MEMORANDUM

TO: Missouri Public Service Commission Official Case File, Case No. GR-2002-0348, Missouri Gas Energy, a Division of Southern Union Company

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/s/ Dave Sommerer 12/18/03	/s/ Thomas R. Schwarz 12/18/03
Project Coordinator / Date	General Counsel's Office / Date

SUBJECT: Staff's Recommendation in Missouri Gas Energy's 2001-2002 Actual Cost Adjustment Filing

DATE: December 18, 2003

The Staff has reviewed the Missouri Gas Energy (MGE or Company) 2001-2002 Actual Cost Adjustment (ACA) filing. The filing was made on October 18, 2002, and is docketed as Case No. GR-2002-0348. The filing contains the Company's calculations of the ACA, Refund, Transition Costs, and Take-or-Pay account balances.

MGE serves approximately 508,000 customers in the Kansas City, Joplin and St. Joseph area. MGE transports its gas supply over Panhandle Eastern Pipe Line (PEPL), Williams Gas Pipeline (Williams) now called Southern Star Central Gas Pipeline, Mid-Kansas Partnership/Riverside Pipeline Company (MKP/RPC) now called Kansas Pipeline Company (KPC) and KN Interstate Pipeline (KNIP).

The Staff's review consisted of an analysis of the billed revenues and actual gas costs, for the period of July 1, 2001 to June 30, 2002. A comparison of billed revenue recovery with actual gas costs will yield either an over-recovery or under-recovery of the ACA, Refund, Take-or-Pay (TOP) and Transition Cost balances. The Staff also reviewed MGE's gas purchasing practices to determine the prudence of the Company's purchasing and operating decisions.

In addition, Staff conducted a reliability analysis for MGE including a review of estimated peak day requirements and the capacity levels to meet those requirements, peak day reserve margin and the rationale for this reserve margin, comparison of actual demand to estimated demand and annual estimated demand.

MKP/RPC PIPELINE ADJUSTMENT

MGE incurred natural gas costs, with respect to its transportation contract with KPC, that are substantially greater than comparable pipelines. Based upon this, the Staff has proposed the following adjustments to reduce MGE's gas costs in the prior four ACA cases:

Case Number	ACA Period	Adjustment
GR-96-450	1996/1997	$3,490,082.81
GR-98-167	1997/1998	$4,330,731.88
GR-99-304	1998/1999	$5,914,199.59
GR-2000-425	1999/2000	$5,886,058.13
GR-2001-382	2000/2001	5,341,127.63

Likewise, the Staff proposes to reduce MGE's gas costs by $6,099,369.34 for this ACA period. The Staff believes this adjustment is necessary for the same reasons that the Commission found that an adjustment was appropriate in Case No. GR-93-140, that the heart of the problem with the initial 1991 contract was the excessive transportation charges from the Kansas Pipeline company (KPC) contract, when compared to the costs to transport gas on the Williams system. The subsequent modifications to the contracts mitigated, but did not completely eliminate, the imprudence of the KPC contract cited by the Commission in Case No. GR-93-140. These excessive transportation charges were simply continued in the 1995 contracts, with some mitigation that Staff fully credits in its proposed adjustments for the relevant periods. During 1998, the existing sales service with KPC was replaced with a "transportation only" service rather than the historical "bundled" (supply and transportation) service acquired from KPC. On March 12, 2002, the Commission issued a Report and Order in Case No. GR-96-450. Although the Commission did not rule in favor of the Staff's prudence disallowance in Case No. GR-96-450, it did not specifically rule on the question of whether or not a Stipulation and Agreement filed in 1996 barred future prudence reviews. The Report and Order was subsequently appealed by KPC. The Commission's Report and Order in Case No. GR-96-450 is now before the Court of Appeals. On September 10, 2002, the Commission consolidated the ACA cases for the periods covering July 1997 through June of 2001. The Commission noted that "a second portion of the procedural schedule leading to a hearing on the MKP/RPC contract issue may need to be established after completion of the hearing on the first set of issues. The Commission will issue a single Report and Order after completion of both portions of the hearing." The hearing for the first set of issues was recently concluded and in fact was itself bifurcated into a two-part hearing. There is no procedural schedule at this time, to address the consolidated MKP/RPC contract issue.

HEDGING

In its review of MGE's purchasing practices, the Staff reviewed the Company's hedging transactions. Although MGE employed storage, fixed forward price and collars strategies for the 2001/2002 winter, the Staff did not find any evidence that the Company maintained a current hedging plan or risk management plan. Furthermore, MGE did not provide the Staff with any

documentation or analyses for each hedging transaction at the time the transaction was completed that would help the Staff understand the rationale for entering into each hedging decision. Therefore, the Staff recommends that for the 2003/2004 ACA period forward, the Company provide documentation for each hedging transaction from the time the decision is made and the transaction is executed to include: (1) the purpose of the hedge, (2) the Company evaluation of the market conditions supporting the hedge, and (3) all transactions details, including but not limited to, the date the transaction is executed and the costs to establish the hedge position, if any. The same information should be noted and provided to Staff for any hedge that is liquidated. In addition, when storage is relied upon as part of the Company's hedging strategy, an analysis needs to be done that evaluates the interplay between monthly storage available under various operating/weather conditions versus financial and fixed price gas supply hedges. Finally, when the vast majority of the Company's gas supply portfolio is indexed based and is not finalized until late summer, additional price exposure is created by prevailing market forces in that short period of time. The Company should perform multi-period planning for its gas supply packages with a due consideration given to pricing that is diversified. Such considerations should take place well in advance of the impending winter. For the 2002/2003 ACA period, the Staff recommends that the Company provide all documentation noted above supporting its hedging decisions. The Staff further recommends this documentation should be maintained and be made available to the Staff during each ACA review.

RELIABILITY ANALYSIS

The Company submitted a 2001/2002 Reliability Report that shows peak day estimates for the 12 years of 2000/2001 through 2011/2012. Staff has the following concerns regarding the Company's reliability analysis.

1. Staff questions whether the Company has adequately planned for peak day demand for each area served by specific pipelines. The Company's Reliability Report estimates peak firm usage for the entire Missouri system – no separate analysis is done for the three major service areas of Kansas City, Joplin and St. Joseph. However, the 2001/2002 Reliability Report states that the St. Joseph and Joplin areas are served exclusively by Southern Star Central Gas Pipeline, Inc. (f/k/a) Williams Gas Pipelines – Central, and Panhandle Eastern Pipe Line provides exclusive service to small farming communities located east of Kansas City. Page 23 of the Reliability Report states that ** _____
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_____ **.

   Staff requested clarifying information from MGE and analyses and work papers showing the peak day demand in Warrensburg for the 2001/2002 ACA period and for the 2000/2001 ACA period. The Company provided a copy of various emails from 1996 and 1997 (DR57).

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These emails raise an issue about needed capacity east of Kansas City and ask the question of whether ** _____ _____ _____ _____ _____ **.

Staff recommends that the Company submit more complete detail than that provided in the Company's Reliability Reports that documents the Company's analysis of usage and capacity for areas served by specific pipeline(s) to assure that adequate, but not excessive capacity, is available to meet peak day requirements. Staff recommends that this information be submitted to address the Reliability issues for the next ACA case, the 2002/2003 ACA, Case No. GR-2003-0330.

2. Staff continues to have concerns with the methodology used by the Company to calculate the system-wide peak day requirements.

   a. The Company 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, the information provided by the Company to-date does not support that regression analyses are used to develop the base load and heat load estimates. In its May 14, 2002 document, the Company states that it has been unable to locate the original base regression that was used in determining the base load and heat load factors.

   b. The base load reported in the 2001/2002 Reliability Report is ** _____ ** and is the same in the current and past three Reliability Reports (1997/1998, 1998/1999 and 2000/2001). The Company is proposing in future forecasts, to calculate a new base load factor by averaging summer months from 1996 forward where there are zero heating degree days (HDD). The Company states that the past two years of data shows a lower base load 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 in that time. The Company should consider a shorter time frame to establish the base load and should consider other estimating techniques such as a regression analysis to estimate the base load. The Company may also find in performing a more detailed regression analysis that the base load is different in the summer months, shoulder months (spring and fall) and winter months. Meeting customers' needs requires prudent planning, which should have included such an analysis. Staff recommends that the Company reevaluate its base load estimate and that supporting analysis be provided to Staff. Such an evaluation should encompass the 2001/2002

ACA period and provide a reasonable outlook for the next four to five ACA periods, 2002/2003, 2003/2004, 2004/2005, 2005/2006 and 2006/2007.

c. As with the 1999/2000 and 2000/2001 ACA reviews, the heat load estimate in the Company's Reliability Report for the peak day is not from a series of regression analyses as stated by the Company. MGE simply uses an evaluation of one cold day to estimate the heat load factor. This same methodology appears to be used by the Company in its May 14, 2002 document that describes a revised base load methodology. As noted in prior ACA cases, Staff does not believe that the review of one cold day in each year, one data point, is sufficient to establish the peak day heat load factor. Accurate determination of peak day requirements is essential to adequate risk analysis and management so that customers' needs may be met without overestimation of the risk.

Staff would expect to see a review of one or two years of daily data (monthly data if daily data is not available or is not reliable) to estimate a heat load factor. With computer software, it is fairly easy for the Company to conduct a regression analysis of usage data and HDD data to obtain estimates of base load and heat load. Such an analyses would also provide an estimate of the coefficient of determination, R^2, which indicates whether the factors being considered have a good correlation with estimated usage. It would also be prudent for the Company to consider other factors such as whether weekday or weekends have an impact on expected usage, whether seasonal businesses have an impact on expected usage; whether base load is different in the summer months versus the winter months; etc. The factors to consider in usage analyses should be based on the Company's knowledge and evaluation of customer usage. 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 base load or heat load factor accordingly – providing copies of the calculations to Staff.

Staff recommends that the Company reevaluate its heat load estimate and that supporting analysis be provided to Staff. Such an evaluation should encompass the 2001/2002 ACA period and reasonable outlook for the next 4-5 ACA periods, 2002/2003, 2003/2004, 2004/2005, 2005/2006 and 2006/2007.

d. The Company adds an annual escalator to the peak day estimate to calculate the peak day usage in future years. The escalator is ** _____ **, the same as in the 2000/2001 ACA. The escalator was ** _____ ** in the 1998/1999 Reliability Report. Insufficient explanation is given supporting the value of the escalator. Staff would not normally argue over ** _____ **, but this value is a consideration in calculating the reserve margin, which is an issue. Staff recommends that the Company provide supporting data and a more complete analysis for an escalator or other growth factor. Again thorough analysis of peak day usage is essential if the

Company is to plan adequately to meet its customers needs, without excess capacity purchases.

e. Staff obtains a different estimate of peak day than the Company. Staff cannot support the Company's current method of estimating peak day demand. The Staff's estimate is 7.3% lower than the Company's Reliability Report estimate.

Staff's estimate was calculated from a regression analysis of Company information for actual HDD and actual usage for July 1998 through June 2000. This regression analysis results in a coefficient of determination, R^2, of 0.9857, which means there is a strong relationship between HDD and expected usage, leading to the conclusion that Staff's methodology is reasonably accurate.

The Company estimate uses a base load factor that is not current and a heat load factor that is based on a review of usage on only a single cold day. There is no Company evaluation of how well or how poorly the Company base load and heat load factors predict peak day usage. Absent an evaluation of the reliability of the factors used to make a peak day usage estimate, reliance on the factors is not sound practice.

3. Staff evaluated the reasonableness of the Company's reserve margin (capacity less estimated peak day requirements). The Company provides no estimate of standard error and no other estimate of variability or its rationale for an appropriate reserve margin, other than to state that it's 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, in which Staff stated that some variability is reasonable and until better rationale is developed a reserve of three percent be allowed.

It is not reasonable for MGE to automatically assume that three percent is a reasonable reserve margin to meet MGE's customer needs without any analysis. 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 cold day and assumptions regarding peaking capacities. Therefore, a reserve margin that would be appropriate given one LDC's analysis, may not be appropriate for another LDC. It is especially unreasonable for MGE to use three percent when it has not evaluated the accuracy of the factors it used to estimate usage. Additionally, the larger issue for the Company is to more reasonably estimate peak day usage so that when contracts are renewed, the capacity is based on a reasonable estimate of peak day usage requirements.

When Staff's estimate of peak day is used, there is excess capacity in this ACA period. Staff

considered two approaches to calculate the cost of this excess reserve margin. One approach considers a reserve equal to the standard error of the y-estimate obtained in Staff's regression analysis of Company data for actual HDD and actual usage for July 1998 through June 2000. The second approach considers a three percent reserve margin. Although there is no data that supports a greater reserve of three percent for MGE, a three percent reserve margin has been found in other Staff ACA reviews. Additionally, MGE has referred to the three percent reserve margin allowed by Staff in the Laclede case, Case No. GR-2000-622, as rationale for MGE's reserve margin. Staff also considered a third approach with a reserve equal to the average of the first two approaches.

For all three approaches, Staff took into consideration that the Company reviews capacity over longer blocks of time, as stated in its Reliability Report, to allow for contracting of capacity in blocks. Thus, more reserve may be warranted in the 2001/2002 ACA to allow for a sufficient reserve in the 2005/2006 ACA. Staff considered five-year planning for contracting of capacity as reasonable since the Company has contracts that expire in the fall of 2005 and the fall of 2006. If Staff accepts that the Company reviews capacity for the next five years when contracts are renewed, a review of peak day requirements in 2005/2006 is appropriate.

A summary follows of the peak day estimates and reserve margin considered by Staff:

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The excess reserve in 2001/2002 under the three approaches is ** _____ ** or ** _____ ** or ** _____ ** dekatherms per day (Dth/day), respectively for approach one, two or three. However, because of planning for capacity over a longer five year block of time, Staff is only proposing to disallow ** _____ ** or ** _____ ** or ** _____ ** Dth/day, respectively for approach one, two or three. The cost of the excess reserve for these three approaches is as follows:

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Summary of Reserve Margin Disallowance for 2001/2002 ACA	Reserve of Standard Error of y-estimate in Year 2005/2006	3% Reserve in Year 2005/2006	Reserve Equal to Average of These Two
Excess Capacity (Dth/day)	** _____ **	** _____ **	** _____ **
Recommended Disallowance	$1,589,989	$1,156,044	$1,373,016
Approx. Max # customers	508,000	508,000	508,000
$/customer/yr	$3.13	$2.28	$2.70

Staff has documented concerns with the Company's peak day planning/reliability analysis in the previous two cases, the 2000/2001 ACA, Case No. GR-2001-382, and the 1999/2000 ACA, Case No. GR-2000-425. Concerns with the Company's peak day planning are also documented in this case. Because of inadequate peak day analysis, the Company's estimates of peak day usage are not an appropriate basis to use in making decisions regarding contract renewal. However, the Company was making contract decisions impacting customer bills based on this inadequate analysis. ** _____

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_____ **. Excess reserve margins means that there is excess capacity, beyond reasonable levels, that is not required to meet the peak day requirements of MGE's customers. Pursuant to MGE's most recent rate case, Case No. GR-2001-292, if this excess capacity were released in the capacity release market, the Company keeps all revenues associated with this capacity release. The cost to customers for this excess capacity is $1,156,044 to $1,589,989 for the 2001/2002 ACA period, which is approximately $2.28-$3.13 per customer. Staff supports reasonable reserve margins to meet customer demand, and Staff believes that a reserve equal to the standard error of the y-estimate is more defensible because it is based on an analysis of MGE data. However, a disallowance in the range of these two approaches described above is acceptable. Therefore, because MGE made decisions based on inadequate information and analysis, Staff recommends a disallowance of the average of the two excess reserve margins, which is a disallowance of $1,373,016.

4. MGE's Reliability Report includes two annual load projections for 2001/2002. One looks at 30-years of normalized weather data and the other looks at 10-years of normalized weather data. The Company states that since projections based on 30 years result in a more conservative forecast, for reliability purposes, the Company will use it for fiscal 2002 planning.

MGE develops three separate forecasts for planning purposes – a base case, high case and low case forecast. The Company calculates heat load in its estimates of normal (base case) month usage, low case usage and high case usage from a review of the actual usage for the same month in the prior year. Staff has concerns about estimating a separate heat load factor for each heating season month based only on a review of the one-month usage in the prior year. The Company has done no analysis to verify that this methodology reasonably

estimates monthly usage. Again, when the Company does nothing to test the reasonableness or accuracy of its methodology, basing decisions on that methodology is not sound practice. Additionally, the Company's low-case and high-case heat load estimates only consider 15 years of weather. As stated by the Company, a key consideration in the forecasting process is the firm demand during extreme weather conditions. Staff does not believe that a review of 15 years of weather data is sufficient, especially when 30 years data is readily available to account for the extremes in weather. At least 30 years of weather data should be considered in order to capture extreme cold and extreme warm temperatures.

Staff recommends that the Company's base-case, low-case and high-case estimates be reevaluated to consider a more thorough analysis of base load and heat load, which may be done by using a regression analysis as discussed above in item number two of this Reliability Analysis section. Additionally, to improve its reliability as an estimating method, this analysis should consider at least 30 years of weather data. Such an evaluation should encompass the 2001/2002 ACA period and reasonable outlook for at a minimum the 2002/2003 and 2003/2004 ACA periods. The Company's supporting data and analyses should be provided to Staff.

5. Staff continues to have concerns regarding the Company's planned normal storage withdrawals. MGE's current plan for normal weather is to have the largest planned withdrawal in November, the heating season month with the fewest number of heating degree days, and to have the smallest planned withdrawals in December and January, the heating season months with the greatest number of heating degree days. Staff's concerns were documented in the 2000/2001 ACA case, Case No. GR-2001-382. Staff would expect the plan for storage withdrawals to follow a similar distribution to that of normal heating degree days. It seems more reasonable that the Company would want to conserve storage so that it could have storage to meet customer demand during the later winter months when the potential for cold weather is still great.

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The actual withdrawals for 2001/2002 are not consistent with the Company's plan for normal storage withdrawals, but none of the months had normal HDD. The Company only withdrew ** ___ ** from storage compared to its plan of ** _____ **. Storage inventory at the end of March 2002 was at ** _____ ** of the maximum storage inventory (MSQ) and this is much higher than the planned end of March storage inventory of ** ____ ** of MSQ.

The Company's plans for meeting customers natural gas requirements from flowing supplies and from storage for situations involving other than normal weather each month of the winter is not documented. To state it another way, the Company has not provided any plans for meeting demand if the weather is extremely warm or extremely cold. Staff recommends that the Company more fully document its plans for flowing natural gas supplies (base load, term, swing, and spot) and planned storage injections and storage withdrawals to meet customer usage requirements for the extremes of warm or cold weather. The Company's documentation should encompass the 2001/2002 and 2002/2003 ACA periods. The documentation should also include more detail regarding minimum storage inventory that must be maintained in the early winter months so that adequate storage is available for the later winter months.

SUMMARY

The Staff has addressed the following concerns regarding Case No. GR-2001-382 for Missouri Gas Energy:

1. The Staff (pending a final Commission Order in Case Nos. GR-98-167, GR-99-304, GR-2000-425 and GR-2001-382) proposes for this ACA case, Case No. GR-2002-348 an adjustment to reduce MGE's gas costs by $6,099,369.34. This adjustment is reasonable and necessary for the same reasons as the Commission found in Case No. GR-93-140 that the problem with the imprudence of MGE entering into the initial 1991 KPC contract was the excessive transportation charges when compared to the Williams alternative. Staff expressed similar concerns in its direct, rebuttal and surrebuttal testimony filed in Case No. GR-96-450 and in its recommendations in Case Nos. GR-98-167, GR-99-304, GR-2000-425 and GR-2001-382. In June of 1998, the contract itself changed from the contract that was the subject in Case No. GR-96-450. The replacement contract is "transportation" only rather than the bundled supply and transportation service litigated in the 1996-1997 ACA case. The Staff believes the operation of the contract in subsequent ACA periods after June 1998 only serves to strengthen Staff's argument that the rates paid are excessive.

2. To adequately review MGE's hedging decisions, Staff recommends that additional information be submitted.

3. To adequately review MGE's estimated peak day requirements and the rationale for the reserve margins, Staff recommends that additional information be submitted by March 2, 2004.

4. Staff recommends disallowance of $1,373,016 to reflect the excess gas costs for peak day reserve.

RECOMMENDATIONS

1. The Staff recommends that this ACA case remain open pending an Order from the Commission in Case Nos. GR-98-167, GR-99-304, GR-2000-425 and GR-2001-382.

2. Establish the account balances shown in the table below in it next ACA filing to reflect the (over)/under recovery of ACA, Refund, Transition Costs and Take-or-Pay balances to be (refunded)/collected from the ratepayers as of June 30, 2001.

Account	Balance per MGE Filing	Staff Adjustments Current ACA Period	Staff Adjustments Prior ACA Periods	Ending Balances
ACA	$ (3,316,033.96)	$ (7,472,385.34)	$ (24,962,200.04)	$ (35,750,619.34)
Residential & Small General Service Refund	$ (340,650.92)	$0	$ 0	$ (340,650.92)
Large Volume Refund	$ (683,039.24)	$0	$0	$ (683,039.24)
Transition Cost	$0	$0	$0	$0
Take-or-Pay	$0	$0	$0	$0

3. To assure sufficient capacity, but not excess capacity, is available to meet firm customer peak day capacity and natural gas supply requirements, Staff recommends that the Commission issue an order requiring MGE to submit information by March 2, 2004 to address Staff's comments and concerns listed in the Reliability Analysis section of this document.

4. The Staff recommends that the Commission issue an order requiring MGE to take the following actions regarding its hedging activities:

   a. For each hedging transaction executed during the 2003/2004 ACA period, the Company shall provide documentation for each hedging transaction from the time the decision is made and the transaction is executed to include: (1) the purpose of the hedge, (2) the Company evaluation of the market conditions supporting the hedge,

and (3) all transactions details, including but not limited to, the date the transaction is executed and the costs to establish the hedge position, if any. The same information should be noted and provided to Staff for any hedge that is liquidated. In addition, when storage is relied upon as part of the Company's hedging strategy, the Company will provide its analysis that evaluates the interplay between monthly storage available under various operating/weather conditions versus financial and fixed price gas supply hedges. The Company will submit a copy of this documentation to Staff by December 1, 2004.

b. For each hedging transaction executed for the 2002/2003 ACA period, the Company shall provide documentation for each hedging transaction from the time the decision is made and the transaction is executed to include: (1) the purpose of the hedge, (2) the Company evaluation of the market conditions supporting the hedge, and (3) all transactions details, including but not limited to, the date the transaction is executed and the costs to establish the hedge position, if any. The same information should be noted and provided to Staff for any hedge that is liquidated. In addition, when storage is relied upon as part of the Company's hedging strategy, the Company will provide its analysis that evaluates the interplay between monthly storage available under various operating/weather conditions versus financial and fixed price gas supply hedges. The Company will submit a copy of this documentation to Staff by March 2, 2004.

5. The Staff recommends that the Commission order the Company to respond to recommendations 1-4 herein by January 19, 2004.