

Exhibit No.: _____
Issue: Purchasing Practices and
Other ACA Issues
Witness: John Hack
Type of Exhibit: Direct Testimony
Sponsoring Party: Greeley Gas Company
Case No.: GR-2001-394
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DIRECT TESTIMONY

Missouri Public
~~Service Commission~~

OF

JOHN HACK

ON BEHALF OF

GREELEY GAS COMPANY,

A DIVISION OF ATMOS ENERGY CORPORATION

APRIL 2, 2002

DIRECT TESTIMONY OF JOHN HACK

Q. PLEASE STATE YOUR NAME AND BUSINESS ADDRESS.

A. My name is John Hack. My business address is Atmos Energy Corporation, Suite 160, Three Lincoln Center, 5430 LBJ Freeway, Dallas, Texas 75240.

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

A. I am employed by Atmos Energy Corporation as Director, Gas Supply Planning. In this proceeding, I am testifying on behalf of Greeley Gas Company, a division of Atmos Energy Corporation.

Q. PLEASE DESCRIBE YOUR EDUCATIONAL AND PROFESSIONAL EXPERIENCE.

A. I have a Bachelor of Arts Degree in Business Administration from Kentucky Wesleyan College. I have been employed by Atmos and its predecessor since 1969 and have held numerous positions both with Atmos and Western Kentucky Gas ("Western"), another division of Atmos. During the time at Western (July 1969 through October 1990), I held positions of Gas Controller, Supervisor of Gas Control, Supervisor of Gas Control and Rates, Manager of Gas Rates, and Manager of Gas Supply Administration. Since transferring to Atmos, I have held the positions of Director of Gas Supply Kentucky, Director of Interstate Gas Supply, Director of Gas Supply Operations and my current position as Director of Gas Supply Planning.

1 **Q. PLEASE DESCRIBE THE NATURE OF YOUR DUTIES.**

2 A. One of my principal duties is gas supply management for Atmos' Greeley
3 division. I am responsible for all gas supply and system supply transportation
4 arrangements involving the interstate and intrastate pipelines which deliver gas to
5 the Greeley system. This includes pipeline capacity arrangements, gas supply
6 acquisition planning, contract negotiations and day-to-day administration. I
7 supervise five professional employees who assist me in assuring that Greeley is
8 provided an economical and reliable supply of natural gas for its customers.
9 These employees are comprised of a gas supply administrator and four gas supply
10 analysts.

11
12 **Q. WHAT IS THE PURPOSE OF YOUR TESTIMONY?**

13 A. The purpose of my testimony is to respond to the recommendation filed by the
14 Staff ("Staff") of the Missouri Public Service Commission ("Commission") in this
15 Actual Cost Adjustment ("ACA") case, Case No. GR-2001-394, for Greeley Gas
16 Company ("Greeley" or "Company") for the 2000-2001 ACA period. My
17 testimony will demonstrate that: 1) the Purchasing Practices recommendation
18 made by the Staff is unreasonable and should not be accepted by the Commission;
19 and 2) certain minor corrections need to be made to the Staff Recommendation's
20 calculations of the ACA balances.

21

1 **Q. WHAT ACA PERIOD IS INVOLVED IN THIS PROCEEDING?**

2 A. The ACA period in this proceeding is June 2000 to May 2001. It therefore
3 involves principally the winter season of 2000-2001.
4

5 **Q. DURING THE WINTER OF 2000-2001, DID ANYTHING UNUSUAL OR**
6 **EXTRAORDINARY OCCUR WITH REGARD TO NATURAL GAS**
7 **PRICES?**

8 A. Absolutely. During the winter of 2000-2001, natural gas wholesale prices
9 skyrocketed to unprecedented levels. The wellhead price of natural gas had been
10 relatively low with an average of around \$2/Mcf since this price was deregulated
11 in the 1980s. The commodity price of natural gas began to go above historic
12 highs in the summer of 2000 when it went above \$4/Mcf in June, \$5/Mcf in
13 September, and then in November it went over \$6/Mcf. At the end of 2000, after
14 two months of extraordinarily cold weather and continued reports of extreme
15 storage withdrawals, the commodity price of natural gas spiked to near \$10/Mcf
16 in late December. (Schedule No. 1—Final Report of the Missouri Public Service
17 Commission's Natural Gas Commodity Price Task Force, pp. 63-70)("Task Force
18 Report"). As explained in the Task Force Report, "[t]he increase in commodity
19 cost was due to a number of factors but the primary factor was the record cold in
20 November and December 2000 that affected most of the states east of the
21 Rockies. This record cold occurred when the commodity price had already
22 eclipsed \$5/Mcf and led to the first sustained increase in space heating demand
23 for natural gas nationally in five years. This increased demand caused nine weeks

1 of sustained or increasing commodity prices from \$4.50/Mcf the last week in
2 October 2000 to \$9.98/Mcf the last week of December 2000." (Schedule No. 1, p.
3 70)

4
5 **Q. DID GREELEY HAVE ANY REASON TO BELIEVE THAT THE**
6 **NATURAL GAS PRICES WOULD SKYROCKET TO RECORD LEVELS**
7 **DURING THE WINTER OF 2000-2001?**

8 A. No. Until the winter of 2000-2001, there had been relatively little volatility in the
9 natural gas commodity markets. As I have already explained, in the winter of
10 2000-2001, natural gas prices for the first time exhibited a much greater degree of
11 volatility. Based upon the information that was available at the time the
12 purchasing decisions were being made for the winter of 2000-2001, there was no
13 reason to expect that extraordinary measures needed to be taken to protect the
14 Company's customers from price volatility. Unfortunately, the market prices for
15 natural gas continued to exhibit price volatility throughout the winter of 2000-
16 2001, but this volatility was not anticipated by the Company or the rest of the
17 natural gas industry, prior to the winter heating season of 2000-2001. (Ironically,
18 during this past winter when considerably more hedging has occurred throughout
19 the LDC industry, natural gas prices have now returned to normal levels.)

1 **Q. PLEASE DESCRIBE YOUR UNDERSTANDING OF THE**
2 **RECOMMENDATIONS SUBMITTED BY THE STAFF REGARDING**
3 **GREELEY'S PURCHASING PRACTICES.**

4 A. In the Purchasing Practices section of the Staff Recommendation, Staff stated:

5 Staff's review of the Company's purchasing
6 practices indicated a high degree of reliance of monthly and
7 daily index pricing. As was indicated in ACA Case Nos.
8 GR-96-124, GR-97-74, GR-01-36, and in the current Case
9 GR-01-394, Greeley did not engage in any hedging
10 activities to mitigate price risk, or engage in any fixed term
11 price contracts to control the volatility of gas prices.
12 Instead, Greeley relied solely on its storage services to
13 mitigate its exposure to the price risk experienced in the
14 2000-2001-winter season.

15
16 The Staff believes that the Company did not have
17 adequate price protection for its customers. Staff,
18 therefore, proposes that a disallowance of \$14,419 be
19 made to account for the lack of fixed pricing provisions
20 and/or hedging tools in its portfolio and the additional costs
21 resulting from the timing of Company's storage
22 withdrawals. (Staff Recommendation, Appendix A, p. 2)

23
24 Based upon this cryptic description of the Staff disallowance, Greeley was
25 uncertain of the basis of the Staff's proposed disallowance.

26
27 **Q. DID YOU REVIEW ADDITIONAL INFORMATION FROM THE STAFF**
28 **REGARDING THEIR PROPOSED ADJUSTMENT?**

29 A. Yes. Greeley also reviewed the Staff's workpapers in an effort to more fully
30 understand the basis of the Staff's proposed Purchasing Practices disallowance.
31 Based upon review of the Staff's workpapers, there appears to be two underlying
32 parts to their proposed purchasing practices adjustment: 1) Staff's adjustment is
33 based upon a presumption that Greeley should have used fixed pricing provisions

1 and/or hedging tools (hereafter "hedging") for thirty percent (30%) of its
2 purchases for the Greeley service area during this ACA period, and that failure to
3 utilize the specified level of hedging was imprudent; and 2) Staff's adjustment
4 also presumes that Greeley did not prudently use its storage service during this
5 ACA period.

6
7 **Q. DO YOU AGREE WITH THE STAFF'S PROPOSED PURCHASING**
8 **PRACTICES ADJUSTMENT?**

9 A. No. The Company strongly disagrees with the Staff's proposed disallowance on
10 purchasing practices. The Staff's proposed adjustment appears to be based on the
11 use of hindsight. Few, if any, of the LDCs in Missouri were utilizing financial
12 instruments and hedging techniques during the ACA period in question. It is my
13 understanding that most, if not all, of the LDCs in Missouri (especially smaller
14 LDC systems) relied upon index pricing contracts to obtain supplies of natural gas
15 during this ACA period. It is unreasonable to make a substantial purchasing
16 practices disallowance based upon a purchasing standard that had not been
17 previously articulated or adopted by the Commission or otherwise considered
18 reasonable by the LDC industry at the time the Company was making its
19 purchasing decisions.

1 **Q. IS THE USE OF HINDSIGHT APPROPRIATE WHEN REVIEWING A**
2 **PUBLIC UTILITY'S PURCHASING PRACTICES FOR PRUDENCE?**

3 A. No. In its recent Report and Order, in *Re Missouri Gas Energy's Gas Cost*
4 *Adjustment Tariff Revisions to be Reviewed In its 1996-1997 Annual*
5 *Reconciliation Adjustment Account*, Case No. GR-96-450 (issued March 12,
6 2002), the Commission rejected an adjustment proposed by the Staff related to
7 MGE's gas purchasing practices, and held that the use of hindsight is
8 inappropriate for judging the purchasing practices of LDCs. The Commission
9 stated that the following legal standard should be used in such ACA cases:

 ... the company's conduct should be judged by asking
 whether the conduct was reasonable at the time, under all
 the circumstances, considering that the company had to
 solve its problem prospectively rather than in reliance on
 hindsight. In effect, our responsibility is to determine how
 reasonable people would have performed the tasks that
 confronted the company.^{1[28]}

10 **Q. PLEASE ELABORATE UPON YOUR UNDERSTANDING OF STAFF'S**
11 **PROPOSED ADJUSTMENT.**

12 A. Based upon my review of Staff's workpapers, it appears that Staff is suggesting
13 that it was imprudent for the Company to utilize index pricing contracts² to
14 purchase its gas supplies during this ACA period, even though index pricing
15 contracts were the principal method used by the LDC industry during this period

^{1[28]} Id. at 22, citing Union Electric, 27 Mo.P.S.C (N.S.) 183, 194, quoting Consolidated Edison Company of New York, Inc., 45 P.U.R. 4th 331 (1982).

² Index pricing contracts include provisions that tie the price of the natural gas to be supplied to a national index (i.e. NYMEX futures or other location specific indexes). This method of pricing has been the standard method used by the natural gas industry for years, and has been widely accepted by regulatory agencies.

1 throughout Missouri and the rest of the country. It further appears that Staff has
2 determined that the Company should have hedged thirty percent (30%) of the total
3 requirements of Greeley's Missouri customers during each month of the winter of
4 the ACA period in order to avoid a prudence disallowance. This purchasing
5 practices standard is inappropriate and unreasonable, given all the circumstances
6 known at the time that the Company made its purchasing decisions.
7

8 **Q. PLEASE EXPLAIN WHY INDEX PRICING CONTRACTS**
9 **TRADITIONALLY HAVE BEEN THE METHOD USED TO SECURE**
10 **NATURAL GAS SUPPLIES IN THE PAST.**

11 A. The index price represents the price that gas is bought and sold or market price.
12 Traditionally, LDCs have bought gas tied to a first-of-month index for quantities
13 nominated the first of the month to flow at a consistent level each day of the
14 month. Typically, a gas daily index is used to price intra-month or incremental
15 purchases. Supply contracts utilizing the index pricing assured the LDC that
16 purchases would be at the current market price when utilized.
17

18 **Q. EXPLAIN GREELEY'S POSITION ON THE STAFF'S ASSERTION**
19 **THAT THIRTY PERCENT (30%) OF GREELEY'S LOAD SHOULD**
20 **HAVE BEEN HEDGED DURING THE WINTER OF 2000-2001.**

21 A. Greeley served a total of 503 customers in Missouri (as of December 2001) of
22 which 445 were residential customers. Due to the small size of the Missouri
23 service area, it was not practical to fix a physical forward price or otherwise

1 hedge a substantial portion of Greeley's Missouri load because of the small daily
2 requirements and variable load characteristics. To fix a daily quantity requires
3 that an LDC take that quantity each day of the month. Any financial instrument is
4 purchased in quantities of 10,000 MMBtu minimum per contract. If one contract
5 had been purchased for any winter month, it would have hedged more than 100 %
6 of the net purchases for that month, inclusive of storage. This is not realistic,
7 given the size of the Missouri Greeley system. One method of hedging for
8 Greeley's Missouri system would be to combine the Missouri system
9 requirements of Greeley with the system requirements of the Missouri United
10 Cities Gas Company division, including the area formerly served by Associated
11 Natural Gas Company. As explained below, Missouri's Greeley division could be
12 allocated a pro-rata share of the costs/benefits of such hedging techniques.

13
14 **Q. NOTWITHSTANDING THE DIFFICULTIES OF HEDGING RELATED**
15 **TO GREELEY'S SMALL SIZE IN MISSOURI, IS IT OTHERWISE**
16 **REASONABLE TO ADOPT AN ADJUSTMENT THAT PRESUMES**
17 **AFTER-THE-FACT THAT THE COMPANY SHOULD HAVE HEDGED**
18 **THIRTY PERCENT (30%) OF ITS MISSOURI LOAD?**

19 **A.** No. Greeley's purchasing practices in this ACA period were consistent with the
20 custom and practices used throughout most of the LDC industry at that time. At
21 the time that the Company made its purchasing decisions in the ACA period in
22 this proceeding, the LDC industry, including other Atmos divisions, had relied
23 principally upon contracts that were based upon index pricing rather than

1 financial instruments or other hedging techniques. It is not fair or reasonable to
2 look back on events of this ACA period, with the knowledge that natural gas
3 prices increased to record levels during the winter of 2000-2001, and after-the-
4 fact conclude that the Company should have hedged thirty percent (30%) of its
5 Missouri system needs.

6

7 **Q. PRIOR TO THE WINTER OF 2000-2001, DID THE STAFF SUGGEST**
8 **THAT GREELEY SHOULD HEDGE THIRTY PERCENT (30%) OF ITS**
9 **LOAD DURING THIS ACA PERIOD?**

10 A. No. The Staff had not articulated any specific hedging standard to be used by
11 LDCs in Missouri, prior to the winter of 2000-2001. In addition, it is my
12 understanding that the Staff refused to "pre-approve" any specific level of hedging
13 when requested to do so by larger LDCs in Missouri.

14 The Staff certainly did not inform Greeley personnel that they believed
15 that it was imprudent if the Company did not hedge thirty percent (30%) of its
16 Missouri load. In fact, until the Company received the Staff's recommendation in
17 this case, Greeley did not know what level of hedging, if any, the Staff would find
18 to be appropriate or otherwise prudent.

19

20

21

22

23

1 **Q. PRIOR TO THE WINTER OF 2000-2001, WERE DISCUSSIONS HELD**
2 **BETWEEN ATMOS PERSONNEL AND THE STAFF RELATED TO THE**
3 **POSSILITY OF HEDGING PORTIONS OF THE COMPANY'S LOAD?**

4 A. Yes. Sometime during the Fall of 2000, I discussed this possibility with David
5 Sommerer of the Staff in a brief telephone call. He suggested that the various
6 LDCs might consider locking in prices for the upcoming winter.

7
8 **Q. HOW DID YOU RESPOND TO THIS TELEPHONE CALL?**

9 A. I discussed his telephone call with my superiors, including senior management.
10 We decided to lock in prices for a portion of the United Cities' division load by
11 fixing a price by purchasing contracts for gas supplies at a specified price. We
12 locked in the price for approximately 18% of our supplies for the winter of 2000-
13 2001 for the United Cities' divisions. The total hedged volumes including storage
14 was approximately 40% of the total requirements for these areas. For the reasons
15 explained above, it was not realistic or practical to make similar purchases for the
16 Missouri Greeley system since Greeley's Missouri service area is so small.

17
18 **Q. WHY DIDN'T UNITED CITIES USE FINANCIAL INSTRUMENTS TO**
19 **LOCK IN PRICES PRIOR TO THE WINTER OF 2000-2001?**

20 A. Prior to the winter of 2000-2001, the Company had not authorized the use of
21 financial instruments to lock in prices for any of its various divisions, due to the
22 concerns related to the costs of such financial instruments. At that point in time,

1 the state regulatory agencies had not approved the use of financial instruments, or
2 authorized the inclusion of the costs of hedging instruments in rates.

3

4 **Q. HAS THE COMPANY BEEN UTILIZING FINANCIAL INSTRUMENTS**
5 **AND HEDGING TECHNIQUES SINCE THE WINTER OF 2000-2001?**

6 A. Yes. As the Company explained in its Response to Staff Recommendation in
7 Case No. GR-2001-36 (Schedule No. 2), the Company reviews all viable options
8 in developing its supply portfolio, including financial instruments and hedging
9 techniques. Since the winter of 2000-2001, Atmos, including the Greeley
10 division, has utilized several techniques for reducing market risk.

11

12 **Q. PLEASE SUMMARIZE THE EXISTING HEDGING PROGRAMS**
13 **UTILIZED BY GREELEY GAS COMPANY AND OTHER ATMOS**
14 **DIVISIONS IN MISSOURI.**

15 A. For the winter of 2001-2002, the Company has in place a program to hedge
16 expected gas cost utilizing a combination of storage, futures contracts and option
17 contracts. The purpose of the hedge program is price stabilization. While it is not
18 practical to hedge only the Greeley load in Missouri due to its small size, the
19 program is designed to hedge 50% of gas purchase quantities on a statewide basis,
20 including all of Atmos' operating divisions in Missouri. Any benefits/costs would
21 be allocated among the various Atmos operating divisions. Gas purchase
22 quantities are the remainder after deducting estimated storage withdrawals from
23 estimated sales requirements. The strategy allows the remaining 50% of purchase

1 gas requirements to benefit from market declines, if any. The Company intends
2 to establish a similar hedge plan for the winter of 2002-2003.

3
4 **Q. UNDER THE CIRCUMSTANCES THAT EXIST IN THE NATURAL GAS**
5 **MARKETPLACE TODAY, DO YOU BELIEVE THAT THE ATMOS**
6 **HEDGING PROGRAM IS REASONABLE AND PRUDENT?**

7 A. Yes. Given the circumstances that face the Company today, Greeley believes it is
8 reasonable and prudent to utilize hedging programs today and in the future.

9
10 **Q. PLEASE EXPLAIN YOUR UNDERSTANDING OF THE SECOND PART**
11 **OF STAFF'S PROPOSED ADJUSTMENT AS IT RELATES TO**
12 **GREELEY USE OF STORAGE SERVICE.**

13 A. Based upon Staff's workpapers, it appears that the Staff has attempted to calculate
14 the effect of assuming a "normal" storage withdrawal level for each winter month
15 by calculating the difference between the embedded cost of storage versus the
16 index price of flowing supply for each month. Since storage gas was less
17 expensive than the index price of flowing gas, Staff has assumed that Greeley's
18 overall gas costs would have been less if Greeley had utilized more storage in
19 certain winter months than its actual storage levels used for those months.

1 **Q. DO YOU AGREE WITH THE PORTION OF STAFF'S DISALLOWANCE**
2 **RELATED TO GREELEY'S USE OF STORAGE?**

3 A. No. The Staff's proposed disallowance related to the Company's use of storage
4 facilities is arbitrary and inappropriate. On the Williams Central pipeline system
5 that encompasses the Missouri service area, Greeley serves over 15,000 customers
6 of which 14,000 are residential customers (including Kansas customers). Greeley
7 is contracted for No Notice Storage ("NNS") service as a part of its transportation
8 contract portfolio. The NNS service allows Greeley to balance the flowing gas
9 supply with the customer's requirements. This flexibility is crucial in providing a
10 reliable service to meet it's firm customer's requirements.

11 Greeley's load requirements are very weather-sensitive due to the
12 residential core customer base and therefore is very difficult to manage on a daily
13 basis. The weather can have a significant impact on the amount of gas that is
14 withdrawn or injected during the course of a month. The contractual nature of the
15 NNS service does not allow Greeley to preset the daily or monthly withdrawal
16 quantities. The withdrawal quantities are determined by the customers'
17 requirements which are subject to daily fluctuations due primarily to weather. As
18 the storage inventory is depleted, Greeley is required to make adjustments based
19 on estimated customer requirements in the flowing gas supplies to ensure that
20 adequate storage levels are maintained throughout the winter season. Since the
21 NNS service is primarily used for operational balancing, in November and
22 December, 2000, when the weather was significantly colder than normal, the
23 result was heavier than anticipated withdrawals from storage. As a result of the

1 high level of storage withdrawals in November and December, 2000, Greeley
2 increased the amount of flowing gas supply on the system during January, 2001,
3 to protect the storage levels from being depleted early and to avoid having
4 inadequate storage deliverability to meet any late February or March, 2001, peak
5 day requirements. The weather in January turned out to be warmer than normal
6 which resulted in less gas being withdrawn from storage. Since Greeley could
7 not control the weather, Greeley managed its storage to maximize its availability
8 throughout the remainder of the heating season. We strongly believe that our
9 actions were prudent, under the circumstances known at the time. Staff's
10 proposed adjustment is based upon an arbitrary distribution of storage capability
11 throughout the winter months, and is based upon hindsight rather than the
12 circumstances that faced the Company at the time the decisions on the use of
13 storage facilities were being made.

14
15 **Q. WHAT WOULD BE THE FINANCIAL IMPACT, ON A PER CUSTOMER**
16 **BASIS, IF THE COMMISSION ADOPTS THE STAFF'S PROPOSED**
17 **PURCHASING PRACTICES ADJUSTMENT?**

18 A. The Staff's proposed disallowance represents, on average, a \$28.67 annual
19 disallowance per Missouri customer. The Company believes the magnitude of the
20 proposed disallowance per customer may be unprecedented. If this magnitude on
21 a disallowance for purchasing practices was proposed for Atmos' larger divisions,
22 it could result in a total disallowance of approximately \$ 1.7 million! A

1 disallowance of this magnitude would be financially detrimental to the Company's
2 ability to provide reliable service throughout its Missouri service areas.
3

4 **Q. PLEASE EXPLAIN THE OTHER MINOR ADJUSTMENTS THAT NEED**
5 **TO BE MADE TO STAFF'S RECOMMENDATION IN THIS**
6 **PROCEEDING.**

7 A. The Company believes that two minor corrections to the remaining Staff
8 adjustments should be made. The WNG Storage & Transportation Demand
9 adjustment of (\$6,264) should be (\$4,026). Staff includes in the (\$6,264) an
10 amount of \$2,205 for November 2000, but Company had an offsetting amount in
11 December of \$(2,238), which Staff is shown on the Staff's workpapers, but the
12 Company does not believe Staff included this offsetting amount in the proposed
13 adjustment. The Company believes that the Storage Injection/Withdrawals
14 adjustment of (\$17,396) should be (\$15,868). Staff did not include a withdrawal
15 of 13,768 Dth during March 2001. Staff's workpapers show the storage inventory
16 balance which is 13,768 Dth higher than the balance shown on the supplier
17 invoice.
18

19 **Q. DOES THIS CONCLUDE YOUR DIRECT TESTIMONY?**

20 A. Yes. However, since the Staff has not, as yet, filed its testimony explaining its
21 proposed adjustments, Greeley reserves the right to respond and elaborate upon
22 this testimony after it has reviewed the Direct Testimony of Staff in this
23 proceeding.

AFFIDAVIT

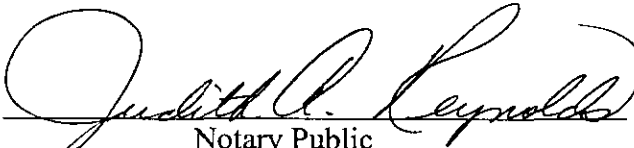
STATE OF MISSOURI)
) ss.
COUNTY OF COLE)

John Hack, being first duly sworn, on his oath and in his capacity as Director of Gas Supply Planning for Greeley Gas Company, states that he is filing on behalf of Greeley Gas Company this Direct Testimony, and has knowledge of the matters stated in this Direct Testimony, and that said matters are true and correct to the best of his knowledge and belief.



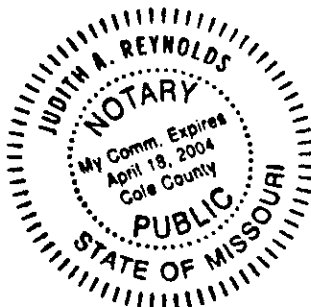
John Hack, Director of Gas Supply Planning
Greeley Gas Company

Subscribed and sworn to before me this 1st day of April 2002.

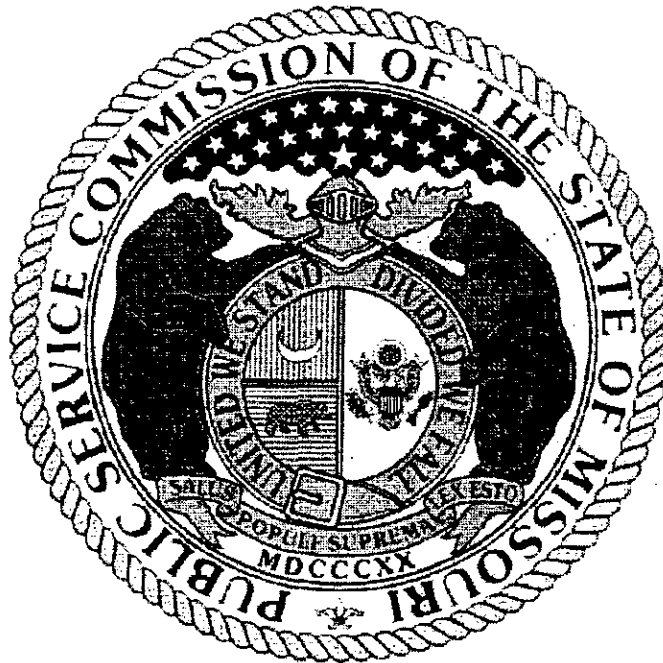


Notary Public

My Commission Expires:



Final Report of the
Missouri Public Service Commission's
Natural Gas Commodity Price Task Force



Issued: August 29, 2001

In the Matter of a Commission Inquiry) Case No. GW-2001-398
into Purchased Gas Cost Recovery.)

5. What Happened This Winter

5.a) Historical Natural Gas Prices and Heating Costs vs. the 2000-01 Winter

Most U.S. residential and general service natural gas customers are not aware of the per unit price they pay for natural gas or how much gas they are using day-to-day or month-to-month. These same customers are often economically sophisticated in other ways. They are more likely to know how much they paid for a gallon of gasoline this week compared to last week, and how many miles they drove their vehicle this week compared to last week. Thus, the typical driver can probably look at how much they spent for gasoline this week compared to last week and determine if it was due to different driving or different prices or both.

Based on numerous phone calls, letters, e-mails, and public meetings it is possible that these same people do not routinely do the same analysis of natural gas bills, or at least, not to the same degree. One reason that higher natural gas bills may surprise customers is that natural gas is consumed passively rather than actively. It is also paid for after usage has already occurred rather than before. Some natural gas customers may have made a decision to buy a higher efficiency furnace, install insulation, or use a setback thermostat for the heating system, but afterwards the furnace and water heater run automatically, controlled by thermostats. The customer does not normally make decisions daily on the purchase or use of natural gas.

Heating Degree Days (HDDs⁵ base 65F) measure cold weather for the purpose of estimating space-heating demand. HDDs for the natural gas customer's heating system are like miles for a driver's automobile. The more miles traveled the more gasoline is burned and, the more HDDs the more natural gas a heating system uses to maintain the temperature set on the thermostat. Thus, the number of HDDs in a period of time determines the volumes of natural gas consumed by a space-heating customer during that time. The relationship between HDDs and space heating demand is virtually linear, once the temperature drops below an average of about 65 F.

In the heating season of 2000-01 (November 2000 through March 2001) typical residential natural gas customers had a limited awareness of the price of natural gas and their usage until receiving their bills in December 2000 and January 2001 with substantial increases over the same months in the previous heating season. Missouri was typical of most states in the U. S. during this heating season. Prior to the 2000-01 heating season, Missouri experienced the three consecutive heating seasons 1997-2000 with the fewest total HDDs in the last forty-one years

⁵ For natural gas usage for space heating, the most commonly used measure for weather is HDD. In theory, the heating requirements for one day having 10 HDD or two days each having 5 HDD will be the same. HDD are computed from a daily mean temperature (DMT). DMT is calculated from the daily maximum (T_{max}) and daily minimum (T_{min}) temperature, HDD are only positive or zero. For DMT at or above the base, 65 ° F, HDD are zero. For DMT below 65 ° F, HDD are the difference between DMT and 65 ° F.

In equation form,

$$\begin{aligned} DMT &= (T_{max} + T_{min})/2, \\ HDD &= 65^\circ - DMT, & \text{if } DMT \leq 65 \\ HDD &= 0, & \text{if } DMT > 65. \end{aligned}$$

(1960 – 2001), i.e. 1997-98, 34th; 1998-99, 40th; and 1999-00, 41st; (see Chart 5.1). The most recent Missouri heating season with a weighted HDD⁶ total as high as 2000-01 was 1995-96. Each of the four heating seasons after 1995-96 was successively warmer than the previous. This HDD decline made natural gas bills during the heating season decline, as less natural gas was needed for heating. This decline in HDD was also the general pattern nationally. As the demand for natural gas decreased, the commodity price of natural gas in the unregulated wholesale natural gas market remained between \$1.75 and \$3.00 per Mcf (1,000 cubic feet of gas, approximately equivalent to 1,000,000 Btu). An Mcf is not the unit of usage that appears on most customer bills, but it is a common unit for markets. Most customers are familiar with Ccfs or Therms which represent about one tenth of an Mcf. A Ccf is equivalent to 100 cubic feet of gas and a Therm is equivalent to 100,000 Btu. A Ccf is often very close to the same as a Therm (assuming a heat output of about 1000 Btu/cubic foot). Over the last five years retail natural gas customers enjoyed the benefits of an unregulated wholesale market when the decline in HDD resulted in a decline in the need for space heating.

This decline in the demand for natural gas for space heating tended to compensate the market for increases in the demand for natural gas for other uses such as the generation of electricity. There was also a decline in demand as a result of the decline in the amount of gas put in storage during the non-heating season (April – October). This decrease in storage injections carried into the summer of 2000, as the wholesale price of gas increased.

During the summer of 2000 the cost of natural gas was high and many market participants held off making significant injections anticipating a drop in natural gas prices. This anticipated drop in prices did not materialize. Some of the reduction in storage injections may have also been due to a perception that the need for storage gas was not as great given the recent mild winters. The events of this winter have emphasized the importance of storage in any well designed gas supply portfolio.

For most of the US, including Missouri, the winter of 2000-01 contained the coldest combined November and December on record (see Chart 5.2). This early record cold placed an unexpected strain on gas supplies and the wholesale market responded. The remainder of the heating season (January – March) was not so severe, but the HDD total for the heating season was the ninth highest in forty-one years. The increase in HDD from 1999-00 (3,443 HDD) to 2000-01 (4,608 HDD) was the largest consecutive season-to-season difference in HDD in the last forty-one years. Statistically speaking, the return interval for a difference of this magnitude (1,165 HDD) is over 140 years. Once again, the pattern of HDD for November and December, and the total heating season in Missouri, was similar to the national pattern.

⁶ The weather stations used to compute Missouri weighted HDD are Cape Girardeau – 0.039661, Columbia – 0.101227, Conception – 0.005233, Kansas City – 0.295548, Kirksville – 0.014681, Springfield – 0.056022, St. Louis – 0.487627.

The volumes of natural gas consumed by the typical Missouri residential customer during the 2000-01 winter heating season greatly exceeded those of the previous season. The typical Missouri residential natural gas customer consumed a greater volume of natural gas in every month of the 2000-01 winter vs. the previous winter (see Chart 5.3). This winter's estimated total for a typical residential customer was 107.6 Mcf compared to the 1999-00 winter's total of 86.5 Mcf.

Chart 5.1 - Historical MO State Weighted HDDs

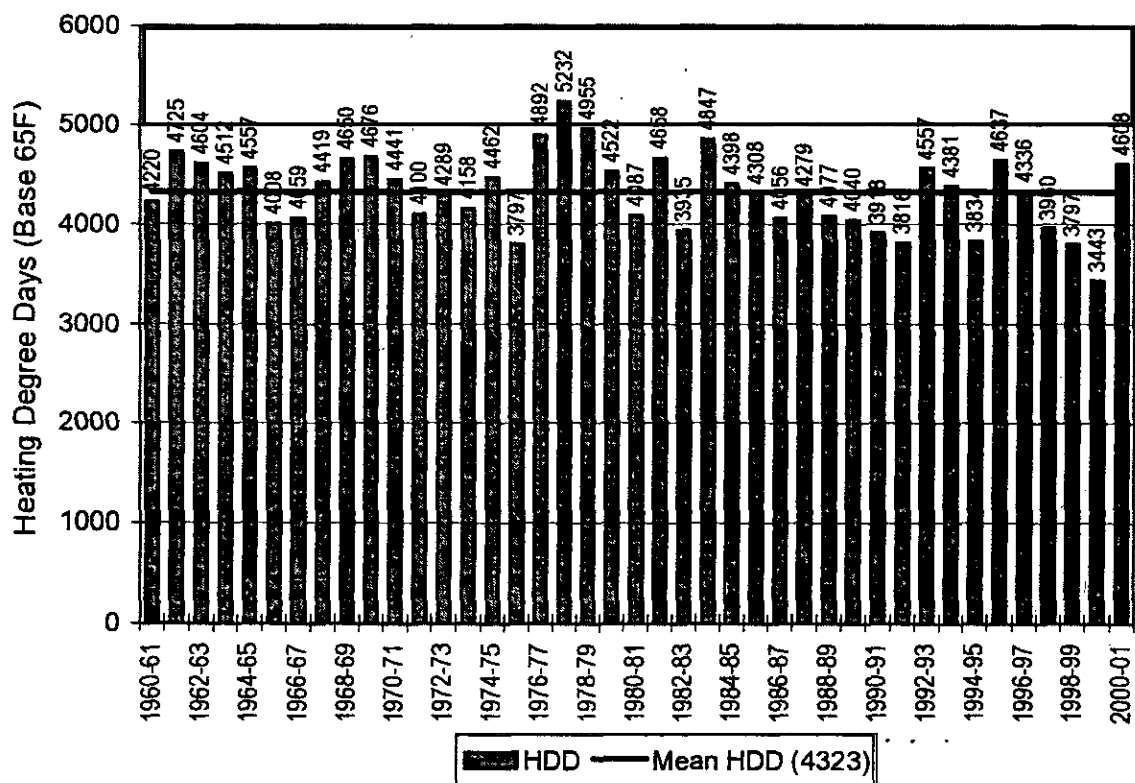


Chart 5.2 -Monthly MO Weighted Heating Degree Days

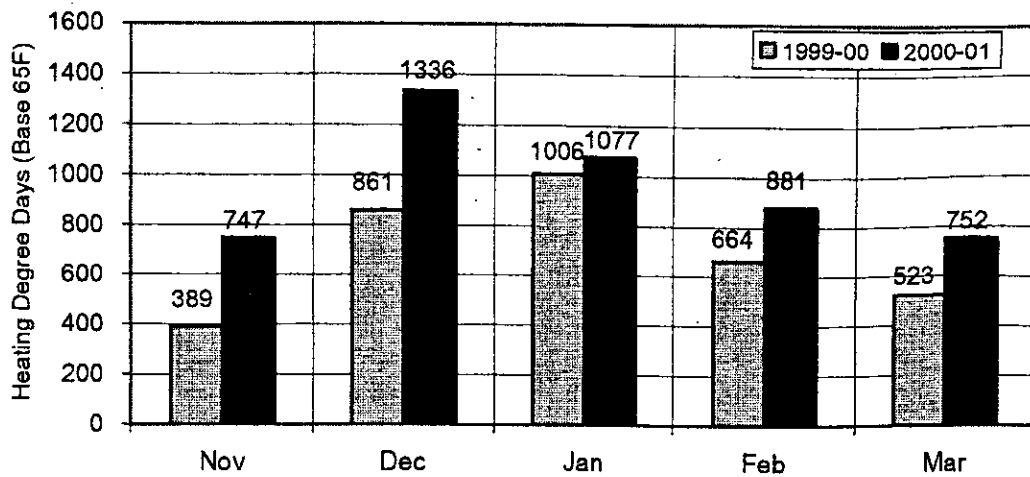
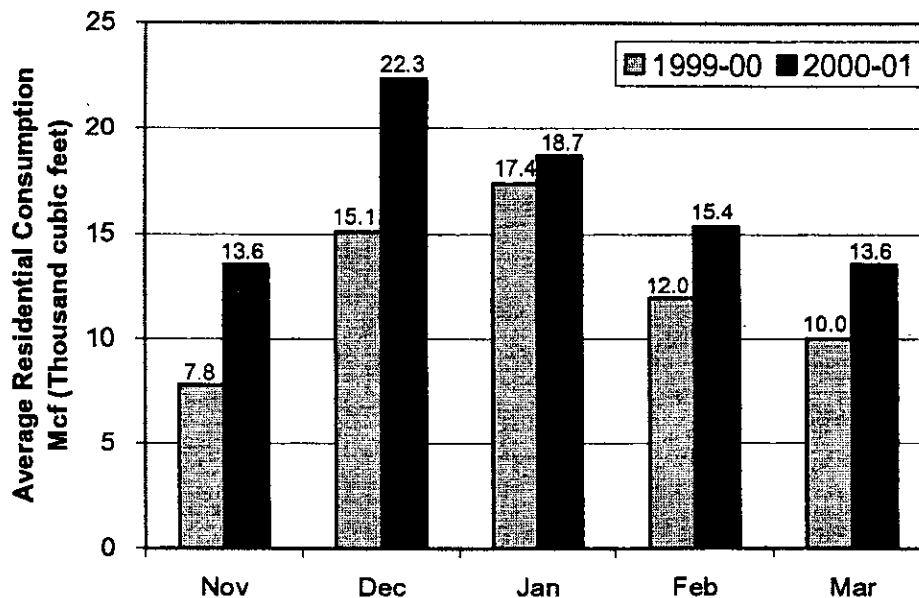


Chart 5.3 - MO Residential Natural Gas Customer Heating Season Monthly Usage



Additionally, retail natural gas customers encountered the negative consequences of a volatile unregulated wholesale market for natural gas during the 2000-01 winter heating season. The wellhead price of natural gas has been relatively low with an average of around \$2/Mcf since this price was deregulated over a decade ago. The commodity price of natural gas began to go above historic highs in the summer of 2000 when it went above \$4/Mcf in June, \$5/Mcf in September, and then in November it went over \$6/Mcf (see Chart 5.4).

This increase in volumes used and costs per unit are critical to natural gas consumers since 65 to 80 percent of the typical natural gas customer's bill is a result of the recovery of the commodity and transportation costs of natural gas.

The mechanism that links the retail customer of a regulated Missouri LDC to the commodity price of natural gas in the unregulated national wholesale market is the LDC's Purchase Gas Adjustment (PGA) rate and the type of pricing mechanisms that are in the contracts each LDC negotiates with its suppliers. The PGA mechanism allows LDCs to incorporate the commodity price they pay into the rates they charge their customers.

In October 2000, Missouri's three largest LDCs filed record high winter PGA rates in the range of \$6.44 to \$6.77/Mcf. The state weighted average PGA rates of regulated LDCs was \$6.68/Mcf with a range from \$3.77 to \$8.50/Mcf. The differences between PGA rates is due to several factors, some of which are a) overall system size and mix of the LDCs customer base, b) availability and use of storage capacity, c) how LDCs rely on index priced gas, fixed priced gas, and the LDC's transportation contracts, d) the LDCs hedging strategies as well as the different percentages of supplies from these sources and e) the LDCs willingness to incur large under recoveries rather than raising PGA rates in mid-winter. The 1999-00 winter MO weighted average PGA rate was \$3.89/Mcf. The state weighted average PGA rate in November 1999 was not much different than the PGA rate going back to November 1997 (see Chart 5.5). The details of the PGA mechanism established by the PSC will be discussed in the next section of this report.

From the inception of unregulated wholesale interstate natural gas in the 1980s until 2000 the commodity price generally varied from \$1 to \$3/Mcf. In the last five winters the commodity price might be above \$3/Mcf for a only few days in two or three months of the winter. Under these circumstances a change of \$.50/Mcf was significant. In addition to the commodity cost, LDC PGA rates include about \$1/Mcf in transportation cost, so the PGA rates before 2000 were in the \$2 to \$4 range (see Chart 5.5).

In addition to the PGA rate, LDC retail customers pay a monthly customer charge and a per unit distribution rate (a.k.a. Margin Rate) to the LDC. These rates are set in general rate cases by the MoPSC. In the winter months these rates add about \$3.50 to \$4.00/Mcf to the typical residential customer's cost of gas. So, in the winter months of 1999-00 the state weighted retail residential price of natural gas was between \$5.75 and \$6.48/Mcf (see Chart 5.4).

At the end of 2000, after two months of extraordinarily cold weather and continued reports of extreme storage withdrawals, the commodity price of natural gas spiked to nearly \$10/Mcf in late December. Speculation that the market would moderate and criteria for filing for unscheduled winter PGA rate changes resulted in LDCs not filing until January 2001 for PGA rate increases to reflect this extraordinary spike in prices.

Chart 5.4 - State Weighted Residential Retail Composite Price of Natural Gas and NYMEX Commodity Price of Natural Gas

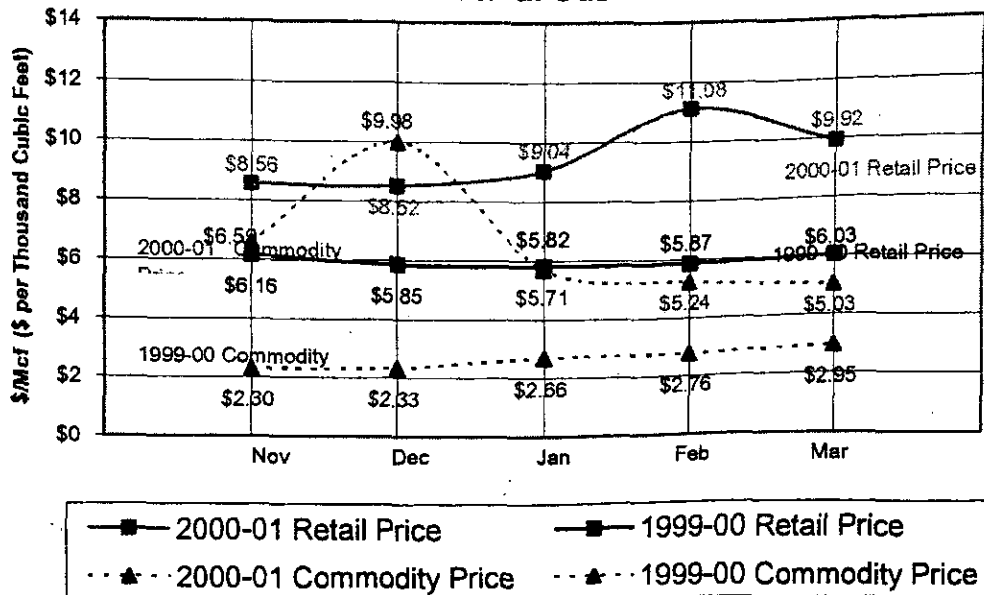
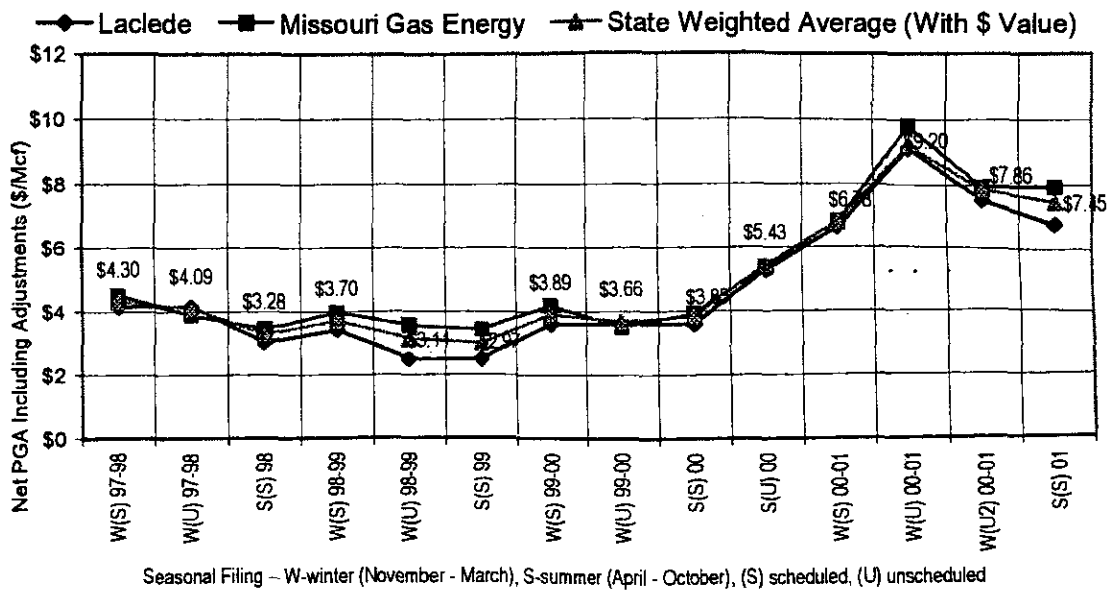


Chart 5.5 - MO Regulated Gas Utilities Net PGA for General Service Customers



The Scheduled Winter PGAs become effective about November 1.
 The Scheduled Summer PGAs become effective about April 1.
 Unscheduled PGAs may become effective anytime during the season.

An unusual phenomenon occurred in December 2000 when the commodity price of natural gas was higher than the retail price of natural gas (see Chart 5.4). This resulted in many LDCs incurring a deficit because they were paying more for natural gas on the unregulated wholesale market than they were receiving from their customers through regulated rates. As will be explained in later sections, LDCs are allowed to recover this deficit in addition to bringing their PGA rates in line with the current commodity price when they file for unscheduled winter PGA rate changes (see Chart 5.5, *W(U) 00-01*). The further increase in PGA rates in January resulted in monthly gas bills remaining high in January, February, and March even though these months did not experience the record breaking cold of November and December (see Chart 5.6).

Chart 5.6 - MO Residential Natural Gas Customer Heating Season Monthly Bills

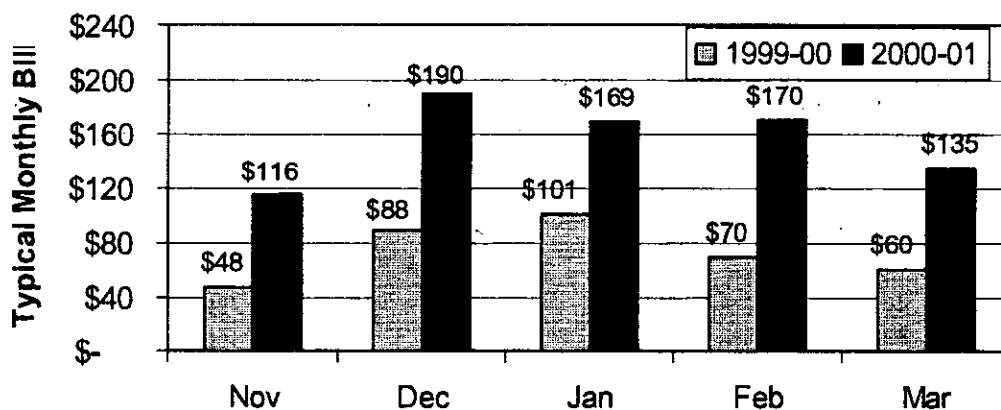
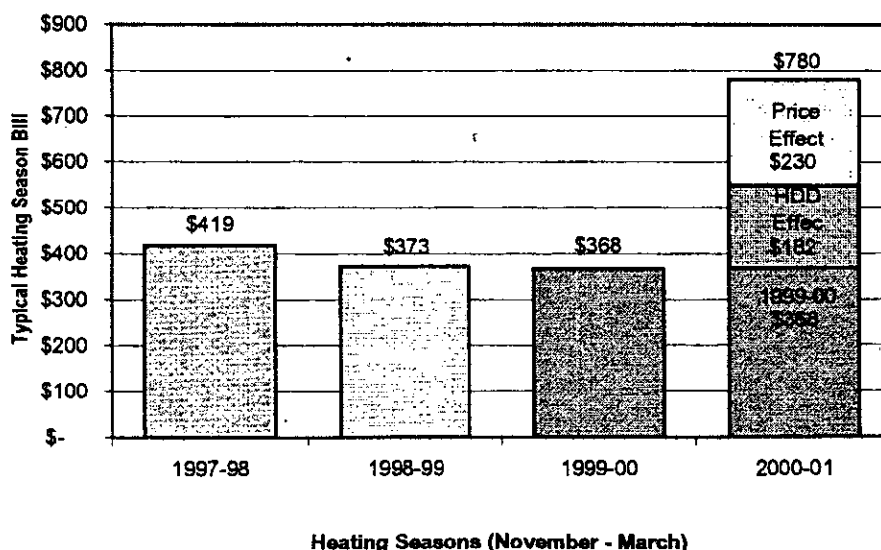


Chart 5.7 - MO Residential Natural Gas Customer Typical Heating Season Bill



By the end of the 2000-01 heating season, the typical residential customer's bill was more than twice their bill for the previous heating season (see Chart 5.7).

A similar pattern is seen when PGA rates and typical residential natural gas bills are compared to the two earlier heating seasons. In November 1997, the MoPSC changed its rules so that LDCs filed for scheduled PGA rate changes in November and March. At that time the state weighted PGA rate was \$4.30/Mcf. The heating season was mild and the estimated bill for the heating season of 1997-98 was \$419 for the typical residential customer. The state weighted PGA rate was below \$4.00 for the next two years as the wholesale market reflected the low demand due to mild heating seasons in most of the nation. This combination of mild heating seasons and a relatively steady PGA rate resulted in declines in the bills for Missouri's typical residential customer for the next two heating seasons (see Chart 5.7). Consequently, Missouri's LDCs and their customers had not experienced either the prolonged extreme cold or the high PGA rates in the previous three winters that occurred before the 2000-01 winter.

The increase in the heating season natural gas bill for the typical Missouri residential customer was from \$368 in 1999-00 to \$780 in 2000-01. This increase of \$412 has two primary components. The HDD effect, \$182, is the increase in the bill as a result of more volumes used due to colder weather; and the price effect, \$230, is the increase in the bill due to the higher retail price per Mcf of natural gas in 2000-01 compared to 1999-00 (Chart 5.7). The higher retail price was the result of Missouri LDC's higher PGA rates, and the higher PGA rates were due to the higher commodity cost of natural gas in the unregulated wholesale natural gas market. The increase in commodity cost was due to a number of factors but the primary factor was the record cold in November and December 2000 that affected most of the states east of the Rockies. This record cold occurred when the commodity price had already eclipsed \$5/Mcf and led to the first sustained increase in space heating demand for natural gas nationally in five years. This increased demand caused nine weeks of sustained or increasing commodity prices from \$4.50/Mcf the last week in October 2000 to \$9.98/Mcf the last week of December 2000.

5.b) Components of the Purchased Gas Adjustment (PGA)

The PGA Clause was instituted for Laclede Gas Company in 1962. Other LDCs received approval for their PGA Clauses in subsequent years. Most states have PGA Clauses (46 of 50 states), although the mechanism is unique as a ratemaking mechanism in that the costs that are applicable to it are not considered in the general rate case process. Costs that are subject to recovery through the PGA Clause typically include gas supply, pipeline transportation, and pipeline storage costs.

BEFORE THE PUBLIC SERVICE COMMISSION
OF THE STATE OF MISSOURI

FILED³
JUN 15 2001

Missouri Public
Service Commission

In the Matter of Greeley Gas Company's Purchased)
Gas Adjustment Factors to be Reviewed in its)
1999-2000 Actual Cost Adjustment)

Case No. GR-2001-36

**GREELEY GAS COMPANY'S
RESPONSE TO STAFF RECOMMENDATION**

COMES NOW Greeley Gas Company ("Greeley" or "Company"), and pursuant to the Commission's Order Directing Response issued on May 16, 2001, states its response to the Staff's Recommendation filed on May 1, 2001, as follows:

1. On May 1, 2001, the Commission Staff filed its recommendation following the completion of the audit of the Actual Cost Adjustment ("ACA") rates for the period of June 1999 to May 2000, for Greeley's Southwest Missouri District. The Staff's audit consisted of an analysis of the billed revenues and actual gas costs included in the Company's computation of the ACA rate for said period.

2. As a result of its audit, the Staff recommended that the Commission issue an order requiring Greeley to:

- a. Adjust the ACA balance in its next ACA filing by \$7,518 [$\$3,893 + \$4,062 + (\$437)$] from \$68,478 over-recovery balance to \$60,960 over-recovery balance to reflect the adjustments proposed relating to gas costs, storage and gas supply realignment costs;
- b. Increase the Refund balance owed by Greeley to its customers by \$200;
- c. Include hedging provisions in its Requests for Proposals (RFPs) to mitigate price risk and reduce its exposure to price volatility in the market; and

- d. Submit a reliability study addressing the heatload factor, selection of peak heating degree days (HDD), comparison of estimated usage to actual usage, and negative reserve margin comments as discussed in the Reliability Study section of the Staff's Recommendation, said study to be submitted by July 31, 2001.

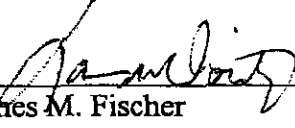
3. On May 16, 2001, the Commission issued its Order Directing Response which required Greeley to file a response to the Recommendation of the Staff no later than June 15, 2001.

4. After reviewing the Staff's Recommendation in this matter, the Company has determined that Staff's recommendations are acceptable to the Company and should be implemented, as clarified pursuant to Paragraph 5 below.

5. In the Purchasing Practices section of its Recommendation, Staff states that its review of the Company's purchasing practices indicated a high degree of reliance on monthly index pricing. As noted above, Staff recommends that all RFPs should include provisions for hedging to mitigate price risk and should include fixed term pricing provisions. "If Greeley does not analyze and/or utilize viable options in developing its supply portfolio, Greeley is accepting market risk associated with such price fluctuations." Greeley respectfully submits that it does analyze and utilize viable options in developing its supply portfolio and, indeed, any and all such options, including but not limited to RFPs, should be available to the Company to minimize market risk. While hedging and fixed term pricing provisions may be appropriate (the Company intends to utilize such financial instruments to mitigate price on a portion of its gas purchasing requirements), the Company should not be limited in its analysis and utilization of a variety of financial instruments that may be available and appropriate.

WHEREFORE, Greeley Gas Company respectfully requests the Commission to issue an Order Approving Staff Recommendation Regarding Actual Cost Adjustment, as clarified consistent with the Company's reservations expressed in Paragraph 5 above, and accept the adjusted rates on a permanent basis.

Respectfully submitted,


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Attorneys for Greeley Gas Company

CERTIFICATE OF SERVICE

I do hereby certify that a true and correct copy of this document has been hand-delivered or mailed, First Class, postage prepaid, this 15th day of June, 2001, to:

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Office of the Public Counsel
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