Exhibit No.: ________________
Issues: Weather Normal, Revenue Adjustments, Class Revenue Allocation, and Rate Design
Witness: Russell A. Feingold
Sponsoring Party: Missouri Gas Energy
Case No.: GR-2006-________
Date Testimony Prepared: May 1, 2006

MISSOURI PUBLIC SERVICE COMMISSION

MISSOURI GAS ENERGY

CASE NO. GR-2006-_____

DIRECT TESTIMONY OF

RUSSELL A. FEINGOLD

Jefferson City, Missouri

May 1, 2006

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Q. PLEASE STATE YOUR NAME AND BUSINESS ADDRESS.

A. My name is Russell A. Feingold and my business address is Four PPG Place, Pittsburgh, Pennsylvania 15222.

Q. BY WHOM ARE YOU EMPLOYED AND IN WHAT CAPACITY?

A. I am a Managing Director of Navigant Consulting, Inc. ("NCI") and co-leader of the Litigation, Regulatory & Markets Group within the firm's Energy Practice. NCI is a specialized independent consulting firm providing professional services to assist clients in identifying practical solutions to the challenges of uncertainty, risk and distress. We focus on large industry segments that are typically highly regulated and are undergoing significant structural, regulatory, and market change.

Q. PLEASE DESCRIBE IN MORE DETAIL THE BUSINESS ACTIVITIES OF NCI.

A. NCI has served the electric and natural gas industries since 1983. We offer a wide range of consulting services related to information technology, process/operations management, business strategy development, and marketing and sales designed to assist our clients in a business environment of changing regulation, increased competition and evolving technology. From an industry-wide perspective, NCI has extensive experience in all aspects of the North American natural gas industry, including utility costing and pricing, gas supply and transportation planning, competitive market analysis and regulatory practices and policies gained through management and operating responsibilities at gas distribution, pipeline and other energy-related companies, and through a wide variety of client assignments. NCI has assisted numerous gas distribution companies located in the U.S. and Canada.

Q. WHAT HAS BEEN THE NATURE OF YOUR WORK IN THE UTILITY CONSULTING FIELD?

A. I have over thirty (30) years of experience in the utility industry, the last twenty-seven (27) years of which have been in the field of utility management and economic consulting. Specializing in the gas industry, I have advised and assisted utility management, industry trade and research organizations and large energy users in matters pertaining to costing and pricing, competitive market analysis, regulatory planning and policy development, gas supply planning issues, strategic business planning, merger and acquisition analysis, corporate restructuring, new product and service development, load research studies and market planning. I have prepared and presented expert testimony before the Federal Energy Regulatory Commission ("FERC") and several state and provincial regulatory commissions and have spoken widely on issues and activities dealing with the pricing and marketing of gas utility services. Further background information summarizing my education, presentation of expert testimony and other industry-related activities is included in Appendix A to my testimony.

Q. ON WHOSE BEHALF ARE YOU APPEARING IN THIS PROCEEDING?

A. I am appearing on behalf of Missouri Gas Energy ("MGE" or the "Company").

1. EXECUTIVE SUMMARY

Q. FOR WHAT PURPOSE HAVE YOU BEEN RETAINED BY MGE?

A. I have been retained by MGE as a consultant in the area of utility costing and rate design and related regulatory matters. Specifically, MGE has requested that NCI provide assistance with the development of its: (1) fully allocated cost of service studies (Company witness Ronald J. Amen will cover this topic in his testimony); (2) measure of normal weather for purposes of adjusting its base rates for the effect of weather; (3) revenue adjustments to weather normalize its gas volumes and to annualize its current level of customers; (4) class revenue allocation; and (5) various rate design proposals to address the significant impact that the uncontrollable factors of weather and declining use per customer have on the Company's financial performance and on its customers' bills.

Q. WHAT IS THE PURPOSE OF YOUR TESTIMONY IN THIS PROCEEDING?

A. The purpose of my testimony is to present and explain the Company's: (1) proposed weather normal for purposes of adjusting its base rates for the effect of weather; (2) revenue adjustments to weather normalize its gas volumes and to annualize its current level of customers; (3) class revenue allocation; and (4) various rate design proposals.

Q. PLEASE SUMMARIZE THE KEY POINTS OF YOUR TESTIMONY.

A. The key points of my testimony are as follows:

- The Company is proposing to use a 10-year Heating Degree-Days ("HDD") average to normalize its annual gas volumes for rate case purposes because the use of a 10-year HDD average will result in improved forecasting for normalizing its gas volumes.
- The Company's weather normalization adjustment results in revenue increases of $1,506,308 in residential gas sales, $542,095 in commercial gas sales (or $495,544 in the SGS rate class and $46,551 in the LGS rate class), and $112,397 in transportation revenues.
- The Company's customer annualization adjustment results in a $840,063 increase in test year margin.
- Under the Company's class revenue proposal, the residential rate class will receive an increase in base revenues of $34,906,279 the SGS rate class will receive an increase of $6,745,053, and the LGS and LVS rate classes each will receive no increase in base revenues.

- The Company has proposed two rate design proposals – a primary proposal and an alternate proposal. The primary proposal establishes a Straight Fixed-Variable ("SFV") rate structure for the residential class, and the continuation of the traditional rate structures for the SGS, LGS, and LVS rate classes - with an increased emphasis on recovering the Company's fixed costs through the monthly customer charges. The alternate proposal consists of a Weather Normalization Adjustment ("WNA") mechanism applicable to its Residential, SGS, and LGS rate classes to adjust the Company's volumetric rates on a monthly basis to account for changes in weather from the normal levels established in the Company's current rate case, and more modest changes in the levels of the Company's Customer and Commodity Charges in its Residential and SGS rate classes compared to the levels reflected in the Company's primary proposal.
- The Company is proposing these rate design changes at this time because they best address the major business challenges faced by gas utilities, such as MGE, causing increased risk and price volatility, including:
  - ✓ Weather variability;
  - ✓ Declining use per customer;
  - ✓ High and volatile wholesale natural gas prices; and
  - ✓ Resulting increases and volatility in customers' bills.

These are serious challenges to the financial integrity of the Company and to the ability of its customers to manage their energy needs. The fixed cost nature of the gas distribution business warrants new approaches to the traditional ratemaking process in order that MGE be afforded a reasonable opportunity to recover its fixed costs of providing gas delivery service, and that its customers pay for that service in an appropriate and equitable manner.

2. WEATHER NORMAL

Q. IS THE COMPANY PROPOSING TO CHANGE THE WEATHER BASIS UPON WHICH ITS CUSTOMER LOADS ARE NORMALIZED FOR WEATHER?

A. Yes. The Company is proposing to use a 10-year Heating Degree-Days ("HDD") average to normalize its annual gas volumes for rate case purposes. Historically, a 30-year HDD average computed by the National Oceanographic and Atmospheric Administration's ("NOAA") has been used to normalize its gas volumes for weather. Under the 10-year average, the Company's measure of normal weather will be established at 4,967 HDD for its Kansas City and St. Joseph service areas, and at 4,450 HDD for its Joplin service area. Currently, 5,249 HDD for the Kansas City and St. Joseph areas, and 4,602 HDD for the Joplin area are the measures of normal weather embedded in MGE's present distribution rates. These values are NOAA's most recently computed 30-year averages for the years 1971-2000 (NOAA calculates its 30-year average once every ten years).

Q. WHY HAS THE COMPANY CHOSEN TO MODIFY THE MANNER IN WHICH ITS GAS VOLUMES ARE WEATHER NORMALIZED?

A. The use of a 10-year HDD average will result in improved forecasting for normalizing MGE's gas volumes. This means that the annual gas volumes established in the Company's current rate case would better reflect the expected normal weather conditions during the period in which its base rates will be in effect.

Q. PLEASE EXPLAIN THE METHODOLOGY TO DETERMINE THE MOST APPROPRIATE WEATHER PREDICTOR TO NORMALIZE ITS ANNUAL CUSTOMER LOADS FOR WEATHER.

A. We began with an examination of the Company's annual HDD over the 106-year period from 1900 to 2005. The goal of our analysis was to determine the best predictor of future HDD levels for purposes of "normalizing" actual natural gas consumption during the test year and for the upcoming timeframe when the Company's new rates are expected to be in effect. I used a common forecasting technique that estimates the average annual HDD for a given timeframe, and then uses those results to predict weather in the forecast year. In this case, the Company's "forecast year" is based on the first year in which the Company's new base rates will be in effect (which is assumed to be 2007 based on a 2005 test year). For this analysis, I tested four alternative means of forecasting HDDs: (1) a 30-year average of annual HDD data ending in 2005; (2) a 20-year average of annual HDD data ending in 2005; (3) a 10-year average of annual HDD data ending in

2005; and (4) a 5-year average of annual HDD data ending in 2005. I then conducted a statistical comparison of the predictive capability of these four timeframes to determine which one was most appropriate.

Q. PLEASE DESCRIBE THE TYPE AND SOURCE OF THE DATA USED TO ANALYZE THE CHOICE OF WEATHER NORMAL FOR MGE.

A. First, the Company adopted the standard NOAA definition of a heating degree-day - the difference between the average daily temperature (based on maximum and minimum daily temperatures) and 65 degrees Fahrenheit (or zero, if the average temperature is above 65 degrees Fahrenheit). All data used in the Company's weather analysis was sourced from NOAA data files and/or reports that presented temperature and HDD data on either a daily or monthly basis. The NOAA weather stations that were used to construct the 106-year data series of HDDs applicable to the Company's service areas included Kansas City International Airport ("MCI"), Kansas City Downtown Airport ("MKC"), and Springfield Regional Airport ("SGF"). The last full year of available data from NOAA was for 2005. Schedule RAF-1 presents in graphic form the two data series of HDD for Kansas City and Springfield over the 106-year time period.

Q. WHY DID YOU ALSO UTILIZE THE NOAA WEATHER STATION LOCATED AT THE KANSAS CITY DOWNTOWN AIRPORT IF ONLY THE KANSAS CITY INTERNATIONAL AIRPORT HAS BEEN USED IN RECENT YEARS TO

ESTABLISH THE WEATHER APPLICABLE TO ITS KANSAS CITY AND ST. JOSEPH SERVICE AREAS?

A. Kansas City International Airport became the primary weather station for NOAA in its Kansas City region on November 1, 1972 when the airport began operations. Prior to that time, the Kansas City Downtown Airport (with readings before January 1934 taken at other downtown Kansas City locations) was the primary weather station for NOAA. Therefore, to construct a data series that was of sufficient length to test the various weather normal alternatives, both Kansas City airport weather stations were utilized.

Q. PLEASE DESCRIBE HOW YOU ANALYZED THE HDD DATA.

A. First, weather averages were calculated for the four alternatives being tested starting in 1901, so it was possible to calculate 30-year, 20-year, 10-year, and 5-year averages for the years 1930 through 2005. I compared each of the four alternative averages for each year to the actual HDD value observed two years later. For example, I compared the four averages for 1973 with the actual HDD for 1975, recording the difference (or error) between the actual and forecasted values for each of the four averages being tested. I repeated this analysis up to 2005 – the most recent year for which actual HDD data existed. This analysis is comparable to the process followed within the context of a rate case. The Company attempts to use data ending in the test year – calendar 2005 – in order to predict weather approximately two years in the future when its approved rates will be in effect.

Q. HOW DID YOU COMPARE THE PREDICTIVE CAPABILITIES OF THE VARIOUS AVERAGES BEING TESTED?

A. I conducted a statistical analysis to compare the predictive capabilities of the four selected averages. I calculated a standard statistic called the "root mean squared error" or "RMSE." The RMSE statistic is a number representing the degree to which the forecasted values fail to correspond to the actual data. It is a widely used measure to assess the accuracy of point forecasts. While there are other statistical measures used to convey information about a forecast's performance, such as the mean error or mean absolute error, these measures tend to de-emphasize the consistency of the forecasting technique while the RMSE tends to emphasize this element of the forecast's predictive capabilities.[1] In the case of MGE, the smaller the RMSE, the smaller the overall difference between the actual and forecasted HDD. The formula for the RMSE is:

$$\text{RMSE} = \sqrt{\frac{1}{n}\sum_{i=1}^{n}(HDD_i - HDD_i^F)^2}$$

Where:

n = the number of years

i = year of the observation

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[1] For example, see Harold E. Brooks and Charles A. Doswell III, "A Comparison of Measures-Oriented and Distributions-Oriented Approaches to Forecast Verification," NOAA/Environmental Research Laboratories, National Severe Weather Storms Laboratory, Weather and Forecasting, September 1996 issue.

HDD_i = Actual observed values

HDD_i^F = Forecasted values

All RMSE values that were derived are stated in HDD.

Q. PLEASE DESCRIBE THE RESULTS OF THIS ANALYSIS.

A. Schedule RAF-2 presents in tabular form the annual HDD data for the Company, the four sets of weather averages tested, and the forecast error and RMSE resulting from each average, for each of the Company's two weather regions. Over the 106-year period, the 10-year HDD average outperforms the 30-year average in predicting weather two years into the future. In other words, 10-year averages tend to produce more precise forecasts of HDD than 30-year averages. Specifically, the forecast errors of 30-year averages are typically higher than those of 10-year averages by approximately 4.6% in Kansas City and by approximately 1.2% in Springfield. Based on the RMSE test, therefore, the 10-year average represents a better basis for purposes of forecasting HDD during the time when the Company's approved rates in this case go into effect.

As will be discussed in more detail later in my testimony, this deficiency in the use of the 30-year average as MGE's measure of normal weather has contributed, in part, to the Company's continuing revenue shortfalls that have prevented it from earning the return on investment approved by this Commission in prior MGE rate cases.

Q. **IS THIS STATISTICAL CONCLUSION SUPPORTING THE ADOPTION OF A 10-YEAR AVERAGE AS MGE'S WEATHER NORMAL ALSO CONFIRMED BY SIMPLY EXAMINING THE COMPANY'S HDD DATA PLOTTED TOGETHER WITH THE 30-YEAR AND 10-YEAR AVERAGES?**

A. Yes. Schedules RAF-3 and RAF-4 present graphical comparisons of the Company's HDD data and compare it to the 30-year and 10-year averages just discussed. Upon closer examination of pages 1 and 2 of Schedule RAF-3, it is readily evident that the ability of the 30-year averages to track the actual variation in HDD over time is "dampened" because of the greater number of years included in the averages and the inherent computational lag in these averages. In contrast, pages 3 and 4 of Schedule RAF-3 show that the 10-year average more closely tracks the ongoing variation in HDD. This occurs because of the fewer number of years used to compute the average and the "rolling" aspect of the computation. Schedule RAF-4 presents together the 30-year and 10-year averages with the actual HDD.

The 10-year average more accurately reflects the changing trends of the weather, which is exactly what is sought when using this average, for ratemaking purposes, as a measure of normal weather in the Company's service areas.

Q. **IF THE COMMISSION ADOPTS A 10-YEAR AVERAGE FOR ESTABLISHING ITS WEATHER NORMAL, COULDN'T THE WEATHER OVER THE NEXT**

FIVE YEARS JUMP BACK TO THE COLDER CLIMATIC CONDITIONS DESCRIBED BY THE 30-YEAR AVERAGE?

A. That situation is not likely to occur in MGE's service areas based on my review of the jumps in HDD values observed historically at the Kansas City and Springfield weather locations. Schedule RAF-5 presents data from the 106-year period to determine how frequently the HDD values for 5-year, 4-year, 3-year, and 2-year averages changed over time – and how often those changes were of a sufficient magnitude to bring the Company's more recently experienced weather conditions back to the HDD level represented by the 30-year average computed by NOAA (for the years 1971-2000).

For example, columns (h) through (j) of Schedule RAF-5 (for Kansas City) indicate that over the period from 2003 through 2005, the average annual HDD level was 4,866. This is 383 HDD below the 30-year average of 5,249 HDD. Over the entire 106-year period that we examined, there was only one occurrence of a 3-year average of HDD increasing from a previous 3-year average by over 383 HDD. On the same basis, you can see there are HDD jumps of these magnitudes (as indicated on lines 1 and 4 of Schedule RAF-5) since 1900, but they occur very infrequently. Therefore, the odds of returning back to the colder climatic conditions represented by the current NOAA 30-year average are very low.

3. REVENUE ADJUSTMENTS

Q. PLEASE EXPLAIN THE COMPANY'S WEATHER NORMALIZATION ADJUSTMENT.

A. This adjustment increases test year margins in recognition of the fact that MGE's gas volumes and resulting base revenues were abnormally low because temperatures (and HDD) in the test year were warmer than normal. This adjustment is presented on Line 2 of Schedule H-2 of MGE witness Noack's direct testimony. Weather was approximately 3.8% warmer than normal in the Kansas City and St. Joseph areas, and approximately 4.0% warmer than normal in Joplin area during the test year. By making the weather normalization adjustment, base rates are subsequently designed to produce the base revenue anticipated under normal temperature conditions – which are expected to be in effect, on average, after the new rates become effective.

This weather-related adjustment is based on statistically determined relationships between gas usage (in Ccf) and temperatures (measured by HDD). The adjustment consists of the difference between the volumes statistically explained with normal HDD and the volumes experienced with actual HDD. For the residential, SGS, LGS, and LVS rate classes, the statistical relationships are derived from test year billing cycle data separately for each of the Company's three geographic regions – Kansas City, St. Joseph, and Joplin. As in the Company's prior rate cases, the MCI weather data is used for the Kansas City and St. Joseph regions and SGF weather data is used for the Joplin region. Pricing the volumetric weather adjustments at the Company's current base rates results in revenue increases of $1,506,308 in residential gas sales, $542,095 in commercial gas sales (or $495,544 in the SGS rate class and $46,551 in the LGS rate class), and $112,397 in transportation revenues.

Q. PLEASE EXPLAIN THE COMPANY'S CUSTOMER ANNUALIZATION ADJUSTMENT.

A. For each sales customer class – Residential, Small General Service ("SGS"), and Large General Service ("LGS") - and for each geographic region, this adjustment annualizes customer count changes from the beginning to the end of the test year by adjusting bill counts and their associated gas volumes in each month of the test year to the levels that should have been observed had the customer growth experienced by the end of the test year occurred in that month. This adjustment is presented on Line 3 of Schedule H-2 of MGE witness Noack's direct testimony. Pricing these adjustments at the Company's current base rates results in a $840,063 increase in test year margin. The residential, SGS, and LGS rate classes each experienced positive growth in the numbers of customers served.

4. CLASS REVENUE ALLOCATION

Q. PLEASE EXPLAIN THE COMPANY'S PROPOSED ALLOCATION OF THE REVENUE INCREASE TO ITS RATE CLASSES.

A. The apportionment of revenues among rate classes consists of deriving a reasonable balance between various criteria or guidelines that relate to the design of utility rates. The various criteria that were considered in the process included: (1) cost of service; (2) class contribution to present revenue levels; and (3) customer impact considerations. These criteria were evaluated for each of the Company's rate classes. Based on this evaluation, adjustments to class revenue levels were made so that the rates proposed by the Company moved class revenues closer to the costs of serving those classes.

Q. WHAT BASIS DID YOU USE TO EVALUATE THE COSTS OF PROVIDING DELIVERY SERVICES TO THE COMPANY'S CUSTOMERS?

A. I relied upon the cost of service study results presented by Company witness Ronald J. Amen in Schedules RJA-1 and RJA-2 of his direct testimony.

Q. DID YOU CONSIDER VARIOUS CLASS REVENUE OPTIONS IN CONJUNCTION WITH YOUR EVALUATION AND DETERMINATION OF THE COMPANY'S INTERCLASS REVENUE PROPOSAL?

A. Yes, I did. Using MGE's proposed revenue increase, I evaluated various options for the assignment of that increase among its rate classes and, in conjunction with Company personnel, ultimately decided upon one of those options as the preferred resolution of the interclass revenue issue. It should be noted that present base revenues from Residential customers (69%) and SGS customers (26%) represents approximately 95% of the Company's total base revenues. Out of necessity, then, the majority of the Company's proposed revenue increase must be recovered from these two classes.

The first and benchmark option that I evaluated under MGE's proposed total revenue level was to adjust the class revenue level for each rate class so that the relative rate of return for each class was equal to the Company's overall return (i.e., equal to 1.00). Schedule RJA-1 provides the information necessary to determine the change in each class' revenue requirement (excluding gas costs) necessary to achieve that benchmark. This option indicated that revenue increases were required for the residential and SGS rate classes and decreases were required for the LGS and LVS rate classes. As a matter of judgment, I decided that this fully cost-based option was not the preferred solution to the interclass revenue issue. It should be pointed out, however, that those results represented an important guide for purposes of evaluating subsequent rate design options from a cost of service perspective.

The second option I considered was assigning the increase in revenues to the Company's rate classes based on an equal percentage basis (i.e., a 6.9% increase in total revenues). By definition, this option resulted in each rate class receiving an increase in revenues. However, when this option was evaluated against the cost of service study results (as measured by changes in the relative class rates of return), there was only moderate movement towards cost for the residential, SGS, and LVS classes, and minimal movement toward cost for the LGS class. While this option also was not the preferred solution to the interclass revenue issue, together with the fully cost-based option, it defined a range of results that provided me with further guidance to develop the Company's class revenue proposal.

Q. WHAT WAS THE NEXT STEP IN THE PROCESS?

A. I then evaluated other class revenue options and, after further discussions with MGE, I concluded that the appropriate interclass revenue proposal would be one that demonstrated a reasonably material movement of class rates of return towards unity or 1.00. That result is reflected in Schedule RAF-6, wherein the relative rates of return by class are shown to converge towards unity or 1.00 compared to the same returns calculated under present rates. From a cost of service standpoint, this type of class rate of return movement is desirable.

5. RATE DESIGN

Q. PLEASE SUMMARIZE THE RATE DESIGN CHANGES THE COMPANY HAS PROPOSED IN THIS PROCEEDING.

A. The Company has proposed the following rate design changes:

- The establishment of a monthly Basic Service Charges in the Residential rate class that reflects the inclusion of all fixed costs of delivery service incurred by the Company (i.e., a Straight-Fixed Variable rate structure) and the elimination of the Commodity Charge.
- For SGS customers, the Company proposes to increase its monthly Customer Charge to the indicated customer cost of service, with a commensurate decrease in its Commodity Charges.
- For LGS and LVS customers, the Company proposes to maintain the existing rate structures.

Under a Straight-Fixed Variable ("SFV") rate structure, Residential customers will simply pay a flat monthly fee for the delivery services provided by MGE, and will continue to pay on a volumetric basis through the Purchased Gas Adjustment ("PGA") for the amount of gas commodity used each month.

As an alternate proposal, if the above-described rate design concept is not acceptable to the Commission, the Company proposes the following rate design changes:

- A Weather Normalization Adjustment ("WNA") mechanism applicable to its Residential, SGS, and LGS rate classes to adjust the Company's volumetric rates on a monthly basis to account for changes in weather from the normal levels established in the Company's current rate case.
- A more modest change in the level of the Company's Customer and Commodity Charges in its Residential and SGS rate classes compared to the levels proposed as described above.

I will present the specific rate structure changes for each of the Company's rate classes, under its primary and alternate proposals, later in my testimony.

Q. UNDER THE COMPANY'S PRIMARY RATE DESIGN PROPOSAL, WHY IS THE CHOSEN TYPE OF RATE STRUCTURE CHARACTERIZED AS "STRAIGHT-FIXED VARIABLE"?

A. It is characterized as "straight-fixed variable" because all fixed costs incurred by the utility are recovered from customers through fixed charges, while all variable costs are recovered through variable charges. This pricing concept was first adopted in the gas pipeline industry, and in more recent times, it was adapted for use by gas distribution utilities. One difference in the application of the concept is that for gas pipelines, their fixed costs are recovered through monthly demand charges that are assessed to customers based on their pre-determined contract demand levels, while for gas distribution utilities, the fixed costs are recovered through monthly customer or service charges. An SFV rate structure achieves a fundamental objective of ratemaking – the proper alignment of costs with revenues and rates.

Q. WHY IS MGE PROPOSING THE ABOVE-DESCRIBED RATE DESIGN CHANGES AT THIS TIME?

A. The Company is proposing these rate design changes at this time because they best address the major business challenges faced by gas utilities, such as MGE, causing increased risk and price volatility, including:

- Weather variability;
- Declining use per customer;
- High and volatile wholesale natural gas prices; and
- Resulting increases and volatility in customers' bills.

These are serious challenges to the financial integrity of the Company and to the ability of its customers to manage their energy needs. MGE's historical earnings difficulties (as explained by MGE witness Noack) and the fixed cost nature of the gas distribution business warrants new approaches to the traditional ratemaking process in order that MGE be given a reasonable opportunity to recover its fixed costs of providing gas delivery service, and that its customers pay for that service in an appropriate and equitable manner.

Q. BEFORE PRESENTING THE DETAILS OF THE COMPANY'S RATE DESIGN PROPOSALS, PLEASE DESCRIBE THE PROBLEM WITH THE TRADITIONAL GAS UTILITY RATEMAKING PROCESS.

A. Very simply, the traditional ratemaking process used to design a gas utility's base rates is a static process that relies upon historically based assumptions of customer gas usage and weather. However, with today's highly uncertain and volatile gas commodity pricing environment, these assumptions seldom if ever reflect the actual gas usage levels and weather patterns experienced by the utility in any subsequent twelve-month period. This unpredictability in gas usage, exacerbated by the uncertainty of weather, requires a much more dynamic process to ensure a utility's base rates will actually recover the commission-approved cost of service. Rather than directly tie a utility's volumetric rates to the normalized gas use per customer assumed in its most recently-completed rate case, and keep those rates fixed until the utility's next rate case, the utility should have the ability to periodically adjust its volume-derived rates to reflect the fluctuations in actual gas volumes from those assumed in its rate case.

Without this fundamental change, the utility will continue to "live or die" financially by the sales level it achieves during any 12-month period relative to the previous sales level used to set its base rates.

Q. PLEASE EXPLAIN HOW WEATHER INFLUENCES THE RATEMAKING PROCESS FOR A GAS UTILITY.

A. As part of the ratemaking process, both test year costs and revenues of a gas utility are forecasted based on normal weather. The test year as adjusted is designed to be a reasonable picture of the operating conditions expected to occur during the period in which the utility's approved rates will be in effect. The process of forecasting revenue under normal weather conditions consists of either increasing or decreasing actual gas volumes, in relative terms, based on the difference between normal temperatures established for the utility's service area and actual temperatures experienced during the actual year.

Q. HOW ARE WEATHER-NORMALIZED GAS VOLUMES USED TO DERIVE A GAS UTILITY'S BASE RATES?

A. While the following explanation is somewhat over-simplified, essentially the utility's unit rates and charges for gas service are derived by simply dividing the appropriate costs, or portion of the utility's revenue requirement, to be recovered through rates by the weather-normalized gas volumes. These rates and charges should be designed to provide the utility with a reasonable opportunity to recover the significant level of fixed costs (including a return on its investment) it incurs to provide utility service, at the levels determined in the utility's last completed rate case. Fixed costs are costs incurred by a utility that do not vary with the amount of gas delivered to customers. For MGE, these costs are composed of fixed O&M expenses, administrative and general expenses, depreciation, certain taxes, a portion of working capital requirements, and return on investment. These costs do not vary in the short-term with changes in temperature, and with the associated changes in customers' gas consumption. For example, if it is colder than normal, and customers require additional gas delivery services, the utility does not go out and acquire additional work vehicles, increase its gas distribution system capacity, or increase the size of its computer billing system.

If actual temperatures are normal, the utility has a reasonable opportunity to fully recover its fixed costs of service at established levels. Unfortunately, normal temperatures seldom, if ever, occur. Therefore, as a result of abnormal weather, the margin, related margin revenues, and resulting earnings of a utility such as MGE can vary widely from the levels authorized by its regulator.

Q. PLEASE EXPLAIN MORE SPECIFICALLY WHAT YOU MEAN BY THE TERMS "MARGIN" AND "MARGIN REVENUES".

A. The terms "margin" and "margin revenues" relate to a utility's total cost of service exclusive of purchased gas expenses and any other expenses that simply are treated as "flow-through" items in rates (e.g., revenue taxes, environmental costs, etc.). A utility's margin reflects its overall costs of operations, most of it fixed, including a fair and reasonable return on its utility assets. Margin revenues provide the basis upon which the utility recovers its margin, with the level of margin approved by the regulator in the utility's most recently completed base rate case serving as the recovery amount. While a portion of fixed margin may be recovered through fixed charges such as a monthly customer charge, a portion of fixed margin is also usually recovered through volumetric distribution charges.

For MGE, more than half of its fixed costs of delivery service are currently recovered through its volume-derived Commodity Charges.

Q. IS IT IMPORTANT THAT A UTILITY SUCH AS MGE REALIZES THE MARGIN THAT WAS ALLOWED BY THE REGULATOR IN THE UTILITY'S MOST RECENT RATE CASE?

A. Yes. The utility's financial health directly relies upon its ability to recover the cost of service inherent in the margin approved by its regulator through the margin revenues upon which its base rates were previously established.

Q. PLEASE EXPLAIN HOW FLUCTUATIONS IN WEATHER OVER TIME IMPACT A GAS UTILITY'S TEMPERATURE-SENSITIVE CUSTOMERS.

A. Since the bills of gas customers are largely based on the level of gas usage, temperature-sensitive customers' monthly bills can vary widely due to changing weather conditions.

Under traditional ratemaking methods, if actual temperatures were colder than normal, the typical gas customer would use more gas, pay more for service, and potentially overpay his share of fixed costs. This occurs because the unit rates used to recover fixed costs are not reduced to recognize the higher gas volumes used by customers during colder weather. Since the gas utility's level of fixed costs does not change, the higher gas volumes applied against the same unit rate would generate higher non-gas revenues than the level of fixed costs established for ratemaking purposes.

In warmer than normal weather, the reverse situation will occur. Customers' gas usage decreases with warmer temperatures, thus generating lower non-gas revenues than required to recover the gas utility's total fixed costs that do not decrease due to warm weather.

Because customer gas usage varies due to colder or warmer than normal weather and temperatures, during a relatively cold winter, customers have higher gas bills, and in a relatively warmer winter, they have lower gas bills. Conversely, in a cold winter, the Company's earnings are relatively higher - while in a warm winter, its earnings are lower. In the end, both customer energy costs and utility earnings will fluctuate based on weather - an operating factor not within management's control or that of the customer.

Q. YOU DISCUSSED EARLIER THE NEED FOR A MUCH MORE DYNAMIC PROCESS TO ESTABLISH A GAS UTILITY'S SALES VOLUME LEVEL FOR PURPOSES OF SETTING ITS BASE RATES. MORE GENERALLY, DURING TIMES OF UNCERTAINTY, DOES THE TEST YEAR CONCEPT USED IN A RATE CASE PRESENT CERTAIN OTHER CHALLENGES FOR A GAS UTILITY?

A. Yes. There are certain key assumptions inherent in the use of a test year for purposes of establishing a gas utility's base rates. These assumptions are as follows:

- A test year represents a snapshot in time that attempts to reflect a level of plant and expenses, comprising the utility's total revenue requirement, which will be representative of the period the new rates will be in effect.
- Use of a test year assumes that the utility's costs in a future period can be reasonably represented by its historical costs (often with adjustments for known and measurable changes), or, as in this case, its forecast of future costs – which means such costs are assumed to be predictable, stable, and controllable.

In a highly volatile and unpredictable cost environment, it is obvious that these assumptions are not realistic ones simply because of the recognition that many of the utility's costs are unpredictable, unstable, and uncontrollable. As a result, it becomes increasingly difficult in such an environment to accurately predict certain of the cost of service components that are required to establish base rates.

Q. HISTORICALLY, HAS MGE EXPERIENCED A DECLINE IN GAS USE PER CUSTOMER?

A Yes, and the declines in gas use per customer have been substantial. Schedule RAF-7 demonstrates that over the last ten years, the annual average use per customer has declined significantly in MGE's residential and general service classes. In addition, page 4 of Schedule RAF-7 presents the results of a recent American Gas Association study that analyzed the decline in use per customer in the U.S. residential market since 1980. MGE's customers during that period have shown a material reduction in their gas consumption, not unlike other gas customers throughout the U.S.[2], caused primarily by increased efficiency of gas appliances (especially space heaters), reduced appliance saturation in homes with natural gas, and tighter, more energy efficient homes.

Q. AGAINST WHAT REFERENCE POINT SHOULD THE COMPANY'S DECLINE IN USE PER CUSTOMER BE REVIEWED?

A. The reference point should be the use per customer levels established in each of MGE's previous base rate cases. Referring to page 1 of Schedule RAF-7, the annual "baseline" use per customer for the residential class established in MGE's last four base rate cases to design the Company's base rates ranged from 1,112 to 903 Ccf per customer. You can

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[2] On average, natural gas use per customer in the U.S. has been declining by about one percent per year since 1980. See the American Gas Association Energy Analysis entitled, "Forecasted Patterns in Residential Natural Gas Consumption, 2001-2020, EA 2004-04 (dated September 24, 2004) and "Patterns in Residential Natural Gas Consumption, 1997-2001, EA 2003-01 (dated June 16, 2003).

readily see that over the succeeding years since each rate case was completed, MGE never experienced a gas sales level equal to any of these "baseline" use per customer figures. A similar assessment can be made for the Company's SGS and LGS classes as shown on page 2 and 3 of Schedule RAF-7.

Q. WHAT CONCLUSION DO YOU REACH FROM THIS ASSESSMENT?

A. The Company's "baseline" use per customer levels established in its previous rate cases was not representative of the actual use per customer it experienced in subsequent years. In fact, the data presented in Schedule RAF-7 demonstrates that the "baseline" use per customer level for MGE's residential class was almost always high relative to the actual amounts. Therefore, it is not surprising in retrospect at all that the application of the Company's base rates to customers' bills resulted in the collection of margin revenues that always were low relative to the level this Commission approved (see Schedule RAF-9). To the extent the "baseline" use per customer level is not representative of the Company's expected future trends, its base rates will not properly recover the fixed costs incurred to provide its customers with gas delivery service.

Q. BESIDES ENERGY EFFICENCY GAINS, WHAT OTHER FACTOR CAUSED THE VARIABILITY IN ANNUAL USE PER CUSTOMER DEPICTED IN SCHEDULE RAF-7?

A. The variability in use per customer also was caused by the variation in weather experienced by the Company and its customers during that same period.

Q. HAS A GRAPHICAL DEPICTION BEEN PREPARED OF THE WEATHER EXPERIENCED BY MGE DURING THAT TIME PERIOD?

A. Yes. The Company's historical weather pattern for the last ten (10) years is presented in Schedule RAF-8. The weather is presented on an annual and monthly basis as the change in HDD from the Company's normal weather assumed in the past for setting its rates (and its monthly components). Clearly, there is a wide variation in the Company's actual weather compared to its normal weather. Over the ten (10) year period contained in Schedule RAF-8, there were 3 years of colder-than-normal weather and 7 years of warmer-than-normal weather. The Schedule also shows that in some monthly and annual periods, the magnitude of the variation in actual weather from normal levels was significant. Such weather patterns can have very significant implications when evaluating the impact of weather on the Company's ability to achieve its approved financial performance that is premised upon normal weather.

Q. HOW ARE MGE AND ITS CUSTOMERS EXPOSED TO THE IMPACTS OF WEATHER?

A. Because customer gas usage varies due to colder or warmer-than-normal weather, during a relatively cold winter, customers have higher gas bills, and in a relatively warmer winter, they have lower gas bills. Conversely, in a cold winter, the Company's earnings are relatively higher, while in a warm winter its earnings are lower. In the end, both the customers' costs of natural gas and utility earnings will fluctuate based on weather, which is an operating factor not within management's control, nor within the control of the customer.

Q. HAVE YOU EXAMINED HOW THE MARGIN REVENUES COLLECTED BY MGE HAVE VARIED HISTORICALLY?

A. Yes. Schedule RAF-9 presents the margin impact experienced by MGE in its residential service rate class due to fluctuations in gas volumes caused primarily by declining use per customer and variations in weather from normal levels. Over the last seven years, MGE incurred margin losses in each of those years. The total margin losses (i.e., the loss of margin revenues derived from MGE's Commodity Charges which are volumetrically designed) during that period amounted to almost $42 million, or approximately $6 million per year. As a point of reference, the Company's total approved margin level (including Customer Charge and Commodity Charge revenue) for the Residential rate class in its last rate case (in Case No. GR-2004-0209) was approximately $113.5 million. As discussed by Company witness Michael R. Noack, this trend of shortfalls in margin revenue continued to persist in early 2006.

Q. IS MGE'S EXPERIENCE UNUSUAL IN THE GAS DISTRIBUTION INDUSTRY?

A. No. This type of under-recovery of fixed costs is not unique to MGE. This situation has been a continuing challenge to the gas distribution segment of the energy industry. And although this problem has been solved or at least substantially mitigated for a growing number of gas utilities in recent years, this serious problem continues to impact many utilities' financial performance and the natural gas delivery prices of their customers.

Q. HOW IS THE GAS DISTRIBUTION INDUSTRY ADDRESSING THE PROBLEM OF THE UNDERECOVERY OF FIXED COSTS?

A. The revenue shortfall problem for gas distribution utilities has received much attention from state regulators over the last five years. To effectively mitigate the variability in revenues caused primarily by weather and declining use per customer, regulators have implemented a number of ratemaking solutions, including:

1. Revenue decoupling mechanisms that adjust rates for changes in usage caused primarily by weather and energy conservation;
2. Weather Normalization Adjustment ("WNA") mechanisms that adjust rates for changes in usage caused by weather;
3. Monthly customer charges that more fully reflect the gas utility's fixed costs of providing delivery service (including Straight-Fixed Variable rate structures); and
4. A measure of "normal weather" (other than the 30-year measure of normal weather)

that is an accurate predictor of the weather expected by the utility in future years and a reasonable basis for deriving the gas utility's normalized sales volume in its rate case.

Q. HAS MISSOURI RECOGNIZED THE NEED FOR A REGULATORY AND RATEMAKING REMEDY TO ADDRESS THE CONTINUING PROBLEM OF MARGIN REVENUE LOSSES INCURRED BY GAS UTILITIES DUE TO DECLINING USE PER CUSTOMER?

A. Yes. The Missouri Legislature recently granted the Commission (by the enactment of SB 179) the authority to approve for gas utilities ratemaking mechanisms that address this problem of margin revenue losses. Specifically, Section 386.266 - subsection 3, of the Missouri Statutes applicable to the Public Service Commission states:

> "Subject to the requirements of this section, any gas corporation may make an application to the commission to approve rate schedules authorizing periodic rate adjustments outside of general rate proceedings to reflect the nongas revenue effects of increases or decreases in residential and commercial usage due to variations in either weather, conservation, or both."

In my opinion, the two ratemaking mechanisms that best meet the apparent intent of this provision are Weather Normalization Adjustment ("WNA") and revenue decoupling mechanisms.

Q. HAS THE FINANCIAL COMMUNITY RECOGNIZED THE IMPACT OF WEATHER AND CONSERVATION ON GAS MARGINS AND FINANCIAL STABILITY IN THE GAS DISTRIBUTION UTILITY SECTOR, AND THE VALUE OF IMPLEMENTING THESE TYPES OF RATEMAKING SOLUTIONS TO ADDRESS THESE CONDITIONS?

A. Yes. For example, Moody's Investor Service issued a *Special Comment* report that specifically addressed this topic. On the topic of ratemaking concepts such as revenue decoupling mechanisms (or "conservation" tariffs), the Moody's report stated:

> "Moody's believes that having utility rate designs that compensate the gas LDCs for margin losses caused by variations in gas consumption due to conservation as with variations due to weather, would serve to stabilize the utility's credit metrics and credit ratings. Utilities having these ratemaking mechanisms also tend to carry 'A' credit ratings.[3]

In an earlier report, Moody's discussed the impact of weather upon the credit ratings of gas distribution utilities and the various options used to deal with this issue. Moody's stated that in 2002 (the year the report was issued), eleven of its downward rating actions on gas distribution utilities were caused in part by weaker operating margins due to warmer than normal winter weather. Moody's concluded that the absence of some form of weather mitigation creates a condition that could impact the gas distribution utility's credit ratings. The weather mitigation strategies Moody's identified included: WNA

[3] "Impact of Conservation on Gas Margins and Financial Stability in the Gas LDC Sector,

mechanisms, a combination of either fixed or basic charges or block rates, and weather insurance. The use of these strategies can play a fundamental role in guarding against possible future earnings volatility.[4]

Q. PLEASE EXPLAIN HOW THE COMPANY'S PROPOSED RATE DESIGN WILL ADDRESS THE IMPACT OF WEATHER AND DECLINING USE PER CUSTOMER ON MGE'S ABILITY TO RECOVER ITS APPROVED MARGIN LEVEL?

A. Since virtually all of MGE's margin consists of fixed costs, and because the Basic Service Charge under its proposed SFV rate structure for Residential customers is designed to recover 100% of those fixed costs, the Company's ability to recover its Commission-approved level of margin through base revenues no longer will be subject to the ongoing fluctuations in customer usage caused by weather, energy conservation, and energy efficiency activities Of course, the Company's ability to earn a reasonable rate of return on its investment will continue to be impacted by how well management can control its costs of providing delivery service relative to the levels assumed, and ultimately approved by the Commission, in MGE's most recently completed base rate case.

Special Comment Report, Moody's Investor Service, June 2005.

[4] "Negative Rating Trend For Local Gas Companies: Impact of Diversification and Warm Weather, Special Comment Report, Moody's Investors Service, October 2002.

Q. DOES THE COMPANY'S PROPOSED RATE DESIGN REPRESENT AN EFFECTIVE SOLUTION TO THE AFOREMENTIONED RATEMAKING PROBLEMS IT HAS EXPERIENCED?

A. Yes. MGE's proposed rate design is fully cost-based, equitable, and beneficial to the Company and its customers. Under the proposed SFV rate structure, when it is colder-than-normal, customers do not overpay for the Company's fixed costs, and the Company does not over-recover margin. Conversely, when it is warmer-than-normal, customers do not underpay for the Company's fixed costs, and the Company does not under recover margin.

a. Primary Rate Design Proposal

Q. PLEASE EXPLAIN THE COMPANY'S PROPOSED RESIDENTIAL RATE DESIGN.

A. Under its SFV rate design proposal, the Basic Service Charge has been established at $27.50 per month and the Commodity Charge has been eliminated. Therefore, the Company's fixed costs of natural gas delivery service will be recovered from these customers through a single, fixed monthly charge.

Q. PLEASE EXPLAIN THE BENEFITS TO THE COMPANY AND ITS CUSTOMERS OF A SINGLE, FIXED MONTHLY CHARGE.

A. There are numerous benefits to the Company and its customers with a single, fixed monthly bill concept under its proposed SFV rate design. They include:

- Customers don't overpay or underpay each month.
- Addresses intra-class cross subsidization.
- Improved bill stability.
- Achieves bill simplicity and promotes understandability.
- Expectation of fewer bill complaints.
- Matches approved level of revenues with costs.
- Similar pricing to other consumer services.
- Reduces rate case frequency.
- Simplifies revenue forecasts and adjustments.
- Lower Average Bill Calculation ("ABC") true-ups.

Q. HOW DO YOU EXPECT THE COMPANY'S RESIDENTIAL CUSTOMERS WILL REACT TO PAYING FOR NATURAL GAS DELIVERY SERVICES ON A FLAT MONTHLY BASIS?

A. In my opinion, the Company's customers should react favorably to the change in pricing and billing of gas delivery services. The Company's customers already are accustomed to paying bills for widely utilized consumer services on a flat monthly basis. There are numerous examples of regular consumer services where the service provider structures its fees on a flat monthly basis. These include:

- Local and long distance telephone services
- Cellular telephone services
- Cable television and satellite basic service
- Internet access service
- Home alarm services
- Trash removal services
- Automobile leases and loan payments
- Apartment rent

The pricing of the Company's gas delivery services using an SFV rate design properly portrays to its customers: (1) the fixed nature of the underlying costs; (2) the delivery-only characteristics of the service; and (3) the fact that natural gas is the real commodity being purchased via the Company's gas delivery system.

Q. UNDER THE COMPANY'S PROPOSED RESIDENTIAL RATE DESIGN, WILL CUSTOMERS CONTINUE TO HAVE A FINANCIAL INCENTIVE TO PURSUE ENERGY CONSERVATION AND ENERGY EFFICIENCY MEASURES?

A. Yes. First, the portion of the customer's gas bill represented by MGE's delivery service charges is very small relative to the gas commodity charges incurred by the customer. Currently, as depicted on page 1 of Schedule RAF-10, the portion of the average residential customer's bill represented by delivery service is only approximately 26% of the total bill. Next, as depicted on page 2 of Schedule RAF-10, for an average-sized residential customer (using 824 Ccf per year), approximately $9 per month will be shifted from the Commodity Charge to the Basic Service Charge under the SFV rate design. This is a small amount (roughly 10%) in contrast to the customer's average bill under proposed rates of approximately $86 per month (see Page 1 of Schedule RAF-11). In my opinion, this very small decrease in the Commodity Charge will not materially affect a customer's decision to use more or less gas. Instead, the portion of the customer's bill (almost 75%) related to the Company's commodity cost of gas would continue to drive the customer's ongoing gas consumption decisions.

Q. PLEASE EXPLAIN HOW THE COMPANY'S PROPOSED RESIDENTIAL RATE DESIGN WILL IMPACT CUSTOMERS' GAS BILLS.

A. The Company's proposed rate design will increase the average customer's bills in the summer and shoulder months, when customer bills are at their lowest levels, and will decrease or moderate the increase in customer's bills in the winter months, when bills are at their highest levels. This distinct benefit is depicted on Page 1 of Schedule 11. This Schedule presents a monthly and annual bill comparison for a typical residential customer. Page 2 of Schedule 11 presents monthly bill comparisons for various ranges of monthly gas consumption for residential customers.

Q. HAVE YOU EVALUATED THE IMPACT OF THE PROPOSED SFV RATE DESIGN ACROSS THE VARIOUS SIZES OF RESIDENTIAL CUSTOMERS SERVED BY MGE?

A. Yes. Page 3 of Schedule RAF-11 presents a bill frequency distribution with the number of bills by consumption interval for the Company's residential customers in the months of highest and lowest gas consumption – January and August, respectively. It also provides the average bill change between present and proposed rates for each of the bill ranges in the Schedule. Under the proposed SFV rate design, approximately 72% of MGE's customers will experience a bill decrease in the month of January, with the remaining customers (approximately 28%) experiencing a bill increase. Moreover, under colder than normal weather, these same customers will experience larger decreases in their bills, and there will be additional customers who would also experience decreases in their bills under the proposed SFV rate design.

Q. PLEASE DISCUSS THE IMPACT OF THE COMPANY'S PROPOSED RESIDENTIAL RATE STRUCTURE ON ITS SMALLER CUSTOMERS.

A. As shown on Schedule RAF-11, while the Company's smaller residential customers will experience relatively larger percentage changes in monthly bill levels compared to larger customers, the absolute dollar changes will be relatively small compared to these customers' total gas bills. In fact, as depicted on Page 3 of Schedule RAF-11, only a very small portion (less than 10%) of the Company's total residential customers who consume less gas than the average customer will experience increases greater than approximately $7.50 per month in January – the month of highest gas consumption and highest gas bills. At the same time, this proposed rate structure will cure the chronic cross-subsidy that exists between small and large residential customers caused by the mismatch between their costs of service and base rate revenues.

Q. HOW WILL LOW INCOME RESIDENTIAL CUSTOMERS BE IMPACTED BY THE COMPANY'S RATE DESIGN PROPOSAL?

A. That will depend upon knowing the specific level of gas consumed by these customers. In a prior rate case, the Company had a study undertaken to ascertain the relationship between residential consumers' income levels and their usage of natural gas in MGE's service territory.[5] The conclusion reached in that study was that: "the income-consumption relationship for residential natural gas usage was mildly 'U' – shaped: above average at the lowest income levels, declining through middle incomes, and then rising again to above average at higher income levels." Therefore, it is reasonable to conclude that the Company's lower income customers will benefit from its proposed residential rate design based on a SFV rate structure.

Q. PLEASE EXPLAIN THE PROPOSED RATE DESIGN FOR THE SGS CLASS.

[5] Case No. GR-2001-292, Rebuttal Testimony of Philip B. Thompson, May 22, 2001.

A. The Company has proposed to increase the monthly Customer Charge to $31.00, which is supported by the cost of service study results, and to decrease the present Commodity Charges to levels necessary to recover the balance of the proposed revenue increase assigned to this class not recovered through the Customer Charge.

Q. PLEASE EXPLAIN HOW THE COMPANY'S PROPOSED SGS RATE DESIGN WILL IMPACT CUSTOMERS' GAS BILLS.

A. Page 3 of Schedule 11 presents monthly bill comparisons for various ranges of monthly gas consumption.

Q. PLEASE EXPLAIN THE PROPOSED RATE DESIGN FOR THE LGS CLASS.

A. The present rate structure and rate levels will be maintained in the LGS class in light of MGE's proposal not to change its current revenue level.

Q. PLEASE EXPLAIN THE PROPOSED RATE DESIGN FOR THE LVS CLASS.

A. The present rate structure and rate levels will be maintained in the LVS class in light of MGE's proposal not to change its current revenue level.

b. Alternate Rate Design Proposal

Q. UNDER THE COMPANY'S ALTERNATE RATE DESIGN PROPOSAL, WHAT RATE STRUCTURE MODIFICATIONS DID YOU MAKE COMPARED TO THOSE MADE UNDER ITS PRIMARY RATE DESIGN PROPOSAL?

A. For the Residential class, the current rate structure was maintained with the proposed Customer Charge set at $15.50 per month, and a Delivery Charge set to recover the balance of the assigned revenue increase for that class. The increase in the Customer Charge was based on the same margin percentage resulting from the proposed class revenue increase.

For the SGS rate class, a more modest change was made to the level of the Customer and Delivery Charges compared to the levels proposed under the Company's primary rate design proposal. The proposed Customer Charge for the SGS class was set at $20.50 per month. For both the Residential and SGS rate classes, the primary objective was to continue to move the Company's monthly customer charges towards the fixed costs of delivery service, consistent with the results of MGE's cost of service study.

Q. CAN YOU ILLUSTRATE HOW THE COMPANY'S ALTERNATE RATE DESIGN WILL IMPACT THE GAS BILLS OF ITS RESIDENTIAL AND SGS

CUSTOMERS COMPARED TO BILLS UNDER ITS PRIMARY RATE DESIGN PROPOSAL?

A. Yes. Pages 5-7 of Schedule 11 present monthly and annual bill comparisons for the Residential and SGS rate classes. As you can see, under the Company's alternate rate design proposal, customers will generally experience increases in their bills during the winter months and decreases during the other months compared to bill levels under MGE's primary rate design proposal.

Q. WHY IS THE COMPANY PROPOSING A WNA MECHANISM AS AN ALTERNATE TO THE SFV RATE STRUCTURE IT HAS PROPOSED?

A. The Company is proposing a WNA mechanism as an alternate to its SFV rate structure proposal because this type of ratemaking mechanism can remedy some of the same problems the Company is attempting to address with its SFV rate structure proposal. Specifically, a WNA mechanism was selected by MGE as an alternate ratemaking solution for the following reasons:

1. MGE's gas rates are designed on the basis of the expected volume of gas to be sold for these services under normal weather conditions. This means that the Company will recover its annual fixed cost of providing service only if the level of sales volumes upon which the rate design is predicated is achieved. That sales level is based upon the Company's weather-normalized gas volumes. The WNA

will ensure that the level of sales volumes established to recover its fixed costs is always reflected in the monthly billings to its customers.

2. Deviations from normal weather can result in either over or under recovery of the Company's annual non-gas costs when actual weather experienced is colder or warmer than normal, respectively. Such over or under recoveries will produce erratic financial results that would cause the financial community not to look as favorably at a utility's financial position relative to the financial positions of other utilities with weather normalization clauses, all other things being equal.
3. The WNA will directly address the ever-increasing issue of volatility in customers' gas bills – this ratemaking mechanism will provide more stable annual bill amounts and mitigate volatility in customers' monthly gas bills. Customers will be better able to budget for and pay their monthly bills.
4. The consumer is inclined to look with disfavor on his utility whenever his bill increases greatly during periods of high gas consumption and to overlook those occasions when his bill is lower. As described above, the WNA will directly address this issue by providing more stable annual bill amounts and mitigation of volatility in monthly gas bills.
5. The WNA can send more accurate price signals to the Company's customers compared to the current ratemaking method because it will stabilize the portion of a customer's bill related to the recovery of fixed costs, while still recovering the variable gas costs on a volumetric basis.

Q. IS THERE MORE THAN ONE WAY TO DESIGN A WNA MECHANISM?

A. Yes. There are two basic approaches used by gas utilities that can achieve the desired results. These approaches are: (1) adjusting current billings on a real-time basis; and (2) adjusting billings on a lagged basis (e.g., the adjustment appears on the customer's bill(s) from a few to several months after the variation in weather is experienced).

Q. INTO WHICH OF THESE CATEGORIES DOES THE COMPANY'S WNA MECHANISM FALL?

A. The Company's proposed WNA mechanism falls into the first category, the real-time approach.

Q. WHY HAVE YOU RECOMMENDED ADOPTION OF A WNA MECHANISM OF THIS TYPE?

A. I have recommended this type of mechanism for MGE because, by adjusting current billings on a real-time basis, the consumer can more readily link the resulting billing adjustments with the events causing the adjustments. In addition, certain of the utility's financial statements will reflect the cash flow effect of the mechanism sooner than under a lagged mechanism. And, in a cold winter with higher gas bills, customers receive the benefits of the WNA bill reduction more quickly.

Q. WHAT ARE THE MOST IMPORTANT CHARACTERISTICS OF THE COMPANY'S PROPOSED WNA MECHANISM?

A. The most important characteristics of the Company's proposed WNA mechanism are as follows:

- It is applicable to MGE's Residential, SGS, and LGS customers.
- It is applicable in all geographic areas served by MGE.
- The mechanism adjusts billings on a current monthly basis.
- It is effective for the billing months of October through May.
- It adjusts the amount billed to each temperature-sensitive customer in the Residential, SGS, and LGS rate classes to reverse the impact of actual heating degree-day variations from normal heating degree-day levels.

Q. PLEASE EXPLAIN HOW THE COMPANY'S PROPOSED WNA MECHANISM OPERATES.

A. The WNA mechanism will adjust the amount billed to each customer in the Residential, SGS and LGS rate classes to effectively weather-normalize margins recovered from each of these customers during the winter heating season. It is a customer-specific calculation applied to monthly billings for the months of October through May.

Q. WOULD THE ADJUSTMENT TO CUSTOMERS' BILLS BE CALCULATED ON A CALENDAR MONTH OR ON A BILLING CYCLE MONTH BASIS?

A. The customer adjustments would be made on a billing cycle basis. This approach allows the adjustments to be calculated at the conclusion of each customer's meter reading billing cycle and incorporated into the original bill sent to each customer. Moreover, this approach provides for a more accurate and timely adjustment for the customer. There is no time lag between when the customer experiences the bill variability and when the bill leveling adjustment is made.

Q. PLEASE PROVIDE A FORMULAIC REPRESENTATION OF THE WNA MECHANISM THAT YOU JUST DESCRIBED.

A. A formulaic representation of the Company's proposed WNA mechanism is as follows:

$$\text{WNA} = \frac{R * (N * HF * (NDD - ADD))}{CCF}$$

Where:

WNA = the weather normalization adjustment expressed in cents per Ccf for the applicable rate schedule.

R = the weighted average non-gas rate for the applicable rate schedule as determined in the Company's most recently completed base rate case.

N = the number of monthly bills issued to customers during the billing cycle for the applicable rate schedule.

HF = the use per customer per HDD for the applicable rate schedule by month by cycle. The HF values are those used by the Company in normalizing test year volumes in its most recently completed base rate case.

NDD = is normal billing cycle HDD experienced by the Company s defined by the 10-Year normal HDD.

ADD = is the actual HDD experienced by the Company during the billing cycle.

CCF = the aggregate volumes to be billed for the billing cycle for the applicable rate schedule.

For colder than normal weather, the WNA amount is a negative value, thereby adjusting customers' bills downward accordingly. For warmer than normal weather, the WNA amount is a positive value, with commensurate upward adjustments to customers' bills.

Q. PLEASE EXPLAIN THE PROCESS THE COMPANY WILL FOLLOW EACH MONTH TO CALCULATE THE WNA.

A. The process to be followed each month to calculate the WNA is:

1. For each day of the billing cycle, 10-year normal Heating Degree-Days (HDD) will be determined based on the normal established in the Company's most recently completed base rate case. These daily values will be summed to determine the 10-year normal HDD for the billing cycle. The actual HDD during that billing cycle will be determined and subtracted from the normal HDD just calculated to determine the HDD deficiency or surplus.

2. Just prior to billing, the Company will determine the number of customers and volumes to be billed during that particular billing cycle.
3. The HDD difference will be multiplied by the product of the Heat Factor (HF) and number of customers to be billed in that cycle to derive the total volume deficiency or surplus from that billing cycle.
4. The volume difference will be multiplied by the base rate (R) to derive the total revenue deficiency or surplus from that billing cycle.
5. The total revenue difference will be divided by the total billing cycle volume to derive the WNA.

For each applicable rate class, the WNA will be applied during a billing cycle by multiplying the WNA by the individual customer's volume (from meter reading) to derive the WNA applied to the individual customer's bill.

Q. HAVE YOU DEVELOPED TARIFF SHEETS THAT REFLECT THE COMPUTATIONAL DETAILS AND PROCESS OF THE PROPOSED WNA MECHANISM?

A. Yes. The appropriate tariff sheets to implement the proposed WNA mechanism are presented in Schedule RAF-12.

Q. PLEASE PROVIDE AN EXAMPLE TO DEMONSTRATE THE OPERATION OF THE COMPANY'S PROPOSED WNA MECHANISM.

A. Assume a billing cycle in December comprising 30 days has a total of 900 HDD. Normal weather in that billing cycle is 850 HDD, so the current billing cycle is 106% of normal. The Company bills 20,000 residential customers located in the Kansas City area during that billing cycle. The HDD difference is -50 (850-900), the heat factor (HF) is 0.14183 Ccf per customer per HDD, the non-gas rate (R) is $0.13187 per Ccf, and the aggregate volume in that billing cycle is 2,380,000 Ccf. The volume difference is – 141,830 Ccf (20,000 * 0.14183 * -50). The resulting WNA is ($0.0079) per Ccf (($0.13187 * -141,830)/2,380,000).

In this colder-than-normal billing cycle, the customers billed in that cycle will experience a small decrease in their bills due to the WNA mechanism. For an average residential customer, the bill will decrease by approximately $0.94 (119 Ccf * -$0.0079 per Ccf).

Q. HAVE YOU EVALUATED THE PERFORMANCE OF MGE'S PROPOSED WNA MECHANISM BASED ON RECENT EXPERIENCE WITH WEATHER VARIABILITY IN ITS KANSAS CITY SERVICE AREA?

A. Yes. Schedule RAF-13 provides an illustration of the operation of the WNA mechanism and the determination of the WNA during years that were colder and warmer than normal, and during the current test year. Customer billing adjustments were computed under the WNA mechanism as if it was in effect during each of those three years. We assumed 10% warmer and colder than normal weather based on a review of the

Company's weather experience on average over the last ten years. In all cases, we utilized cycle-based rather than calendar-based HDD. Page 1 of Schedule RAF-13 presents the results under 10% colder than normal weather. Column (K) indicates that the WNA resulted in an annual bill adjustment of ($11.94), with monthly adjustments ranging between $(0.34) and $(2.75). Page 2 of Schedule RAF-13 presents the results under 10% colder than normal weather. Due to the symmetry of the WNA mechanism, the annual and monthly adjustments are exactly equal to the adjustments on page 1, except they are positive adjustments to customers' bills due to the warmer weather. Page 3 of Schedule RAF-13 presents the results under the weather experienced during the test year – approximately 4% warmer than normal. The WNA resulted in an annual bill adjustment of $3.68, with monthly adjustments ranging between ($2.64) and $1.55. The reason there were two months with negative adjustments was because the cycles billed in December and May experienced colder than normal weather of 13% and 27%, respectively.

Q. EVEN WITH A POSITIVE WNA ADJUSTMENT TO CUSTOMERS' BILLS, PLEASE EXPLAIN WHY THE CUSTOMER WILL STILL REALIZE SAVINGS DURING WARMER-THAN-NORMAL TEMPERATURES.

A. Customers generally realize significantly reduced bills during warm temperatures for two reasons. First, a temperature-sensitive customer will have significantly reduced gas usage during warmer than normal periods. Therefore, although the amount of fixed costs to be recovered by the Company using the WNA does not change, the customer will purchase less gas.

Second, during warmer than normal weather conditions, commodity gas costs are typically less expensive, and these gas costs savings are flowed through to customers.

Q. CAN YOU ILLUSTRATE THIS CONCEPT THROUGH THE USE OF A SIMPLE EXAMPLE?

A. Yes. Schedule RAF-14 presents an example of a customer's monthly bill during warmer than normal month using average gas consumption data for a typical MGE residential customer. The example shows the monthly bill calculated for a residential customer under normal weather conditions and under warmer than normal conditions. The customer would realize a significant savings in its monthly bill by paying for only 163 Ccf of gas instead of the 179 Ccf that it would have paid for had temperatures been normal. Thus, while the WNA adds $2.75 to the total bill, the total bill still is $13.70 less than in a normal winter. In a colder than normal winter, the opposite is true – customer bills go up to reflect greater usage and the WNA would provide a slight reduction to the bill.

Q. WHAT ARE THE BENEFITS TO CUSTOMERS OF IMPLEMENTING A WNA MECHANISM?

A. There are several tangible benefits from implementing the Company's proposed WNA mechanism: (1) it will reduce bill variability due to weather in the bill for the month when the variation occurs; (2) the adjustment is tied to each customer's specific gas usage, rather than to a class average that is treated as a deferral and later amortized back to all customers; and (3) the individual customers retain the savings due to their own energy conservation practices.

Q. WHAT ARE THE BENEFITS TO THE COMPANY?

A. The WNA mechanism is expected to reduce margin recovery volatility attributable to weather. This will provide the Company with a reasonable opportunity to recover its approved level of margin, which should in turn, provide it with a reasonable opportunity to earn its allowed return on investment. Since it doesn't require a deferral mechanism, it can also smooth out monthly and seasonal cash flows.

Q. ARE THERE REGULATORY BENEFITS DERIVED FROM THE COMPANY'S PROPOSED WNA MECHANISM?

A. Yes. As described before, customers' gas rates are based on more predictable costs, and customers and the Company obtain benefits from a more stable cash flow.

Q. ARE THE CONCEPTUAL AND COMPUTATIONAL UNDERPINNINGS OF THE COMPANY'S PROPOSED WNA MECHANISM WIDELY ACCEPTED IN THE NATURAL GAS INDUSTRY?

A. Yes. Schedule RAF-15 presents a survey conducted by NCI, with input from a previous American Gas Association survey, that identifies utility companies located in the U.S. that have Weather Normalization Adjustment ("WNA") clauses in effect. The results of that survey indicate that many gas utilities, across a wide geographic area, have implemented WNA mechanisms. Specifically, the survey results indicate that there are 21 states that have approved WNAs for gas companies serving 40 different service areas. In addition, the survey results indicate that over 60% of the gas companies with "real-time" WNAs utilized a rate class approach, which is identical to the approach used in the Company's WNA proposal. As a point of reference, in Schedule RAF-15 the designation "Type 1" refers to WNA mechanisms that are real-time in structure, while the "Type 2" refers to WNA mechanisms with lagged structures.

Q. ALTHOUGH THE WNA MECHANISM ADDRESSES THE IMPACT OF WEATHER ON A GAS UTILITY'S ABILITY TO RECOVER ITS APPROVED LEVEL OF MARGIN REVENUES, DOES IT ALSO ADDRESS THE PROBLEM OF DECLINING USE PER CUSTOMER CAUSED BY FACTORS OTHER THAN WEATHER?

A. No. A WNA mechanism does not address the problem of declining use per customer caused by factors other than weather. As discussed earlier, a ratemaking approach that effectively addresses the declining use per customer problem is a revenue decoupling mechanism or a SFV rate design (as proposed by MGE in its primary rate design proposal).

Q. DO YOU BELIEVE THAT THE COMPANY'S PROPOSED WNA MECHANISM IS FAIR TO BOTH THE UTILITY AND ITS CUSTOMERS?

A. Yes, I do. Under the WNA mechanism, the utility is simply billing customers in a manner to reflect normal weather conditions that are the underlying basis for the base rates authorized by the Commission. The Company is provided a reasonable opportunity to earn its allowed rate of return on its investment and its customers pay no more and no less for delivery service than supported by the underlying costs.

Q. MR. FEINGOLD, DOES THIS COMPLETE YOUR DIRECT TESTIMONY?

A. Yes, it does.

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-2006-____

AFFIDAVIT OF RUSSELL A. FEINGOLD

STATE OF MISSOURI)
) ss.
COUNTY OF JACKSON)

Russell A. Feingold, of lawful age, on his oath states: that he has participated in the preparation of the foregoing Direct Testimony in question and answer form, to be presented in the above case; that the answers in the foregoing Direct Testimony were given by him; that he has knowledge of the matters set forth in such answers; and that such matters are true and correct to the best of his knowledge and belief.

[signature]
RUSSELL A. FEINGOLD

Subscribed and sworn to before me this 26th day of APRIL 2006.

[signature]
Notary Public

My Commission Expires: Feb. 3, 2007

Kim W. Henzi
Notary Public - Notary Seal
State of Missouri
Jackson County
My Commission Expires Feb. 3, 2007