PROPOSED REPORT AND ORDER
CASE No. GR-2003-0330

REGULATORY LAW JUDGE: **Morris L. Woodruff**

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REPORT AND ORDER

SUMMARY

This Report and Order rejects Staff's proposal to disallow $4,057,592 in natural gas costs incurred by Missouri Gas Energy in its 2001/2002 and 2002/2003 ACA periods. The Commission finds that Staff's proposal is not supported by competent and substantial evidence. MGE had an obligation to procure sufficient interstate pipeline capacity to provide safe and adequate service to its customers. Staff's argument that MGE made imprudent capacity procurement decisions, resulting in an excessive level of capacity for this two year period, is not supported by the facts.

FINDINGS OF FACT

The Missouri Public Service Commission, having considered all of the competent and substantial evidence upon the whole record, makes the following findings of fact. The Commission in making this decision has considered the positions and arguments of all of the parties. Failure to specifically address a piece of evidence, position or argument of any party does not indicate that the Commission has failed to consider relevant evidence, but indicates that the omitted material was not dispositive of this decision.

Procedural History

Missouri Gas Energy is a division of Southern Union Company and is referred to by an acronym, MGE.

Case No. GR-2002-348 was established on October 29, 2002, by an Order Approving Interim Rates, which was the result of MGE submitting a tariff sheet to the Commission on October 18, 2002, carrying an effective date of November 1, 2002. Staff filed a recommendation on October 24, 2002, stating among other things that this case was established to track MGE's PGA factors to be reviewed in its 2001-2002 Actual Cost Adjustment (ACA) filing.

Case No. GR-2003-0330 was established on March 18, 2003, by an Order Directing Filing, which resulted from MGE submitting a tariff sheet to the Commission on March 17, 2003.

[Further procedural details as deemed necessary]

In an order issued April 12, 2005, Case Nos. GR-2002-348 and Case No. GR-2003-0330 were consolidated for the purpose of examining all of the issues except for those involving prudence issues concerning Kansas Pipeline. The Commission determined in Case No. GR-2002-348 that those issues should continue to be bifurcated pending appellate review

of Case No. GR-96-450. The consolidation of these two cases continued that bifurcation as to the Kansas Pipeline issues.

[Further procedural details as deemed necessary]

Staff and MGE submitted pre-hearing briefs on August 22, 2006. An evidentiary hearing was held on August 28, 2006, continuing through August 29, 2006. All parties except Enbridge Pipeline appeared for the hearing. Staff and MGE submitted post-hearing briefs and proposed findings of fact and conclusions of law on October 23, 2006.

Background of the Dispute

This case concerns how a local gas distribution company goes about estimating the needs of its customers, and in particular, how much gas might be demanded by the customers when temperatures are extraordinarily cold. To understand the issues, it is necessary to understand how a local natural gas distribution company (LDC) operates, and especially how it interacts with interstate pipelines. This is because, as a general matter, local gas distribution companies such as MGE do not own or control the assets that produce the natural gas itself. Neither do they own the assets that transmit the natural gas from the various natural gas production areas ("supply basins") to the local distribution system. Consequently, MGE must contract with third parties to both acquire and transport natural gas in quantities necessary to meet the varying needs of MGE's customers.

In the early 1990's, the natural gas industry experienced significant change. Prior to that time, LDC's only had to contract for a level of gas they wanted to purchase at the point where the interstate pipeline connected to the LDC's distribution system. The pipelines had the responsibility of obtaining the gas itself, putting it into the pipeline, and delivering it. As a result of Federal Energy Regulatory Commission (FERC) Order No. 636, interstate pipelines

were directed to cease providing their gas merchant function and become essentially common carriers of a commodity owned by others. This essentially meant that the task of acquiring the natural gas supply and putting that into a pipeline shifted from the interstate pipelines to the LDC's. As a result, LDC's assumed a much greater responsibility for managing contracts for pipeline capacity and for storage for the benefit of their customers.

As Staff observed in a memorandum it filed with the Commission in 1996, maintaining reliability in the natural gas industry is different and much more dynamic than in the electric and telecommunications industry, "involving the coordinated efforts of a diverse group of participants." Natural gas "demand has to be anticipated and ordered (nominated) several days in advance of actual usage to assure delivery when natural gas is needed."[1]

The contract process between LDC's and interstate pipelines can be lengthy and involved. The process typically starts with a comparison of the amount of capacity under contract to a projected demand over a planning horizon that typically ranges up ten years. Any identified need for capacity is evaluated in light of several factors including competitive market factors, economics, reliability, supply basin diversity, pipeline diversity, regulatory considerations and pipeline tariff requirements. Pipelines tend to construct or add capacity only in large incremental blocks as opposed to always having some available for purchase. This situation appears to parallel what is referred to in the electric industry as the "lumpiness" of capacity additions. As such, LDC's must acquire any needed capacity when it becomes available, which may not be very often. This means that it is generally not possible for an LDC to match forecasted capacity with actual demand with much precision.

[1] Staff Memorandum dated June 28, 1996, Case No. GO-96-243, p. 1.

The Staff also observed in its 1996 memo that LDC's look at historical weather to forecast future demand. How they do this depends on the philosophy of the individual LDC. The Staff observed that some are "quite lean" in that they only design for the worst weather they have observed in the last 5 to 10 years. Other LDC's are quite conservative in that they design for the worst historical weather observed in the last 100 years.[2] Staff also noted that weather extremes beyond even the most conservative predictions can occur and that it must be understood that no absolute guarantee of reliability of supply can be granted by any LDC.

MGE came into existence in February 1994, after the purchase of the Missouri properties of Western Resources by Southern Union Company had been approved by the Commission in late 1993. Previously, Western Resources had operated its Kansas and Missouri operations as an undivided whole. As a part of the sale contract, various pipeline and supply contracts were apportioned between the two states and companies.

MGE's distribution system was originally supplied by three interstate pipelines: Williams Gas Pipeline Central (which is now known as Southern Star Central), Panhandle Eastern Pipeline Company, and Kansas Pipeline Operating Company (also referred to as Riverside or Mid-Kansas Partnership, and which has subsequently been acquired by Enbridge Pipelines). In 1997, an additional pipeline was constructed that provides MGE with access to additional production areas. That pipeline is known as Pony Express.

The interstate pipelines serving MGE access different regions of the United States. Southern Star is directly connected to the Anadarko, Hugoton and Rocky Mountain supply basins. Panhandle is directly connected to the Anadarko and Hugoton basins. Enbridge is ultimately connected to the Anadarko and Arkoma basins. Pony Express is directly connected

[2] Staff Memorandum dated June 28, 1996, Case No. GO-96-243, p. 2.

to the Rocky Mountain basin. When MGE commenced operations in 1994, it was heavily dependent on Southern Star. Since then, MGE has been pursuing a strategy of diversity of pipeline and supply basin resources, with the connection to Pony Express being an example of that.

MGE's gas procurement and pipeline contract management activities have been monitored by the Staff and the Commission. Starting in 1996, in Case No. GO-96-243, the Commission ordered MGE to file periodic "Reliability Reports" so that it could be assured that MGE was acquiring supplies and transportation capacity sufficient to provide safe and reliable service to its customers. More recently, the Staff has taken it upon itself to perform "reliability analyses" as a part of the annual ACA process. Through the various reports MGE has filed over the years, it is possible to track what MGE was doing in terms of planning at different times. The record in this case contains MGE's long-range planning documents from 1996, 1997, 1998, 2000, 2001, 2002, and 2004, as previously filed with the Commission.

MGE has the statutory responsibility to maintain safe and adequate service. Part of the planning process for MGE, therefore, is to estimate the amount of natural gas that its customers might consume on an extraordinarily cold day. In the industry, this is generally referred to as a "design day." Both MGE and the Staff used different terms to refer to the same thing, but for purposes of this Report and Order, the Commission will use the "design day" term.

"Design day" demand is the maximum demand that the utility is expected to experience under extreme conditions, which may or may not occur during a particular year. In contrast, a "peak day" demand occurs on the day each year when the maximum amount of natural gas is delivered to customers. Since, by definition, a peak day occurs each year, the peak day

demand will be different each year and largely reflect the temperatures experienced at that time. A “peak day” is produced by customers actually consuming gas and a “design day” is an estimate developed by planners. In planning for a “design day” the questions typically asked are: “How cold could it get?” and “How much gas would the customers be expected to use at that temperature?”

There are no statutes or rules at either the federal or state level that specify how an LDC must go about the process of estimating extreme levels of customer demand. Both the Staff and MGE suggest that any such review in this case should be pursuant to the Commission’s prudence standard.

Although details differ among LDC’s, most forecasts of design day conditions include an assumed cold temperature, a forecast of what is called base load demand, a forecast of heat load demand, and a comparison of the resulting forecasted demand with the resources the LDC already has under contract, such as pipeline capacity. The forecast can also include a projection of the number of customers.

There are essentially three “design day” forecasts under review in this case. MGE had one that it relied upon in making its capacity decisions that have been challenged by Staff. Staff created one for purposes of this case that it relied upon to reach its conclusion and quantify its recommended disallowance for each ACA period. MGE’s consultant performed one that he characterized as a “best practices in the industry” approach in order to determine if the challenged capacity decision made by MGE was reasonable at the time it was made.

Since its inception in 1994, there have only been three primary instances in which MGE has made pipeline capacity additions or realignments. MGE’s net capacity additions have totaled approximately 100,000 Dth/day between then and the end of the 2002-2003 ACA

period (in contrast to the approximately 60,000 Dth/day Staff claims in this case is unreasonable excess capacity). MGE says these changes have been to address customer growth and also to increase reliability by diversifying its access to pipelines and supply basins.

MGE's projected design day demand as of July 1, 1996, exceeded existing capacity, indicating an immediate need for additional capacity. In November 1996, MGE contracted for the addition of two separate increments of future capacity on the then newly-developed Pony Express Pipeline which would access the Rocky Mountain supply basin. This contract called for a substantial capacity addition effective in November 1997, and a much smaller addition to be effective in October 2001. At the same time as it was doing this, MGE contracted for a net reduction of its capacity on the Southern Star pipeline on the order of about one-third of what it was going to be adding on Pony Express in 1997. This Southern Star reduction was accomplished by reducing capacity for the Kansas City and St. Joseph regions by approximately five times the amount it simultaneously increased capacity for the Joplin region. MGE says the addition of Pony Express has benefited customers by increasing diversity away from the more mature and declining production areas, and also allowed access to Mid-Continent region supplies and storage, and added competitive dynamics to the market.

In mid 2000, MGE increased the amount of transportation capacity it held on Panhandle Eastern while at the same time accomplishing an offsetting reduction of its capacity on Southern Star. This was to increase reliability to the Warrensburg area but it also provided an additional physical source of supply into Pony Express.

In June of 2001, MGE reached an agreement with Southern Star to consolidate certain of MGE's existing firm transportation and storage contracts into a no-notice type of service. The total capacity MGE had under contract with Southern Star at this time did not change,

although the agreement did provide that MGE's reservation charges would be reduced by $321,108 over the five-year period of the agreement. MGE says that these contract changes also increased its operating flexibility and reduced its risk of being outbid on some of the smaller contracts that were eliminated through the consolidation. MGE said this was an important goal since Southern Star has historically operated at almost full subscription. MGE represented in this proceeding that since Southern Star has been fully subscribed, if MGE gave up substantial additional capacity on Southern Star (as Staff has proposed), it was uncertain as to when it might be re-obtained if needed, and if so, it was likely to be at a higher price level given the policy of the FERC to price capacity additions on interstate pipelines incrementally.

MGE's total contracted pipeline capacity level after the Southern Star contract consolidation in June 2001 stood at a level approximating its projected design day demand for the 2004/2005 period, as shown in the July 2001 Reliability Report. MGE has also reduced its very heavy reliance on Southern Star transportation, and reduced its reliance on Kansas Pipeline transportation, throughout this period while simultaneously increasing reliance on Panhandle and Pony Express. MGE has contracts with pipelines that will be expiring in the next few years. It has demonstrated that by diversifying its sources, it can exercise some leverage in its negotiations with the pipelines by obtaining discounts which are flowed through to the benefit of ratepayers.

The capacity that MGE maintains on these pipelines is marketed by MGE through the procedures maintained by those pipelines, so that interested parties may bid upon and obtain the use of any capacity that MGE chooses to temporarily release. MGE generates a substantial amount of revenue in this fashion that goes to offset the costs of holding this

capacity. The Commission has approved programs, including one using the level of capacity MGE had in 2001, as a benchmark for the sharing program.

Staff's Proposed Disallowance

Staff's initial recommendation regarding MGE's 2001-2002 ACA (Case No. GR-2002-348), which covers the period between July 1, 2001 and June 30, 2002, is dated December 18, 2003. In that memo, Staff asserted that MGE had pipeline capacity under contract in excess of its design day requirements and, as such, recommended certain cost disallowances related to MGE's level of pipeline capacity. Specifically, Staff's allegation of surplus capacity was based on an analysis it conducted that included a calculation of base load demand, a calculation of heat load demand, and a determination of the appropriate reserve margin. Based on the results of its analysis, Staff asserted that MGE's capacity in the 2001-2002 ACA period was in excess of the demand projected by Staff for the 2005-2006 period. Staff alleged that MGE had surplus capacity in the 2001-2002 ACA period based on allegedly inadequate data and analysis. Staff quantified its recommended disallowance at $1,373,016. Approximately one year later, Staff increased its recommended disallowance in that case to $2,041,931 based upon a revised analysis it made.

Staff's recommendation regarding MGE's 2002-2003 ACA (Case No. GR-2003-0330), which covers the period between July 1, 2002 and June 30, 2003, is dated December 28, 2004. Staff's position in this memo was similar to its position in GR-2002-348. Staff again alleged that MGE's capacity planning process was insufficient, that its contracted capacity in the 2002-2003 period was in excess of the demand projected by Staff for the 2005-2006 period, and therefore MGE had excess capacity under contract. Specifically, Staff claimed there was about five times as much excess capacity in the Kansas City area as in the St.

Joseph area due to its allegation that MGE had not adequately calculated its design day requirements. As a result of this conclusion, Staff recommended a disallowance of $2,015,661.

It is clear that, in the absence of any rules or published standards, there is no one single correct way to forecast a design day demand. Some companies use a "probabilistic" approach that attempts to determine design day weather on the statistical likelihood, or probability, of its being experienced. Another approach is by considering the "coldest observed" temperatures. The Staff concedes that "there is no one reasonable method used by all Missouri LDC's."

In this proceeding, both the Staff and MGE used the "coldest observed" approach. MGE's consultant used the probabilistic approach. Mr. Reed's approach was not to duplicate what MGE did back in 2000, but rather to conduct a "best practices" approach that included an assumption of 1 in 100 year probability of cold temperatures. That "best practices" analysis of the same data available at the time to MGE produced a result that was "not materially different" than what MGE originally obtained even though the "best practices" analysis incorporated more sophisticated procedures that had been recently recommended by Staff.

Whether either of those two types of general approaches is selected, additional data must be analyzed before any sort of reasonable prediction can be made. The crux of this case, then, is whether the Commission can and should rely upon Staff's calculation of design day demand for MGE as the benchmark for prudent conduct in this situation. The basis for all of the Staff's allegations in which it attempts to "raise serious doubt" emanate directly from Staff's design day prediction.

The total usage level experienced by a gas utility can be thought of as having two components. One is a fairly constant level induced by customers that is generally not

responsive to changes in ambient temperature. It is called *base load* demand. The other is responsive to changes in weather and is called *heat load* demand. Staff primarily questions MGE's calculations or assumptions for the components of base load and heat load. Staff also uses slightly different weather data. Because the evidence indicates that the majority of the difference between MGE and Staff relates to the values for heat load and base load, the Commission will focus on those two aspects.

Base Load

In forecasting design day demand, it is important to identify the base load since, by its nature, it will not change with increasingly colder temperatures. By removing the base load component from total demand, the relationship between heat load and temperature (as measured in HDDs - Heating Degree Days) can be used to estimate the weather sensitive portion of the design day demand.

The primary approach used by gas utilities to calculate base load is to utilize the actual demand experienced during the summer. There are few, if any, HDDs experienced during the summer since ambient temperatures are not typically below 65° F, so the actual demand reflects the absence of any natural gas used for heating purposes. The New York Public Service Commission and the American Gas Association utilize this definition of base load.

In its 1996 Reliability Report, MGE used average summer load as being representative of base load. It used that same approach in the ten-year forecasts included in the Reliability Reports submitted in 1997, 1998 and 2000. Staff reviewed each of those reports and specifically deemed MGE's analysis each time to be "adequate." Mr. Reed, MGE's consultant, testified that what MGE did was similar to how

he calculated base load for his independent approach -- using the average of the July and August demands actually experienced on MGE's system. MGE's approach was consistent with industry practices and generally-accepted definitions.

The numbers Staff assumes for base load were shown to be about *half* of that normally experienced in the summer on MGE's system. Staff utilized a regression analysis in order to derive its numbers for purposes of this case. MGE demonstrated that the Staff's witness, in a 2002 email communication to MGE, at that point indicated that a two-year average of actual summer experience would be acceptable to Staff. Staff, however, chose not to use that approach in this case and instead chose to rely upon the results of the regression analysis. MGE demonstrated that the numbers that would have resulted from the two-year average sanctioned by Ms. Jenkins in her 2002 email would be similar to those used by MGE.

The evidence shows that MGE's method of determining base load for use in a design day forecast is consistent with industry practices and definitions and is of a type reasonably relied upon by experts in that field of inquiry. The Staff's approach, compared to that used by MGE and its consultant, is unique. There was no evidence from the Staff that use of a regression analysis for the purpose of determining base load is something that is reasonably relied upon by experts in the field of making design day forecasts.

Heat Load

Since natural gas is typically used for heating purposes, heat load demand tends to increase as HDDs increase, but the exact relationship may not be linear across the entire range of temperatures. Natural gas demand on any given day is influenced by a

wide range of variables, and can even vary on different days with the same HDD values. HDDs, by definition, increase as the ambient temperature decreases. It is the relationship between heat load and HDDs that is used to forecast demand out into the realm of extraordinary cold temperatures. Once the heat load demand factor is established, it is multiplied by the design day weather that has been assumed (i.e. how cold do we think it could be), and that result is added to base load to determine the design day demand forecast.

There are many ways in which a heat load factor can be calculated. MGE's Reliability Reports show that MGE has in the past used a simple calculation involving one recent observation of usage at cold temperatures. Staff claims that using only one data point for this purpose is not reasonable, although there does not appear to be any evidence of this beyond the opinion of Staff's witness. MGE provided evidence that at least one other major gas utility uses the same approach that it used. Staff, Mr. Reed and MGE all agree, however, that a regression equation can be used for this general purpose. MGE indicates that it now uses a regression approach.

Regression analysis attempts to mathematically model the relationship between two or more variables by fitting a regression equation to observed data. A good regression equation can be used to predict the response variable. In almost all applications of regression, the regression equation is only an approximation to the true functional relationship between the variables of interest. However, care must be taken in the selection of the data analyzed by the regression equation. If invalid data is put into the equation, the resulting output will also be invalid. Stated another way, a regression analysis is only as good as the data on which it is based.

At the time of the capacity decision being challenged by Staff, MGE had weather and corresponding demand (usage) data on its system for about a four year period. To determine a heat load factor for purposes of its analysis, Staff used demand data from all 151 winter days in each of four calendar years, producing some 604 data points. Mr. Reed was much more selective in the data points he chose to analyze. Staff criticized Mr. Reed's use of only 12 data points as not being sufficient. Mr. Reed criticized Staff's use of 604 data points as confusing "available" data with "appropriate" data. Mr. Reed said he selected the data points he used, reflecting high usage on cold days, because input data that is to be used in a regression equation should be very carefully selected so they are "representative" of the data to be forecasted. The goal of the regression equation in this instance is to calculate a heat load factor associated with design day demand, which means demand on a very cold (sub-zero temperatures) day.

Staff used data from every winter day in the apparent belief that the heat load demand per *average* winter day would be representative of the heat load factor on a *very cold* winter day. Therefore, the approach used by Ms. Jenkins which utilizes *all* the winter days produced an estimate not only based on that data set but also *reflective* of that data set. Approximately 69 percent of the data points in Staff's equation were from days when the temperature was not even below freezing. In some cases, the temperature was in the 50's and 60's. The demand estimate developed by Ms. Jenkins produced an averaged demand based on all the winter data. Both MGE and CEA, however, utilized a subset of the available data that is more reflective of demand under extreme conditions.

According to the evidence presented regarding the field of statistics, a regression equation will perform best within the bounds of the data utilized to develop the equation. These authorities hold that the further the x-value (the point sought to be predicted) is from the center (mean) of the data being analyzed, the more variable the estimate from the regression will be; meaning the more likely it will be that errors will result.

To graphically depict the difference between his data selection and that used by Staff, Mr. Reed plotted all the points used by both he and Staff on a graph. Exhibit 2 HC, Schedule JJR-9. This graph shows the underlying data correlating gas usage with HDDs considered by both Staff and Mr. Reed. Schedule JJR-9 also clearly shows that the statistical mean of Staff's data points is much farther away from the x-value (the value sought to be predicted), represented by the oval in the upper right corner, than the mean of his data points. According to the authorities, this results in Staff's data being more prone to error when used to predict the x-value; and conversely, Mr. Reed's data will be less susceptible to error. The Staff did not attempt to refute the statistics authorities.

Mr. Reed also "backcasted" the results of Staff's regression. In other words, he applied Staff's approach to previously experienced situations in order to test its predictive ability or reliability. He documented how Ms. Jenkins' approach using the 604 data points would have under-predicted the actual demand on all 12 historical cold days with high usage that he utilized in his approach. This finding is particularly disturbing to the Commission. These were the three highest demand days that were also in the top ten coldest days over the winters of 1997/1998 through 2000/2001. In the data available at the time, these were the observations closest to design day conditions that were experienced. Even after adding in Staff's proposed reserve margin, Staff's regression

equation would have under-predicted demand on 5 of the 12 observations by a significant margin. On one of the observations, the under-prediction of volume is even larger than the amount Staff proposes to disallow in this case. The Staff did not challenge the accuracy of this analysis.

The significance of this backcasting test is that it demonstrates Staff's forecast of design day demand under-performed under actual conditions even on days that were not close to design day conditions. This strongly indicates that Mr. Reed's criticism of the data Staff chose for inputs for its regression analysis is well-placed because of the error that occurs when Staff's prediction is actually put to a test. Mr. Reed's criticism of Staff's approach is also validated by comments appearing in material from other Missouri LDCs and comments on design day planning by another gas utility in another state. They all indicate the data used in a regression designed for this purpose need to reflect usage on *cold* days in order to be significant for forecasting purposes. There is no evidence from the Staff that refutes these results. So from the evidence, Mr. Reed is on a much more reasonable and reliable foundation for his data selection based on the science of statistics and his reliance on methods generally utilized by others in the same field.

As yet another test of the reasonableness and reliability of Staff's data set, Mr. Reed selected a smaller portion of the totality of data Ms. Jenkins used by limiting his subset to days of 35 HDD or greater (meaning days where it was 30° F or colder). When the Staff equation for the Kansas City region is re-run just with that more selective and appropriate data – and changing nothing else -- the Staff's forecast result increases by some 25,000 Dth. The Staff did not challenge the accuracy of that. That represents a

significant portion of the volume that serves as the theoretical basis for Staff's recommended disallowance.

In the final analysis, the Commission is required to determine whether the opinions of the experts that testify before it are based on facts or data of a type reasonably relied upon by experts in that particular field, and are otherwise reasonably reliable. The Commission finds that the data selection approach used by the MGE and MGE's consultant in their respective design day analyses are of a type that is reasonably relied upon by experts in that field, and that the results produced are reliable. The Commission finds that the data selection approach used by the Staff in its design day analysis is not something that is reasonably relied upon by experts in that field, and that the results it produced are not reliable.

MGE relied upon the results of its design day analysis in making its determination to leave the interstate pipeline contract capacity it had with Southern Star where it was in early 2001. When MGE's design day analysis was compared to a "best practices" in the industry analysis, using the same weather and usage information data that was available at the time, the results were not materially different. As Mr. Reed noted at the hearing, MGE's process had a good predictive ability, even if its theoretical underpinnings may have been less than a "best practices" level. The Staff's approach, while having better theoretical underpinnings, was shown to be inaccurate when it came to prediction. The evidence is that MGE has taken steps to enhance the theoretical underpinnings of its forecasting approach.

In any event, under the prudence standard, the Commission is called upon to place itself in the position of MGE's management at the time, who had to solve a problem

prospectively rather than with the benefit of hindsight. MGE's management followed an approach it had followed since it commenced operations in this state. That specific approach had been reviewed by the Staff on several occasions and on each review, had been deemed "adequate" by the Staff. The approach was not outside the range of approaches used in the industry. There was no evidence presented by Staff that use of that approach was significantly flawed in and of itself. There was no evidence presented by Staff that there was some sort of signal to MGE or to any reasonable observer in the 2000 to mid 2001 time period that MGE had an unreasonable level of pipeline capacity under contract with Southern Star that required reduction in the magnitude of 60,000 Dth per day, when consideration is given to all the other factors, including how much of a demand might be placed on MGE's system in the Kansas City and St. Joseph regions on a day when the temperature is continuously below zero. There does not appear to the Commission to have been any instance where MGE acted unreasonably under the circumstances.

MGE accomplished several beneficial goals in its negotiations with Southern Star, including increasing operational flexibility and obtaining discounts. MGE's management balanced numerous considerations in making its determination. The Staff has only attacked one of many aspects in the pipeline capacity decision-making process by holding up its apparently unique approach to design day demand analysis as a superior method. The Staff used its unique approach to reach the conclusion that MGE had approximately 60,000 Dth of excess contract capacity. The evidence clearly shows there are major defects to the Staff's approach that render it unreliable as a benchmark in this process.

CONCLUSIONS OF LAW

The Missouri Public Service Commission has reached the following conclusions of law.

Jurisdiction:

MGE is a division of Southern Union Company, which is an investor-owned public utility engaged in the provision of natural gas service in the state of Missouri. Southern Union is, therefore, a "gas corporation" as defined in section 386.020(18) RSMo 2000. As a gas corporation, Southern Union Company is subject to the jurisdiction of the Commission under Chapters 386 and 393, RSMo 2000.

Any decision of the Public Service Commission must be both lawful and reasonable.[3] The lawfulness of a decision is determined from the statutory authority of the Commission.[4] For a decision of the Commission to be reasonable, it must be supported by competent and substantial evidence on the whole record.[5]

Burden of Proof

Section 393.130.1 RSMo 2000, requires that all charges made or demanded by any gas corporation must be just and reasonable. Section 393.150.2, RSMo 2000, provides that in any hearing involving a rate increase, the gas corporation proposing such rate increase has the burden of proving that the proposed increased rate is just and reasonable. The Commission has also held that the gas corporation has the burden of showing that the gas costs that it

[3] ***City of Oak Grove v. Pub. Serv. Com'n***, 769 S.W.2d 139, 141 (Mo.App.W.D. 1989).
[4] ***State ex rel. Intercon Gas. v. Pub. Ser. Comm'n,*** 848 S.W.2d 593, 597 (Mo.App.W.D. 1995).
[5] ***State ex rel. Associated Natural Gas Co. v. Pub. Serv. Com'n.***, 954 S.W.2d 520, 528 (Mo. App. W.D. 1997).

proposes to pass on to ratepayers through the operation of its PGA tariff are just and reasonable.[6]

Evaluation of Expert Testimony

The Missouri Supreme Court has ruled that the standards set out in *section 490.065* RSMo 2000 apply to the admission of expert testimony in contested case administrative proceedings.[7] In determining whether a witness is an expert under *section 490.065.1*, the fact finder looks to whether he or she possesses a "peculiar knowledge, wisdom or skill regarding the subject of inquiry, acquired by study, investigation, observation, practice, or experience." Moreover, witness credibility is a matter for the fact finder, "which is free to believe none, part, or all of the testimony." Subsection 3 states that "The facts or data in a particular case upon which an expert bases an opinion or inference may be those perceived by or made known to him at or before the hearing and must be of a type reasonably relied upon by experts in the field in forming opinions or inferences upon the subject ***and must be otherwise reasonably reliable***." [Emphasis added] ***McDonagh*** states that this provision "expressly requires a showing that the facts and data are of a type reasonably relied on by experts in the field in forming opinions or inferences upon the subject of the expert's testimony. The court must also independently assess their reliability."

The Prudence Standard

It is not sufficient to state that MGE, as the gas corporation, has the burden of proving that its gas costs are just and reasonable. The fact that the Staff is challenging the prudence of incurring some of those costs brings into effect an additional standard, the prudence

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[6] ***In the Matter of Tariffs filed by Western Resources, Inc., d/b/a Gas Service, a Western Resources Company, to Reflect Rate Changes to be Reviewed in the Company's 1992-1993 Actual Cost Adjustment***, 3 Mo.P.S.C. 3rd, 480, 488 (1995).

[7] ***State Bd. of Regis. for Healing Arts v. McDonagh***, 123 S.W.3d 146 (Mo. banc 2003).

standard. The Commission established its prudence standard in a 1985 case involving the costs incurred by Union Electric Company in constructing its Callaway nuclear plant.[8] In determining how much of those costs were to be included in Union Electric's rate base, the Commission adopted a standard for determining the prudence of costs that had been established by the United States Court of Appeals, District of Columbia, in a 1981 case.[9] The standard adopted by the Commission recognizes that a utility's costs are presumed to be prudently incurred, and that a utility need not demonstrate in its case-in-chief that all expenditures are prudent. "However, where some other participant in the proceeding creates a serious doubt as to the prudence of an expenditure, then the applicant has the burden of dispelling those doubts and proving the questioned expenditures to have been prudent.[10]

The Commission, in the Union Electric case, further established that the prudence standard was not based on hindsight, but upon a reasonableness standard. The Commission cited with approval a statement of the New York Public Service Commission on that:

> The company's conduct should be judged by asking whether the conduct was reasonable at the time, under all the circumstances, considering that the company had to solve its problem prospectively rather than in reliance on hindsight. In effect, our responsibility is to determine how reasonable people would have performed the tasks that confronted the company.[11]

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[8] ***In the Matter of the Determination of In-Service Criteria for the Union Electric Company's Callaway Nuclear Plant and Callaway Rate Base and Related Issues. In the Matter of Union Electric Company of St. Louis, Missouri, for Authority to File Tariffs Increasing Rates for Electric Service Provided to Customers in the Missouri Service Area of the Company,*** 27 Mo. P.S.C. (N.S.) 183, 192-193 (1985).

[9] ***Anaheim, Riverside, Etc. v. Fed. Energy Reg. Com'n.,*** 669 F. 2d 799, 809 (D.C. Cir. 1981).

[10] ***Union Electric,*** 27 Mo. P.S.C. (N.S.) 183, 193 (1985).

[11] ***Union Electric*** at 194, quoting ***Consolidated Edison Company of New York, Inc.,*** 45 P.U.R. 4th 331 (1982).

Since its adoption, the Commission's prudence standard has been recognized by reviewing courts[12] and has been accepted by all parties as the standard to be applied in this case.

In the Union Electric case, the Commission found that the showing of two billion dollars in cost overruns associated with the building of the Callaway nuclear plant was sufficient to raise serious doubts about the prudence of Union Electric's expenditures, thus shifting the burden to Union Electric to show that its expenditures were prudent. In the 1995 Western Resources case, the Commission further clarified its prudence standard with specific regard to prudence reviews conducted on local gas distribution companies.

> The incurrence of expenditures or accrued liabilities on the part of local distribution companies in exchange for the physical delivery of natural gas results from action or inaction on the part of individuals in the employ of the local distribution company at some point in time. It appears to the Commission that it needs to clarify the parameters of gas cost prudence reviews. The Commission is of the opinion that a prudence review of this type must focus primarily on the cause(s) of the allegedly excessive gas costs. Put another way, the proponent of a gas cost adjustment must raise a serious doubt with the Commission as to the prudence of the decision (or failure to make a decision) that caused what the proponent views as excessive gas costs. The Commission is then of the opinion that evidence relating to the decision-making process is relevant to the extent that the existence of a prudent decision-making process may preclude the adjustment. Specifically, the Commission needs evidence of the actual expenditure(s) incurred during the ACA period resulting from the alleged imprudent decision. In addition, it is helpful to the Commission to have evidence as to the amount that the expenditures would have been if the local distribution company had acted in a prudent manner. The critical matter of proof is the prudence or imprudence of the decision from which the expenses result.[13]

In this case, Staff attempts to raise serious doubts about the prudence of MGE's expenditures for the purchase of natural gas pipeline capacity by asserting that MGE, through allegedly inadequate analysis, decided to purchase more capacity than it needed on the Southern Star Central interstate pipeline or failed to reduce the existing capacity when it had

[12] See, e.g., ***State ex rel. Associated Natural Gas Co. v. Pub. Serv. Com'n.***, 954 S.W.2d 520, 529 (Mo. App. W.D. 1997).
[13] ***Western Resources,*** 3 Mo.P.S.C. 3rd 480, 489 (1995).

the opportunity. Staff argued there was no documentation or evaluation by MGE indicating that the volumes could not have been reduced when the contract was revised in the first part of 2001. Staff then claims that MGE has not provided justification for this alleged excess reserve margin. Staff quantified the alleged harm to customers by its own forecast of customer demand at an extremely cold temperature, concluding from that MGE should have reduced the capacity level by approximately 60,000 Dth/day. Staff placed the cost of this alleged excess capacity over the first of the two ACA periods at $2,041,931, and $2,015,661 for the second.

The Actual Cost Adjustment process utilized by the Commission and reflected in the provisions of each gas company's tariff examines the costs, revenues, and prudence of actions in discrete 12-month periods. Prudence reviews examine the decisions made (or not made) by a utility. Staff testimony referenced two MGE capacity decisions in its testimony. One was MGE's decision to renegotiate and consolidate existing contracts into a new contract with Southern Star, effective June 15, 2001. It also referred to an increase in capacity that took place in October 2001 on the Pony Express Pipeline, but that decision had been made back in 1996. On its face then, decision-making by MGE related to these two contract actions did not take place between July 1, 2001 and June 30, 2003, the two ACA periods under review in this consolidated case.

In surrebuttal testimony and at the hearing, Staff made clear that it was not alleging imprudence in this case with regard to the scheduled increase in capacity on Pony Express that took place in October 2001. Therefore, that leaves only the Southern Star contract decision, and that took place before July 1, 2001. That contract has a term of five years, which goes beyond the end of the periods under review in this case. There was no evidence

presented by the Staff that MGE had a contractual right to re-open the five-year contract with Southern Star between July 1, 2001 and June 30, 2003.

Decision

After applying the facts as it has found them to its conclusions of law, the Commission has reached the following decisions.

Staff's proposal to disallow $4,057,592 in natural gas costs incurred by Missouri Gas Energy in its 2001/2002 and 2002/2003 ACA periods is not supported by competent and substantial evidence. MGE had a statutory obligation to provide safe and adequate service to its customers, including reserving sufficient interstate pipeline capacity to serve them on a day when the temperatures might not be above ten degrees below zero.

There is no approved or mandated method for design day demand determination. Even if there were, it would simply produce a forecast or estimate. MGE utilized a forecasting approach that had been previously reviewed by the Staff numerous times and specifically deemed adequate by the Staff. It would be the exercise of pure hindsight for the Commission to find at this time that MGE should have anticipated and used a totally different forecasting method advocated by Staff that was developed after the fact. The method actually used by MGE was within the range of methods accepted in the industry as reliable and actually used in the industry. It was shown in this proceeding to be at least as accurate in predicting demand at extreme temperatures as a "best practices" in the industry approach.

The approach advocated by Staff in this case was demonstrated to be prone to error, and therefore unreliable. There is no competent and substantial evidence in this record that the level of contracted pipeline capacity MGE had during these periods was at an unreasonable level when consideration is given to potential design day demands and the

numerous considerations a local distribution company must make in evaluating the level of capacity it needs to have in place in order to provide safe and adequate service as required by law.

IT IS THEREFORE ORDERED:

1. That Staff's proposal to disallow $4,057,592 in natural gas costs incurred by Missouri Gas Energy in its 2001/2002 and 2002/2003 ACA periods is rejected.
2. That Missouri Gas Energy is authorized to file proposed tariff sheets in compliance with this order.