Exhibit No.: 011
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

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MAY 1, 2006

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

[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

[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.

RUSSELL A. FEINGOLD

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

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

RUSSELL A. FEINGOLD

EDUCATION

- Bachelor of Science degree in Electrical Engineering from Washington University, St. Louis
- Master of Science degree in Financial Management from Polytechnic Institute of New York

PROFESSIONAL EMPLOYMENT

1997 – Present	**Navigant Consulting, Inc.** Managing Director, Energy Practice - Litigation, Regulatory & Markets Group
1990 – 1997	**R.J. Rudden Associates, Inc.** Vice President and Director
1985 – 1990	**Price Waterhouse** Director, Gas Regulatory Services Public Utilities Industry Services Group
1978 – 1985	**Stone & Webster Management Consultants, Inc.** Executive Consultant Regulatory Services Division
1973 – 1978	**Port Authority of New York and New Jersey** Staff Engineer and Utility Rate Specialist Design Engineering Division

PRESENTATION OF EXPERT TESTIMONY

- Federal Energy Regulatory Commission
- Arkansas Public Service Commission

- British Columbia Utilities Commission (Canada)
- California Public Utilities Commission
- Connecticut Department of Public Utility Control
- Delaware Public Service Commission
- Georgia Public Service Commission
- Illinois Commerce Commission
- Indiana Utility Regulatory Commission
- Manitoba Public Utilities Board (Canada)
- Massachusetts Department of Public Utilities
- Michigan Public Service Commission
- Montana Public Service Commission
- New Hampshire Public Utilities Commission
- New Jersey Board of Public Utilities
- New York Public Service Commission
- North Dakota Public Service Commission
- Ohio Public Utilities Commission
- Oklahoma Corporation Commission
- Ontario Energy Board (Canada)
- Pennsylvania Public Utility Commission
- Philadelphia Gas Commission
- Quebec Natural Gas Board (Canada)
- South Dakota Public Service Commission
- Vermont Public Service Board
- Virginia State Corporation Commission
- Washington Utilities and Transportation Commission
- Public Service Commission of Wyoming

EDUCATIONAL AND TRAINING ACTIVITIES

- Past Chairman, Rate Training Subcommittee, Rate and Strategic Issues Committee of the American Gas Association
- Seminar organizer and co-moderator at the American Gas Association, "Workshop on Unbundling and LDC Restructuring," July 1995.
- Course organizer and speaker at the annual industry course, American GAssociation – Gas Rate Fundamentals Course, University of Wisconsin – Madison, 1985 – 2006
- Course organizer and speaker at the annual industry course, American Gas Association – Advanced Regulatory Seminar, University of Maryland - College Park, 1987 –1992
- Co-founder, course director and instructor in the annual course, "Principles of Gas Utility Rate Regulation" sponsored by The Center for Professional Advancement 1982-1987
- Contributing Author of the Fourth Edition of "Gas Rate Fundamentals," American Gas Association, 1987 edition.
- Organizer, Editor, and Contributing Author of the upcoming Fifth Edition of "Gas Rate Fundamentals," American Gas Association (in progress)

PUBLICATIONS AND PRESENTATIONS

- "Rate Design, Trackers, and Energy Efficiency – Has the Paradigm Shifted?" Energy Bar Assocation, Midwest Energy Conference, March 2006.
- "Key Regulatory Issues Affecting Energy Utilities," American Gas Association, Lunch 'n Learn Session, November 2005.
- "Decoupling, Conservation, and Margin Tracking Mechanisms," American Gas Association, Rate & Regulatory Issues – Audio Conference Series, October 2005.
- "In Search of Harmony, [Utilities and Regulators] Respondents Weigh in with Needed Actions", Public Utilities Fortnightly, November 2005
- "The Use of Trackers as a Regulatory Tool," Midwest Energy Association – Legal, Regulatory, and Government Relations Roundtable, October 9-11, 2005.
- "Rate Design and the Regulatory Environment," American Gas Association Finance Committee Meeting, October 2005.

- "Creative Utility Regulatory Strategies in a High Price Environment," American Gas Association Executive Conference, September 2005.
- "Revenue Decoupling Programs: Aligning Diverse Interests," The Institute for Regulatory Policy Studies, Illinois State University, May 2005.
- "Key Regulatory Issues Affecting Energy Utilities" American Gas Association Financial Forum, May 2005.
- "Energy Efficiency and Revenue Decoupling: A True Alignment of Customer and Shareholder Interests," American Gas Association Rate and Regulatory Issues Seminar and Committee Meetings, April 2005.
- "Rate Case Techniques: Strategies and Pitfalls" American Gas Association, Rate & Regulatory Issues – Audio Conference Series, March 2005.
- "Regulatory Uncertainty: The Ratemaking Challenge Continues" Public Utilities Fortnightly, Volume 142, No. 11, November 2004.
- "Current Trends in Utility Rate Cases and Pricing: Surveying the Landscape," Platts Rate Case & Pricing Symposium, October 25-26, 2004.
- "State Regulatory Oversight of the Gas Procurement Function" Energy Bar Association, Natural Gas Regulation Committee, Energy Law Journal, Volume 25, No. 1, 2004.
- "Cost Allocation Across Corporate Divisions", American Gas Association, Rate and Strategic Issues Committee Meeting, April 2003.
- "Unbundling Initiatives – How Far Can We Go?" American Gas Association Restructuring Seminar: Service and Revenue Enhancements for the Energy Distribution Business, December 2002.
- "Utility Regulation and Performance-Based Ratemaking (PBR)," PBR Briefing Session sponsored by BC Gas Utility Ltd., April 2002.
- "LDC Perspectives on Managing Price Volatility" American Gas Association, Rate and Strategic Issues Committee Meeting, March 2002.
- "Can a California Energy Crisis Occur Elsewhere?" American Gas Association, Rate and Strategic Issues Committee Meeting, March 2001.
- "Downstream Unbundling: Opportunities and Risks," American Gas Association, Rate and Strategic Issues Committee Meeting, April 2000.

- "Form Follows Function: Which Corporate Strategy Will Predominate in the New Millennium?" American Gas Association 1999 Workshop on Regulation and Business Strategy for Utilities in the New Millennium, August 1999
- "Total Energy Providers: Key Structural and Regulatory Issues," American Gas Association, Rate and Strategic Issues Committee Meeting, April 1999.
- "The Gas Industry: A View of the Next Decade," National Association of Regulatory Utility Commissioners (NARUC) Staff Subcommittee on Accounts, 1998 Fall Meeting, September 1998.
- "Regulatory Responses to the Changing Gas Industry," Canadian Gas Association, 1998 Corporate Challenges Conference, September 1998
- "Trends in Performance-Based Pricing," American Gas Association Financial Analysts Conference, May 1998.
- "Unbundling – An Opportunity or Threat for Customer Care?" presented at the American Gas Association/Edison Electric Institute Customer Services Conference and Exposition, May 1998.
- "Experiences in Electric and Gas Unbundling," presented at the 1997 Indiana Energy Conference, December 1997.
- "Asset and Resource Migration Strategies," presented at the Strategic Marketing For The New Marketplace Conference sponsored by Electric Utility Consultants, Inc. and Metzler & Associates, November 1997.
- "The Status of Unbundling in the Gas Industry," presented at the American Gas Association Finance Committee, March 1997.
- Seminar organizer and co-moderator at the American Gas Association, "Workshop on Unbundling and LDC Restructuring," July 1995.
- "State Regulatory Update," presented at the American Gas Association - Financial Forum, May 1995.
- "Gas Pricing Strategies and Related Rate Considerations," presented before the Rate Committee of the American Gas Association, April 1995.
- "Avoided Cost Concepts and Management Considerations," presented before the Workshop on Avoided Costs in a Post-636 Industry, sponsored by the Gas Research Institute and Wisconsin Center for Demand-Side Research, June 1994.

- "DSM Program Selection Under Order No. 636: Effect of Changing Gas Avoided Costs," presented before the NARUC-DOE Fifth National Integrated Resource Planning Conference, Kalispell, MT, May 1994.
- "A Review of Recent Gas IRP Activities," presented before the Rate Committee of the American Gas Association, March 1994.
- Seminar organizer and co-moderator at the American Gas Association seminar, "The Statue of Integrated Resource Planning," December 1993.
- "Industry Restructuring Issues for LDCs, presented before the American Gas Association–Advanced Regulatory Seminar, University of Maryland, 1993-1996.
- "Acquiring and Using Gas Storage Services," presented before the 8th Cogeneration and Independent Power Congress and Natural Gas Purchasing '93, June 1993.
- "Capitalizing on the New Relationships Arising Between the Various Industry Segments: Understanding How You Can Play in Today's Market," presented before the Institute of Gas Technology's Natural Gas Markets and Marketing Conference, February 1993.
- "The Level Playing Field for Fuel Substitution (or, the Quest for the Holy Grail)," presented before the 4th Natural Gas Industry Forum - Integrated Resource Planning: The Contribution of Natural Gas, October 1992.
- "Key Methodological Considerations in Developing Gas Long-Run Avoided Costs," presented before the NARUC-DOE Fourth National Integrated Resource Planning Conference, September 1992.
- "Mega-NOPR Impacts on Transportation Arrangements for IPPs," co-presented before the 7th Cogeneration and Independent Power Congress and Natural Gas Purchasing '92, June 1992.
- "Cost Allocation in Utility Rate Proceedings," presented before the Ohio State Bar Association - Annual Convention, May 1992.
- "The Long and the Short of LRACs," presented before the Natural Gas Least-Cost Planning Conference April 1992, sponsored by Washington Gas Company and the District of Columbia Energy office.
- Seminar organizer and moderator at the American Gas Association seminar, "Integrated Resource Planning: A Primer," December 1991.

- Session organizer and moderator on integrated resource planning issues at the American Gas Association Annual Conference, October 1991.
- "Strategic Perspectives on the Rate Design Process," presented before the Executive Enterprises, Inc. conference, "Natural Gas Pricing and Rate Design in the 1990s," September 1990.
- "Distribution Company Transportation Rates," presented before the American Gas Association–Advanced Regulatory Seminar, University of Maryland 1987-1992.
- "Design of Distribution Company Gas Rates," presented before the American Gas Association - Gas Rate Fundamentals Course, University of Wisconsin, 1985-1998.
- Seminar organizer, speaker and panel moderator at the American Gas Association seminar, "Natural Gas Strategies: Integrating Supply Planning, Marketing and Pricing," 1988-1990.
- "Local Distribution Company Bypass - Issues and Industry Responses," (Co-author) June 1989.
- "So You Think You Know Your Customers!," presented before the American Gas Association–Annual Marketing Conference, April 1990.
- "Gas Transportation Rate Considerations - A Review of Gas Transportation Practices Based on the Results of the A.G.A. Annual Pricing Strategies Survey," presented before the Rate Committee of the American Gas Association, April 1985-1991.
- "Market-Based Pricing Strategies - Targeted Rates to Meet Competition," presented before the American Gas Association Annual Marketing Conference, March 1989.
- "Gas Rate Restructuring Issues - Targeted Prices to Meet Competition," presented before the Fifteenth Annual Rate Symposium, University of Missouri, February 1989.
- "Gas Transportation Rates - An Integral Part of a Competitive Marketplace," *American Gas Association, Financial Quarterly Review*, Summer 1987.
- "Gas Distributor Rate Design Responses to the Competitive Fuel Situation," *American Gas Association, Financial Quarterly Review*, October 1983.

- "Demand-Commodity Rates: A Second Best Response to the Competitive Fuel Situation," presented before the American Gas Association, Ratemaking Options Forum, September 1983.
- Cofounder, course director and instructor in the annual course, "Principles of Gas Utility Rate Regulation" sponsored by The Center for Professional Advancement 1982-1987.
- "Current Rate and Regulatory Issues," presented before the National Fuel Gas Regulatory Seminar, July 1986.

AFFILIATIONS AND HONORS

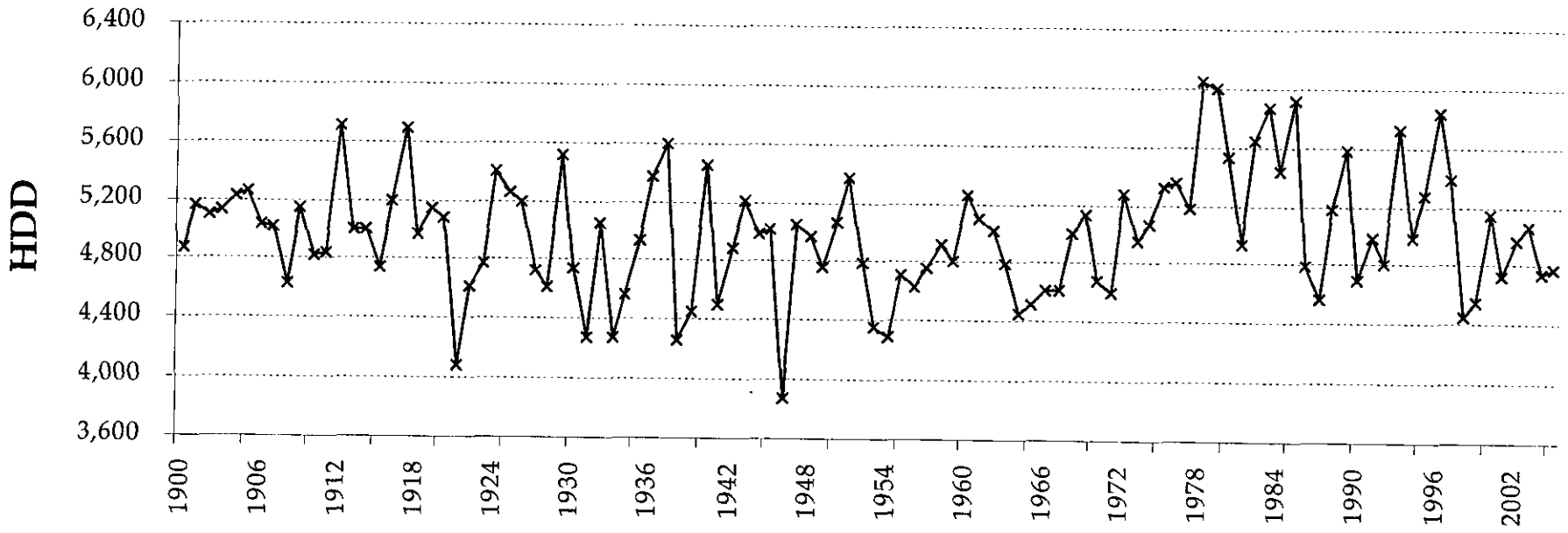
- Financial Associate Member, American Gas Association
- Member, Rate and Strategic Issues Committee of the American Gas Association
- Member, Energy Bar Association
- Member, Institute of Electrical and Electronic Engineers
- Listed in Who's Who of Emerging Leaders in America, 1989-1992

(Current as of April 2006)

MISSOURI GAS ENERGY

Annual Heating Degree Days - Kansas City, MO

1900-2005

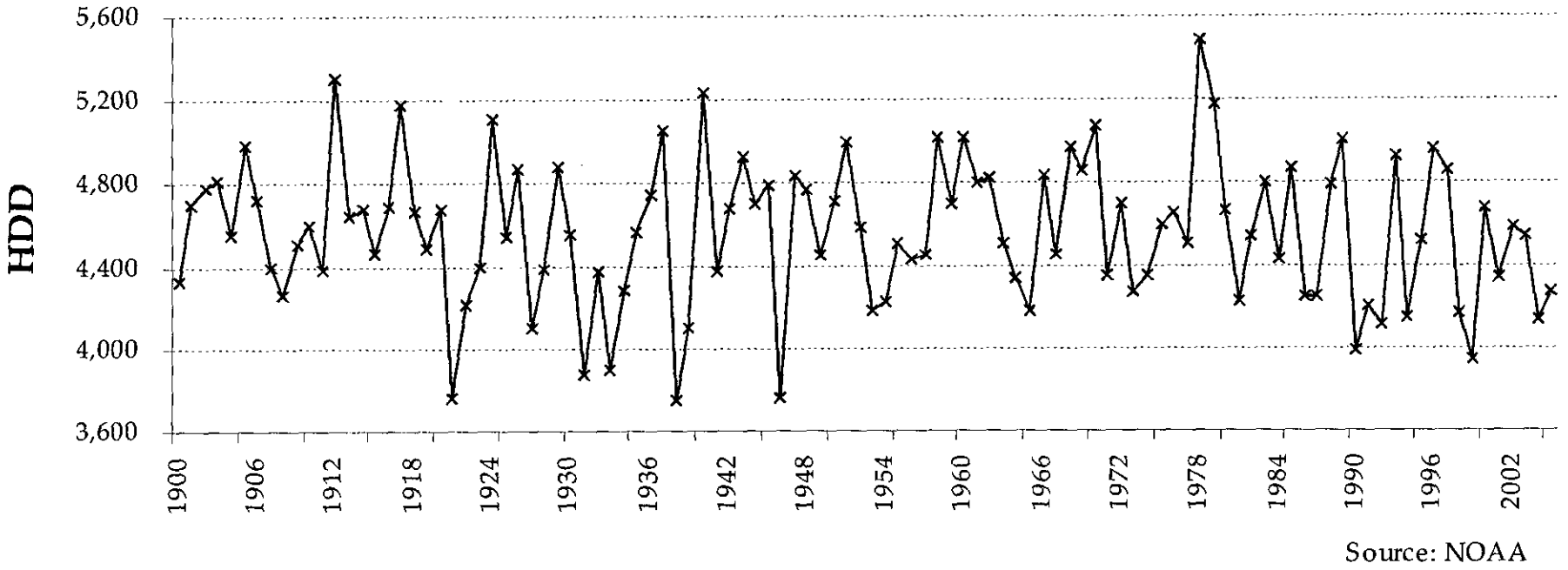


Source: NOAA

MISSOURI GAS ENERGY

Annual Heating Degree Days - Springfield, MO

1900-2005



Source: NOAA

MISSOURI GAS ENERGY

Forecast Results of Selected Weather ("HDD") Averages

Year	Actual HDD - Kansas City	Forecast				Forecast Error				Forecast Error Squared			
		30-Year Average (NOAA)	20-Year Average (Rolling)	10-Year Average (Rolling)	5-Year Average (Rolling)	30-Year Average (NOAA)	20-Year Average (Rolling)	10-Year Average (Rolling)	5-Year Average (Rolling)	30-Year Average (NOAA)	20-Year Average (Rolling)	10-Year Average (Rolling)	5-Year Average (Rolling)
1900	4,871												
1901	5,160												
1902	5,102												
1903	5,133												
1904	5,225												
1905	5,260												
1906	5,025												
1907	5,015												
1908	4,622												
1909	5,146												
1910	4,822												
1911	4,845												
1912	5,705												
1913	4,992												
1914	4,998												
1915	4,744												
1916	5,390												
1917	5,684												
1918	4,969												
1919	5,143												
1920	5,082												
1921	4,089												
1922	4,608												
1923	4,767												
1924	5,405												
1925	5,259												
1926	5,195												
1927	4,730												
1928	4,615												
1929	5,520												
1930	4,748												
1931	4,276												
1932	5,046	5,027	5,014	4,894	4,962	19	32	152	84	361	1,024	23,104	7,056
1933	4,282	5,027	4,986	4,912	4,778	(745)	(704)	(630)	(496)	555,025	495,616	396,900	246,016
1934	4,566	5,027	4,953	4,956	4,841	(461)	(387)	(390)	(275)	212,521	149,769	152,100	75,625
1935	4,936	5,027	4,918	4,908	4,774	(91)	18	28	162	8,281	324	784	26,244
1936	5,364	5,027	4,896	4,824	4,584	337	468	540	780	113,569	219,024	291,600	608,400
1937	5,590	5,027	4,906	4,791	4,621	563	684	799	969	316,969	467,856	638,401	938,961
1938	4,266	5,027	4,914	4,808	4,839	(761)	(648)	(542)	(573)	579,121	419,904	293,764	328,329
1939	4,459	5,027	4,910	4,894	4,948	(568)	(451)	(435)	(489)	322,624	203,401	189,225	239,121
1940	5,445	5,027	4,874	4,859	4,944	418	571	586	501	174,724	326,041	343,396	251,001
1941	4,501	5,027	4,840	4,753	4,923	(526)	(339)	(252)	(422)	276,676	114,921	63,504	178,084
1942	4,891	4,951	4,858	4,823	5,025	(60)	33	68	(134)	3,600	1,089	4,624	17,956
1943	5,211	4,951	4,879	4,846	4,852	260	332	365	359	67,600	110,224	133,225	128,881
1944	4,987	4,951	4,893	4,830	4,712	36	94	157	275	1,296	8,836	24,649	75,625
1945	5,010	4,951	4,915	4,923	4,901	59	95	87	109	3,481	9,025	7,569	11,881
1946	3,866	4,951	4,894	4,965	5,007	(1,085)	(1,028)	(1,099)	(1,141)	1,177,225	1,056,784	1,207,801	1,301,881
1947	5,048	4,951	4,882	4,972	4,920	97	166	76	128	9,409	27,556	5,776	16,384
1948	4,966	4,951	4,815	4,823	4,793	15	151	143	173	225	22,801	20,449	29,929
1949	4,756	4,951	4,831	4,768	4,824	(195)	(75)	(12)	(68)	38,025	5,625	144	4,624
1950	5,068	4,951	4,849	4,838	4,775	117	219	230	293	13,689	47,961	52,900	85,849
1951	5,368	4,951	4,811	4,868	4,729	417	557	500	639	173,889	310,249	250,000	408,321
1952	4,793	4,849	4,827	4,830	4,741	(56)	(34)	(37)	52	3,136	1,156	1,369	2,704
1953	4,357	4,849	4,881	4,917	5,041	(492)	(524)	(560)	(684)	242,064	274,576	313,600	467,856
1954	4,290	4,849	4,869	4,907	4,990	(559)	(579)	(617)	(700)	312,481	335,241	380,689	490,000
1955	4,711	4,849	4,872	4,822	4,868	(138)	(161)	(111)	(157)	19,044	25,921	12,321	24,649
1956	4,635	4,849	4,859	4,752	4,775	(214)	(224)	(117)	(140)	45,796	50,176	13,689	19,600
1957	4,759	4,849	4,847	4,722	4,704	(90)	(88)	37	55	8,100	7,744	1,369	3,025
1958	4,920	4,849	4,811	4,799	4,557	71	109	121	363	5,041	11,881	14,641	131,769
1959	4,806	4,849	4,769	4,770	4,550	(43)	37	36	256	1,849	1,369	1,296	65,536
1960	5,259	4,849	4,802	4,766	4,663	410	457	493	596	168,100	208,849	243,049	355,216

MISSOURI GAS ENERGY

Forecast Results of Selected Weather ("HDD") Averages

Year	Actual HDD - Kansas City	Forecast				Forecast Error				Forecast Error Squared			
		30-Year Average (NOAA)	20-Year Average (Rolling)	10-Year Average (Rolling)	5-Year Average (Rolling)	30-Year Average (NOAA)	20-Year Average (Rolling)	10-Year Average (Rolling)	5-Year Average (Rolling)	30-Year Average (NOAA)	20-Year Average (Rolling)	10-Year Average (Rolling)	5-Year Average (Rolling)
1961	5,095	4,849	4,819	4,771	4,766	246	276	324	329	60,516	76,176	104,976	108,241
1962	5,019	4,814	4,810	4,790	4,876	205	209	229	143	42,025	43,681	52,441	20,449
1963	4,785	4,814	4,840	4,763	4,968	(29)	(55)	22	(183)	841	3,025	484	33,489
1964	4,456	4,814	4,846	4,785	5,020	(358)	(390)	(329)	(564)	128,164	152,100	108,241	318,096
1965	4,513	4,814	4,825	4,828	4,993	(301)	(312)	(315)	(480)	90,601	97,344	99,225	230,400
1966	4,614	4,814	4,798	4,845	4,923	(200)	(184)	(231)	(309)	40,000	33,856	53,361	95,481
1967	4,619	4,814	4,774	4,825	4,774	(195)	(155)	(206)	(155)	38,025	24,025	42,436	24,025
1968	5,007	4,814	4,811	4,823	4,677	193	196	184	330	37,249	38,416	33,856	108,900
1969	5,135	4,814	4,789	4,809	4,597	321	346	326	538	103,041	119,716	106,276	289,444
1970	4,685	4,814	4,792	4,817	4,642	(129)	(107)	(132)	43	16,641	11,449	17,424	1,849
1971	4,590	4,814	4,810	4,850	4,778	(224)	(220)	(260)	(188)	50,176	48,400	67,600	35,344
1972	5,273	4,804	4,791	4,793	4,812	469	482	480	461	219,961	232,324	230,400	212,521
1973	4,959	4,804	4,752	4,742	4,807	155	207	217	152	24,025	42,849	47,089	23,104
1974	5,057	4,804	4,776	4,768	4,938	253	281	289	119	64,009	78,961	83,521	14,161
1975	5,315	4,804	4,807	4,785	4,928	511	508	530	387	261,121	258,064	280,900	149,769
1976	5,359	4,804	4,845	4,845	4,913	555	514	514	446	308,025	264,196	264,196	198,916
1977	5,175	4,804	4,875	4,925	5,039	371	300	250	136	137,641	90,000	62,500	18,496
1978	6,038	4,804	4,911	5,000	5,193	1,234	1,127	1,038	845	1,522,756	1,270,129	1,077,444	714,025
1979	6,002	4,804	4,932	5,056	5,173	1,198	1,070	946	829	1,435,204	1,144,900	894,916	687,241
1980	5,533	4,804	4,988	5,159	5,389	729	545	374	144	531,441	297,025	139,876	20,736
1981	4,942	4,804	5,048	5,245	5,578	138	(106)	(303)	(636)	19,044	11,236	91,809	404,496
1982	5,644	4,971	5,061	5,330	5,621	673	583	314	23	452,929	339,889	98,596	529
1983	5,872	4,971	5,054	5,365	5,538	901	818	507	334	811,801	669,124	257,049	111,556
1984	5,437	4,971	5,085	5,402	5,632	466	352	35	(195)	217,156	123,904	1,225	38,025
1985	5,919	4,971	5,139	5,494	5,599	948	780	425	320	898,704	608,400	180,625	102,400
1986	4,784	4,971	5,188	5,532	5,486	(187)	(404)	(748)	(702)	34,969	163,216	559,504	492,804
1987	4,567	4,971	5,259	5,592	5,563	(404)	(692)	(1,025)	(996)	163,216	478,864	1,050,625	992,016
1988	5,176	4,971	5,267	5,535	5,531	205	(91)	(359)	(355)	42,025	8,281	128,881	126,025
1989	5,572	4,971	5,265	5,474	5,316	601	307	98	256	361,201	94,249	9,604	65,536
1990	4,691	4,971	5,273	5,388	5,177	(280)	(582)	(697)	(486)	78,400	338,724	485,809	236,196
1991	4,980	4,971	5,295	5,345	5,204	9	(315)	(365)	(224)	81	99,225	133,225	50,176
1992	4,804	5,128	5,295	5,260	4,958	(324)	(491)	(456)	(154)	104,976	241,081	207,936	23,716
1993	5,717	5,128	5,315	5,264	4,997	589	402	453	720	346,921	161,604	205,209	518,400
1994	4,982	5,128	5,291	5,180	5,045	(146)	(309)	(198)	(63)	21,316	95,481	39,204	3,969
1995	5,278	5,128	5,329	5,165	5,153	150	(51)	113	125	22,500	2,601	12,769	15,625
1996	5,837	5,128	5,325	5,119	5,035	709	512	718	802	502,681	262,144	515,524	643,204
1997	5,390	5,128	5,324	5,055	5,152	262	66	335	238	68,644	4,356	112,225	56,644
1998	4,449	5,128	5,348	5,160	5,324	(679)	(899)	(711)	(875)	461,041	808,201	505,521	765,625
1999	4,545	5,128	5,358	5,243	5,441	(583)	(813)	(698)	(896)	339,889	660,969	487,204	802,816
2000	5,150	5,128	5,279	5,170	5,187	22	(129)	(20)	(37)	484	16,641	400	1,369
2001	4,727	5,128	5,206	5,067	5,100	(401)	(479)	(340)	(373)	160,801	229,441	115,600	139,129
2002	4,969	5,235	5,187	5,113	5,074	(266)	(218)	(144)	(105)	70,756	47,524	20,736	11,025
2003	5,069	5,235	5,176	5,088	4,852	(166)	(107)	(19)	217	27,556	11,449	361	47,089
2004	4,750	5,235	5,142	5,104	4,768	(485)	(392)	(354)	(18)	235,225	153,664	125,316	324
2005	4,780	5,235	5,102	5,040	4,892	(455)	(322)	(260)	(112)	207,025	103,684	67,600	12,544
									Sum	15,614,724	14,975,531	14,261,657	15,506,448
									Mean	211,010	202,372	192,725	209,547
									Root Mean Squared Error (RMSE)	459.36	449.86	439.00	457.76

MISSOURI GAS ENERGY

Forecast Results of Selected Weather ("HDD") Averages

Year	Actual HDD - Springfield	Forecast				Forecast Error				Forecast Error Squared			
		30-Year Average (NOAA)	20-Year Average (Rolling)	10-Year Average (Rolling)	5-Year Average (Rolling)	30-Year Average (NOAA)	20-Year Average (Rolling)	10-Year Average (Rolling)	5-Year Average (Rolling)	30-Year Average (NOAA)	20-Year Average (Rolling)	10-Year Average (Rolling)	5-Year Average (Rolling)
1900	4,326												
1901	4,700												
1902	4,782												
1903	4,814												
1904	4,549												
1905	4,992												
1906	4,730												
1907	4,396												
1908	4,256												
1909	4,514												
1910	4,595												
1911	4,387												
1912	5,302												
1913	4,643												
1914	4,682												
1915	4,469												
1916	4,695												
1917	5,181												
1918	4,665												
1919	4,489												
1920	4,675												
1921	3,759												
1922	4,215												
1923	4,397												
1924	5,108												
1925	4,544												
1926	4,871												
1927	4,104												
1928	4,382												
1929	4,882												
1930	4,555												
1931	3,875												
1932	4,374	4,611	4,600	4,482	4,559	(237)	(226)	(108)	(185)	56,169	51,076	11,664	34,225
1933	3,900	4,611	4,575	4,493	4,360	(711)	(675)	(593)	(460)	505,521	455,625	351,649	211,600
1934	4,280	4,611	4,528	4,509	4,414	(331)	(248)	(229)	(134)	109,561	61,504	52,441	17,956
1935	4,571	4,611	4,491	4,460	4,317	(40)	80	111	254	1,600	6,400	12,321	64,516
1936	4,747	4,611	4,471	4,377	4,197	136	276	370	550	18,496	76,176	136,900	302,500
1937	5,055	4,611	4,476	4,379	4,200	444	579	676	855	197,136	335,241	456,976	731,025
1938	3,748	4,611	4,479	4,367	4,374	(863)	(731)	(619)	(626)	744,769	534,361	383,161	391,876
1939	4,097	4,611	4,472	4,462	4,511	(514)	(375)	(365)	(414)	264,196	140,625	133,225	171,396
1940	5,241	4,611	4,427	4,399	4,480	630	814	842	761	396,900	662,596	708,964	579,121
1941	4,378	4,611	4,407	4,320	4,444	(233)	(29)	58	(66)	54,289	841	3,364	4,356
1942	4,674	4,530	4,435	4,389	4,578	144	239	285	96	20,736	57,121	81,225	9,216
1943	4,934	4,530	4,466	4,439	4,504	404	468	495	430	163,216	219,024	245,025	184,900
1944	4,698	4,530	4,489	4,469	4,428	168	209	229	270	28,224	43,681	52,441	72,900
1945	4,796	4,530	4,516	4,573	4,665	266	280	223	131	70,756	78,400	49,729	17,161
1946	3,759	4,530	4,496	4,614	4,785	(771)	(737)	(855)	(1,026)	594,441	543,169	731,025	1,052,676
1947	4,838	4,530	4,508	4,637	4,696	308	330	201	142	94,864	108,900	40,401	20,164
1948	4,769	4,530	4,453	4,538	4,572	239	316	231	197	57,121	99,856	53,361	38,809
1949	4,457	4,530	4,489	4,516	4,605	(73)	(32)	(59)	(148)	5,329	1,024	3,481	21,904
1950	4,719	4,530	4,509	4,618	4,572	189	210	101	147	35,721	44,100	10,201	21,609
1951	5,001	4,530	4,487	4,654	4,524	471	514	347	477	221,841	264,196	120,409	227,529
1952	4,585	4,491	4,496	4,602	4,508	94	89	(17)	77	8,836	7,921	289	5,929
1953	4,176	4,491	4,552	4,665	4,757	(315)	(376)	(489)	(581)	99,225	141,376	239,121	337,561
1954	4,229	4,491	4,561	4,656	4,706	(262)	(333)	(427)	(477)	68,644	110,889	182,329	227,529
1955	4,510	4,491	4,576	4,580	4,588	19	(66)	(70)	(78)	361	4,356	4,900	6,084
1956	4,435	4,491	4,574	4,533	4,542	(56)	(139)	(98)	(107)	3,136	19,321	9,604	11,449
1957	4,447	4,491	4,571	4,504	4,500	(44)	(124)	(57)	(53)	1,936	15,376	3,249	2,809
1958	5,019	4,491	4,555	4,572	4,387	528	464	447	632	278,784	215,296	199,809	399,424
1959	4,704	4,491	4,525	4,533	4,359	213	179	171	345	45,369	32,041	29,241	119,025
1960	5,023	4,491	4,588	4,558	4,528	532	435	465	495	283,024	189,225	216,225	245,025

MISSOURI GAS ENERGY

Forecast Results of Selected Weather ("HDD") Averages

Year	Actual HDD - Springfield	Forecast				Forecast Error				Forecast Error Squared			
		30-Year Average (NOAA)	20-Year Average (Rolling)	10-Year Average (Rolling)	5-Year Average (Rolling)	30-Year Average (NOAA)	20-Year Average (Rolling)	10-Year Average (Rolling)	5-Year Average (Rolling)	30-Year Average (NOAA)	20-Year Average (Rolling)	10-Year Average (Rolling)	5-Year Average (Rolling)
1961	4,807	4,491	4,618	4,583	4,623	316	189	224	184	99,856	35,721	50,176	33,856
1962	4,824	4,535	4,608	4,613	4,726	289	216	211	98	83,521	46,656	44,521	9,604
1963	4,506	4,535	4,629	4,594	4,800	(29)	(123)	(88)	(294)	841	15,129	7,744	86,436
1964	4,341	4,535	4,637	4,617	4,875	(194)	(296)	(276)	(534)	37,636	87,616	76,176	285,156
1965	4,175	4,535	4,615	4,650	4,773	(360)	(440)	(475)	(598)	129,600	193,600	225,625	357,604
1966	4,843	4,535	4,597	4,662	4,700	308	246	181	143	94,864	60,516	32,761	20,449
1967	4,449	4,535	4,566	4,628	4,531	(86)	(117)	(179)	(82)	7,396	13,689	32,041	6,724
1968	4,980	4,535	4,620	4,669	4,538	445	360	311	442	198,025	129,600	96,721	195,364
1969	4,862	4,535	4,601	4,669	4,463	327	261	193	399	106,929	68,121	37,249	159,201
1970	5,072	4,535	4,612	4,665	4,558	537	460	407	514	288,369	211,600	165,649	264,196
1971	4,353	4,535	4,632	4,681	4,662	(182)	(279)	(328)	(309)	33,124	77,841	107,584	95,481
1972	4,699	4,634	4,649	4,686	4,841	65	50	13	(142)	4,225	2,500	169	20,164
1973	4,268	4,634	4,617	4,641	4,743	(366)	(349)	(373)	(475)	133,956	121,801	139,129	225,625
1974	4,353	4,634	4,623	4,628	4,793	(281)	(270)	(275)	(440)	78,961	72,900	75,625	193,600
1975	4,605	4,634	4,627	4,604	4,651	(29)	(22)	1	(46)	841	484	1	2,116
1976	4,652	4,634	4,634	4,605	4,549	18	18	47	103	324	324	2,209	10,609
1977	4,514	4,634	4,638	4,648	4,456	(120)	(124)	(134)	58	14,400	15,376	17,956	3,364
1978	5,485	4,634	4,649	4,629	4,515	851	836	856	970	724,201	698,896	732,736	940,900
1979	5,185	4,634	4,652	4,636	4,478	551	533	549	707	303,601	284,089	301,401	499,849
1980	4,672	4,634	4,676	4,686	4,722	38	(4)	(14)	(50)	1,444	16	196	2,500
1981	4,229	4,634	4,700	4,719	4,888	(405)	(471)	(490)	(659)	164,025	221,841	240,100	434,281
1982	4,538	4,659	4,682	4,679	4,902	(121)	(144)	(141)	(364)	14,641	20,736	19,881	132,496
1983	4,805	4,659	4,653	4,666	4,817	146	152	139	(12)	21,316	23,104	19,321	144
1984	4,425	4,659	4,639	4,650	4,822	(234)	(214)	(225)	(397)	54,756	45,796	50,625	157,609
1985	4,873	4,659	4,654	4,704	4,686	214	219	169	187	45,796	47,961	28,561	34,969
1986	4,249	4,659	4,658	4,711	4,534	(410)	(409)	(462)	(285)	168,100	167,281	213,444	81,225
1987	4,253	4,659	4,693	4,738	4,574	(406)	(440)	(485)	(321)	164,836	193,600	235,225	103,041
1988	4,797	4,659	4,663	4,698	4,578	138	134	99	219	19,044	17,956	9,801	47,961
1989	5,008	4,659	4,654	4,671	4,521	349	354	337	487	121,801	125,316	113,569	237,169
1990	3,981	4,659	4,644	4,603	4,519	(678)	(663)	(622)	(538)	459,684	439,569	386,884	289,444
1991	4,197	4,659	4,652	4,585	4,636	(462)	(455)	(388)	(439)	213,444	207,025	150,544	192,721
1992	4,108	4,627	4,597	4,516	4,458	(519)	(489)	(408)	(350)	269,361	239,121	166,464	122,500
1993	4,925	4,627	4,589	4,513	4,447	298	336	412	478	88,804	112,896	169,744	228,484
1994	4,151	4,627	4,560	4,470	4,418	(476)	(409)	(319)	(267)	226,576	167,281	101,761	71,289
1995	4,521	4,627	4,593	4,482	4,444	(106)	(72)	39	77	11,236	5,184	1,521	5,929
1996	4,967	4,627	4,583	4,454	4,272	340	384	513	695	115,600	147,456	263,169	483,025
1997	4,865	4,627	4,578	4,419	4,380	238	287	446	485	56,644	82,369	198,916	235,225
1998	4,164	4,627	4,594	4,491	4,534	(463)	(430)	(327)	(370)	214,369	184,900	106,929	136,900
1999	3,945	4,627	4,612	4,552	4,686	(682)	(667)	(607)	(741)	465,124	444,889	368,449	549,081
2000	4,684	4,627	4,546	4,489	4,534	57	138	195	150	3,249	19,044	38,025	22,500
2001	4,337	4,627	4,484	4,382	4,492	(290)	(147)	(45)	(155)	84,100	21,609	2,025	24,025
2002	4,588	4,549	4,484	4,453	4,525	39	104	135	63	1,521	10,816	18,225	3,969
2003	4,541	4,549	4,490	4,467	4,399	(8)	51	74	142	64	2,601	5,476	20,164
2004	4,135	4,549	4,492	4,515	4,344	(414)	(357)	(380)	(209)	171,396	127,449	144,400	43,681
2005	4,270	4,549	4,479	4,476	4,419	(279)	(209)	(206)	(149)	77,841	43,681	42,436	22,201

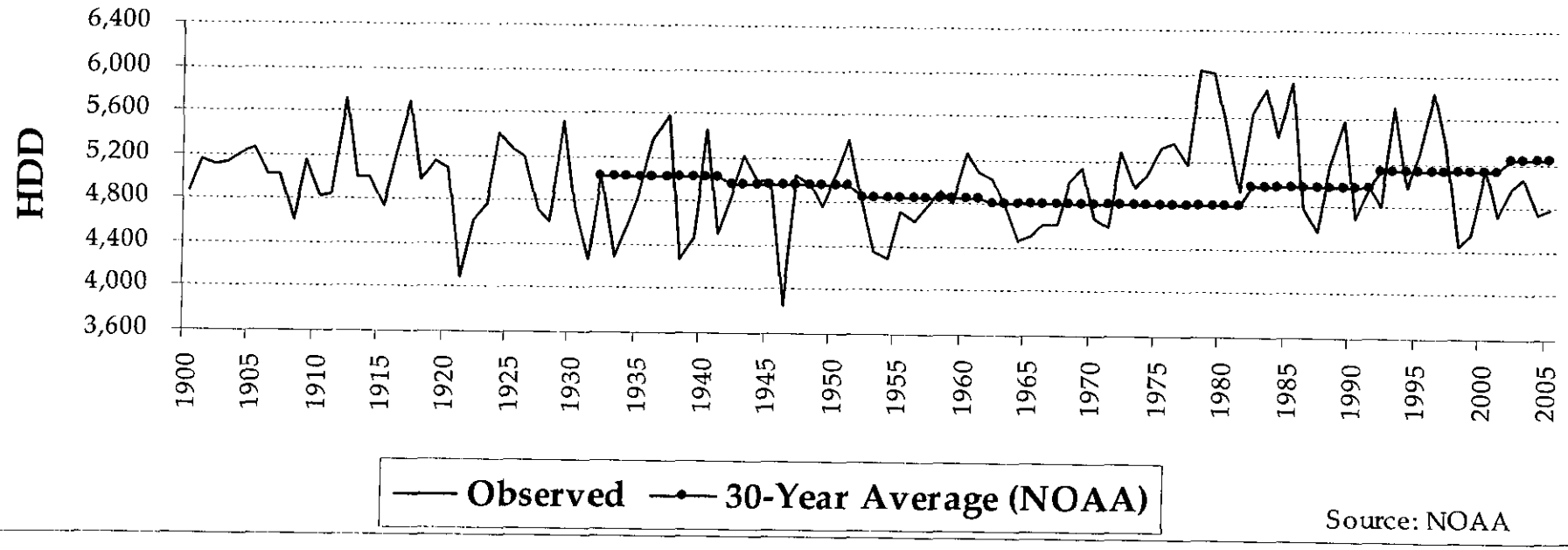
Sum	10,005,643	9,775,673	9,763,894	12,623,105
Mean	135,211	132,104	131,945	170,583
Root Mean Squared Error (RMSE)	367.71	363.46	363.24	413.02

MISSOURI GAS ENERGY

Annual Heating Degree Days - Kansas City, MO

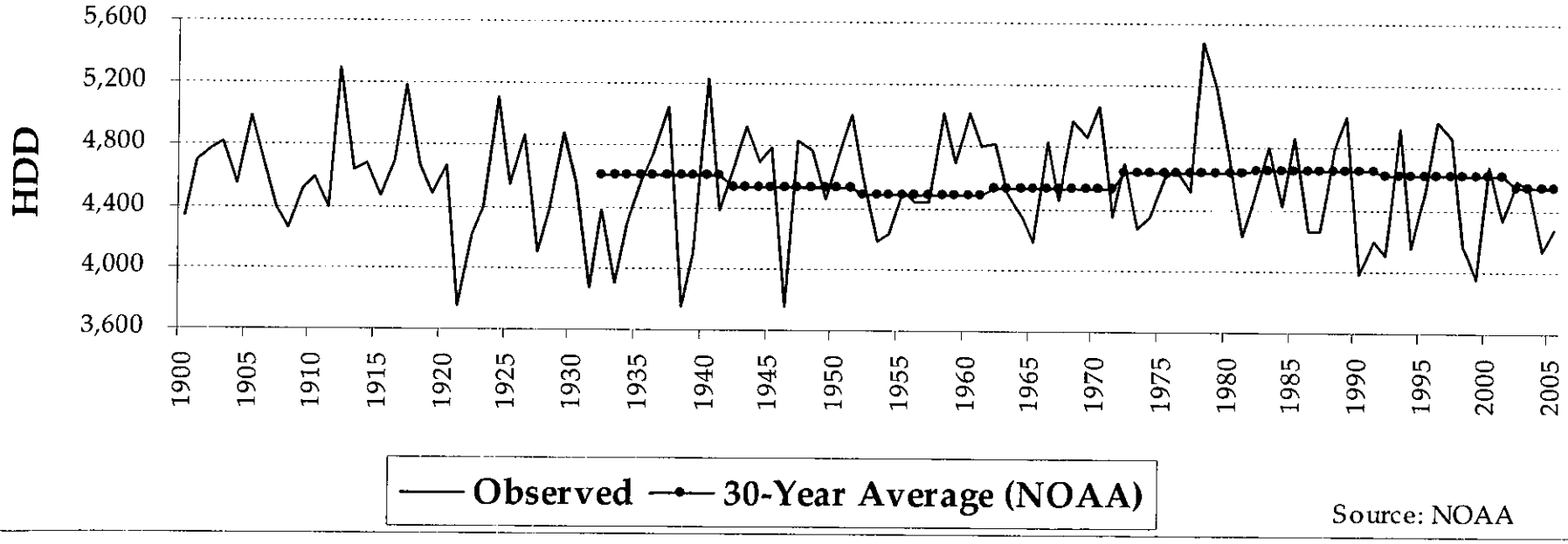
Actual Observed vs. 30-Year Average

1900-2005



Source: NOAA

MISSOURI GAS ENERGY
Annual Heating Degree Days - Springfield, MO
Actual Observed vs. 30-Year Average
1900-2005



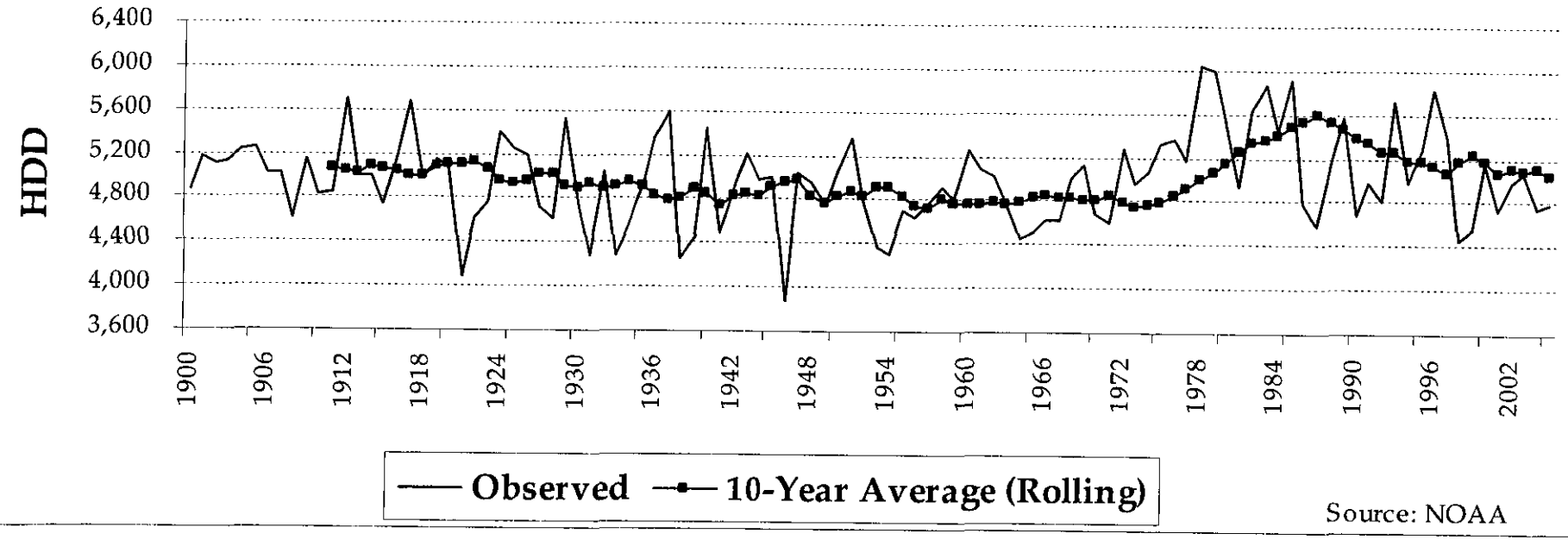
Source: NOAA

MISSOURI GAS ENERGY

Annual Heating Degree Days - Kansas City, MO

Actual Observed vs. 10-Year Average

1900-2005



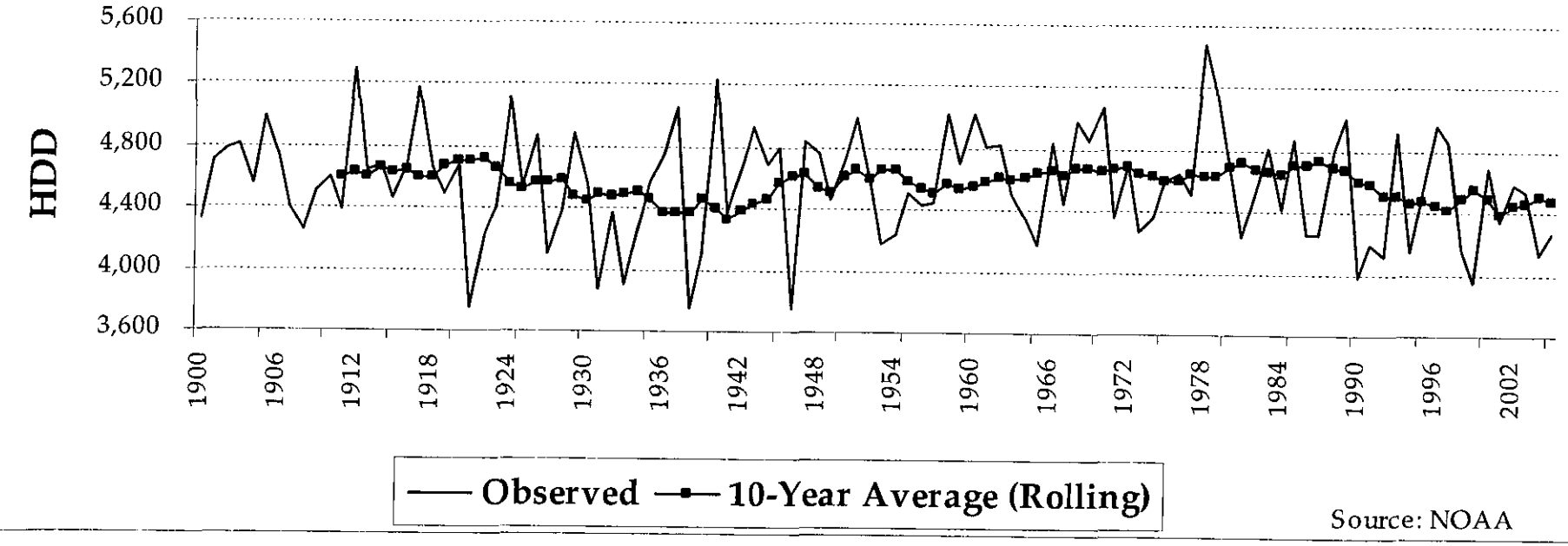
Source: NOAA

MISSOURI GAS ENERGY

Annual Heating Degree Days - Springfield, MO

Actual Observed vs. 10-Year Average

1900-2005



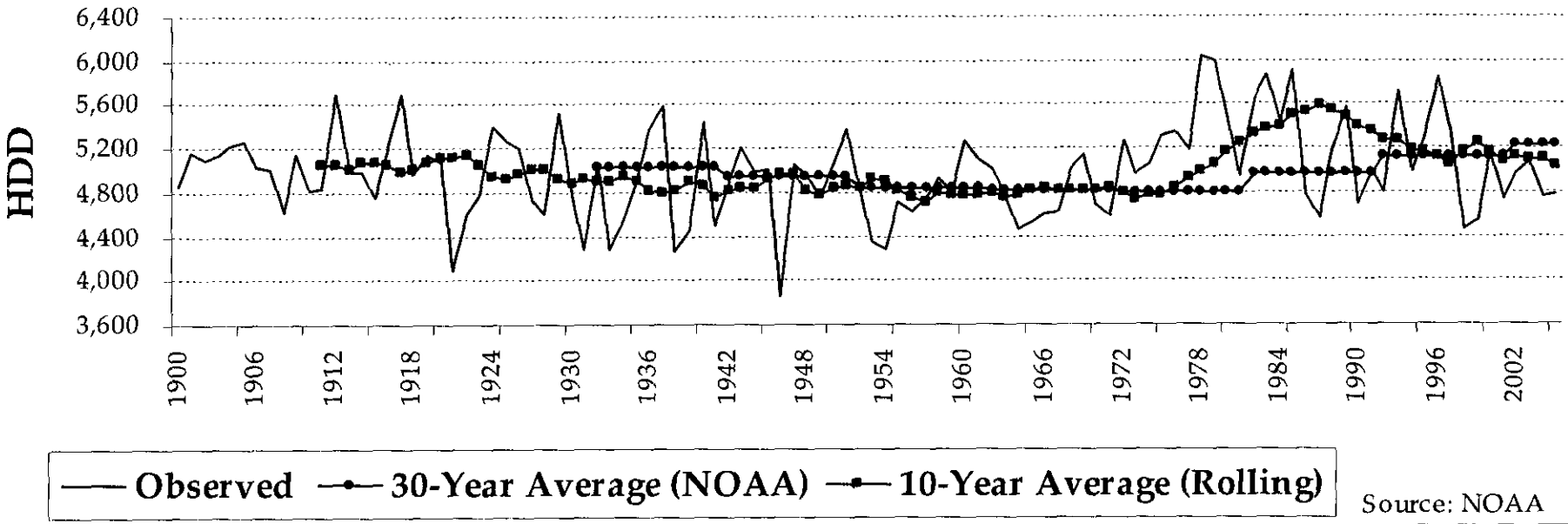
Source: NOAA

MISSOURI GAS ENERGY

Annual Heating Degree Days - Kansas City, MO

30-Year Average vs. 10-Year Average

1900-2005



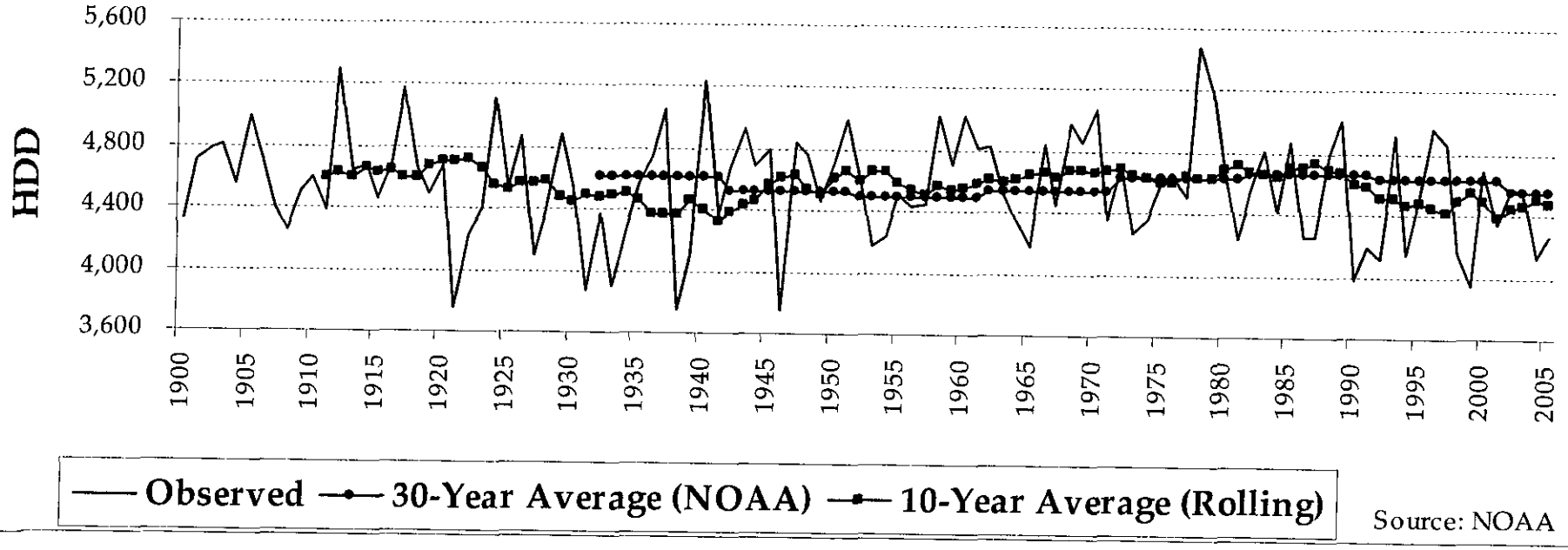
Source: NOAA

MISSOURI GAS ENERGY

Annual Heating Degree Days - Springfield, MO

30-Year Average vs. 10-Year Average

1900-2005



Source: NOAA

MISSOURI GAS ENERGY

Likelihood That Near-Term Weather Will Revert Back to the Colder Conditions Described by the Current NOAA 30-Year Normal

Line No.	(a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)	(i)	(j)	(k)	(l)	(m)
		5-Year Average (2001-2005)			4-Year Average (2002-2005)			3-Year Average (2003-2005)			2-Year Average (2004-2005)		
	Airport Weather Data	Average (HDD)	NOAA Current 30-Year Normal (HDD)	Difference (HDD)	Average (HDD)	NOAA Current 30-Year Normal (HDD)	Difference (HDD)	Average (HDD)	NOAA Current 30-Year Normal (HDD)	Difference (HDD)	Average (HDD)	NOAA Current 30-Year Normal (HDD)	Difference (HDD)
1	Kansas City, MO (MCI)	4,859	5,249	390	4,892	5,249	357	4,866	5,249	383	4,765	5,249	484
2			Count:	-		Count	-		Count:	1		Count:	3
3			Frequency:	0.00%		Frequency	0.00%		Frequency:	0.97%		Frequency:	2.88%
4	Springfield, MO (SGF)	4,374	4,602	228	4,384	4,602	218	4,315	4,602	287	4,203	4,602	399
5			Count:	3		Count	5		Count:	3		Count:	5
6			Frequency:	2.97%		Frequency	4.90%		Frequency:	2.91%		Frequency:	4.81%

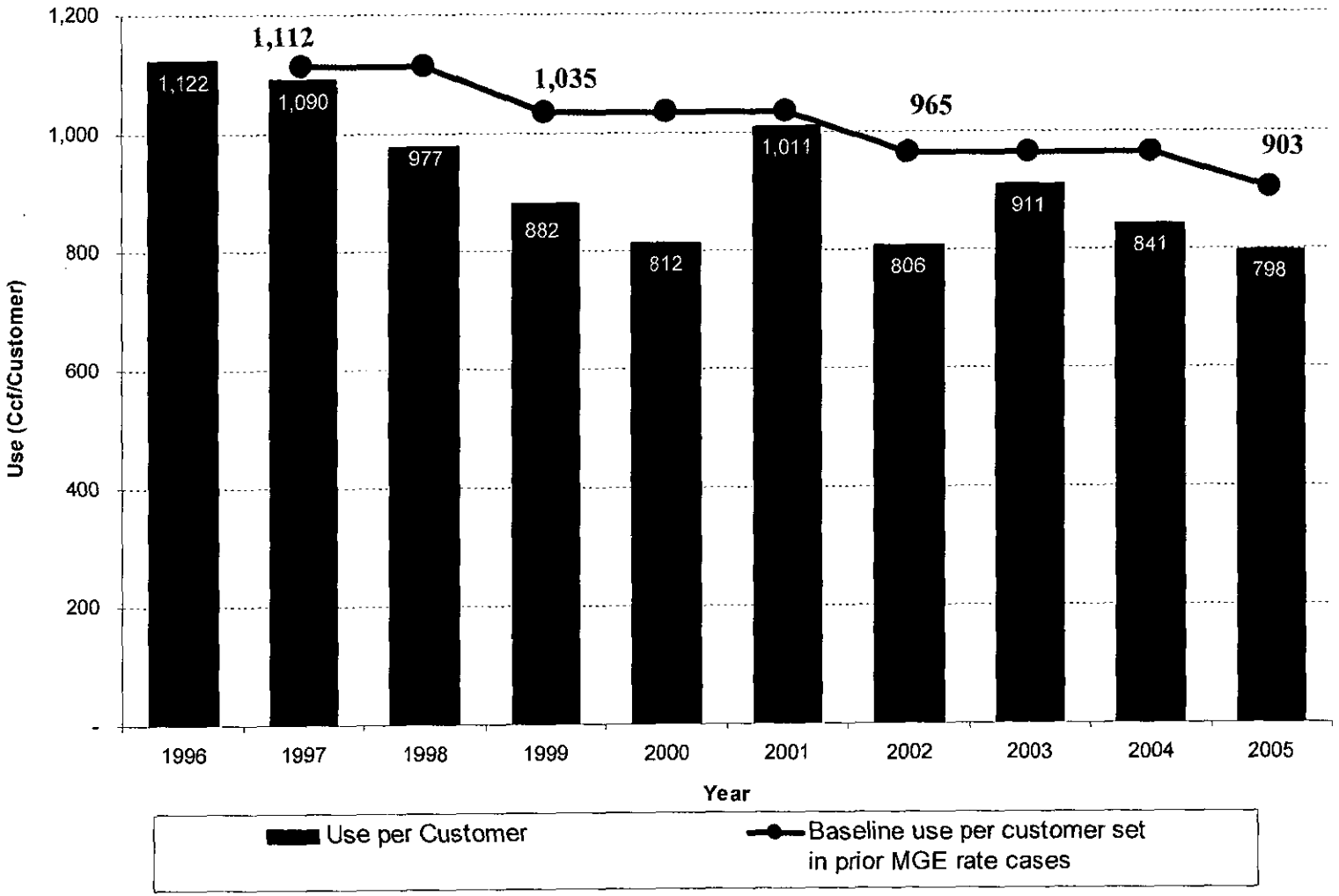
MISSOURI GAS ENERGY

Class Revenue Proposal

Line No.	Rate Class	Proposed Base Revenue Increase	Present Rates Rate of Return %	Present Rates Rate of Return Relative	Proposed Rates Rate of Return %	Proposed Rates Rate of Return Relative
	(a)	(b)	(c)	(d)	(e)	(f)
1	Residential	$34,906,279	2.88%	0.63	7.95%	0.89
2	Small General Service	$6,745,053	7.50%	1.65	11.17%	1.25
3	Large General Service	-	11.94%	2.63	11.94%	1.34
4	Large Volume Service	-	12.66%	2.79	12.66%	1.42
5	Total Company	$41,651,332	4.54%	1.00	8.94%	1.00

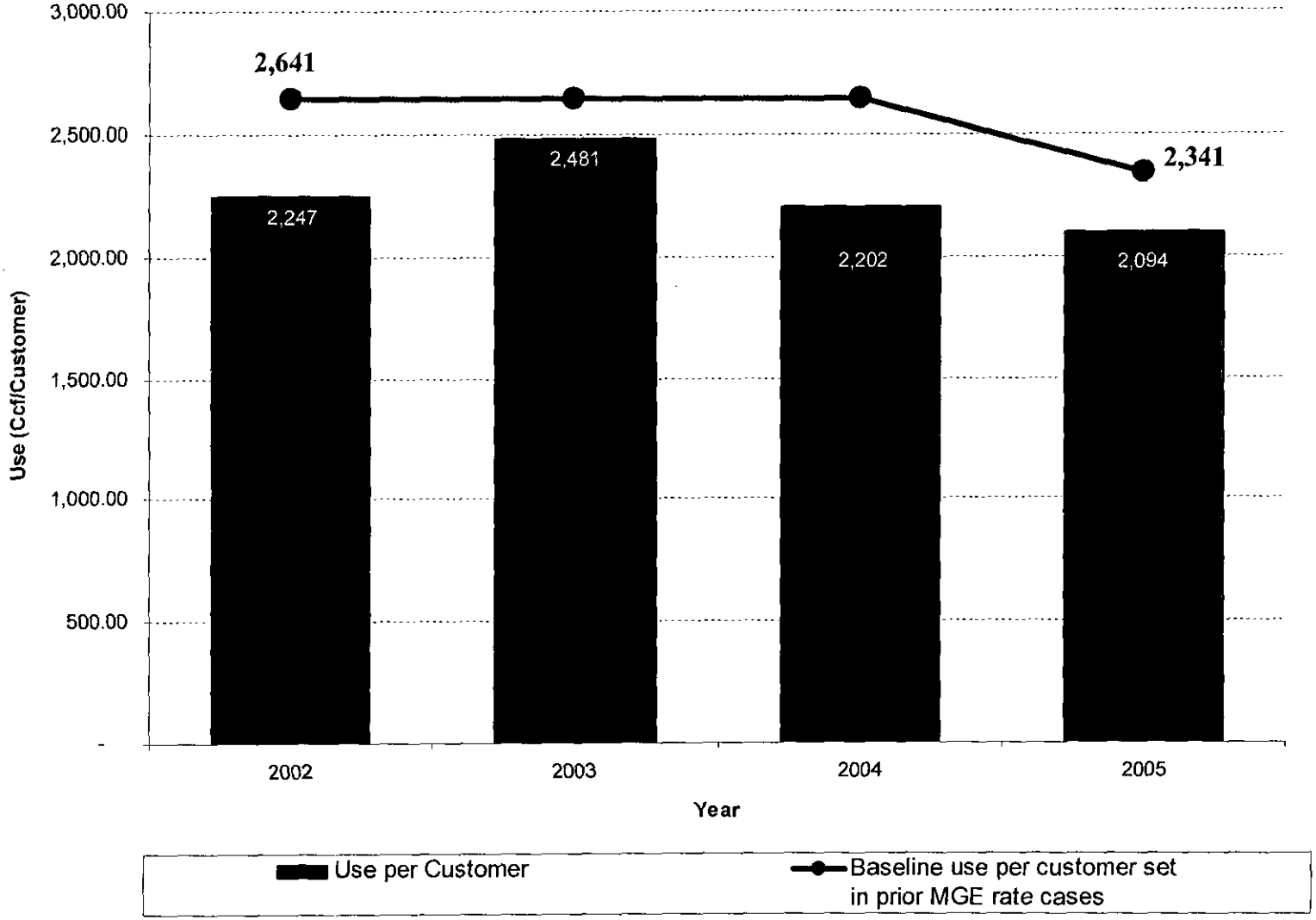
MISSOURI GAS ENERGY

Annual Average Use per Customer - Residential Service



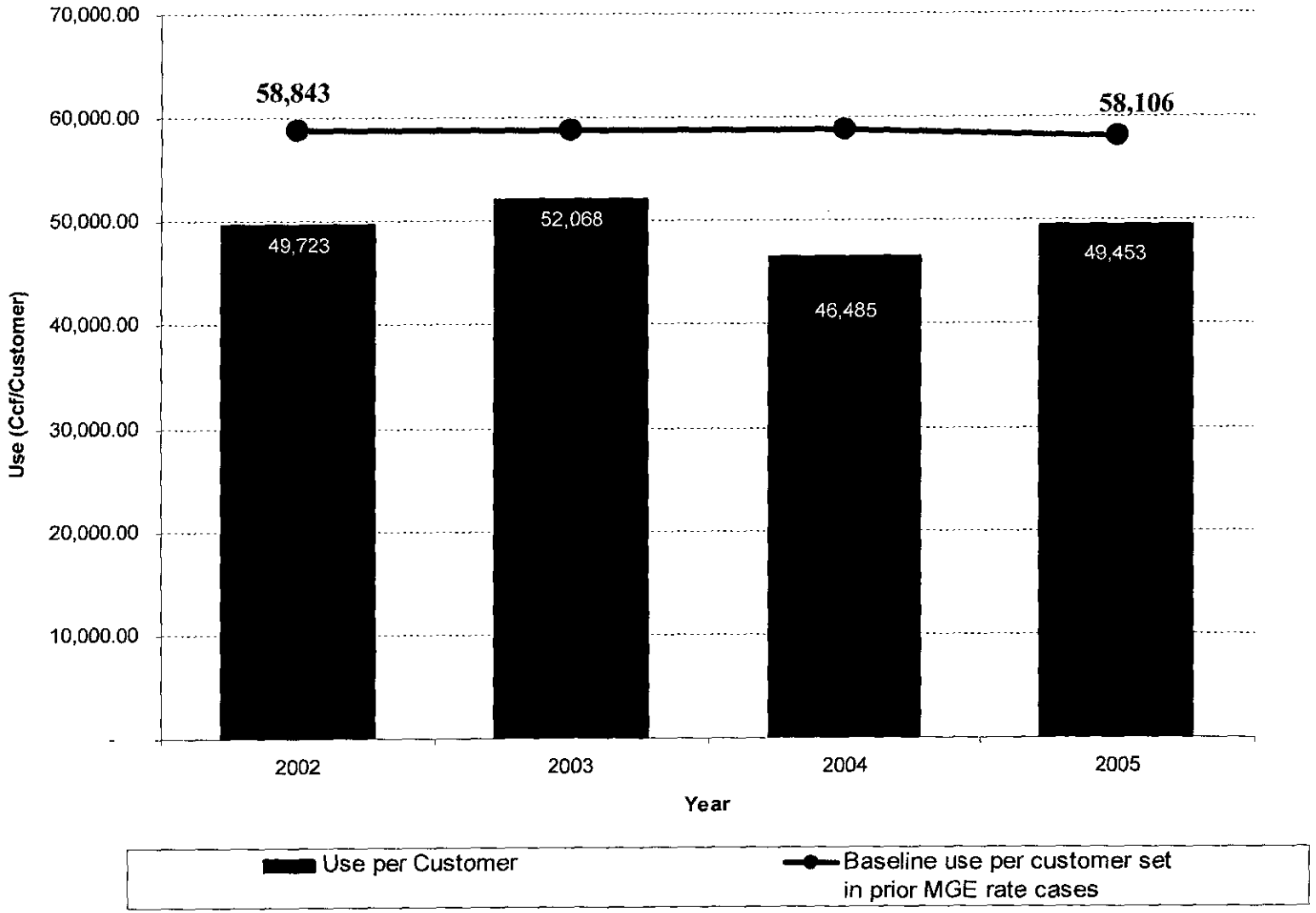
Note: All actual data based on Fiscal Year Ending June 30th except 2005 data which is calendar year.

MISSOURI GAS ENERGY
Annual Average Use per Customer - Small General Service



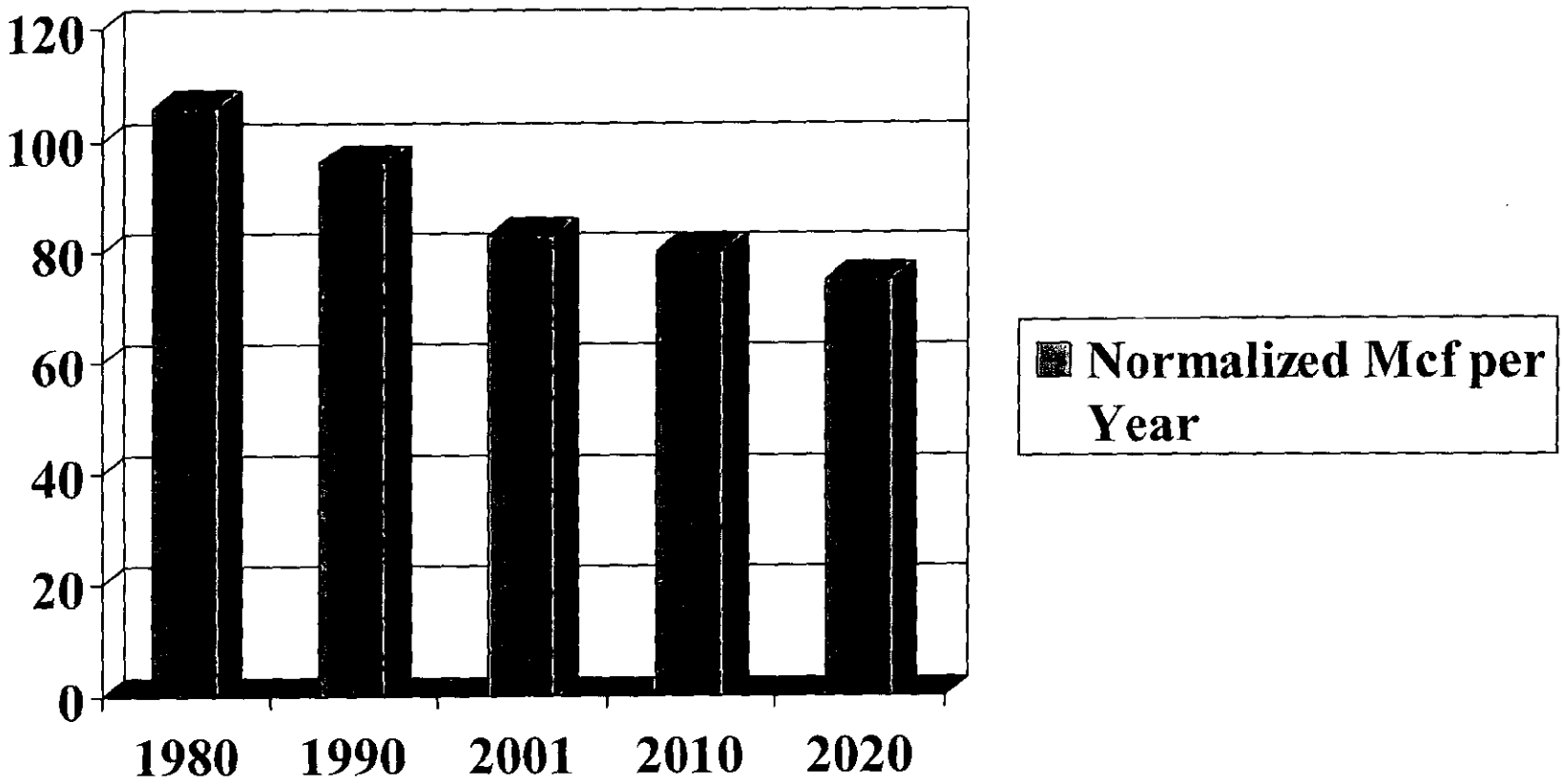
Note: All actual data based on Fiscal Year Ending June 30th except 2005 data which is calendar year.

MISSOURI GAS ENERGY
Annual Average Use per Customer - Large General Service



Note: All actual data based on Fiscal Year Ending June 30th except 2005 data which is calendar year.

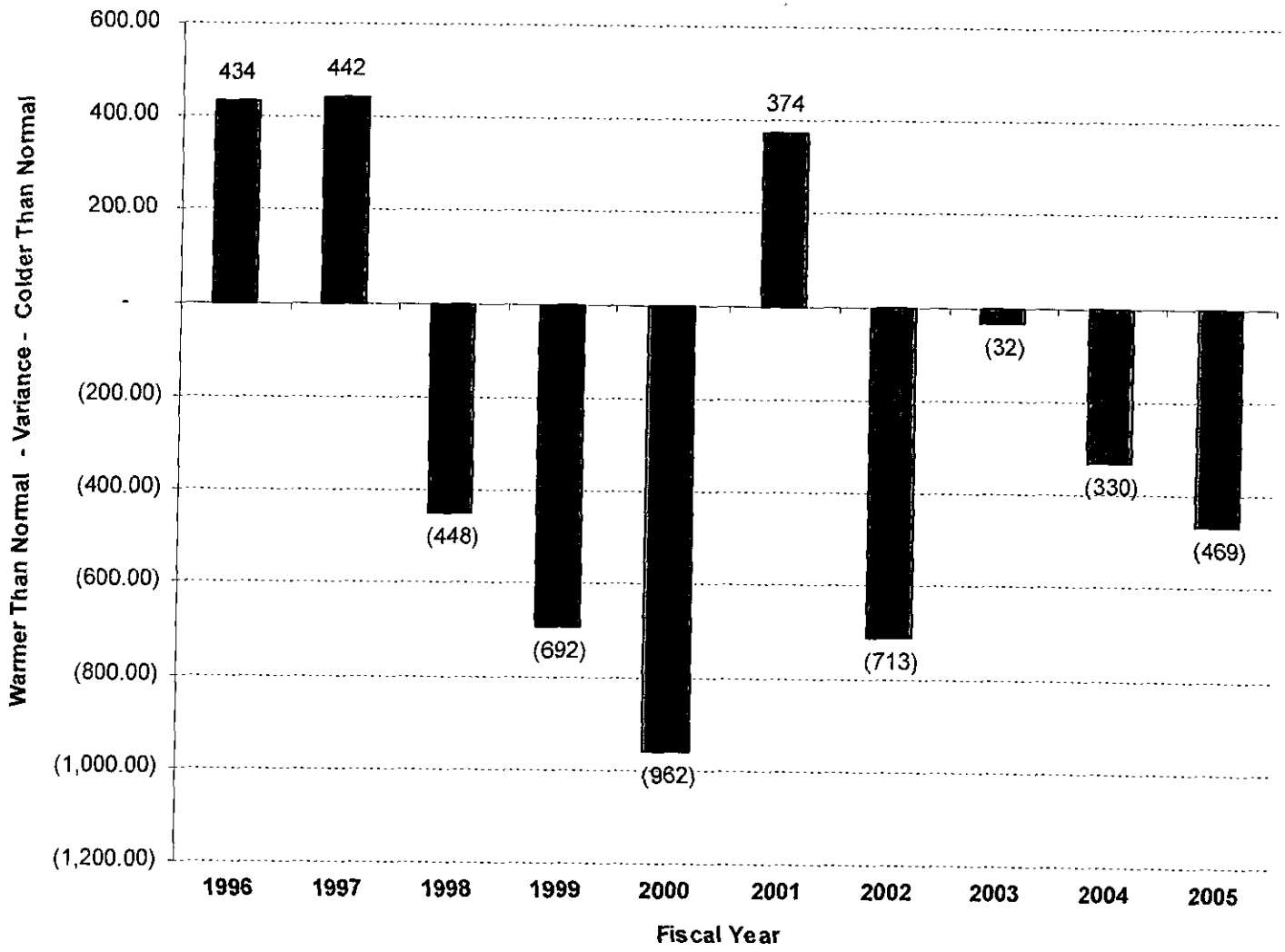
MISSOURI GAS ENERGY
Natural Gas Use per Residential Customer [1]



[1] American Gas Association – "Forecasted Patterns in Residential Natural Gas Consumption 2001-2020 (Chart 1) – EA 2004-04 (dated September 21, 2004).

MISSOURI GAS ENERGY

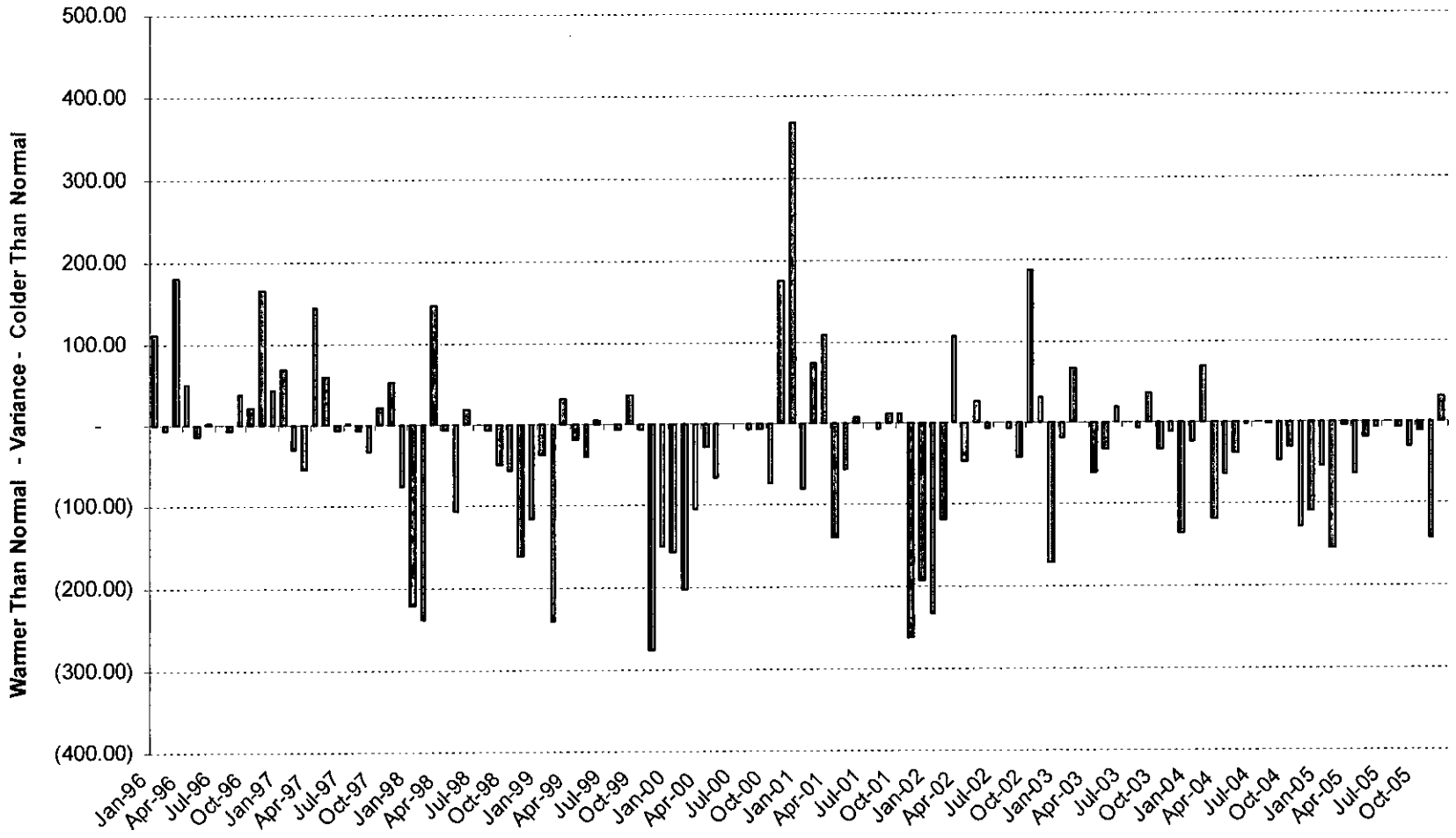
Kansas City Annual Heating Degree Day Variance from Normal [1]



[1] Based on the 30-Year Average computed by NOAA

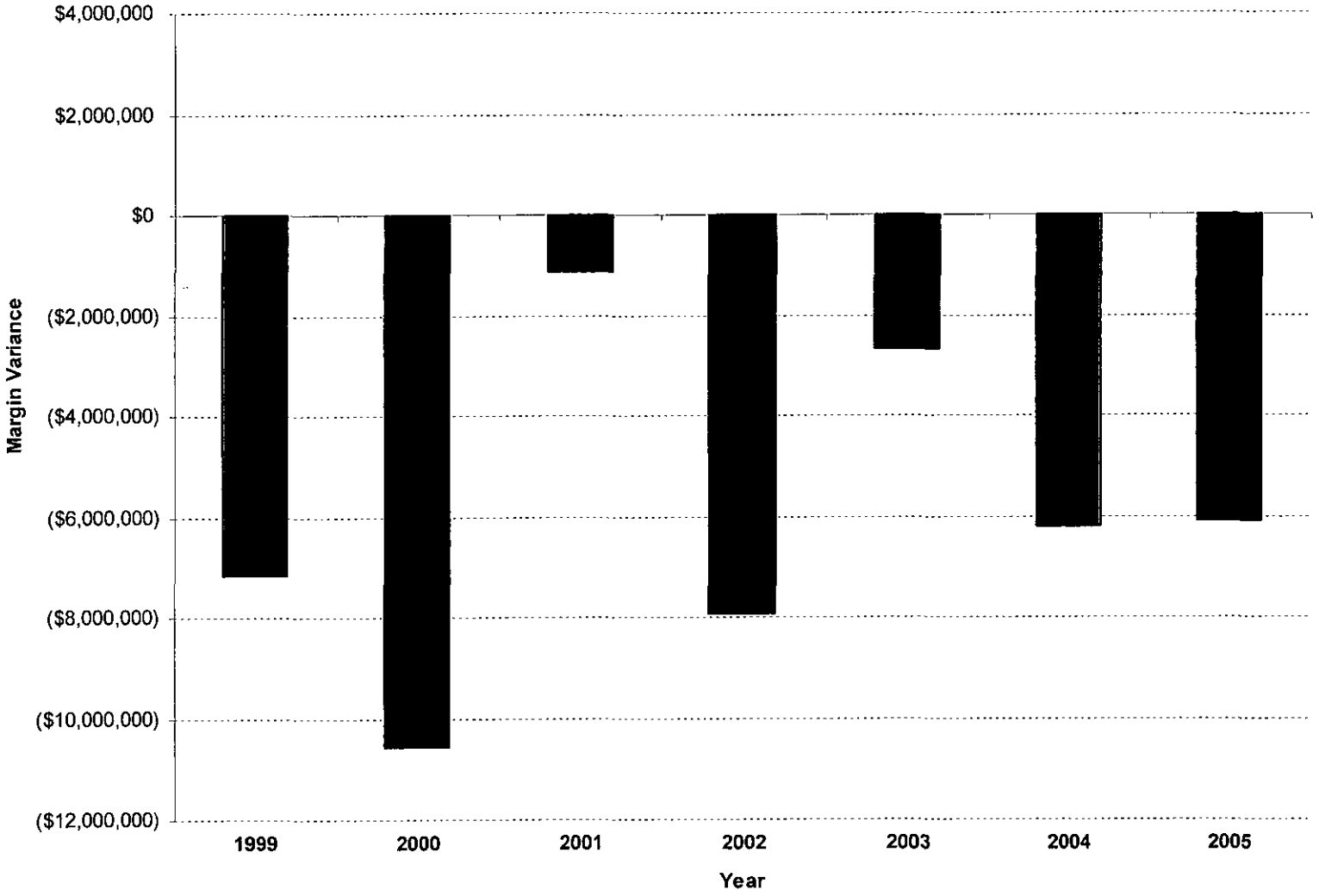
Note: All actual data based on Fiscal Year Ending June 30th except 2005 data which is calendar year.

MISSOURI GAS ENERGY
Monthly Heating Degree Day Variance from Normal [1]



[1] Based on the 30-Year Average computed by NOAA

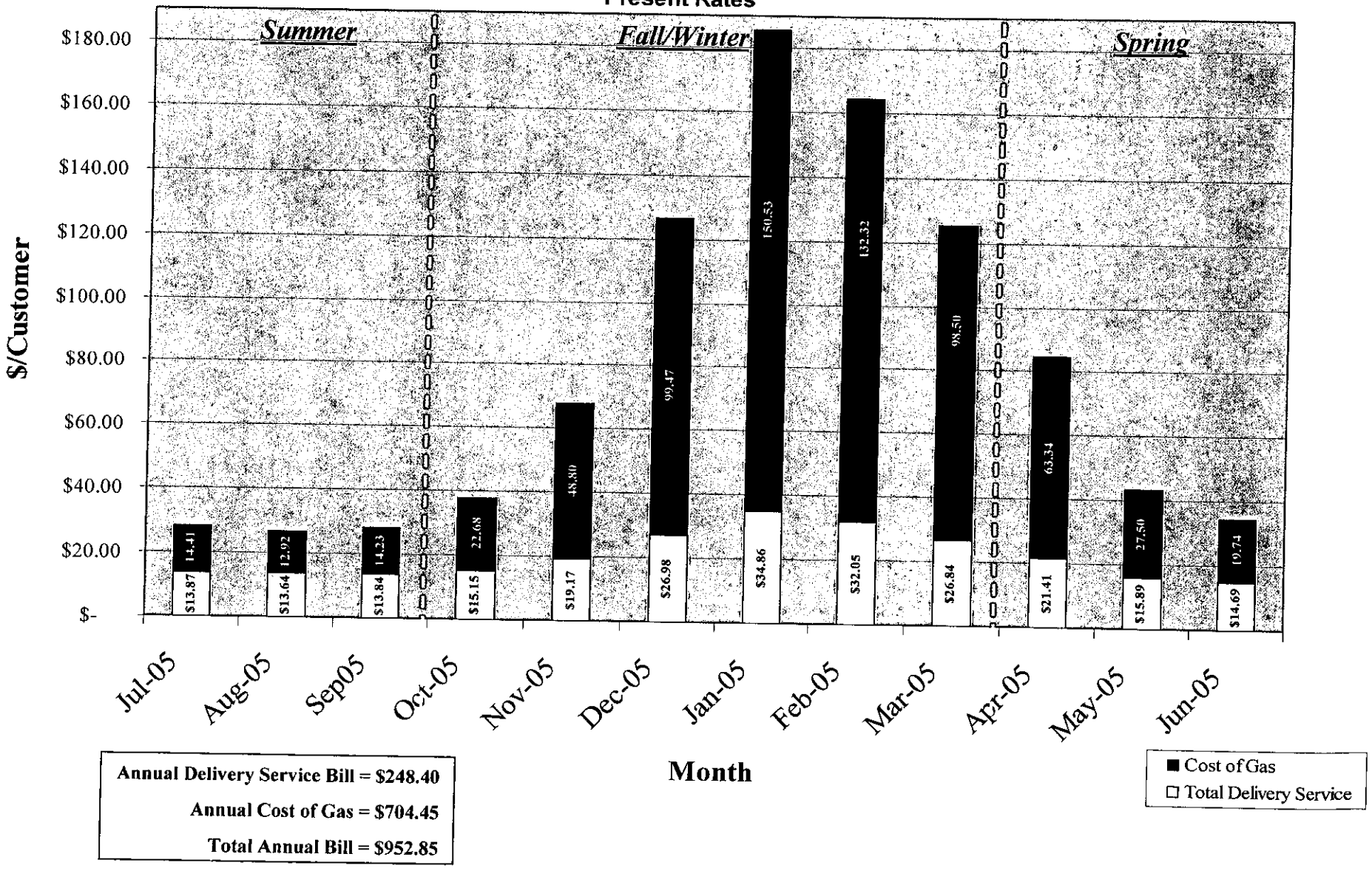
MISSOURI GAS ENERGY
Kansas City - Residential Margin Impact



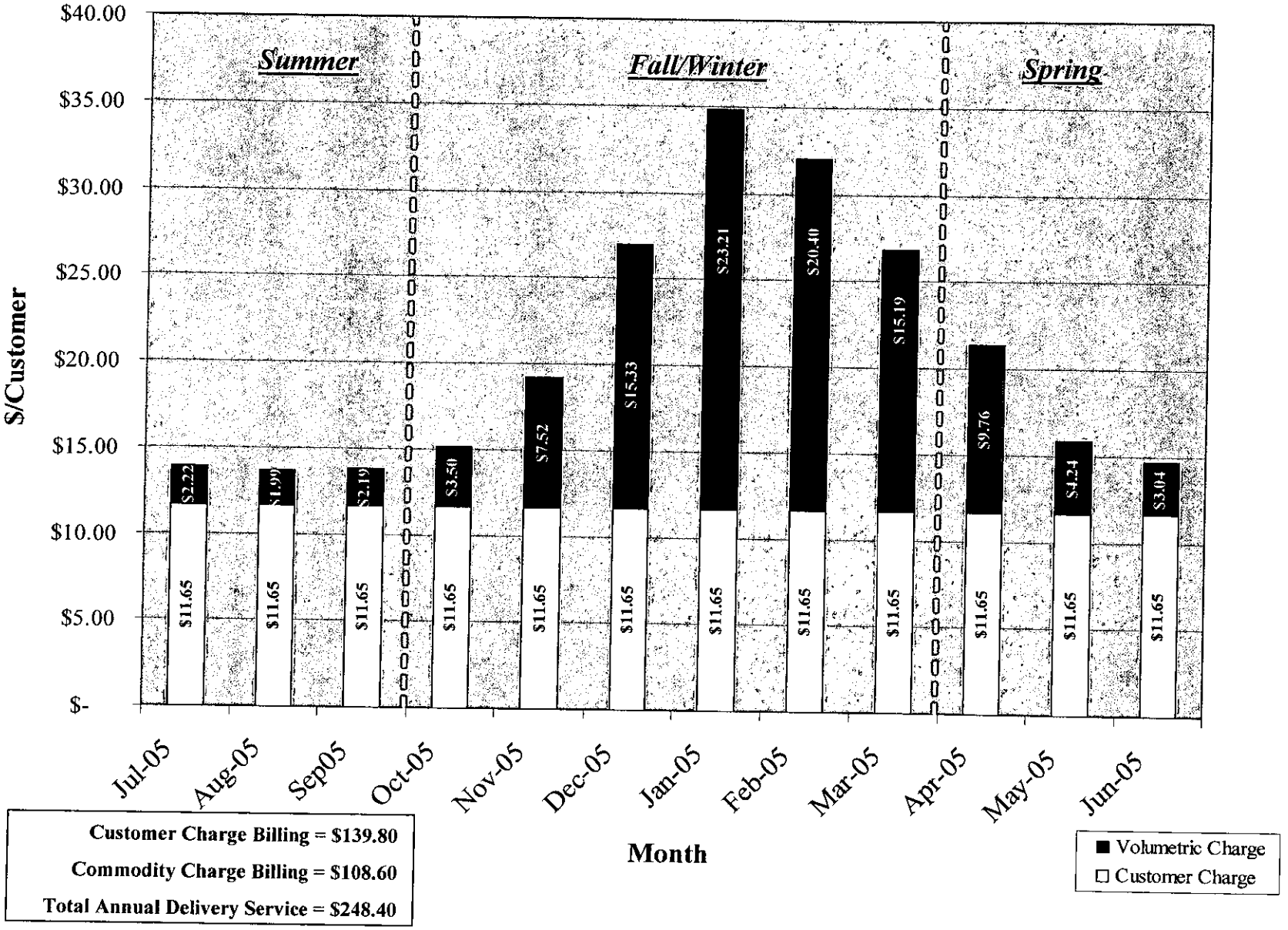
Note: All actual data based on Fiscal Year Ending June 30th except 2005 data which is calendar year.

MISSOURI GAS ENERGY

2005 Average Residential Total Bills by Month
Present Rates



MISSOURI GAS ENERGY
2005 Average Residential Delivery Service Bills by Month



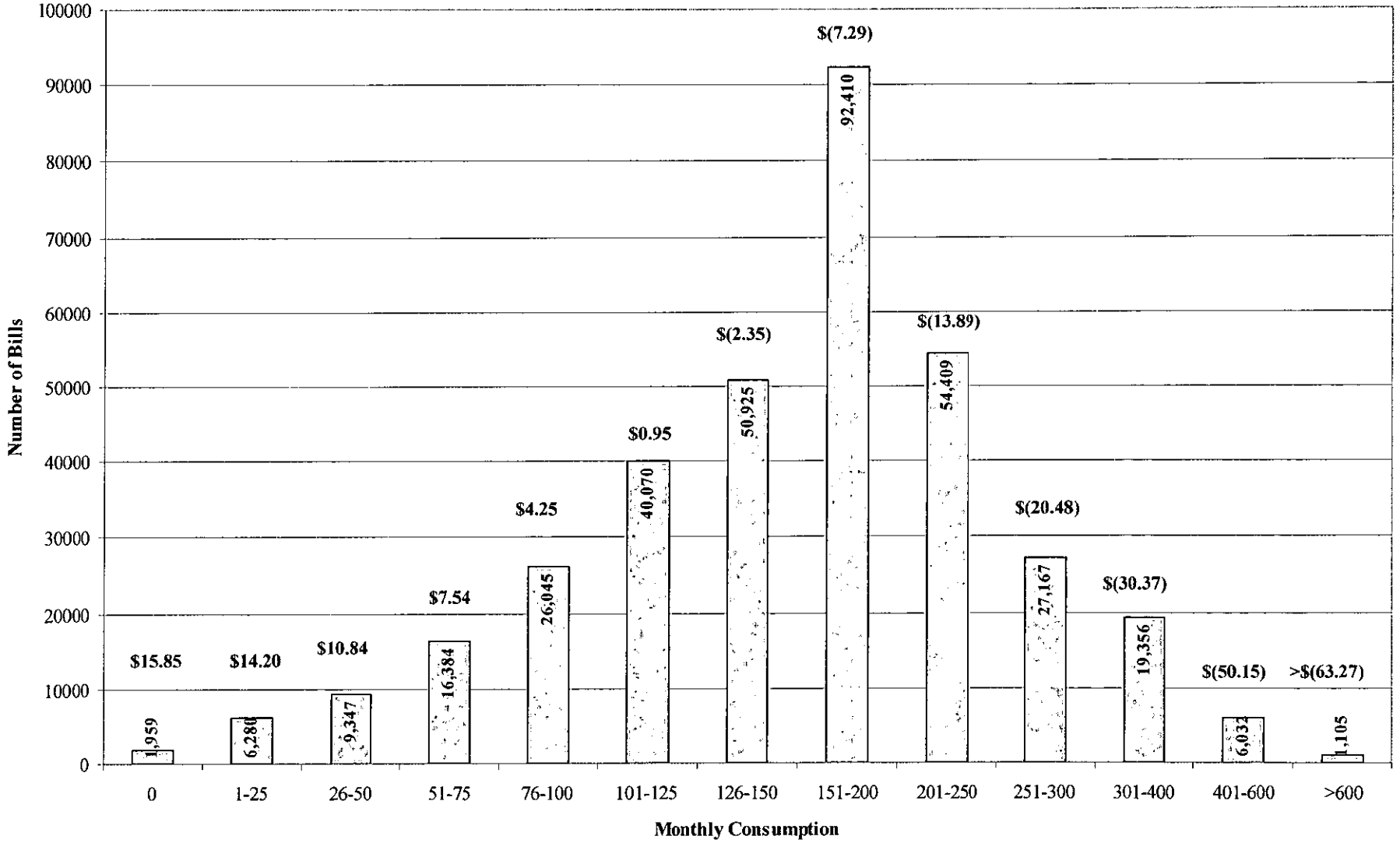
MISSOURI GAS ENERGY
Estimated Average Monthly Bill Under Present and Proposed Rates - Primary Proposal
Residential (RS)

Line No.	(a)	(b)	(c)	(d)	(e)	(f)
		Present Rates		**Proposed Rates**		
1	**Customer Charge**	$11.65		$27.50		
2	**All usage**	$0.13187		$0.00000		
3	**PGA Rate**	$0.85564		$0.85564		
		AVERAGE CCF PER CUSTOMER	REVENUE AT PRESENT RATES	REVENUE AT PROPOSED RATES	MONTHLY BILL CHANGE AMOUNT	MONTHLY BILL CHANGE PERCENT
4	Jan-05	176	$185.40	$178.05	($7.35)	-3.97%
5	Feb-05	155	$164.39	$159.84	($4.55)	-2.77%
6	Mar-05	115	$125.35	$126.02	$0.67	0.53%
7	Apr-05	74	$84.76	$90.85	$6.09	7.18%
8	May-05	32	$43.40	$55.01	$11.61	26.76%
9	Jun-05	23	$34.44	$47.25	$12.81	37.19%
10	Jul-05	17	$28.29	$41.92	$13.63	48.18%
11	Aug-05	15	$26.57	$40.42	$13.86	52.17%
12	Sep-05	17	$28.08	$41.74	$13.66	48.63%
13	Oct-05	27	$37.83	$50.19	$12.35	32.65%
14	Nov-05	57	$67.98	$76.31	$8.33	12.25%
15	Dec-05	116	$126.48	$127.00	$0.52	0.41%
16	Total	823	$952.97	$1,034.58	$81.61	8.56%

MISSOURI GAS ENERGY
Estimated Monthly Bill Impacts - Primary Proposal
Residential (RS)

Line No.	(a)	(b)	(c)	(d)	(e)	(f)
		Present Rates		Proposed Rates		
1	Customer Charge	$11.65		$27.50		
2	All Usage:	$0.13187		$0.00000		
3	PGA Rate	$0.85564		$0.85564		
	MONTHLY CONSUMPTION (CCF)		REVENUE AT PRESENT RATES	REVENUE AT PROPOSED RATES	REVENUE CHANGE AMOUNT	REVENUE CHANGE PERCENT
4	0		$11.65	$27.50	$15.85	136.05%
5	25		$36.34	$48.89	$12.55	34.55%
6	30		$41.28	$53.17	$11.89	28.82%
7	35		$46.21	$57.45	$11.23	24.31%
8	40		$51.15	$61.73	$10.58	20.67%
9	45		$56.09	$66.00	$9.92	17.68%
10	50		$61.03	$70.28	$9.26	15.17%
11	60		$70.90	$78.84	$7.94	11.20%
12	70		$80.78	$87.39	$6.62	8.19%
13	80		$90.65	$95.95	$5.30	5.85%
14	90		$100.53	$104.51	$3.98	3.96%
15	100		$110.40	$113.06	$2.66	2.41%
16	110		$120.28	$121.62	$1.34	1.12%
17	120		$130.15	$130.18	$0.03	0.02%
18	130		$140.03	$138.73	($1.29)	-0.92%
19	140		$149.90	$147.29	($2.61)	-1.74%
20	150		$159.78	$155.85	($3.93)	-2.46%
21	160		$169.65	$164.40	($5.25)	-3.09%
22	170		$179.53	$172.96	($6.57)	-3.66%
23	180		$189.40	$181.51	($7.89)	-4.16%
24	190		$199.28	$190.07	($9.21)	-4.62%
25	200		$209.15	$198.63	($10.52)	-5.03%
26	210		$219.03	$207.18	($11.84)	-5.41%
27	220		$228.90	$215.74	($13.16)	-5.75%
28	230		$238.78	$224.30	($14.48)	-6.06%
29	240		$248.65	$232.85	($15.80)	-6.35%
30	250		$258.53	$241.41	($17.12)	-6.62%
31	300		$307.90	$284.19	($23.71)	-7.70%
32	350		$357.28	$326.97	($30.30)	-8.48%
33	400		$406.65	$369.76	($36.90)	-9.07%
34	450		$456.03	$412.54	($43.49)	-9.54%
35	500		$505.40	$455.32	($50.09)	-9.91%

MISSOURI GAS ENERGY
Kansas City Residential Bill Frequency Analysis for January
Number of Bills and Average Bill Impacts - Proposed Rates



MISSOURI GAS ENERGY
Estimated Monthly Bill Impacts - Primary Proposal
Small General Service (SGS)

Line No.	(a)	(b)	(c)	(d)	(e)	(f)
		Present Rates		Proposed Rates		
1	Customer Charge	$15.70		$31.00		
2	Nov-Mar: 1st 600 Ccf:	$0.15286		$0.11957		
3	Nov-Mar: >600 Ccf:	$0.14263		$0.10934		
4	Apr-Oct: 1st 600 Ccf:	$0.10459		$0.07130		
5	Apr-Oct: >600 Ccf:	$0.09439		$0.06110		
6	PGA Rate	$0.81737		$0.81737		

	MONTHLY CONSUMPTION (CCF)	REVENUE AT PRESENT RATES (Nov-Mar)	REVENUE AT PROPOSED RATES (Nov-Mar)	REVENUE CHANGE AMOUNT	REVENUE CHANGE PERCENT
7	0	$15.70	$31.00	$15.30	97.45%
8	50	$64.21	$77.85	$13.64	21.24%
9	60	$73.91	$87.22	$13.30	18.00%
10	70	$83.62	$96.59	$12.97	15.51%
11	80	$93.32	$105.96	$12.64	13.54%
12	90	$103.02	$115.32	$12.30	11.94%
13	100	$112.72	$124.69	$11.97	10.62%
14	110	$122.43	$134.06	$11.64	9.51%
15	120	$132.13	$143.43	$11.31	8.56%
16	130	$141.83	$152.80	$10.97	7.74%
17	140	$151.53	$162.17	$10.64	7.02%
18	150	$161.23	$171.54	$10.31	6.39%
19	160	$170.94	$180.91	$9.97	5.83%
20	170	$180.64	$190.28	$9.64	5.34%
21	180	$190.34	$199.65	$9.31	4.89%
22	190	$200.04	$209.02	$8.97	4.49%
23	200	$209.75	$218.39	$8.64	4.12%
24	250	$258.26	$265.23	$6.98	2.70%
25	300	$306.77	$312.08	$5.31	1.73%
26	350	$355.28	$358.93	$3.65	1.03%
27	400	$403.79	$405.78	$1.98	0.49%
28	450	$452.30	$452.62	$0.32	0.07%
29	500	$500.81	$499.47	($1.34)	-0.27%
30	600	$597.84	$593.16	($4.67)	-0.78%
31	700	$693.84	$685.83	($8.00)	-1.15%
32	800	$789.84	$778.51	($11.33)	-1.43%
33	1,000	$981.84	$963.85	($17.99)	-1.83%
34	1,250	$1,221.84	$1,195.52	($26.31)	-2.15%
35	1,500	$1,461.84	$1,427.20	($34.64)	-2.37%
36	1,750	$1,701.84	$1,658.88	($42.96)	-2.52%
37	2,000	$1,941.84	$1,890.56	($51.28)	-2.64%
38	2,500	$2,421.84	$2,353.91	($67.92)	-2.80%

MISSOURI GAS ENERGY
Estimated Average Monthly Bill Under Primary and Alternate Rates
Residential (RS)

Line No.	(a)	(b)	(c)	(d)	(e)	(f)
		Primary Rates		**Alternate Rates**		
1	**Customer Charge**	$27.50		$15.50		
2	**All usage**	$0.00000		$0.17292		
3	**PGA Rate**	$0.85564		$0.85564		
		AVERAGE CCF PER CUSTOMER	REVENUE AT PRIMARY RATES	REVENUE AT ALTERNATE RATES	MONTHLY BILL CHANGE AMOUNT	MONTHLY BILL CHANGE PERCENT
4	Jan-05	176	$178.05	$196.47	$18.43	10.35%
5	Feb-05	155	$159.84	$174.58	$14.75	9.22%
6	Mar-05	115	$126.02	$133.93	$7.91	6.28%
7	Apr-05	74	$90.85	$91.65	$0.80	0.88%
8	May-05	32	$55.01	$48.57	($6.44)	-11.71%
9	Jun-05	23	$47.25	$39.24	($8.01)	-16.95%
10	Jul-05	17	$41.92	$32.83	($9.09)	-21.68%
11	Aug-05	15	$40.42	$31.04	($9.39)	-23.22%
12	Sep-05	17	$41.74	$32.61	($9.12)	-21.86%
13	Oct-05	27	$50.19	$42.77	($7.41)	-14.77%
14	Nov-05	57	$76.31	$74.18	($2.14)	-2.80%
15	Dec-05	116	$127.00	$135.11	$8.11	6.38%
16	Total	823	$1,034.58	$1,032.98	($1.61)	-0.16%

MISSOURI GAS ENERGY
Estimated Monthly Bill Impacts - Primary and Alternate Proposals
Residential (RS)

Line No.	(a)	(b)	(c)	(d)	(e)	(f)
		Primary Rates		Alternate Rates		
1	Customer Charge	$27.50		$15.50		
2	All Usage:	$0.00000		$0.17292		
3	PGA Rate	$0.85564		$0.85564		
	MONTHLY CONSUMPTION (CCF)		REVENUE AT PRIMARY RATES	REVENUE AT ALTERNATE RATES	REVENUE CHANGE AMOUNT	REVENUE CHANGE PERCENT
4	0		$27.50	$15.50	($12.00)	-43.64%
5	25		$48.89	$41.21	($7.68)	-15.70%
6	30		$53.17	$46.36	($6.81)	-12.81%
7	35		$57.45	$51.50	($5.95)	-10.35%
8	40		$61.73	$56.64	($5.08)	-8.24%
9	45		$66.00	$61.79	($4.22)	-6.39%
10	50		$70.28	$66.93	($3.35)	-4.77%
11	60		$78.84	$77.21	($1.62)	-2.06%
12	70		$87.39	$87.50	$0.10	0.12%
13	80		$95.95	$97.78	$1.83	1.91%
14	90		$104.51	$108.07	$3.56	3.41%
15	100		$113.06	$118.36	$5.29	4.68%
16	110		$121.62	$128.64	$7.02	5.77%
17	120		$130.18	$138.93	$8.75	6.72%
18	130		$138.73	$149.21	$10.48	7.55%
19	140		$147.29	$159.50	$12.21	8.29%
20	150		$155.85	$169.78	$13.94	8.94%
21	160		$164.40	$180.07	$15.67	9.53%
22	170		$172.96	$190.35	$17.40	10.06%
23	180		$181.51	$200.64	$19.13	10.54%
24	190		$190.07	$210.93	$20.85	10.97%
25	200		$198.63	$221.21	$22.58	11.37%
26	210		$207.18	$231.50	$24.31	11.74%
27	220		$215.74	$241.78	$26.04	12.07%
28	230		$224.30	$252.07	$27.77	12.38%
29	240		$232.85	$262.35	$29.50	12.67%
30	250		$241.41	$272.64	$31.23	12.94%
31	300		$284.19	$324.07	$39.88	14.03%
32	350		$326.97	$375.50	$48.52	14.84%
33	400		$369.76	$426.92	$57.17	15.46%
34	450		$412.54	$478.35	$65.81	15.95%
35	500		$455.32	$529.78	$74.46	16.35%

MISSOURI GAS ENERGY
Estimated Monthly Bill Impacts - Primary and Alternate Proposals
Small General Service (SGS)

Line No.	(a)	(b)	(c)	(d)	(e)	(f)
		Primary Rates		Alternate Rates		
1	Customer Charge	$31.00		$20.50		
2	Nov-Mar: 1st 600 Ccf:	$0.11957		$0.17340		
3	Nov-Mar: >600 Ccf:	$0.10934		$0.16317		
4	Apr-Oct: 1st 600 Ccf:	$0.07130		$0.12513		
5	Apr-Oct: >600 Ccf:	$0.06110		$0.11493		
6	PGA Rate	$0.81737		$0.81737		
	MONTHLY CONSUMPTION (CCF)		REVENUE AT PRIMARY RATES (Nov-Mar)	REVENUE AT ALTERNATE RATES (Nov-Mar)	REVENUE CHANGE AMOUNT	REVENUE CHANGE PERCENT
7	0		$31.00	$20.50	($10.50)	-33.87%
8	50		$77.85	$70.04	($7.81)	-10.03%
9	60		$87.22	$79.95	($7.27)	-8.34%
10	70		$96.59	$89.85	($6.73)	-6.97%
11	80		$105.96	$99.76	($6.19)	-5.85%
12	90		$115.32	$109.67	($5.66)	-4.90%
13	100		$124.69	$119.58	($5.12)	-4.10%
14	110		$134.06	$129.48	($4.58)	-3.42%
15	120		$143.43	$139.39	($4.04)	-2.82%
16	130		$152.80	$149.30	($3.50)	-2.29%
17	140		$162.17	$159.21	($2.96)	-1.83%
18	150		$171.54	$169.12	($2.43)	-1.41%
19	160		$180.91	$179.02	($1.89)	-1.04%
20	170		$190.28	$188.93	($1.35)	-0.71%
21	180		$199.65	$198.84	($0.81)	-0.41%
22	190		$209.02	$208.75	($0.27)	-0.13%
23	200		$218.39	$218.65	$0.27	0.12%
24	250		$265.23	$268.19	$2.96	1.12%
25	300		$312.08	$317.73	$5.65	1.81%
26	350		$358.93	$367.27	$8.34	2.32%
27	400		$405.78	$416.81	$11.03	2.72%
28	450		$452.62	$466.35	$13.72	3.03%
29	500		$499.47	$515.88	$16.42	3.29%
30	600		$587.03	$614.96	$27.94	4.76%
31	700		$685.83	$713.02	$27.18	3.96%
32	800		$778.51	$811.07	$32.56	4.18%
33	1,000		$963.85	$1,007.18	$43.33	4.50%
34	1,250		$1,195.52	$1,252.31	$56.79	4.75%
35	1,500		$1,427.20	$1,497.45	$70.25	4.92%
36	1,750		$1,658.88	$1,742.58	$83.70	5.05%
37	2,000		$1,890.56	$1,987.72	$97.16	5.14%
38	2,500		$2,353.91	$2,477.99	$124.08	5.27%

P.S.C. MO. No.1 Original SHEET No. __

Missouri Gas Energy,
a Division of Southern Union Company For: All Missouri Service Areas

WEATHER NORMALIZATION ADJUSTMENT (WNA) RIDER

Description:

The WNA Rider is designed to increase or decrease the Company's actual base revenues to account for changes in weather from the normal levels established in the Company's most recently completed base rate case.

Applicability:

The WNA Rider is applicable to customers qualifying for service under Residential Gas Service (RS), Small General Service (SGS), and Large General Service (LGS).

Computation of Weather Normalization Adjustment

The Company shall determine, for each billing cycle that includes days from the months of October through May, a WNA to be applied to bills rendered for such billing cycle. The WNA shall be a per Ccf charge or credit applied to all Ccf for the billing cycle.

For the applicable rate class, the WNA will be derived for each billing cycle in the following manner:

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 (from part 1) 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 (from part 3) will be multiplied by the base rate (R) to derive the total revenue deficiency or surplus from that billing cycle.

DATE OF ISSUE May 01 2006 DATE EFFECTIVE June 01 2006
month day year month day year

ISSUED BY: Michael R. Noack Director, Pricing and Regulatory Affairs
Missouri Gas Energy, Kansas City, MO. 64111

P.S.C. MO. No.1 Original SHEET No. __

Missouri Gas Energy,
a Division of Southern Union Company For: All Missouri Service Areas

WEATHER NORMALIZATION ADJUSTMENT (WNA) RIDER

5. The total revenue difference (from part 4) will be divided by the total billing cycle volumes (from part 2) to derive the WNA.

For the applicable rate class, the WNA will be applied during a billing cycle in the following manner: the WNA (from part 5) will be multiplied by the individual customer's volume (from meter reading) to derive the WNA applied to the individual customer's bill.

The formula for the above-described WNA calculations 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.

DATE OF ISSUE May 01 2006 (month day year) DATE EFFECTIVE June 01 2006 (month day year)

ISSUED BY: Michael R. Noack Director, Pricing and Regulatory Affairs
Missouri Gas Energy, Kansas City, MO. 64111

P.S.C. MO. No.1 Original SHEET No. __

Missouri Gas Energy,
a Division of Southern Union Company For: All Missouri Service Areas

WEATHER NORMALIZATION ADJUSTMENT (WNA) RIDER

WNA Components

The factors shown below define the constants in the WNA calculation.

Rate Schedule	"R" Weighted Average Non-Gas Rate (Per Ccf)		"HF" Use per Customer per HDD		
	Nov-Mar	Apr-Oct	Kansas City	St. Joseph	Joplin
RS	$0.17292	$0.17292	0.14183	0.14872	0.13684
SGS	$0.16912	$0.12210	0.35654	0.41344	0.32422
LGS	$0.12317	$0.07530	6.26689	6.56729	10.12922

Filing with the Commission

For each rate schedule covered by this Rider, within 15 days after the end of the calendar month, the Company will file with the Commission a table with the WNA factor, aggregate WNA surcharges or credits, aggregate volumes and corresponding HDD deficiency or surpluses, for each billing cycle in the calendar month.

DATE OF ISSUE May 01 2006 DATE EFFECTIVE June 01 2006
month day year month day year

ISSUED BY: Michael R. Noack Director, Pricing and Regulatory Affairs
Missouri Gas Energy, Kansas City, MO. 64111

MISSOURI GAS ENERGY
Operation of the WNA Rider - Kansas City Service Area
Colder Than Normal Weather

Line No.			
	Kansas City Residential Service Area		
1	Base Rate (R)	$0.17292	per Ccf
2	Heat Factor (HF)	0.14183	Ccf per HDD
3	Base Load Factor	11.73	Ccf per customer per month
4	Customer Charge	$15.50	per month
5	PGA Rate	$0.85564	per Ccf

		Average Customer Bill with Normal Weather				Average Customer Bill with 10% CTN Weather				Average Customer Bill with CTN Weather and WNA					Heating Degree Day Data			
	Month	Normal Consumption (Ccf)	Non-Gas	Gas	Total	Assumed Consumption (Ccf)	Non-Gas	Gas	Total	Non-Gas	WNA	Total Non-Gas	Gas	Total	Normal HDD	Assumed HDD	Difference	Percent Difference
	(A)	(B)	(C)	(D)	(E)	(F)	(G)	(H)	(I)	(J)	(K)	(L)	(M)	(N)	(O)	(P)	(Q)	(R)
6	January	179	$46.41	$152.95	$199.36	195	$49.16	$166.55	$215.71	$49.16	($2.75)	$46.41	$166.55	$212.96	1,120	1,232	112	10%
7	February	158	$42.86	$135.38	$178.24	172	$45.27	$147.31	$192.58	$45.27	($2.41)	$42.86	$147.31	$190.17	984	1,082	98	10%
8	March	117	$35.74	$100.13	$135.86	128	$37.63	$109.50	$147.14	$37.63	($1.90)	$35.74	$109.50	$145.24	773	850	77	10%
9	April	75	$28.48	$64.21	$92.68	82	$29.61	$69.84	$99.45	$29.61	($1.14)	$28.48	$69.84	$98.31	464	510	46	10%
10	May	33	$21.15	$27.98	$49.13	35	$21.62	$30.26	$51.88	$21.62	($0.46)	$21.15	$30.26	$51.41	188	207	19	10%
11	June	24	$19.59	$20.25	$39.84	24	$19.70	$20.80	$40.51	$19.70		$19.70	$20.80	$40.51	46	50	5	10%
12	July	17	$18.49	$14.78	$33.27	17	$18.49	$14.81	$33.31	$18.49		$18.49	$14.81	$33.31	3	3	0	10%
13	August	15	$18.18	$13.24	$31.42	15	$18.18	$13.25	$31.42	$18.18		$18.18	$13.25	$31.42	0	0	0	10%
14	September	17	$18.45	$14.60	$33.05	17	$18.48	$14.73	$33.20	$18.48		$18.48	$14.73	$33.20	10	11	1	10%
15	October	27	$20.23	$23.42	$43.65	29	$20.58	$25.12	$45.70	$20.58	($0.34)	$20.23	$25.12	$45.35	140	154	14	10%
16	November	59	$25.63	$50.13	$75.76	64	$26.60	$54.94	$81.55	$26.60	($0.97)	$25.63	$54.94	$80.57	397	437	40	10%
17	December	119	$36.00	$101.46	$137.47	130	$37.97	$111.21	$149.18	$37.97	($1.97)	$36.00	$111.21	$147.21	803	884	80	10%
18	**Total**	**840**	**$331.21**	**$718.52**	**$1,049.73**	**910**	**$343.29**	**$778.32**	**$1,121.62**	**$343.29**	**($11.94)**	**$331.35**	**$778.32**	**$1,109.68**	**4,928**	**5,421**	**493**	**10%**
19	**Annual Difference from Normal**					**70**	**$12.09**	**$59.80**	**$71.89**	**$12.09**	**($11.94)**	**$0.14**	**$59.80**	**$59.95**				
20	**Annual Difference Due to WNA**													**($11.94)**				

MISSOURI GAS ENERGY
Operation of the WNA Rider - Kansas City Service Area
Warmer Than Normal Weather

Line No.			
	Kansas City Residential Service Area		
1	Base Rate (R)	$0.17292	per Ccf
2	Heat Factor (HF)	0.14183	Ccf per HDD
3	Base Load Factor	11.73	Ccf per customer per month
4	Customer Charge	$15.50	per month
5	PGA Rate	$0.85564	per Ccf

		Average Customer Bill with Normal Weather				Average Customer Bill with 10% WTN Weather				Average Customer Bill with WTN Weather and WNA					Heating Degree Day Data			
	Month	Normal Consumption (Ccf)	Non-Gas	Gas	Total	Assumed Consumption (Ccf)	Non-Gas	Gas	Total	Non-Gas	WNA	Total Non-Gas	Gas	Total	Normal HDD	Assumed HDD	Difference	Percent Difference
	(A)	(B)	(C)	(D)	(E)	(F)	(G)	(H)	(I)	(J)	(K)	(L)	(M)	(N)	(O)	(P)	(Q)	(R)
6	January	179	$46.41	$152.95	$199.36	163	$43.66	$139.36	$183.02	$43.66	$2.75	$46.41	$139.36	$185.77	1,120	1,008	(112)	-10%
7	February	158	$42.86	$135.38	$178.24	144	$40.45	$123.44	$163.89	$40.45	$2.41	$42.86	$123.44	$166.30	984	885	(98)	-10%
8	March	117	$35.74	$100.13	$135.86	106	$33.84	$90.75	$124.59	$33.84	$1.90	$35.74	$90.75	$126.49	773	695	(77)	-10%
9	April	75	$28.48	$64.21	$92.68	68	$27.34	$58.58	$85.92	$27.34	$1.14	$28.48	$58.58	$87.05	464	417	(46)	-10%
10	May	33	$21.15	$27.98	$49.13	30	$20.69	$25.70	$46.39	$20.69	$0.46	$21.15	$25.70	$46.85	188	169	(19)	-10%
11	June	24	$19.59	$20.25	$39.84	23	$19.48	$19.69	$39.17	$19.48		$19.48	$19.69	$39.17	46	41	(5)	-10%
12	July	17	$18.49	$14.78	$33.27	17	$18.48	$14.75	$33.23	$18.48		$18.48	$14.75	$33.23	3	2	(0)	-10%
13	August	15	$18.18	$13.24	$31.42	15	$18.18	$13.24	$31.41	$18.18		$18.18	$13.24	$31.41	0	0	(0)	-10%
14	September	17	$18.45	$14.60	$33.05	17	$18.43	$14.47	$32.90	$18.43		$18.43	$14.47	$32.90	10	9	(1)	-10%
15	October	27	$20.23	$23.42	$43.65	25	$19.89	$21.71	$41.60	$19.89	$0.34	$20.23	$21.71	$41.95	140	126	(14)	-10%
16	November	59	$25.63	$50.13	$75.76	53	$24.66	$45.31	$69.96	$24.66	$0.97	$25.63	$45.31	$70.94	397	357	(40)	-10%
17	December	119	$36.00	$101.46	$137.47	107	$34.03	$91.71	$125.75	$34.03	$1.97	$36.00	$91.71	$127.72	803	723	(80)	-10%
18	**Total**	**840**	**$331.21**	**$718.52**	**$1,049.73**	**770**	**$319.12**	**$658.72**	**$977.84**	**$319.12**	**$11.94**	**$331.06**	**$658.72**	**$989.78**	**4,928**	**4,435**	**(493)**	**-10%**
19	**Annual Difference from Normal**					**(70)**	**($12.09)**	**($59.80)**	**($71.89)**	**($12.09)**	**$11.94**	**($0.14)**	**($59.80)**	**($59.95)**				
20	**Annual Difference Due to WNA**													**$11.94**				

MISSOURI GAS ENERGY
Operation of the WNA Rider - Kansas City Service Area
Twelve Months Ended December 31, 2005

Line No.			
	Kansas City Residential Service Area		
1	Base Rate (R)	$0.17292	per Ccf
2	Heat Factor (HF)	0.14183	Ccf per HDD
3	Base Load Factor	11.73	Ccf per customer per month
4	Customer Charge	$15.50	per month
5	PGA Rate	$0.85564	per Ccf

		Average Customer Bill with Normal Weather				Average Customer Actual Bill				Average Customer Actual Bill with WNA					Heating Degree Day Data			
	Month	Normal Consumption (Ccf)	Non-Gas	Gas	Total	Assumed Consumption (Ccf)	Non-Gas	Gas	Total	Non-Gas	WNA	Total Non-Gas	Gas	Total	Normal HDD	Actual HDD	Difference	Percent Difference
	(A)	(B)	(C)	(D)	(E)	(F)	(G)	(H)	(I)	(J)	(K)	(L)	(M)	(N)	(O)	(P)	(Q)	(R)
6	January	179	$46.41	$152.95	$199.36	176	$45.88	$150.31	$196.19	$45.88	$0.53	$46.41	$150.31	$196.72	1,120	1,099	(22)	-2%
7	February	158	$42.86	$135.38	$178.24	149	$41.31	$127.74	$169.05	$41.31	$1.54	$42.86	$127.74	$170.59	984	921	(63)	-6%
8	March	117	$35.74	$100.13	$135.86	108	$34.18	$92.45	$126.63	$34.18	$1.55	$35.74	$92.45	$128.19	773	709	(63)	-8%
9	April	75	$28.48	$64.21	$92.68	66	$26.95	$56.67	$83.62	$26.95	$1.52	$28.48	$56.67	$85.15	464	402	(62)	-13%
10	May	33	$21.15	$27.98	$49.13	40	$22.41	$34.21	$56.62	$22.41	($1.26)	$21.15	$34.21	$55.36	188	239	51	27%
11	June	24	$19.59	$20.25	$39.84	20	$18.98	$17.22	$36.20	$18.98		$18.98	$17.22	$36.20	46	21	(25)	-55%
12	July	17	$18.49	$14.78	$33.27	17	$18.42	$14.47	$32.89	$18.42		$18.42	$14.47	$32.89	3	-	(3)	-100%
13	August	15	$18.18	$13.24	$31.42	15	$18.17	$13.21	$31.38	$18.17		$18.17	$13.21	$31.38	0	-	(0)	-100%
14	September	17	$18.45	$14.60	$33.05	16	$18.28	$13.76	$32.04	$18.28		$18.28	$13.76	$32.04	10	3	(7)	-67%
15	October	27	$20.23	$23.42	$43.65	22	$19.30	$18.78	$38.08	$19.30	$0.94	$20.23	$18.78	$39.01	140	102	(38)	-27%
16	November	59	$25.63	$50.13	$75.76	50	$24.14	$42.73	$66.87	$24.14	$1.49	$25.63	$42.73	$68.36	397	336	(61)	-15%
17	December	119	$36.00	$101.46	$137.47	134	$38.64	$114.53	$153.17	$38.64	($2.64)	$36.00	$114.53	$150.53	803	911	108	13%
18	**Total**	**840**	**$331.21**	**$718.52**	**$1,049.73**	**814**	**$326.67**	**$696.08**	**$1,022.75**	**$326.67**	**$3.68**	**$330.36**	**$696.08**	**$1,026.43**	**4,928**	**4,743**	**(185)**	**-4%**
19	**Annual Difference from Normal**					**(26)**	**($4.54)**	**($22.44)**	**($26.98)**	**($4.54)**	**$3.68**	**($0.85)**	**($22.44)**	**($23.30)**				
20	**Annual Difference Due to WNA**													**$3.68**				

MISSOURI GAS ENERGY
WNA Billing Example - Residential Customer Under Proposed Alternate Rates

Line No.	Bill Component (a)	Gas Consumption Ccf (b)	Unit Charge (c)	Amount (d)
UNDER NORMAL WEATHER				
1	Customer Charge		$ 15.50	$ 15.50
3	Commodity Charge	179	$ 0.17292	$ 30.95
4	Cost of Gas	179	$ 0.85564	$ 153.16
5	Total Monthly Bill			$ 199.61
UNDER WARMER THAN NORMAL WEATHER				
6	Customer Charge		$ 15.50	$ 15.50
8	Commodity Charge	163	$ 0.17292	$ 28.19
9	Cost of Gas	163	$ 0.85564	$ 139.47
10	WNA	163	$ 0.01687	$ 2.75
11	Total Monthly Bill			$ 185.91
12	Decrease in Monthly Bill			$ 13.70

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Weather Normalization Adjustment Clauses
Approved in the United States
April 2006

	Company	State	Mechanism Type 1 or 2	Year Approved	Rate Class or Customer Specific	Applicable Rate Classes	Effective Billing Months
1	Alagasco	Alabama	1	1990	Customer Specific	Residential & Small Commercial & Small Industrial	All 12 Months
2	Arkansas Oklahoma Gas Corporation	Arkansas	1	2000	Rate Class Specific	Residential, Small Business & Federal Housing Authority	November through April
3	Centerpoint Energy Arkla (AR)	Arkansas	2	1995	Rate Class Specific	Residential & Small Commercial	November through April
4	Southern Connecticut Gas Co.	Connecticut	1	1994	Rate/Customer Specific	Residential & General Service	September through June
5	Atmos - United Cities Gas (GA)	Georgia	1	1990	Rate Class Specific	Residential & Commercial & Public Authority	October through May
6	Vectren Energy Delivery of Indiana	Indiana	1	2005	Customer Specific	Residential & Small General Service	October through April
7	Atmos (Kansas)	Kansas	1	2003	Rate Class Specific	Residential & Commercial & Public Authority	October through May
8	Kansas Gas Service (ONEOK)	Kansas	2	2000	Rate Class Specific	Residential & Commercial	All 12 Months
9	Atmos (Western Kentucky)	Kentucky	1	2002	Rate Class Specific	Residential & Commercial & Public Authority	November through April
10	Columbia Gas of Kentucky	Kentucky	1	1997	Customer Specific	Residential & Commercial	December through April
11	Delta Natural Gas Co.	Kentucky	1	2000	Rate Class Specific	Residential and Commercial	December through April
12	Louisville Gas & Electric Co.	Kentucky	1	2000	Customer Specific	Residential & Commercial	May through November
13	Columbia Gas of Maryland	Maryland	1	1993	Rate Class Specific	Residential & Commercial	November through March
14	Elizabethtown Gas Co.	New Jersey	2	1992	Rate Class Specific	Residential & Commercial	October through May
15	New Jersey Natural Gas Co.	New Jersey	2	1992	Rate Class Specific	Residential, General Service & Small Commercial	October through May

Weather Normalization Adjustment Clauses
Approved in the United States
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NAVIGANT CONSULTING

	Company	State	Mechanism Type 1 or 2	Year Approved	Rate Class or Customer Specific	Applicable Rate Classes	Effective Billing Months
16	South Jersey Gas Co.	New Jersey	2	1992	Rate Class Specific	Residential, General Service, Commercial & Industrial	October through May
17	Brooklyn Union (Keyspan)	New York	1	1980	Rate Class Specific	All heating Customers	Mid October through Mid May
18	Consolidated Edison Co. of NY	New York	1	1989	Rate Class Specific	All heating Customers	October through May
19	Keyspan d/b/a Brooklyn Union of Long Island (LILCO)	New York	1	1992	Rate Class Specific	All heating Customers	October through May
20	National Fuel Gas Distribution Corporation	New York	1	1988	Rate Class Specific	Residential, General Service & Residential Transportation	October through May
21	Niagara Mohawk Power Corp.	New York	1	1994	Rate Class Specific	All heating Customers	October through May
22	Orange & Rockland Utilities	New York	1	1993	Rate Class Specific	Space Heating, Commercial & Industrial	October through May
23	Rochester Gas and Electric Corporation	New York	1	2004	Customer Specific	Space Heating, Commercial & Industrial	October through May
24	North Carolina Natural Gas	North Carolina	1	1991	Rare Class Specific	Residential & Commercial	Mid November through Mid April
25	Public Service Co. of North Carolina (SCANA)	North Carolina	1	1991	Rate Class Specific	Residential & Small General Service	December through April
26	Montana Dakota Utilities Co.	North Dakota	1	2004	Customer Specific	Residential & General Service	November through April
27	Northwest Natural Gas Company	Oregon	2	2003	Rate Class Specific	Residential & Commercial	Mid November through Mid May
28	Oklahoma Natural Gas Co.	Oklahoma	1	1995	Customer Specific	Residential & Commercial	November through April
29	New England Gas Co. (Providence Gas)	Rhode Island	2	2000	Rate Class Specific	All Classes	November through April

Weather Normalization Adjustment Clauses Approved in the United States

NAVIGANT CONSULTING

April 2006

	Company	State	Mechanism Type 1 or 2	Year Approved	Rate Class or Customer Specific	Applicable Rate Classes	Effective Billing Months
30	Piedmont Natural Gas (SC)	South Carolina	2	1996	Rate Class Specific	Residential & Commercial	monthly
31	South Carolina Electric & Gas	South Carolina	1	1991	Customer Specific	Residential & Small General	November through April
32	Montana Dakota Utilities Co.	South Dakota	1	2004	Customer Specific	Residential & General Service	November through April
33	Atmos - United Cities Gas (TN)	Tennessee	1	1991	Rate Class Specific	Residential, Commercial & Public Authority	November through April
34	Chattanooga Gas Co.	Tennessee	1	1991	Rate Class Specific	Residential, Commercial & Industrial	November through April
35	Piedmont Natural Gas (TN)	Tennessee	1	1991	Rate Class Specific	Residential & Commercial	November through March
36	Texas Gas Service Company (Oncok as of 01/01/03)	Texas	1	1993	Rate Class Specific	Residential & Commercial	September through May
37	TXU Gas (Atmos) *	Texas	1	1980	Customer Specific	Residential & Commercial	October through May
38	Questar (Mountain Fuel Supply)	Utah	1	1995	Customer Specific	Residential & Commercial	All 12 Months
39	Virginia Natural Gas (AGL)	Virginia	1	2002	Rate Class Specific	Residential & General Service	November through May
40	Questar (Mountain Fuel Supply)	Wyoming	1	1995	Customer Specific	Residential & Commercial	All 12 Months

* Available only in certain areas