

Exhibit No.:

*Issue: Adjustment for Excess
Transportation Capacity*

Witness: Lesa A. Jenkins

Sponsoring Party: MoPSC Staff

Type of Exhibit: Direct Testimony

*Case Nos.: GR-2003-0330,
GR-2002-348,
(Consolidated)*

Date Testimony Prepared: November 23, 2005

MISSOURI PUBLIC SERVICE COMMISSION

UTILITY SERVICES DIVISION

DIRECT TESTIMONY

OF

LESA A. JENKINS

**MISSOURI GAS ENERGY
CASE NOS. GR-2003-0330, GR-2002-348
(Consolidated)**

*Jefferson City, Missouri
November 2005*

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

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BEFORE THE PUBLIC SERVICE COMMISSION
OF THE STATE OF MISSOURI

In the Matter of Missouri Gas Energy's
Purchased Gas Adjustment Factors to be
Audited in its 2002-2003 Actual Cost
Adjustment

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Case No. GR-2003-0330

In the Matter of Missouri Gas Energy's
Purchased Gas Adjustment Tariff Revisions
to be Reviewed in its 2001-2002 Actual
Cost Adjustment

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Case No. GR-2002-348

AFFIDAVIT OF LESA A. JENKINS

STATE OF MISSOURI)

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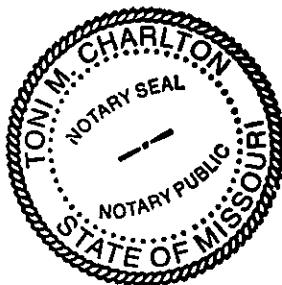
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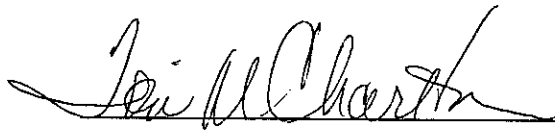
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Lesa A. Jenkins, being of lawful age, on her oath states: that she has participated in the preparation of the following Direct Testimony in question and answer form, consisting of 42 pages to be presented in the above case; that the answers in the 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 21st day of November 2005.





TONI M. CHARLTON
Notary Public - State of Missouri
My Commission Expires December 28, 2008
Cole County
Commission #04474301

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DIRECT TESTIMONY
OF
LESA A. JENKINS
MISSOURI GAS ENERGY
CASE NOs. GR-2003-0330, GR-2002-348
(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

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

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

6 A. The nature of my duties at the Commission has been to investigate and review
7 natural gas reliability/peak day plans of the Missouri natural gas local distribution
8 companies. The purpose of my review is to assure that natural gas companies use current,
9 reliable data and reasonable methods to determine the maximum amount of gas the company
10 might need on a peak day. A peak day is the coldest day that may reasonably be expected.
11 Staff does that by reviewing the reasonableness of the assumptions the company uses for
12 estimating how much natural gas customers may actually use (demand requirements);
13 analyzing the companies' estimating tools; reviewing and analyzing transportation capacity,
14 storage, peaking and supply resources utilized by the companies; reviewing and analyzing
15 company base load and other gas supply requirements; and reviewing and analyzing any
16 reasons the company may have for capacity that is more than a reasonable estimate for peak
17 day requirements. A company should have the ability to transport enough, but not too much
18 gas, to meet its peak day requirements. If a company does not purchase enough capacity to
19 provide for its customers needs on a peak day, there could be large penalties, operations
20 problems, or insufficient capacity to transport natural gas for firm customer (primarily
21 residential and small commercial) requirements. If a company purchases more natural gas
22 capacity than is necessary to meet customers' needs, the cost must be evaluated, because the
23 excess capacity could be a waste of the ratepayer's money. I also assist in matters involving

1 analysis of economic dispatch models, gas supply plans, incentive plans, hedging plans and
2 service area expansions.

3 Q. Have you previously filed testimony before this Commission?

4 A. Yes, I have. See Schedule 1 attached to this testimony for a list of prior cases
5 and issues. Additionally, I have prepared 45 reliability reviews as part of the filed Staff
6 Actual Cost Adjustment (ACA) recommendations since November 1999, as listed in
7 Schedule 1.

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

10 A. Yes, I did. For the 2001/2002 and 2002/2003 ACA reviews, I conducted a
11 reliability and natural gas purchasing practices analysis for the reasonableness of the
12 assumptions the Company used to estimate how much natural gas will be used by its
13 customers even on the coldest day; an analysis of the Company's estimating methods; a
14 review and analysis of the company's plans to meet its customers' needs including:
15 transportation capacity, storage, and peaking supply resources planned and utilized by the
16 Company; and a review and analysis of the rationale for the Company's reserve margin –
17 capacity in excess of coldest day (peak day) requirements.

18 Q. What matters will you address in your testimony?

19 A. I will address the issue of Staff's adjustment for excess transportation capacity
20 filed in the Staff Recommendations for Missouri Gas Energy (MGE or Company), Case Nos.
21 GR-2002-348 and GR-2003-0330.

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

1 A. Both my MBA and BSIE degrees provided formalized coursework that gave
2 me knowledge and skills that I use in review of natural gas local distribution company (LDC)
3 Supply Plans and Capacity Analysis / Reliability Analysis. My 23 years of
4 engineering/management work experience provide me with experience from project reviews
5 and I have gained additional knowledge from training courses and review of technical
6 information. Fourteen of these years of work experience related specifically to energy issues.
7 The projects that I have worked on over my 23 years of engineering/management work in
8 private industry and government have allowed me to look at issues from various vantage
9 points, such as consumer wants and needs, business goals and limitations and requirements
10 and limitations imposed by rules and regulations.

11 Q. What is the purpose of your direct testimony?

12 A. In Staff's review of the MGE 2001/2002 ACA, Case No. GR-2002-348, and
13 the MGE 2002/2003 ACA, Case No. GR-2003-0330, Staff conducted a reliability analysis.
14 My testimony provides detailed evidence to show that MGE should have better evaluated the
15 amount of contracted transportation needed to meet its customers' natural gas requirements
16 on a peak (coldest) day. Doing a thorough evaluation requires an adequate analysis with
17 sufficient accuracy to avoid overbuying and charging customers more than is reasonable. As
18 a result of its inadequate analysis, MGE purchased more capacity than it needed to meet peak
19 day requirements in two of its service areas. The MGE transportation capacity decision
20 affects the costs to customers beginning in the 2001/2002 ACA and continuing through the
21 2005/2006 ACA. This decision was imprudent as described further in the section of this
22 document titled, "Imprudent Decisions for 2001/2002 ACA and 2002/2003 ACA".

1 Staff recommends, in Case No. GR-2002-348, an adjustment for excess transportation
2 capacity of \$2,041,931. Staff recommends, in Case No. GR-2003-0330, an adjustment for
3 excess transportation capacity of \$2,015,661.

4 **ACA PROCESS**

5 Q. What is the purpose of the ACA review?

6 A. The ACA process has a number of purposes. A primary purpose is to
7 reconcile the company's actual gas costs with what it charged customers (its billed revenues).
8 In its PGA filings the Company estimates its estimated gas costs. In the ACA, the estimate is
9 reconciled with the actual cost of gas. In this function the Procurement Analysis Department
10 (PAD) Staff audits the gas purchases of the LDC to ensure that the claimed costs are properly
11 attributed to the period under audit and that the pipelines and natural gas suppliers have
12 charged or invoiced the LDC for the volumes nominated and received at the proper contract
13 rates. A comparison of billed revenue recovery with actual gas costs will normally yield
14 either an over-recovery or under-recovery of the ACA balances.

15 Another purpose of the ACA process is to examine the reliability of the LDC's gas
16 supply, transportation, and storage capabilities. For this analysis, Staff reviews the estimated
17 peak day requirements and the capacity levels to meet those requirements, peak day reserve
18 margin and the rationale for this reserve margin, and natural gas supply plans for various
19 weather conditions.

20 A third purpose of the ACA process is to review the LDC's gas purchasing practices
21 to determine the prudence of the Company's natural gas purchasing and operating decisions.
22 Staff will consider the financial impact on customers of the LDC's use of its gas supply,

1 transportation and storage contracts in light of the conditions and information available when
2 the operational decisions were made.

3 Q. What is the review period for these ACA cases?

4 A. For the 2001/2002 ACA, GR-2002-348, the review period is July 1, 2001 to
5 June 30, 2002. For the 2002/2003 ACA, GR-2003-0330, the review period is July 1, 2002 to
6 June 30, 2003.

7 **EXCESS TRANSPORTATION CAPACITY**

8 Q. Please explain what you mean by “transportation capacity.”

9 A. When purchasing natural gas for its customers, an LDC must have a means of
10 getting the natural gas from the production area to the LDC’s city gate for delivery to its
11 customers. The LDC contracts for space on a pipeline (transportation capacity) to transport
12 the quantity of natural gas its customers need. The LDC may also have transportation
13 capacity to get natural gas to storage areas.

14 Q. Why is the amount of transportation capacity a concern to Staff?

15 A. A company must reserve adequate capacity to move enough natural gas to
16 meet customer needs in each of its service areas. Staff conducts its analysis to ensure that a
17 company buys sufficient capacity, but not too much capacity, to meet firm customer peak day
18 capacity and natural gas supply requirements. Staff’s reliability analysis is concerned with
19 both a plan that has inadequate volumes of capacity and a plan that has excess volumes of
20 capacity. Inadequate volumes of capacity means that if there is a very cold day, a historic
21 peak cold day, there will not be enough space reserved on the pipeline to transport the
22 necessary natural gas to an LDC’s customers. Excess volumes of capacity means that even
23 on a very cold day, a historic peak cold day, the LDC will not use the full pipeline capacity

1 that it has reserved. This may mean that customers are paying too much for transportation
2 capacity. When there is a cost to customers for this excess capacity, Staff evaluates this cost
3 and may recommend an adjustment.

4 Q. In general, how is the necessary amount of transportation capacity
5 determined?

6 A. An LDC's natural gas purchase requirements will vary depending on customer
7 needs for natural gas for cooking, water heating, space heating and processing. Weather is a
8 major factor in the winter months that impacts residential and commercial customers'
9 requirements for natural gas. Many customers rely on the LDC to provide natural gas
10 regardless of the weather. Thus for these customers, the transportation capacity must be
11 available so that the LDC can transport the natural gas during a warm winter day or a historic
12 peak cold winter day.

13 An LDC examines past usage data, weather data and growth estimates to make
14 estimates of its natural gas requirements in the coming months and years. The LDC also
15 examines this information to estimate peak day requirements – an estimate of the amount of
16 natural gas needed to meet customer requirements should a historic peak cold day recur.
17 Besides examining peak day requirements, an LDC makes decisions regarding the
18 transportation capacity necessary to provide natural gas on a daily basis. The daily quantity
19 is critical in the decision for the amount of transportation capacity because an LDC will have
20 one or more transportation contract(s) and each contract will specify a maximum daily
21 quantity (MDQ) that the transporter is obligated to have available for the LDC on any day.
22 In order to have sufficient capacity for an extremely cold or peak cold day, the LDC may

1 have to contract for that amount of transportation capacity for the entire heating season and
2 sometimes for the entire year or for multiple years.

3 Some LDCs have their own storage or peaking facilities or may have contracts for
4 delivered supply (meaning the supply or commodity contract has transportation capacity
5 associated with it), and if so, this would also be considered when an LDC decides on the
6 maximum daily quantity of transportation capacity that it needs for an extremely cold or peak
7 cold day.

8 Q. What is the transportation capacity available to MGE for a peak cold day?

9 A. For the 2000/2001 ACA, the transportation capacity was
10 ** _____ **dekatherms per day. For the 2001/2002 and 2002/2003 ACA, the
11 transportation capacity is ** _____ **dekatherms per day. The Company contracted for an
12 additional ** _____ ** beginning with the
13 2001/2002 ACA for a term of ** _____ **. The total daily volume for the
14 ** _____
15 _____
16 _____ ** A summary of the transportation capacity follows:

**

[illegible]

** (Source: MGE Reliability Reports and contracts provided in DR responses)

Q. Is this the same capacity value used by MGE in its evaluation?

A. Yes. Staff uses the same capacity value, or maximum daily quantity (MDQ), provided and used by MGE in its 2001/2002 Reliability Report and 2002/2003 Reliability Report. (MGE's capacity value is shown on page 5, Figure I-2, and page 14 of the 2001/2002 Reliability Report, attached as Schedules 2 and 3. It is also shown on page 21, Figure I-12, and page 25 of the 2002/2003 Reliability Report, attached as Schedules 4 and 5.)

Q. Did Staff originally use this capacity level?

A. No.

1 Q. Please explain.

2 A. Staff had previously reduced the capacity value due to a concern about a
3 possible reduction in MDQ for the ** _____ **. However, MGE has provided
4 information showing that the capacity should not be reduced.

5 Q. What are the MGE service areas?

6 A. The primary service areas to which MGE distributes natural gas are
7 Kansas City, St. Joseph and Joplin. MGE has approximately ** _____ ** firm customers
8 in the Kansas City area, ** _____ ** in St. Joseph, and ** _____ ** in Joplin (source: Draft
9 March 2004 Demand/Capacity Analysis).

10 Q. Is the total transportation capacity available to serve all three service areas?

11 A. No. Because of the pipeline design, there is a limited amount of capacity for
12 each service area. For a peak cold day, MGE must have sufficient transportation capacity for
13 each service area. Since MGE must receive gas at different points to serve the three major
14 areas of Kansas City, St. Joseph and Joplin, if MGE does not make separate plans for each
15 area, the overall capacity may be acceptable to meet requirements of a really cold day, but
16 there could be excess capacity in one area and insufficient capacity in another area. MGE
17 ** _____ ** in its most recent peak day analysis, the Draft
18 March 2004 Demand/Capacity Analysis and the October 2004 Demand/Capacity Analysis.

19 Q. What is the transportation capacity for each service area?

20 A. A summary of the transportation capacity for each service area is shown
21 below. This information was obtained from the MGE response dated 6/24/04 to question 19
22 of Staff's 5/19/04 email, attached as Schedule 6. Staff agrees with the MGE capacity
23 numbers.

1 **

2 **

3 Q. Is storage included in this capacity level?

4 A. No. Although storage is part of MGE's supply plan, natural gas from storage
5 must be transported on the pipeline to get it to MGE for delivery to its customers. The
6 pipeline capacity is used to flow gas purchased on a monthly basis or daily basis and to flow
7 gas from storage withdrawals. In other words, storage is part of the supply plan, but is not
8 included in the transportation capacity values just discussed because the transportation of this
9 storage gas is done on a transportation contract.

10 Q. What is MGE's estimate of peak cold day requirements?

11 A. MGE's 2001/2002 Reliability Report (*Missouri Gas Energy Reliability*
12 *Report, July 1, 2001 through June 30, 2002*, dated July 1 2001) estimates the peak day
13 requirements for 2001/2002 as ** _____ ** dekatherms per day and for 2002/2003 as
14 ** _____ ** dekatherms per day. MGE's 2002/2003 Reliability Report (*Missouri Gas*
15 *Energy Reliability Report, July 1, 2000 through June 30, 2001*, dated July 1, 2000) estimates
16 the peak day requirements for 2002/2003 as ** _____ ** dekatherms.

17 Q. Does Staff agree with these estimates?

18 A. No. There is a variety of data used to estimate peak day requirements and
19 heating degree days is one of them. Staff does not agree with MGE's selection for the peak

1 heating degree days. Staff also does not agree with the methodology that MGE uses to
2 estimate peak day requirements.

3 **PEAK HEATING DEGREE DAY**

4 Q. What do you mean by selection of the peak heating degree day?

5 A. When an LDC is considering its transportation capacity requirements, it must
6 consider how much capacity must be reserved to deliver an adequate supply of natural gas to
7 meet its customer's needs if it is really cold. Thus, it selects the peak heating degree day that
8 it must plan for when contracting for capacity. Heating degree days (HDD) is a measure of
9 how cold a location is relative to a base temperature of 65 degrees Fahrenheit. For example
10 when the daily average temperature is 10 degrees, this is expressed as 55 HDD
11 ($65 - 10 = 55$). An LDC will review its historical heating degree day information in its
12 evaluation of how cold it might get in its service areas.

13 Q. What is your understanding of the value that MGE uses as its peak heating
14 degree day?

15 A. MGE, in its 2001/2002 Reliability Report and 2002/2003 Reliability Report,
16 uses a peak historic heating degree day for the entire Missouri system – Kansas City,
17 St. Joseph and Joplin – using a Kansas City peak cold day. These two MGE reliability
18 reports indicate that the historic peak cold day for the Kansas City market area is ** __ **
19 HDD and occurred on December 21, 1989. The Company's Draft March 2004
20 Demand/Capacity Analysis, uses a peak cold day of ** __ ** HDD for Kansas City and
21 St. Joseph. However, the Company's response to Data Request No. 96, Case No.
22 GR-2002-348, attached as Schedule 7, states that the Kansas City peak day is ** __ ** HDD,

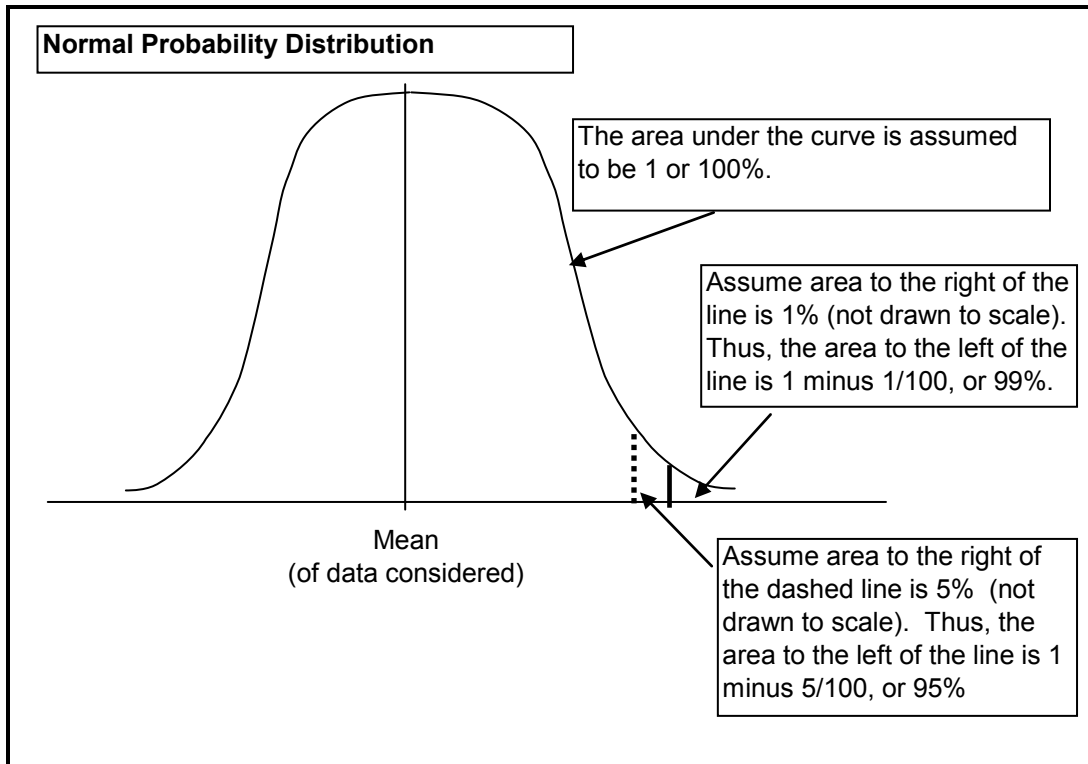
1 not ** _____ ** HDD, as previously stated. MGE's October 2004 Demand/Capacity
2 Analysis uses a peak cold day of ** ____ ** HDD for Kansas City and St. Joseph.

3 MGE finds the peak from a review of ** _____ ** data. Staff reviewed this
4 ** _____ ** data and found a peak of ** ____ ** HDD by reviewing HDD high and
5 lows from 9am to 9am with the peak occurring on December 22, 1989. The Company's
6 summary of National Oceanic and Atmospheric Administration's (NOAA) National
7 Climatic Data Center (NCDC) weather data shows the peak of ** ____ ** HDD occurred
8 December 22, 1989. Staff review of NOAA data shows the peak occurred December 22,
9 1989 and is 80.5 HDD.

10 MGE's Draft March 2004 Demand/Capacity Analysis also includes a
11 ** _____ ** of HDD. A 99% confidence interval
12 calculation reveals a projected peak day of ** ____ ** HDD and a 95% confidence interval
13 calculation reveals a projected peak day of ** ____ ** HDD.

14 Q. What is a confidence interval and why does the 95% confidence interval yield
15 a lower peak heating degree day than a 99% confidence interval?

16 A. A confidence interval is an interval estimated from sample values expressed in
17 terms of its probability (confidence level). The assertion that the parameter (peak day in this
18 analysis) lies in the interval will be true in a proportion (confidence level) of the cases when
19 the assertion is made. A normal distribution curve is shown below with a 99% or 95%
20 confidence interval.



From a review of the ** _____

_____ **.

Using the same data, a 95% confidence interval (95% probability) will result in a lower peak HDD. The shape of the normal distribution curve explains why a 99% confidence interval would yield a higher estimated peak day than a 95% confidence interval. In order to include 99% probability instead of 95% probability, the peak day would be further out on the curve.

Q. Why does the Company review just the ** _____ **?

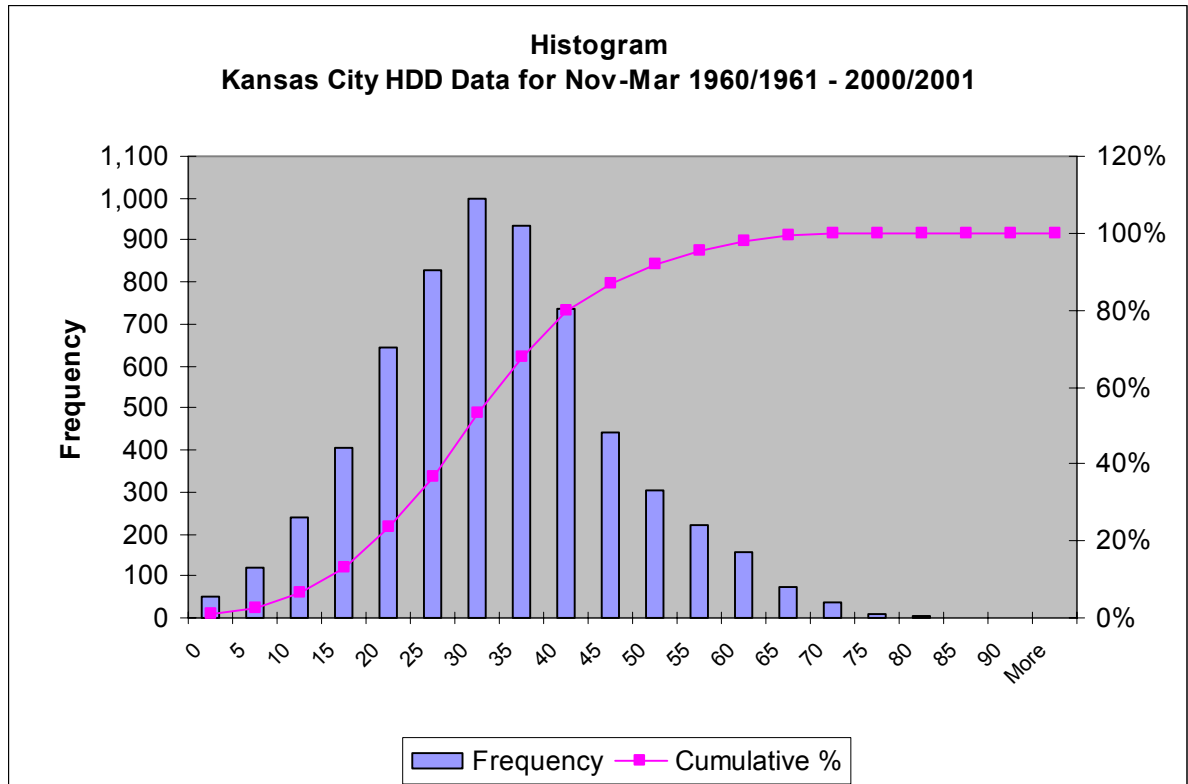
A. I am not sure. By reviewing only the ** _____

_____ ** includes winters with relatively warm HDD and ignores data from winters that have numerous cold days. A review of different data would yield different results. For example,

1 if the Company had reviewed the top 50 HDD for the ** _____
2 _____ ** HDD using a 99% confidence interval
3 and ** ____ ** HDD using a 95% confidence interval. A review of the top 30 HDD for the
4 ** _____ ** HDD
5 using a 99% confidence interval and a peak day of ** ____ ** HDD using a 95% confidence
6 interval; the actual top 30 HDD for this period of time range from a low of ** ____ ** HDD
7 to a high of ** ____ ** HDD. This last example shows that by selecting a different set of 30
8 data points, the 30 coldest HDD in these years instead of the ** _____
9 _____ ** – the results are different.

10 Q. Is the review of data through the 2002/2003 winter appropriate when
11 considering an adjustment for the 2001/2002 and 2002/2003 ACA periods?

12 A. No. This would be an after the fact analysis. However, a review of HDD data
13 for 1960/1961 through 2000/2001 would yield similar results. A review of the top 50 HDD
14 for these years results in a peak day of ** ____ ** HDD using a 99% confidence interval. A
15 review of the top 40 HDD results in a peak day of ** ____ ** HDD using a 99% confidence
16 interval. A review of the HDD data is shown in the following frequency distribution.



1

2

Source: MGE response to DR105, GR-2002-348

Kansas City Heating Degree Data November through March, 1960/1961 through 2000/2001		
<i>HDD Bin</i>	<i>Frequency</i>	<i>Cumulative %</i>
0	49	0.79%
5	120	2.72%
10	239	6.58%
15	406	13.12%
20	645	23.52%
25	830	36.90%
30	998	52.99%
35	933	68.03%
40	736	79.90%
45	441	87.01%
50	304	91.91%
55	222	95.49%
60	158	98.03%
65	72	99.19%
70	35	99.76%
75	10	99.92%
80	4	99.98%
85	1	100.00%
90	0	100.00%
More	0	100.00%

1 Q. What does Staff use as the peak heating degree day (coldest day) in its
2 analysis?

3 A. Staff's analysis for Kansas City and St. Joseph uses a peak of 81.5 as the
4 highest observed HDD from review of MGE's ** _____ ** data.

5 Q. Is this same peak heating degree day value used for the Joplin service area?

6 A. The MGE 2001/2002 and 2002/2003 Reliability Reports use the same peak
7 HDD value for the entire MGE system. The MGE selection for peak HDD for Joplin is
8 different in the Company's Draft March 2004 Demand/Capacity Analysis. It uses a peak
9 cold day of ** ____ ** HDD for Joplin. This is based, however, on MGE's consideration of
10 a methodology of using a 99% confidence interval of Springfield, Missouri HDD data. A
11 95% confidence interval would result in an estimated peak day of ** ____ ** HDD. MGE's
12 October 2004 Demand/Capacity Analysis uses a peak cold day of ** ____ ** HDD for
13 Joplin. A review of MGE's data reveals that the actual peak cold day occurred December 22,
14 1989 and was ** ____ ** HDD. MGE did not provide ** _____ ** data for the Joplin
15 service area.

16 Staff review of NOAA data shows the peak occurred December 22, 1989, and was
17 72.1 HDD. Staff's analysis for Joplin uses a peak of 72.1 as the highest observed HDD from
18 a review of NOAA data.

19 Q. Is the selection of HDD material in Staff's adjustment?

20 A. Yes. For Kansas City and St. Joseph, the two service areas included in Staff's
21 calculation of the recommended disallowance, the HDD difference depends on which MGE
22 response is used. However, the largest difference is ** ____ ** HDD. A summary of the

differences between MGE's selection of peak HDD and Staff's estimate of peak HDD is summarized below.

**

**

The difference in peak day usage estimates for the above HDD is shown in the table below. Staff's estimate of peak day for 2001/2002 for the entire system is 10.9% less than the Company estimate. If MGE had used ** ____ **HDD in its 2001/2002 Reliability Report, Staff's estimate would be 7.2% less than the Company estimate.

**

**

Staff's recommended disallowance for excess capacity is based on ** ____ ** dekatherms per day (details provided in the section titled "Staff Peak day Methodology").

1 Thus, the difference of ** _____ ** dekatherms caused simply by selecting a different peak
2 HDD accounts for 64% of Staff's recommended excess capacity disallowance for
3 Kansas City and St. Joseph.

4 **COMPANY PEAK DAY METHODOLOGY**

5 Q. It was noted above that Staff did not agree with the methodology that MGE
6 uses to estimate peak day requirements. Please explain.

7 A. Staff received data from MGE on April 16, 2004, and September 13, 2004.
8 This information contains daily usage data for each of MGE's three service areas of
9 Kansas City, Joplin and St. Joseph, some of which would have been available at the time the
10 Company was developing its peak day estimates in its 2001/2002 Reliability Report. In past
11 reviews, MGE had only provided monthly data for the entire system.

12 Prior to making contract decisions impacting the 2001/2002 ACA period, MGE did
13 not perform separate analyses for the three major service areas of Kansas City, Joplin and
14 St. Joseph. This is of concern because MGE states that the ** _____

15 _____
16 _____ ** (MGE response to DR Nos. 101 and 102 in Case No. GR-2002-348,
17 attached as Schedules 8 and 9).

18 MGE did not use this daily data in its development of its peak day estimates for the
19 2001/2002 Reliability Report. The Company estimate of peak day was developed from a
20 base load and heat load factor.

21 Base load is natural gas usage expected on a continual basis – or usage that would not
22 change with weather (i.e., natural gas used for cooking). However, because of customer
23 habits, there could be one base load in the summer months and a different base load in the

1 winter months. Heat load is customer usage that varies with the temperature – the usage
2 increases as it gets colder.

3 MGE's base load estimate was the same in the 2001/2002 and in the past three
4 Reliability Reports (1997/1998, 1998/1999, and 2000/2001) and does not consider whether
5 the base load in the winter months is different from the base load in the summer months. As
6 with the 1999/2000 and 2000/2001 ACA reviews, the heat load estimate in the Company's
7 2001/2002 Reliability Report for the peak day is simply an evaluation of usage on one cold
8 day. As noted in Staff's recommendation in the 2001/2002 ACA case, Case No.
9 GR-2002-348, and in the prior ACA case, Case No. GR-2001-382, Staff does not believe that
10 the review of one cold day in each year, one data point, is sufficient to establish the peak day
11 heat load factor. Reasonable analysis is critical because determination of peak day
12 requirements is crucial to adequate risk analysis and management so that customers' needs
13 are met without overestimation of the risk. MGE conducted a review of daily data for each
14 service area, but only after it made contract decisions impacting the 2001/2002 and
15 2002/2003 ACA periods. MGE's analysis was provided to Staff in MGE's Draft March
16 2004 Demand/Capacity Analysis and MGE's October 2004 Demand/Capacity Analysis.
17 Staff has discussed methodology with MGE, but Staff and MGE have not come to agreement
18 on a reasonable methodology for evaluating peak day requirements.

19 **STAFF PEAK DAY METHODOLOGY**

20 Q. How does Staff calculate the peak day requirement for each service area?

21 A. Staff conducted several regression analyses of the daily data (received from
22 MGE September 13, 2004) for each service area to obtain estimates of peak day
23 requirements. The regression analyses considered by Staff included the following:

1 1) Regression of daily data for the winter months (November through
2 March) for four winters of 11/1/97 – 3/31/01.

3 2) Regression of the most recent two years of daily data for the winter
4 months (November through March) for 11/1/99 – 3/31/01.

5 3) Regression of daily data for the winter months (November through
6 March) for four winters of 11/1/97 – 3/31/01, but only including data for the
7 days with 30 or more heating degree days.

8 4) Regression of the daily data for 11/1/97 – 3/31/01 (not just the winter
9 month data).

10 Q. How did Staff use this to select the estimate for peak day load?

11 A. The result from the regression of daily data for each service area for the winter
12 months for four winters of 11/1/97-3/31/01, the first option listed above, is the most
13 reasonable of the analyses for the following reasons:

14 1) It results in a higher estimate of the capacity requirements than the
15 review of the daily data for all months (includes data for summer months).
16 This is expected because the heat load factor and base load factor may be
17 different when the seasons change because of differences in customer usage
18 patterns for warm weather versus cold weather (for example: customers may
19 not use gas appliances as much in the summer months – using the oven or
20 clothes drier less), seasonal businesses or other reasons. The higher estimate
21 of capacity based on analysis of daily winter data is a more cautious number
22 to use in determining the capacity required for a peak day than that which
23 would be estimated using year round daily usage. A lower estimate of

1 capacity requirements by using all the data, summer and winter daily data,
2 would increase Staff's recommended disallowance.

3 2) It results in a higher estimate of the capacity requirements than the
4 review of only two years of winter data. There is a concern that the winter of
5 2000/2001, an extremely cold winter, may have caused some customers to
6 temporarily cut back on usage, and this could be part of the reason for the
7 lower estimate of natural gas requirements. Time will tell whether the lower
8 estimate of natural gas requirements is more reasonable, but at this time, Staff
9 is not ready to accept the lower estimate for purposes of establishing an
10 estimate of peak cold day requirements; whether usage requirements are
11 indeed declining will be monitored in future ACA cases. A lower estimate of
12 capacity requirements by using just two years of daily winter data would
13 increase Staff's recommended disallowance.

14 3) The regression analysis of the data with 30 or more heating degree
15 days has coefficient of determination values, R-Squared values, for all three
16 areas that are below 0.9. The R-squared value is an indication of the
17 interdependence between HDD and estimated usage. A value of zero would
18 indicate no relationship between HDD and estimated usage. A value of one
19 would indicate a perfect relationship between HDD and estimated usage. A
20 higher R-squared value implies a stronger relationship between HDD and
21 expected usage. The R-squared values are 0.824, 0.681, and 0.801 for
22 Kansas City, Joplin and St. Joseph, respectively, for the regression analysis of
23 the data with 30 or more HDD compared to 0.919, 0.855 and 0.901 for

1 Kansas City, Joplin and St. Joseph, respectively, for the analyses of all the
2 winter data for 11/1/97 – 3/31/01. Staff does not support using the analysis
3 with only 30 or more heating degree days when the R-squared values are
4 below 0.9, especially since another reasonable model exists that has R-squared
5 values above 0.9 for the two service areas where the disallowance is proposed.
6 Additionally, there is no justification for throwing out all the data for HDD of
7 less than thirty.

8 Q. What else does Staff consider in its peak day estimate?

9 A. Staff's peak day estimate is based on a reasonable estimate of a historic peak
10 cold day of 81.5 HDD for Kansas City and St. Joseph and a peak cold day of 72.1 for Joplin.

11 Q. Has Staff's estimate of peak day requirements changed?

12 A. Yes, it has changed for the 2001/2002 ACA, Case No. GR-2002-348.

13 In Staff's 2001/2002 ACA recommendation in Case No. GR-2002-348, filed
14 December 19, 2003, Staff presented information estimating the 2001/20002 peak day
15 estimate as ** _____ ** dekatherms. However, this was based on an analysis of MGE
16 monthly data for the entire service area, the only data available to Staff at that time. More
17 recent data provided by MGE contains daily data for each of the three service areas of
18 Kansas City, Joplin and St. Joseph. In its second Status Report, Staff states that the more
19 recent submission of data that was available for the 2001/2002 ACA would result in a
20 different estimate of peak day usage and Staff stated that more time was needed to evaluate
21 whether the MGE daily usage information will change the recommended adjustment. In its
22 third Status Report, Staff explained that MGE provided Staff with daily gas volumes for the
23 heating seasons that would have been known when planning for this ACA period. Based on

1 its analysis of these daily volumes, Staff calculated a revised peak day estimate for the three
2 service areas of ** _____ ** dekatherms for the 2001/2002 ACA.

3 Q. Why is Staff's estimate a better estimate of peak day transportation capacity
4 requirements than MGE's estimate?

5 A. There are a number of reasons that the Staff analysis of daily MGE winter
6 usage data is a better estimator for capacity requirements for a historic peak cold day, and
7 that the resulting calculation of excess reserve margin is more reasonable.

8 First, Staff considered MGE daily data for each service area of Kansas City,
9 St. Joseph and Joplin, rather than a total for all service areas, because MGE must plan to
10 provide sufficient, but not excess capacity, for each service area for even the coldest days.
11 Reasonable planning to meet customers' needs must be done for each area because the
12 overall capacity for a monthly average may be at an acceptable level, or the daily overall
13 capacity at an acceptable level, but if, on the coldest day, there is excess capacity in one area
14 and inadequate capacity in another area, the Company is not meeting its customers' needs.
15 Because of pipeline operations, excess capacity in the Kansas City and St. Joseph areas
16 cannot be relied on to offset shortfalls of capacity in Joplin. In other words, excess capacity
17 in Kansas City and St. Joseph cannot be shifted for delivery to the Joplin service areas where
18 capacity is inadequate for a peak cold day. (MGE provided daily HDD and sales data for
19 11/1/97 through 3/31/04 for each of the service areas of Kansas City, St. Joseph and Joplin
20 and this daily data for 11/1/97 through 3/31/01 should have been available for the Company
21 to use in planning for the 2001/2002 ACA. The data for Kansas City is summarized and
22 attached in Schedule 10.)

1 Second, Staff considered a reasonable peak of 81.5 HDD for Kansas City and
2 St. Joseph and 72.1 HDD for Joplin, rather than the same HDD for the entire system. This is
3 documented in the “Peak Heating Degree Day” section of this recommendation.

4 Third, Staff considered variability of the peak day estimate, as documented in the
5 “Reserve Margin” section of this recommendation.

6 Fourth, Staff considered that an LDC may acquire capacity in chunks to assure
7 adequate capacity in upcoming years. This is documented in the “Reserve Margin” section
8 of this recommendation.

9 Fifth, Staff considered growth for estimating usage for the 2001/2002 ACA and
10 future ACAs, which is necessary when planning for adequate capacity for the coming years.

11 Q. How is growth in the number of customers considered in Staff’s estimate?

12 A. Staff uses an escalation factor for growth of ** _____ **, which is the same
13 as that used by MGE in its *Missouri Gas Energy Reliability Report, July 1, 2001 through*
14 *June 30, 2002*, dated July 1, 2001. The same escalation factor for growth is used in the
15 *Missouri Gas Energy Reliability Report, July 1, 2000 through June 30, 2001*, dated July 1,
16 2000. MGE’s Draft March 2004 Demand/Capacity Analysis also includes an escalation
17 factor for growth, but when questioned about this factor, MGE stated that it was from the
18 workpapers in the recent MGE rate case, Case No. GR-2004-0209. The information from the
19 rate case was not available when MGE was planning for the 2001/2002 ACA, so Staff used
20 the same information, the ** _____ ** escalation factor, that the Company used when it was
21 planning for the 2001/2002 ACA. Since MGE’s decisions for changes in capacity are made
22 several years out, the escalation factor is used to estimate usage in future years.

23 Q. How do the MGE and Staff estimates compare?

1 A. A summary of the peak day estimates of MGE and Staff are shown below.
2 However, the MGE estimate is for the entire service area. Staff's estimate is for each of the
3 three service areas of Kansas City, Joplin and St. Joseph so that the requirements of each can
4 be evaluated.

5 **

6 **

7 **RESERVE MARGIN**

8 Q. What is a reserve margin?

9 A. A general definition is that the reserve is the available capacity for a peak cold
10 day less the estimated usage for a peak cold day. The reserve margin is a percentage
11 calculation. It is the reserve divided by the peak day estimated usage times 100.

12 Q. How is the reserve calculated?

13 A. Staff's estimate of reserve is calculated by taking the MGE actual capacity
14 (the same number used by MGE in its 2001/2002 and 2002/2003 Reliability Reports) less
15 Staff's reasonable estimate of peak day requirements. For the 2001/2002 ACA there is a
16 reserve of ** _____ ** dekatherms/day in the Kansas City area, a reserve of ** _____ ** in
17 the Joplin service area, and a reserve of ** _____ ** in the St. Joseph service area.

1 Staff also allows additional capacity equal to the standard error of the y-estimate
2 obtained in Staff's regression analysis of Company data, to account for variability in usage.
3 There may be variation in the estimated usage for any given temperature, meaning that even
4 though the temperature may be zero degrees on two different days, the usage will not be
5 identical on both of these days. This can occur because of cloud cover, greater winds on one
6 day versus another, or general variation in customer usage such as a greater heatload because
7 children are running in and out of the house more on a particular day, whether businesses are
8 closed for the weekend or operating extended hours, etc.

9 For purposes of determining whether there was excess reserve for the 2001/2002 and
10 2002/2003 ACA periods, Staff looked several years out to the estimate for peak day in
11 2005/2006, four years after the 2001/2002 ACA. This is done in consideration of the fact
12 that MGE contracts for capacity over longer periods of time. Because the Company and
13 Staff considered capacity in chunks and Staff looked at 2005/2006, the excess reserve or
14 excess capacity is ** _____ ** in the Kansas City area and ** _____ ** in the St. Joseph
15 service area. There is no proposed adjustment for excess reserve in the Joplin service area as
16 the estimate shows a ** _____ **.

17 Summaries of the reserve margins and excess reserve are shown in the following tables:

**



**

Q. Please explain further how contracting for capacity over longer periods was considered and why you chose 2005/2006 as the year to review capacity.

A. Staff reviewed the transportation contract terms, and this review revealed that MGE modified ** _____

1 _____ **. A peak day capacity
2 review, therefore, should have been conducted prior to making the decision ** _____
3 _____ ** for the 2001/2002 ACA period. Because MGE's contracts for capacity are
4 for multiple years, MGE's capacity planning must look beyond the current year's
5 requirement. MGE has stated that it reviews capacity over longer periods of time to allow
6 for contracting of capacity in blocks. Thus, more reserve is acceptable in the 2001/2002
7 ACA to allow for a sufficient reserve in the 2005/2006 ACA. Staff considered five-year
8 planning for contracting of capacity as reasonable since the Company has ** _____
9 _____ **. Although the excess reserve for
10 Kansas City is ** _____ ** Dth/day in 2001/2002 and ** _____ ** Dth/day in 2002/2003,
11 Staff's recommended adjustment is based on the excess of ** _____ ** Dth/day in
12 2005/2006. The same process was considered for the St. Joseph service area; the excess
13 reserve is ** _____ ** Dth/day in 2001/2002 and ** _____ ** Dth/day in 2002/2003, but
14 Staff's recommended adjustment is based on the excess of ** _____ ** Dth/day in
15 2005/2006.

16 **IMPRUDENT DECISION FOR 2001/2002 ACA AND 2002/2003 ACA**

17 Q. Did the transportation capacity remain the same in 2001/2002 as in the prior
18 winter?

19 A. No. The transportation capacity increased from ** _____ **
20 dekatherms per day because of a prior commitment on ** _____
21 _____ **. Additionally, transportation contracts on ** _____
22 _____ **. The total contract volumes on ** _____ **
23 remained the same, but there is no evaluation or documentation indicating that the

1 transportation contract volumes could not have been reduced when the term was revised.
2 The MGE decision to maintain the same transportation capacity on ** _____ **
3 affects the costs to customers beginning in the 2001/2002 ACA and continuing through the
4 2005/2006 ACA. It is Staff's position that MGE has not adequately calculated its peak day
5 requirements and has not provided justification for its excess reserve margin. MGE modified
6 ** _____
7 _____
8 _____ ** MGE did not evaluate customer demand to assure that its decision was
9 prudent. Specifically MGE failed to adequately evaluate and document its decision to
10 maintain the ** _____ ** total transportation contract volumes at the same level.

11 Q. Does MGE explain why it made the decision to continue the total ** _____
12 _____ ** contract volume at the same level?

13 A. The one page MGE summary, "Williams Gas Pipelines Central No-Notice
14 Analysis", and the corresponding table in the 2001/2002 Reliability Report, pages A-2 and
15 A-3 attached as Schedule 11, attempt to justify the ** _____
16 _____ **, but MGE does not address the additional market area costs
17 associated with these changes. Additionally, the information in the 2001/2002 Reliability
18 Report pertained to the entire ** _____ ** contract, not the incremental change
19 made for the 2001/2002 ACA period. The MGE review in the 2001/2002 Reliability Report
20 also assumes, unreasonably in Staff's view, that MGE would ** _____
21 _____
22 _____ ** This implies that
23 MGE would make no attempt to increase flowing supply if the weather is extremely cold.

1 Q. Should storage have been the sole consideration for retaining the excess
2 capacity?

3 A. No. There is a benefit to having storage, but both the costs and benefits of
4 storage and the excess capacity must be considered in setting the appropriate contract
5 volumes. MGE has ** _____ ** storage contracts. Because of the pipeline tariff
6 requirements, ** _____ ** has a minimum transportation capacity level that must be
7 maintained with one particular type of storage contract. The cost of carrying this excess
8 capacity, capacity that exceeds what MGE needs even for a historic peak cold day, must be
9 considered when MGE makes the decision of how to structure its transportation and storage
10 contracts, including the total contract volumes. Customers pay for this transportation
11 capacity whether or not it is used. Additionally there are fixed costs associated with storage.
12 Thus, MGE's decisions for the transportation capacity contracts and storage contracts must
13 consider more than just the benefits from storage.

14 Q. If MGE had reduced its level of transportation capacity beginning with the
15 2001/2002 ACA, would this have impacted the level of storage gas available?

16 A. Possibly. MGE could have chosen to structure its ** _____ ** capacity
17 contracts differently so that total storage volumes could have remained the same or could
18 have changed slightly. Staff's review considered three options for structuring contracts for
19 capacity and these options changed storage capacity from 0% to 2.9%.

20 Storage should have been considered by MGE when making the decision for how to
21 structure the appropriate volume of transportation capacity. MGE has ** _____
22 _____ ** contracts specifies that the available storage
23 maximum daily withdrawal quantity (MDWQ) is linked to the overall transportation

1 capacity. The tariff specifically states that shippers shall have firm storage withdrawal rights
2 equal to at least one-half of but no more than two-thirds of the maximum daily transportation
3 quantity of the service agreement. Under these restrictions the MDWQ of the ** ____
4 ____ ** storage contract would have been lowered. However, the storage contracts could
5 have been structured by the Company to have the same overall volume or only a small
6 change in the overall volume, with only the split between the storage contracts being
7 different. There are many ways that the contracts could have been restructured. Three
8 scenarios are shown in the tables below.

9 Table 1 lists changes Staff considered in the maximum storage quantity (MSQ) for
10 these three scenarios.

11 **

12 **

13 Table 2 shows that the changes in maximum storage quantity for these three scenarios
14 results in total storage that is 97.4% and 97.1%, and 100% of the MGE contracted storage.

**

**

Table 3 lists changes in the maximum daily withdrawal quantity (MDWQ) for these three scenarios.

**

**

Table 4 shows the changes in MDWQ for these 3 scenarios results in storage deliverability that is 97.3% and 96.9%, and 100% of the MGE contracted storage MDWQ.

**

**

Table 5 shows that the natural gas from storage can be used to meet ** ____ ** of the peak day requirements using the MGE plan and ** _____ ** in these three scenarios. Thus, for an extremely cold day, there is a large portion of the supply requirements that must come from non-storage resources in both the MGE plan and in the three scenarios considered by Staff.

**

**

Q. Shouldn't an LDC have some reserve?

A. That depends on many factors, such as expected growth. In the ACA review, Staff requests that each LDC provide the rationale or reasoning for the reserve margin that it maintains.

The Company's initial rationale for its flawed peak reserve analysis was that its reserve margin is consistent with Staff's concept of an appropriate level of reserve margin in the Laclede ACA case, Case No. GR-2000-622. (Letter from Rob Hack, MGE to Thomas Schwarz, dated May 14, 2002, attached as Schedule 12.) In the Laclede case, Staff stated that some variability in reserve levels is reasonable and, until better rationale is developed, a reserve of three percent is reasonable. It is not, however, reasonable for MGE to automatically assume that three percent is a reasonable reserve margin to meet its customer needs. In determining its own customer's needs, MGE should do its own analysis to assure reasonable accuracy. In its 2001/2002 and 2002/2003 Reliability Reports, MGE made no

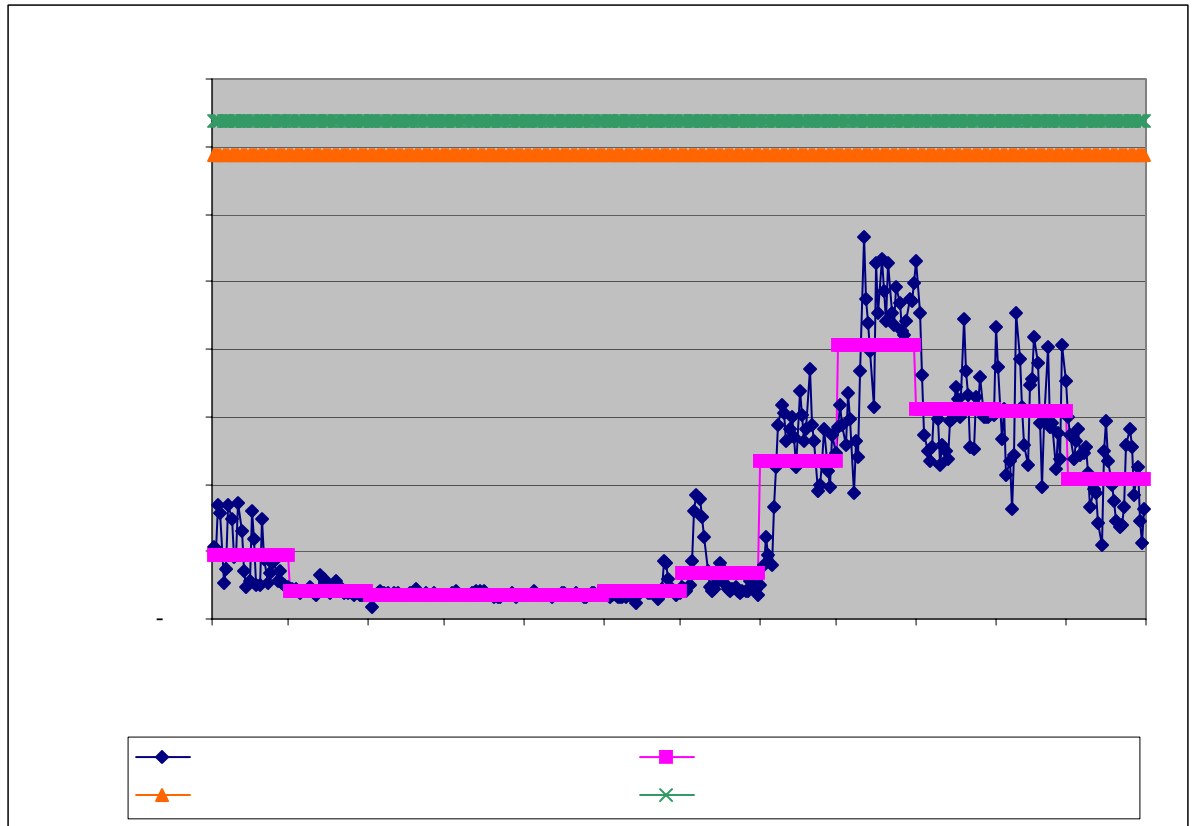
1 estimates of standard error or variability to determine a reasonable reserve margin estimate
2 for customers on its system. MGE also has provided no review that establishes that it
3 considered an appropriate reserve margin prior to committing to the revised and extended
4 ** ____ ** contract. Each Missouri LDC has unique customer and system characteristics and
5 Staff reviews the reserve margin based on each LDC's explanation of the assumptions it used
6 to estimate the peak demand and the capacity available to meet that demand. The reserve
7 margin targeted by each LDC depends upon a number of factors such as: expected customer
8 growth (positive or negative growth), the expiration date of contracts, cost of carrying any
9 reserve volumes, the rationale surrounding the selection of the peak cold day and
10 assumptions regarding peaking capacities. Therefore, a reserve margin that would be
11 appropriate given one LDC's analysis may be wholly inappropriate to meet the needs of
12 another LDC's customers. (This was also communicated to MGE in an email to Mike
13 Langston, MGE, dated May 28, 2002, attached as Schedule 13.) It is especially speculative
14 for MGE to use three percent as its necessary reserve margin when it has not evaluated the
15 accuracy of the factors it used to estimate usage. Additionally, the larger issue for MGE is to
16 more reasonably estimate peak day usage so that when contracts are renewed, the capacity is
17 based on a reasonable estimate of peak day usage requirements. Thus, the Company may
18 make decisions that meet its customers' needs for each service area without overbuying
19 transportation capacity in one area and under-buying capacity in another area.

20 Q. Is this proposed disallowance related to MGE's incentive plan for capacity
21 release and off system sales?

22 A. No. Staff is not proposing to disallow the capacity release revenues.
23 Furthermore, Staff does not believe that a lower peak day capacity value would have

restricted capacity release revenues. MGE is not limited to releasing only the capacity that is in excess of the peak day requirements. As illustrated in the chart below for the Kansas City service area, capacity is available for release every month of the year. Even at the lower transportation capacity level recommended by Staff, MGE could have released capacity.

**



**

During the non-winter months, large amounts of capacity are available for release. During the winter months, especially the months of December, January and February, there is less capacity available for release because of colder weather and the potential for a really cold day – a peak historic cold day of ** ____ ** HDD. However, MGE has addressed this through its provision to recall released capacity upon 24 hours notice. The Company states that most capacity releases are determined on a month-to-month basis and are recallable upon

1 24 hours notice. MGE also has some term capacity releases (more than a one-month release)
2 and these have the same recall provisions as those released on a month-to-month basis.
3 (Company response to Data Request No. 38, Case No. GR-2002-348). Thus, as the weather
4 turns cold or is forecasted to be cold, MGE would monitor its capacity and recall any
5 necessary capacity.

6 In fact, MGE has made capacity release revenues in every month of the year. The
7 largest capacity release in terms of volumes and dollars was the month of ** _____ **
8 (from a review of July 1998 – June 2003 data.). MGE has not shown that the capacity
9 released is only that which is in excess of peak day requirements.

10 Q. What is Staff's determination of the cost of the excess reserve?

11 A. The Staff analysis of the MGE data for each service areas reveals excess
12 capacity for the Kansas City and St. Joseph service areas totaling ** _____ ** Dth per day
13 and this excess capacity cost MGE's customers \$2,041,931 for the 2001/2002 ACA and this
14 is approximately \$4.02 per customer. No disallowance is proposed for the Joplin service area
15 as there is a ** _____ **. Summaries of
16 the recommended disallowance calculations are presented in the following tables.

17 **

**

Q. Did Staff consider more recent data when evaluating the reserve margin for 2002/2003?

A. Yes. As a check Staff evaluated newer data, data available when planning for the 2002/2003 ACA, that would not have been available when decisions were being made for the 2001/2002 ACA. Staff updated the regression analysis conducted for the 2001/2002 ACA, by adding the MGE daily data through March 31, 2002. When including the more current data, the regression results of the daily winter data for Kansas City, Joplin and St. Joseph areas resulted in peak day estimates that were lower for each service area. Thus, the excess reserve margins were higher for both the Kansas City and St. Joseph areas of MGE's system. Instead of showing a ** _____

_____. Thus, updated data would show that the disallowance would be even higher. However, it is not appropriate to increase the disallowance. The Company decision first impacted the 2001/2002 ACA, and thus the updated data would not have been known when the Company decision was made. This evaluation was simply done as a check to confirm Staff's analysis.

The Staff recommended capacity disallowance for the 2002/2003 ACA would be the same as the volume recommended for disallowance for the 2001/2002 ACA, which is ** _____ ** dekatherms per day for the Kansas City portion of MGE's service area and

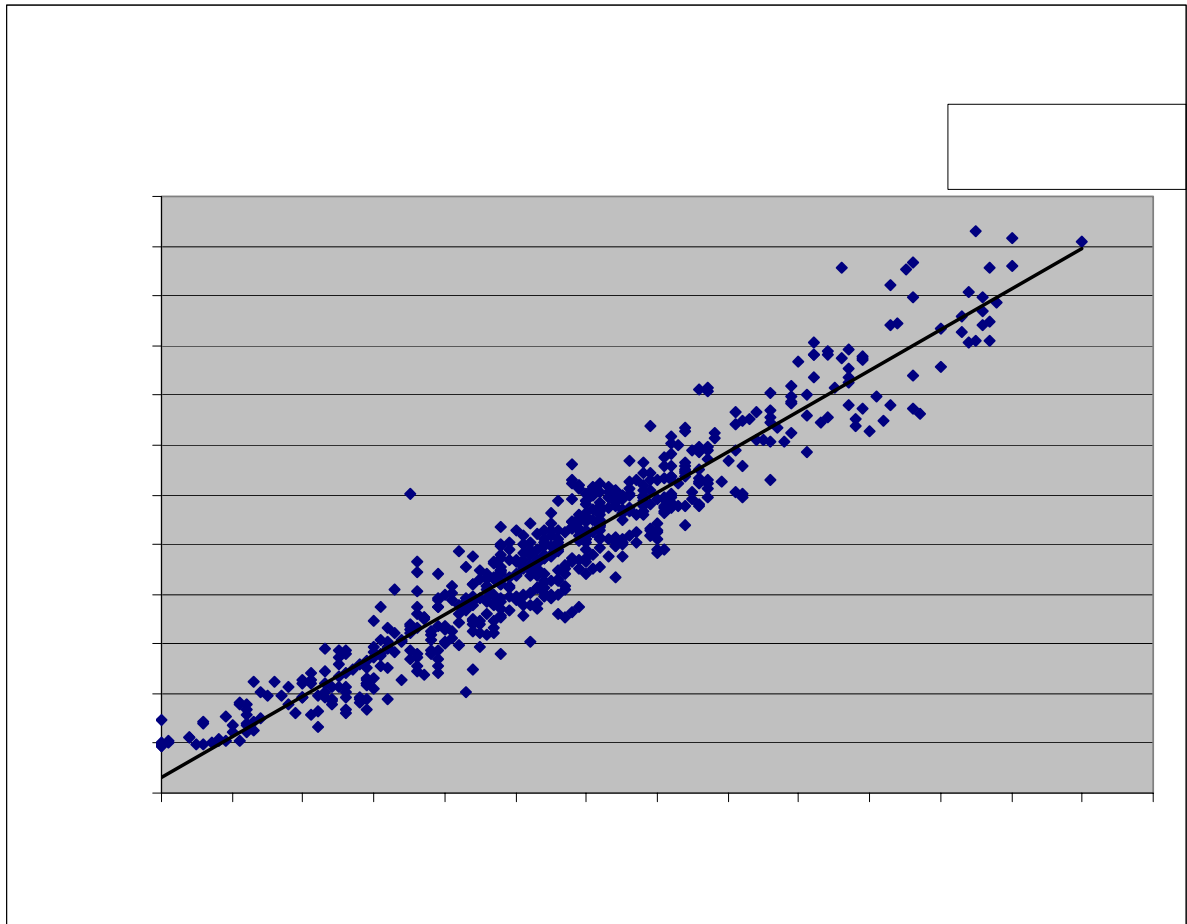
1 ** _____ ** dekatherms per day for the St. Joseph portion of MGE's service area, for a total
2 disallowance of ** _____ ** dekatherms per day. The cost of the recommended
3 disallowance is different from the 2001/2002 ACA analysis because the reservation costs
4 were slightly different for the 2002/2003 ACA.

5 Q. Did Staff consider any other information when evaluating the excess capacity
6 issue for the 2001/2002 and 2002/2003 ACA periods?

7 A. Yes. In an attempt to look at other reasonable methods for estimating usage
8 requirements, Staff reviewed all daily winter data for the four years under consideration.
9 Staff did see a slight difference at lower HDD. Data for lower HDD tended to be above the
10 trend line which could have impacted the regression analysis. The usage for HDD of 15 or
11 greater seemed to be distributed evenly above and below the trend line. A plot of the Kansas
12 City service area data is shown below.

13
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For usage data associated with 15 or greater HDD, Staff obtained regression results which increase the estimate of the peak day requirements.

Staff also looked at the standard error of the y-estimate as additional reasonable capacity (same method as used before). In addition, Staff also reviewed the regression outputs for a 95% confidence interval - the analysis provides estimates for upper and lower usage estimates. These outputs were used to estimate the upper limit of the peak day requirements as another method of considering additional reasonable capacity. For both

1 Kansas City and St. Joseph, the 95% confidence interval upper estimate resulted in a higher
2 estimate than using the standard error of the y-estimate.

3 Staff also considered the costs and benefits associated with a revision to the
4 transportation capacity contracts and the associated changes to the storage contracts. As
5 discussed previously, there are many ways that MGE could have structured the contracts.
6 Staff evaluated three scenarios for structuring the transportation capacity contracts and the
7 storage contracts to comply with the pipeline tariffs. Staff is not stating that these scenarios
8 are the only way that these contracts could have been structured, but that this is a means to
9 evaluate whether there was a cost or benefit associated with the MGE contract decisions.

10 Staff's review reveals net costs to customers of \$1,284,439 (Scenario 2), \$1,435,082
11 (Scenario 1), and \$2,426,474 (Scenario 3) for the 2002/2003 ACA period. The costs for the
12 2001/2002 period would be slightly higher as the reservation costs were slightly higher.
13 Staff's recommended adjustments of \$2,041,931 in Case No. GR-2002-348 and \$2,015,661
14 in Case No. GR-2003-0330 are within the range considered in these three scenarios. Thus,
15 Staff believes that its recommended adjustment is reasonable.

16 Q. Please summarize the issues addressed by your testimony.

17 A. My testimony provides support for a disallowance for excess capacity for the
18 Kansas City and St. Joseph service areas for MGE's 2001/2002 and 2002/2003 ACA periods.
19 MGE did not properly evaluate the transportation capacity that it should contract for to meet
20 customers' natural gas requirements on a peak (coldest) day with sufficient accuracy to avoid
21 overbuying and charging more than is reasonable. As a result, MGE purchased more
22 capacity than it needed to meet peak day requirements. Staff evaluated the cost of this excess

1 reserve margin and recommends that \$2,041,931 be refunded to customers for the 2001/2002
2 ACA period and \$2,015,661 for the 2002/2003 ACA period.

3 Q. Does this conclude your testimony?

4 A. Yes, it does.

Schedule 1**Summary of Testimony and Actual Cost Adjustment (ACA) Recommendations****Lesa A. Jenkins**

Testimony				
Company Name	Type Case	Case Number	Issues	Testimony Filed
Missouri Gas Energy	Rate	GR-2004-0209	Gas Purchasing Practices	Surrebuttal 6/14/04
Missouri Gas Energy	ACA	GR-2001-382, GR-2000-425, GR-99-304, GR-98-167 Consolidated	Purchasing Practices - Minimum Level of Hedging; Purchasing Practices - Storage; Reliability Analysis	Direct 1/15/03, Rebuttal 3/18/03, Surrebuttal 4/22/03, Supplemental Direct 10/3/03, Supplemental Rebuttal 11/13/03
Aquila, Inc. d/b/a Aquila Networks – MPS	ACA	GR-2000-520 and GR-2001-461 Consolidated	Purchasing Practices-Eastern System; Purchasing Practices-Southern System; Reliability Analysis	Direct 10/24/02, Rebuttal 11/20/02
Atmos Energy Corporation and United Cities Gas Company	ACA	GR-2001-396 and GR-2001-397 Consolidated	Atmos Energy Corporation: Purchasing Practices – General; Purchasing Practices – Southeast Missouri Integrated System; Reliability Analysis	Direct 12/23/02 & 1/31/03, Rebuttal 2/28/03
			United Cities Gas Company: Purchasing Practices – General; Purchasing Practices – Neelyville District; Purchasing Practices – Consolidated District; Reliability Analysis	

ACA Recommendations Filed		
Company Name	Case Number	Filed
2003/2004 ACA Reviews		
AmerenUE	GR-2005-0102	11/9/2005
Southern Missouri Gas Company	GR-2005-0064	6/8/2005
2002/2003 ACA Reviews		
Fidelity Natural Gas, Inc	GR-2003-0323	2/26/2004
Southern Missouri Gas Company	GR-2004-0193	5/19/2004
Atmos - Areas B, K, & S (old ANG); Area G (Greeley); and Areas P&U (old United Cities)	GR-2003-0219	12/22/2004
Aquila Networks - MPS	GR-2003-0311	12/22/2004
Aquila L & P (old St. Joseph Light & Power)	GR-2003-0369	12/28/2004
Missouri Gas Energy	GR-2003-0330	12/29/2004
Laclede Gas Company	GR-2003-0224	12/30/2004
2001/2002 ACA Reviews		
Missouri Gas Energy	GR-2002-348	12/19/2003
Atmos - Areas B, K, & S (old ANG); Area G (Greeley); and Areas P&U (old United Cities)	GR-2003-0150	9/15/2003
Aquila Networks - MPS	GR-2002-392	8/15/2003
Aquila L & P (old St. Joseph Light & Power)	GR-2002-468	8/7/2003
Southern Missouri Gas Company	GR-2002-440	5/22/2003
AmerenUE	GR-2002-438	5/15/2003
Fidelity Natural Gas, Inc	GR-2003-0148	3/26/2003
2000/2001 ACA Reviews		
Southern Missouri Gas Company	GR-2001-388	10/31/2002
Atmos - Areas B, K, & S (old ANG)	GR-2001-396	9/30/2002
Atmos - Areas P&U (old United Cities)	GR-2001-397	8/29/2002
Aquila Networks - MPS	GR-2001-461	7/9/2002
Laclede Gas Company	GR-2001-387	6/28/2002
Fidelity Natural Gas, Inc	GR-2001-495	6/28/2002
Missouri Gas Energy (MGE)	GR-2001-382	5/31/2002
Ameren UE	GR-2001-488	2/7/2002
Atmos - Area G (Greeley)	GR-2001-394	1/18/2002
1999/2000 ACA Reviews		
United Cities Gas Company / Atmos	GR-2000-392	8/29/2002
Missouri Public Service /UtiliCorp	GR-2000-520	7/9/2002
Laclede Gas Company	GR-2000-622	3/15/2002
Missouri Gas Energy (MGE)	GR-2000-425	11/27/2001
Ameren UE	GR-2000-579	11/15/2001
Associated Natural Gas (ANG)/ Atmos	GR-2000-573	11/1/2001
St. Joseph Light & Power (SJLP) / UtiliCorp	GR-2000-574	8/28/2001
Southern Missouri Gas Company	GR-2001-39	7/2/2001
Fidelity Natural Gas, Inc	GR-2001-250	6/1/2001

ACA Recommendations Filed		
Company Name	Case Number	Filed
Greeley Gas Company /Atmos	GR-2001-36	5/1/2001
1998/1999 ACA Reviews		
United Cities Gas Company	GR-99-280	9/29/2000
Missouri Public Service (MPS)	GR-99-435	9/1/2000
Laclede Gas Company	GR-99-316	8/14/2000
Missouri Gas Energy (MGE)	GR-99-304	8/1/2000
Associated Natural Gas (ANG)	GR-99-392	8/1/2000
Southern Missouri Gas Company	GR-2000-288	8/1/2000
Ameren UE	GR-99-396	7/31/2000
St. Joseph Light & Power (SJLP)	GR-99-394	6/30/2000
Fidelity Natural Gas, Inc	GR-2000-285	6/30/2000
Greeley Gas Company	GR-2000-319	5/1/2000

JENKINS SCHEDULES

2 THROUGH 12

ARE DEEMED

HIGHLY CONFIDENTIAL

IN THEIR ENTIRETY

Jenkins, Lesa*
From: Jenkins, Lesa*
Sent: Tuesday, May 28, 2002 2:09 PM
To: 'Mike Langston (E-mail)'
Subject: FW: RE: MGE Reliability Information

-----Original Message-----

From: Jenkins, Lesa*
Sent: Tuesday, May 28, 2002 12:32 PM
To: Mike Langston (E-mail)
Cc: Sommerer, David; Allee, Anne; Schwarz, Tim
Subject:

Dear Mr. Langston:

On May 14, 2002, MGE provided information pertaining to the reliability analysis. In a conference call last week you indicated that comments would be appreciated for consideration on a going forward basis. Attached are Staff's comments.



MGE - Staff
esponse to 5-14-0..

Lesa A. Jenkins, P.E.
Procurement Analysis Department
Public Service Commission
P.O. Box 360
200 Madison Street, Suite 220
Jefferson City, MO 65101
(573) 751-8738

MGE Reliability Analysis

Staff Comments Regarding MGE 5/14/02 Letter and Attachments

1. The Company previously stated that a series of regression analyses are performed on the historic daily firm sales to determine the baseload and weather sensitive heatload factors. However, the Company states that this analysis was undertaken in 1994 and cannot be found. Staff recommends for the 2001/2002 ACA period and forward that the Company produce paper copies and electronic copies showing input and output sheets supporting the Company's baseload and heatload factors for estimating peak day demand.
2. The Company is now proposing to calculate a new baseload factor by averaging summer months usage with zero heating degree days for June 1996 through current available data. The Company states that the past two years of data show a lower baseload trend, but the Company is concerned about lowering this factor too soon. Staff is concerned that the Company is including data from too far back and that customer usage patterns could have changed or customer mix could have changed. Staff would accept a 2-year average, but not a 6-year average. Additionally, if the Company expects growth/decline in a particular customer class, then the Company should submit the explanation for this growth/decline and adjust the baseload accordingly – providing copies of the calculations to Staff.
3. The Company states that the heatload factors are updated annually, but Staff's review of the Reliability Reports shows that the heatload factors are 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 is sufficient to establish the heatload factors. Staff would expect to see a review of 1 or 2-years winter data to estimate a heatload factor. If the Company expects growth/decline in a particular customer class, then the Company should submit the explanation for this growth/decline and adjust the heatload accordingly – providing copies of the calculations to Staff.
4. For the 2001/2002 ACA period and forward, the input and output sheets should be submitted supporting the Company's analysis of base case, low case, and high case monthly usage contained in the Reliability Reports (Table I-3 of the 2000/2001 Reliability Report).
5. In the Reliability Reports for 1996/1997, 1997/1998, and 1998/1999, the Company included tables listing the planned storage injections and storage withdrawals for the base case. For the 2001/2002 ACA period and forward, MGE should provide the planned storage injections and storage withdrawals for the base case, low case, and high case monthly usage along with the rationale for these planned storage injections and withdrawals.
6. The Company provided actual usage information for 5 dates in the winter of 2000/2001. MGE should explain and show the calculations of how the actual usage data is adjusted so that it only includes the firm customer classes.

7. MGE refers to a 3% reserve margin in the Laclede case, GR-2000-622. The specific language contained in the recommendation is as follows: "The Company provides no estimate of standard error of the Y-estimate and no other estimate of variability or rationale for a specific reserve margin. Some assumed variability is reasonable, and Staff suggests that until better rationale is developed that an additional 3% be allowed."

It is not reasonable to assume that 3% is the assumed reserve margin for MGE. Staff reviews the reserve margin based on each local distribution company's (LDC) explanation of the assumptions used to estimate the peak demand and the capacity available to meet that demand. The reserve margin targeted by each LDC would be dependent upon a number of factors such as expected customer growth, the expiration date of contracts, cost of carrying any reserve volumes, the rationale surrounding the selection of the peak heating degree days, assumptions regarding peaking capacities, and comparison of the model to actual peak day demand. Therefore, a reserve margin that would be appropriate given one LDC's analysis, may not be appropriate for another LDC. MGE should submit supporting information to justify its reserve margin.