011

Exhibit No.:

Issues: Weather Normal, Revenue

Adjustments, Class Revenue Allocation, and

Rate Design

Witness: Russell A. Feingold

Sponsoring Party: Missouri Gas Energy

Case No.: GR-2006-

Date Testimony Prepared: May 1, 2006

MISSOURI PUBLIC SERVICE COMMISSION

MISSOURI GAS ENERGY

CASE NO. GR-2006-____

DIRECT TESTIMONY OF

RUSSELL A. FEINGOLD

FILED²

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Missouri Public Service Commission

Jefferson City, Missouri

May 1, 2006

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DIRECT TESTIMONY OF RUSSELL A. FEINGOLD

CASE NO. GR-2006-

MAY 1, 2006

1	Q.	PLEASE STATE YOUR NAME AND BUSINESS ADDRESS.
2	A.	My name is Russell A. Feingold and my business address is Four PPG Place, Pittsburgh,
3		Pennsylvania 15222.
4		
5	Q.	BY WHOM ARE YOU EMPLOYED AND IN WHAT CAPACITY?
6	A.	I am a Managing Director of Navigant Consulting, Inc. ("NCI") and co-leader of the
7		Litigation, Regulatory & Markets Group within the firm's Energy Practice. NCI is a
8		specialized independent consulting firm providing professional services to assist clients
9		in identifying practical solutions to the challenges of uncertainty, risk and distress. We
10		focus on large industry segments that are typically highly regulated and are undergoing
11		significant structural, regulatory, and market change.
12		
13	Q.	PLEASE DESCRIBE IN MORE DETAIL THE BUSINESS ACTIVITIES OF NCI.
14	A.	NCI has served the electric and natural gas industries since 1983. We offer a wide range
15		of consulting services related to information technology, process/operations management,
16		business strategy development, and marketing and sales designed to assist our clients in a
17		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.

A.

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

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

1 information summarizing my education, presentation of expert testimony and other 2 industry-related activities is included in Appendix A to my testimony. 3

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

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

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1. EXECUTIVE SUMMARY

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

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.

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

1 The purpose of my testimony is to present and explain the Company's: (1) proposed A. 2 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 3 level of customers; (3) class revenue allocation; and (4) various rate design proposals. 4 5 Q. PLEASE SUMMARIZE THE KEY POINTS OF YOUR TESTIMONY. 6 The key points of my testimony are as follows: A. 7 The Company is proposing to use a 10-year Heating Degree-Days ("HDD") 8 average to normalize its annual gas volumes for rate case purposes because the 9 use of a 10-year HDD average will result in improved forecasting for normalizing its gas volumes. 10 The Company's weather normalization adjustment results in revenue increases of 11 \$1,506,308 in residential gas sales, \$542,095 in commercial gas sales (or 12 \$495,544 in the SGS rate class and \$46,551 in the LGS rate class), and \$112,397 13 14 in transportation revenues. The Company's customer annualization adjustment results in a \$840,063 increase 15 in test year margin. 16 Under the Company's class revenue proposal, the residential rate class will 17 18 receive an increase in base revenues of \$34,906,279 the SGS rate class will 19 receive an increase of \$6,745,053, and the LGS and LVS rate classes each will 20 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.

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2. WEATHER NORMAL

A.

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

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).

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1 Q. WHY HAS THE COMPANY CHOSEN TO MODIFY THE MANNER IN WHICH

2 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.

Α.

Q. PLEASE EXPLAIN THE METHODOLOGY TO DETERMINE THE MOST

APPROPRIATE WEATHER PREDICTOR TO NORMALIZE ITS ANNUAL

CUSTOMER LOADS FOR WEATHER.

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.

A.

5 Q. PLEASE DESCRIBE THE TYPE AND SOURCE OF THE DATA USED TO 6 ANALYZE THE CHOICE OF WEATHER NORMAL FOR MGE.

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.

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Q. PLEASE DESCRIBE HOW YOU ANALYZED THE HDD DATA.

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.

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A.

2 Q. HOW DID YOU COMPARE THE PREDICTIVE CAPABILITIES OF THE

VARIOUS AVERAGES BEING TESTED?

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. 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:

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

- Where:
- n =the number of years
- i = year of the observation

¹For 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 1 HDD_{i}^{F} = Forecasted values 2 All RMSE values that were derived are stated in HDD. 3 4 PLEASE DESCRIBE THE RESULTS OF THIS ANALYSIS. 5 Q. Schedule RAF-2 presents in tabular form the annual HDD data for the Company, the four 6 A. sets of weather averages tested, and the forecast error and RMSE resulting from each 7 average, for each of the Company's two weather regions. Over the 106-year period, the 8 10-year HDD average outperforms the 30-year average in predicting weather two years 9 into the future. In other words, 10-year averages tend to produce more precise forecasts 10 of HDD than 30-year averages. Specifically, the forecast errors of 30-year averages are 11 typically higher than those of 10-year averages by approximately 4.6% in Kansas City 12 and by approximately 1.2% in Springfield. Based on the RMSE test, therefore, the 10-13 year average represents a better basis for purposes of forecasting HDD during the time 14 when the Company's approved rates in this case go into effect. 15 16 As will be discussed in more detail later in my testimony, this deficiency in the use of the 17 30-year average as MGE's measure of normal weather has contributed, in part, to the 18 Company's continuing revenue shortfalls that have prevented it from earning the return

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on investment approved by this Commission in prior MGE rate cases.

1	Q.	IS THIS STATISTICAL CONCLUSION SUPPORTING THE ADOPTION OF A
2		10-YEAR AVERAGE AS MGE'S WEATHER NORMAL ALSO CONFIRMED
3		BY SIMPLY EXAMINING THE COMPANY'S HDD DATA PLOTTED
4		TOGETHER WITH THE 30-YEAR AND 10-YEAR AVERAGES?
5	A.	Yes. Schedules RAF-3 and RAF-4 present graphical comparisons of the Company's
6		HDD data and compare it to the 30-year and 10-year averages just discussed. Upon
7		closer examination of pages 1 and 2 of Schedule RAF-3, it is readily evident that the
8		ability of the 30-year averages to track the actual variation in HDD over time is
9		"dampened" because of the greater number of years included in the averages and the
10		inherent computational lag in these averages. In contrast, pages 3 and 4 of Schedule
11		RAF-3 show that the 10-year average more closely tracks the ongoing variation in HDD.
12		This occurs because of the fewer number of years used to compute the average and the
13		"rolling" aspect of the computation. Schedule RAF-4 presents together the 30-year and
14		10-year averages with the actual HDD.
15		
16		The 10-year average more accurately reflects the changing trends of the weather, which is
17		exactly what is sought when using this average, for ratemaking purposes, as a measure of
18		normal weather in the Company's service areas.
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20	Q.	IF THE COMMISSION ADOPTS A 10-YEAR AVERAGE FOR ESTABLISHING

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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?

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).

Α.

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

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PLEASE EXPLAIN THE COMPANY'S WEATHER NORMALIZATION Q. 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 7 HDD) in the test year were warmer than normal. This adjustment is presented on Line 2 8 of Schedule H-2 of MGE witness Noack's direct testimony. Weather was approximately 9 3.8% warmer than normal in the Kansas City and St. Joseph areas, and approximately 10 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 12 revenue anticipated under normal temperature conditions – which are expected to be in 13 effect, on average, after the new rates become effective.

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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.

A.

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

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.

1		4. CLASS REVENUE ALLOCATION
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3	Q.	PLEASE EXPLAIN THE COMPANY'S PROPOSED ALLOCATION OF THE
4		REVENUE INCREASE TO ITS RATE CLASSES.
5	A.	The apportionment of revenues among rate classes consists of deriving a reasonable
6		balance between various criteria or guidelines that relate to the design of utility rates. The
7		various criteria that were considered in the process included: (1) cost of service; (2) class
8		contribution to present revenue levels; and (3) customer impact considerations. These
9		criteria were evaluated for each of the Company's rate classes. Based on this evaluation,
10		adjustments to class revenue levels were made so that the rates proposed by the Company
11		moved class revenues closer to the costs of serving those classes.
12		
13	Q.	WHAT BASIS DID YOU USE TO EVALUATE THE COSTS OF PROVIDING
14		DELIVERY SERVICES TO THE COMPANY'S CUSTOMERS?
15	A.	I relied upon the cost of service study results presented by Company witness Ronald J.
16		Amen in Schedules RJA-1 and RJA-2 of his direct testimony.
17		
18	Q.	DID YOU CONSIDER VARIOUS CLASS REVENUE OPTIONS IN
19		CONJUNCTION WITH YOUR EVALUATION AND DETERMINATION OF

THE COMPANY'S INTERCLASS REVENUE PROPOSAL?

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.

A.

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.

A.

Q. WHAT WAS THE NEXT STEP IN THE PROCESS?

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

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

- 5 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:

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- 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.

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Q.

A.

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

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.

rate structure achieves a fundamental objective of ratemaking – the proper alignment of costs with revenues and rates.

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A.

WHY IS MGE PROPOSING THE ABOVE-DESCRIBED RATE DESIGN Q.

- 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;

CHANGES AT THIS TIME?

- 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.

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

Q.

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.

1 Q. PLEASE EXPLAIN HOW WEATHER INFLUENCES THE RATEMAKING 2 PROCESS FOR A GAS UTILITY.

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.

A.

A.

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

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.

A.

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

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. IS IT IMPORTANT THAT A UTILITY SUCH AS MGE REALIZES THE Q. MARGIN THAT WAS ALLOWED BY THE REGULATOR IN THE UTILITY'S MOST RECENT RATE CASE? Yes. The utility's financial health directly relies upon its ability to recover the cost of A. service inherent in the margin approved by its regulator through the margin revenues upon which its base rates were previously established. PLEASE EXPLAIN HOW FLUCTUATIONS IN WEATHER OVER TIME Q. 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-

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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.

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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.

1	Q.	YOU DISCUSSED EARLIER THE NEED FOR A MUCH MORE DYNAMIC
2		PROCESS TO ESTABLISH A GAS UTILITY'S SALES VOLUME LEVEL FOR
3		PURPOSES OF SETTING ITS BASE RATES. MORE GENERALLY, DURING
4		TIMES OF UNCERTAINTY, DOES THE TEST YEAR CONCEPT USED IN A
5		RATE CASE PRESENT CERTAIN OTHER CHALLENGES FOR A GAS
6		UTILITY?
7	A.	Yes. There are certain key assumptions inherent in the use of a test year for purposes of
8		establishing a gas utility's base rates. These assumptions are as follows:
9		• A test year represents a snapshot in time that attempts to reflect a level of plant
10		and expenses, comprising the utility's total revenue requirement, which will be
11		representative of the period the new rates will be in effect.
12		• Use of a test year assumes that the utility's costs in a future period can be
13		reasonably represented by its historical costs (often with adjustments for known
14		and measurable changes), or, as in this case, its forecast of future costs - which
15		means such costs are assumed to be predictable, stable, and controllable.
16		In a highly volatile and unpredictable cost environment, it is obvious that these
17		assumptions are not realistic ones simply because of the recognition that many of the
18		utility's costs are unpredictable, unstable, and uncontrollable. As a result, it becomes

service components that are required to establish base rates.

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increasingly difficult in such an environment to accurately predict certain of the cost of

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

2 **CUSTOMER?**

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.

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Q. AGAINST WHAT REFERENCE POINT SHOULD THE COMPANY'S DECLINE

14 IN USE PER CUSTOMER BE REVIEWED?

15 A. The reference point should be the use per customer levels established in each of MGE's
16 previous base rate cases. Referring to page 1 of Schedule RAF-7, the annual "baseline"
17 use per customer for the residential class established in MGE's last four base rate cases to
18 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.

A.

6 Q. WHAT CONCLUSION DO YOU REACH FROM THIS ASSESSMENT?

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?

1 A. The variability in use per customer also was caused by the variation in weather
2 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.

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Q. HAVE YOU EXAMINED HOW THE MARGIN REVENUES COLLECTED BY

MGE HAVE VARIED HISTORICALLY?

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. MGE'S EXPERIENCE UNUSUAL IN THE GAS DISTRIBUTION 1 2 **INDUSTRY?** No. This type of under-recovery of fixed costs is not unique to MGE. This situation has 3 A. 4 been a continuing challenge to the gas distribution segment of the energy industry. And 5 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 6 utilities' financial performance and the natural gas delivery prices of their customers. 7 8 9 Q. HOW IS THE GAS DISTRIBUTION INDUSTRY ADDRESSING THE 10 PROBLEM OF THE UNDERECOVERY OF FIXED COSTS? The revenue shortfall problem for gas distribution utilities has received much attention 11 Α. 12 from state regulators over the last five years. To effectively mitigate the variability in 13 revenues caused primarily by weather and declining use per customer, regulators have 14 implemented a number of ratemaking solutions, including: 15 1. Revenue decoupling mechanisms that adjust rates for changes in usage caused 16 primarily by weather and energy conservation; 2. Weather Normalization Adjustment ("WNA") mechanisms that adjust rates for 17 18 changes in usage caused by weather; 19 3. Monthly customer charges that more fully reflect the gas utility's fixed costs of 20 providing delivery service (including Straight-Fixed Variable rate structures); and 21 4. A measure of "normal weather" (other than the 30-year measure of normal weather)

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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.

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?

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.

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?

Q.

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

A.

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?

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.

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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.

1	Q.	DOES THE COMPANY'S PROPOSED RATE DESIGN REPRESENT AN
2		EFFECTIVE SOLUTION TO THE AFOREMENTIONED RATEMAKING
3		PROBLEMS IT HAS EXPERIENCED?
4	A.	Yes. MGE's proposed rate design is fully cost-based, equitable, and beneficial to the
5		Company and its customers. Under the proposed SFV rate structure, when it is colder-
6		than-normal, customers do not overpay for the Company's fixed costs, and the Company
7		does not over-recover margin. Conversely, when it is warmer-than-normal, customers
8		do not underpay for the Company's fixed costs, and the Company does not under recover
9		margin.
10		
11		a. Primary Rate Design Proposal
12		
13	Q.	PLEASE EXPLAIN THE COMPANY'S PROPOSED RESIDENTIAL RATE
14		DESIGN.
15	A.	Under its SFV rate design proposal, the Basic Service Charge has been established at
16		\$27.50 per month and the Commodity Charge has been eliminated. Therefore, the
17		Company's fixed costs of natural gas delivery service will be recovered from these
18		customers through a single, fixed monthly charge.
19		
20	Q.	PLEASE EXPLAIN THE BENEFITS TO THE COMPANY AND ITS
21		CUSTOMERS OF A SINGLE, FIXED MONTHLY CHARGE.

1	A.	There are numerous benefits to the Company and its customers with a single, fixed
2		monthly bill concept under its proposed SFV rate design. They include:
3		Customers don't overpay or underpay each month.
4		Addresses intra-class cross subsidization.
5	-	Improved bill stability.
6		Achieves bill simplicity and promotes understandability.
7		• Expectation of fewer bill complaints.
8		Matches approved level of revenues with costs.
9		Similar pricing to other consumer services.
10		Reduces rate case frequency.
11		Simplifies revenue forecasts and adjustments.
12		Lower Average Bill Calculation ("ABC") true-ups.
13		
14	Q.	HOW DO YOU EXPECT THE COMPANY'S RESIDENTIAL CUSTOMERS
15		WILL REACT TO PAYING FOR NATURAL GAS DELIVERY SERVICES ON A
16		FLAT MONTHLY BASIS?
17	A.	In my opinion, the Company's customers should react favorably to the change in pricing
18		and billing of gas delivery services. The Company's customers already are accustomed
19		to paying bills for widely utilized consumer services on a flat monthly basis. There are
20		numerous examples of regular consumer services where the service provider structures
21		its fees on a flat monthly basis. These include:

i		Local and long distance telephone services
2		Cellular telephone services
3		Cable television and satellite basic service
4		Internet access service
5		Home alarm services
6		Trash removal services
7		Automobile leases and loan payments
8		Apartment rent
9		The pricing of the Company's gas delivery services using an SFV rate design properly
10		portrays to its customers: (1) the fixed nature of the underlying costs; (2) the delivery-
11		only characteristics of the service; and (3) the fact that natural gas is the real commodity
12		being purchased via the Company's gas delivery system.
13		
14	Q.	UNDER THE COMPANY'S PROPOSED RESIDENTIAL RATE DESIGN, WILL
15		CUSTOMERS CONTINUE TO HAVE A FINANCIAL INCENTIVE TO PURSUE
16		ENERGY CONSERVATION AND ENERGY EFFICIENCY MEASURES?
17	A.	Yes. First, the portion of the customer's gas bill represented by MGE's delivery service
18		charges is very small relative to the gas commodity charges incurred by the customer.
19		Currently, as depicted on page 1 of Schedule RAF-10, the portion of the average
20		residential customer's bill represented by delivery service is only approximately 26% of
21		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.

A.

10 Q. PLEASE EXPLAIN HOW THE COMPANY'S PROPOSED RESIDENTIAL 11 RATE DESIGN WILL IMPACT CUSTOMERS' GAS BILLS.

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?

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.

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A.

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

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.

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7 Q. HOW WILL LOW INCOME RESIDENTIAL CUSTOMERS BE IMPACTED BY

THE COMPANY'S RATE DESIGN PROPOSAL?

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. The conclusion reached in that study was that: "the incomeconsumption 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.

2		is supported by the cost of service study results, and to decrease the present Commodity
3		Charges to levels necessary to recover the balance of the proposed revenue increase
4		assigned to this class not recovered through the Customer Charge.
5		
6	Q.	PLEASE EXPLAIN HOW THE COMPANY'S PROPOSED SGS RATE DESIGN
7		WILL IMPACT CUSTOMERS' GAS BILLS.
8	A.	Page 3 of Schedule 11 presents monthly bill comparisons for various ranges of monthly
9		gas consumption.
10		
11	Q.	PLEASE EXPLAIN THE PROPOSED RATE DESIGN FOR THE LGS CLASS.
12	A.	The present rate structure and rate levels will be maintained in the LGS class in light of
13		MGE's proposal not to change its current revenue level.
14		
15	Q.	PLEASE EXPLAIN THE PROPOSED RATE DESIGN FOR THE LVS CLASS.
16	A.	The present rate structure and rate levels will be maintained in the LVS class in light of
17		MGE's proposal not to change its current revenue level.
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The Company has proposed to increase the monthly Customer Charge to \$31.00, which

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A.

1		b. Alternate Rate Design Proposal
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3	Q.	UNDER THE COMPANY'S ALTERNATE RATE DESIGN PROPOSAL, WHAT
4		RATE STRUCTURE MODIFICATIONS DID YOU MAKE COMPARED TO
5		THOSE MADE UNDER ITS PRIMARY RATE DESIGN PROPOSAL?
6	A.	For the Residential class, the current rate structure was maintained with the proposed
7		Customer Charge set at \$15.50 per month, and a Delivery Charge set to recover the
8		balance of the assigned revenue increase for that class. The increase in the Customer
9		Charge was based on the same margin percentage resulting from the proposed class
10		revenue increase.
11		
12		For the SGS rate class, a more modest change was made to the level of the Customer and
13		Delivery Charges compared to the levels proposed under the Company's primary rate
14		design proposal. The proposed Customer Charge for the SGS class was set at \$20.50 per
15		month. For both the Residential and SGS rate classes, the primary objective was to
16		continue to move the Company's monthly customer charges towards the fixed costs of
17		delivery service, consistent with the results of MGE's cost of service study.
18		
19	Q.	CAN YOU ILLUSTRATE HOW THE COMPANY'S ALTERNATE RATE

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DESIGN WILL IMPACT THE GAS BILLS OF ITS RESIDENTIAL AND SGS

1 CUSTOMERS COMPARED TO BILLS UNDER ITS PRIMARY RATE DESIGN 2 PROPOSAL? 3 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 4 design proposal, customers will generally experience increases in their bills during the 5 6 winter months and decreases during the other months compared to bill levels under 7 MGE's primary rate design proposal. 8 9 WHY IS THE COMPANY PROPOSING A WNA MECHANISM AS AN Q. 10 ALTERNATE TO THE SFV RATE STRUCTURE IT HAS PROPOSED? The Company is proposing a WNA mechanism as an alternate to its SFV rate structure 11 Α. 12 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. 13 14 Specifically, a WNA mechanism was selected by MGE as an alternate ratemaking solution for the following reasons: 15 1. MGE's gas rates are designed on the basis of the expected volume of gas to be 16 sold for these services under normal weather conditions. This means that the 17 18 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 19

level is based upon the Company's weather-normalized gas volumes. The WNA

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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.

IS THERE MORE THAN ONE WAY TO DESIGN A WNA MECHANISM? 2 Q. Yes. There are two basic approaches used by gas utilities that can achieve the desired 3 A. results. These approaches are: (1) adjusting current billings on a real-time basis; and (2) 4 adjusting billings on a lagged basis (e.g., the adjustment appears on the customer's bill(s) 5 from a few to several months after the variation in weather is experienced). 6 7 INTO WHICH OF THESE CATEGORIES DOES THE COMPANY'S WNA 8 Q. MECHANISM FALL? 9 The Company's proposed WNA mechanism falls into the first category, the real-time 10 A. approach. 11 12 WHY HAVE YOU RECOMMENDED ADOPTION OF A WNA MECHANISM 13 Q. OF THIS TYPE? 14 I have recommended this type of mechanism for MGE because, by adjusting current 15 A. billings on a real-time basis, the consumer can more readily link the resulting billing 16 adjustments with the events causing the adjustments. In addition, certain of the utility's 17 financial statements will reflect the cash flow effect of the mechanism sooner than under 18 a lagged mechanism. And, in a cold winter with higher gas bills, customers receive the 19 benefits of the WNA bill reduction more quickly. 20

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1	Q.	WHAT ARE THE MOST IMPORTANT CHARACTERISTICS OF THE
2		COMPANY'S PROPOSED WNA MECHANISM?
3	A.	The most important characteristics of the Company's proposed WNA mechanism are as
4		follows:
5		 It is applicable to MGE's Residential, SGS, and LGS customers.
6		 It is applicable in all geographic areas served by MGE.
7		 The mechanism adjusts billings on a current monthly basis.
8		 It is effective for the billing months of October through May.
9		It adjusts the amount billed to each temperature-sensitive customer in the
10		Residential, SGS, and LGS rate classes to reverse the impact of actual
11		heating degree-day variations from normal heating degree-day levels.
12		
13	Q.	PLEASE EXPLAIN HOW THE COMPANY'S PROPOSED WNA MECHANISM
14		OPERATES.
15	A.	The WNA mechanism will adjust the amount billed to each customer in the Residential,
16		SGS and LGS rate classes to effectively weather-normalize margins recovered from each
17		of these customers during the winter heating season. It is a customer-specific calculation
18		applied to monthly billings for the months of October through May.
19		
20	Q.	WOULD THE ADJUSTMENT TO CUSTOMERS' BILLS BE CALCULATED ON
21		A CALENDAR MONTH OR ON A BILLING CYCLE MONTH BASIS?

- 1 A. The customer adjustments would be made on a billing cycle basis. This approach allows
 2 the adjustments to be calculated at the conclusion of each customer's meter reading
 3 billing cycle and incorporated into the original bill sent to each customer. Moreover,
 4 this approach provides for a more accurate and timely adjustment for the customer.
 5 There is no time lag between when the customer experiences the bill variability and when
 6 the bill leveling adjustment is made.
- Q. PLEASE PROVIDE A FORMULAIC REPRESENTATION OF THE WNA
 MECHANISM THAT YOU JUST DESCRIBED.
- 10 A. A formulaic representation of the Company's proposed WNA mechanism is as follows:

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

Where:

7

11

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- 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.

1		2. Just prior to billing, the Company will determine the number of customers and	
2		volumes to be billed during that particular billing cycle.	
3		3. The HDD difference will be multiplied by the product of the Heat Factor (HF) and	
4		number of customers to be billed in that cycle to derive the total volume deficiency or	
5		surplus from that billing cycle.	
6		4. The volume difference will be multiplied by the base rate (R) to derive the total	
7		revenue deficiency or surplus from that billing cycle.	
8		5. The total revenue difference will be divided by the total billing cycle volume to	
9		derive the WNA.	
10		For each applicable rate class, the WNA will be applied during a billing cycle by	
11		multiplying the WNA by the individual customer's volume (from meter reading) to	
12		derive the WNA applied to the individual customer's bill.	
13			
14	Q.	HAVE YOU DEVELOPED TARIFF SHEETS THAT REFLECT THE	
15		COMPUTATIONAL DETAILS AND PROCESS OF THE PROPOSED WNA	
16		MECHANISM?	
17	A.	Yes. The appropriate tariff sheets to implement the proposed WNA mechanism are	
18		presented in Schedule RAF-12.	
19			
20	Q.	PLEASE PROVIDE AN EXAMPLE TO DEMONSTRATE THE OPERATION OF	
21		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).

Α.

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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?

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.

A.

••••••••••

- Q. EVEN WITH A POSITIVE WNA ADJUSTMENT TO CUSTOMERS' BILLS,
 PLEASE EXPLAIN WHY THE CUSTOMER WILL STILL REALIZE SAVINGS
 DURING WARMER-THAN-NORMAL TEMPERATURES.
 - 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 1 2 purchase less gas. 3 Second, during warmer than normal weather conditions, commodity gas costs are 4 typically less expensive, and these gas costs savings are flowed through to customers. 5 6 CAN YOU ILLUSTRATE THIS CONCEPT THROUGH THE USE OF A SIMPLE 7 Q. **EXAMPLE?** 8 Yes. Schedule RAF-14 presents an example of a customer's monthly bill during warmer 9 A. than normal month using average gas consumption data for a typical MGE residential 10 customer. The example shows the monthly bill calculated for a residential customer 11 under normal weather conditions and under warmer than normal conditions. The 12 customer would realize a significant savings in its monthly bill by paying for only 163 13 Ccf of gas instead of the 179 Ccf that it would have paid for had temperatures been 14 normal. Thus, while the WNA adds \$2.75 to the total bill, the total bill still is \$13.70 15 less than in a normal winter. In a colder than normal winter, the opposite is true -16 customer bills go up to reflect greater usage and the WNA would provide a slight 17 reduction to the bill. 18 19 WHAT ARE THE BENEFITS TO CUSTOMERS OF IMPLEMENTING A WNA 20 Q. 21 **MECHANISM?**

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.

A.

Q. WHAT ARE THE BENEFITS TO THE COMPANY?

PROPOSED WNA MECHANISM?

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

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.

1	Q.	ARE THE CONCEPTUAL AND COMPUTATIONAL UNDERPINNINGS OF
2		THE COMPANY'S PROPOSED WNA MECHANISM WIDELY ACCEPTED
3		IN THE NATURAL GAS INDUSTRY?
4	A.	Yes. Schedule RAF-15 presents a survey conducted by NCI, with input from a previous
5		American Gas Association survey, that identifies utility companies located in the U.S.
6		that have Weather Normalization Adjustment ("WNA") clauses in effect. The results of
7		that survey indicate that many gas utilities, across a wide geographic area, have
8		implemented WNA mechanisms. Specifically, the survey results indicate that there are
9		21 states that have approved WNAs for gas companies serving 40 different service areas.
10		In addition, the survey results indicate that over 60% of the gas companies with "real-
11		time" WNAs utilized a rate class approach, which is identical to the approach used in the
12		Company's WNA proposal. As a point of reference, in Schedule RAF-15 the
13		designation "Type 1" refers to WNA mechanisms that are real-time in structure, while
14		the "Type 2" refers to WNA mechanisms with lagged structures.
15		
16	Q.	ALTHOUGH THE WNA MECHANISM ADDRESSES THE IMPACT OF
17		WEATHER ON A GAS UTILITY'S ABILITY TO RECOVER ITS APPROVED
18		LEVEL OF MARGIN REVENUES, DOES IT ALSO ADDRESS THE PROBLEM
19		OF DECLINING USE PER CUSTOMER CAUSED BY FACTORS OTHER

THAN WEATHER?

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

6

8

7 Q. DO YOU BELIEVE THAT THE COMPANY'S PROPOSED WNA MECHANISM

IS FAIR TO BOTH THE UTILITY AND ITS CUSTOMERS?

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.

14

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

16 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) 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 26 day of APRIL 2006. **The Subscribed and sworn to before me this 26 day of APRIL 2006. **Notary Public**
My Commission Expires: Feb. 3, 2007 Kim W. Henzi Notary Public - Notary Seial State of Missouri Jackson County My Commission Expires Feb. 3, 2007

APPENDIX A – Qualifications of Russell A. Feingold Page 1 of 8

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 waternouse
	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

APPENDIX A - Qualifications of Russell A. Feingold Page 2 of 8

- 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

APPENDIX A – Qualifications of Russell A. Feingold Page 3 of 8

- 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.

APPENDIX A – Qualifications of Russell A. Feingold Page 4 of 8

- "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.

APPENDIX A – Qualifications of Russell A. Feingold Page 5 of 8

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- "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.

APPENDIX A – Qualifications of Russell A. Feingold Page 6 of 8

- "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.

APPENDIX A – Qualifications of Russell A. Feingold Page 7 of 8

- 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," (Coauthor) 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.

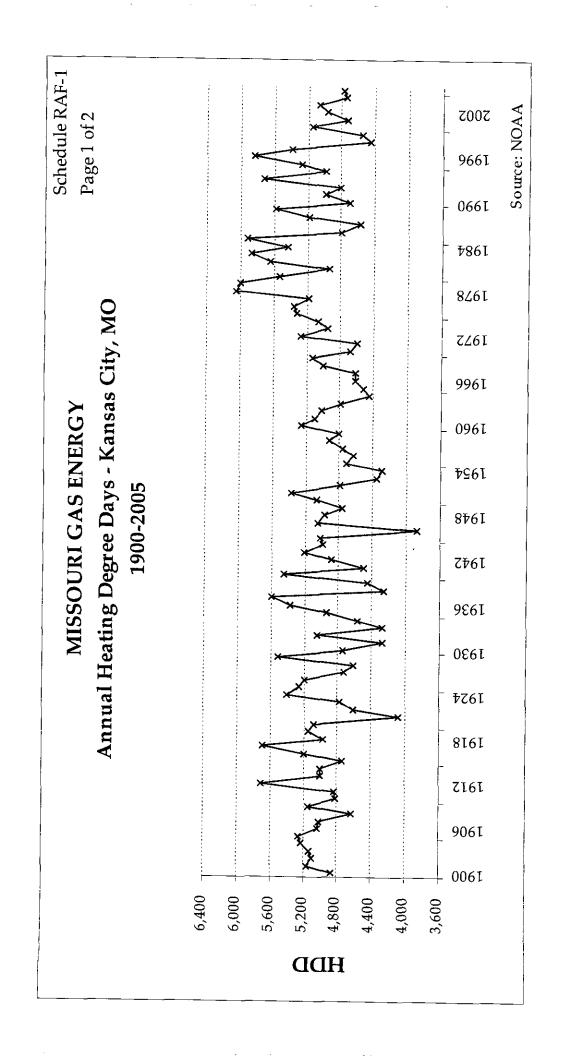
APPENDIX A – Qualifications of Russell A. Feingold Page 8 of 8

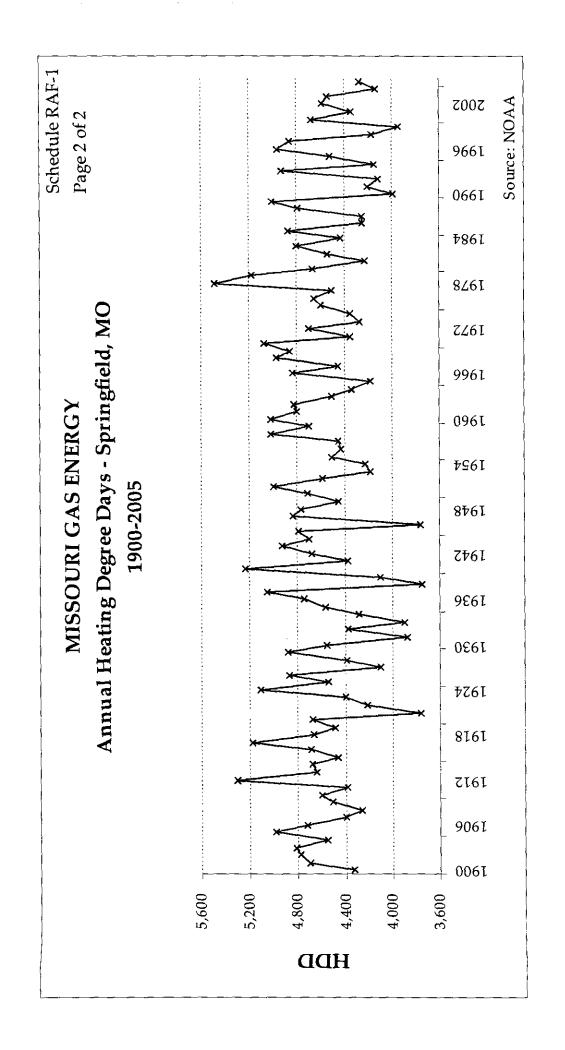
- "Demand-Commodity Rates: A Second Best Response to the Competitive Fuel Situation," presented before the American Gas Association, Ratemaking Options Forum, September 1983.
- Cofounder, course director and instructor in the annual course, "Principles of Gas
 Utility Rate Regulation" sponsored by The 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)





Schedule RAF-2

Page 1 of 4

MISSOURI GAS ENERGY

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4,276 5,027 4,044 4,954 4,954 4,954 4,954 4,954 4,954 4,956 4,976 <th< td=""><td>2) <</td><td>4.748</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></th<>	2) <	4.748												
5,546 5,027 5,044 4,894 4,967 (40) 32 84 351 1,024 35,001 4,586 5,027 4,986 4,967 (40) (530) (490) 555,023 49,266 36,200 4,586 5,027 4,986 4,984 4,974 4,974 (40) (530) (230) 1,869	,	7 3.25												
4,386 5,027 4,986 4,976 4,774 (764) (764) (764) (764) (765) (767) 2,23,31 (95,56) 39,590 4,386 5,927 4,936 4,774 (91) (87) (723) 2,23,31 (95,56) 1,97,99	1	9,00	2002	20.0	4 804	4 962	6	3.2	152	84	361	1024	23.104	7.056
$ \begin{array}{cccccccccccccccccccccccccccccccccccc$	7, 5	0+0.7	5003			4 778	(745)	(704)	(630)	(496)	555.025		396,900	246.0
$ \begin{array}{cccccccccccccccccccccccccccccccccccc$	2 :	707'4	770'5		1		(190)	(387)	(300)	(2.75)	212 521		152,100	75.67
$\begin{array}{cccccccccccccccccccccccccccccccccccc$		7007	7000	Ĺ			(6)		28	162	8.281	324	784	26.24
$ \begin{array}{cccccccccccccccccccccccccccccccccccc$		4,250					717		540	780	13.569	2 19 0 24	291600	608,400
$ \begin{array}{cccccccccccccccccccccccccccccccccccc$] :	1000			107 7	1	463		700	696	316.969	467.856	638.401	938.9
$ \begin{array}{cccccccccccccccccccccccccccccccccccc$	2 6	0.66.4			4 8 0 8	l	(19L)	(648)	(542)	(573)	579 121	419.904	293.764	328.32
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$		007 +				4 9 4 8	(895)	(451)	(435)	(489)	322.624	103,461		239.1
$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$	<u> </u>	6.445				4 044	418	165	586	205	74.724	326.041		2510
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	2	103 7			1	4 923	(426)	(319)	(2.52)	(422)	276.676	114,921	L	178,084
5,211 4,871 4,886 4,886 4,882 20 312 365 67,600 100,224 133,223 4,987 4,881 4,830 4,712 36 94 157 1,296 8,836 24,649 5,00 4,951 4,911 4,912 5,070 (1,043) (1,028) (1,099) (1,441) (1,77,23 (1,057,784) 1,201,801 5,046 4,951 4,894 4,965 5,070 (2,03) (1,099) (1,411) (1,77,23 (1,057,784) 1,201,801 5,046 4,951 4,894 4,965 5,070 (97) (1,099) (1,099) (1,099) (1,099) 1,775 (1,099) 27,449 4,966 4,971 4,874 4,872 4,972 (1,099) (1,099) (1,099) 1,772 1,700 1,700 1,700 1,700 1,700 1,700 1,700 1,700 1,700 1,700 1,700 1,700 1,700 1,700 1,700 1,700 <	- -	4 901	150 7			\$825	(09)	33	89	(134)	3,600	1,089		17.9
4,987 4,891 4,892 4,792 4,792 4,792 36 94 EST 175 1,296 8,836 24,649 5,010 4,981 4,992 4,901 39 95 87 109 3,481 9,025 7,559 1,556	: :	1163	1007			4 8 52	260	332	365	359	009'29	110,224		128,8
$\begin{array}{cccccccccccccccccccccccccccccccccccc$	2 2	113,0	4 051			4.712	3.6	94	153	275	1296	8,836	L	75,6
$\begin{array}{cccccccccccccccccccccccccccccccccccc$	֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓	0103	4 051			4 901	59	95	87	601	3.481	9,025		8871
$ \begin{array}{cccccccccccccccccccccccccccccccccccc$	1	1 866	1 9 5		4 965	5007	(1085)	(1028)	(6601)	(1,14.1)	1,177,225	1,056,784	L	881001
4,666 4,951 4,815 4,823 4,703 15 161 143 173 22,801 20,449 4,766 4,951 4,811 4,764 4,724 (75) (75) (72) (78)	47	5.048	4.951		4.972	4.920	16	991	9/	12.8	604'6	27,556		86,31
$ \begin{array}{cccccccccccccccccccccccccccccccccccc$	48	4.966	4.951	4.8.5	4,823	4,793	Ω	151	143	173	225	22,801		29,92
5,068 4,951 4,818 4,775 117 219 230 293 B,689 4,796 32,900 5,368 4,951 4,818 4,818 4,827 4,775 4,17 537 530 539 530,249 230,000 4,373 4,849 4,881 4,917 5,41 (36) (56) (684) 242,064 274,376 315,60 4,374 4,849 4,881 4,917 5,041 (36) (56) (684) 242,064 274,376 315,60 4,31 4,849 4,869 4,907 4,997 (560) (617) (700) 312,481 335,241 380,689 4,71 4,849 4,872 4,907 (459) (560) (617) (700) 312,481 335,241 380,689 4,730 4,849 4,870 4,974 (74) (74) (11) (100) 31,744 1,589 4,730 4,849 4,847 4,774 4,774 (6.9	4.756	4.951	4,831		4,824	(361)	(32)	(ZI)	(89)	38,025	5,625		4,624
5,568 4,951 4,81 4,868 4,729 4,77 537 500 659 73,889 10,249 20,000 4,73 4,849 4,827 4,741 (46) (34) (37) 32 3,136 1,166 1,269 4,290 4,849 4,871 4,891 (482) (579) (617) (700) 32,481 33,524 38,689 4,731 4,849 4,872 4,804 (589) (579) (617) (700) 32,481 33,524 38,689 4,731 4,849 4,872 4,804 (589) (579) (617) (700) 32,481 33,5241 386,689 4,732 4,849 4,872 4,742 4,742 4,742 4,742 4,742 4,744 1,744 1,744 1,744 1,744 1,744 1,844 1,844 1,844 4,744 4,744 4,744 4,744 4,744 4,744 4,744 4,744 4,744 4,744 4,744 <	S	5.068	4.951	4.849	Ĺ	L	411	2.19	230	293	13,689	47.961		85,849
4,733 4,849 4,827 4,820 4,724 (34) (34) (37) 32 3.36 1,156 1,369 4,737 4,849 4,877 4,91 (42) (54) (56) (684) 2,2,064 27,376 31,564 31,564 32,660 27,576 31,564 32,524 31,560 32,524 32,524 31,560 32,524	-	5.368	4.951	4.8			4 17	255	500	689	173,889	310,249	250,000	40832
4,357 4,849 4,867 5,041 (492) (324) (360) (684) 24,2064 274,576 315,600 4,390 4,890 (539) (579) (617) (700) 312,481 335,241 380,689 - 4,391 4,849 4,872 4,888 (138) (110) (177) 18,944 13,521 13,521 13,321 4,532 4,849 4,849 4,772 4,774 (74) (110) (177) 18,944 13,521 1,522 4,520 4,849 4,849 4,772 4,774 (90) (88) 37 55 8,100 7,744 1,369 4,520 4,849 4,847 4,774 (90) (88) 37 55 8,100 7,744 1,369 4,520 4,849 4,849 4,577 4,774 (90) (88) 37 56 1,484 1,484 4,849 4,849 4,68 4,770 4,557 77	32	4 793	4.849	Ĺ			(95)	(34)	(3.7)	52	3,136	1,156	1,369	2,70
4,390 4,849 4,869 4,990 (359) (379) (617) (700) 312,481 33,541 380,689 4 4,711 4,849 4,872 4,868 (138) (110) (157) 18,944 23,521 12,321 12,321 4,535 4,849 4,859 4,772 4,774 (104) (110) (157) 18,944 13,521	53	4,357	4,849	L	L		(492)	(524)	(260)	(684)	242,064	2 74 ,576	33,600	467,8
4,711 4,849 4,872 4,822 4,822 4,822 12,321 4,535 4,849 4,849 4,772 4,774 (7,43) (7,43) (117) (140) 45,796 30,176 15,619 4,739 4,849 4,817 4,772 4,774 (90) (18) 17 (18) 7,744 15,69 4,739 4,849 4,811 4,779 4,577 71 109 121 363 3,641 14,861 14,641 4,849 4,769 4,770 4,350 (43) 37 36 256 1,849 1,286 4,849 4,769 4,770 4,350 (43) 37 36 256 1,849 1,286	54	4,290	4,849	Ĺ		4,990	(655)	(579)	(617)	(700)	312,481	335,241	380,689	490,00
4 63.5 6 84.9 4 575 4 775 (244) (245) (17) (180) 4 5796 50,774 13.689 4,739 4,849 4,817 4,774 (90) (70) (81) 37 35 8,00 7744 13.69 4,920 4,849 4,811 4,770 4,577 71 109 121 363 3,441 14,881 14,641 14,641 12,964 4,849 4,769 4,770 4,550 (43) 37 36 256 1,849 1,286 1,296 4,849 4,769 4,770 4,550 (43) 37 36 256 1,849 1,286 1,296	S	4,711	4,849	L	Ĺ	4,868	(138)	(191)	(III)	(37)	19,044	15,921	12,321	24,64
4,759 4,849 4,847 4,722 4,704 (90) (88) 37 8,100 7,744 1,550 4,920 4,849 4,799 4,537 71 109 12 363 5,941 11,861 1,561 4,846 4,769 4,770 4,550 (43) 37 36 256 1,849 1,296 4,849 4,769 4,770 4,550 (43) 37 36 256 1,849 1,296	36	4,635	4,849	4,859		4,775	(214)	(124)	(313)	(140)	45,796	50 176	13,689	09'6
4,920 4,849 4,769 4,757 (43) 37 36 1,849 1,869 1,296 1	57	4,759	4,849	4,847		4,704	(06)	(88)	37	35	8,100	1,744	1,369	3,02
4,856 4,749 4,749 4,740 4,250 (**) 25 20 20 20 4,741 4,540 4	28	4,920	4,849	4,815	4,799	4,557	1/2	(O)	177	203	1476	1360	790'H	0/10
	8	908,4	4.849	4 769	4.77	1								

Schedule RAF-2

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MISSOURI GAS ENERGY

Forecast Results of Selected Weather ("HDD") Averages

NATIONAL STATES NATIONAL S														
Material Column Material C			7 U.S	Fore	CBST			Foreca	st Erro r			Forecast Err	or Squared	
Column C		Artust Unn.	Average	Average	Average	S-Year	30-Year	20-Year	10-Усяг	5-Year	30-Year	20-Year	10-Year	5-Year
1, 2, 2, 2, 3, 4, 4, 4, 4, 4, 4, 4, 4, 4, 4, 4, 4, 4,	Year	Kansas City	(NOAA)	(Rolling)	(Rolling)	(Rolling)	Average	Average (Bellion)	Average	Average	Average	Average	Average	Average
1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1,	1961	5,095	4,849	4,819	4.771	4.766	246	27.6	424	OLE CAN	(AUA)	(Rolling)	(Rolling)	(Rolling)
4,78 4,78 4,78 4,78 6,78 6,79 6,79 6,79 6,79 6,79 7,79 <th< td=""><td>1962</td><td>5,019</td><td>4,814</td><td>4,810</td><td>4.790</td><td>4.876</td><td>205</td><td>200</td><td>220</td><td>32.9</td><td>or con</td><td>76,176</td><td>104,976</td><td>108,241</td></th<>	1962	5,019	4,814	4,810	4.790	4.876	205	200	220	32.9	or con	76,176	104,976	108,241
4.450 4.450 <th< td=""><td>1963</td><td>4,785</td><td>4,814</td><td>4.840</td><td>4.763</td><td>8967</td><td>(20)</td><td>(03)</td><td>777</td><td>14.3</td><td>42,023</td><td>43,681</td><td>52,441</td><td>20,449</td></th<>	1963	4,785	4,814	4.840	4.763	8967	(20)	(03)	777	14.3	42,023	43,681	52,441	20,449
4 4 50 /r 4 51 /r	1964	4,456	4,8,4	4.846	4.785	\$ 020	(85 8)	(300)	77 701	(68)	84	3,025	484	33,489
6 4 6 6 6 7 10 10 10 10 10 10 10 10 10 10 10 10 10	1965	4.513	4.814	4 875	4 8 2 8	1,003	(0,0)	(0.20)	(676)	(304)	128,164	152,160	108,241	318,096
7 45.50 45.10 47.70 47.	1966	41.614	4.8.14	4 79 8	979,7	1012	(100)	(32)	(a g)	(480)	109'06	97,344	99,225	230,400
3.0.0 4.88.0 4.38.0 4.68.0 </td <td>1961</td> <td>4,619</td> <td>4 8 14</td> <td>4 774</td> <td>200,7</td> <td>4,723</td> <td>(007)</td> <td>(184)</td> <td>(230)</td> <td>(309)</td> <td>40,000</td> <td>33,856</td> <td>195,68</td> <td>95,481</td>	1961	4,619	4 8 14	4 774	200,7	4,723	(007)	(184)	(230)	(309)	40,000	33,856	195,68	95,481
4 5 5 5 4 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5	1968	5 00 5	4 8 14		1,072	*//,	(641)	(53)	(206)	(155)	38,025	24,025	42,436	24 02 5
0.00 4.687 4.784	6961	211.5	4 6 14	1 700	670,4	1/0,4	50	96	184	330	37,249	38,416	33,856	108,900
4,590 4,591 4,592 4,592 4,782 <th< td=""><td>02.61</td><td>4 684</td><td>707</td><td>207</td><td>4,809</td><td>4,597</td><td>321</td><td>346</td><td>326</td><td>538</td><td>103,041</td><td>119,716</td><td>106,276</td><td>289,444</td></th<>	02.61	4 684	707	207	4,809	4,597	321	346	326	538	103,041	119,716	106,276	289,444
5.27.1 4.56.0 4.70.0<	19.71	4 190	110,1	4 6 10	1,8,4	4,642	(67)	(107)	(B2)	43	16,641	11,449	17,424	1,849
4,59 4,50 4,81 <th< td=""><td>19.77</td><td>146.5</td><td>1,01</td><td>4,6 10</td><td>4,830</td><td>4,778</td><td>(224)</td><td>(220)</td><td>(260)</td><td>(188)</td><td>90,176</td><td>48,400</td><td>67,600</td><td>35,344</td></th<>	19.77	146.5	1,01	4,6 10	4,830	4,778	(224)	(220)	(260)	(188)	90,176	48,400	67,600	35,344
4,522 4,5484 4,702 4,742 4,807 4,548 4,007 4,549 4,009 1,53 4,009 1,53 4,009 7,54 4,540 4,750 4,742 4,500 1,53 4,500 7,50 1,500 1,500 1,500 7,500 1,5	19.73	4.050	4,604	4,01	4,793	4,812	469	482	480	461	19661	232,324	230,400	212 52 1
5,502 4,884 4,776 4,788 4,938 238 28 19 64,009 78,61 18,61 5,139 4,884 4,884 4,884 4,884 4,938 4,938 319 319 319 319 319 319 319 319 319 319 319 319 319 319 318 3	72.01	40 6'4	4,804	4,752	4,742	4,807	155	207	217	152	24.025	42.849	47.089	23 104
5,50 4,804 4,814 4,928 511 580 580 52,12 53,946 24,180 4,815 4,928 511 510 512 51,20 52,90 4,810 4,921 519 511 510 51,20 10,22 52,80 24,80 4,81 4,81 4,82 51,80 4,81 4,81 4,81 4,81 4,81 4,81 4,81 4,81 4,81 4,81 4,81 4,81 1,81	4/63	3,037	4,804	4.776	4,768	4,938	2.53	281	289	61	64,009	78.9611	83 521	12,104
5.539 4,804 4,844 4,945 4,924 1,927,262 1,927,262 1,924,946 1,927,262 1,927,924 1,92	2/6	5315	4,804	4.807	4,785	4,928	311	508	530	387	261121	2 58 064	000 090	140 AV
6, 5175 4, 584 4, 473 4,924 4,934 5,139 1,134 1,131,204 1,147,019 1,147,014 1,147,	976	5,359	4,804	4,845	4,845	4,913	555	514	514	446	308.025	264 196	264 106	147,709
6,008 4,884 4,911 5,000 5,93 1,123 1,038 855 1,27,156	//	5,175	4.804	4,875	4,925	5,039	371	308	250	981	137641	00000	00.00	36,872
6,002 4,804 4,932 5,956 5,173 1,198 1,070 946 879 1,512,04	19.78	6,038	4,804	116,4	9,000	5,193	1,234	1,127	1,038	845	152 756	12.70 129	1077444	18,496
\$1.53.1 \$1.80.4 \$1.80.4 \$1.80.4 \$1.80.4 \$1.80.4 \$1.80.4 \$1.80.4 \$1.80.4 \$1.80.4 \$1.80.4 \$1.80.4 \$1.80.4 \$1.80.4 \$1.80.5 <t< td=""><td>19.79</td><td>6,002</td><td>4,804</td><td>4,932</td><td>950%</td><td>5,173</td><td>198</td><td>1070</td><td>946</td><td>820</td><td>1415204</td><td>144 000</td><td>4444</td><td>714,023</td></t<>	19.79	6,002	4,804	4,932	950%	5,173	198	1070	946	820	1415204	144 000	4444	714,023
4,494 4,804 5,048 5,244 5,770 B3 (106) (301) (656) 10,444 11,216 11,216 11,216 91,800 5,872 4,971 5,041 5,370 5,37 57 37 42,929 91,800 10,30 5,872 4,971 5,041 5,362 5,46 5,32 466 37 37 42,929 10,30 5,872 4,971 5,04 5,63 466 37 37 47,829 10,30 10,30 4,784 4,971 5,04 5,04 5,04 460 460 77 37 46,02 10,30 4,786 4,971 5,04 5,05 5,04 4,04 77 4,04 4,07 10,00	1980	5,533	4,804	4,988	5,159	5,389	729	545	174	144	1777	300.400	874.9 IB	687,24
\$ 5644 4,971 5,061 5,330 5,621 5,93 5,94 23 4,520 5,09 5,00 \$ 5437 4,971 5,064 5,53 5,63 4,66 33 3,7 11,00 6,622 2,70,09 \$ 5437 4,971 5,083 5,402 5,53 4,66 32 39 11,00 6,23 12,00 12,30 12,	1981	4,942	4,804	5,048	5,245	5,578	138	(106)	(303)	(63.6)	10 044	22,023	018.876	20,736
5487 4971 5084 5,263 5,263 901 818 502 334 1,120 665,124 27,000 5487 4971 5,084 5,263 4,66 780 435 1,120 1,239 1,239 1,239 1,239 1,239 1,230 2,711 1,230	1982	5,644	4,971	190'5	5,330	5,621	673	583	3.14	2.3	47.070	330 000	2,1009	404,496
3491 $4,971$ $5,083$ $5,402$ $5,522$ $4,66$ 3.3 3.5 4.5 $1.2.5$ $1.2.$	1983	5,872	176.71	5,034	5,365	5,538	106	81.8	507	334	8 11 8 01	120,000	147040	625
5 DB 4 DAT 5 DB 5 AB 5 SB 948 780 423 320 885 704 678 10 670 885 704 672 16 550 504 4,567 4,574 4,571 5,188 5,532 5,486 (404) (783) (702) 34,599 18,724 550 504 4,567 4,571 5,239 5,592 5,592 5,592 3,581 1,030 602 1,030 10	1984	5,437	4,971	5,085	5,402	5,632	99#	352	35	(193)	777 156	103 004	3001	000,00
4,784 4,971 5,188 5,132 5,486 (187) (4,04) (702) 34,969 16,276	1985	616'5	4,971	5,139	5,494	5,599	948	780	425	120	808 204	00 809	6227	38,020
4.567 4.97 5.289 5.529 5.563 (404) (627) (1023) (956) <	1986	4,784	4,971	5,188	5,53.2	5.486	(187)	(404)	(748)	1002)	24.000	000,400	57 633	102,400
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	1987	4,567	176,4	5,259	5,592	5,563	(404)	(692)	11075	(300)	24,202	017,507	559,504	492,804
4,971 $5,265$ $5,474$ $5,36$ 601 307 98 $7,20$ <	8861	5,176	4,971	5,267	5,535	553	205	(0.0)	(3 (0)	(066)	OL 2, CO	4/8,804	1,050,625	992,016
4,691 4,971 5,273 5,388 5,177 (280) (352) (697) (480) 78,400 39,424 49,604 4,984 4,984 5,295 5,345 5,204 4,993 (354) (354) (354) 18,400 24,003 24,003 13,223 13,223 13,223 13,223 13,223 13,224 4,993 (324) (454) (454) (454) (454) 14,904 24,003	989	5,572	4.971	5,265	5.474	5.316	109	107	80	796	670,47	8,281	28,881	126,025
4.864 4.971 5.285 5.345 5.204 9 (3.65)	1990	4,691	4,971	5,273	5,388	5,077	(280)	(582)	12.693)	(947)	30,400	23.6	9,604	65,536
4804 5.28 5.29 5.29 6.24 (491) (456) $(45$	1661	086'4	176,4	5,295	5,345	5,204	6	3 (5)	1980	(224)	00**0/	336,724	485,809	236,196
5/70 5/20 5/20 5/20 4/29 402 453 720 346/521 6/104 24/200 4/282 5/28 5/291 5/36 5/46 5/46 (69) (63) 720 346/521 6/104 203/09 5/282 5/281 5/291 5/46 5/46 5/46 1/2 1/2 6/4 1/2	1992	4,804	5,128	5,295	5,260	4,958	(324)	(491)	(4 \$6)	(184)	104 0 75	27,77	13,225	50,176
4,882 5,291 5,804 5,045 (46) (709) (783) (73 7,074 0,4004 20,2009 3 5,877 5,128 5,324 5,165 5,163 109 (71) 12 27,300 2,601 2,601 2,704 2,704 5,837 5,128 5,324 5,163 5,163 66 31 22,300 2,601 2,701 <t< td=""><td>1993</td><td>5,710</td><td>5,128</td><td>5315</td><td>5,264</td><td>4 997</td><td>685</td><td>402</td><td>4.53</td><td>2002</td><td>246 921</td><td>121204</td><td>956797</td><td>23,716</td></t<>	1993	5,710	5,128	5315	5,264	4 997	685	402	4.53	2002	246 921	121204	956797	23,716
5.278 5.228 5.65 5.63 5.63 150 (50) 113 125 27.500 27.504 27.504 5.837 5.128 5.324 5.169 5.13 709 512 718 80.2 50.561 27.504 27.504 27.504 27.504 27.504 51.524 66.544 51.524 66.544 51.524 66.544 51.524 66.544 51.524 67.514 51.525 66.544 51.524 67.514 51.525 67.544 51.525 67.544 51.525 67.544 51.525 67.544 51.525 67.544 80.521 77 46.544 80.521 77 46.544 80.521 77 48.7204 80.521 77 48.7204 80.521 70 48.7204 80.521 70 48.7204 80.521 70 48.7204 80.521 70 48.7204 80.521 70 48.7204 80.520 70.544 115.600 11.449 70.720 47.60 11.449 70.720 47.60	1994	4,982	5,12.8	5,291	5,180	5,045	(94)	(309)	(861)	(63)	21316	10070	202,203	518,400
5,337 5,128 5,125 5,119 5,035 719 512 718 802 502,681 262,144 315,724 4,449 5,128 5,234 5,035 5,122 6,693 6,893 6,710 (875) 6,604 8,08,201 50,521 4,449 5,128 5,243 5,124 (879) (819) (710 (875) 4,604 8,08,201 50,521 4,449 5,128 5,243 5,141 (83) (819) (710 (875) 46,041 8,08,201 50,521 4,520 5,128 5,243 5,141 (83) (819) (710 (875) 46,041 8,08,201 50,521 4,520 5,128 5,243 5,141 2,243 5,141 110,500 487,204 487,204 5,128 5,279 5,107 (40) (479) (340) (370) 37,541 115,601 47,524 20,736 4,569 5,233 5,187 5,18 6,60 <td>566</td> <td>5,2 78</td> <td>5,128</td> <td>5,329</td> <td>5,165</td> <td>5,153</td> <td>150</td> <td>(SD</td> <td>101</td> <td>12.5</td> <td>22 500</td> <td>3 601</td> <td>22,504</td> <td>1,769</td>	566	5,2 78	5,128	5,329	5,165	5,153	150	(SD	101	12.5	22 500	3 601	22,504	1,769
5,590 5,128 5,524 5,024 5,024 5,024 5,024 5,024 12,22 16 338 66,644 4,56 112,22 1	966	5,837	5,12.8	5,325	5,119	5,035	400	512	718	802	195.681	262 144	\$14 \$17	13,623
4.449 5,128 5,348 5,460 5,324 (679) (899) (710 (875) 4,6041 808,201 305,201 4,445 5,128 5,238 5,243 5,441 (835) (813) (886) 339,889 660,969 487,204 5,130 5,128 5,279 5,170 2.2 (20) (70) 484 16,641 400 4,727 5,128 5,276 5,100 (401) (479) (340) (373) 884 16,641 115,600 5,65 5,107 5,107 (260) (218) (441) (105) 775 47,224 20,736 4,750 5,235 5,107 4,652 (462) (280) (144) (105) 77,556 11,449 36,736 4,750 5,235 5,102 5,049 4,892 (452) (322) (154) (107) 27,555 11,449 23,166 4,780 5,235 5,049 4,892 (452)	1881	5,390	5,128	5,324	5,055	5,152	262	99	335	238	68.644	4 3 86	10 325	10.5.2.04
4445 5128 5,248 5,441 (83) (813) (698) (896) 339,839 660,369 47,221 5,150 5,128 5,170 5,187 2 (129) (70) (37) 484 16,641 400 4,727 5,128 5,074 (40) (40) (70) (37) 484 16,641 400 4,769 5,23 5,187 5,074 (26) (218) (440) (05) 70,756 27,544 11,540 4,780 5,235 5,187 5,074 (26) (218) (444) (05) 7,756 11,449 20,736 4,780 5,235 5,187 5,044 4,892 (450) (354) (18) 27,525 11,449 20,736 4,780 5,235 5,102 5,946 4,892 (450) (354) (18) 20,735 13,525 13,536 12,316	866	4,449	5,128	5,348	5,160	5,324	(679)	(668)	(17th)	(8.75)	467041	100 808	606.601	70,044
4,727 5,128 5,179 5,187 22 (129) (20) (37) 484 16,641 400 4,727 5,128 5,266 5,006 (40) (479) (340) (373) 60,801 229,441 115,600 5,069 5,235 5,187 5,187 5,074 (26) (218) (44) (105) 70,76 47,24 20,736 4,750 5,235 5,142 5,104 4,768 (485) (19) 217 27,556 11449 361 4,780 5,235 5,104 4,768 (485) (392) (360) (12) 20,735 11449 361 4,780 5,235 5,104 4,892 (455) (260) (260) (109) 217 27,536 11449 361 4,780 5,235 5,104 4,892 (455) (260) (274) (270) (10) 20,705 123,64 123,16	6661	4.545	5,12 8	5,358	5,243	5,441	(583)	(813)	(869)	(968)	339.889	660 969	487204	003,023
4,327 5,128 5,066 5,067 (479) (349) (373) 160,811 225,441 115,600 5,669 5,233 5,187 5,074 (266) (218) (144) (105) 70,756 47,524 20,736 4,750 5,233 5,187 5,044 4,768 (185) (190) 217 27,556 1149 361 4,780 5,233 5,102 5,044 4,768 (483) (322) (360) (110) 20,735 131,664 123,164 4,780 5,235 5,102 5,440 4,892 (453) (322) (260) (110) 20,705 133,684 67,610	0007	5,150	5,128	5,2 79	5,170	5,187	12	(67)	(20)	37	484	18 641	1074	010,200
4,569 5,235 5,187 5,108 (266) (218) (144) (105) 70,756 47,524 20,736 4,569 5,233 5,176 5,084 4,663 (107) (197) 27 27 11449 361 4,780 5,233 5,102 5,049 4,892 (453) (322) (260) (110) 20,702 133,664 123,166	7007	4,727	5,12.8	5,206	2,067	5,100	(104)	(479)	(340)	(3.73)	160 801	120,041	207311	1369
5,069 5,235 5,176 5,088 4,852 (865) (977) (19) 217 27,556 11,449 20,100 4,750 5,235 5,104 4,768 (483) (392) (354) (18) 235,225 131,664 125,316 4,780 5,235 5,040 4,892 (455) (322) (360) (112) 207,025 193,684 67,610	7007	4,969	5,235	5,187	5,113	5,074	(266)	(218)	(144)	(105)	75.02	47.45.4	2000	23,129
4,750 5,235 5,104 4,768 (483) (392) (354) (18) 2,35,225 153,664 12,5316 4 12,5316 131,664 12,5316 131,664 12,5316 131,664 12,5316 131,664 12,5316 131,664 12,5316 131,664 12,5316 131,664 13,5316 131,664 13,5316 131,664 13,5316 131,664 13,5316 131,664 13,5316 131,664 13,5316 131,664 13,5316 131,664 13,5316 131,664 13,5316 131,664 13,5316 131,664 13,5316 131,664 13,5316 131,664 13,5316 131,664 131,	2003	690'5	5,235	5,176	5,088	4,852	(991)	(107)	(81)	217	27.556	11449	135	17,000
4,80 5,235 5,002 5,040 4,892 (455) (260) (112) 207,025 103,684 67,610	2004	4,730	5,235	5,142	5,104	4,768	(485)	(392)	(354)	(18)	235,225	153.664	105 20	1000
	5007	4,780	5,235	5,102	5,040	4,892	(455)	(322)	(260)	(211)	207.025	103 684	00929	175

14,261,657 15,506,448	192,725 209,547	439.00 457.76	
14,975,531	202,372	449.86	
15,614,724	211,010	459.36	
wns	Mean	Root Mean Squared Error (RMSE)	

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Forecast Results of Selected Weather ("HDD") Averages

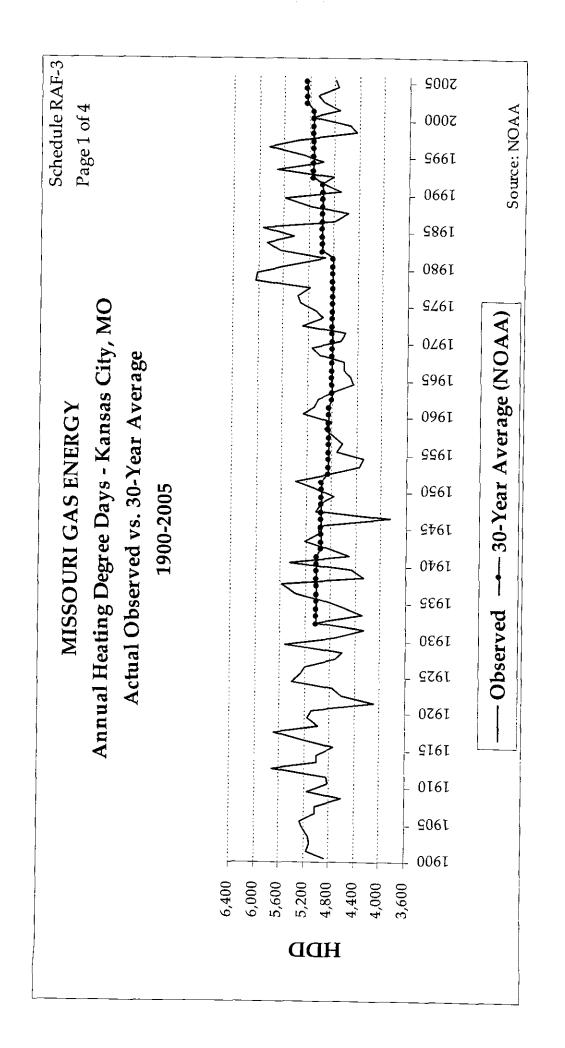
			Forecast	cast			Foreca	Forecast Error			No new Car	S or one	
		30-Year	20-Year	10-Year	5-Year	30-Year	20-Year	10 - Year	S-Year	30-Year	20-Year 10-Year	10 - Year	S-Vear
Year	Actual HDD -	Average (NOAA)	Average (Rolling)	Average (Rolling)	Average	Average	Average	Average	Average	Average	Average	Average	Average
1900	4,326			(9)	(and mile)	(WOW)	(Kolling)	(Kolling)	(Rolling)	(NOAA)	(Rolling)	(Rolling)	(Rolling)
1901	4,700												
1902	4,782												
1903	4.8 14												
1904	4,549												
206	4.992												
1906	4.730												
1907	4,396												
8061	4,256												
6061	4,514												
0161	4,595												
1161	4,387												
1912	5,302												
1913	4,643												
72	4682												
19 15	1460												
9 6	4 60 6												
1017	1013												
9 9	1016												
2 2	500.4				Ì								
20.00	4.489												
1920	4.675												
1921	9,759												
1922	42151				†			†	1				
07.3	4 107												
024	8019								į				
	2,100							!				 	
	4,544												
97,0	4.871		i	İ				† 					
927	4,104								1				
728	4.382												
929	4.882												
930	4.555							1	1				
1 6	3,875					1	1		†				
132	4,374	1197	4.600	4 487	7 540	033	1325	1000			1		
133	3 900	1197	1 676	1,401	076	(167)	(077)	(808)	(88)	\$6,169	\$1,076	11,664	34,115
34	4 380	0.00	1 53	609	onc.+	în /	(6) 0)	(593)	(460)	505.521	455,625	351649	211600
1	125 7		107	SAL.		(3.5)	(248)	(229)	(134)	195'601	61504	52,441	17.95
33.6	- CVL)			00+7	15	(Je	02	=	254	1600	6,400	12.3.2.1	64.516
13.7	250.9	110.5		115.4	/ A. P.	nge Re	94.7	370	550	18,496	9/1/9/	136,900	302,500
82	0.57.0	10.	0/ #.	4.3 /9	4.200	444	879	929	8.55	197.136	335,241	456,976	73 102
30	4 097	461	62.7	4.367	4,374	(863)	(121)	(619)	(626)	744,769	534,361	383,161	391876
40	11111		7,57	704,4		(314)	(8.5)	(365)	(4 14)	264,196	140,625	B3,225	171396
+	3.79	11.0.1	174 "	4.7%	4,480	630	## 	842	761	396.900	662,596	708,964	121.625
	4.674	10.5	10+"+	4,120	4.444	(233)	(29)	28	(99)	54,289	841	3,364	4.35
		a Cri	- C	4,369	4,578	÷.	239	285	96	20,736	57,12.1	81225	9.216
	*62.4	0.5.4	4,400	4.4.39	4.504	404	468	495	430	163,216	2 19,024	245.025	184 900
1	702 7	000	69,7	4,469	4,428	891	209	229	270	28,224	43,681	52,441	72,900
1	2,750	000	OIC.	4,373	4.005	266	280	223	131	70,756	78,400	49.729	17.16
	3,73%	060,	96,4	4.0.4	4.785	(177)	(737)	(822)	(1026)	594,441	\$43,169	73 1,025	1052.676
<u> </u>	0 CO. 4	4,3.50	88.	4,637	4,696	308	330	201	142	94,864	108,900	40.401	20 164
٩	4 /07	4,330	4.453	4.538	4.572	239	3.16	231	161	57,121	98.86	53.36 1	38 809
٤	104.4	4,330	4.489	4.516	4,605	(3)	(32)	(86)	(848)	5,329	1024	3.481	1 904
3 (3	4,70	4,530	4,509	4.6 18	4.572	189	2 10	Tor	7 7	35,721	44.00	102.00	21609
- 	100'5	4.530	4.487	4,654	4.324	471	514	347	477	221,841	264,196	120.409	227 529
- - - - -	26.4	4,491	4.496	4.602	4.508	3	89	(13)	11	8,836	7,921	289	5 9 2 9
1054	0/1.4	4,491	4,332	4,665	4 757	ઉછ	(376)	(485)	(185)	99,225	141.376	239,01	337.561
=	4 50	14.64	700	4.000	4./06	(262)	(333)	(427)	(477)	68,644	110,889	182,329	227,529
1	4 435	165.4	0/5	086.4	4.288	2	(99)	(20)	(78)	361	4.356	006.1	6.084
33	4.447	1 401	157	200	7+6'-4	(g)	1(6(1)	(98)	(£04)	3,136	19,321	9,604	11,449
28	0103	4 403	4 555	\$ C. 4	000.4	(44)	(124)	(57)	(83)	1936	15,376	3,249	2,809
Ex	4.704	4.491	4 52 5	4 53 1	4 3 50	22.8	464	447	632	278.784	2 15,296	608.661	399,424
0961	5,023	4 491	4.588	4.558	4.578	613	435	181	345	45,369	32,041	29,241	119.025
					-		207	- CO.*	- CK#	283,024	189,225	2 16,225	245,025

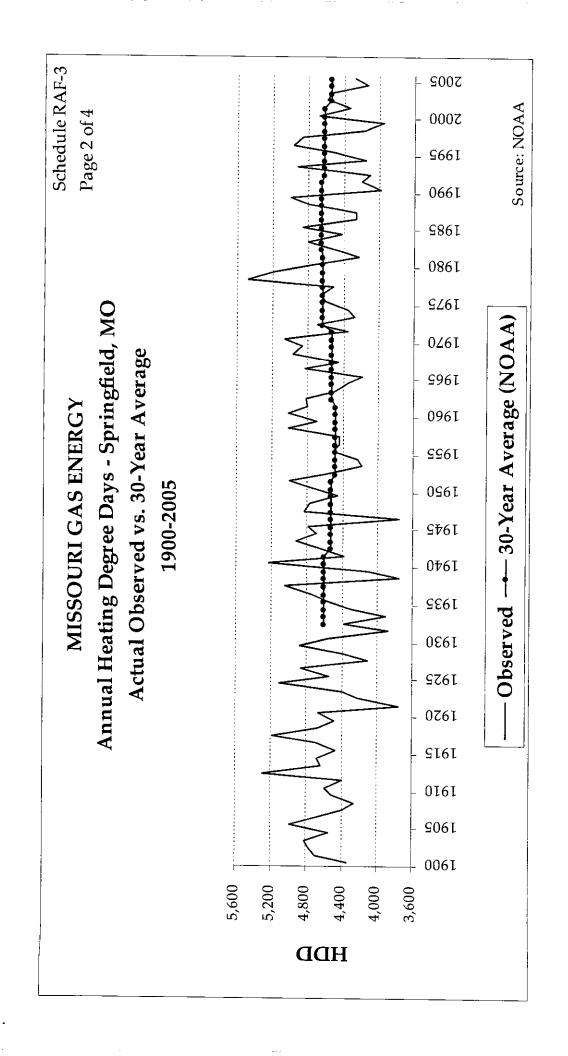
MISSOURI GAS ENERGY

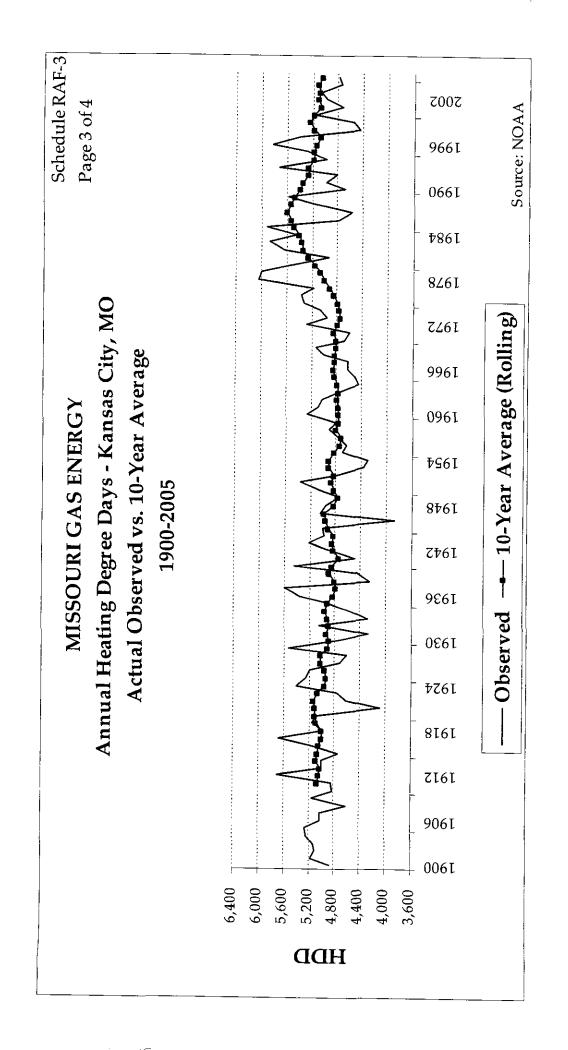
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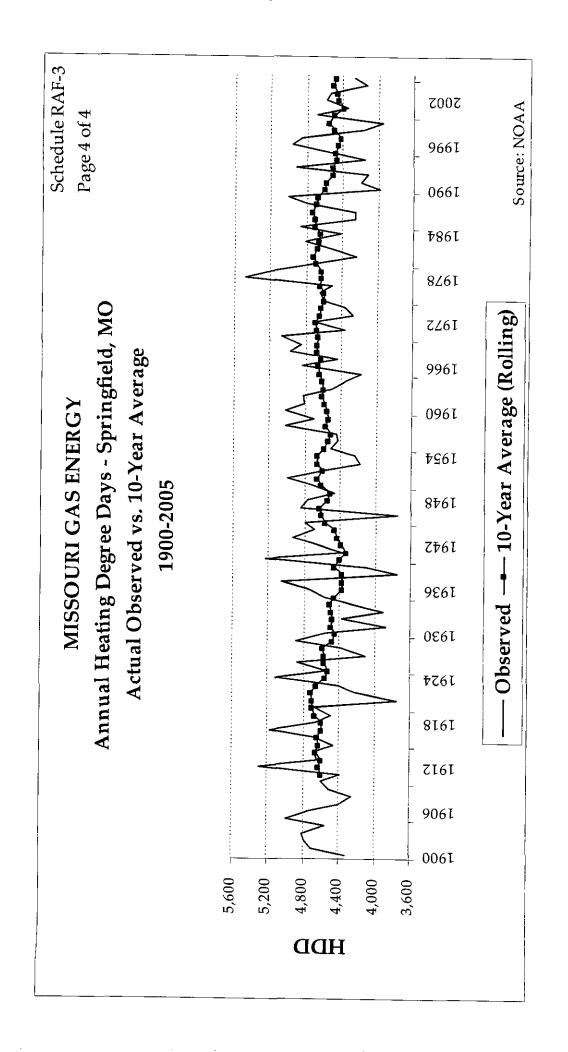
Forecast Results of Selected Weather ("HDD") Averages

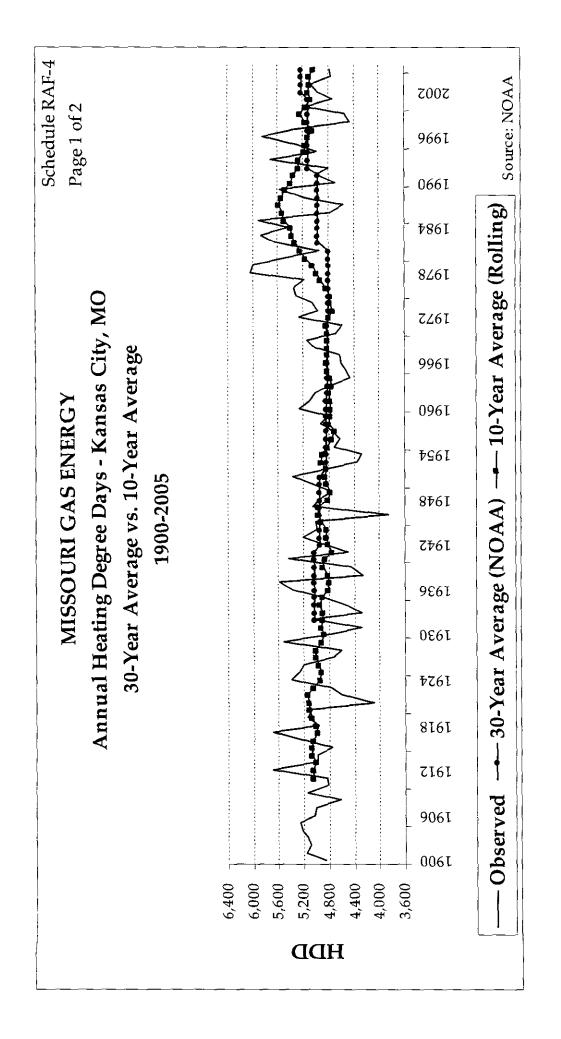
26 Near 10 Near Reling (Reling) 4 kis 4 kis				Forecast	cast			Forecas	it Ereer					
According to Chooked According Accod			30-Year	20-Year	10 - Year	S. Year	30-Vear	20 - Year	V. 1	, v. v.	30 705	rorechir Err	or 5 quared	
The control of the	2	Actual HDD -	Average	Average	Average	Average	Average	Average	Average	Average	Average	Average	Average	Average
4 (42) (43) (44) (44) (43) (43) (43) (43) (43) (43) (43) (43) (44) (44) (43) (43) (44) <	ea.	Springlield	(VOV)	(Kolling)	(Rolling)	(Rolling)	(NOAA)	(Rolling)	(Rolling)	(Rolling)	(NOAA)	(Rolling)	(Rolling)	(Rolling)
4,500 4,510 <th< td=""><td>0.00</td><td>408.7</td><td>4,491</td><td>4,618</td><td>4,583</td><td>4,623</td><td>3.16</td><td>681</td><td>224</td><td>184</td><td>98.866</td><td>35.721</td><td>\$0.176</td><td>33 8 55</td></th<>	0.00	408.7	4,491	4,618	4,583	4,623	3.16	681	224	184	98.866	35.721	\$0.176	33 8 55
4, 100 4, 100 4, 100 (2,0)	202	4,824	4,515	4,638	4,613	4,726	289	2.16	211	86	83,521	46.656	44 52 1	PU9 6
4. (1) 4. (1)<	506	4,506	4,535	4,629	4,594	4,800	(29)	(123)	(88)	(294)	841	15 170	1747	35 4 38
2 4 15	704	4,34	4.535	4,637	4,617	4,875	(194)	(967)	(276)	(534)	17636	87.616	201 37	200 200
0 4 5 4 4 5 4 4 5 4 4	1965	4,175	4,535	4,615	4.650	4,773	(360)	(440)	(475)	(808)	129,600	191 600	036675	OCI (197
4449 4555 4586 4589 <th< td=""><td>966</td><td>4,843</td><td>4,535</td><td>4,597</td><td>4,662</td><td>4,700</td><td>308</td><td>246</td><td></td><td>19.3</td><td>04 8 KA</td><td>200,07</td><td>570,527</td><td>404/cr</td></th<>	966	4,843	4,535	4,597	4,662	4,700	308	246		19.3	04 8 KA	200,07	570,527	404/cr
4 8821 4 8821 4 8821 4 8821 4 8822<	1967	4,449	4,535	4,566	4.628	4 531	(86)	(111)	(001)	100/	*00,47	00,200	32,761	20,449
9 5/17/2 4/5/2 4/	1968	086'7	4,535	4.620	4.669	4 518	148	360	3.11	(79)	066,1	13,589	32,041	6,724
0 50.00 4.53 4.66.0 4.60.0 4.50.0	1969	4.862	4.535	4 601	4 660	7.463	1	000		447	198,025	129,600	127,96	195,364
1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1,	026	5.072	4 515	100,	4 66.6	604.4	175	707	66	399	106,929	68,121	37,249	159,201
4,584 4,684 <th< td=""><td>167</td><td>131.7</td><td>367</td><td>27 0.4</td><td>200 +</td><td>4,338</td><td>337</td><td>460</td><td>407</td><td>514</td><td>288,369</td><td>211,600</td><td>165,649</td><td>264,196</td></th<>	167	131.7	367	27 0.4	200 +	4,338	337	460	407	514	288,369	211,600	165,649	264,196
4,2,56 4,5,24 1,2,2,00 1,2,2,0	1972	00 V V	565,7	20.4	80.4	4,662	(182)	(279)	(328)	(308)	33,124	77,841	107,584	95481
4,553 4,543 4,544 (1645) (273) (473) (473) (273) (273) (473) <t< td=""><td>10.73</td><td>2,073</td><td>ro.</td><td>4,549</td><td>4.686</td><td>4,841</td><td>65</td><td>80</td><td>13</td><td>(142)</td><td>4,225</td><td>2,500</td><td>165</td><td>20 164</td></t<>	10.73	2,073	ro.	4,549	4.686	4,841	65	80	13	(142)	4,225	2,500	165	20 164
4,623 4,624 4,623 <th< td=""><td>120</td><td>807 *</td><td>4,634</td><td>4,617</td><td>4,641</td><td>4,743</td><td>(366)</td><td>(349)</td><td>(373)</td><td>(475)</td><td>133,956</td><td>12180</td><td>139.129</td><td>225625</td></th<>	120	807 *	4,634	4,617	4,641	4,743	(366)	(349)	(373)	(475)	133,956	12180	139.129	225625
4,675 4,634 4,654 4,654 (25) (25) (14) (16) (18) (12) (12) (12) (12) (12) (12) (12) (13)	27.0	4,335	4.634	4,623	4,628	4,793	(281)	(270)	(275)	(440)	18,961	72.900	75625	193 600
4,622 4,634 4,654 4,559 4,559 4,650 4,559 4,559 1,559 1,579 1,524 1,534 1,534 4,658 4,559 4,559 4,559 4,559 4,559 4,559 4,559 4,559 4,559 4,559 4,559 4,559 4,559 4,559 4,559 4,559 4,559 1,549 39 1,541 5,530 1,541,89 1,541 5,539 1,541 5,539 1,541,50 <td>575</td> <td>4,605</td> <td>4,634</td> <td>4,627</td> <td>4,604</td> <td>4,651</td> <td>(29)</td> <td>(22)</td> <td>-</td> <td>(46)</td> <td>2</td> <td>484</td> <td></td> <td>200,000</td>	575	4,605	4,634	4,627	4,604	4,651	(29)	(22)	-	(46)	2	484		200,000
4.534 4.654 4.658 4.558 (125) (124) <th< td=""><td>9/2</td><td>4,652</td><td>4,634</td><td>4,634</td><td>4,605</td><td>4,549</td><td><u>2</u>2</td><td>82</td><td>47</td><td>103</td><td>324</td><td>324</td><td>2 200</td><td>00701</td></th<>	9/2	4,652	4,634	4,634	4,605	4,549	<u>2</u> 2	82	47	103	324	324	2 200	00701
5,483 4,634 4,629 4,629 4,529 7,24,201 6,539 8,420 7,24,201	116	4.514	4.634	4,638	4,648	4,456	(021)	(124)	(134)	89	14 400	15.276	11 050	400,00
4,518 4,534 4,634 4,636 4,478 513 518 707 3,0,501 23,434 1 4,529 4,534 4,634 4,636 4,739 4,739 (473 (470 (599) 1,444 16 4,239 4,534 4,739 4,883 (405) (470 (679) (679) 16,403 23,184 4,435 4,639 4,639 4,832 (405) (410) (679) (689) 16,403 23,184 4,833 4,639 4,639 4,832 (430) (679) (679) 13,184 23,184 4,833 4,639 4,639 4,832 (480) (480) (483) (230) 18,483 47,51 4,233 4,639 4,639 4,639 4,639 4,639 4,731 4,534 4,731 4,731 4,731 4,731 4,731 4,731 4,731 4,731 4,731 4,731 4,731 4,731 4,731 4,731 4,731<	978	5,485	4,634	4,649	4,629	4,515	851	836	× ×	026	724 201	A08 80A	267 657	3,364
$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$	1979	5,185	4,634	4,652	4,636	4,478	155	533	549	707	103 601	080 080	107.02	005,040
4,529 4,654 4,670 4,719 4,888 (4,65) (4,27) (6,59) (6,40,2) 2,18,10 4,528 4,659 4,679 4,902 (12) (14) (1	086	4,672	4,634	4,676	4,686	4,722	38	(4)	(14)	(05)	1444	2000	10,401	477,649
$ \begin{array}{cccccccccccccccccccccccccccccccccccc$	1861	4,229	4,634	4,700	4.719	4,888	(405)	(471)	(069)	(05.9)	364.025	27.64.1	960 000	7,500
$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$	1982	4,538	4.659	4,682	4,679	4,902	(121)	(144)	140	(364)	18 64	762.00	00.047	187,481
$ \begin{array}{cccccccccccccccccccccccccccccccccccc$	283	4,805	4,659	4,653	4,666	4,817	146	152	139	(2)	21116	20.52	100'6	17,490
4 24 30 4 659 4 704 4 586 2 19 7 19 66 30 68 7 4 75 8 7 10 8 1 10 8	984	4,425	4.6.59	4,639	4,650	4,822	(234)	(2 14)	(225)	(397)	V54 75	701,72	20703	144
$ \begin{array}{cccccccccccccccccccccccccccccccccccc$	1985	4,873	4.659	4,654	4,704	4,686	214	2 19	691	187	45.796	47.963	C70'0C	609'/6
$ \begin{array}{cccccccccccccccccccccccccccccccccccc$	986	4,249	4,639	4.658	4,711	4.534	(410)	(409)	(462)	(285)	001 841	102,701	100'07	34,969
$ \begin{array}{cccccccccccccccccccccccccccccccccccc$	1987	4,253	4,659	4,693	4,738	4.574	(406)	(440)	(387)	(320)	00000	187,19	213,444	81,225
5,008 $4,659$ $4,651$ $4,51$ $4,621$ 349 354 357 487 1730 1730 $4,191$ $4,689$ $4,654$ $4,691$ $4,59$ $4,683$ $4,683$ (663) (663) (388) $49,688$ $419,689$ $419,699$	886	4,797	4,659	4,663	4.698	4 578	100	13.4	00	3.10	0.00	000,66	235,225	103,041
$\begin{array}{cccccccccccccccccccccccccccccccccccc$	686	800'5	4,659	4.654	4 671	4 53	340	250	65	617	9,044	17,956	108'6	47,961
$ \begin{array}{cccccccccccccccccccccccccccccccccccc$	066	3,981	4.659	4 644	4 601	015 7	(829)	1653		487	[21,80]	12.5,316	113,569	237,169
$ \begin{array}{cccccccccccccccccccccccccccccccccccc$	1661	4,197	4.659	4.652	4 585	4616	(0/0)	(600)	(779)	(850)	459,684	439,569	386,884	289,444
$ \begin{array}{cccccccccccccccccccccccccccccccccccc$	1992	4,108	4 627	4.597	4 5 16	85 9 9	(704)	(4,50)	(308)	(459)	2 3,444	207.025	150,544	192,721
4,151 4,627 4,560 4,470 4,480 (476) (476) (430) (476) (430) (443) <th< td=""><td>993</td><td>4,925</td><td>4.627</td><td>4.589</td><td>4 513</td><td>4 447</td><td>300</td><td>1</td><td>(40.6)</td><td>(ncc)</td><td>769.36</td><td>239,121</td><td>166,464</td><td>122,500</td></th<>	993	4,925	4.627	4.589	4 513	4 447	300	1	(40.6)	(ncc)	769.36	239,121	166,464	122,500
4.521 4.627 4.591 4.484 (166) (757) (170) (267) 2.525 6.7281 4.866 4.867 4.484 4.484 (166) (767) 4.697 1.525 6.7281 6.7281 4.866 4.627 4.584 4.484 4.380 2.87 4.69 5.84 8.5644 8.7360 8.7361 8.7360 8.7360 8.7360 8.7360 8.7360 8.7360 8.7360 8.7360 8.7360 8.7360 <	994	4,151	4.627	4.560	4.470	8 9 9	(92.17)	10077	71 4	0/4	88,804	112,896	169,744	228,484
$ \begin{array}{cccccccccccccccccccccccccccccccccccc$	5661	4,521	4.627	4.593	4.482	4 444	Clubi	(72)	30	(107)	270,270	187,781	191301	71,289
4,865 4,627 4,594 4,419 4,180 2.8 2.6 4.6 4.6 5.6 6.4 8.7 6.6 7.7 6.7 7.7 7.0 <	966	4,967	4 627	4.583	24	4 272	1000	787	65	//	11,236	5,184	1,521	5,929
4,164 4,627 4,594 4,491 4,534 (463) (463) (437) (437) (437) (437) (437) (437) (437) (436) (484) (484) 4,534 (463) (463) (470) (431) 465,124 184,989	166	4,865	4,627	4.578	4 4 19	4 380	218	100	146	760	Ono;cil	14 /,4 36	263,69	483,025
3,945 4,627 4,612 4,527 4,686 (882) (687) (697) (370) 2,41,459 (84,900 4,44,889 4,549 (84,900 4,44,889 4,549 (84,900 4,449 4,449 (84,900 4,449 4,449 (84,900 4,449 4,449 (84,900 4,449 4,449 (84,900 (84,900 4,449 (84,900 4,449 (84,900 (84,900 4,449 (84,900	866	4,164	4.627	4 594	4.493	4 53.4	(46.1)	1000	440	286	56,644	82,369	98,916	235,225
4,684 4,627 4,546 4,546 4,534 7,74 1,047 1,047 1,047 1,044	666	3,945	4,627	4.612	4 552	4 686	(289)	(45.0)	(327)	(0.0)	2 14,369	184,900	106,929	136,900
4.337 4.627 4.484 4.382 4.492 (229) (43) (53) 3.249 9.044 4.388 4.489 4.489 4.432 4.452 39 164 155 6.3 84.100 216.09 4.338 4.489 4.449 4.443 4.459 (6) 51 74 14.2 16.0 4.370 4.375 4.476 4.476 4.479 4.489 17.344 17.346 4.489	000	4,684	4,627	2,24	4 4 89	4 534	100	861	1000	(14)	403,124	444,889	368,449	549,081
4.588 4.549 4.479 4.479 4.510 (4.27) (4.47)	1001	4,337	4.627	4.484	4 382	4 403	1000	655	Sel S	OC	7,249	B,044	38,025	22,500
4.341 4.349 4.450 4.479 4.374 (6) 77 (77) (780) (700) 77.341 4.374 1.374 1.37 1.374 1.374 1.374 1.374 1.374 1.374 1.374 1.374 1.374 1.374 1.3744 1.37	000	4.588	4.549	4.484	4 4 53	763.6	30	(4)	(64)		84,100	21,609	2,025	24,025
4,335 4,349 4,479 4,419 (279) (209) (206) (40) 77,841 4358	600	4,541	4.549	4 490	4 467	4 390	(8)	*	62	0	1,52.1	918,0	18,225	3,969
4,270 4,549 4,479 4,479 (279) (209) (206) (149) 77,841 43,681	004	4,135	4.549	4.492	4 515	4 344	(8.5)	200	1900	14.2	99	2,601	5,476	20,164
(202) (203) 77,841 43,681	905	4,270	4.549	4 479	4 4 76	7 7 10	(91.6)	(900)	(Osc)	(502)	171,396	127,449	144,400	43,681
							1(,,,,)	1/202)	1/007)	1/4+1)	77,8411	43,681	42,436	22,201

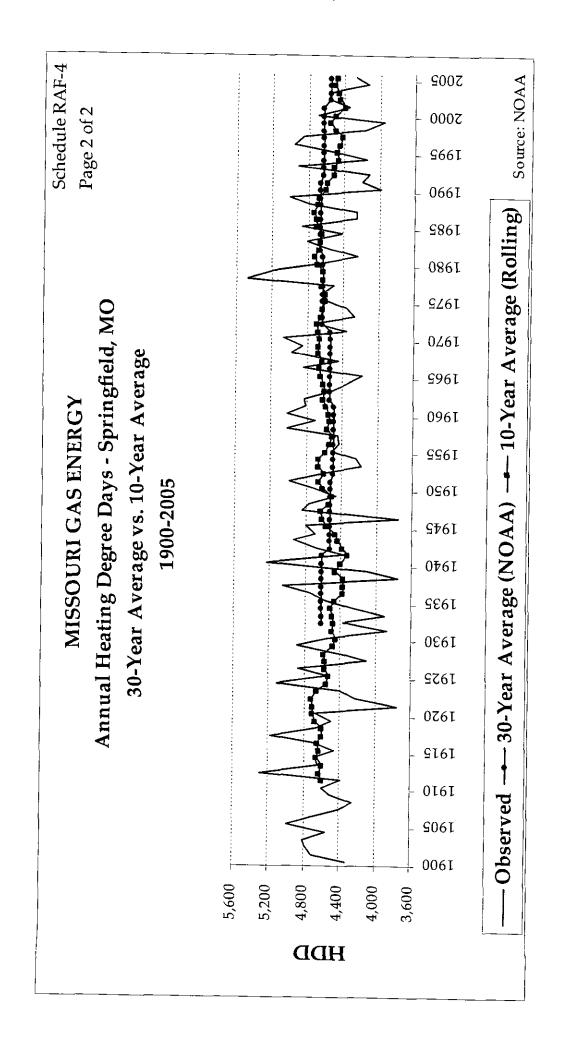












MISSOURI GAS ENERGY

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

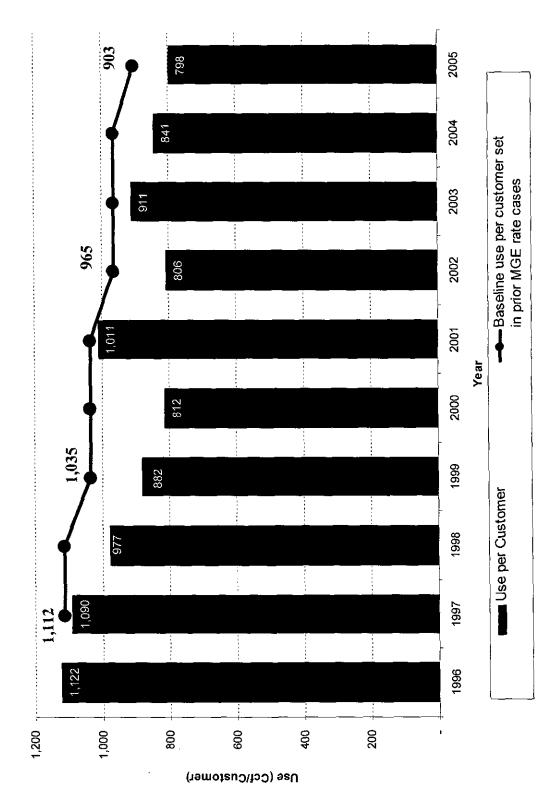
	Ē	(m)	04-2005		-	 Difference		L			33	2.88%			ır	4.81
	6		2-Year Average (2004-2005)	NOAA	Current 30-	Year Normal	(HDD)	5,249			Count	Frequency.	4,602		Count	Frequency
	3		7-Ye			Average	(HDD)	4.765					4,203			
	€	(1000	6-2005)			Difference	(HDD)	383			1	0.97%	287		3	2.91%
	G	000	3-1 ear Average (2003-2005)	NOAA	Current 30-	Year Normal	(HDD)	5,249		The second section of the second section is a second section of the second section of the second section is a second section of the s	Count	Frequency:	4,602		Count	Frequency:
	Ê	, ,	9a I - 0			Average	(HDD)	4,866					4,315			
	(S)	2005)	-2003)			Difference	(HDD)	357			•	0.00%	218		ß	4.90%
	£)	4-Year Average (2002-2005)	Meriage (2007	NOAA	Current 30-	Year Normal	(HDD)	5,249			Count	Frequency	4,602		Count	Frequency
	(e)	4.703	7.7.5			Average	(HDD)	4,892	V. I				4,384			
	(p)	-2005)	1000			Difference	(HDD)	390		70.00	-	%00.0	228		3	2.97%
	(3)	5-Year Average (2001-2005)	O	NOAA	Current 30-	Year Normal	(HDD)	5,249			Count	Frequency:	4,602		Count	Frequency:
	(a)	5-Yea				Average	(HDD)	4,859					4,374			
	(a)					Airport Weather	Data	Kansas City, MO	(MCI)				Springfield, MO	(SCF)		
Line	Š							_		·	7	რ	4		S	9

Schedule R. Page 1 of 1

> MISSOURI GAS ENERGY Class Revenue Proposal

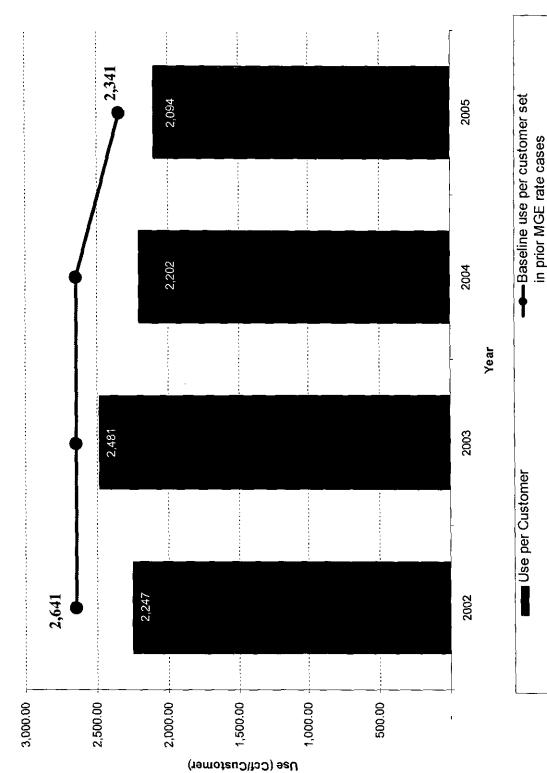
			Prese	nt Rates	Propos	ed Rates
Line		Proposed Base	Rate o	Rate of Return	Rate o	Rate of Return
No.	Rate Class	Revenue Increase	%	Relative	%	Relative
	(a)	(b)	(c)	•	(c)	(f)
.	Residential	\$34,906,279	2.88%		7.95%	0.89
7	Small General Service	\$6,745,053	7.50%		11.17%	1.25
m	Large General Service	I	11.94%		11.94%	1.34
4	Large Volume Service	1	12.66%		12.66%	1.42
2	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.

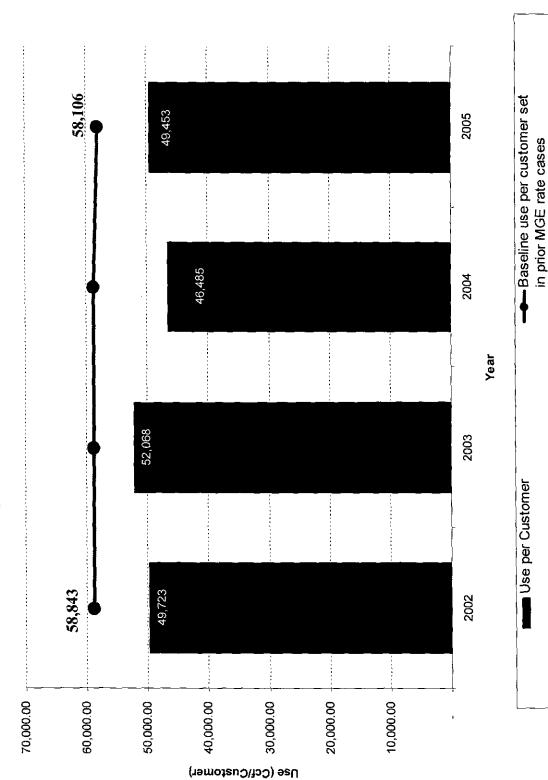
MISSOURI GAS ENERGY Annual Average Use per Customer - Small General Service



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

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

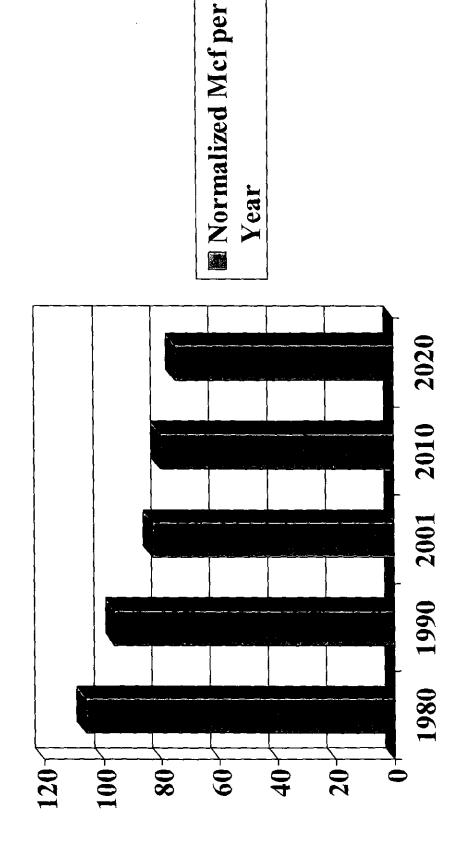


Note: All actual data based on Fiscal Year Ending June 30th except 2005 data which is calendar year.

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MISSOURI GAS ENERGY

Natural Gas Use per Residential Customer (1)

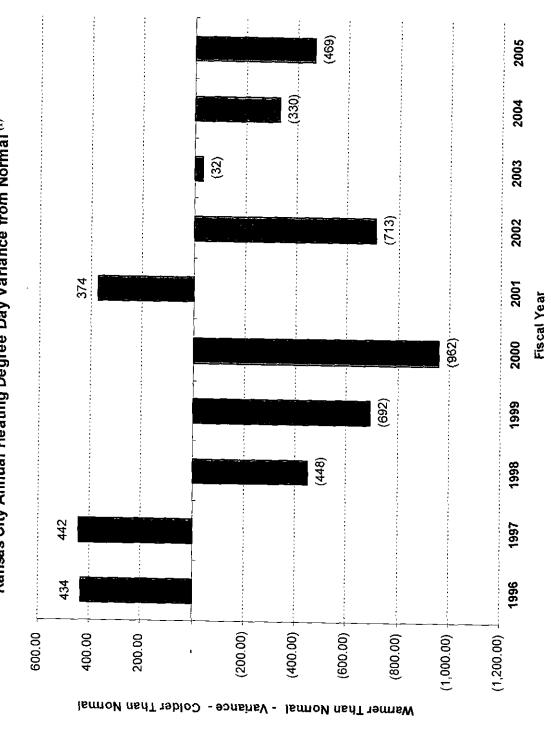


(1) American Gas Association – "Forecasted Patterns in Residential Natural Gas Consumption 2001-2020 (Chart 1) - EA 2004-04 (dated September 21, 2004).

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MISSOURI GAS ENERGY

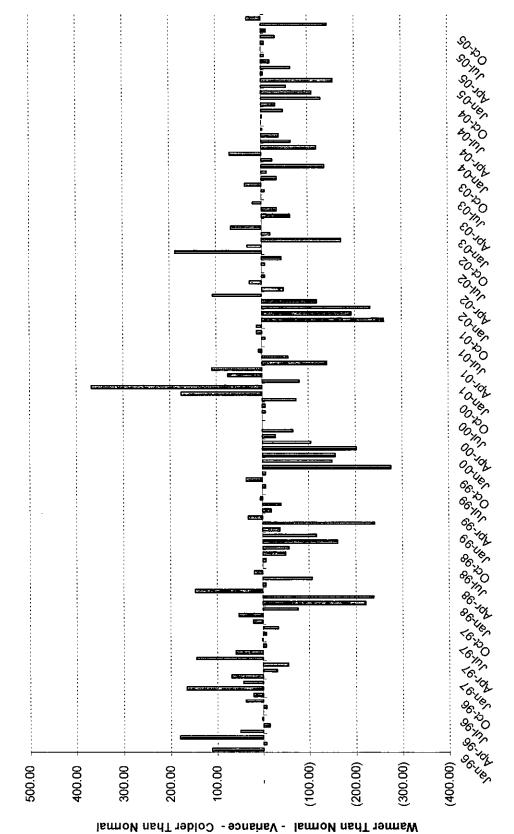




(1) Based on the 30-Year Average computed by NOAA

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

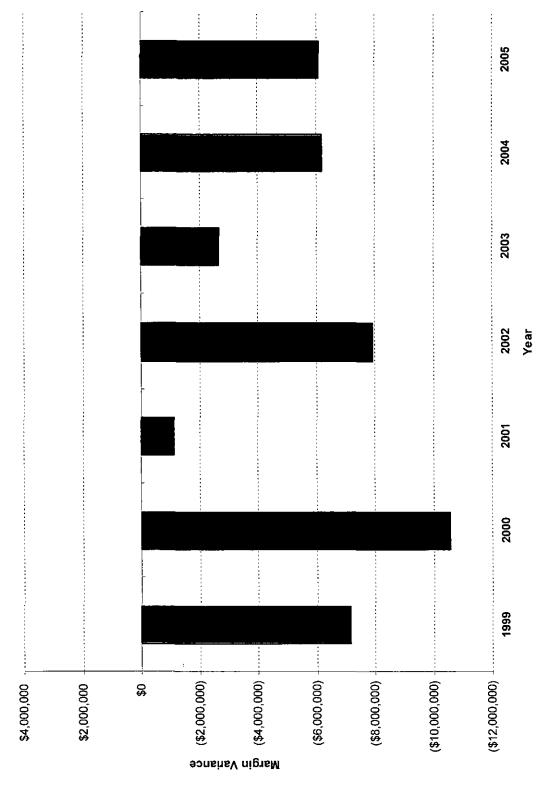
MISSOURI GAS ENERGY Monthly Heating Degree Day Variance from Normal (1)



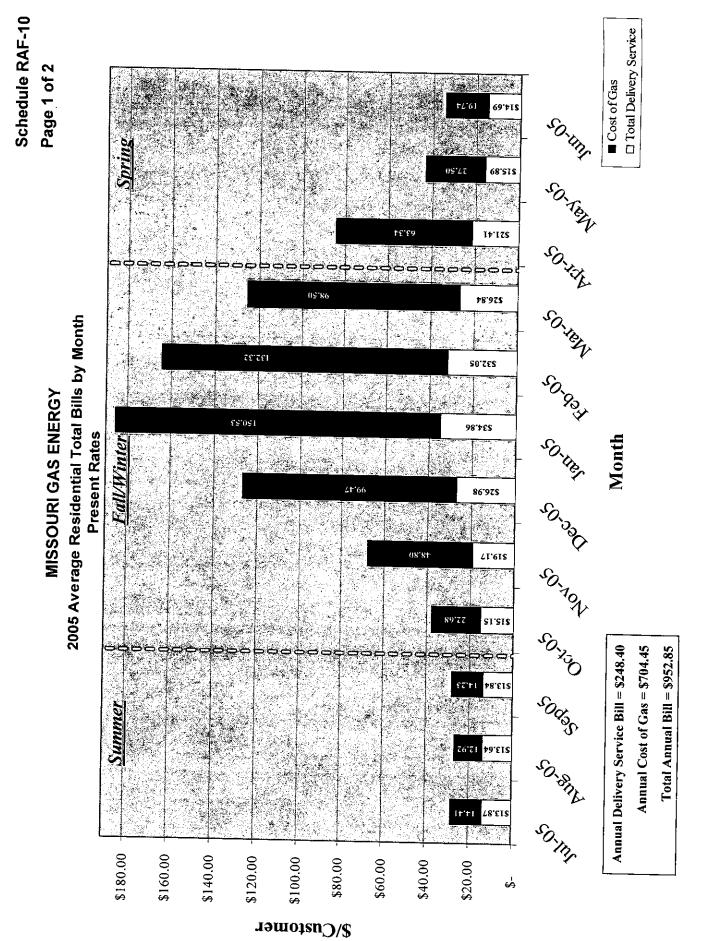
(1) Based on the 30-Year Average computed by NOAA

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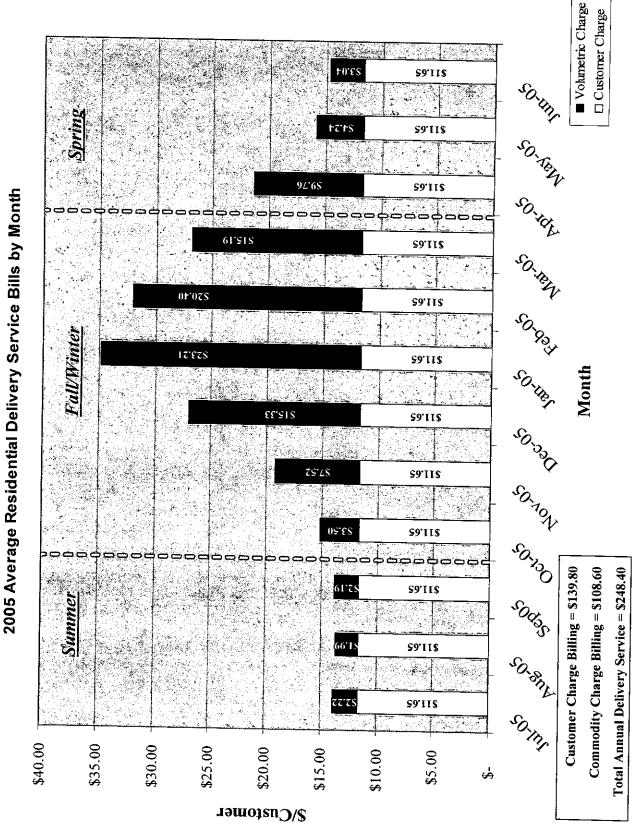
MISSOURI GAS ENERGY Kansas City - Residential Margin Impact



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



MISSOURI GAS ENERGY 5 Average Residential Delivery Service Bills, by M



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Residential (RS)	Residential (RS)					
Line No.	(a)	(q)	(2)	(p)	(e)	€
		Present		Proposed		
٧-	Customer Charge	\$11.65	•	\$27.50		
- 8	All usage	\$0.13187		\$0.0000		
က	PGA Rate	\$0.85564		\$0.85564		
		AVERAGE CCF PER	REVENUE AT	REVENUE AT	MONTHLY BILL CHANGE	CHANGE
		CUSTOMER	RATES	RATES	AMOUNT	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%
9	Mar-05	115	\$125.35	\$126.02	\$0.67	0.53%
7	Apr-05	74	\$84,76	\$80.85	\$6.09	7.18%
80	May-05	32	\$43.40	\$55.01	\$11.61	26.76%
თ	Jun-05	23	\$34.44	\$47.25	\$12.81	37.19%
10	Jul-05	17	\$28,29	\$41.92	\$13.63	48.18%
7	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%
4	Nov-05	22	\$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%

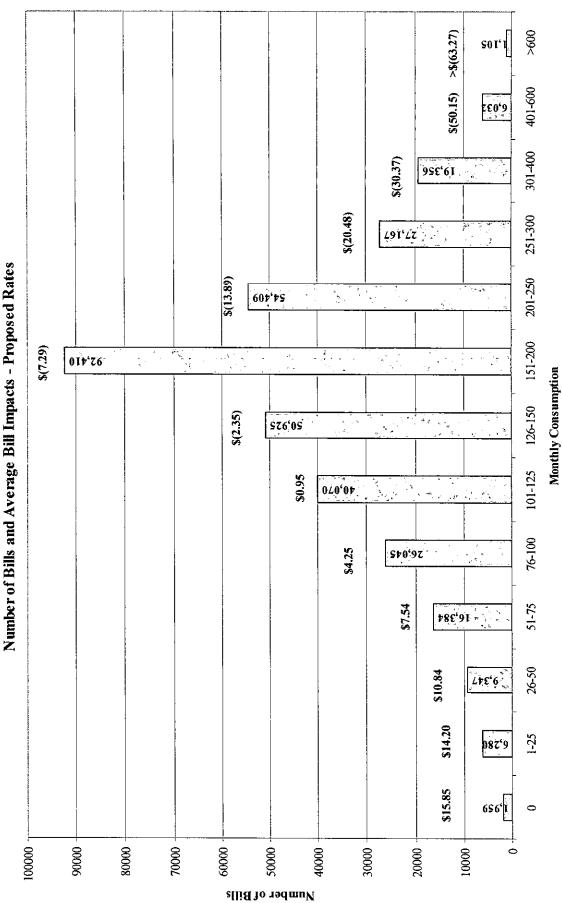
Schedule RAF-1	Page 2 of 7

Customer Charge Rates STT 50 STT 50 STT 50 ST 50 <th>Line No.</th> <th>(a)</th> <th>(Q)</th> <th>(o)</th> <th>(p)</th> <th>(e)</th> <th>Ð</th>	Line No.	(a)	(Q)	(o)	(p)	(e)	Ð
Could Design Stries \$11.65 \$0.00000 PIGA Rate \$0.05564 \$0.00000 PIGA Rate \$0.05564 \$0.00000 CONSUMITALY REVENUE AT REVENUE CHANGE		-	Present Rates		Proposed Rates		
PICA Rate All Usage: \$0,13187 \$0,00000 MONTHLY REVENUE AT CONSUMMENTON REVENUE AT PROPOSED REVENUE AT PROPOSED CONSUMMENTON RATES RATES AMOUNT PE 0 \$11,65 \$27.50 \$15.85 1 25 \$36.34 \$48.89 \$12.55 31.25 30 \$41.28 \$57.45 \$11.23 \$11.23 40 \$45 \$60 \$60 \$9.92 \$60 50 \$46 \$56.03 \$60 \$9.25 \$1.23 40 \$50.03 \$60 \$60 \$9.92 \$60 \$11.23 50 \$61.03 \$60	←	Customer Charge	\$11.65	,	\$27.50		
MONTHLY REVENUE AT REVENUE AT PROPOSED (CCF) RATES AMOUNT PE 0 \$11.65 \$27.50 \$15.85 1 25 \$36.34 \$48.89 \$12.55 1 36 \$41.28 \$53.17 \$11.89 \$12.55 1 36 \$40 \$40 \$11.23 \$11.24 \$11.24 \$11.24 \$11.24 \$11.24 \$11.24 \$11.24 \$11.24 \$11.24 \$11.24 \$11.24 \$11.24 \$11.24 \$11.24 \$11.24 \$11.24 \$11.24 </th <th>2 6</th> <th></th> <th>\$0.13187 \$0.85564</th> <th></th> <th>\$0.00000</th> <th></th> <th></th>	2 6		\$0.13187 \$0.85564		\$0.00000		
CONSUMPTION PRESENT PROPOSED (CCF)		MONTHLY		REVENUE AT	REVENUE AT	REVENUE	CHANGE
25 \$36.34 \$48.89 \$12.55 30 \$41.28 \$53.17 \$11.89 35 \$46.21 \$57.45 \$11.25 40 \$66.21 \$57.45 \$11.25 40 \$66.21 \$57.45 \$11.23 45 \$66.03 \$66.00 \$9.82 50 \$60.03 \$11.23 \$10.58 50 \$60.03 \$10.28 \$10.58 60 \$70.00 \$78.03 \$10.53 80 \$70.04 \$10.58 \$10.58 80 \$70.02 \$10.65 \$10.65 80 \$7100.40 \$113.06 \$2.66 \$100 \$110.00 \$113.06 \$2.66 \$100 \$110.00 \$113.06 \$1.34 \$110 \$110.00 \$113.06 \$1.34 \$110 \$110.00 \$113.06 \$1.34 \$110 \$110.00 \$113.06 \$1.26 \$110 \$110.00 \$113.00 \$1.00 \$110 </td <td></td> <td>CONSUMPTION (CCF)</td> <td></td> <td>PRESENT RATES</td> <td>PROPOSED RATES</td> <td>AMOUNT</td> <td>PERCENT</td>		CONSUMPTION (CCF)		PRESENT RATES	PROPOSED RATES	AMOUNT	PERCENT
25 \$36.34 \$48.89 \$12.55 30 \$41.28 \$53.17 \$11.89 35 \$46.21 \$57.45 \$11.23 45 \$60.00 \$60.00 \$9.25 50 \$60.00 \$60.00 \$9.26 50 \$60.00 \$60.00 \$9.26 60 \$70.00 \$77.28 \$9.26 80 \$70.28 \$87.39 \$6.50 80 \$70.00 \$77.28 \$9.26 80 \$70.00 \$77.28 \$9.26 80 \$70.00 \$9.26 \$9.26 80 \$70.00 \$7.34 \$7.34 110 \$100.00 \$100.00 \$1.34 \$130 \$100.00 \$1.30 \$1.30 \$140 \$140.00 \$140.00 \$1.40 \$140 \$140.00 \$1.40 \$1.40 \$140 \$1.40.00 \$1.40 \$1.40 \$140 \$1.40.00 \$1.40 \$1.40 \$140 \$1.	4	0		\$11.65	\$27.50	\$15.85	136.05%
30 \$41.28 \$53.17 \$11.89 35 \$46.21 \$57.45 \$11.23 40 \$60 \$61.75 \$11.23 40 \$60 \$60 \$9.92 50 \$60 \$60 \$9.92 50 \$60 \$7.84 \$7.94 70 \$80.78 \$78.84 \$7.94 70 \$80.78 \$87.39 \$6.62 90 \$100.75 \$130.45 \$7.94 110 \$110.40 \$113.06 \$2.66 \$110 \$110.40 \$113.06 \$2.66 \$140 \$110.40 \$113.06 \$2.66 \$140 \$110.40 \$113.06 \$2.66 \$140 \$110.40 \$114.00 \$114.00 \$140 \$140.03 \$144.29 \$2.66 \$140 \$140.03 \$144.29 \$2.66 \$140 \$140.03 \$144.00 \$1.34 \$150 \$140.03 \$144.00 \$1.00 \$160 \$140.03 \$144.00 \$1.00 \$160 \$140.03 \$140.03	ß	25		\$36.34	\$48.89	\$12.55	34.55%
35 \$46.21 \$57.45 \$11.23 40 \$56.09 \$60.0 \$9.82 45 \$60.0 \$60.0 \$9.82 50 \$60.0 \$60.0 \$9.82 50 \$60.0 \$60.0 \$9.82 60 \$60.0 \$60.0 \$9.82 80 \$60.0 \$60.0 \$9.26 80 \$60.0 \$60.0 \$9.26 80 \$100.50 \$100.50 \$6.20 80 \$110.40 \$113.06 \$2.66 \$100 \$110.40 \$113.06 \$2.66 \$100 \$110.40 \$113.06 \$2.66 \$100 \$110.40 \$113.06 \$2.66 \$100 \$140.00 \$140.00 \$1.34 \$140 \$140.00 \$140.00 \$1.40 \$2.66 \$100 \$140.00 \$140.00 \$1.40 \$2.66 \$100 \$140.00 \$140.00 \$1.40 \$2.66 \$100 \$160.00 \$1.40	ď	S.		841.28	\$53.17	\$11.89	28.82%
40 \$51.15 \$61.73 \$10.58 45 \$56.09 \$60.00 \$9.25 50 \$60.78 \$60.00 \$9.25 80 \$60.78 \$60.28 \$9.26 80 \$60.78 \$60.29 \$6.25 80 \$60.78 \$60.29 \$6.25 80 \$100.53 \$104.51 \$3.88 100 \$100.53 \$104.51 \$3.88 110 \$100.53 \$104.51 \$3.88 110 \$100.53 \$113.06 \$2.66 \$110 \$110.40 \$113.06 \$1.34 \$140 \$110.03 \$114.06 \$1.34 \$140 \$140.03 \$144.29 \$1.25.65 \$140 \$140.03 \$144.7.29 \$1.29 \$140 \$140.03 \$144.7.29 \$1.29 \$140 \$140.03 \$140.03 \$1.24.0 \$1.25.0 \$140 \$140.03 \$140.03 \$1.24.0 \$1.25.0 \$140 \$140.03 \$1.40	۸ د	3 %		\$46.21	\$57.45	\$11.23	24.31%
45 \$56.09 \$66.00 \$9.25 50 \$1.03 \$70.28 \$9.26 70 \$80.78 \$87.39 \$1.94 70 \$80.78 \$87.39 \$1.94 80 \$100 \$1.04 \$1.30 80 \$100 \$1.30 \$1.34 100 \$110 \$110.40 \$113.06 \$2.00 \$10 \$110 \$110.0 \$113.06 \$1.34 \$10 \$110 \$110 \$1.30 \$1.30 \$10 \$110 \$110 \$1.30 \$1.30 \$10 \$110 \$1.40 \$1.30 \$1.30 \$10 \$1.40 \$1.47 \$2.66 \$1.29 \$10 \$1.40 \$1.47 \$1.29 \$1.24 \$10 \$1.40 \$1.47 \$1.29 \$1.29 \$10 \$1.40 \$1.40 \$1.40 \$1.40 \$1.40 \$10 \$1.40 \$1.40 \$1.40 \$1.40 \$1.40 \$1.40	- ∞	40		\$51.15	\$61.73	\$10.58	20.67%
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60 \$78.84 \$7.94 1 70 \$80.78 \$87.39 \$6.62 80 \$100.53 \$104.51 \$3.98 90 \$100.53 \$104.51 \$3.98 100 \$110.40 \$113.06 \$2.66 \$110 \$120.28 \$121.62 \$1.34 120 \$130.15 \$130.18 \$0.03 140 \$140.03 \$147.29 \$2.66 140 \$149.90 \$147.29 \$1.29 150 \$149.90 \$147.29 \$1.29 150 \$160.07 \$160.07 \$1.29 160 \$160.07 \$160.07 \$1.29 \$150.07 \$180.07 \$180.07 \$1.29 \$190 \$180.40 \$181.61 \$1.29 \$200 \$228.09 \$221.74 \$1.34 \$220 \$228.09 \$221.74 \$1.48 \$20 \$228.38.78 \$224.30 \$1.48 \$20 \$228.32.85 \$241.41 \$1.7.2	5	50		\$61.03	\$70.28	\$9.26	15.17%
70 \$80.78 \$6.62 \$6.62 80 \$100.53 \$104.51 \$3.98 \$5.30 90 \$100.53 \$104.51 \$3.98 \$5.30 100 \$110.40 \$113.06 \$2.66 110 \$120.28 \$121.62 \$1.34 120 \$130.15 \$130.18 \$0.03 140 \$140.03 \$144.29 \$147.29 \$1.261 150 \$149.90 \$147.29 \$1.261 \$1.261 150 \$169.78 \$147.29 \$1.261 \$1.261 150 \$169.78 \$147.29 \$1.261 \$1.261 160 \$179.53 \$147.29 \$1.261 \$1.261 170 \$169.78 \$144.40 \$1.299 \$1.262 \$1.262 \$1.262 180 \$149.25 \$1.262 \$1.262 \$1.262 \$1.262 \$1.262 \$1.262 \$1.262 \$1.262 \$1.262 \$1.262 \$1.262 \$1.262 \$1.262 \$1.262 \$1.262 \$1.262 <t< td=""><td>Ξ</td><td>99</td><td></td><td>\$70.90</td><td>\$78.84</td><td>\$7.94</td><td>11.20%</td></t<>	Ξ	99		\$70.90	\$78.84	\$7.94	11.20%
80 \$90.65 \$95.95 \$5.30 90 \$100.53 \$104.51 \$3.98 100 \$110.40 \$113.06 \$2.66 110 \$120.28 \$121.62 \$1.34 120 \$130.15 \$130.18 \$0.33 140 \$140.03 \$144.29 \$147.29 \$2.61 150 \$169.68 \$147.29 \$2.61 150 \$169.78 \$164.40 \$5.25 170 \$169.78 \$164.40 \$5.25 180 \$179.53 \$164.40 \$5.25 190 \$169.40 \$164.5 \$7.89 \$100 \$169.28 \$164.40 \$5.25 \$100 \$169.28 \$164.40 \$5.25 \$100 \$169.28 \$164.40 \$7.89 \$100 \$169.28 \$164.40 \$7.89 \$200 \$169.28 \$164.40 \$7.89 \$200 \$200.15 \$226.90 \$226.90 \$216.74 \$14.48 \$20 \$226.90 \$226.90 \$226.74 \$14.48 \$14.49 \$20	2	22		\$80.78	\$87.39	\$6.62	8.19%
90 \$100.53 \$104.51 \$3.98 110 \$110.40 \$113.06 \$2.66 1110 \$110.40 \$113.06 \$12.66 120 \$130.15 \$1130.18 \$0.03 140 \$140.90 \$147.29 \$13.29 140 \$1149.90 \$147.29 \$12.29 140 \$1149.90 \$144.0 \$12.29 140 \$1149.90 \$144.0 \$12.29 140 \$144.0 \$144.0 \$144.0 \$12.29 140 \$144.0 \$144.0 \$144.0 \$144.0 \$144.0 \$12.20 140 \$144.0 \$144.0 \$144.0 \$144.0 \$12.20 \$144.0 \$12.20 \$12.	5	80		\$90.65	\$95.95	\$5.30	5.85%
100 \$110.40 \$12.0.28 \$12.1.62 \$1.34 120 \$130.15 \$130.18 \$0.33 130 \$140.03 \$130.18 \$0.33 140 \$149.90 \$147.29 \$2.61 150 \$169.65 \$164.40 \$5.261 150 \$169.65 \$164.40 \$5.261 170 \$169.65 \$164.40 \$5.25 180 \$179.53 \$172.96 \$6.57 180 \$148.40 \$165.75 \$180.57 190 \$149.28 \$190.07 \$7.89 \$10 \$219.03 \$200.15 \$190.07 \$7.89 \$20 \$228.90 \$215.74 \$14.48 \$228.90 \$228.90 \$215.74 \$11.84 \$240 \$228.90 \$228.90 \$215.74 \$13.46 \$240 \$228.90 \$228.90 \$215.74 \$11.20 \$250 \$230.15 \$248.65 \$232.85 \$15.44 \$1.7.12 \$250 \$258.53 \$228.90 \$232.85 \$1.20.70 \$1.20.70 \$250 \$25	4	90		\$100.53	\$104.51	\$3.98	3.96%
110 \$120.28 \$121.62 \$1.34 120 \$130.15 \$130.18 \$0.03 130 \$140.03 \$130.18 \$0.03 140 \$140.03 \$130.18 \$0.03 140 \$149.90 \$147.29 \$5.61 150 \$169.78 \$159.78 \$152.61 170 \$169.65 \$164.40 \$5.25 180 \$179.53 \$164.40 \$5.25 190 \$180.40 \$181.51 \$7.89 \$180 \$180.07 \$180.07 \$7.89 \$100 \$190.07 \$190.07 \$7.89 \$200 \$12.89 \$2.28 \$190.07 \$7.89 \$200 \$200.15 \$2.28 \$190.07 \$10.65 \$200 \$228.90 \$2.15.74 \$10.184 \$220 \$228.90 \$2.28.90 \$14.48 \$240 \$228.65 \$2.28.95 \$14.48 \$250 \$240.28 \$2.28.95 \$15.80 \$250 \$258.53	15	100		\$110.40	\$113.06	\$2.66	2.41%
120 \$130.15 \$130.18 \$0.33 130 \$140.03 \$138.73 \$0.03 140 \$140.03 \$147.29 \$15.61 150 \$149.90 \$147.29 \$2.61 160 \$159.65 \$15.85 \$3.33 170 \$180.65 \$172.96 \$6.57 180 \$180.40 \$181.51 \$7.89 190 \$189.28 \$190.07 \$190.17 200 \$180.07 \$190.07 \$190.07 \$200 \$200.15 \$198.63 \$10.52 \$200 \$200.15 \$198.63 \$10.52 \$200 \$228.00 \$219.03 \$200.07 \$10.52 \$200 \$228.78 \$215.74 \$10.52 \$240 \$228.98 \$215.74 \$11.84 \$240 \$228.85 \$215.74 \$11.2 \$250 \$228.78 \$244.41 \$17.12 \$250 \$258.53 \$241.41 \$17.12 \$250 \$258.53 \$241.41 \$17.12 \$250 \$258.53 \$232.85 \$12.54	9	110		\$120.28	\$121.62	\$1.34	1.12%
130 \$140.03 \$138.73 (\$1.29) 140 \$149.90 \$147.29 (\$2.61) 150 \$159.78 \$155.85 (\$3.33) 160 \$169.65 \$164.40 (\$5.25) 170 \$179.53 \$172.96 (\$6.25) 190 \$180.40 \$181.51 (\$7.89) 200 \$180.60 \$181.51 (\$7.89) 210 \$209.15 \$198.63 \$10.67 220 \$228.00 \$228.90 \$215.74 \$11.84 230 \$228.90 \$215.74 \$14.89 240 \$238.78 \$228.95 \$14.48 250 \$248.65 \$232.85 \$14.48 250 \$248.65 \$232.85 \$14.12 250 \$258.53 \$241.41 \$17.12 350 \$357.28 \$326.97 \$36.90 450 \$466.65 \$346.65 \$36.90 \$456.03 \$4456.03 \$445.54 \$43.49	7	120		\$130.15	\$130.18	\$0.03	0.02%
140 \$149.90 \$147.29 (\$2.61) 150 \$159.78 \$155.85 (\$3.93) 160 \$179.63 \$172.96 (\$5.25) 170 \$189.40 \$181.51 (\$7.89) 190 \$189.28 \$190.07 (\$9.21) 200 \$209.15 \$198.63 (\$10.52) 210 \$228.90 \$219.03 \$207.18 (\$11.84) 220 \$228.90 \$215.74 (\$13.16) 230 \$238.78 \$224.30 (\$14.48) 240 \$238.78 \$232.85 (\$14.89) 250 \$258.53 \$241.41 (\$17.12) 300 \$357.28 \$232.85 (\$15.80) 350 \$258.53 \$241.41 (\$17.12) 350 \$357.28 \$326.97 \$36.97 450 \$456.63 \$412.54 \$43.49)	9	130		\$140.03	\$138.73	(\$1,29)	
150 \$159.78 \$155.85 (\$3.93) 160 \$169.65 \$164.40 (\$5.25) 170 \$179.53 \$172.96 (\$6.25) 180 \$180.40 \$181.51 (\$7.89) 190 \$180.07 \$190.07 (\$7.89) 200 \$209.15 \$198.63 (\$10.52) 210 \$209.15 \$198.63 (\$10.52) 220 \$228.90 \$219.03 \$207.18 (\$11.84) 230 \$228.90 \$215.74 (\$13.16) 240 \$238.78 \$224.30 (\$14.48) 250 \$248.65 \$232.85 (\$15.80) 250 \$258.53 \$241.41 (\$17.12) 350 \$258.53 \$232.85 (\$15.80) 350 \$258.53 \$241.41 (\$17.12) 350 \$357.28 \$328.97 (\$33.03) 450 \$466.65 \$3412.54 (\$43.49)	6	140		\$149.90	\$147.29	(\$2.61)	-1.74%
160 \$169.65 \$164.40 (\$5.25) 170 \$179.53 \$172.96 (\$6.77) 180 \$189.40 \$181.51 (\$7.89) 190 \$190.07 \$180.07 (\$9.21) 200 \$2190.07 \$198.63 (\$10.52) 220 \$228.90 \$215.74 (\$13.16) 230 \$238.78 \$224.30 (\$14.48) 240 \$248.65 \$232.86 (\$14.48) 250 \$258.73 \$241.41 (\$17.12) 300 \$3507.90 \$284.19 (\$30.30) 450 \$456.63 \$412.54 (\$43.49)	8	150		\$159.78	\$155.85	(\$3.93)	-2.46%
170 \$179.53 \$172.96 (\$6.57) 180 \$188.40 \$181.51 (\$7.89) 190 \$199.28 \$190.07 (\$9.21) 200 \$2190.15 \$198.63 (\$10.52) 220 \$228.90 \$215.74 (\$13.16) 230 \$228.90 \$215.74 (\$13.16) 240 \$248.65 \$224.30 (\$14.46) 250 \$248.65 \$232.85 (\$15.80) 250 \$258.53 \$241.41 (\$17.12) 300 \$357.28 \$326.47 (\$30.30) 450 \$456.63 \$412.54 (\$43.49)	72	160		\$169.65	\$164.40	(\$5,25)	-3.09%
180 \$189.40 \$181.51 (\$7.89) 190 \$199.28 \$190.07 (\$9.21) 200 \$209.15 \$198.63 (\$10.52) 220 \$228.90 \$215.74 (\$11.84) 230 \$238.78 \$224.30 (\$14.48) 240 \$248.65 \$232.86 (\$15.80) 250 \$258.53 \$241.41 (\$17.12) 300 \$357.28 \$328.19 (\$30.30) 450 \$456.63 \$412.54 (\$43.49)	a	170		\$179.53	\$172.96	(\$6.57)	
190 \$199.28 \$190.07 (\$9.21) 200 \$209.15 \$198.63 (\$10.52) 210 \$229.03 \$207.18 (\$11.84) 220 \$238.78 \$215.74 (\$13.16) 240 \$248.65 \$224.30 (\$14.48) 250 \$258.73 \$241.41 (\$17.12) 300 \$307.90 \$284.19 (\$23.71) 450 \$456.63 \$412.54 (\$43.49)	g	180		\$189.40	\$181.51	(\$7.89)	
210 \$219.03 \$207.18 (\$11.84) 220 \$228.90 \$215.74 (\$13.16) 230 \$238.78 \$224.30 (\$14.48) 240 \$248.65 \$232.85 (\$15.80) 250 \$258.53 \$241.41 (\$17.12) 300 \$307.90 \$284.19 (\$23.71) 350 \$466.65 \$36.76 (\$36.90) 450 \$456 \$456.03 \$412.54 (\$43.49)	25 25	190		\$199.28 \$209.15	\$190.07 \$198.63	(\$9.21) (\$10.52)	-4.62% -5.03%
210 \$219.03 \$207.16 (\$11.54) 220 \$228.90 \$215.74 (\$13.16) 230 \$238.78 \$224.30 (\$14.46) 240 \$248.65 \$232.86 (\$15.80) 250 \$258.53 \$241.41 (\$17.12) 300 \$307.90 \$284.19 (\$23.71) 350 \$357.28 \$326.97 (\$30.30) 400 \$466.65 \$369.76 (\$36.90) 450 \$456.03 \$412.54 (\$43.49)	. :	,		000	7000		777
220 \$228.90 \$215.74 (\$13.16) 230 \$238.78 \$224.30 (\$14.48) 240 \$248.65 \$232.85 (\$15.80) 250 \$258.53 \$241.41 (\$17.12) 300 \$307.90 \$284.19 (\$23.71) 350 \$357.28 \$326.97 (\$30.30) 400 \$466.65 \$369.76 (\$36.90) 450 \$456.03 \$412.54 (\$43.49)	8	210		\$219.03	\$207.16	(\$ C. S.	
230	77	220		\$228.90	\$215.74	(\$13,16)	
240 \$276.53 \$241.41 (\$17.12) 250 \$307.90 \$284.19 (\$23.71) 350 \$357.28 \$326.97 (\$30.30) 400 \$456.63 \$412.54 (\$43.49)	8	230		\$736.78	\$224.30	(4) 14, 40)	-0.0070 -0.0070
\$307.90 \$284.19 (\$23.71) 350 \$357.28 \$326.97 (\$30.30) 400 \$406.65 \$369.76 (\$36.90) 450 \$456.03 \$412.54 (\$43.49)	8 8	250		\$258.53	\$241.41	(\$17.12)	
300 \$307.90 \$284.19 (\$23.71) 350 \$357.28 \$326.97 (\$30.30) 400 \$406.65 \$369.76 (\$36.90) 450 \$456.03 \$412.54 (\$43.49)) 1	}				•	
350 \$357.28 \$326.97 (\$30.30) 400 \$406.65 \$369.76 (\$58.90) 450 \$456.03 \$412.54 (\$43.49)	સ	300		\$307.90	\$284.19	(\$23.71)	
400 \$406.65 \$369.76 (\$36.90) 450 \$456.03 \$412.54 (\$43.49)	33	350		\$357.28	\$326.97	(\$30.30)	
\$456.03 \$412.54 (\$43.49)	33	400		\$406.65	\$369.76	(\$36.90)	
	34	450		\$456.03	\$412.54	(84.3 49)	-8.24%

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MISSOURI GAS ENERGY

Kansas City Residential Bill Frequency Analysis for January Number of Bills and Average Bill Impacts - Promosed Rates



Estimated Monthly Bill In Small General Service (Estimated Monthly Bill Impacts - Primary Proposal Small General Service (SGS)	•				
Line	(a)	(a)	9	(p)	(e)	€
		Present		Proposed		
		Kates		Kates		
- (Customer Charge	\$15.70		\$31.00		
N 4	Nov-Mar. 1st 600 CCF	\$0.13286 \$0.44363		#0. 1937 #0 10934		
, c	Apr Oct: 1st 600 Cct.	\$0.14203		\$0.07130		
1 H	Apr-Oct. 181 000 00:	60,00430		\$0.06110		
യ	PGA Rate	\$0.81737		\$0.81737		
	MONTHLY		REVENUE AT	REVENUE AT	REVENUE CHANGE	CHANGE
	CONSUMPTION (CCF)		PRESENT PROPOSED RATES (NOV-Mar)	PROPOSED RATES (Nov-Mar)	AMOUNT	PERCENT
7	0		\$15.70	\$31.00	\$15.30	97.45%
∞	90		\$64.21	\$77.85	\$13.64	21.24%
đ	S		\$73.91	\$87.22	\$13.30	18.00%
, 5	3 8		\$83.62	\$96.59	\$12.97	15.51%
: =	2 88		\$93.32	\$105.96	\$12.64	13.54%
12	06		\$103.02	\$115.32	\$12.30	11.94%
<u>6</u>	100		\$112.72	\$124.69	\$11.97	10.62%
4	110		\$122.43	\$134.06	\$11.64	9.51%
5	120		\$132.13	\$143.43	\$11.31	8.56%
9	130		\$141.83	\$152.80	\$10.97	7.74%
4	140		\$151.53	\$162.17	\$10.64	7.02%
6	150		\$161.23	\$171.54	\$10.31	6.39%
6	160		\$170.94	\$180.91	\$9.97	5.83%
8	170		\$180.64	\$190.28	\$9.64	5.34%
7	180		\$190.34	\$199.65	\$9.31	4.89%
2 23	190 200		\$200.04	\$209.02	\$8.97	4.49%
3	C		90 890	808F 03	#8 08	2 7n%
4 4	200		\$200.20	\$342.08	#5.34 25.34	173%
3 %	350		\$355.28	\$358.93	\$3.65	1.03%
3 2	400		\$403.79	\$405.78	\$1.98	0.49%
8	450		\$452.30	\$452.62	\$0.32	0.07%
83	200		\$500.81	\$499.47	(\$1.34)	-0.27%
8	009		\$597.84	\$593.16	(\$4.67)	
31	200		\$693.84	\$685.83	(\$8.00)	
32	800		\$789.84	\$778.51	(\$11.33)	
33	1,000		\$981.84	\$963.85	(\$17.99)	-1.83%
¥	1,250		\$1,221.84	\$1,195.52	(\$26.31)	-2.15%
35	1,500		\$1,461.84	\$1,427.20	(\$34.64)	
ଞ	1,750		\$1,701.84	\$1,658.88	(\$42.96)	
37	2,000		\$1,941.84	\$1,890.56	(\$51.28)	
38	2,500		\$2,421.84	\$2,353.91	(\$67.92)	-2.80%
			İ			

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Kesidentiai (KS)						
Line No.	(a)	(q)	(c)	(p)	(a)	(j)
		Primary		Alternate		
		Rates	ļ	Rates		
~	Customer Charge	\$27.50		\$15.50		
2	All usage	\$0.0000		\$0.17292		
က	PGA Rate	\$0.85564		\$0.85564		
		AVERAGE	REVENUE AT	REVENUE AT		
		CCF PER	PRIMARY	ALTERNATE	MONTHLY BILL CHANGE	L CHANGE
		CUSTOMER	RATES	RATES	AMOUNT	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%
ဖ	Mar-05	115	\$126.02	\$133.93	\$7.91	6.28%
7	Apr-05	74	\$90.85	\$91.65	\$0.80	0.88%
∞	May-05	32	\$55.01	\$48.57	(\$6.44)	-11.71%
တ	Jun-05	23	\$47.25	\$39.24	(\$8.01)	-16.95%
10	Jul-05	17	\$41.92	\$32.83	(\$8.09)	-21.68%
7	Aug-05	15	\$40.42	\$31.04	(\$8.39)	-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%
4	Nov-05	22	\$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%

### Alternate Rates \$15.50	P. Cine	(a)	Q	(0)	(p)	(e)	€
Piga Rate Michaeles Stockhold Stoc	- (Customer Charge	Rates \$27.50	'	Alternate Rates \$15.50		
MONTHLY REVENUE AT REVENUE AT REVENUE AT CONSUMPTION RATES RATES AMOUNT PER ALTERNATE CONSUMPTION \$27.50 \$16.50 (\$12.00) 4 25 \$48.89 \$41.21 (\$7.69) 1 26 \$53.77 \$48.36 (\$6.81) 1 27 \$60 \$57.75 \$48.39 (\$6.81) 1 28 \$53.77 \$48.36 (\$6.81) 1 40 \$60 \$61.73 \$56.69 1 50 \$60 \$61.73 \$56.69 1 60 \$60 \$70.28 \$66.93 \$6.10 80 \$60 \$61.73 \$6.69 \$6.10 80 \$60 \$61.73 \$6.89 \$6.10 80 \$60 \$61.73 \$6.89 \$6.10 80 \$60 \$61.73 \$6.10 \$6.10 80 \$60 \$61.73 \$6.10 \$6.10 80 \$60 \$61.83 \$6.23 \$6.23	чю		\$0.85564		\$0.85564		
OCF) RATES RATES AMOUNT PER 25 \$448 89 \$41.21 (\$7.00) 4 25 \$448 89 \$41.21 (\$7.00) 4 30 \$57.45 \$55.45 (\$6.81) 1-1 40 \$61.73 \$56.64 (\$7.08) 1-1 40 \$61.73 \$56.64 (\$7.08) 1-1 50 \$61.73 \$56.64 (\$7.08) 1-1 60 \$61.73 \$56.64 (\$7.08) 1-1 80 \$67.28 \$66.69 \$6.09 \$6.09 80 \$67.28 \$66.93 \$6.09 \$6.09 80 \$67.28 \$66.93 \$6.09 \$6.09 80 \$67.28 \$66.93 \$6.00 \$6.00 80 \$67.83 \$66.93 \$6.00 \$6.00 80 \$67.83 \$6.60 \$6.00 \$6.00 \$6.00 80 \$67.93 \$67.73 \$6.00 \$6.00 \$6.00 \$6.00		MONTHLY		REVENUE AT PRIMARY	REVENUE AT	REVENUE	CHANGE
25 \$48.89 \$41.21 (\$7.68) -1 30 \$57.45 \$45.50 (\$6.81) -1 35 \$57.45 \$45.50 (\$6.81) -1 45 \$61.73 \$56.64 (\$6.81) -1 45 \$67.75 \$66.93 (\$6.95) -1 45 \$60 \$61.73 \$56.64 (\$6.81) -1 50 \$67.75 \$66.93 (\$6.95) -1 80 \$60 \$61.73 \$66.93 (\$6.95) -1 80 \$60 \$61.72 \$66.93 (\$6.95) -1 80 \$60 \$61.72 \$66.93 \$6.20 -1 80 \$60 \$61.72 \$66.93 \$6.20 -1 80 \$60 \$61.72 \$6.20 -1 -1 \$6.20 -1 100 \$130.01 \$130.01 \$130.01 \$130.01 \$10.00 -1 -1 -1 -1 -1 -1 -1		(CCF)		RATES	RATES	AMOUNT	PERCENT
25 \$48.89 \$41.21 (\$7.68) 30 \$53.17 \$46.36 (\$6.81) 40 \$61.73 \$56.06 (\$5.95) 45 \$60.02 \$61.73 \$56.69 45 \$60.02 \$61.74 \$56.95 45 \$60.02 \$61.74 \$56.95 45 \$60.02 \$61.74 \$6.95 50 \$70.28 \$66.93 \$6.95 80 \$70.28 \$66.93 \$6.95 80 \$70.28 \$66.93 \$6.95 80 \$70.28 \$66.93 \$6.95 80 \$70.28 \$66.93 \$6.95 80 \$70.28 \$66.93 \$6.96 80 \$60.00 \$61.79 \$6.10 80 \$70.22 \$61.00 \$61.00 \$130 \$130.00 \$130.00 \$13.00 \$140 \$160 \$140.00 \$140.00 \$140 \$160.00 \$140.00 \$13.00 \$140 <t< td=""><td>4</td><td>0</td><td></td><td>\$27.50</td><td>\$15.50</td><td>(\$12.00)</td><td>43.64%</td></t<>	4	0		\$27.50	\$15.50	(\$12.00)	43.64%
30 \$53.17 \$46.36 (\$6.81) -1 35 \$61.73 \$51.50 (\$5.95) -1 40 \$61.73 \$56.64 (\$5.08) -1 45 \$60.00 \$61.73 \$56.64 (\$5.08) -1 50 \$70.28 \$66.93 (\$5.96) -1 60 \$70.28 \$66.93 (\$5.96) -1 70 \$87.39 \$87.50 \$61.62 -1 80 \$87.39 \$87.50 \$61.62 -1 90 \$100 \$100.07 \$100.07 \$1.83 90 \$113.06 \$118.36 \$5.29 110 \$100.16 \$118.36 \$5.29 110 \$100.17 \$16.36 \$10.48 \$140 \$140.21 \$10.48 \$140 \$140.21 \$10.48 \$140 \$140.21 \$10.48 \$140 \$140.21 \$10.48 \$140 \$140.21 \$10.48 \$140 \$140.22 \$10.48 \$140 \$140.22 \$10.48	\$	25		\$48.89	\$41.21	(\$7.68)	-15.70%
35 \$57.45 \$51.50 (\$5.95) -1 40 \$61.73 \$56.64 (\$5.08) -1 45 \$60.02 \$66.93 (\$5.08) -1 50 \$70.28 \$66.93 (\$1.62) -1 70 \$87.88 \$77.21 (\$1.62) -1 80 \$87.39 \$87.50 \$0.10 -1 80 \$87.39 \$87.50 \$0.10 -1 80 \$100 \$10.08 \$1.83 -1 -1 80 \$110.15 \$118.36 \$1.83 -1 -1 -1 \$1.83 -1 -1 -1 -1 -1 -1 \$1.83 -1	ဖ	30		\$53.17	\$46.36	(\$6.81)	-12.81%
40 \$66.73 \$56.64 (\$5.08) 45 \$66.00 \$56.90 \$56.90 \$66.90	7	35		\$57.45	\$51.50	(\$5,95)	-10.35%
\$ \$70.28 \$ \$66.93 \$ (\$3.36) \$ (\$4.22) \$ (\$7.21 \$ (\$1.62) \$ (\$7.24) \$ (\$7.22 \$ (\$7.24) \$ (\$7.24) \$ (\$7.24) \$ (\$7.24) \$ (\$7.24) \$ (\$7.24) \$ (\$7.24) \$ (\$7.24) \$ (\$7.25) \$ (\$7.24)	φ (40		\$61.73	\$56.64	(\$5,08)	0.24
60 \$77.21 (\$1.62) 70 \$87.84 \$77.21 (\$1.62) 80 \$95.95 \$97.78 \$1.83 90 \$110.65 \$113.06 \$118.36 \$5.29 100 \$113.06 \$118.36 \$5.29 110 \$113.06 \$118.36 \$5.29 120 \$130.18 \$138.93 \$8.75 130 \$138.73 \$149.21 \$10.48 \$130 \$140.21 \$10.48 \$10.48 \$140 \$147.29 \$159.50 \$12.21 \$150 \$149.21 \$10.36 \$17.40 \$140 \$140.07 \$159.76 \$13.94 \$150 \$140.07 \$15.07 \$13.94 \$160 \$190.07 \$180.35 \$17.40 \$17.40 \$190 \$190.07 \$180.35 \$17.40 \$17.40 \$100 \$190.07 \$210.93 \$20.05 \$19.13 \$200 \$190.07 \$220.05 \$220.05 \$220.05 \$200 \$220.30 \$222.03 \$220.00 \$220.00 <t< td=""><td>ъ С</td><td>50 50</td><td></td><td>\$70.28</td><td>\$60.93</td><td>(\$3,35)</td><td>-6.39% 4.77%</td></t<>	ъ С	50 50		\$70.28	\$60.93	(\$3,35)	-6.39% 4.77%
50 \$78.84 \$77.21 (\$15.2) 70 \$87.39 \$87.78 \$0.10 80 \$95.95 \$97.78 \$1.83 90 \$104.51 \$168.07 \$3.56 100 \$13.06 \$118.36 \$5.29 110 \$12.06 \$118.36 \$5.29 120 \$130.18 \$138.93 \$8.75 130 \$130.18 \$138.93 \$8.75 140 \$147.29 \$159.50 \$12.21 \$140 \$144.20 \$169.78 \$13.94 140 \$147.29 \$169.78 \$13.24 150 \$164.40 \$180.78 \$13.94 \$155.85 \$180.07 \$15.67 \$13.04 \$100 \$181.51 \$200.64 \$19.13 \$1 \$100 \$181.54 \$10.35 \$10.13 \$1 \$100 \$181.56 \$10.00 \$10.13 \$1 \$100 \$181.57 \$200.64 \$10.13 \$1 \$20	:	;		i d		4	0
\$10.00 \$10.4.51 \$10.00 \$10.4.51 \$10.00 \$110.00	= 2	90 70 70		\$87.39	\$87.50	\$0.10	-2.08 0.12
90 \$104.51 \$108.07 \$3.56 100 \$113.06 \$118.36 \$5.29 110 \$121.62 \$128.64 \$7.02 120 \$130.16 \$138.93 \$8.75 130 \$130.16 \$138.93 \$8.75 140 \$130.17 \$10.48 \$10.48 \$147.29 \$169.76 \$113.94 \$155.85 \$169.76 \$13.94 \$150 \$149.21 \$10.48 \$150 \$160.77 \$13.94 \$160 \$160.76 \$13.94 \$160 \$160.76 \$13.94 \$170 \$160.77 \$13.94 \$180 \$180.07 \$13.94 \$190 \$181.51 \$200.64 \$19.13 \$190 \$181.51 \$200.64 \$19.13 \$190 \$181.51 \$200.64 \$19.13 \$190 \$181.51 \$200.64 \$19.13 \$190 \$181.51 \$200.64 \$19.13 \$190 \$181.65 \$220.21 \$220.64 \$20 \$224.31 \$224.31 <td< td=""><td><u> </u></td><td>2 08</td><td></td><td>\$95.95</td><td>\$97.78</td><td>\$1,83</td><td>1.91</td></td<>	<u> </u>	2 08		\$95.95	\$97.78	\$1,83	1.91
100 \$113.06 \$118.36 \$5.29 110 \$121.62 \$128.64 \$7.02 120 \$130.18 \$138.93 \$8.75 130 \$130.18 \$138.93 \$8.75 140 \$130.18 \$138.93 \$8.75 140 \$147.29 \$199.50 \$124.48 \$150.85 \$169.78 \$13.94 \$150 \$160.07 \$13.94 \$160 \$164.40 \$180.07 \$13.94 \$170 \$164.40 \$180.07 \$13.94 \$170 \$161.51 \$200.64 \$19.13 \$190 \$181.51 \$200.64 \$19.13 \$190 \$181.51 \$200.64 \$19.13 \$190 \$181.51 \$200.64 \$19.13 \$190 \$181.51 \$221.23 \$20.85 \$190 \$220.14 \$221.23 \$224.31 \$20 \$224.74 \$224.77 \$22.56 \$20 \$224.31 \$222.35 \$28.50 \$20 \$224.41 \$272.64 \$31.23 \$20 \$224.41	4	06		\$104.51	\$108.07	\$3,56	3.41%
110 \$121.62 \$128.64 \$7.02 120 \$130.18 \$138.93 \$8.75 130 \$138.73 \$149.21 \$10.48 140 \$147.29 \$159.50 \$12.21 150 \$155.85 \$169.78 \$13.94 160 \$164.40 \$180.07 \$15.67 170 \$172.96 \$190.35 \$17.40 \$180 \$181.51 \$200.64 \$19.13 \$190 \$181.51 \$200.64 \$19.13 \$190 \$186.63 \$221.21 \$22.68 \$190 \$186.63 \$221.21 \$22.68 \$100 \$186.63 \$221.21 \$22.68 \$20 \$220 \$222.23 \$224.31 \$22.68 \$20 \$222 \$224.78 \$222.03 \$224.31 \$22.68 \$20 \$222 \$224.78 \$222.03 \$229.60 \$229.60 \$20 \$222 \$224.74 \$272.04 \$31.23 \$22.60 \$20 \$222 \$224.07 \$39.88 \$222.00 \$20 \$222 \$2	15	100		\$113.06	\$118.36	\$5,29	4.68%
120 \$130.18 \$138.93 \$8.75 130 \$138.73 \$149.21 \$10.48 140 \$147.29 \$159.50 \$12.21 150 \$155.85 \$169.78 \$13.94 170 \$172.96 \$160.07 \$15.67 170 \$172.96 \$190.07 \$15.67 190 \$181.51 \$200.64 \$19.13 190 \$181.51 \$200.64 \$19.13 200 \$186.63 \$210.93 \$20.85 210 \$186.63 \$221.21 \$22.68 210 \$227.14 \$224.78 \$22.68 220 \$224.78 \$224.77 \$22.60 240 \$224.30 \$222.07 \$22.07 240 \$223.86 \$224.77 \$22.00 250 \$241.41 \$272.64 \$31.23 350 \$234.07 \$39.88 1 450 \$328.76 \$37.50 \$48.52 450 \$328.76 \$426.92 \$57.17 1 450 \$328.76 \$426.92 \$57.17 1	16	110		\$121.62	\$128.64	\$7.02	5.77%
130 \$138.73 \$149.21 \$10.48 140 \$147.29 \$159.50 \$12.21 150 \$155.85 \$169.76 \$12.21 160 \$164.40 \$180.07 \$15.67 170 \$172.96 \$190.35 \$17.40 190 \$181.51 \$200.64 \$191.3 200 \$190.07 \$210.93 \$20.85 210 \$207.18 \$221.21 \$22.58 220 \$224.78 \$24.78 \$26.04 220 \$224.78 \$252.07 \$27.77 240 \$224.30 \$252.07 \$27.77 240 \$224.44 \$272.64 \$31.23 350 \$241.41 \$272.64 \$31.23 350 \$284.19 \$326.97 \$32.60 450 \$36.69 \$42.69 \$56.81 450 \$36.77 \$48.52 450 \$58.71 \$478.35 \$56.81	17	120		\$130.18	\$138.93	\$8.75	6.72
140 \$15.85 \$169.78 \$15.17 160 \$164.40 \$180.07 \$15.67 170 \$172.96 \$190.35 \$17.40 180 \$190.7 \$180.07 \$15.67 190 \$190.07 \$200.64 \$19.13 200 \$190.07 \$210.93 \$20.85 210 \$207.18 \$221.21 \$22.58 220 \$224.78 \$24.178 \$22.50 240 \$224.30 \$252.07 \$27.77 240 \$224.30 \$262.35 \$29.50 250 \$241.41 \$272.64 \$31.23 350 \$284.19 \$324.07 \$39.88 350 \$326.97 \$375.64 \$31.23 450 \$36.87 \$48.52 450 \$426.92 \$57.17 541.75 \$426.92 \$57.17 450 \$58.17 \$41.54 \$56.81	<u>⇔</u> ;	130		\$138.73	\$149.21	\$10.48	7.55
160 \$164.40 \$180.07 \$15.67 170 \$172.96 \$190.35 \$17.40 180 \$181.51 \$200.64 \$197.40 190 \$181.51 \$200.64 \$197.41 200 \$190.07 \$210.93 \$20.85 210 \$198.63 \$21.21 \$22.56 220 \$198.63 \$221.21 \$22.56 220 \$207.18 \$221.77 \$22.56 230 \$224.78 \$24.78 \$26.04 240 \$232.85 \$262.36 \$29.50 240 \$232.85 \$262.36 \$29.50 350 \$241.41 \$272.64 \$31.23 350 \$284.19 \$324.07 \$39.88 450 \$36.69 \$48.52 450 \$41.254 \$478.35 \$56.81	2 2	150		\$155.85	\$169.78	\$13.94	8.94%
170 \$172.96 \$190.35 \$17.40 180 \$181.51 \$200.64 \$19.13 190 \$190.07 \$210.93 \$20.85 200 \$198.63 \$221.21 \$20.85 210 \$207.18 \$231.50 \$24.31 220 \$215.74 \$241.78 \$26.04 230 \$224.30 \$252.07 \$27.77 240 \$232.85 \$262.35 \$29.50 250 \$241.41 \$272.64 \$31.23 350 \$284.19 \$324.07 \$39.88 350 \$326.97 \$48.52 400 \$389.76 \$48.52 450 \$478.35 \$56.81	7	160		\$164.40	\$180.07	\$15,67	9.53%
180 \$181.51 \$200.64 \$19.13 190 \$190.07 \$210.93 \$20.85 200 \$198.63 \$221.21 \$22.68 210 \$207.18 \$231.50 \$24.17 220 \$215.74 \$241.78 \$26.04 230 \$224.30 \$252.07 \$27.77 240 \$232.85 \$262.35 \$26.04 250 \$241.41 \$272.64 \$31.23 350 \$284.19 \$324.07 \$39.88 350 \$326.97 \$48.52 400 \$369.76 \$478.35 \$55.17 450 \$41.254 \$478.35 \$56.81	22	170		\$172.96	\$190.35	\$17.40	10.06
210 \$190,07 \$210,39 210 \$290,07 \$211,21 220 \$215,74 \$241,78 230 \$224,30 \$252,07 240 \$232,85 \$262,35 250 \$241,41 \$277,77 240 \$232,85 \$262,35 \$29,50 250 \$241,41 \$272,64 \$31,23 350 \$284,19 \$324,07 \$39,88 350 \$326,97 \$48,52 400 \$369,76 \$478,35 \$55,17 450 \$478,35 \$55,81	33	180		\$181,51	\$200.64	\$19.13	10.54
210 \$207.18 \$231.50 \$24.31 220 \$215.74 \$241.78 \$26.04 230 \$224.30 \$252.07 \$27.77 240 \$232.85 \$262.35 \$29.50 250 \$241.41 \$272.64 \$31.23 300 \$284.19 \$324.07 \$39.88 350 \$326.97 \$375.50 \$48.52 400 \$369.76 \$478.35 \$55.81 450 \$478.35 \$65.81	25 25	200 200		\$198.63	\$221.21	\$22.58	11.37%
220 \$215.74 \$241.78 \$26.04 230 \$224.30 \$252.07 \$27.77 240 \$232.85 \$262.36 \$29.50 250 \$241.41 \$272.64 \$31.23 300 \$284.19 \$324.07 \$39.88 350 \$36.97 \$356.97 \$48.52 400 \$41.54 \$478.35 \$55.17 450 \$41.54 \$478.35 \$55.81	56	210		\$207.18	\$231.50	\$24.31	11.74%
230 \$224.30 \$226.35 \$27.77 240 \$232.85 \$262.35 \$29.50 250 \$241.41 \$272.64 \$31.23 300 \$284.19 \$324.07 \$39.88 350 \$326.97 \$375.50 \$48.52 400 \$369.76 \$478.35 \$65.81 450 \$41.54 \$478.35 \$65.81	27	220		\$215.74	\$241.78	\$26.04	12.07
240 \$232.85 \$262.35 \$249.50 250 \$241.41 \$272.64 \$31.23 300 \$284.19 \$324.07 \$39.88 350 \$326.97 \$375.50 \$48.52 400 \$369.76 \$426.92 \$57.17 450 \$412.54 \$478.35 \$56.81	28	230		\$224.30	\$252.07	\$27.77	12.38
350 \$284.19 \$324.07 \$39.88 350 \$326.97 \$375.50 \$48.52 400 \$369.76 \$426.92 \$57.17 450 \$412.54 \$478.35 \$65.81	8 8	240 250		\$241.41	\$272.64	\$31.23	12.94%
350 \$326.97 \$375.50 \$48.52 400 \$369.76 \$426.92 \$57.17 450 \$412.54 \$478.35 \$65.81	33	300		\$284.19	\$324.07	\$39.88	14.03%
400 \$369.76 \$426.92 \$57.17 450 \$412.54 \$478.35 \$55.81	32	350		\$326.97	\$375.50	\$48.52	14.84%
450 \$478.35 \$65.81	33	400		\$369.76	\$426.92	\$57.17	15,469
C/ 114	8	450		\$412.54	\$478.35	408.04	710

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Customer Charge Primary Rates Alternate Rates Rates S0.050 NowMar: 1st 600 Cct; \$0.11957 \$0.17340 \$0.17340 Apr-Cot: 1st 600 Cct; \$0.07130 \$0.11493 \$0.17340 Apr-Cot: 1st 600 Cct; \$0.07130 \$0.1737 \$0.11493 Apr-Cot: 1st 600 Cct; \$0.07130 \$0.0110 \$0.11493 Apr-Cot: 200 Cct; \$0.0710 \$0.0110 \$0.11493 Apr-Cot: 30.0710 \$0.0110 \$0.0110 BOOKINEWPITION RATES (NovMar) RATES (NovMar) REVENUE Ch. COP: 30.0710 \$0.0110 \$0.0110 50 \$0.0110 \$0.0110 50 \$0.0110 \$0.0110 50 \$1.025 \$1.0967 50 \$1.025 \$1.0967 50 \$1.0343 \$1.0393 50 \$1.0350 \$1.0360 5100 \$1.0350 \$1.0350 510 \$1.0350 \$1.0350 510 \$1.0350 \$1.0350 510 \$1.0350 \$1.0350 510 \$1.0350 \$1.0350	Constituting	Customer Charge \$31.00 Now-Mar: 1st 600 Ccf; \$0.11957 Now-Mar: >600 Ccf; \$0.1034 Apr-Oct: 1st 600 Ccf; \$0.07130 Apr-Oct: >600 Ccf; \$0.07130 CCF) MONTHLY CONSUMPTION (CCF) 50 50 50 60 70 80 90 110 120 130 140 150 250 250 250 250 260 160 170 180 140 150 250 250 250 250 250 250 25	(c) (c)	ව	Ç	E
Parists Pari	Picket P	Rates Customer Charge	, Li	Altemate		
CCF CLUSIONER* C	CLOSIOTIONET Charge NowMar 1 18 600 Ccf. \$0.10957 Apr-Oct 1 56 600 Ccf. \$0.10974 Apr-Oct 1 56 600 Ccf. \$0.10974 Apr-Oct 1 56 600 Ccf. \$0.007130 Apr-Oct 1 56 600	Customer Charge \$31.00 Nov-Mar. 1st 600 Ccf. \$0.11957 Nov-Mar. > 600 Ccf. \$0.1034 Apr-Oct: 1st 600 Ccf. \$0.07130 Apr-Oct: > 600 Ccf. \$0.06110 PGA Rate \$0.06110 0 50 100 110 120 120 130 140 150 160 170 180 190 250 250 260 660 170 180 140 150 160 170 180 190 250 250 260 660 170 180 170 180 170 180 170 180 170 180 170 180 170 180 170 180 170 180 170 180 170 180 170 180 170 180 170 180 170 180 170 180 170 17	S	Rates		
NowMar 15t 600 Ccf 5t 011957 St 017340 NowMar 2t 600 Ccf 5t 00334 St 01493 St 014	NowMer 18t 600 Cct; \$1011957 \$017319 \$01	Now-Mar: 1st 600 Ccf. \$0.11957 Now-Mar: - 560 Ccf. \$0.10934 Apr-Oct: 1st 600 Ccf. \$0.07130 Apr-Oct: - 560 Ccf. \$0.06110 PGA Rate \$0.81737 MONTHLY CONSUMPTION (CCF) 0 0 0 0 0 0 0 0 0 100 110 120 120 130 140 150 160 177 180 180 190 250 250 260 600 450 600 770 800 11,250	8	\$20.50		
Pick Rate	NowMar = 5600 Ccf	Nov-Mar: > 500 Ccf. \$0.10934	957	\$0.17340		
Apr-Oct. 1st 600 Ccf. \$0.0730 \$0.14513 \$0.14513 \$0.14513 \$0.14513 \$0.14513 \$0.14139 \$0.14139 \$0.14139 \$0.14139 \$0.14139 \$0.14139 \$0.14139 \$0.14139 \$0.14139 \$0.081737	Apr-Oct. 1st 600 Ccf. \$0.0730 \$0.12513 PGA Rate \$0.01137 \$0.11433 PGA Rate \$0.01717 REVENUE AT ALTERNATE REVENUE Character and an analysis of the consumption	Apr-Oct. 1st 600 Ccf. \$0.07130 Apr-Oct. > 600 Ccf. \$0.06110 PGA Rate \$0.81737 MONTHLY CONSUMP TION (CCF) 0 50 60 70 80 110 120 110 120 140 150 250 250 250 260 400 450 500 600 700 800 1,260 1,260 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,760	934	\$0.16317		
Apr-Oct: >600 Cct: \$0.06110 \$0.81737 REVENUE AT REVENUE AT REVENUE CHAMBIN AMOUNTHLY REVENUE AT REVENUE CHAMBIN AMOUNT PER CONSUMPTION REVENUE AT REVENUE CHAMBIN AMOUNT PER CONSUMPTION REVENUE CHAMBIN AMOUNT PER CONSUMPTION REVENUE CHAMBIN AMOUNT PER CONSUMPTION REVENUE CHAMBIN AMOUNT PER CONSUMPTION REVENUE CHAMBIN AMOUNT PER CONSUMPTION REVENUE CHAMBIN AMOUNT PER CONSUMPTION REVENUE CHAMBIN AMOUNT PER CONSUMPTION REVENUE CHAMBIN AMOUNT PER CONSUMPTION REVENUE CHAMBIN AMOUNT PER CONSUMPTION REVENUE CHAMBIN AMOUNT PER CHARBANT AMOUNT PER CONSUMPTION REVENUE CHAMBIN AMOUNT PER CHARBANT AMOUNT PER CH	Apr-Oct. >600 Cct. \$1006110 \$0.11493 \$0.81737 REVENUE AT REVENUE AT REVENUE CCT RATES (Nov-Mar) AMOUNT PE (CCT) RATES (Nov-Mar) RATES (Nov-Mar) AMOUNT PE (CCT) \$10.00	Apr-Oct: >600 Ccf. \$0.06110 PGA Rate \$0.81737 MONTHLY CONSUMPTION (CCF) 0 50 60 70 80 110 120 130 140 150 160 160 160 250 250 250 260 260 160 170 180 190 100 110 120 140 150 160 160 170 180 190 170 180 190 250 260 600 700 800 1,000 1,550 1,550 2,000 2,000 2,000 2,000 2,000 2,000 2,000 1,750 2,000 2,000 1,750 2,000 1,750 1,750	130	\$0.12513		
PCGA Rate \$0.81737 \$0.81737 PCGA Rate \$0.81737 PRIMARY ALITERNULE AT REVENULE AT CONSUMPTION PRIMARY ALITERNULE AT REVENULE CAT CONSUMPTION PRIMARY ALITERNATE (Nov-Mai) RATES (Nov-Mai) AMOUINT PR \$20.50 \$10.50) \$10.50	PICA Rate \$0.81737 \$0.81737 PICA Rate \$0.81737 PICA Rate \$0.81737 PICA Rate PICA RATES (NOW-Man) A AMOUNT PICA RATES (NOW-Man) A AMOUNT PICA RATES (NOW-Man) A AMOUNT PICA RATES (NOW-Man) A AMOUNT PICA RATES (NOW-Man) A AMOUNT PICA RATES (NOW-Man) A AMOUNT PICA RATES (NOW-Man) A AMOUNT PICA RATES (NOW-Man) A AMOUNT PICA RATES (NOW-Man) A AMOUNT PICA RATES (NOW-Man) A AMOUNT PICA RATES (NOW-Man) A AMOUNT PICA RATES (NOW-Man) A AMOUNT PICA RATES (NOW-Man) A AMOUNT PICA RATES (NOW-Man) A AMOUNT PICA RATES (NOW-Man) A AMOUNT PICA RATES (NOW-Man) A AMOUNT PICA RATES (NOW-Man) A AMOUNT PICA RATES (NOW-Man) A MOUNT PICA RATES RA	PGA Rate \$0.81737 MONTHLY CONSUMPTION (CCF) 0 50 60 70 80 110 120 110 120 130 140 150 250 250 260 260 260 260 260 2	110	\$0.11493		
CCF REVENUE AT REVENUE AT REVENUE AT CONSUMPTION PRIMARY ALITERNATE AMOUINT PRIMARY ALITERNATE ALIT	MONTHLY REVENUE AT REVENUE AT REVENUE AT CONSUMPTION RATES (Nov-Mar) RATES (Nov-Mar) ALITERNATE REVENUE CT	MONTHLY CONSUMPTION (CCF) 0 50 60 70 80 110 120 130 140 150 160 170 180 190 250 250 250 800 400 450 800 1,260 1,560 1,560 2,000 2,000 2,000 2,000 2,000 1,560	737	\$0.81737		
CONSUMPTION PRIMARY ALTER(NOWMai) RATES (NOWMai) AMOUNT PP 50 511.00 521.00 5	CONSUMPTION PRIMARY O \$31.00 \$31.0	CCDNSUMPTION (CCF) 60 70 80 90 110 120 130 140 150 250 250 260 600 700 800 1,250 1,500 2,000 2,	REVENUE AT	REVENUE AT	REVENUE	CHANGE
50 \$77.85 \$70.04 (\$70.50) 50 \$77.85 \$70.04 (\$7.21) 60 \$80.72 \$79.95 (\$7.21) 70 \$86.59 \$89.65 (\$67.31) 80 \$116.32 \$119.66 (\$6.19) 90 \$116.32 \$119.67 (\$6.10) 100 \$116.32 \$119.46 (\$6.12) 120 \$116.96 \$119.46 (\$6.12) 140 \$116.91 \$119.49 (\$6.12) 140 \$110.91 \$119.24 (\$6.12) \$150 \$10.02 \$119.24 (\$6.12) \$160 \$10.02 \$19.24 (\$6.18) \$170 \$10.24 \$119.24 (\$6.18) \$170 \$10.24 \$119.24 (\$6.18) \$170 \$10.24 \$11.60 \$1.96 \$10.02 \$1.96 \$1.96 \$1.96 \$10.02 \$1.96 \$1.96 \$1.96 \$10.02 \$1.96 \$1.96 \$1.96	50 \$77.85 \$70.04 (\$70.50) 50 \$77.85 \$70.04 (\$70.17) 70 \$86.52 \$89.85 (\$87.27) 80 \$90.52 \$89.86 (\$87.27) 90 \$115.32 \$190.67 (\$6.19) 90 \$115.32 \$190.67 (\$6.19) 100 \$114.46 \$1190.67 (\$6.10) 110 \$114.49 \$1190.67 (\$6.10) 110 \$114.49 \$1190.67 (\$6.10) \$150 \$143.43 \$1190.67 (\$6.10) \$170 \$140.21 \$190.20 \$140.30 (\$1.50) \$170 \$190.28 \$190.20 \$190.20 \$190.20 \$190.20 \$100 \$190.20 \$190.20 \$190.20 \$190.20 \$190.20 \$190.20 \$100 \$190.20 \$190.20 \$190.20 \$190.20 \$190.20 \$190.20 \$190.20 \$190.20 \$190.20 \$190.20 \$190.20 \$190.20 \$190.20 \$190.20 \$190.20<	50 60 70 80 90 110 120 130 140 150 160 170 180 190 250 300 300 300 300 400 400 400 40	PRIMARY RATES (Nov-Mar)	ALTERNATE RATES (Nov-Mar)		PERCENT
50 \$77.85 \$70.04 (\$7.81) 70 \$86.59 \$89.65 (\$7.27) 80 \$105.96 \$89.97 (\$6.19) 80 \$115.32 \$109.67 (\$5.66) 80 \$115.32 \$109.66 (\$5.12) 80 \$115.32 \$109.76 (\$5.66) 100 \$115.32 \$109.76 (\$5.12) 120 \$134.43 \$1139.39 (\$4.04) 120 \$140.30 \$130.30 (\$4.04) 140 \$140.30 \$140.30 (\$5.50) 140 \$140.30 \$140.30 (\$5.60) 150 \$140.30 \$140.30 (\$5.60) 140 \$140.30 \$140.30 (\$1.35) 180 \$177.54 \$169.12 (\$2.43) 180 \$177.54 \$169.12 (\$2.43) \$100 \$180.28 \$188.33 \$13.57 \$200 \$218.39 \$218.39 \$13.72 \$200 \$21.00.28 \$21.86 \$21.8	\$60 \$87.22 \$79.95 \$77.87 \$70.04 \$7.81) \$7.00 \$89.22 \$79.95 \$87.27 \$70.04 \$7.81 \$70.04 \$7.81 \$70.04 \$7.81 \$70.04 \$7.81 \$70.04 \$7.81 \$70.04 \$7.81 \$70.04 \$7.81 \$70.04 \$7.81 \$70.04 \$7.81 \$70.04 \$7.81 \$70.04 \$7.81 \$70.04 \$7.81 \$70.04 \$7.81 \$70.04 \$7.82 \$70.04 \$7.82 \$70.04 \$7.82 \$70.04 \$7.82 \$70.04 \$7.82 \$70.04 \$7.82 \$70.04 \$7.82 \$70.04 \$7.82 \$70.04 \$7.82 \$70.04 \$7.82 \$70.05 \$7.82 \$70.05 \$7.82 \$70.05 \$7.82 \$70.05 \$7.82 \$70.05 \$7.82 \$70.05 \$7.82 \$70.05 \$7.82 \$70.05 \$7.82 \$70.05 \$7.82 \$70.05 \$7.82 \$70.05 \$7.82 \$70.05 \$7.72 \$70.05 \$7.73 \$70.05 \$7.82 \$7.82 \$70.05 \$7.82 \$7.82 \$70.05 \$7.82 \$7.82 \$7.72 \$7.	60 70 80 90 110 120 130 140 150 160 170 180 190 250 300 300 300 300 400 450 600 700 800 1,000 1,500 1,500 2,0	\$31.00	\$20.50	(\$10.50)	-33.87%
60 \$87.22 \$79.95 (\$7.27) 70 \$96.59 \$98.86 (\$6.73) 80 \$105.96 \$99.76 (\$6.19) 90 \$116.32 \$190.67 (\$5.60) 100 \$116.32 \$190.67 (\$5.60) 120 \$143.43 \$199.68 (\$4.50) 120 \$143.43 \$199.39 (\$4.04) 130 \$162.20 \$149.30 (\$3.50) 140 \$162.20 \$149.30 (\$3.50) 150 \$171.54 \$169.12 (\$2.43) 160 \$171.54 \$169.12 (\$2.43) 170 \$190.28 \$198.84 (\$1.89) 170 \$190.28 \$198.84 (\$1.89) 180 \$200.02 \$200.75 \$200.75 \$100 \$200.02 \$208.75 \$2.00 \$200 \$246.28 \$248.65 \$2.74 \$200 \$240.00 \$1,997.73 \$2.78 \$1,50 \$1,997.75 \$1,997.75	60 \$87.22 \$79.95 \$87.27 70 \$86.59 \$89.86 \$87.27 80 \$115.32 \$109.67 \$5.69 90 \$115.32 \$109.67 \$5.69 100 \$114.43 \$119.56 \$5.69 120 \$144.43 \$119.39 \$4.04 120 \$152.80 \$14.43 \$199.30 \$4.04 130 \$152.80 \$14.00 \$16.01 \$4.04 140 \$162.17 \$169.21 \$2.60 \$1.80 140 \$180.24 \$169.21 \$2.60 \$1.80 170 \$180.29 \$1.80 \$1.35 \$1.35 180 \$180.20 \$1.80 \$1.35 \$1.35 200 \$180.20 \$1.80 \$1.35 \$1.35 200 \$2.18.65 \$1.40 \$1.72 \$1.72 200 \$2.26.19 \$2.16 \$2.16 \$2.16 200 \$2.00 \$2.00 \$2.00 \$2.00 20	60 70 80 90 110 120 130 140 150 160 170 180 190 200 200 200 350 400 450 500 600 700 800 1,000 1,500 1,750 2,000	\$77.85	\$70.04	(\$7.81)	-10.03%
70 \$96.59 \$98.66 (67.3) 80 \$105.96 \$98.76 (86.19) 90 \$116.32 \$190.67 (85.69) 100 \$116.32 \$190.67 (85.69) 110 \$143.43 \$190.67 (85.69) 120 \$143.43 \$190.67 (85.69) 130 \$143.43 \$190.28 \$149.30 (87.40) 130 \$160.17 \$190.21 (82.69) (82.43) 140 \$180.27 \$190.28 \$188.93 (\$1.35) 180 \$190.28 \$188.93 (\$1.35) 190 \$190.28 \$188.94 (\$0.81) \$100 \$190.65 \$188.93 (\$1.35) \$100 \$218.39 \$218.39 \$218.39 \$218.39 \$218.95 \$218.95 \$218.65 \$200 \$218.93 \$218.93 \$218.24 \$200 \$210.03 \$218.93 \$21.22 \$200 \$21.66 \$21.96 \$21.96	70 \$96.59 \$99.56 \$67.3) 80 \$105.96 \$99.76 \$68.19 90 \$116.32 \$196.67 \$65.69 100 \$116.32 \$196.67 \$65.69 100 \$116.32 \$196.67 \$65.69 110 \$149.69 \$199.76 \$66.19 120 \$143.43 \$19.39 \$64.04 130 \$143.43 \$19.39 \$64.04 \$150 \$140 \$149.30 \$64.04 \$150 \$140 \$140.30 \$140.30 \$63.50 \$150 \$140 \$140.30 \$140.30 \$15.60 \$150 \$160.21 \$169.12 \$160.12 \$160.12 \$170 \$160.22 \$180.96 \$169.12 \$163.60 \$170 \$160.22 \$160.22 \$160.12 \$160.12 \$170 \$160.22 \$160.22 \$160.12 \$160.12 \$170 \$160.22 \$160.22 \$160.22 \$160.22 \$170 \$160.2	70 80 90 110 120 130 140 160 190 250 250 250 250 250 250 250 25	\$87.22	\$79.95	(57 27)	% 7 6.8-
80	80 \$105.96 \$99.76 (\$6.19) 90 \$114.32 \$109.67 (\$5.60) 100 \$114.32 \$109.67 (\$5.60) 120 \$143.43 \$119.58 (\$5.12) 130 \$143.43 \$19.93 (\$4.04) 130 \$142.80 \$149.30 (\$5.60) 140 \$162.77 \$199.21 (\$2.96) \$170 \$190.28 \$188.93 (\$1.89) \$170 \$190.28 \$198.84 (\$0.81) \$180 \$190.28 \$198.84 (\$0.81) \$190 \$218.39 \$218.93 (\$1.35) \$100 \$218.39 \$218.83 \$(\$1.89) \$100 \$218.39 \$218.83 \$(\$1.89) \$100 \$218.30 \$218.83 \$(\$1.89) \$100 \$218.33 \$218.83 \$(\$1.02) \$200 \$22.86 \$22.86 \$22.86 \$200 \$21.00 \$21.00 \$21.00 \$21.00 \$21.00 \$21.00	80 90 110 120 140 150 160 190 200 200 200 200 200 400 400 600 700 800 1,250 1,500 2,000	\$96.59	\$89.85	(\$6.73)	%26.9-
90 \$115.32 \$109.67 (\$5.66) 100 \$124.69 \$119.58 (\$5.12) 120 \$143.43 \$139.39 (\$4.58) 120 \$143.43 \$139.39 (\$4.58) 120 \$143.43 \$139.39 (\$4.58) 140 \$162.17 \$169.21 (\$2.96) 150 \$177.54 \$169.12 (\$2.43) 170 \$190.28 \$188.94 (\$0.81) 180 \$210.29 \$198.84 (\$0.81) 190 \$200.28 \$188.94 (\$0.81) 190 \$200.28 \$188.94 (\$0.81) 200 \$218.39 \$218.65 \$0.27 200 \$31.09.65 \$198.84 (\$0.81) \$20 \$218.83 \$218.83 \$11.03 \$20 \$31.77 \$40.27 \$40.27 \$20 \$32.88 \$31.77 \$40.27 \$40 \$40.27 \$40.27 \$40.27 \$40 \$40.28 \$40.27 \$40.27 <td>90</td> <td>90 100 110 120 130 140 150 250 250 350 400 450 500 600 700 800 1,250 1,500 2,000</td> <td>\$105,96</td> <td>\$99.76</td> <td>(\$6.19)</td> <td>-5.85%</td>	90	90 100 110 120 130 140 150 250 250 350 400 450 500 600 700 800 1,250 1,500 2,000	\$105,96	\$99.76	(\$6.19)	-5.85%
100 \$124.69 \$119.58 (\$5.12) 110 \$134.06 \$129.48 (\$4.58) 120 \$143.43 \$139.39 (\$4.04) 130 \$152.80 \$149.39 (\$4.04) 140 \$162.17 \$169.21 (\$2.96) 150 \$177.54 \$169.12 (\$2.43) 160 \$180.91 \$179.02 (\$1.89) 170 \$190.02 \$186.93 (\$1.89) 170 \$190.02 \$218.93 \$218.93 180 \$279.02 \$278.93 \$278.93 200 \$218.39 \$218.65 \$0.27 200 \$218.39 \$218.65 \$0.27 200 \$218.39 \$218.65 \$0.27 200 \$218.39 \$218.65 \$0.27 \$200 \$218.39 \$218.65 \$0.27 \$200 \$228.33 \$218.65 \$0.27 \$220 \$220 \$220 \$222.24 \$222.24 \$200 \$1,427.20 \$21,427.4	100 \$124.69 \$119.58 (\$5.12) 110 \$134.06 \$129.48 (\$4.58) 120 \$143.43 \$139.39 (\$4.04) 130 \$152.17 \$159.21 (\$2.96) 140 \$160.17 \$169.12 (\$2.43) 150 \$177.54 \$169.12 (\$2.43) 170 \$190.28 \$180.91 \$179.02 (\$1.89) 170 \$190.28 \$180.92 \$180.92 \$18.93 \$2.43) 180 \$190.28 \$180.27 \$18.93 \$2.288.13 \$2.243) 190 \$210.29 \$180.27 \$2.288.13 \$2.288.13 \$2.288.13 \$2.286.13<	100 120 130 140 150 160 170 180 190 200 200 360 360 450 400 450 800 1,000 1,500 2,000 2,000	\$115.32	\$109.67	(\$5.66)	4.90%
110 \$134.06 \$129.48 (\$44.58) 120 \$143.43 \$139.39 (\$4.04) 130 \$152.80 \$148.30 (\$3.50) 140 \$160.17 \$169.12 (\$2.43) 150 \$171.54 \$169.12 (\$2.43) 150 \$190.28 \$188.93 (\$1.89) 170 \$190.28 \$198.84 (\$0.81) 180 \$290.28 \$208.79 \$2.08 190 \$218.99 \$218.99 \$208.79 250 \$218.99 \$218.99 \$2286.19 \$2.96 300 \$218.99 \$218.99 \$2.18.65 \$0.27 350 \$218.99 \$218.99 \$2.46.81 \$11.03 450 \$450.81 \$246.81 \$11.03 \$400 \$450.89 \$246.81 \$11.03 \$400 \$450.70 \$466.35 \$11.03 \$400 \$466.36 \$146.81 \$11.03 \$600 \$685.83 \$713.02 \$27.18 \$600 \$1,000 \$1,457.20 \$1,427.45 \$70.25 <t< td=""><td>110 \$134.06 \$129.48 (\$4.58) 120 \$143.43 \$149.39 (\$4.04) 130 \$152.80 \$149.39 (\$4.04) 140 \$162.17 \$169.21 (\$2.96) 150 \$171.54 \$169.12 (\$2.96) 170 \$190.28 \$188.93 (\$1.89) 170 \$190.28 \$188.93 (\$1.89) 180 \$190.28 \$188.93 (\$1.89) 190 \$190.29 \$188.93 (\$1.89) 190 \$190.29 \$188.93 (\$1.35) \$10 \$200.20 \$218.99 \$218.89 \$218.89 \$20 \$218.39 \$218.65 \$0.27 \$208.75 \$20 \$340.02 \$218.65 \$0.27 \$218.39 \$20 \$340.02 \$218.65 \$0.27 \$218.46 \$20 \$340.02 \$2466.35 \$13.72 \$21.46 \$20 \$340.02 \$346.35 \$13.72 \$21.46 \$20 \$226 <td< td=""><td>110 120 130 140 150 160 170 190 250 300 300 350 400 450 500 600 700 800 1,000 1,500 1,750 2,000</td><td>\$124.69</td><td>\$119.58</td><td>(\$5.12)</td><td>-4.10%</td></td<></td></t<>	110 \$134.06 \$129.48 (\$4.58) 120 \$143.43 \$149.39 (\$4.04) 130 \$152.80 \$149.39 (\$4.04) 140 \$162.17 \$169.21 (\$2.96) 150 \$171.54 \$169.12 (\$2.96) 170 \$190.28 \$188.93 (\$1.89) 170 \$190.28 \$188.93 (\$1.89) 180 \$190.28 \$188.93 (\$1.89) 190 \$190.29 \$188.93 (\$1.89) 190 \$190.29 \$188.93 (\$1.35) \$10 \$200.20 \$218.99 \$218.89 \$218.89 \$20 \$218.39 \$218.65 \$0.27 \$208.75 \$20 \$340.02 \$218.65 \$0.27 \$218.39 \$20 \$340.02 \$218.65 \$0.27 \$218.46 \$20 \$340.02 \$2466.35 \$13.72 \$21.46 \$20 \$340.02 \$346.35 \$13.72 \$21.46 \$20 \$226 <td< td=""><td>110 120 130 140 150 160 170 190 250 300 300 350 400 450 500 600 700 800 1,000 1,500 1,750 2,000</td><td>\$124.69</td><td>\$119.58</td><td>(\$5.12)</td><td>-4.10%</td></td<>	110 120 130 140 150 160 170 190 250 300 300 350 400 450 500 600 700 800 1,000 1,500 1,750 2,000	\$124.69	\$119.58	(\$5.12)	-4.10%
120 \$143.43 \$199.39 (\$4.04) 130 \$152.80 \$149.30 (\$3.50) 140 \$162.17 \$169.21 (\$2.96) 150 \$171.54 \$169.12 (\$2.96) 170 \$190.28 \$188.93 (\$1.89) 170 \$190.26 \$188.93 (\$1.89) 170 \$190.26 \$188.94 (\$0.27) 200 \$200 \$208.75 \$0.27 200 \$218.39 \$218.65 \$0.27 200 \$258.83 \$228.81 \$2.027 300 \$312.08 \$317.73 \$2.65 300 \$358.83 \$346.81 \$11.03 450 \$450.78 \$466.35 \$11.03 \$600 \$450.78 \$466.35 \$11.03 \$600 \$586.79 \$713.02 \$27.18 \$600 \$685.83 \$713.02 \$27.18 \$600 \$685.83 \$71.007.18 \$43.33 \$600 \$1,427.20 \$1,427.45 \$	120 \$143.43 \$139.39 (\$4.04) 130 \$152.80 \$149.30 (\$3.50) 140 \$162.17 \$169.21 (\$2.96) 140 \$171.54 \$169.12 (\$2.96) 150 \$180.91 \$179.02 (\$1.89) 170 \$190.26 \$188.93 (\$1.35) 180 \$190.26 \$188.93 (\$1.35) 180 \$190.26 \$188.93 (\$1.35) 190 \$209.02 \$208.75 (\$0.27) 200 \$218.39 \$218.65 \$0.27 200 \$218.39 \$218.65 \$0.27 300 \$218.39 \$228.61 \$2.06 \$450 \$246.53 \$218.65 \$0.27 \$450 \$356.53 \$317.73 \$5.65 \$450 \$356.74 \$466.35 \$13.72 \$450 \$450.67 \$466.35 \$13.72 \$450 \$466.35 \$13.72 \$2.44 \$450 \$466.35 \$13.72 \$2.44 </td <td>120 130 140 170 180 190 200 250 360 400 450 600 700 800 1,000 1,500 1,500 2,000</td> <td>\$134.06</td> <td>\$129.48</td> <td>(\$4.58)</td> <td>-3.42%</td>	120 130 140 170 180 190 200 250 360 400 450 600 700 800 1,000 1,500 1,500 2,000	\$134.06	\$129.48	(\$4.58)	-3.42%
130 \$152.80 \$149.30 (\$3.50) 140 \$162.17 \$169.21 (\$2.96) 150 \$171.54 \$169.12 (\$2.96) 150 \$190.28 \$188.93 (\$1.89) 170 \$190.26 \$188.93 (\$1.35) 180 \$190.26 \$188.93 (\$1.35) 190 \$200 \$208.75 (\$0.27) 250 \$228.83 \$228.18 \$2.27 300 \$2518.39 \$218.65 \$0.27 300 \$2518.39 \$218.65 \$0.27 400 \$2465.73 \$246.57 \$11.03 450 \$450.78 \$466.35 \$11.03 \$600 \$450.67 \$466.35 \$11.03 \$600 \$450.67 \$466.35 \$11.03 \$600 \$586.70 \$685.63 \$71.30 \$600 \$685.63 \$71.00 \$20.18 \$600 \$686.83 \$71.00 \$20.18 \$600 \$1,000 \$1,495.52 \$1,49	130 \$152.80 \$149.30 (\$3.50) 140 \$162.17 \$169.21 (\$2.96) 150 \$171.54 \$169.21 (\$2.96) 150 \$180.91 \$179.02 (\$1.89) 170 \$190.26 \$188.93 (\$1.35) 180 \$190.26 \$188.93 (\$1.35) 180 \$190.26 \$188.93 (\$1.35) 180 \$200.02 \$208.75 (\$0.27) 200 \$218.39 \$218.65 \$0.27 300 \$218.39 \$228.65 \$0.27 340 \$356.23 \$248.65 \$0.27 450 \$40.07 \$466.35 \$13.72 500 \$450.62 \$466.35 \$13.72 500 \$450.62 \$466.35 \$13.72 500 \$450.62 \$466.35 \$13.72 600 \$685.83 \$71.30 \$27.18 600 \$71.00 \$685.83 \$1,007.18 \$32.56 1,50 \$1,00 \$1,407.20 </td <td>130 140 150 170 180 190 200 360 360 400 450 500 600 700 800 1,000 1,500 1,500 2,000</td> <td>\$143.43</td> <td>\$139,39</td> <td>(\$4.0g)</td> <td>-2.82%</td>	130 140 150 170 180 190 200 360 360 400 450 500 600 700 800 1,000 1,500 1,500 2,000	\$143.43	\$139,39	(\$4.0g)	-2.82%
140 \$162.17 \$169.21 (\$2.96) 150 \$171.54 \$169.12 (\$2.43) 160 \$190.28 \$186.93 (\$1.89) 170 \$190.28 \$186.93 (\$1.89) 170 \$190.28 \$186.93 (\$1.89) 170 \$190.28 \$186.93 (\$1.89) 190 \$200 \$208.75 (\$0.27) 250 \$218.39 \$218.65 \$0.27 250 \$218.39 \$218.65 \$0.27 300 \$312.08 \$317.73 \$8.56 340 \$367.78 \$346.81 \$11.03 450 \$450.78 \$466.35 \$11.03 450 \$466.35 \$11.03 \$27.94 500 \$486.03 \$71.02 \$27.18 800 \$585.03 \$685.03 \$71.30 \$27.18 800 \$685.83 \$71.00 \$86.79 \$1.40 \$50.71 1,000 \$1,000 \$1,405.52 \$1,407.45 \$70.25 1,750 \$1,690.56 \$1,407.45 \$70.25 2,000	140 \$162.17 \$169.21 (\$2.96) 150 \$171.54 \$169.21 (\$2.96) 150 \$190.28 \$169.12 (\$2.43) 170 \$190.29 \$168.93 (\$1.89) 170 \$190.65 \$168.93 (\$1.89) 180 \$190.65 \$168.94 (\$0.81) 190 \$200.02 \$208.75 (\$0.27) 200 \$218.39 \$218.65 \$0.27 250 \$218.39 \$226.18 \$2.96 300 \$326.23 \$246.65 \$0.27 400 \$356.78 \$346.81 \$11.03 450 \$452.62 \$466.35 \$113.72 500 \$60 \$645.62 \$466.35 \$113.72 600 \$685.83 \$571.09 \$27.18 700 \$685.83 \$71.302 \$27.18 800 \$778.43 \$43.33 1,500 \$1,407.20 \$1,407.45 \$43.33 1,500 \$1,407.20 \$1,407.45 \$10.07.18 2,500 \$1,680.56 \$1,987.72 \$10.00 <td>140 150 170 180 190 200 250 350 400 450 500 600 700 800 1,000 1,500 1,500 2,000</td> <td>\$152.80</td> <td>\$149.30</td> <td>(\$3.50)</td> <td>-2.29%</td>	140 150 170 180 190 200 250 350 400 450 500 600 700 800 1,000 1,500 1,500 2,000	\$152.80	\$149.30	(\$3.50)	-2.29%
150 \$171.54 \$169.12 (\$2.43) 160 \$180.91 \$170.02 (\$1.89) 170 \$190.28 \$188.93 (\$1.85) 170 \$190.26 \$198.94 (\$0.81) 180 \$209.05 \$198.84 (\$0.81) 190 \$209.05 \$2208.75 (\$0.27) 250 \$2208.75 \$0.27 \$2.28 250 \$218.39 \$218.65 \$0.27 250 \$2208.75 \$2.28 \$0.27 300 \$312.08 \$317.73 \$8.34 450 \$456.78 \$246.81 \$11.03 450 \$452.62 \$466.35 \$11.37 500 \$452.62 \$466.35 \$11.03 \$600 \$786.83 \$713.02 \$27.18 \$600 \$786.83 \$71.07 \$27.18 \$600 \$778.51 \$81.07 \$32.56 \$1,000 \$1,45.52 \$1,497.45 \$70.25 \$1,750 \$1,497.45 \$70.25 \$1,690.56 \$1,987.72 \$97.16	150 \$177.54 \$169.12 (\$2.43) 160 \$180.91 \$179.02 (\$1.89) 170 \$190.28 \$188.93 (\$1.35) 180 \$190.26 \$198.94 (\$0.81) 190 \$209.02 \$208.75 (\$0.27) 250 \$218.39 \$218.65 \$0.27 250 \$218.39 \$218.65 \$0.27 360 \$218.39 \$217.73 \$5.65 360 \$312.08 \$317.73 \$5.65 360 \$452.62 \$46.35 \$11.03 450 \$450.78 \$46.35 \$11.03 500 \$499.47 \$515.88 \$11.07 500 \$499.47 \$515.88 \$13.72 600 \$685.83 \$773.02 \$27.18 700 \$778.51 \$811.07 \$32.56 1,000 \$1,497.20 \$1,497.45 \$70.25 1,750 \$1,497.45 \$10.8 \$10.8 2,000 \$1,890.56 \$1,347.20 \$10.8	160 160 170 180 190 200 200 300 300 400 450 600 700 800 1,000 1,500 1,500 2,000	\$162.17	\$159.21	(\$2.96)	-1.83%
160 \$180.91 \$179.02 (\$1.89) 170 \$190.26 \$188.93 (\$1.35) 180 \$190.26 \$188.94 (\$0.81) 190 \$200.02 \$208.75 (\$0.27) 200 \$218.39 \$218.65 \$0.27 250 \$226.23 \$226.19 \$2.26 300 \$312.08 \$317.73 \$5.65 340 \$405.78 \$46.81 \$11.03 450 \$450.78 \$46.81 \$11.03 500 \$490.47 \$516.88 \$11.03 500 \$490.47 \$510.88 \$13.72 500 \$685.83 \$713.02 \$27.18 500 \$785.13 \$68.79 \$1,007.18 \$43.33 1,000 \$1,427.20 \$1,427.45 \$70.25 1,750 \$1,690.56 \$1,427.25 \$1,697.45 \$90.716 2,000 \$1,690.56 \$1,987.72 \$90.16	160 \$180.91 \$179.02 (\$1.89) 170 \$190.28 \$188.93 (\$1.35) 180 \$190.26 \$198.84 (\$0.81) 190 \$209.02 \$208.75 (\$0.27) 200 \$209.02 \$208.75 (\$0.27) 250 \$218.39 \$218.65 \$0.27 300 \$218.39 \$218.77 \$5.65 360 \$312.08 \$317.73 \$5.65 360 \$356.78 \$357.77 \$8.34 450 \$450.78 \$466.35 \$113.72 500 \$452.62 \$466.35 \$113.72 600 \$455.62 \$466.35 \$113.72 800 \$786.78 \$515.88 \$16.42 \$60 \$685.83 \$71.07 \$27.18 \$1,000 \$685.83 \$1,007.18 \$43.33 \$1,500 \$1,487.20 \$1,487.45 \$70.25 \$1,750 \$1,980.56 \$1,247.20 \$124.08 \$2,500 \$1,980.56 \$1,247.80 \$124.08	160 170 180 190 200 250 360 360 400 450 600 700 800 1,000 1,500 1,500 2,000	\$171.54	\$169.12	(\$2.43)	-1.41%
170 \$190.28 \$188.93 (\$1.35) 180 \$199.65 \$198.84 (\$0.81) 190 \$209.02 \$208.75 (\$0.27) 200 \$218.39 \$218.65 \$0.27 250 \$218.39 \$218.65 \$0.27 300 \$212.08 \$217.73 \$5.65 350 \$3458.38 \$347.73 \$8.34 450 \$405.78 \$446.81 \$11.03 450 \$450.47 \$515.88 \$13.72 500 \$499.47 \$515.88 \$13.72 800 \$587.03 \$685.83 \$71.30 \$27.18 1,000 \$685.83 \$71.00 \$25.71 \$27.18 1,250 \$1,427.20 \$1,427.45 \$70.25 1,500 \$1,427.20 \$1,427.45 \$80.71 2,000 \$1,690.56 \$1,262.31 \$56.79 5,000 \$1,690.56 \$1,427.20 \$1,427.45 5,000 \$1,690.56 \$1,987.72 \$97.16	170 \$190.28 \$188.93 (\$1.35) 180 \$199.65 \$198.84 (\$0.81) 190 \$209.02 \$208.75 (\$0.27) 200 \$218.39 \$218.65 \$0.27 250 \$265.23 \$266.19 \$2.96 300 \$312.08 \$317.73 \$5.65 360 \$405.78 \$466.35 \$11.03 450 \$452.62 \$466.35 \$13.72 500 \$499.47 \$515.88 \$16.42 600 \$685.03 \$71.03 \$27.18 700 \$685.03 \$71.07 \$27.18 800 \$778.51 \$811.07 \$27.18 1,000 \$685.85 \$1,007.18 \$43.33 1,750 \$1,495.52 \$1,497.45 \$70.25 1,750 \$1,689.86 \$1,497.45 \$70.25 2,600 \$1,980.56 \$1,247.80 \$124.08	170 180 200 200 300 350 400 450 600 600 700 800 1,000 1,500 1,500 2,000	\$180.91	\$179.02	(\$1.89)	-1.04%
180 \$199.65 \$198.84 (\$0.81) 190 \$209.02 \$208.75 (\$0.27) 200 \$218.39 \$218.65 \$0.27 250 \$265.23 \$266.19 \$2.96 300 \$312.08 \$367.27 \$8.34 400 \$405.78 \$46.81 \$11.03 450 \$452.62 \$466.35 \$13.72 500 \$499.47 \$515.88 \$13.72 500 \$499.47 \$516.89 \$13.72 800 \$587.03 \$614.96 \$27.84 \$00 \$778.51 \$81.07 \$27.8 \$00 \$778.51 \$81.07 \$32.56 \$1,000 \$1,427.20 \$1,427.45 \$70.25 \$1,750 \$1,690.56 \$1,742.58 \$883.70 \$1,000 \$1,690.56 \$1,987.72 \$97.16	180 \$199.65 \$198.84 (\$0.81) 190 \$209.02 \$208.75 (\$0.27) 200 \$218.39 \$218.65 \$0.27 250 \$265.23 \$268.19 \$2.96 300 \$312.08 \$317.73 \$5.65 350 \$358.93 \$367.77 \$8.34 450 \$400.78 \$466.35 \$11.03 500 \$452.62 \$466.35 \$13.72 600 \$452.62 \$460.35 \$13.72 700 \$685.83 \$71.03 \$27.18 800 \$7857.61 \$811.07 \$32.56 1,000 \$778.51 \$811.07 \$32.56 1,50 \$1,407.20 \$1,407.45 \$70.25 1,75 \$1,688.88 \$1,742.58 \$83.70 2,600 \$1,980.56 \$1,247.20 \$124.08	180 190 200 300 360 400 450 600 600 700 800 1,000 1,500 1,500 2,000	\$190.28	\$188.93	(\$1.35)	-0.71%
190 \$209.02 \$208.75 (\$0.27) 200 \$218.39 \$218.65 \$0.27 250 \$218.39 \$218.65 \$0.27 300 \$312.08 \$317.73 \$6.55 350 \$358.83 \$367.27 \$8.34 450 \$405.78 \$416.81 \$11.03 500 \$499.47 \$515.88 \$13.72 500 \$499.47 \$516.88 \$13.72 600 \$587.03 \$614.96 \$27.84 700 \$685.83 \$713.02 \$27.18 800 \$778.51 \$811.07 \$32.56 1,000 \$1,427.20 \$1,407.45 \$70.25 1,500 \$1,690.56 \$1,742.88 \$83.70 2,000 \$1,690.56 \$1,987.72 \$97.16	190 \$209.02 \$208.75 (\$0.27) 200 \$218.39 \$218.65 \$0.27 250 \$218.39 \$218.65 \$0.27 300 \$312.08 \$317.73 \$5.65 360 \$346.38 \$347.77 \$8.34 450 \$465.78 \$466.35 \$11.03 500 \$469.47 \$515.88 \$16.42 600 \$685.03 \$71.103 \$27.18 700 \$685.03 \$71.07 \$27.18 800 \$778.51 \$811.07 \$32.56 1,000 \$778.51 \$1,007.18 \$43.33 1,50 \$1,495.52 \$1,262.31 \$56.79 1,75 \$1,688.88 \$1,742.58 \$83.70 2,600 \$1,980.56 \$1,247.20 \$120.08	190 200 300 360 400 450 600 600 700 800 1,20 1,50 2,000	\$199.65	\$198.84	(\$0.81)	-0.41%
200 \$218.39 \$218.65 \$0.27 250 \$265.23 \$268.19 \$2.96 300 \$317.73 \$5.65 360 \$368.93 \$367.27 \$8.34 400 \$405.78 \$416.81 \$11.03 500 \$452.62 \$466.35 \$13.72 500 \$499.47 \$515.88 \$16.42 600 \$587.03 \$614.96 \$27.94 700 \$685.83 \$713.02 \$27.18 800 \$778.51 \$811.07 \$22.56 1,000 \$963.85 \$1,007.18 \$43.33 1,250 \$1,497.52 \$1,497.45 \$70.25 \$1,500 \$1,690.56 \$1,497.26 \$93.76 \$2,000 \$1,690.56 \$1,987.72 \$97.16	250 \$218.39 \$218.65 \$0.27 250 \$265.23 \$268.19 \$2.96 300 \$312.08 \$317.73 \$5.65 360 \$358.93 \$367.27 \$8.34 400 \$452.62 \$466.35 \$13.72 500 \$452.62 \$466.35 \$13.72 500 \$452.62 \$466.35 \$13.72 600 \$587.03 \$614.96 \$27.94 700 \$685.83 \$713.02 \$27.18 800 \$778.51 \$811.07 \$32.56 1,000 \$1,007.16 \$43.33 1,500 \$1,427.20 \$1,497.45 \$70.25 1,750 \$1,698.88 \$1,427.20 \$1,497.45 \$80.70 2,000 \$1,698.66 \$1,497.72 \$97.16 2,000 \$1,690.56 \$1,497.72 \$97.16	200 250 300 360 400 450 500 600 700 800 1,200 1,500 1,500 2,000	\$209.02	\$208.75	(\$0.27)	-0.13%
250 \$265.23 \$268.19 \$2 96 300 \$312.08 \$317.73 \$5 65 360 \$368.93 \$367.27 \$8.34 400 \$405.78 \$416.81 \$11.03 450 \$452.62 \$466.35 \$11.03 500 \$499.47 \$515.88 \$16.42 600 \$587.03 \$614.96 \$27.18 700 \$778.51 \$811.07 \$22.56 1,000 \$1,495.52 \$1,007.18 \$43.33 1,500 \$1,427.20 \$1,497.45 \$70.25 1,500 \$1,658.88 \$1,742.56 \$83.70 2,000 \$1,690.56 \$1,897.72 \$97.16	250 \$265.23 \$268.19 \$296 300 \$312.08 \$317.73 \$5.65 360 \$346.77 \$6.65 \$344.83 \$6.65 400 \$405.78 \$416.81 \$11.03 450 \$452.62 \$466.35 \$13.72 500 \$499.47 \$515.88 \$16.42 600 \$587.03 \$614.96 \$27.94 700 \$685.83 \$713.02 \$27.18 800 \$778.51 \$811.07 \$25.67 1,000 \$1,497.65 \$1,497.45 \$70.25 1,500 \$1,497.45 \$1,497.45 \$81.70 2,000 \$1,658.88 \$1,427.20 \$1,497.45 \$87.16 2,000 \$1,658.88 \$1,427.20 \$1,407.45 \$87.16 2,000 \$1,698.66 \$1,497.45 \$87.16 \$1,408.16	250 300 360 400 450 500 600 700 800 1,260 1,500 1,750 2,000	\$218,39	\$218.65	\$0.27	0.12%
300 \$312.08 \$317.73 \$5.65 350 \$358.93 \$367.27 \$8.34 400 \$405.78 \$46.35 \$11.03 450 \$452.62 \$466.35 \$13.72 500 \$452.62 \$466.35 \$13.72 600 \$587.03 \$614.96 \$27.94 700 \$685.83 \$713.02 \$27.18 800 \$778.51 \$811.07 \$32.56 1,000 \$963.85 \$1,007.18 \$43.33 1,500 \$1,495.52 \$1,497.45 \$70.26 \$1,500 \$1,658.88 \$1,742.56 \$83.70 \$2,000 \$1,690.56 \$1,987.72 \$97.16	300 \$312.08 \$317.73 \$5.65 350 \$358.93 \$367.27 \$8.34 400 \$405.78 \$46.81 \$11.03 450 \$452.62 \$466.35 \$11.03 500 \$499.47 \$515.88 \$16.42 600 \$587.03 \$614.96 \$27.18 700 \$685.83 \$713.02 \$27.18 800 \$778.51 \$811.07 \$22.56 1,000 \$1,195.52 \$1,007.18 \$43.33 1,500 \$1,427.20 \$1,497.45 \$70.25 1,750 \$1,658.88 \$1,742.58 \$83.70 2,000 \$1,658.88 \$1,427.20 \$97.16 2,600 \$1,690.56 \$1,497.2 \$97.16	300 350 400 450 500 600 700 800 1,250 1,500 2,000	\$265.23	\$268.19	\$2.96	1.12%
350 \$358.93 \$367.27 \$8.34 400 \$405.78 \$416.81 \$11.03 450 \$452.62 \$466.35 \$13.72 500 \$452.62 \$466.35 \$13.72 600 \$587.03 \$614.96 \$27.94 700 \$685.83 \$713.02 \$27.18 800 \$778.51 \$811.07 \$32.56 1,000 \$963.85 \$1,007.18 \$43.33 1,50 \$1,427.20 \$1,497.45 \$70.25 1,50 \$1,658.88 \$1,742.66 \$83.70 2,000 \$1,690.56 \$1,987.72 \$97.16	350 \$358.93 \$367.27 \$8.34 400 \$405.78 \$416.81 \$11.03 450 \$452.62 \$466.35 \$11.03 500 \$499.47 \$515.88 \$16.42 600 \$587.03 \$614.96 \$27.18 700 \$685.83 \$7713.02 \$27.18 1,000 \$778.51 \$811.07 \$22.56 1,000 \$1,195.52 \$1,262.31 \$66.79 1,500 \$1,427.20 \$1,497.45 \$70.25 1,750 \$1,658.88 \$1,742.58 \$83.70 2,000 \$1,698.56 \$1,497.2 \$97.16 2,000 \$1,890.56 \$1,497.2 \$97.16	350 400 450 500 600 700 800 1,250 1,500 2,000	\$312.08	\$317.73	\$5.65	1.81%
400 \$405.78 \$416.81 \$11.03 450 \$452.62 \$466.35 \$13.72 500 \$499.47 \$515.88 \$16.42 600 \$587.03 \$614.96 \$27.84 700 \$685.83 \$713.02 \$27.18 800 \$778.51 \$811.07 \$32.56 1,000 \$963.85 \$1,007.18 \$43.33 1,250 \$1,495.52 \$1,497.45 \$70.25 1,500 \$1,658.88 \$1,742.56 \$83.70 2,000 \$1,690.56 \$1,987.72 \$97.16	400 \$405.78 \$416.81 \$11.03 450 \$452.62 \$466.35 \$13.72 500 \$499.47 \$515.88 \$16.42 600 \$685.83 \$713.02 \$27.94 700 \$685.83 \$713.02 \$27.94 800 \$778.51 \$811.07 \$22.56 1,000 \$963.85 \$1,007.18 \$43.33 1,500 \$1,495.52 \$1,497.45 \$70.25 1,750 \$1,497.45 \$70.25 \$1,497.45 \$813.70 2,000 \$1,658.88 \$1,407.45 \$83.70 \$2,000 \$2,477.00 \$1,407.65 \$1,407.65 \$1,407.66 \$1,407.66	400 450 500 600 700 800 1,000 1,500 1,750 2,000	\$358.93	\$367.27	\$8.34	2.32%
450 \$452.62 \$466.35 \$13.72 500 \$499.47 \$515.88 \$16.42 600 \$587.03 \$614.96 \$27.94 700 \$685.83 \$713.02 \$27.18 800 \$778.51 \$811.07 \$23.56 1,000 \$1,195.52 \$1,252.31 \$56.79 1,500 \$1,495.52 \$1,497.45 \$10.25 1,750 \$1,658.88 \$1,742.58 \$83.70 2,000 \$1,890.56 \$1,987.72 \$97.16	450 \$452.62 \$466.35 \$13.72 500 \$499.47 \$515.88 \$16.42 600 \$587.03 \$614.96 \$27.94 700 \$685.83 \$713.02 \$27.18 800 \$778.51 \$811.07 \$22.06 1,000 \$963.85 \$1,007.18 \$43.33 1,500 \$1,195.52 \$1,252.31 \$56.79 1,750 \$1,497.45 \$1497.45 \$80.25 1,750 \$1,658.88 \$1,497.45 \$81.70 2,000 \$1,698.56 \$1,497.72 \$97.16 2,000 \$2,477.00 \$1,400.85 \$1,400.85	450 500 600 700 800 1,000 1,500 1,500 2,000	\$405.78	\$416.81	\$11.03	2.72%
500 \$499.47 \$515.88 \$16.42 600 \$587.03 \$614.96 \$27.94 700 \$685.83 \$713.02 \$27.18 800 \$778.51 \$811.07 \$32.56 1,000 \$963.85 \$1,007.18 \$43.33 1,250 \$1,495.52 \$1,252.31 \$56.79 1,500 \$1,658.88 \$1,742.66 \$83.70 2,000 \$1,690.56 \$1,987.72 \$97.16	500 \$499.47 \$515.88 \$16.42 600 \$587.03 \$614.96 \$27.84 700 \$685.83 \$713.02 \$27.18 800 \$778.51 \$811.07 \$2.56 1,000 \$963.85 \$1,007.18 \$43.33 1,500 \$1,495.52 \$1,252.31 \$66.79 1,500 \$1,427.20 \$1,497.45 \$70.25 1,750 \$1,658.88 \$1,742.58 \$83.70 2,000 \$1,698.56 \$1,987.72 \$97.16 2,000 \$2,477.90 \$1,240.46 \$1,240.46	500 600 700 800 1,000 1,250 1,500 2,000	\$452.62	\$466.35	\$13.72	3.03%
600 \$587.03 \$614.96 \$27.94 700 \$685.83 \$773.02 \$27.18 800 \$778.51 \$811.07 \$22.56 1,000 \$963.85 \$1,007.18 \$43.33 1,250 \$1,195.52 \$1,252.31 \$56.79 1,500 \$1,658.88 \$1,742.56 \$88.70 2,000 \$1,690.56 \$1,987.72 \$97.16	600 \$587.03 \$614.96 \$27.94 700 \$685.83 \$713.02 \$27.18 800 \$778.51 \$811.07 \$32.56 1,000 \$963.85 \$1,007.18 \$43.33 1,250 \$1,195.52 \$1,252.31 \$56.79 1,500 \$1,495.52 \$1,497.45 \$70.25 1,750 \$1,658.88 \$1,742.58 \$83.70 2,000 \$1,890.56 \$1,496.72 \$97.16	600 700 800 1,000 1,250 1,500 1,750 2,000	\$499.47	\$515.88	\$16.42	3.29%
700 \$685.83 \$713.02 \$27.18 800 \$778.51 \$811.07 \$32.56 1,000 \$963.85 \$1,007.18 \$43.33 1,250 \$1,195.52 \$1,252.31 \$56.79 1,500 \$1,427.20 \$1,497.45 \$70.25 1,500 \$1,658.88 \$1,742.66 \$83.70 2,000 \$1,690.56 \$1,997.72 \$97.16	700 \$685.83 \$713.02 \$27.18 800 \$778.51 \$811.07 \$32.56 1,000 \$963.85 \$1,007.18 \$43.33 1,250 \$1,195.52 \$1,252.31 \$56.79 1,500 \$1,427.20 \$1,497.45 \$70.25 1,750 \$1,658.88 \$1,742.58 \$83.70 2,000 \$1,690.56 \$1,496.72 \$97.16 2,500 \$2,477.90 \$1,407.45 \$1,407.45	700 800 1,000 1,250 1,500 1,750 2,000	\$587.03	\$614.96	\$27.94	4.76%
800 \$778.51 \$811.07 \$32.56 1,000 \$963.85 \$1,007.18 \$43.33 1,250 \$1,195.52 \$1,252.31 \$56.79 1,500 \$1,658.88 \$1,742.56 \$83.70 2,000 \$1,690.56 \$1,987.72 \$97.16	800 \$778.51 \$811.07 \$32.56 1,000 \$963.85 \$1,007.18 \$43.33 1,250 \$1,195.52 \$1,252.31 \$56.79 1,500 \$1,427.20 \$1,497.45 \$70.25 1,750 \$1,658.88 \$1,742.58 \$83.70 2,000 \$1,690.56 \$1,696.72 \$97.16 2,500 \$2,477.90 \$1,400.60 \$1,400.60	800 1,000 1,250 1,500 1,750 2,000	\$685.83	\$713.02	\$27.18	3.96%
1,000 \$963.85 \$1,007.18 \$43.33 1,250 \$1,195.52 \$1,252.31 \$56.79 1,500 \$1,427.20 \$1,497.45 \$70.25 1,750 \$1,658.88 \$1,742.58 \$83.70 2,000 \$1,690.56 \$1,997.72 \$97.16	1,000 \$963.85 \$1,007.18 \$43.33 1,250 \$1,195.52 \$1,252.31 \$66.79 1,500 \$1,427.20 \$1,497.45 \$70.25 1,750 \$1,658.88 \$1,742.58 \$83.70 2,000 \$1,698.56 \$1,987.72 \$97.16 2,000 \$2,477.00 \$2,477.00 \$1,487.48	1,000 1,250 1,500 1,750 2,000	\$778.51	\$811.07	\$32.56	4.18%
1,250 \$1,195.52 \$1,252.31 \$66.79 1,500 \$1,427.20 \$1,497.45 \$70.25 1,750 \$1,658.88 \$1,742.86 \$83.70 2,000 \$1,690.56 \$1,997.72 \$97.16	1,250 \$1,195.52 \$1,252.31 \$56.79 1,500 \$1,427.20 \$1,497.45 \$70.25 1,750 \$1,658.88 \$1,742.58 \$83.70 2,000 \$1,890.56 \$1,490.56 \$97.16 2,500 \$2,477.99 \$1,477.90 \$1,477.90	1,250 1,500 1,750 2,000	\$963.85	\$1,007.18	\$43.33	4.50%
1,500 \$1,427.20 \$1,497.45 \$70.25 1,750 \$1,658.88 \$1,742.58 \$83.70 2,000 \$1,690.56 \$1,997.72 \$97.16	1,500 \$1,427.20 \$1,497.45 \$70.25 1,750 \$1,658.88 \$1,742.56 \$83.70 2,000 \$1,890.56 \$1,987.72 \$97.16	1,500 1,750 2,000	\$1,195.52	\$1,252.31	\$56.79	4.75%
1,750 \$1,658.88 \$1,742.58 \$83.70 \$1,690.56 \$1,997.72 \$97.16	1,750 \$1,658.88 \$1,742.58 \$83.70 \$2,000 \$1,890.56 \$1,987.72 \$97.16 \$2.950 \$2.350 \$1,000 \$1,00	1,750 2,000	\$1,427.20	\$1,497.45	\$70.25	4.95%
2,000 \$1,890.56 \$1,987.72 \$97.16	2,000 \$1,690.56 \$1,987.72 \$97.16	2,000	\$1,658.88	\$1,742.58	\$83,70	5.05%
	2 5 777 99 5124 DB		\$1,890.56	\$1,987.72	\$97.16	5.14%

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Schedule RAF-11

Page 7 of 7

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 DATE EFFECTIVE 2006 month day year

June_ month

01 2006 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:

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 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

WNA Components

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

Rate Schedule	"F Weighted Non-Ga (Per	Average as Rate	Use pe	"HF" er Customer pe	r 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 month day year

DATE EFFECTIVE

June month

01 2006 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

	Average C	Average Customer Bill with Normal Weather	ith Normal W.	eather	Average Customer	istomer Bill wit	Bill with 10% CTN Weather	Veather	Average	e Customer Bi	Average Customer Bill with CTN Weather and WNA	eather and W	Ä,		Heating Doorse Day Date	Doc Date	
	Normal				Assumed								-		A Same Surpan	c Day Data	
	Consumption				Consumption						Total Non-			Normal	Accumod		Descent
Month	(Cct)	Non-Gas	Gas	Total	(Cc1)	Non-Gas	Gas	Total	Non-Gas	WNA	Gas	Gas	Total			Difference D	rercent Difference
(Y)	(B)	<u>(</u>)	<u>a</u>	(E)	(F)	(g)	(H)	(E)	(E)	(K)	(L)	(M)	(X)	(0)	1	i	(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	37.	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	%0!
9 April	7.5	\$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	. 4	707
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	88	202	2	% 2
11 June	24	\$19.59	\$20.25	\$39.84	24	\$19.70	\$20.80	\$40.51	\$19.70	,	\$19.70	\$20.80	\$40.51	45	Ş	. •	%01
12 July	17	\$18.49	\$14.78	\$33.27	17	\$18.49	\$14.81	\$33.31	\$18.49		\$18.49	\$14.81	\$33.31	. "	· ") C	% 2
13 August	15	\$18.18	\$13.24	\$31.42	15	\$18.18	\$13.25	\$31.42	\$18.18		\$18.18	\$13.25	\$31.42			o c	760
14 September	13	\$18.45	\$14.60	\$33.05	11	\$18.48	\$14.73	\$33.20	\$18.48		\$18.48	\$14.73	\$33.20	<u> </u>	· =	-	707
15 October	27	\$20.23	\$23,42	\$43.65	56	\$20.58	\$25.12	\$45.70	\$20.58	(\$0.34)	\$20.23	\$25.12	\$45.35	140	1. 1.	- 7	201
i6 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	%01 10%
17 December	119	\$36.00	\$101.46	\$137.47	130	\$37.97	\$111.21	\$149.18	\$37.97	(21.97)	\$36.00	\$111.21	\$147.21	803	884	2 08 8 4	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%
49 Annual Difference from Normal20 Annual Difference Due to WNA	na! [A				70	\$12.09	\$59.80	\$71.89	\$12.09	(\$11.94)	\$0,14	\$59.80	\$59,95 (\$11.94)				·

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

Kansas City Residential Service Area

1 Base Rate (R) \$0.17292 per Ccf

S.

2	Heat Factor (HF)	0.14183 (0.14183 Ccf per HDD														
,-	Bace Load Factor) 22 []	Tof por ouetome.	dragar roar													
י	Dase Load Facior	11.73	11.73 Cer per custoniei per monut	n ber monut													
₹	Customer Charge	\$15.50 p	per month														
٧	PGA Rate	\$0.85564 per Ccf	er Cef														
		:		M. M.	1		All Comments	. 1007 WITH W	1	*	Cuetomor Di	ANW here and the OW NTW dills High second of the ANN	W bee rotton	*2		Heating Deci	Heating Degree Day Data
		Average	Average Customer bill with Normal weather	TAM IRUIJONI UTI	amer	Average Ct	Average Customer Dar with 10 /o Will weather	W VI W OV OI B	Eather	AVEIABL	Customer Dr.	W 111 W 111W W	Cather and m			9	200
		Normal				Assumed											
		Consumption				Consumption						Total Non-			Normal	Assumed	
	Month	(Cc)	Non-Gas	Gas	Total	(Ccf)	Non-Gas	Gas	Total	Non-Gas	WNA	Gas	Gas	Total	нрр	НОО	Difference Dif
	(A)	(B)	(C)	(g)	(E)	(F)	(G)	(H)	(<u>f</u>)	6	(K)	(5)	(W)	(S)	(0)	(F)	(<u>O</u>)
9	January	621	\$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)
-	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	(86)
œ	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)
6	April	75	\$28.48	\$64.21	\$92.68	89	\$27,34	\$58.58	\$85.92	\$27.34	\$1,14	\$28.48	\$58.58	\$87.05	464	417	(46)
2	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)
=	June	24	\$19.59	\$20,25	\$39.84	23	\$19.48	\$19.69	\$39.17	\$19.48		\$19.48	\$19.69	\$39.17	46	14	3
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	9
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	9
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	6	Ξ
2	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)
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)
13	December	119	\$36.00	\$101,46	\$137.47	101	\$34,03	\$91.71	\$125.75	\$34,03	\$1.97	\$36,00	\$91.71	\$127.72	803	723	(80)
∞ =	Total	840	\$331.21	\$718.52	\$1,049.73	170	\$319.12	\$658.72	\$977.84	\$319.12	\$11.94	\$331.06	\$658.72	\$989.78	4,928	4,435	(493)
10 70	Annual Difference from Normal Annual Difference Due to WNA	m Normal s to WNA				(70)	(\$12.09)	(\$59.80)	(\$71.89)	(\$12.09)	\$11.94	(\$0.14)	(\$59.80)	(\$59.95) \$11.94			

Percent
Difference Difference
(Q) (R)

-10%

.. - - - - - -

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

No.

Š																		
1	Kansas City Residential Service Area	Service Area																
Ba	Base Rate (R)	292	per Ccf															
H	Heat Factor (HF)	0 14183 C	0 14183 Cefner HDD															
1	(111)	COLLINA	and the state of	•														
B	Base Load Factor	11.73 (11.73 Ccf per customer per month	er per month														
ರೆ	Customer Charge	\$15.50 per month	er month															
۲	PGA Rate	\$0.85564 per Ccf	er Ccf															
		Average C	ustomer Bill w	Average Customer Bill with Normal Weather	eather	Ą	Average Customer Actual Bill	Actual Bill		Ą	erage Custom	Average Customer Actual Bill with WNA	with WNA			Heating Degree Day Data	ee Day Data	
		Normal			F													1
	Month	Consumption (Ccf)	Non-Gas	gs	Total	Consumption (Ccf)	Non-Gas	Gas	Total	Non-Gas	WNA	lotal Non- Gas	Gas	Total	HDD		Difference	Difference
1	(A)	(B)	(2)	(a)	(E)	(E)	(<u>0</u>)	Œ	: E	(E)	(K)	(T)	(M)	ટિ	(0)	Ð.	<u>©</u>	(R)
187	January	179	\$46.41	\$152.95	\$199.36	9/1	\$45.88	\$150.31	\$196.19	\$45.88	\$0,53	\$46.41	\$150.31	\$196.72	1,120	1,099	(22)	-2%
į.	Pebniaty	158	\$42.86	\$135,38	\$178.24	149	\$41.31	\$127.74	\$169.05	.341.31	\$1.54	\$42.86	\$127.74	\$170.59	. 984	921	(63)	%9-
Σ	March	211	\$35.74	\$100.13	\$135.86	108	\$34.18	\$92.45	\$126.63	\$34.18	\$1.55	\$35.74	\$92.45	\$128.19	773	402	(63)	-8%
An	Anril	25	\$28.48	\$64.21	\$92.68	99	\$26.95	\$56.67	\$83.62	\$26.95	\$1.52	\$28.48	\$56.67	\$85.15	464	402	(62)	·13%
Ž	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%
Ä	ine	24	\$19,59	\$20.25	\$39.84	20	\$18.98	\$17.22	\$36.20	\$18.98		\$6.81\$	\$17.22	\$36.20	46	21	(22)	-55%
! 🖫	<u></u>	17	\$18.49	\$14.78	\$33.27	17	\$18.42	\$14.47	\$32.89	\$18.42		\$18.42	\$14.47	\$32.89	Э	•	3	%001·
· -	Angust	15	\$18.18	\$13,24	\$31.42	1.5	\$18.17	\$13.21	\$31.38	\$18.17		\$18.17	\$13.21	\$31.38	0	•	9	-100%
Š	September	17	\$18.45	\$14.60	\$33.05	91	\$18.28	\$13.76	\$32.04	\$18.28		\$18.28	\$13.76	\$32.04	10	e	9	~67%
å	October	27	\$20.23	\$23.42	\$43.65	22	\$19.30	\$18.78	\$38.08	\$19.30	\$0.94	\$20.23	\$18.78	10.65\$	140	102	(38)	-27%
No No	November	59	\$25.63	\$50.13	\$75.76	20	\$24.14	\$42.73	\$66.87	\$24,14	\$1.49	\$25.63	\$42.73	\$68.36	397	336	(19)	-15%
ద	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	116	108	13%
<u>2</u>	Total	840	\$331,21	\$718.52	\$1,049,73	814	\$326.67	80.9698	\$1,022.75	\$326.67	\$3.68	\$330.36	\$696.08	\$1,026.43	4,928	4,743	(185)	-4%
_	Annual Difference from Normal	n Normal		3		(26)	(\$4.54)	(\$22.44)	(\$26.98)	(\$4.54)	83.68	(\$0.85)	(\$22.44)	(\$23.30)				
20 An	Annual Dillerence Due to WNA	S TO WINA																

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

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

Schedule RAF-15 Page 1 of 3

Weather Normalization Adjustment Clauses

Approved in the United States

NAVIGANT CONSULTING

			April 2006				
a.	Company	Staff	Mechanism Type I on 2	Year Approved	Rate Class or Customer. Specific	Applicable Rate Classes Months	· Effective Billing
	Alagasco	Alabama	-	1990	Customer Specific	Residential & Small Commercial & Small Industrial	All 12 Months
2	Arkansas Oklahoma Gas Corporation	Arkansas	-	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	٦	1994	Rate/Customer Specific	Residential & General Service	September through June
5	Atmos - United Cities Gas (GA)	Georgia	_	0661	Rate Class Specific	Residential & Commercial & Public Authority	October through May
9	Vectren Energy Delivery of Indiana	Indiana	1	2005	Customer Specific	Residential & Small General Service	October through April
7	Atmos (Kansas)	Kansas	_	2003	Rate Class Specific	Residential & Commercial & Public Authority	October through May
∞	Kansas Gas Service (ONEOK)	Kansas	2	2000	Rate Class Specific	Residential & Commercial	All 12 Months
6	Atmos (Western Kentucky)	Kentucky	1	2002	Rate Class Specific	Residential & Commercial & Public Authority	November through April
10	Columbia Gas of Kentucky	Kentucky	1	1661	Customer Specific	Residential & Commercial	December through April
=	Delta Natural Gas Co.	Kentucky		2000	Rate Class Specific	Residential and Commercial	December through April
12	Louis ville Gas & Electric Co.	Kentucky	_	2000	Customer Specific	Residential & Commercial	May through November
13	Columbia Gas of Maryland	Maryland	-	1993	Rate Class Specific	Residential & Commercial	November through March
41	Elizabethtown Cas Co.	New Jersey	2	1992	Rate Class Specific	Residential & Commercial	October through May
15	New Jersey Natural Gas Co.	New Jersey	2	7661	Rate Class Specific	Residential, General Service & Small Commercial	October through May

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Weather Normalization Adjustment Clauses Approved in the United States

N VIGANT CONSULTING

			April 2006	9007			CONSTINCT
1	Соправу	State	Mechanism. Type tor2'	Year Approved	Rate Class or Customer Specific	Rate Class or Customer Applicable Rate Classes Fiftective Billing Specific Months	Figerive 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	-	1980	Rate Class Specific	All heating Customers	Mid October through Mid May
8		New York	1	1989	Rate Class Specific	All heating Customers	October through May
61	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
72	North Carolina Natural Gas	North Carolina		1661	Rare Class Specific	Residential & Commercial	Mid November through Mid April
25	Public Service Co. of North Carolina (SCANA)	North Carolina	_	1661	Rate Class Specific	Residential & Small General Service	December through April
26	Montana Dakota Utilities Co.	North Dakota		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
78	Oklahoma Natural Gas Co.	Oklahoma		5661	Customer Specific	Residential & Commercial	November through April
83	New England Gas Co. (Providence Gas)	Rhode Island	2	2000	Rate Class Specific	All Classes	November through April

Page 3 of 3

Weather Normalization Adjustment Clauses Approved in the United States

NAVIGANT CONSULTING

isses Effective Biling	monthly	nall November through April	eral November through April	rcial November through	ercial November through April	November through March	September through May	October through May	All 12 Months	eral November through May	All 12 Months
Applicable Rate Classes	Residential & Commercial	Residential & Small General	Residential & General Service	Residential, Commercial & Public Authority	Res idential, Commercial & Industrial	Residential & Commercial	Residential & Commercial	Residential & Commercial	Residential & Commercial	Residential & General Service	Residential & Commercial
Rate Class or Customer Specific	Rate Class Specific	Customer Specific	Customer Specific	Rate Class Specific	Rate Class Specific	Rate Class Specific	Rate Class Specific	Customer Specific	Customer Specific	Rate Class Specific	Customer Specific
Year Approved	9661	1991	2004	1661	1661	1661	1993	0861	1995	2002	1995
Mechanism Type for 2	2	1	-		-	-	-	-	-	-	1
Stale	South Carolina	South Carolina	South Dakota	Tennessee	Tennessee	Tennessee	Texas	Texas	Utah	Virginia	Wyoming
Одлиралу	Piedmont Natural Gas (SC)	South Carolina Electric & Gas	Montana Dakota Utilities Co.	Atmos - United Cities Gas (TN)	Chattanooga Gas Co.	Piedmont Natural Gas (TN)	Texas Gas Service Company (Oncok as of 01/01/03)	TXU Gas (Atmos)*	Questar (Mountain Fuel Supply)	Virginia Natural Gas (ACL)	Questar (Mountain Fuel Supply)
	e e	31	33	33	34	35	38	37	88	8	64

^{*} Available only in certain areas