr. Cummings describes this on page 9-10 of his rebuttal testimony. He goes on to acknowledge that a portion of mains cost relates to meeting peak day load.

Q. HAVE YOU DEVELOPED AN EXAMPLE TO ILLUSTRATE THAT THE CAPACITY OF AN INTEGRATED SYSTEM BUILT OF 2" MAINS WOULD NOT SATISFY THE CAPACITY NEEDS OF RESIDENTIAL CUSTOMERS?

A. Yes. For example, the Design Day demand per bill for Kansas City area residential customers used in Mr. Cummings workpapers is 11.8 Ccf or 1.18 MCF per day. This produces a Design Day demand for one mile of 2" main serving an average of 59 customers of 69.62 MCF which is well below the 783 MCF Daily flow Capacity for a 2" main referenced in Mr. Feingold's testimony. However, this does not reflect that main segments are interconnected with larger capacity mains nearer the city gate. Under an integrated system of mains using the same assumptions as before, the Flow capacity would be exceeded at the inlet point of 12 miles of connected 2" mains.

The diagram shown below illustrates the problem with Mr. Feingold's claim that virtually all residential customers can be served with a 2" main. The straight lines in the diagram represent 1 mile lengths of 2" main serving 59 customers with 1.18 MCF demand per customer. Mr. Feingold's analysis only considers the flow through a single length of main for each group of 59 customers as shown on the left. For an integrated system, as shown on the right, nearer the city gate, larger mains are needed to satisfy aggregate capacity demand.



Q. DOES MR. FEINGOLD MAKE OTHER QUESTIONABLE ASSUMPTIONS?

A. Yes. Mr. Feingold's analysis also relies on an assumption of uniform customer density per mile of main although the customer density in MGE's service territory varies significantly. For example, based on Census data, in Jackson County the density of housing units served by a gas utility is 360 per sq mile but in Christian County the density of housing units served by a gas utility is only 21 per sq mile. I would expect the customer density per mile of main to be different for the two counties, however, Mr. Feingold failed to address this issue in his analysis.

Q. MR. FEINGOLD'S CALCULATION IS BASED ON A 2" MAIN. IS A 2" MAIN ACTUALLY THE SMALLEST SIZED MAIN USED ON THE COMPANY'S SYSTEM?

A. No. Based on information from Company witness Mr. Cummings, MGE uses smaller mains of diameters ranging from 3/4" to 1 1/2".

Q. HOW WOULD THE USE OF A SMALLER SIZED MAIN OR HIGHER CUSTOMER DENSITY AFFECT MR. FEINGOLD'S ANALYSIS?

A. All else equal, smaller diameter mains would reduce the flow capacity available to satisfy demand. Higher customer densities would reduce the flow capacity available to serve each customer.

Q. WAS MR. FEINGOLD'S CALCULATION FOR THE SGS CLASS BASED ON SIMILAR FAULTY METHODS AND ASSUMPTIONS?

A. Yes, it was.

Q. MR. FEINGOLD CLAIMS THAT IT IS A FUNDAMENTAL PRINCIPLE OF ECONOMICS THAT FIXED COST DO NOT IMPACT MARGINAL COSTS. PLEASE COMMENT.

A. The principle that Mr. Feingold refers to would be better stated as "fixed costs do not impact short run marginal costs". Marginal cost is defined as the change in total cost associated with a change in the quantity of output per period of time. The short run is defined as a period during which the use of some inputs to production are fixed. The long run represents a planning period long enough that a firm can change those inputs that were fixed in the short run. In the short run, because the use of some inputs is fixed, short run marginal cost are related only to changes in short run variable costs. However, the costs associated with use of facilities that are fixed in the short run are considered variable based on a long run planning horizon and therefore will impact long run marginal costs.

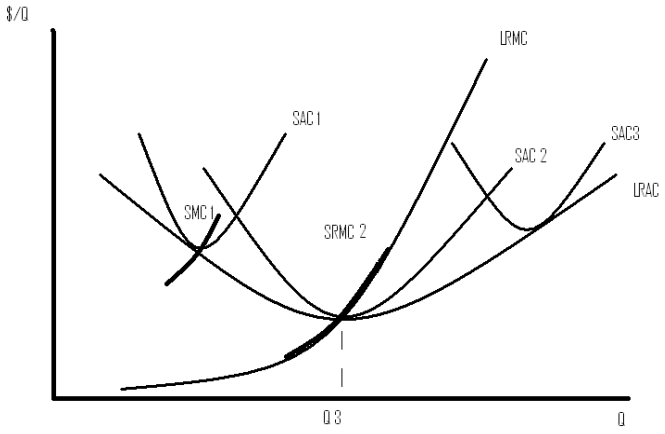
For example if I sign a 5-year lease on a 4000 sq ft building that is equipped and furnished to open a restaurant, the cost of the facility is fixed for the short run period of 5 years. The long run would represent the period beyond 5 years when I am free to change the scale of my operation to a larger or smaller facility based on my needs. In the short run, although I am locked into the

building size and its cost, I still have costs that can vary with the level of production including costs such as labor and raw materials. As a competitive firm, to maximize profit or minimize loss I would set a price that approximates short run marginal cost, because by doing so I will receive as much for the last increment of output as the incremental cost to produce it. In a market with free entry and exit, the market price over time should approximate a level needed to cover the minimum long run average costs for the industry. The long run average cost includes both costs that would be considered variable and costs that would be considered fixed over a short run. Since both types of cost are considered variable from a long run planning perspective, long run marginal costs are dependent on costs that are considered fixed in the short run.

In Economics the concepts of short run and long run choices are illustrated by the Long Run Average Cost Curve which is constructed of possible average cost curves that would be produced by making different choices about the scale of operation. Achieving the minimum long run average cost requires choosing the proper scale of operation (those costs that would be fixed in a short run period such as the restaurant facility) and minimizing other costs (those costs that were variable in the short run such as labor and raw materials).

The diagram illustrates that in a competitive market, a firm that operates and incurs costs in the short run at a level that mirrors optimal long run choices will produce a quantity (Q3) and receive a price for services equal to the minimum long run average cost associated with Q3. As shown in the diagram,

the minimum level of long run average cost that occurs at Q3 is equivalent to the long run marginal cost, the short run average cost and the short run marginal cost.



Q. HOW DOES THE CASE OF A REGULATED MONOPOLY DIFFER FROM THE COMPETITIVE EXAMPLE?

A. LDCs such as MGE are considered natural monopolies because lower per unit costs associated with economies of scale are achieved by large scale production. Under regulation, the regulated natural monopoly is granted an exclusive service territory to promote economies of scale and encouraged to invest on a scale that minimizes long run costs such as planning for growth in sizing facilities.

It is argued that in the case of a natural monopoly which exhibits a greater range of outputs over which average costs decline, setting prices to recover long run marginal cost would not allow an opportunity to earn an adequate return when operating at output levels below the long run optimal level. In order to allow an opportunity to earn an adequate return, regulated utility rates are set incrementally above long run marginal cost in order to allow the opportunity to earn a normal return of expenses and on embedded investment.

Q. PLEASE RESPOND TO MR. FEINGOLD'S ATTEMPT TO SUPPORT THE SFV RATE DESIGN BASED ON RAMSEY PRICING.

A. Ramsey pricing suggests that charges should be linked to consumer's elasticity of demand. Under Ramsey pricing, customers that are less sensitive to price changes (inelastic demand) would be charged a higher mark-up over marginal costs. This concept does not support the SFV rate design. Sensitivity to price changes depends on factors such as a customer's need for the product, the value of the product to the customer and availability from alternative suppliers. While certainly the demand for natural gas is relatively inelastic, low use residential customers on average likely have a higher demand elasticity than do heavy users. This suggests that the low use customers would pay less under a Ramsey pricing scheme. With respect to pricing rate components, Ramsey pricing suggests a method for spreading revenue recovery granted at a level above marginal costs across rate components, it does not dictate that all non-gas costs be recovered through a uniform fixed charge as occurs under the SFV rate design.

Q. PLEASE RESPOND TO THE CLAIM THAT THE SFV RATE DESIGN REDUCES VOLATILITY IN CUSTOMER BILLS.

A. I would agree that a traditional rate structure does increase the possibility of higher recovery of non gas costs in colder than normal winters, however, I do not consider an inescapable fixed charge to be a better option. The SFV rate design substantially increases the non gas recovery on some low use customers' bills with no ability to avoid the increase by curbing use except through disconnection.

Q. PLEASE RESPOND TO THE CLAIM THAT FULL RECOVERY OF NON GAS COSTS THROUGH THE SFV REDUCES THE EFFECTS OF WEATHER, STABILIZES CUSTOMERS' BILLS AND MAKES BILLS SIMPLE AND UNDERSTANDABLE.

A. I agree that the SFV reduces the impact of weather on customers' bills but I disagree that mandatory imposition of such an affect is desirable. There are alternatives to the SFV that can reduce undesirable effects of weather on customers' bills while preserving an individual customer's ability to control the charges they pay. Voluntary level payment plans can assist customers in budgeting for high costs associated with cold weather while retaining the ability to save by reducing or forgoing consumption when they choose to do so and by benefiting from reduced costs during periods of above normal temperatures. Under the SFV customers are truly captive to a monopoly. They have no ability to reduce the non gas portion of the bill. Further, low use customers pay substantially more whether or not they want or need the same level of service as high use customers. From a fairness perspective, I disagree that the bill is more understandable to customers or more desirable.

IV. RESPONSE TO COST OF SERVICE REBUTTAL

Q. ON PAGE 8, MR. CUMMINGS SUGGESTS THAT THE BASIS OF THE COMMISSION'S REJECTION OF PUBLIC COUNSEL'S MAINS ALLOCATION IN CASE GR-2009-0209 WAS DUE TO INCLUSION OF A COMPONENT THAT ALLOCATED MAINS BASED ON USE THROUGHOUT THE YEAR. IS THAT CORRECT?

A. No. The Commission rejected Public Counsel's RSUM method because it contained no customer component in allocating mains costs.

Q. IN THIS CASE, HAVE YOU ALLOCATED A PORTION OF MAINS COST BASED ON THE NUMBER OF CUSTOMERS?

A. Yes. I allocated the same proportion of mains cost based on customers as did the Company.

Q. DO YOU AGREE WITH MR. CUMMINGS CRITICISM OF ALLOCATING A PORTION OF MAINS BASED ON ANNUAL VOLUMES?

A. No. Conceptually, the zero-intercept method used by the Company and Public Counsel produces the portion of mains cost that is associated with providing a 0" diameter main. However, gas is supplied throughout the year as well as on the single peak day of the year. It is unreasonable to allocate all costs associated with non-customer portion on only the single peak day demand because it fails to recognize the actual use of mains.

Q. DOES YOUR ALLOCATION METHOD ALLOCATE A PORTION OF MAINS BASED ON PEAK DEMAND?

A. Yes. My allocation method allocates 43.19% of mains costs on peak demand, 38.41% of mains costs on the number of customers and 18.4% of mains costs on annual volumes.

Q. MR. CUMMINGS CRITICIZES YOUR ALLOCATION OF AMR EQUIPMENT IN THE COST STUDY PRESENTED IN YOUR DIRECT TESTIMONY. IS THIS A FAIR CRITICISM?

A. Yes. I revised my study to allocate these costs based on unweighted customer numbers excluding lvs customers.

Q. MR. CUMMINGS CRITICIZES YOUR ALLOCATION OF MEASURING AND REGULATING EQUIPMENT IN THE COST STUDY PRESENTED IN YOUR DIRECT TESTIMONY. HAVE YOU RESPONDED TO THIS ISSUE?

A. Yes. I addressed this issue in response to Mr. Feingold's testimony.

Q. MR. CUMMINGS POINTS OUT THAT YOUR STUDY DOES NOT INCLUDE INTEREST EXPENSE. IS THIS A FAIR CRITICISM?

A. Yes. I revised my study to include these costs and allocated the cost based on the Company's allocation factors.

Q. HAVE YOU MADE OTHER ADJUSTMENTS TO YOUR CLASS COST OF SERVICE STUDY?

A. Yes. In consideration of Mr. Cummings rebuttal testimony and in an effort to reduce contested issues in this case, I adjusted my study to reflect the Company's allocations of Meter Reading, Customer Accounts, Customer Deposits, Uncollectibles, Demonstrating and Selling and SLRP.

V. CCOS RESULTS AND RATE DESIGN RECOMMENDATIONS

Q. WHAT ARE THE RESULTS OF PUBLIC COUNSEL'S UPDATED CLASS COST OF SERVICE STUDY?

A. Based on my updated study, to equalize class rates of return, the residential class revenues would need to be increased by 4.80%, the small general service class revenues would need to be reduced by 9.88%, the large general service class

revenues would need to be reduced by 12.73% and large volume revenues would need to be reduced by 17.74%. These results are shown on line 23, Schedule BAM SUR-6. My updated class cost of service study is attached as Schedule BAM SUR -8.

Q. HAVE YOU UPDATED THE RATE DESIGN SCHEDULE PRESENTED IN YOUR TESTIMONY?

A. Yes. My updated class revenue schedule is attached as Schedule BAM SUR-2 illustrates the process of combining 1/2 the revenue neutral shift indicated by my updated study with a $15 million revenue requirement increase. In this case, the combined impact of the revenue neutral shift and revenue requirement increase results in some classes receiving an increase while others received a reduction.

Line 8, of Schedule BAM SUR-7 1/2 the revenue neutral shift indicated by public counsel's class cost of service study. Line 12, of Schedule BAM SUR-7 illustrates the spread of a $15 million increase based on Public Counsel's recommended class share of revenue. Lines 20-21, illustrate that no adjustments are needed to ensure that no customer class receives a net decrease as the combined result of the revenue neutral shift and revenue requirement increase. The resulting rate revenue and class percentages are illustrated on lines 24-25.

Q. HOW DOES THE LEVEL OF CUSTOMER CHARGE SUPPORTED BY YOUR STUDY COMPARE TO YOUR PROPOSED CUSTOMER CHARGE IN THIS CASE?

A. My cost of service study supports a customer charge of $12.36. However, I have proposed to collect 55% of residential revenue through the monthly customer charge. Based on a $15 million increase and public counsel's method of determining class revenues, my proposed customer charge would be $15.18. The remaining 45% of residential costs would be recovered through a uniform volumetric rate.

Q. DOES THIS CONCLUDE YOUR TESTIMONY?

A. Yes, it does.