Exhibit No.:
Issues: *Purchasing Practices; Reliability Analysis*
Witness: *Lesa A. Jenkins*
Sponsoring Party: *MoPSC Staff*
Type of Exhibit: *Direct Testimony*
Case Nos.: *GR-2001-382, GR-2000-425, GR-99-304 & GR-98-167 (Consolidated)*
Date Testimony Prepared: *January 15, 2003*

MISSOURI PUBLIC SERVICE COMMISSION

UTILITY SERVICES DIVISION

DIRECT TESTIMONY

OF

LESA A. JENKINS

MISSOURI GAS ENERGY
CASE NOS. GR-2001-382, GR-2000-425, GR-99-304 & GR-98-167
(Consolidated)

Jefferson City, Missouri
January 2003

****Denotes Highly Confidential Information****

NP

Exhibit No. 12-NP
Case No(s). GR-2001-382
Date 5-12-03 Rptr KF

BEFORE THE PUBLIC SERVICE COMMISSION

OF THE STATE OF MISSOURI

In the Matter of Missouri Gas Energy's Purchased Gas Adjustment Tariff Revisions to be Reviewed in its 2000-2001 Actual Cost Adjustment	)))	**Case No. GR-2001-382**
In the Matter of Missouri Gas Energy's Purchased Gas Cost Adjustment Factors to be Reviewed in its 1999-2000 Actual Cost Adjustment	)))	**Case No. GR-2000-425**
In the Matter of Missouri Gas Energy's Purchased Gas Cost Adjustment Factors to be Reviewed in its 1998-1999 Actual Cost Adjustment	)))	**Case No. GR-99-304**
In the Matter of Missouri Gas Energy's Purchased Gas Cost Adjustment Tariff Revisions to be Reviewed in its 1997-1998 Actual Cost Adjustment	)))	**Case No. GR-98-167**

AFFIDAVIT OF LESA A. JENKINS

STATE OF MISSOURI)
) ss.
COUNTY OF COLE)

Lesa A. Jenkins, being of lawful age, on her oath states: that she has participated in the preparation of the following Direct Testimony in question and answer form, consisting of 29 pages to be presented in the above case; that the answers in the following Direct Testimony were given by her; that she has knowledge of the matters set forth in such answers; and that such matters are true and correct to the best of her knowledge and belief.

Lesa A. Jenkins

Subscribed and sworn to before me this 14th day of January 2003.

D SUZIE MANKIN
Notary Public - Notary Seal
STATE OF MISSOURI
COLE COUNTY
MY COMMISSION EXP. JUNE 21,2004

TABLE OF CONTENTS OF

DIRECT TESTIMONY

LESA A. JENKINS

MISSOURI GAS ENERGY

CASE NOS. GR-2001-382, GR-2000-425, GR-99-304, GR-98-167
(CONSOLIDATED)

DIRECT TESTIMONY

OF

LESA A. JENKINS

MISSOURI GAS ENERGY

CASE NOS. GR-2001-382, GR-2000-425, GR-99-304, GR-98-167

(CONSOLIDATED)

Q. Please state your name and business address.

A. Lesa A. Jenkins, P.O. Box 360, Jefferson City, MO 65102.

Q. By whom are you employed and in what capacity?

A. I am a Regulatory Engineer in the Procurement Analysis Department with the Missouri Public Service Commission (Commission).

Q. Please describe your educational and professional background.

A. I received a Bachelor of Science degree, with honors, in Industrial Engineering (BSIE) from University of Missouri – Columbia. I received a Master of Business Administration (MBA) from William Woods University. Since March 1993, I have been registered as a professional engineer in the state of Missouri. I am currently a member of the Society of Women Engineers, National Society of Professional Engineers and the Missouri Society of Professional Engineers.

Q. Please describe your work background.

A. Prior to joining the Commission, I was employed by the Missouri Department of Natural Resources (DNR). While employed with DNR I held various engineering and then management positions with the Division of Energy from February 1992 - October 1999. I was employed as an environmental engineer with the DNR, Division of Environmental

Quality from January 1988 - January 1992. Prior to that I was employed by Procter & Gamble in various production and quality control/quality assurance team manager positions in Cape Girardeau, Missouri and then in Cincinnati, Ohio. I began employment in my current position with the Commission in November 1999.

Q. Please describe your duties while employed by the Commission?

A. The nature of my duties at the Commission has been to investigate and review natural gas reliability/peak day plans of the ten natural gas local distribution companies in order to determine the reasonableness of the assumptions for estimating demand requirements; to analyze the companies' estimating tools; to review and analyze transportation capacity/storage/peaking/supply resources utilized by the companies; to review and analyze company base load and other gas supply requirements; and to review and analyze the rationale for the companies' reserve margins–capacity in excess of the requirements estimated to be needed for peak day requirements. I also assist in matters involving analysis of economic dispatch models, gas supply plans, incentive plans, hedging plans and service area expansions.

Q. Have you previously filed testimony before this Commission?

A. Yes, I have. See Schedule 1 attached to this direct testimony for a list of cases and issues. Additionally, I have prepared 29 reliability reviews as part of the filed Staff Actual Cost Adjustment (ACA) recommendations since November 1999.

Q. Did you make an analysis of the books and records of the Company in regards to matters relevant to this case?

A. Yes, I did. For the 1998/1999 and 1999/2000 ACA reviews, I reviewed and analyzed the reasonableness of the Company assumptions for estimating demand

requirements; the Company's estimating methods; the transportation capacity, storage, and peaking supply resources planned and utilized by the Company; and the rationale for the Company's reserve margin. For the 2000/2001 ACA review, I conducted a reliability and natural gas purchasing practices analysis for the reasonableness of the assumptions for estimating demand requirements; an analysis of the Company's estimating methods; a review and analysis of transportation capacity, storage, and peaking supply resources planned and utilized by the Company; and a review and analysis of the rationale for the Company's reserve margin.

Q. What matters will you address in your testimony?

A. I will address issues filed in the Staff Recommendation for Missouri Gas Energy (MGE or Company), Case No. GR-2001-382, related to "Purchasing Practices." I will also address issues filed in the Staff Recommendation for Missouri Gas Energy, Case Nos. GR-2001-382 and GR-2000-425, related to "Reliability Analysis."

Q. What knowledge, skills, experience, training or education do you have in these matters?

A. Both my MBA and BSIE degrees provided formalized coursework that gave me knowledge and skills that I used in these reviews. My 20 years of engineering/management work experience provide me with experience from project reviews and additional knowledge has been gained from training courses and review of technical information. Eleven of these years of work experience related specifically to energy issues. The projects that I have worked on over my 20 years of engineering/management work in private industry and government have allowed me to look at issues from various vantage

points, such as consumer wants and needs, business goals and limitations and requirements and limitations presented by rules and regulations.

Q. What is the purpose of your direct testimony?

A. Staff recommends in Case No. GR-2001-382 a purchasing practices adjustment that consists of two parts – one related to an adjustment for failure to hedge 30% of normal requirements as a minimum level of hedge for the heating season of 2000-2001; and the second related to the Company's use of flowing supplies and natural gas in storage. My testimony provides support for 30% of normal requirements as a minimum level of hedge for the heating season of 2000-2001. My testimony also provides support for the proposed purchasing practices adjustment related to use of storage. In addition, I address the Staff recommendations regarding documentation issues related to the reliability analysis in Case Nos. GR-2001-382 and GR-2000-425.

My testimony will provide detailed evidence to show that MGE was unreasonable and imprudent in its management of natural gas supplies. The Company left its customers exposed to significant amount of price risk heading into the heating season that could have been easily avoided. It managed its supplies in such a way during the heating season that could have been easily avoided. MGE managed its supplies in such a way during the heating season that its customers were exposed to large amounts of price risk by the end of December 2000. The Company had boxed itself in and subsequently purchased high priced index gas for January 2001 delivery. The economic damage caused by the Company to its customers is represented by a disallowance computed by Staff from Company data.

PURCHASING PRACTICES – MINIMUM LEVEL OF HEDGING

Q. Please explain why Staff believes there should be a minimum level of hedging for each month of November 2000 through March 2001.

A. Because of the large price volatility in the natural gas market, it is reasonable to expect that MGE would have engaged in at least a minimal level of hedging for the heating season months of the 2000-2001 ACA review period, so that the customers expected natural gas requirements are at least partially protected from this price uncertainty. The direct testimony of Staff witness John Herbert discusses the purpose and importance of hedging.

Staff believes that the Company should have considered several scenarios when determining an appropriate hedging level for its customers. Staff believes that it is necessary for the Company to consider the cold, normal and warm monthly weather data in order to properly plan for the variations in volumes of natural gas demanded by customers and thus, the types of contracts (base load, swing, storage, pricing provisions, etc.) necessary to meet customer requirements. Because the Company makes nominations on a monthly basis, the Company must consider monthly usage information.

Q. Did the Company provide estimates of usage?

A. Yes. In the *Missouri Gas Energy Reliability Report, July 1, 2000 through June 30, 2001*, dated July 1, 2000, the Company states that natural gas usage was evaluated to obtain an estimate of base load usage and heat load usage for the Company's firm customers. Base load usage represents customer usage that is not expected to vary with the outside temperature such as usage for cooking, some commercial and industrial processes and most water heating. Heat load usage represents customer usage that does vary based on outside temperature, such as space heating. The heat load for a particular temperature is

estimated by taking the heating degree days (HDD), a measure of how cold a location is relative to a base temperature of 65 degrees Fahrenheit, times a heat load factor; the heat load factor is calculated from actual customer usage data and actual heating degree days and may be expressed as MMBtu per heating degree day or MMBtu per heating degree day per customer. Usage in the heating season months of November through March is expected to be higher than just the base load usage because each month has daily average temperatures below 65 degrees Fahrenheit, and thus each of these months also has heat load usage.

In its Reliability Report, the Company provided a "base case" monthly estimate of usage for 30-year normal weather and another "base case" estimate of usage for 10-year normal weather for the months of July 2000 through June 2001. The Company states that these estimates are calculated using the base load usage and heat load usage for each month multiplied by an average annual escalation factor. Similarly, in its Reliability Report MGE provided estimates of "low case" and "high case" usage based on the warmest and coldest weather that has occurred on a month-by-month basis during the preceding 15-year period. The Company Reliability Report estimates of base case usage, high case usage, and low case usage are in the attached Schedule 2 and are shown on the chart in the attached Schedule 3.

Q. Are there problems with these estimates of usage?

A. Yes. The Company's Reliability Report states that the annual load forecasts, which include the base case, high case and low case forecasts, are calculated based on an analysis of the relationship between daily weather and daily sales. The annual forecasts are maintained on a twelve-month rolling basis. The Company states that the base load component remains constant and is updated once each year for the prior twelve-month period. The Company states that the heat load component of this forecast is developed by

weather-normalizing delivery volumes from the most recent ended twelve months. However, MGE provided no supporting data for its monthly usage estimates for the base case, low case, and high case scenarios. MGE's Reliability Report states that a series of regression analyses are performed on the historic daily firm sales to determine the base load and weather sensitive heat load factors. However, when Staff requested copies of this data for review, the Company stated that this analysis was undertaken in 1994 and cannot be found. Staff cannot determine whether these estimates of base case, high case and low case are also based on this 1994 analysis that cannot be found, an analysis of data that was at least six-years old at the time of this Reliability Report. Because the data cannot be found, MGE cannot establish, and Staff cannot confirm, that these estimates of base case, high case and low case usage are reasonable.

Additionally, Staff does not agree that a review of 15-years of weather data is sufficient. Thirty years of weather data is evaluated by the Company in one of the base case estimates shown in Schedule 2, so Staff would expect that thirty years of weather data would also be considered for the high case and low case estimates.

Q. Does MGE have other estimates of usage?

A. Yes. The Company's Reliability Report contains an estimate of base load usage and heat load factor used for estimating peak day usage. Using these factors, and normal month, warmest month and coldest month temperatures for these months, Staff estimated what could be expected as normal, minimum and maximum usage for each month of November 2000 through March 2001. Schedule 3 attached to this direct testimony also shows the Staff estimates of usage for base load, warmest month, normal month and coldest month for each of the heating season months of November through March. See attached

Schedule 4 for a summary of warmest, coldest, normal and actual heating degree day information for Kansas City.

Q. Are there problems with these estimates of usage?

A. Yes. MGE's Reliability Report states that a series of regression analyses are performed on the historic daily firm sales to determine the base load and weather sensitive heat load factors. As noted before, when Staff attempted to obtain copies of this data for analysis, the Company stated that this analysis was undertaken in 1994 and cannot be found.

Additionally, the Company Reliability Report states that the base load and heat load factors are updated annually. However, the heat load factors used in the peak day estimate appear to be based on a review of usage for only one cold day each year, not a series of regression analyses. Staff does not believe that the review of one cold day in each year, a single data point, is sufficient to establish the heat load factors. Even if the 1994 analysis could be found, Staff is concerned that analysis of data that was at least six-years old prior to the date of this Reliability Report would not be representative of customer usage for the year 2000/2001. This lack of information is also addressed in my comments regarding the Reliability Analysis.

Q. What information did Staff use in its review of estimated usage for MGE's customers?

A. Because MGE did not provide any heat load factors that could be supported by data, Staff evaluated the Company's purchasing practices using the estimates of usage from the Reliability Report base case, high case and low case. Staff reasoning was that the estimate of base case using the 30-year normal weather is close to the normal estimated usage in the Company's Supply Demand Summary provided in the response to Data Request

Nos. (DR Nos.) 21 and 68, attached as Schedules 5 and 6. Thus, the estimate of 30% of normal shown in Schedule 3 is calculated from the Company estimate of base case usage for 30-year normal weather.

Q. Please explain why Staff believes that 30% of normal requirements, as a minimum level of hedging for each month of November 2000 through March 2001, is reasonable.

A. It could be argued that to mitigate price risk to customers, 100% of warm weather requirements for each month should be hedged because these demands represent the lowest expected demand for that month; even if the warmest temperature were encountered, customer demand would be at the warmest month usage shown in the attached Schedule 3. A review of the usage estimates reveals that if the Company hedged 100% of the volumes required for a warm, low case month, 62% of volumes for a cold, high case, heating season would be hedged. Thus, customers would be exposed to price risk for 38% of volumes required for a cold, high case, heating season. Companies that have flexibility in their operations and in their contracts might want to reduce this exposure further by hedging more than 100% of warmest month requirements.

However, Staff is not proposing that 100% of the warmest month volumes should have been hedged for the 2000-2001 ACA period. Staff is proposing that for the heating season of 2000-2001, a minimum reasonable hedge for the Company to have in place heading into the heating season would have been 30% of normal for each month of the heating season. Staff chose this very low level of hedging as a standard for several reasons. Some Missouri local distribution companies are experienced with some aspects of hedging such as use of natural gas from storage, but are new to other aspects of hedging. Testimony

of Staff witness Dave M. Sommerer addresses MGE's experience with hedging. Staff wanted a standard that was reasonable for all Missouri local distribution companies to follow even if the companies wanted to be extremely conservative in their use of hedging instruments because of their inexperience.

If 30% of normal requirements had been hedged for MGE, this would mean that when a warm month (low case) was encountered, 38% of the estimated volumes required would have been hedged. This also means that when a cold month (high case) was encountered, only 24% of the estimated volumes required would have been hedged. Staff could not reasonably justify hedging less than 30% of normal requirements, because this also implies that for a cold winter, more than 76% of customer natural gas requirements would have been exposed to price risk.

Q. Could the Company have foreseen that the combined November and December 2000 weather would have been the coldest on record?

A. No. Staff is not stating that MGE could have known that November and December 2000 weather were going to be extremely cold. However, the Company should have reviewed past heating degree day information so that the Company understood how usage could vary for a normal, warm, and cold month. Staff believes that it is necessary for the Company to consider the minimum, normal and maximum monthly usage information in order to properly plan for the variations in volumes of natural gas demanded by customers and thus, the types of contracts (base load, swing, storage, pricing provisions, etc.) necessary to meet customer requirements. In fact, the Company does provide estimates of normal usage for both 30-year normal weather and 10-year normal weather and also provides estimates of low case and high case usage from a review of 15-years of weather data. As

previously stated, it is not clear to Staff why the Company limits the estimates of low case usage and high case usage to a review of 15-years of weather data.

Q. What would a review of past heating degree day information have revealed?

A. As shown in the attached Schedule 7-1, a review of the past 30-years of weather data shows that there were five winters prior to 2000/2001 with heating degree days in November in excess of 800 heating degree days. One of these years had a colder November than that experienced in November 2000; the November 1976 heating degree days was 877. The heating degree days for November 2000 was 853. Thus, Staff believes that MGE's planning should have considered the real potential for a November that was this cold.

As shown in the attached Schedule 7-1, a review of the past 30-years of weather data shows that there were three winters prior to 2000/2001 with heating degree days in December in excess of 1,300 heating degree days. One of these years had a colder December than that experienced in December 2000; the December 1983 heating degree days was 1,606. The heating degree days for December 2000 was 1,425. Thus, Staff believes that the Company planning should have considered the real potential for a December that was this cold.

As shown in the attached Schedule 7-2, a review of the past 30-years of weather data shows that coldest consecutive November and December occurred in 1983 with 2,229 heating degree days. Additionally, the combined heating degree days for the coldest November and the coldest December is 2,483 (877 from November 1977 and 1,606 from December 1983). The heating degree days for the combined months of November and December 2000 were 2,278. Again, Staff believes that the Company planning should have considered the real potential for a cold November and a cold December.

As shown in the attached Schedule 7-3, a review of the past 30-years of weather data shows that there were two winters prior to 2000/2001 with a higher number of heating degree days for the entire heating season and these occurred in 1977/1978 with 5,411 heating degree days and 1978/1979 with 5,257 heating degree days. The heating degree days for the heating season months of November 2000 through March 2001 were 5,148. Thus, Staff believes that the Company plan for a cold, high case winter should have considered 30-years of weather data, just as the Company plan for normal weather considers 30-years of weather data.

Q. Did the Company have 30% of the monthly volumes hedged?

A. Yes, for some months, and no, for other months. The Company's hedged volumes of natural gas for the heating season of 2000-2001 included storage and fixed price purchases. Staff's review revealed that the Company's planned hedged volumes exceeded 30% for the months of November and December 2000 and February 2001, but were ** HC _____ ** million British thermal units (MMBtu) short of 30% of normal requirements for January and March 2001.

Q. What is the Staff's proposed adjustment for MGE's failure to hedge 30% of estimated normal usage?

A. The proposed adjustment is $614,365, as shown in column M of Schedule 8 attached to this testimony. Staff witness Anne M. Allee provides more detailed information concerning the dollar amount of this adjustment.

Q. Does the 30% hedged standard rely on hindsight or assume that MGE has the ability to predict the weather consistently and accurately?

A. No. Staff evaluated the Company's estimates of normal usage, low case usage, and high case usage for each month of November 2000 through March 2001 from the

NP

Company's Reliability Report, which is dated July 1, 2000. This information was provided by the Company prior to the winter of 2000/2001. The Staff has used 30% of normal as a minimum level of hedge for the heating season of 2000/2001. This is well below the minimum usage that would be expected for warm weather, as shown in the Company's estimates of low case usage, which would be expected in each of the heating season months of November through March.

Q. Does this conclude your testimony for the "Purchasing Practices – Minimum Level of Hedging" adjustment?

A. Yes, it does.

PURCHASING PRACTICES-STORAGE

Q. Please explain the Staff's proposed purchasing practices adjustment related to the Company's plan for flowing supplies and storage.

A. Staff will provide evidence to show that MGE's planned use of storage results in unreasonably large amounts of natural gas being withdrawn in November 2000. The Company's planned use of storage also results in unreasonably small amounts of natural gas being withdrawn in January 2001. It is also shown that this unreasonable plan was most extreme for heating season 2000/2001 when compared to other heating seasons. The economic damage to customers was substantial. Accordingly, Staff has computed a disallowance to reflect this damage.

In particular, Staff believes that MGE relied too heavily on storage withdrawals, rather than flowing natural gas supplies, in November 2000 and December 2000. Using higher levels of flowing supplies in November would have preserved storage for the normally colder months of December and January. Also, MGE states that it decided to order

less first-of-the-month natural gas flowing supplies in December because it believed prices would drop in December. However, the Company provided no support for this belief.

MGE's heavy use of storage gas and lower levels of flowing supplies in November and December reduced the storage gas available for the remainder of the heating season. Because of extended cold weather, little other fixed pricing besides storage, and MGE's plan to use storage early, consumers became exposed to the higher flowing gas costs in January 2001 through March 2001. In the review of the MGE's decisions for the 2000/2001 heating season, Staff evaluated the Company plan for flowing natural gas and storage and information known to the Company for the heating season months of November 2000 to March 2001. This evaluation shows that MGE's decisions for flowing gas and storage withdrawals had an unfavorable economic impact to customers on purchased gas costs of $8,051,049 as shown in Schedule 8, column R, and therefore, the Staff proposes to reduce gas costs by that amount.

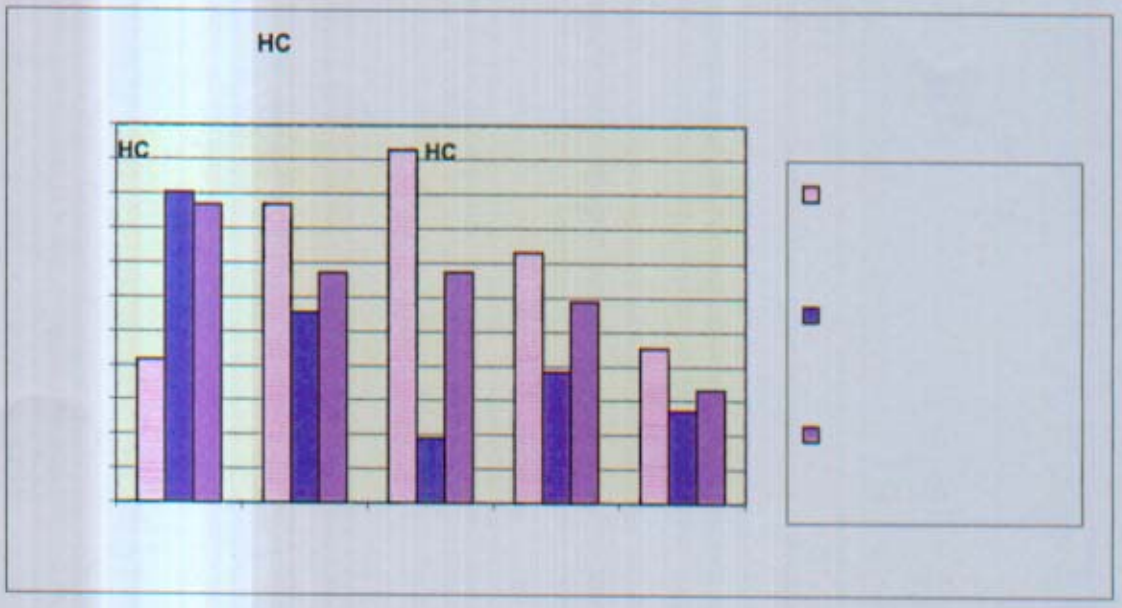
Q. Does Staff believe that the Company plan for flowing supplies and storage withdrawals was reasonable?

A. No. In DR No. 28, part g, Staff requested that MGE provide documents showing how the Company operates storage in an optimal way. The Company responded as follows:

> "Storage serves approximately 33% of total (normal) demand November through March, and comprises roughly 54% of peak day deliveries, its utilization is driven by operational needs. To this end, the Company's main objectives are to cycle close to 100% of storage inventory, schedule withdrawals to compliment flowing gas and minimize intramonthly spot purchases, and maintain sufficient inventory to meet historic peak day demand during the core winter months of December, January, and February."

The Company's planned withdrawals were provided in the responses to DR No. 28 and in the Supply Demand Summaries provided in the responses to DR Nos. 21 and 68. The planned storage withdrawals from these DR responses are shown on the chart below and in attached Schedule 9. The chart also shows the distribution of heating degree days for the heating season months of November through March, illustrating that the coldest month is January followed by February, December, March, and then November.

**



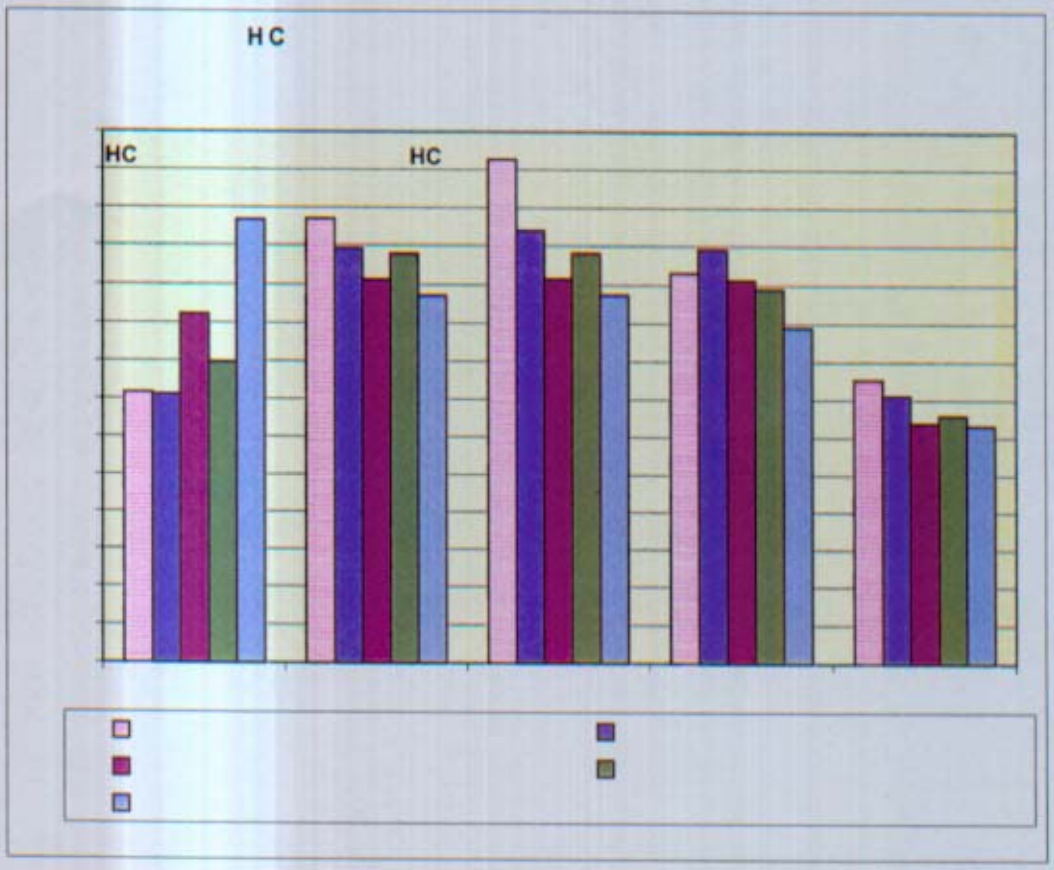
**

Q. Do you have problems with the information provided by the Company?

A. Yes. As stated previously, one of MGE's stated main objectives is to maintain sufficient inventory to meet historic peak day demand during the core winter months of December, January, and February. However, MGE's planned withdrawals show that the largest planned withdrawal is in November, the heating season month with the fewest number of heating degree days, and the smallest planned withdrawal is in January, the heating season month with the greatest number of heating degree days. A review of recent Reliability Reports, shown in the attached Schedule 10 and in the following chart, illustrates

that the planned withdrawal for November 2000 was higher than that shown for November in the previous three Reliability Reports. For the immediately preceding Reliability Report (1998/1999), MGE planned to withdraw 15.9% of the storage, which is 7.5 percentage points less than the 23.4% planned by MGE for November 2000. It does not make sense to Staff to have the largest planned withdrawal in the winter of 2000/2001 for the month of November 2000, the heating season month with the fewest number of heating degree days. Nor does it make sense for MGE to have increased its planned withdrawals in November 2000 compared to the planned withdrawals for the month of November in the previous years.

**



**

NP

The Company's Supply/Demand Summary for each of the winter months, provided in the Company responses to DR Nos. 21 and 68, shows the monthly demand, daily average demand, normal heating degree days, and the planned storage and flowing supplies (listed as "assigned term supplies") to be used to meet the normal requirements for each of these months. When Staff compared the Company's plan for flowing supplies and storage to the Company's estimated usage for low case (warm weather), base case (normal weather), and high case (cold weather), Staff found the following:

a. If normal weather had occurred in each of the heating season months of November 2000 through March 2001, then for the months of November – March, respectively, the Company planned to withdraw 57%, 24%, 12%, 21% and 23% of the required natural gas from storage withdrawals. This is a concern to Staff because the Company's planned withdrawals show that the largest planned withdrawal is in November, the heating season month with the fewest number of heating degree days, and the smallest planned withdrawal is in January, the heating season month with the greatest number of heating degree days.

b. If warm weather had occurred in each of the heating season months of November 2000 through March 2001, then for the months of November – March, respectively, MGE's planned term supplies would have provided 58%, 85%, 125%, 97% and 86% of the required natural gas. This is a concern because for the months of November and December, 42% and 15% would have been withdrawn from storage just to meet warm weather requirements. Additionally, this is a concern, because for a warm January, the Company

would have provided more flowing supply than needed and this means there would be a net injection into storage for January. It does not make sense to plan on injections for a warm January.

c. If high case, cold weather requirements had occurred in each of the heating season months of November 2000 through March 2001, then for the months of November – March, respectively, the Company plan for combined term supplies and storage would have provided for 82%, 67%, 89%, 80% and 75% of the required natural gas. If the high case, cold weather had occurred, then the Company would have either had to withdraw additional volumes from storage or rely on other supplies such as spot supplies. The MGE plan for December is of special concern to Staff because it only addresses 67% of the requirements for high-case, cold weather requirements, when December is typically the second coldest month of the heating season, and yet the plan for November, January and February address 80% or more of the cold weather requirements.

These points are illustrated in the charts in the attached Schedule 11.

Q. Are there other reasons why Staff believes that the Company plan for flowing supplies and storage withdrawals was unreasonable?

A. Yes. The Supply/Demand Summary provided in the responses to DR Nos. 21 and 68 for December 2000 listed the "TOTAL SUPPLY LESS TOTAL DEMAND OVERSUPPLIED (+)/ UNDERSUPPLIED (-)" as ** HC ** MMBtu/day. Undersupplies were also shown for February 2001 and March 2001. Because the weather had been cold in November and since December is still early in the heating season, MGE must manage

NP

storage so that sufficient volumes are available for later heating season months. Thus, Staff was not clear why the Company would plan to "undersupply" for December 2000. The Company response, attached as Schedule 12, states as follows:

> "The December planned undersupplies were an adjustment utilized as a result of significantly lower volumes that occurred during December 1999."

Staff review of December 1999 weather showed that there were 906 heating degree days compared to the normal for December of 1,073. December 1999 had 15.6% fewer heating degree days than normal. Thus, Staff would expect that December 1999 would have lower natural gas volumes than that for normal December weather. The Company response does not explain why the Company would undersupply for December 2000 planned normal requirements, since there was no information indicating that December 2000 was expected to be warmer than normal.

Q. How would Staff have expected the Company to utilize storage and flowing supplies to meet customer needs?

A. As noted previously, the Company's Supply/Demand Summary for each of the winter months, provided in the Company responses to DR Nos. 21 and 68, shows the monthly demand, daily average demand, normal heating degree days and the planned storage and flowing supplies (listed as "assigned term supplies") to be used to meet the normal requirements for each of these months. Staff believes that it is reasonable to expect the Company to have sufficient "assigned term supplies"- planned first-of-month (FOM) flowing supplies- scheduled to cover warm weather requirements for November through January, and that these would be adjusted beginning in December if the Company had withdrawn more or less natural gas from storage than planned.

This means that when the month experiences heating degree days that are the warmest for that month, flowing supplies would cover the requirements. However, storage would be used when the weather is colder than the warmest heating degree days. Storage and swing/spot supplies would be used for colder days.

Staff would also expect that the planned storage withdrawals for normal weather would be distributed based on the normal distribution of heating degree days in the heating season months – thus more storage would be utilized in the coldest heating season month of January and the least storage would be utilized in the warmest heating season month of November.

Q. Are there any other reasons why storage inventory levels should be of concern to the Company?

A. Yes. ** HC _____

HC _____

HC _____

HC _____

HC _____ ** Thus, the Company must manage its storage inventory so that adequate volumes of storage are available for each of the heating season months.

Q. How did Staff use this information in the proposed purchasing practices storage adjustment?

A. Utilizing the expectation - it is reasonable to expect the Company to have sufficient "assigned term supplies" (planned FOM flowing supplies) scheduled to cover warm weather requirements for November through January, and that these would be adjusted

NP

beginning in December if the Company had withdrawn more or less natural gas from storage than planned – Staff reviewed the information known to the Company when nominations were made for each month of the 2000/2001 heating season. Staff's understanding of the information that the Company knew or should have known is presented in Table 1 of Schedule 13-1 attached to this direct testimony. The information in Table 1 is derived from MGE's Storage Analysis Report, MGE's Reliability Report, MGE's Supply/Demand Summary, and MGE's response to Data Request No. 28. Since the FOM nominations on ** HC _____ ** Staff reviewed the information known to the Company when decisions would have been made on 10/24/2000, 11/22/2000, 12/21/2000, 01/24/2001 and 02/21/2001 for the November, December, January, February and March FOM nominations.

Also utilizing the expectation previously stated about storage - Staff would expect that the planned storage withdrawals would be distributed based on the normal distribution of heating degree days in the heating season months and thus more natural gas from storage would be utilized in the coldest heating season month of January and the least storage would be utilized in the warmest heating season month of November- Staff calculated the expected storage withdrawals; this is shown in Table 3-1 of Schedule 13-2 attached to this testimony.

Table 3-2 of Schedule 13-2 attached to this testimony, shows Staff's calculation of the expected storage withdrawals and flowing supplies for each heating season month of November 2000 – March 2001. Given the Company's estimate of normal monthly demand, the revised expected storage withdrawal, including the Company plan for utilizing 150,000 MMBtu in November from an interruptible storage contract, Staff's review of the Company decisions shows that for the month of November 2000, the Company did not plan

NP

on and nominate enough term gas to cover even warm month requirements (natural gas requirements for warmest November weather). If the Company had planned on term gas to cover warmest month requirements, then less storage withdrawals would have been necessary in November 2000, leaving the storage gas for the normally colder months to come. In November 2000, the Company planned storage withdrawals were 2.0 times greater than expected using the expectation that flowing supplies should cover warm month requirements. The Staff calculated number for the expected flowing supply for November 2000 is shown in column D, row 86 of the attached Table 3-2 of Schedule 13-2, and this allows for the interruptible storage volumes as planned by the Company for November 2000.

When making the December 2000 nominations, the Company had information for heating degree days through November 21, 2000. Additionally, the Company had weather forecasts through the end of November. So the Company knew or should have known that November 2000 was expected to be 165% colder than normal and thus the Company knew or should have known that storage withdrawals had been larger than that planned for normal weather. Table 3-3 of Schedule 13-3 shows information from the Company's Storage Analysis Report regarding heating degree days and expected end-of-month storage inventory. Table 3-3, of Schedule 13-3 also shows the revised expected end-of-month storage inventory for changes that Staff made to expected flowing supplies from Table 3-2 of Schedule 13-2.

For the month of December 2000, the Company did not plan on and nominate enough flowing term gas to cover even warm month requirements (natural gas requirements for warmest December weather). As noted previously, Staff also considered that planned FOM flowing supplies should cover warm weather requirements, and that the FOM nominations

would be adjusted beginning in December if the Company had withdrawn more or less storage than planned. Thus, Staff calculated the expected flowing supply number for December in column F, row 86 of Table 3-2 of Schedule 13-2. If the Company had planned on term gas to cover warmest month requirements, then less storage withdrawals would have been necessary in December 2000, leaving more storage gas for January. Instead, the Company drew the storage inventory down to 30.2% of the maximum storage quantity at the end of December, as shown in the attached Schedule 14. This is a concern because the months of January through March normally have 62% of the heating season heating degree days.

Staff followed the same process for January 2001 as for December 2001. The summary of information known to the Company and changes in expected FOM nominations and planned storage withdrawals are shown in the tables in Schedule 13. The expected daily flowing supplies in February and March 2001 were calculated by taking the Company estimated daily average demand, less the Staff calculated storage withdrawal, adjusted if more or less storage had been withdrawn than planned in the prior month. February and March 2001 flowing supplies were not tied to warm month requirements because most of the heating season had past and the Company should have had a better handle on the storage volumes available to meet requirements for the rest of the heating season. The effect of the Staff calculated daily flowing supplies on actual end-of-month storage inventory and the comparison of the Company and the Staff calculated FOM flowing supplies and storage withdrawals are summarized in Tables 3-4 and 3-5 of Schedule 13-3.

The Staff calculated storage numbers in Table 3-4 of Schedule 13-3 are used in the calculation of the adjustment, Schedule 8, Column F. An explanation of the dollar amount of

the adjustment for these storage volumes is included in the direct testimony of Staff witness Anne M. Allee. Staff's review shows MGE's decisions for flowing gas and storage withdrawals had an unfavorable economic impact on customers' purchased gas costs amounting to $8,051,049, and when this is combined with the proposed adjustment for not having minimum levels of hedged purchases in place prior to the heating season, the impact on customers is approximately $17.34 per customer, as shown in the attached Schedule 8. Therefore, the Staff proposes to reduce gas costs by this amount.

Q. Wouldn't Staff expect greater utilization of storage in cold weather?

A. Yes. Due to the cold weather experienced in November and December 2000, Staff would expect storage to be used more than in normal weather conditions, but by planning for adequate volumes of term natural gas supplies to meet warm month requirements for November and December, the remaining storage inventory at the end of December would have put the Company in a more reasonable position for the heating season months to come. This would have reduced the price risk exposure of the Company's customers for the remaining heating season months. In any event, the Company should have guidelines on use of storage and use of swing purchases so that sufficient storage volumes are available for cold weather that could be encountered later in the heating season.

Q. In Missouri Gas Energy's Response To Staff Recommendation And Motion To Dismiss or Strike, the Company states that the Staff adjustment violates the Commission's long-standing prudence standard by assessing MGE's decision on the basis of hindsight review. Does Staff use hindsight review in making this recommendation?

A. No. The Staff adjustment reflects its analysis of decisions made by the Company for planned and actual utilization of FOM flowing supplies and storage based on

information that was known or should have been known at the time the Company made the nomination decisions. Thus, information available to the Company in 2000/2001 indicates that storage was over-utilized early in the heating season and under-utilized in January, February and March 2001 and as a consequence the cost burden on regulated customers was larger than it would have been.

Q. If the winter of 2000/2001 had been warmer than normal would there be no hedging recommendation in this case?

A. Based on information the Company knew or should have known at the time, the ACA review considers the decisions made by the Company for the review period and the impact on customers. If the Company's actions had not resulted in a detriment to the customers, then there would be no dollar disallowance to propose.

Q. Does this conclude your testimony for the MGE Purchasing Practices – Storage adjustment?

A. Yes, it does.

RELIABILITY ANALYSIS

Q. Please explain the reliability issue in Case No. GR-2000-425.

A. The Staff Recommendation in Case No. GR-2000-425 filed on November 27, 2001, contained recommendation No. 2 related to actions to be taken by the Company by August 1, 2002, regarding the Company's reliability analysis.

In Missouri Gas Energy's Response To Staff Recommendation and Motion to Dismiss or Strike, in Case No. GR-2000-425, filed December 26, 2001, the Company asserts that the Staff's peak day requirements study recommendation is not a proper topic for consideration in the ACA proceeding. In its response, Staff asserts that reliability studies are

necessary to its audit of Local Distribution Companies' (LDCs') gas costs, and that the ACA/PGA audit is an appropriate setting to do so. In Missouri Gas Energy's Response to Order Directing Filing, in Case No. GR-2000-425, the Company states as follows:

> The regression analyses on which MGE based the peak day estimates for the eleven years 2000-2001 through 2010–2011 as contained in the 2000-2001 Reliability Report provided by MGE to the Staff were undertaken in 1994. MGE personnel have thoroughly searched for the input and output sheets of these regression analyses and, to date, have been unable to locate them. Therefore, MGE is unable to provide such input and output sheets.

Q. Did this response surprise you?

A. Yes. In the review of the 2000-2001 Reliability Report, it was Staff's impression that the Company reviewed usage information on an annual basis. Even if the 1994 analysis could be found, Staff is concerned that analysis of data that was at least six-years old prior to the date of this Reliability Report would not be representative of customer usage for these ACA periods. As noted in the "Purchasing Practices – Minimum Level of Hedging" section of my testimony, because this data was not provided, neither MGE nor Staff can be sure that certain estimates used by the Company are reasonable.

Q. Please explain the reliability issue in Case No. GR-2001-382.

A. The Staff Recommendation in Case No. GR-2001-382 filed on May 31, 2002, contained recommendation Nos. 3a through 3d related to actions to be taken by the Company by October 1, 2002, regarding the Company's reliability analysis.

In Missouri Gas Energy's Response To Staff Recommendation and Motion to Dismiss or Strike, filed July 11, 2002, the Company asserts that the Staff's peak day requirements study recommendation is not a proper topic for consideration in the ACA proceeding. In its response, Staff asserts that reliability studies are necessary to its audit of

Local Distribution Companies' (LDCs') gas costs, and that the ACA/PGA audit is an appropriate setting to do so.

The Company submitted a Reliability Report for July 1, 2002 through June 30, 2003 dated July 1, 2002 in response to GO-2000-705. This report addressed some, but not all of the Staff recommendations in GR-2001-382.

Staff recommendation number 3a requested, "A current analysis of the usage data to support the Company's baseload and heatload factor for estimating peak day demand for 2001/2002 and three years beyond that. Provide the detailed worksheets supporting the Company's baseload and heatload factors." The Company provided baseload and heatload information and explained how the peak day demand was obtained for 2001/2002, but not for the 3 years beyond that. To satisfy this recommendation, the Company needs to provide an explanation of the assumptions and the detailed calculations showing how the Company obtained the peak day demand estimates for 2002/2003, 2003/2004, and 2004/2005. If this is simply an escalation factor, then the calculation of this factor needs to be shown and the assumptions explained.

Staff recommendation number 3b requested, "A current analysis of the monthly usage for the base case, low case, and high case scenarios considered by the Company for 2001/2002 along with the input and output sheets showing the details of the Company's analysis." The Company did not provide the input and output sheets. Additionally, the Company utilizes a review of 20-years of weather data for the high case and low case scenarios, but had previously considered 30-years of weather data for the base case scenario and also considers 30-years of weather data in this report's base case scenario. MGE does not explain why it uses a 30-year analysis for the normal base case scenario, but then only

uses a 20-year analysis for the more extreme temperatures that could be experienced. Therefore, Staff would expect to see a 30-year analysis for the low case and high case.

Staff recommendation number 3c requested, "A current analysis for the planned monthly storage withdrawals for 2001/2002." The Company did not provide this information.

Staff recommendation number 3d requested, "A summary of actual usage, actual HDD, and HDD adjusted for wind speed for five, or more, non-weekend and non-holiday, cold days in the winter of 2000/2001 or 2001/2002. Compare the actual usage on these cold days to the usage estimated by the Company's forecasting model for those days. Include a calculation of the percent over (under) estimation by the forecasting model. List firm and interruptible volumes separately or show how the model treats these. Provide an explanation when the modeled usage does not reasonably agree with the actual usage encountered. If the model is re-evaluated based on these findings, please explain." The Company did not provide this information.

Q. What must the Company do to satisfy Staff's concerns regarding the Reliability Analysis for GR-2000-425 and GR-2001-382?

A. The Company must revise the Reliability Report for July 1, 2002 through June 30, 2003 to address the issues just described by Staff.

Q. Does this conclude your direct testimony for the MGE Reliability Analysis?

A. Yes, it does.

Q. Please summarize the issues addressed by your testimony.

A. My testimony provides support for the purchasing practices adjustment in GR-2001-387. This purchasing practices adjustment consists of two parts - one related to an

adjustment for failure to hedge 30% of normal requirements as a minimum level of hedge for the heating season of 2000-2001; and the second related to an adjustment for MGE's unreasonable and imprudent management of natural gas supplies. My testimony also provides support for Staff's recommendations in Case Nos. GR-2001-382 and GR-2000-425 that the Company submit additional documentation to address Staff's concerns regarding the Company's reliability analysis.

Q. Does this conclude your testimony?

A. Yes, it does.

SUMMARY OF TESTIMONY

LESA A. JENKINS

Company Name	Case Number	Issues
Aquila, Inc. d/b/a Aquila Networks – MPS	GR-2000-520 and GR-2001-461 Consolidated	Purchasing Practices-Eastern System; Purchasing Practices-Southern System; Reliability Analysis
Atmos Energy Corporation and United Cities Gas Company	GR-2001-396 and GR-2001-397 Consolidated	Atmos Energy Corporation: Purchasing Practices – General; Purchasing Practices – Southeast Missouri Integrated System; Reliability Analysis United Cities Gas Company: Purchasing Practices – General; Purchasing Practices – Neelyville District; Purchasing Practices – Consolidated District; Reliability Analysis

Schedule 1

SCHEDULE 2

HAS BEEN DEEMED

HIGHLY CONFIDENTIAL

IN ITS ENTIRETY

SCHEDULE 3

HAS BEEN DEEMED

HIGHLY CONFIDENTIAL

IN ITS ENTIRETY

SCHEDULE 5

HAS BEEN DEEMED

HIGHLY CONFIDENTIAL

IN ITS ENTIRETY

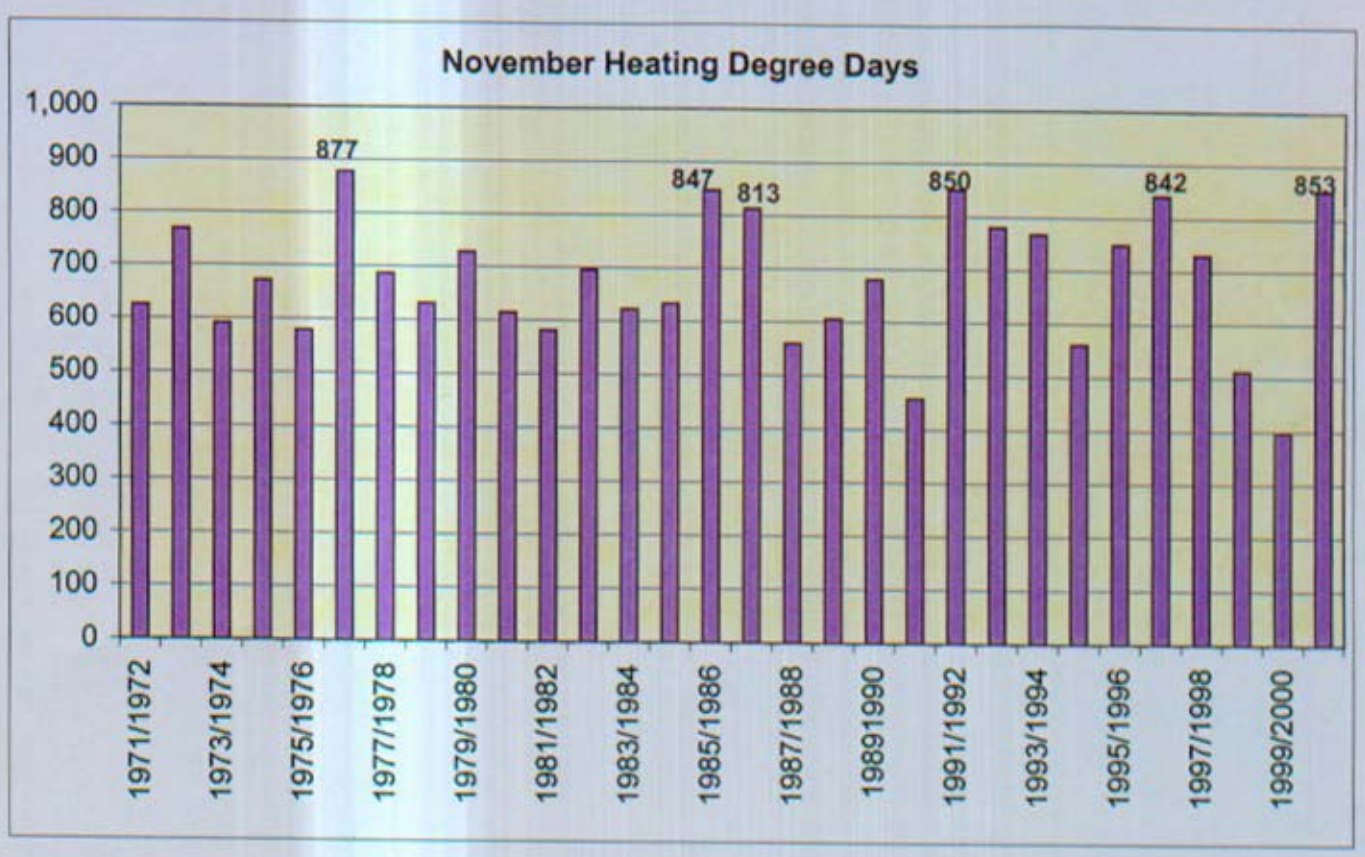
SCHEDULE 6

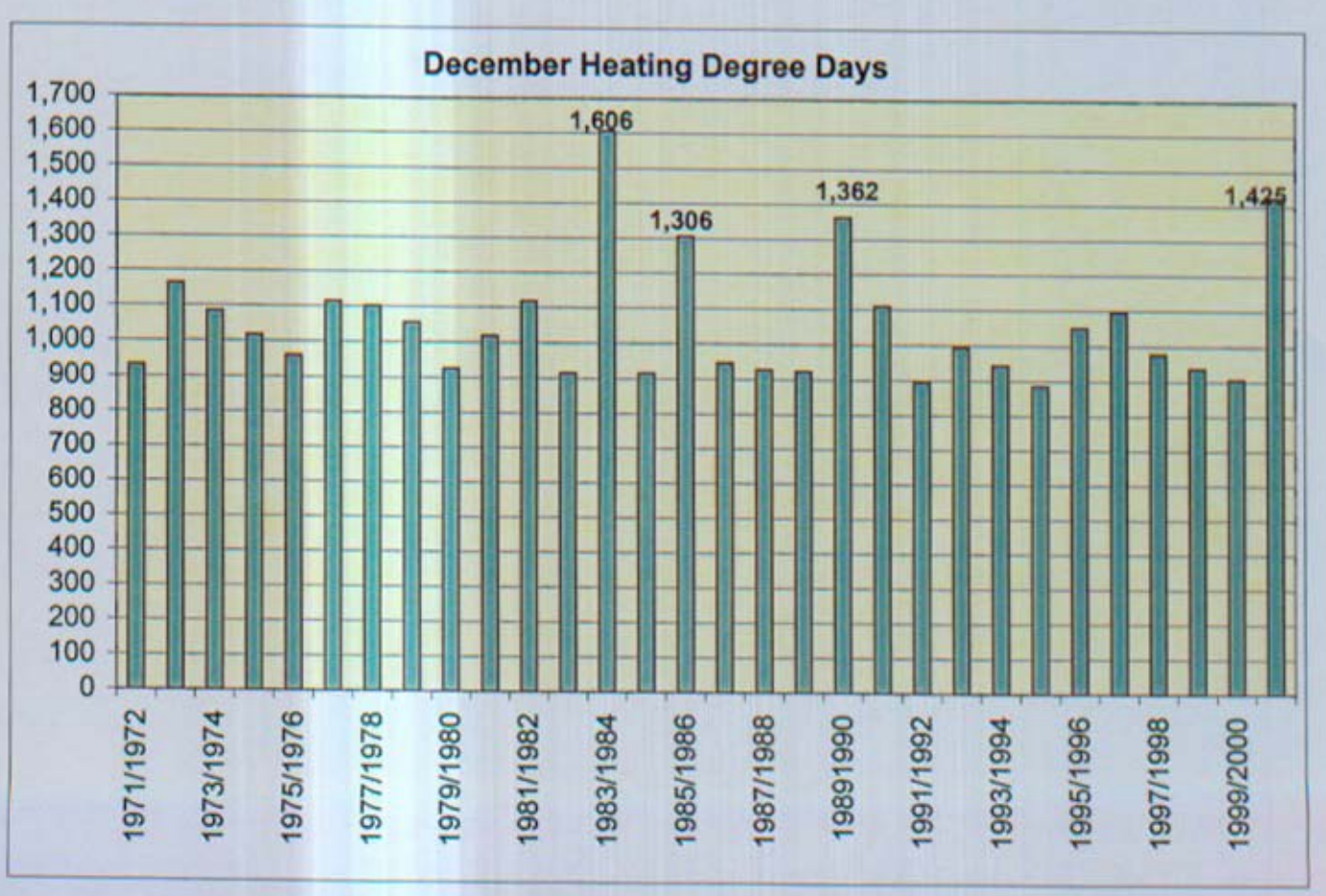
HAS BEEN DEEMED

HIGHLY CONFIDENTIAL

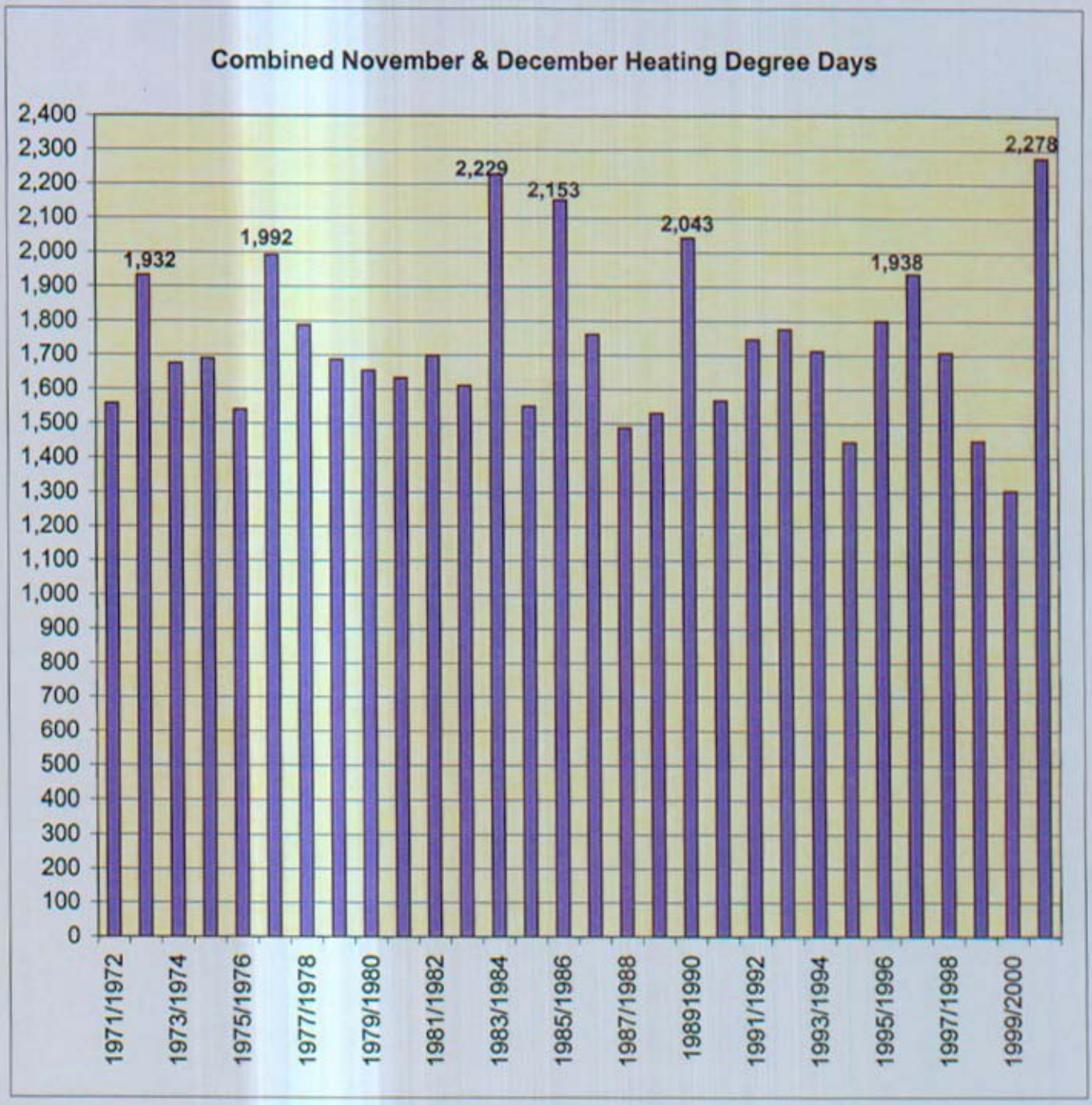
IN ITS ENTIRETY

Missouri Gas Energy, Case Number GR-2001-382
Historical Heating Degree Day Information

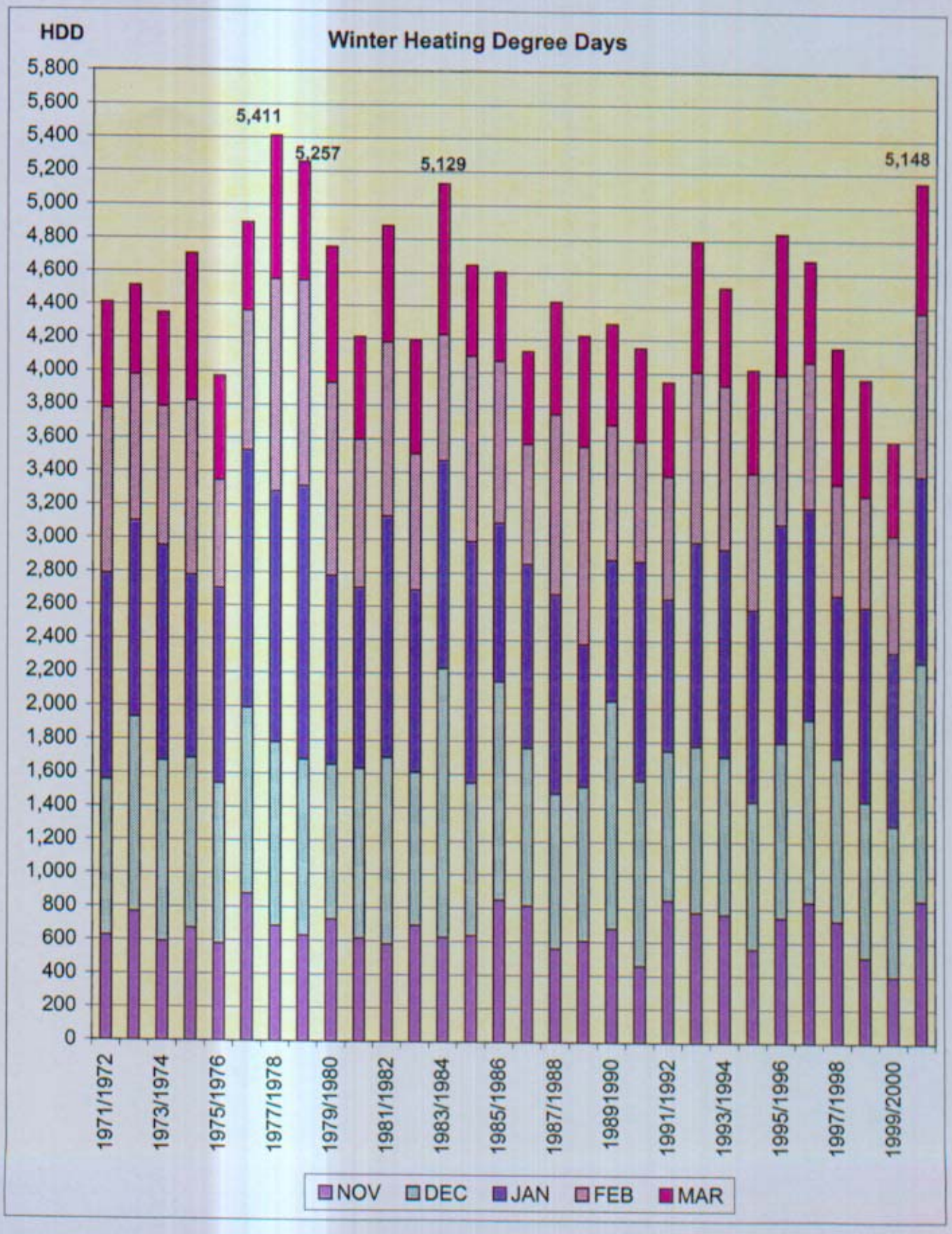




Missouri Gas Energy, Case Number GR-2001-382
Historical Heating Degree Day Information



Missouri Gas Energy, Case Number GR-2001-382
Historical Heating Degree Day Information



Missouri Gas Energy, Case Number GR-2001-382
Historical Heating Degree Day Information

Heating Degree Days

YEAR	NOV	DEC	JAN	FEB	MAR	Total Winter HDD
1961/1962	715	1,252	1,386	924	876	5,153
1962/1963	642	1,056	1,482	988	561	4,729
1963/1964	558	1,335	981	934	801	4,609
1964/1965	556	1,111	1,135	998	1,057	4,857
1965/1966	556	763	1,283	935	563	4,100
1966/1967	591	1,052	1,093	959	587	4,282
1967/1968	697	976	1,232	993	560	4,458
1968/1969	748	1,142	1,257	937	894	4,978
1969/1970	651	1,107	1,344	847	823	4,772
1970/1971	739	928	1,296	1,043	764	4,770
1971/1972	625	933	1,228	989	635	4,410
1972/1973	768	1,164	1,169	875	537	4,513
1973/1974	591	1,084	1,278	832	565	4,350
1974/1975	672	1,017	1,090	1,043	885	4,707
1975/1976	579	961	1,162	646	623	3,971
1976/1977	877	1,115	1,534	840	529	4,895
1977/1978	687	1,101	1,495	1,274	854	5,411
1978/1979	631	1,056	1,629	1,235	706	5,257
1979/1980	728	927	1,126	1,155	816	4,752
1980/1981	615	1,019	1,076	887	615	4,212
1981/1982	581	1,118	1,439	1,043	698	4,879
1982/1983	696	916	1,084	817	683	4,196
1983/1984	623	1,606	1,242	757	901	5,129
1984/1985	634	916	1,438	1,111	547	4,646
1985/1986	847	1,306	947	969	536	4,605
1986/1987	813	947	1,095	718	556	4,129
1987/1988	559	929	1,187	1,076	676	4,427
1988/1989	606	924	847	1,182	666	4,225
19891990	681	1,362	841	807	606	4,297
1990/1991	458	1,109	1,307	717	561	4,152
1991/1992	850	896	905	733	564	3,948
1992/1993	780	996	1,213	1,019	784	4,792
1993/1994	768	945	1,236	980	589	4,518
1994/1995	561	886	1,143	815	619	4,024
1995/1996	750	1,051	1,299	894	848	4,842
1996/1997	842	1,096	1,260	873	610	4,681
1997/1998	731	978	967	666	814	4,156
1998/1999	512	938	1,156	666	696	3,968
1999/2000	398	906	1,032	701	559	3,596
2000/2001	853	1,425	1,111	982	777	5,148

Ranked from Coldest

YEAR	Total Winter HDD
1977/1978	5,411
1978/1979	5,257
1961/1962	5,153
2000/2001	5,148
1983/1984	5,129
1968/1969	4,978
1976/1977	4,895
1981/1982	4,879
1964/1965	4,857
1995/1996	4,842
1992/1993	4,792
1969/1970	4,772
1970/1971	4,770
1979/1980	4,752
1962/1963	4,729
1974/1975	4,707
1996/1997	4,681
1984/1985	4,646
1963/1964	4,609
1985/1986	4,605
1993/1994	4,518
1972/1973	4,513
1967/1968	4,458
1987/1988	4,427
1971/1972	4,410
1973/1974	4,350
19891990	4,297
1966/1967	4,282
1988/1989	4,225
1980/1981	4,212
1982/1983	4,196
1997/1998	4,156
1990/1991	4,152
1986/1987	4,129
1965/1966	4,100
1994/1995	4,024
1975/1976	3,971
1998/1999	3,968
1991/1992	3,948
1999/2000	3,596

Missouri Gas Energy, Case Number GR-2001-382
Historical Heating Degree Day Information

November & December Heating Degree Days

YEAR	Combined Nov & Dec HDD
1961/1962	1,967
1962/1963	1,698
1963/1964	1,893
1964/1965	1,667
1965/1966	1,319
1966/1967	1,643
1967/1968	1,673
1968/1969	1,890
1969/1970	1,758
1970/1971	1,667
1971/1972	1,558
1972/1973	1,932
1973/1974	1,675
1974/1975	1,689
1975/1976	1,540
1976/1977	1,992
1977/1978	1,788
1978/1979	1,687
1979/1980	1,655
1980/1981	1,634
1981/1982	1,699
1982/1983	1,612
1983/1984	2,229
1984/1985	1,550
1985/1986	2,153
1986/1987	1,760
1987/1988	1,488
1988/1989	1,530
19891990	2,043
1990/1991	1,567
1991/1992	1,746
1992/1993	1,776
1993/1994	1,713
1994/1995	1,447
1995/1996	1,801
1996/1997	1,938
1997/1998	1,709
1998/1999	1,450
1999/2000	1,304
2000/2001	2,278

Ranked from Coldest to Warmest

YEAR	Combined Nov & Dec HDD
2000/2001	2,278
1983/1984	2,229
1985/1986	2,153
19891990	2,043
1976/1977	1,992
1961/1962	1,967
1996/1997	1,938
1972/1973	1,932
1963/1964	1,893
1968/1969	1,890
1995/1996	1,801
1977/1978	1,788
1992/1993	1,776
1986/1987	1,760
1969/1970	1,758
1991/1992	1,746
1993/1994	1,713
1997/1998	1,709
1981/1982	1,699
1962/1963	1,698
1974/1975	1,689
1978/1979	1,687
1973/1974	1,675
1967/1968	1,673
1964/1965	1,667
1970/1971	1,667
1979/1980	1,655
1966/1967	1,643
1980/1981	1,634
1982/1983	1,612
1990/1991	1,567
1971/1972	1,558
1984/1985	1,550
1975/1976	1,540
1988/1989	1,530
1987/1988	1,488
1998/1999	1,450
1994/1995	1,447
1965/1966	1,319
1999/2000	1,304

Missouri Gas Energy, Case Number GR-2001-382

Staff Calculation of Purchasing Practices Adjustment

Company planned hedge considers normal planned storage withdrawals and volumes w/ fixed price
Staff calculations for hedge effect compare Company planned hedges to a minimal hedge of 30% of normal requirements
Staff proposed adjustment - Do not accept Company forecasts for flowing supplies and storage w/d for First-of-Month as Reasonable, so Revised FOM

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S
8							(C+ D)	(B - G)	0 for H<0, Else =H			(J - K)	(I x L)	(F - E)			(P - O)	(Q x N)	(M+R)
9							Hedge Effect							Storage Effect					
10	Month	30% of Normal Req	Company's Normal Monthly Storage w/d	Volumes w/ Fixed Price	Actual Volumes Withdrawn	Expected Storage Withdrawals (for revised flowing supplies)	Planned Hedged Volumes	30% Normal Minus Planned Hedged	Volumes Short for Minimum Planned Hedge	NYMEX close	Available Hedged Price	Futures Gain/ (Loss)	Charge for Minimum Hedge	Storage Expected minus Actual	Storage WACOG	Williams FOM	FOM minus WACOG	Storage (Credit)/ Charge	Total Adjustment
11	Nov-00	2,220,108	4,150,166	0	5,673,557	3,464,267	4,150,166	(1,930,058)	0	$ 4.541	$ 4.652	$ (0.111)	$0	(2,209,290)	$ 4.261	$ 4.430	$ 0.169	$ (372,565)	$ (372,565)
12	Dec-00	3,712,640	3,454,240	620,000	6,727,710	5,521,252	4,074,240	(361,600)	0	$ 6.016	$ 4.726	$ 1.290	$0	(1,206,458)	$ 4.224	$ 5.900	$ 1.676	$ (2,021,998)	$ (2,021,998)
13	Jan-01	4,160,526	3,464,251	620,000	170,523	1,257,104	4,084,251	76,275	76,275	$ 9.978	$ 4.705	$ 5.273	$402,198	1,086,581	$ 4.279	$ 9.980	$ 5.701	$ 6,194,598	$ 6,596,796
14	Feb-01	3,364,049	3,162,867	2,237,309	2,467,950	4,440,494	5,400,176	(2,036,127)	0	$ 6.293	$ 4.475	$ 1.818	$0	1,972,544	$ 4.279	$ 6.290	$ 2.011	$ 3,967,515	$ 3,967,515
15	Mar-01	2,527,042	2,247,507	0	1,816,292	2,197,065	2,247,507	279,535	279,535	$ 4.998	$ 4.239	$ 0.759	$212,167	380,773	$ 4.285	$ 5.030	$ 0.745	$ 283,499	$ 495,666
16	Total	15,984,365	16,479,031	3,477,309	16,856,032	16,880,182	19,956,340	(3,971,975)	365,810				$614,365	24,150				$ 8,051,049	$ 8,665,414

approximate number of customers 499,789
annual cost/ customer $ 17.34

Sources:

a winter months of 2000/01 ACA period
b see worksheet "Normals"
c from DR #28; see worksheet "Normals"
d DR #2 - Duke Invoices
e from worksheet "Storage Actuals"
f see worksheet "Normals"
g column c + column d
h column b - column g
i if column h is < 0, then enter 0; if column h is > 0 then enter number in column h
j see sheet "NYMEX close"
k see sheet "Available Hedge Price"
l column j - column k
m column i x column l
n column f - column e
o see sheet "hedges"
p Inside FERC's Gas Market Report Williams index for Nov 2000 - March 2001
q column p - column o
r column q x column n
s column m + column r

SCHEDULE 9

HAS BEEN DEEMED

HIGHLY CONFIDENTIAL

IN ITS ENTIRETY

SCHEDULE 10

HAS BEEN DEEMED

HIGHLY CONFIDENTIAL

IN ITS ENTIRETY

SCHEDULE 11

HAS BEEN DEEMED

HIGHLY CONFIDENTIAL

IN ITS ENTIRETY

MISSOURI GAS ENERGY
A Division of Southern Union Company

MISSOURI PUBLIC SERVICE COMMISSION
DATA INFORMATION REQUEST RESPONSE
Case No: GR-2001-382
Data Request No: 54

Requested By: Lesa Jenkins

Requested From: Mike Noack

Date of Request: September 13, 2001

Information Requested:

The GR-2001-382, DR21 response shows planned undersupplies of 20,000 Dth/day for December 2000, planned undersupplies of 20,000 Dth/day for February 2001, and planned undersupplies of 25,000 Dth/day for March 2001. Please explain why the Company would be planning for undersupplies for these months.

Response:

The December planned undersupplies were an adjustment utilized as a result of significantly lower volumes that occurred during December 1999.

The February and March planned undersupplies were the result of a warmer than normal January and the corresponding need to return storage balances to planned levels.

Schedule 12-1

Prepared By: [signature] Date: 10-1-01

SCHEDULE 13

HAS BEEN DEEMED

HIGHLY CONFIDENTIAL

IN ITS ENTIRETY

SCHEDULE 14

HAS BEEN DEEMED

HIGHLY CONFIDENTIAL

IN ITS ENTIRETY