BEFORE THE PUBLIC SERVICE COMMISSION
OF THE STATE OF MISSOURI

In the matter of Missouri Gas Energy's Purchased Gas Cost Adjustment tariff Revisions to be reviewed in its 2002-2003 Actual Cost Adjustment.	))))	Case No. GR-2003-0330 et al.

POST-HEARING BRIEF OF MISSOURI GAS ENERGY

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I. Introduction

MGE would like nothing better than to be able to file a 20 page brief in a case like this. Unfortunately, the technical aspects are somewhat complex and Staff tends to toss out numerous allegations. In this case, there were close to a dozen. If MGE is to carefully explain and document with citations to the record why each Staff allegation is baseless, false, irrelevant or merely the predilection of a Staff witness — and MGE sees no reasonable alternative given the magnitude of the Staff's proposed disallowance -– it tends to take more than 20 pages.

It finally became clear at the hearing that the basis of the proposed $4,057,592 disallowance for these two ACA periods[1] is Staff's belief that MGE should have *reduced* its reserved capacity (only on the *market area* portion) of the Southern Star Central (SSC)[2] interstate pipeline by **_____** dekatherms (Dth) per day sometime prior to July 1, 2001, even though it was apparently okay, according to Staff, for MGE to have *increased* capacity on *another* pipeline serving *the same area* by **____** Dth/day just a couple months later.[3] The alleged imprudent action is directly tied by the Staff to the **_____** Dth/day since the $4,057,592 disallowance calculation represents the amount MGE paid to SSC to reserve that level of capacity for the benefit of MGE's customers for 24 months.

A simple way to look at this is to equate the reservation of capacity on the pipeline by MGE to buying "insurance" so the capacity will be there for the customers in an extremely cold situation. The Staff's allegation is essentially that MGE bought too much "insurance" for its customers. This is grounded in Staff's erroneous belief that even if it had been 15 or 20

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[1] The two ACA periods cover the 24 months from July 1, 2001 through June 30, 2003.
[2] At the time, it was known as "Williams Gas Pipeline – Central."
[3] The comment concerning this capacity addition was: "Staff does not state that …[it] was imprudent." ***Exhibit 9 NP***, p. 6, l. 5-8.

degrees below zero for 24 hours on some winter day during those two years, MGE's Kansas City customers *would not have used* as much gas under those circumstances as MGE predicted. So Staff wants MGE's shareholders to pay over $4 million to customers on the *sole theoretical basis* that Staff's algebraic equation produced a lower number than MGE had used in its planning documents and then relied upon in making its contracting decisions. As MGE indicated in its opening statement, this is like going to your insurance agent and saying you want your homeowner's insurance premiums back for the past two years because your house didn't burn down. It is classic hindsight regulation.

The ****____**** Dth is what Staff used to quantify the result of the algebraic equation it designed in order to estimate the amount of natural gas that Kansas City customers would consume at an assumed cold temperature. In essence, Staff forecast how much gas the firm customers in Kansas City and St. Joseph will use at that assumed temperature. *It is just a forecast based on an equation.* The question is whether the Staff's forecast is reliable.

The results of any algebraic equation are only as good as the inputs. Thus the expression: "Garbage in, garbage out." The Staff chose all the inputs for its equation. While MGE and CEA[4] agreed with two of the five inputs, CEA clearly demonstrated and documented how the other three Staff inputs were flawed – two to a serious extent.[5] The result of these judgment errors by Staff in selecting the value of the inputs is that Staff's equation *under-predicts* customer usage (also referred to as "demand"). "The Staff's analysis is really statistically flawed and under-estimates the likely demand on a design day." (Tr. 86, l. 15-18)

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[4] CEA is Concentric Energy Advisors, Inc., the consultants MGE retained for assistance in this case. Mr. John Reed, one of MGE's witnesses in this case, is with CEA. ***Exhibit 1 NP***, p. 1.
[5] See, "The Big Differences" section of MGE's Prehearing Brief.

Staff is using its prediction as the sole benchmark by which MGE should be judged, so the reliability and accuracy of Staff's prediction is critical. Staff's prediction was shown to be inaccurate and unreliable. When it was tested, Staff's approach *under-predicted the usage that actually occurred* on 12 recent moderately cold days in Kansas City.[6] That highlights the flaws in Staff's approach and proves that it will also *under-predict* customer usage on very cold days.[7] The object of design day planning is to predict what customers will use on extremely cold days. This estimate is one of the factors MGE considers when acquiring pipeline capacity. Building and contracting for pipeline capacity is a capital and time-intensive process that requires considerable lead time. One cannot call up the pipeline and get another 20,000 Dth of capacity for tomorrow, which is why the planning process has a long lead time and the consequences of being short are avoided.

The flaws in Staff's approach were graphically depicted in ***Exhibit 2 HC, Schedule JJR-9 and Exhibit 3 HC, Schedule JJR-16***, both of which were discussed during MGE's opening statement. ***Schedule JJR-9*** depicts the "Illustrative area reflective of design day conditions" which is the area of temperatures and usage that everyone is trying to estimate. MGE referred to it as "The Great Unknown" in the opening statement. No one knows for sure how much gas MGE's Kansas City customers will use in the range of 80 to 90 Heating Degree Days (HDD) (i.e., 15 to 25 degrees below zero) until we actually experience those temperatures. In the meantime, the only data available[8] to use to make an informed guess is depicted on that Schedule. ***Schedule JJR-9*** also shows how the Staff's prediction relies

[6] ***Exhibit 2 HC***, p. 27, l. 4 – p. 28, l. 15; ***Schedule JJR-10***.

[7] "As a result of the significant amount of data utilized by Ms. Jenkins that is between 15 and 40 HDDs, [i.e., between 40° F and 25° F] her model will perform poorly at the extremes of the data set, as shown in Schedule JJR-16." ***Exhibit 3 NP***, p. 31, l. 18-21.

[8] This is data that would have been available for MGE to use prior to the start of the two ACA periods under review. Of course, more data is accumulated each year, but as a prudence review, this case must look back to the relevant time when decisions were made based on what was available.

upon 604 data points (the gray x's), the majority of which are from days when the temperature was in the 40s, 50s, and even in the 60s.

The evidence shows Staff wrongly assumed all this data from relatively warm days would predict customer gas usage accurately at temperatures of 15 to 25 degrees F. below zero. CEA demonstrated and documented how Staff made a judgment error in choosing to use all this data, *especially when most of it was when the temperature was not even below freezing.*[9] That judgment error created a downward bias when it was extrapolated by a linear regression equation into the much colder temperature range of a "design day." At least one other Missouri gas utility, in a report filed with the Commission and that Ms. Jenkins maintained but failed to heed,[10] cautioned about making this same judgment error in data selection. The problem has also been recognized by utilities in other states.[11]

In contrast to Ms. Jenkins' bad judgment in data selection, a more careful choice of data points that reflect higher customer usage on colder days (such as the 12 data points selected for the CEA analysis, depicted on Schedule JJR-9 as black dots, or MGE's approach of evaluating high usage on the coldest day) and ignores usage on the warmer days, is a better predictor of usage at the extreme temperatures of a design day.[12] This approach complies with the practice of many other utilities and is more soundly grounded in the science of statistics. Statistics experts cited by Mr. Reed[13] from published textbooks say

[9] It is unchallenged that approximately 69% of the data Ms. Jenkins relied upon is from days when the temperature was not even below freezing. ***Exhibit 3 NP***, p. 26 l. 9 to p. 27, l. 2.
[10] See ***Exhibit 3 HC***, p. 27.
[11] See ***Exhibit 3 NP***, p. 28.
[12] There was nothing "magic" about specifically using 12 data points. There were four years of data available at the time, and points were selected from each of the years based on the criterion of high usage at cold temperatures, because that is most representative of a design day. ***Exhibit 1 NP,*** p. 36, l. 7-16.
[13] Since both MGE's witness and Staff counsel in the case share the same last name, to avoid confusion references to "Mr. Reed" in this brief only refer to MGE's witness.

that to obtain the best predictive result from a linear regression equation, the mean (or average) of your data should be as close as possible to the variable you are trying to predict. ***Exhibit 2 NP***, p. 26. Staff never refuted this statistical axiom.

CEA's approach, depicted on ***Exhibit 2 HC, Schedule JJR-9 and Exhibit 3 HC, Schedule JJR-16,*** complies with the axiom. Staff's definitely does not. As clearly shown on those charts, the mean of the data Staff chose to use is almost twice as far away from the right side of the chart (i.e., the variable you are trying to predict) as the data points selected by CEA for its "robust" and "best practices" analysis.[14] Translated into non-statistical terms, if you are attempting to predict usage by your customers at extremely *cold* temperatures, using data from hundreds of *warm* days in your equation (as Ms. Jenkins did) is going to produce "poor" predictive results. CEA proved this conclusively by showing Ms. Jenkins' approach not only ignores the published statistical warnings, when it was tested against known usage during cold temperatures, Staff's approach failed to predict accurately and under-estimated what was actually experienced.[15] You can see that for yourself on ***Exhibit 3 HC, Schedule JJR-16.*** The gray plot line reflecting Staff's prediction passes below the 12 data points CEA selected. Staff never refuted those test results. Staff's approach therefore was conclusively shown to suffer from the "garbage in - garbage out" syndrome. It simply cannot be relied upon by an LDC with an obligation to serve to accurately predict customer usage in the 15 to 25 degrees below zero range.

The amount of pipeline capacity at issue[16] in this case (the **_____** Dth) is a piece of the total obtained by MGE for the purpose of "being there" for customers on extremely cold

[14] ***Exhibit 2 HC, Schedule JJR-9; Exhibit 3 HC, Schedule JJR-16.***
[15] ***Exhibit 2 HC***, p. 27
[16] Staff's allegation of imprudence is that MGE should have reduced capacity by that amount on Southern Star sometime prior to July 1, 2001.

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days such as the 15 to 25 degrees below zero range. *It is there for reliability of service – to ensure the protection of customers in extreme conditions.* It is not there for the purpose of making profits for MGE. Pipeline capacity in and of itself doesn't enhance MGE's revenue.[17]

Staff's home-grown design day prediction is the theoretical underpinning of Staff's claim of excess capacity. That, in turn, is the basis for the $4,057,592 recommended disallowance. So it is absolutely critical that there be no question about the accuracy and reliability of Staff's prediction if it is the standard being used to judge MGE in this case.

To properly evaluate the claims, the Commission must fully understand how a gas utility goes about estimating the amount of gas its customers could be expected to consume at some assumed very cold temperature (a "design day") and fundamental elements involved in the process of contracting for pipeline capacity to meet that demand. This process is a lot more complex than what Staff did, which was simply putting some numbers into an equation and seeing what came out.[19]

Given the Staff's misguided approach of comparing peak and design days, it may be appropriate to revisit the difference between a "design day" and a "peak day" as those terms were used in this case and explained in pre-filed direct testimony.[20] The record shows both

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[17] MGE always attempts to sell any temporarily surplus capacity it has in the "capacity release market" even during winter months. Holding capacity can also result in the ability to obtain discounts from other pipelines. If there is a "sharing mechanism" approved by the Commission in place, some revenues from those activities can flow back to the shareholders, although the majority of revenues go to the customers. ***Exhibit 4 NP***, pp. 20-23 and ***HC Corrected Schedules DNK-17 and DNK-18***. This evidence shows MGE's customers have already received substantial monetary benefits from the level of pipeline capacity being challenged by Staff here.

[18] These cases are consolidated for all purposes except those involving "Kansas Pipeline" that are currently on appeal by Enbridge Pipelines (the successor in interest to Mid-Kansas Partnership and Riverside Pipeline Company) from Case No. GR-96-450. ***Consolidation Order*** issued April 12, 2005.

[19] ***Exhibit 4 NP***, pp. 7-9.

[20] ***Exhibit 1 NP***, p. 6, l. 21 to p. 7, l. 7.

Staff and MGE sometimes have used the terms in different ways[21]. In summary, a "design day" is not the same thing as a "peak day." A "peak day" occurs *every year* on a gas distribution system, usually on the coldest day. (Tr. 78) "Peak day" thus refers to the annual event when the largest usage of gas by customers *actually* occurs.[22] Logically, that would be coincident with the coldest temperatures, since that is when most everyone is running their furnaces. Peak days therefore occur every year and are largely the result of the temperatures actually experienced.[23] Since they occur every year, the peak day demand naturally will be different every year.[24] As an illustration of this, we can consider the document (discussed in more detail later) Staff marked as an exhibit but did not introduce at the hearing. It showed peak day demand in Kansas City for 2001 and 2002. The temperature for the two days identified by Staff was 21°F in 2001 and 20°F in 2002. That was almost 40°F ***warmer*** than design day weather for there, which is approximately 17° below zero F.

A "design day" is a *forecasted* level of usage at *extremely* cold temperatures, which may or may not occur during a particular year.[25] Since we do not expect record cold temperatures to occur every year, the assumed temperature for a "design day" has a relatively low probability of occurring every year.[26]

So a "peak day" number is an actual number and can only be known after-the-fact while a "design day" reflects an estimate used in planning for the future. (Tr. 78, l. 8-14) Put another way, "peak days" are produced by customers actually consuming gas on the coldest

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[21] In the Staff memoranda, Staff consistently used the term "peak day demand" instead of "design day demand." ***Exhibit 1 NP***, p. 6, ftn. 3. In the Reliability Reports, MGE referred to "Historic Peak Day." That is the equivalent to what MGE calls the "design day" in this case. According to Mr. Reed, the term "design day" is more precise and more widely accepted in the industry. ***Exhibit 1 NP***, p. 7, ftn. 6.
[22] ***Exhibit 1 NP***, p. 7, l. 2-3.
[23] ***Exhibit 1 NP***, p. 6, l. 21 to p. 7, l. 7.
[24] ***Exhibit 1 NP***, p. 7, l. 4.
[25] ***Exhibit 1 NP***, p. 6, l. 21 to p. 7, l. 7.
[26] ***Exhibit 1 NP***, p. 7, l. 6-7.

day each year. "Design days" are produced by planners estimating the amount of gas customers would consume on an extremely cold day.

There have not been any "design day" conditions experienced on the MGE system since MGE commenced operations on February 1, 1994.[27] While this is a "good thing" from the standpoint of the customers, it inherently means some projection has to be made by MGE from available data to estimate what usage would occur if a design day were to take place.

Since gas companies are required by law to provide "safe and adequate service"[28] to their customers, and extreme cold temperatures have occurred in the past[29] and may occur again, MGE must anticipate an extraordinary weather event when customers could put record demands on the system. The gas itself, and the means to deliver it to customers, both have to be contractually in place ahead of time to meet such an extraordinary event. MGE can't just call up an interstate pipeline and get it to double the delivery for the next week because of a forecast for record cold in Kansas City.

There is only so much physical space in the pipeline. On the Southern Star (formerly Williams) pipeline, which serves all three of the MGE service areas, other entities have already reserved the remaining space. MGE pays for the level of capacity it nominates, and that generally means that level is all it is entitled to get since there are penalties provided for exceeding a nomination. All this means a gas company such as MGE has to anticipate the needs of customers under extreme cold conditions, and then contract for both gas itself and space on the pipeline to transport it, even though record cold temperatures do not occur every year. It's like the concept underlying that lowly fire hydrant in your neighborhood. You

[27] ***Exhibit 2 NP***, p. 25, l. 1-10.
[28] Section 393.130.1 RSMo 2000.
[29] There is evidence of a temperature of minus 40° F at Warsaw, Mo., being recorded in 1905. Warsaw is about 135 miles southeast of Kansas City. (Tr. 151, l. 19)

are paying for it to sit there idle year after year, but at the same time, you want it to be ready on a moment's notice. It may be idle for decades, but there is still a darn good reason for it to be there.

So a "design day" is a ***forecast*** based on the ***estimates*** obtained from asking several questions, such as "How cold ***could*** it get?" and "How much gas ***would*** everyone on the system use simultaneously at that assumed cold temperature?" and then using informed judgment to balance the benefit of how much "insurance" in the form of pipeline capacity to put in place for the benefit of the customers against the cost of that protection.

The specific issue in this case is whether MGE's conduct in the two ACA periods with regard to demand forecasting and its associated contracting for pipeline capacity were within the range of prudent behavior. Staff has alleged imprudence and quantified the alleged damage by hypothetically assuming MGE reduced capacity on the SSC pipeline by **_____** Dth for 24 months. The $4,057,592 represents approximately **$___** per customer over 24 months, which translates to **$___** per customer per year, or slightly less than **_____** cents ***per customer per month***. That is less than half the cost of a single postage stamp for each customer each month. That is the cost of the protection (or "insurance") against extreme cold temperatures that the Staff (who is not accountable if wrong) says MGE acted imprudently in obtaining for the benefit of its customers. That cost pales in comparison to the potential costs and suffering attributable to an outage for thousands of customers if there is not enough capacity available to meet customer demand. See, ***Exhibit 2 HC***, pp. 32-38.

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Based on the evidence, it is clear there are *numerous* reasonable methods that are used by natural gas utilities for predicting "design day" conditions.[30] Staff indicated there are many reasonable methods used by the LDCs in Missouri.[31] Although Staff attempted to "create a serious doubt" about MGE's method, Staff ultimately failed to produce any evidence showing that MGE's method was outside of the range actually used in the industry. In fact, MGE's approach to design day demand, and the decisions it made based on that planning, were affirmatively shown to be reasonable,[32] "well within industry norms, both then and now,"[33] and to closely approximate the result obtained using current "best practices" in the industry.[34]

The capacity decisions MGE made in early 2001 to consolidate several SSC contracts into one, obtain substantial discounts from the pipeline, and maintain the same capacity level "were reasonable without a doubt." "They were well within the bounds of reasonable conduct by a prudent, well-run gas distribution utility." (Tr. 109, l. 15-20)

There was also uncontested evidence that MGE's design day demand projection method had been reviewed by the Staff in numerous *prior* ACA periods going back as far as 1996 and each time deemed "adequate" or at least raising "no concerns" after examination by Staff experts. An objective observer would seriously question why *the same method* previously sanctioned by Staff suddenly became "imprudent" for these two ACA periods. Further, the evidence shows that MGE made no pipeline contracting decisions in these two ACA periods to which the Staff could even attempt to attach a claim of imprudence.

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[30] ***Exhibit 1 NP***, p. 46, l. 13-15
[31] ***Exhibit 2 NP***, p. 10, l. 1-6
[32] Tr. 109, l. 15-20
[33] Tr. 108, l. 7-8
[34] Tr. 45, l. 3-4; Tr. 112, l. 9–25 and Tr. 113, l. 1-2

The Staff's home-gown demand forecast approach was inappropriately held up in this case as the *only* standard by which MGE should be measured. It was shown to contain significant judgment errors in data selection that render it unreliable and inappropriate to use as a standard by which to judge the prudence of any other approach. In brief, the significant flaws were shown by the evidence to be:

- Staff's assumed level of base usage (i.e., usage that does not vary by temperature), is approximately *half* of the level produced by the application of accepted definitions, and half of that actually experienced[35] by MGE in the summer, and
- Staff's data selection to represent "heat load" relied on numerous relatively warm days, and thus became statistically flawed, which then skewed the results of the equation downward to where it consistently *under-predicted* what was actually observed.

The Staff's approach is flawed. The resulting under-prediction is the theoretical basis for the $4,057,592 disallowance calculation. Put another way, since the data inputs to Staff's equation were not reasonable or reliable indicators of usage at the targeted temperatures, the output of the equation wrongly estimated ***lower*** usage by customers at those much colder temperatures. That means Staff's model shows lower estimated total demand compared to MGE's estimate. Relying on that, Staff concluded that since its number was lower than MGE's, MGE did not need as much pipeline capacity as it had.

[35] Instead of using industry-wide definitions for base load which examine summer usage, Ms. Jenkins said she used her discredited regression analysis. "I am looking at winter usage and letting the regression analysis tell me what the shape of the line is … ." Tr. 255, l. 18-24

Staff made a *critical mistake in judgment* at that point, compounding its data selection errors. Because its equation produced a lower number, Staff *mistakenly assumed* that MGE's higher number had to be the result of "careless" or "inept" planning instead of Staff's own faulty data selection. Staff also relied on a statistical test (R-squared) for false confidence in the results of its linear regression. But it turns out that the Staff witness was unaware that even college statistics textbooks clearly warn that the R-squared test does not measure the appropriateness of the linear model.[36] So even though Staff may have obtained a "high" R-squared value for its results, that is a "false positive" because the statistics experts clearly warn that R-squared "will often be large even though *y* and *x* are non-linearly related."[37] Staff's self-proclaimed expert was apparently not familiar with this until she was apprised of it on the witness stand.

Thus, the evidence shows MGE's numbers were not "too high." The truth is that Staff's numbers are "too low" because Staff's witness made several judgment errors. She ignored cautions in reports she had seen from other utilities about suitable data for this type of projection.[38] She concocted a totally new approach to determine base load and thereby ignored the industry-wide definition -- a recognized approach she previously said was acceptable, and the easily-obtained actual observations that clearly prove the fallibility of her approach.[39] She confused "available" data with "appropriate" data and thus filled the "inputs hopper" for her equation with data having little predictive value for this purpose. She relied on a statistics test for the false assurance that her results were good when even college textbooks warn of a "false positive" result. In short, she put "garbage" into her equation and

[36] Tr. 213, l. 16-24; ***Exhibit 13 NP***.
[37] Tr. 213, l. 16-24; ***Exhibit 13 NP***.
[38] ***Exhibit 3 HC, p. 27***
[39] Unlike design day conditions, we actually have days where the weather matches base use days – they happen every year. Tr. 88, l. 4-20

she got "garbage" out. Based on that "garbage out" result, she says MGE's shareholders should pay over $4,000,000.[40] The evidence clearly shows her calculation is wrong.

In sharp contrast to the sophomoric attitude of the Staff in this case, when CEA performed a "best practices" design day demand analysis (utilizing a *different* approach from that of either Staff or MGE), but evaluated exactly the same customer usage and weather data available to Staff and MGE at the time,[41] the result was "not materially different than the design day demand projected by MGE prior to the 2001/2002 ACA period."[42]

Staff also utterly failed to prove that its demand forecasting method was "of a type reasonably relied upon by experts in the field." There is no evidence in this record that Staff's approach (and especially its flawed approach to data selection) is used anywhere else on this planet. In ***State Board of Registration for Healing Arts v. McDonagh****, 123 S.W.3d 146, 154-55 (Mo. banc 2003)*, the Missouri Supreme Court ruled that the standards set out in section 490.065 RSMo apply to contested case administrative proceedings. Subsection 3 says 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***.

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[40] Think of it another way: You buy replacement cost insurance on your house for $200 per year in premiums and that gets you $200,000 in coverage because that is what you think it would cost to rebuild it. The Staff comes along two years later and tells you that you overpaid your premiums by $15 per year, and you should get a refund from your insurance company, because the Staff tells you that it really would take only $185,000 to rebuild your house. That sounds pretty good to you -- until you discover Staff's prediction of $185,000 erroneously assumes that carpenters will work for $12 per hour when the prevailing wage in your area is $15, so the "data inputs" for the $185,000 estimate are erroneous. Suddenly, the alleged "excess" coverage that the Staff claimed disappears.

[41] ***Exhibit 1 NP,*** p. 24, l. 1-12

[42] ***Exhibit 1 NP***, p. 46, l. 13-20

[Emphasis added]. As a result of the significant shortcomings proven with regard to the Staff's approach, the Commission cannot, consistent with the statutory requirement for it to independently assess the reliability of the facts and opinions relied upon by the Staff's witness, reasonably employ the Staff's defective approach as a benchmark to judge MGE's actions.

Not only is the Staff's approach defective, it is a prime example of the law of unintended consequences. If MGE were to follow the Staff's recommendation exactly, there would be a negative impact on MGE's customers of approximately $2,000,000 per year in increased gas costs. This is because a decrease in pipeline capacity in the manner recommended by Staff would necessarily cut the amount of storage MGE would have access to. In other words, a reduction of SSC market area capacity would have resulted in less SSC storage under contract by MGE, and thus a decrease in MGE's ability to store cheaper summer gas for winter usage by the customers. As the Commission is well aware, natural gas purchased for storage provides LDC's with a physical hedge regarding natural gas prices and the costs of storage, "…generally pale in comparison to the benefits of storage." (***Exhibit 3 NP***, p. 2, ftn. 3) This $2,000,000 per year *increase* in gas costs can be illustrated[43] simply by assuming, for purposes of argument, MGE had done what the Staff proposes. This is a real consequence that obviously was not considered in a realistic manner by the Staff. So

[43] Reducing SSC market area capacity by **_____** Dth would have reduced the MGE SSC market area capacity from **_____** Dth to **_____** Dth. To achieve this **_____** Dth reduction, the minimum reduction in SSC storage deliverability is **_____** Dth. A reduction by MGE of **_____** Dth would necessarily reduce the volume of SSC storage space by **_____** Dth. This reduction in storage space means MGE would not be able to purchase **_____** Dth of cheaper summer gas for winter usage by the customers. That means it would have to use flowing supplies instead of storage gas. Over the past six years, summer gas has averaged approximately **$___** per Dth cheaper than winter gas. When this **$___** per Dth summer/winter differential is multiplied by the reduced SSC storage space, it produces a negative consequence of over $2.0 million in higher gas supply costs for MGE's customers.

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the Staff proposed disallowance would not only decrease the reliability, diversity and flexibility of the MGE portfolio, it would also increase gas supply costs due to reduced SSC storage capability.

In the mode of "throwing a lot of mud against the wall to see how much will stick," the Staff also made various highly-charged claims about MGE in its pre-hearing brief and in its opening statement. These "sound bites" portrayed MGE's demand forecasting as "inept", "slapstick", "sloppy and inaccurate." At the hearing, these claims were shown to be at the completely *opposite* end of the spectrum to comments by *the same Staff* concerning the very same planning activities and the competence of the very same MGE personnel responsible for that demand planning. The evidence revealed that on January 9, 2004, this same Staff, in a pleading filed with the Commission, referred to Mr. Langston's department at MGE as "highly competent" and "an in-place trained and knowledgeable assembled work force with critical expertise." (Tr. 227, l. 1-6, 18) Those assertions were made in a Staff filing where it claimed the transfer of those people to another company was "a significant detriment to the Missouri customers" because of the loss [to Missouri customers] of that "trained and knowledgeable workforce."[44] These contemporaneous but polar opposite representations to the Commission by the Staff about the *same people* and the *same activities* by MGE, along with all the years when MGE's design day planning was reviewed by the Staff and deemed "adequate," call into question the credibility of the Staff's position in this case.

This post-hearing brief will examine in more detail the errors, inconsistencies and logic failures of the Staff's case by focusing on those highly-charged claims under the clear and harsh light of the evidence. It will show how the evidence admitted at the hearing, evaluated

[44] Tr. 230, l. 1-10; ***Exhibit 14 NP***

in accordance with applicable legal principles, can only lead to one rational conclusion: the Staff has failed to create anything close to a "serious doubt" about the prudence of MGE's actions and therefore no disallowance is warranted.

II. Debunking Staff's Claims Made at the Hearing

There is no dispute this case is a prudence review. There is no dispute that under that process, MGE's costs are presumed to have been prudently incurred until "some other participant in the proceeding creates serious doubt as to the prudence of the expenditure, then the [utility] has the burden of dispelling these doubts and proving the questioned expenditure to have been prudent."[45]

Staff assumed the burden to "raise serious doubt" about MGE's demand planning and made claims designed to cast doubt on the reasonableness of MGE's actions. It was easy for the Staff to toss out these inflammatory claims but it takes some effort to prove them with the support of competent and substantial evidence. Therefore, the first step is to evaluate the accuracy of the claims. If they are untrue, by definition they cannot form the basis for a "serious doubt." If there is no "serious doubt," Staff has not met the burden it assumed.

A. The "Mystery Peak Cold Day Number"

Staff's claim: *In their planning for the 2001 to 2003 ACA periods at issue, MGE made decisions about a historical peak cold day to use in their calculations that was so far off the mark that nobody could figure out where they got it. This is the mystery peak cold day number that you'll hear about in this case. They used this inflated number to forecast the demand of their customers but it was so high that it skewed everything to the high side, including what they believe they needed for pipeline capacity… it wasn't until testimony was filed in 2006 by MGE after they filed this reliability report filed in July 2001, five years later, they explained this number, this mystery peak cold day number.* (Tr. 17, l. 3-20)

[45] ***State ex rel. Associated Natural Gas Co. v. PSC***, 954 SW2d 520 at 528 (Mo.App. WD 1997).

> *In selecting its peak day from the Kansas City data, MGE was not even accurate. This is a material error that has significant results.* (Staff's Prehearing Brief, p. 8)

In summary, the components are that (1) MGE used a number so "strange" that no one could figure it out; (2) the number used was "inflated" and "skewed everything to the high side"; (3) the "mystery number wasn't explained by MGE until five years later; and (4) MGE wasn't even accurate in its selection of the "historical peak day" data.

Analysis: The truth is that during these two ACA periods, MGE made use of a consistent approach from previous years involving a "coldest observed" temperature.[46] MGE first explained its approach to planning for extreme cold conditions in a Reliability Report filed with the Commission on May 28, 1996.[47] To give the Commission a complete picture on this topic for this case, MGE filed a copy of that 135 page 1996 Report with its direct testimony. The discussion on demand projections appears in ***Exhibit 4 HC (part 1 of 3), at Schedule DNK-2***, starting at page 000009 and continuing through page 000014.

On page 000012, MGE explains that it questioned the HDD calculation of the coldest observed temperature that had been reported to it by its predecessor in interest, Western Resources. That page also shows MGE conducted further inquiry and consulted with a recognized weather data source. On the top of page 000013, MGE shows two different Heating Degree Day (HDD) numbers. The one on the far right is "85." Right below that, the following appears: "Note: Calculated heating degree days are corrected for wind chill (Adj. HDDs) using the following formula … ."

That – right there in black and white on page 000013 – is the origin of the Staff's claimed "Mystery Peak Cold Day Number." MGE simply utilized a "wind-adjusted" calculation

[46] The Staff also used the "coldest observed approach" in this case.

[47] The filing date is shown in the Staff memorandum reviewing the filing. The Staff memo is shown in ***Exhibit 4 HC (Part 1 of 3) at Schedule DNK-2***, page 000137.

for the coldest observed temperature on December 21, 1989 -- essentially the same thing as a "wind chill" figure that is common to any Missouri winter weather forecast. MGE started with an "actual" HDD number reflecting the average reported temperature on December 21, 1989, which (measured during the "gas day" from 7:00 a.m. to 7:00 a.m.) had a high of 12 degrees below zero and a low of 23 degrees below zero, coupled with an average wind speed of 14 mph. Translated into the HDD calculation, the 83 HDD becomes 85 HDD on a "wind-adjusted" or "effective" basis. As explained in that Report back in 1996, this was a downward revision from a higher reported HDD calculation obtained from Western Resources, who owned the gas distribution properties until February 1994. (*Id*. at page 000012) The *exact same calculation* was also shown in the 1997 Reliability Report.[48]

The Staff – the same entity alleging this was some "mystery number" -- reviewed the 1996 Reliability Report and on June 28, 1996, filed a five-page memorandum[49] explaining its findings. It essentially graded the 1996 Report. All of the areas examined, especially "peak day" projections and the "criteria utilized for estimating peak demand during the forecast period," were deemed "Adequate" by Staff in its memorandum. Therefore, no concerns were raised about how MGE derived the HDD calculations, so there was no "mystery" about it at the time it was first disclosed to the Commission and the Staff in May of 1996.

Mr. Kirkland, who joined MGE on December 31, 2002 to replace Mike Langston who had supervised the preparation of the 1996 Report, referred to the 85 HDD number as an "effective degree day number." (Tr. 135, l. 23-24) Mr. Kirkland said "this number was fully explained in my direct testimony through the reliability reports that were attached." (Tr. 137, l.

[48] ***Exhibit 4 HC (part 1 of 3), at Schedule DNK-3***, page 000060.
[49] ***Exhibit 4 HC (part 1 of 3), at Schedule DNK-2***, pp. 000137 through 000141

21-24) He is familiar with wind-adjusted HDDs from his prior experience[50] with gas production and distribution systems, and knew about them when he was hired by MGE. (Tr. 152, l. 13) He testified that MGE in 1996 "looked at wind and wind is definitely a characteristic that must be included when you look at the gas consumption of your customers." (Tr. 142, l. 19-22) There is nothing wrong with using wind-adjusted HDDs in this type of calculation. (Tr. 152, l. 14-21)

It is apparent that the Staff witness was unfamiliar with the concept of wind-adjusted HDDs prior to this case. This is demonstrated by her direct testimony[51], cited in Staff's Prehearing Brief on p. 8, where she attempts to convey the notion that MGE was using several different HDD numbers. She tries to give the impression that 83 HDD and 85 HDD are different and one must be erroneous, when the latter is wind-adjusted and former is not. They are different numbers because they represent two *different* things. It doesn't mean it is a "material error." In fact, there is no evidence of any error in MGE's calculations.

She attempts to confuse things further by referring to MGE's use of other HDD numbers in other documents, some of which are from time periods (e.g., 2004) that are outside the scope of this case. Simply by looking at the 2001/2002 report, for example, it is apparent that MGE performed various calculations that produced various HDD numbers. It is also apparent she did not read the discussion about it contained in the 1996 Reliability Report, even though it was a part of the pre-filed testimony in this case. Hence, the origin of the 85 HDD was a "mystery" to her. It appears the Staff witness is the *only person* "who couldn't figure it out." She simply failed (or perhaps refused) to grasp that wind-adjusted numbers were being used by MGE. This occurred even after Mr. Kirkland attached an

[50] ***Exhibit 1 NP***, pp. 3-4
[51] ***Exhibit 7 HC***, pp. 12-13

excerpt from the 1996 Report to his surrebuttal testimony (***Exhibit 6 HC***, pp. 13-16) showing the original source of the calculation. (Tr. 153-154)

MGE also clearly indicated in its 2001 Reliability Report[52] that it was utilizing wind-adjusted HDDs in its calculations. The specific discussion and the calculations appear under the heading of "Projections" on page 000005. The phrase "After adjusting for wind speed" appears in the sixth line of text. That page reflects that MGE calculated estimated loads at three different HDD levels that it called "Peak Day," "Historic Peak Day," and "Design Peak Day" respectively. The HDD number of 85 shown in reference to the "Historic Peak Day"[53] is the *exact same number* that appears in the top right hand corner of ***Exhibit 4 HC (part 1 of 3), at Schedule DNK-2***, on page 000013.

Staff further claimed that it "took five years to explain" this "mystery peak historical cold day number." (Tr. 23, l. 19-21) As is apparent from the facts, though, the truth is that the number was explained and displayed in the 1996 Report. This particular Staff witness apparently never bothered to read that document.

So where do these Staff claims stand after a review of the evidence?

Claim part one: that MGE used a number so "strange" no one could figure it out. **Debunked.** The evidence clearly shows its origin accompanied by a full explanation as being the 1996 Report filed with the Staff and the Commission in late May of 1996, and now also a part of this record. The entire report was attached to Mr. Kirkland's direct testimony in this case so that the Staff and the Commission could be aware of the complete planning document MGE prepared and filed four years prior to the start of these ACA periods. As Ms.

[52] ***Exhibit 4 HC (part 2 of 3), at Schedule DNK-9***

[53] Although MGE called it an "Historic Peak Day" in the 2001 filing, that level of HDD and usage has been referred to as the "design day" for MGE in this proceeding since the latter term is more precise. ***Exhibit 1 NP***, p. 7, ftn. 6.

Jenkins noted, MGE at that time was the *only* gas utility that had ever filed anything like that.[54] The topic was again specifically mentioned in Mr. Kirkland's surrebuttal testimony and the specific excerpt showing the origin of the 85 HDD was included.[55] There was also a Staff response to a data request in this case showing Staff was fully aware of the wind-adjustment process MGE used.[56] In spite of all of that, the Staff's opening statement indicates Staff still is mystified by (or ignoring) the source of the number.

Claim part two: that the number MGE used was "inflated" and "skewed everything to the high side." **Debunked.** The HDD number shown as the "Historic Peak Day HDD" was a wind-adjusted calculation from an actual day in late December 1989, supplied to MGE by a recognized source of weather data. (Tr. 149, l. 22-25) Wind adjustment is an appropriate consideration,[57] even if it may be beyond the experience of the Staff. Ms. Jenkins was apparently unfamiliar with this approach. Furthermore, a recognized source of weather data documented the day as representing 83 HDD while NOAA documented the same day as 81.5 HDD. So the two recognized weather data sources are within 1.5 HDD, which is clearly not an inflated value. Any claim from Staff that MGE's use of these numbers somehow "skewed everything to the high side" has to be evaluated from the perspective that Staff's approach was shown to "under-predict" when tested against actual situations. When you are observing from the perspective of "the low side," the actual numbers may simply appear to be "high" in comparison.

Claim part three: that the "mystery number wasn't explained by MGE until five years later." **Debunked.** The original source of MGE's number and its derivation was filed with the

[54] "They [MGE] had a reliability report, whereas other companies had no such thing." Tr. 191, l. 3-4
[55] ***Exhibit 6 HC***, pp. 13-15.
[56] ***Exhibit 6 NP***, p. 15, l. 4-10.
[57] Tr. 142, l. 19-22

Commission on May 28, 1996, and has been in Staff's possession ever since. It was fully disclosed and explained *ten years ago*.

Claim part four: that the number MGE used was "inaccurate." **Debunked.** See the discussion on Claim part two.

B. The Historical Peak Cold Day Chosen by MGE … Has Never Occurred

Staff's claim: *"The historical peak cold day chosen by MGE to use in their calculations in 2001 has never occurred, it may never occur. Those decisions by MGE raise serious doubts about their decision-making."* (Tr. 18, l. 7-10)

So Staff claims "the historical peak cold day chosen by MGE to use in its calculations in 2001 has never occurred" and "it may never occur." (Emphasis added)

Analysis: The figure associated with the "Historic Peak Day" in the 2001 Reliability Report is shown in the bottom left corner of page 000005 of ***Exhibit 4 HC (part 2 of 3), at Schedule DNK-9.*** It is 85 HDD. This is *exactly* the same number just discussed under the previous heading. As described in that discussion, and as can be readily seen in the 1996 Report, that number is derived from the actual temperatures recorded during the 24 hour "gas day" from 7:00 a.m. on December 21, 1989 to 7:00 a.m. on December 22, 1989, at Kansas City International Airport.[58]

The calculation for deriving an HDD number takes the average of the high and the low as recorded and then subtracts that number from 65 degrees.[59] Applying that calculation to those temperatures produced the 83 HDD shown. *Further adjusting* the 83 HDD to give effect to the 14 mph average wind speed recorded during that same period produces the 85 HDD. Staff produced no evidence to refute that arithmetic or show wind-adjustment is improper.

[58] ***Exhibit 4 HC (part 1 of 3), at Schedule DNK-2***, on p. 000013
[59] Tr. 50, l. 5-12; ***Exhibit 7***, p. 12, l. 8-11

So how does this Staff claim stand up when the evidence is considered? The claim that "the historical peak cold day … has never occurred" is **debunked**. Unless the winter of 1989 has somehow been erased from recorded history, it certainly did occur at Kansas City International Airport during 24 hours centered on December 21, 1989, when the recorded *high* was 12° below zero, the low was 23° below zero F, and the wind was blowing at 14 mph. Since temperatures were actually experienced at that level in 1989, the Staff's claim that "it has never occurred" and "may never occur" is absolutely false.

C. MGE Lumped the Entire System Together

Staff's claim: *"MGE did not separate their service area into separate service areas for planning purposes … They lumped the entire system together."*[60] *"Why not separate the service areas?"*[61]

Simply by stating this rhetorical question, Staff implies that because MGE did not separately analyze the Joplin service area from that of Kansas City and St. Joseph, the Commission must necessarily infer MGE has done a sloppy or inept job of demand planning.

Analysis: MGE does have three service areas in western Missouri: St. Joseph, Kansas City, and Joplin. The Staff is correct that "the 2001/2002 and 2002/2003 Reliability Reports use the same peak HDD value for the entire MGE system."[62]

The first Reliability Report filed in 1996 examined projected demand conditions *separately* for each of the three service areas, combined those into a total, and then compared that to contracted pipeline capacity for a ten year planning horizon.[63] However, in its calculation of the projected temperature to utilize for "Historic Peak Day" (i.e. "design day"

[60] Tr. 17, l. 21-23; Tr. 18, l. 1-2
[61] Tr. 23, l. 21-22
[62] ***Exhibit 7 NP***, p. 17, l. 6-7
[63] ***Exhibit 4 HC (part 1 of 3), Schedule DNK-2***, pp. 000043 through 000054

as used in this case), MGE used weather data from Kansas City (as described under the "Mystery Peak Day" section above) and applied that number to all three of its service areas.

The Staff thoroughly reviewed the 1996 report. The Staff did not suggest MGE was acting improperly by failing to perform a separate weather analysis for Joplin. Therefore, as of June 1996, Staff voiced no concerns regarding this. Instead, Staff graded MGE's planning as "Adequate" in all the categories.[64]

The same general approach was used by MGE for the 1997 Reliability Report.[65] Staff filed two memos reviewing that. One was on May 30, 1997[66] and one was on May 28, 1998.[67] Staff's analysis for each of the areas of MGE's planning for that period was "Adequate." There is no indication in those Staff memos that using Kansas City weather data for system-wide projections was considered as inappropriate.

The same general approach was used for the 1998 Reliability Report.[68] Staff filed a memo reviewing that on May 28, 1998.[69] Staff's analysis was that MGE's planning was "Adequate." There is no criticism of the use of Kansas City weather data.

Although no Reliability Report *per se* was filed for 1999 (because there was no requirement for one), as a part of its review of the 1998-1999 ACA period (July 1, 1998 through June 30, 1999) Staff filed a memo on August 1, 2000.[70] That memo revealed Staff had decided to conduct a "reliability analysis" of MGE regarding "estimated peak day

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[64] ***Exhibit 4 HC (part 1 of 3), Schedule DNK-2***, pp. 000137 through 000141
[65] ***Exhibit 4 HC (part 1 of 3), Schedule DNK-3***, pp. 000001 through 000126
[66] ***Exhibit 4 HC (part 1 of 3), Schedule DNK-3***, pages 000128 through page 000132
[67] ***Exhibit 4 HC (part 2 of 3), Schedule DNK-4,*** pp. 000136 through 000139
[68] ***Exhibit 4 HC (part 2 of 3), Schedule DNK-4***, pp. 000001 through 000135
[69] ***Exhibit 4 HC (part 2 of 3), Schedule DNK-4***, pp. 000136 through 000139
[70] ***Exhibit 4 HC (part 2 of 3), Schedule DNK-5***, pp. 000003 through 000005

requirements and the capacity levels to meet those requirements." Ms. Jenkins was a signatory to that memo. Staff's assessment was that "no concerns were noted at this time."[71]

The Commission approved a mechanism for sharing discounts or savings generated by MGE with regard to its contract capacity on August 1, 2000, in Case No. GR-2000-705.[72] The level of pipeline capacity used as the benchmark for purposes of this sharing agreement is the same level that MGE had under contract during these two ACA periods, and is the level that is now being attacked in this case by Staff as "excess capacity." This is yet another instance where MGE's capacity level was examined, and no concerns were raised. It highlights the inconsistent evaluations regarding this exact same level of capacity between then and what Staff is claiming now.[73] In summary, for a period of four years (June 28, 1996 through August 1, 2000), the Staff regularly examined MGE's plan and capacity level, and the Commission even approved a sharing mechanism incorporating it. At no time was there any indication that use of Kansas City weather data (or anything else MGE did in those plans) was inappropriate or that the capacity level was excessive.

The same general planning approach was used by MGE for the 2000 Reliability Report covering demand projections out to 2011.[74] Staff filed a memo reviewing that on Nov. 27, 2001.[75] Under the heading "Reliability Analysis" on p. 000003, the comment appears *for the first time* that "The peak firm usage is estimated for the entire Missouri system – no separate analysis is done for the 3 major service areas of Kansas City, Joplin, and St.

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[71] ***Exhibit 4 HC (part 2 of 3), Schedule DNK-5***, p. 000003
[72] ***Exhibit 4 HC (part 2 of 3), Schedule DNK-7***
[73] ***Exhibit 5 HC***, p. 26-27
[74] ***Exhibit 4 HC (part 2 of 3), Schedule DNK-8***, pp. 000001 through 000036
[75] ***Exhibit 4 HC (part 2 of 3), Schedule DNK-6***, pp. 000002 through 000004

Joseph." The memo simply makes that factual statement. There is no comment as to whether that is good, bad, or indifferent.

There are four notable aspects regarding this Staff statement from November 21, 2001. First, the statement does not allege that there is a problem. Second, there is no objective indication Staff is even talking about the use of *weather data* from Kansas City for the other two service areas. Third, the comment appeared more than six months *after* MGE had completed negotiations on the specific contract renewal that Staff is alleging as imprudent in this proceeding (assuming *arguendo* that a neutral Staff comment about separate service area analyses could somehow be interpreted as recommendation to *reduce* contract capacity by a specific amount). Fourth, the comment was made in Commission Case No. GR-2000-425. The non-Kansas Pipeline issues (and this is certainly not a Kansas Pipeline issue) in Case No. GR-2000-425 were consolidated with those from Case Nos. GR-98-167, GR-99-304, and GR-2001-382. Those consolidated cases were briefed and submitted to the Commission for decision in mid-February of 2004. The Staff did not list or pursue separation of service areas as an issue. The Order Adopting Procedural Schedule, issued Nov. 4, 2002, said "Any issue not contained in this list of issues will be viewed as uncontested and not requiring resolution by the Commission."

MGE submitted a 2001/2002 Reliability Report dated July 1, 2001 following the same general approach of the previous reports.[76] Note that this Report was submitted about five months *before* MGE received the Nov. 27, 2001 Staff memo, so MGE would not have been aware of the "separate service area comment" when the 2001/2002 Report was submitted.

[76] ***Exhibit 4 HC (part 2 of 3), Schedule DNK-9***, pp. 000001 through 000093

Staff filed a memo reviewing the 2001/2002 Report on May 31, 2002.[77] This memo also included a "Reliability Analysis" section.[78] Included in that discussion is the same sentence (word for word) from the Nov. 27, 2001, memo regarding no separate analysis of the three service areas. However, in this document, that sentence appears right before another sentence that introduces a list of the "concerns" Staff has regarding MGE's reliability analysis. The failure to analyze the three systems separately does not appear in the list of "concerns" for Case No. GR-2001-382, certainly indicating to an objective observer that it must not be a great "concern." As with Case No. GR-2000-425, all of the non-Kansas Pipeline issues in GR-2001-382 were consolidated and tried in 2003. As noted above, the Staff did not pursue that comment to hearing as an issue in those consolidated cases.

In the meantime, as Ms. Jenkins noted in her direct testimony, MGE changed its approach and has been planning its capacity by service area (including the use of Springfield weather for Joplin) since early 2004.[79]

Turning now from the discussion of exactly how and when MGE was made aware of this Staff claim, and the fact that MGE now does plan by service area, let us examine whether the fact that MGE did not do so for this two-year period is really something that should be of concern to anyone.

Staff asked MGE's witness John Reed at the hearing if his prepared testimony addressed "whether it was appropriate from MGE to include all three of these service areas as a total system for planning purposes." (Tr. 45, l. 21-25) Mr. Reed said that he had not addressed it, since that was not the point of his prepared testimony. (Tr. 46, l. 1-2) Staff

[77] ***Exhibit 4 HC (part 3 of 3), Schedule DNK-11***, pp. 000000 through 000009
[78] ***Exhibit 4 HC (part 3 of 3), Schedule DNK-11***, pp. 000006 and 000007
[79] ***Exhibit 7 NP***, p. 10, l. 16-18

pressed further, and Mr. Reed said that although he and the Staff did separate the areas for purposes of their analysis in this case, and MGE does separate them now, during the 2001-2003 time period MGE did not do that. Mr. Reed said MGE was "continuing to refine its analytical approach." (Tr. 47, l. 8-21)

Staff raised the question about using Kansas City weather data for Joplin yet again. (Tr. 60, l. 7-11) Mr. Reed was then asked on re-direct whether he considered that a "best practice," as being "within the range of industry-standard approaches," or "imprudent behavior." His response was:

> It was certainly acceptable. The company used weather data from Kansas City as a surrogate for weather data in Joplin. But it then regressed that or analyzed that based upon the total send-out of the system, not the send-out for just Joplin.
>
> By doing that, it aggregated the system. We ourselves [Concentric Energy Advisors] and Staff use a surrogate for weather in Joplin; we used Springfield. The company used Kansas City. It doesn't mean there's a systematic error in their analysis, because again, they are analyzing total send-out based upon the prevailing weather in Kansas City.
>
> So there is no systematic bias or error in the analysis. Would have it been more towards best practices if they divided the service territories? Yes, and we recommended that they do that in the future and they have adopted that in the future. But it's certainly well within industry norms to aggregate up to a common observation point, in this case Kansas City, for the analysis they performed. (Tr. 114, l. 1-25)

There was no evidence whatsoever from Staff contradicting Mr. Reed's expert opinion on this topic. Furthermore, the use of Kansas City weather data to cover the Joplin area must be considered as a "conservative" approach designed to protect Joplin customers since the Staff claims winter temperatures there are warmer than Kansas City.[80] Mr. Kirkland agreed that while the use of the Kansas City weather number in the system-wide analysis might be characterized as "conservative," he also stressed: "that's what pipelines need to be." "They need to be able to serve their customers on a peak day considering how cold it can be and

[80] Tr. 18, l. 3-4

also the uncertainties associated with getting your supply from the supply basins because wellhead supply can freeze off." (Tr. 150, l. 3-11)

The Staff itself recognized back in 1996 when it reviewed the first Reliability Report that local distribution companies exhibit a *range* of conduct in planning for extreme weather. Staff observed then that "[s]ome LDCs are quite lean (i.e., very low reserve margin) in that they only design for the worst weather they have observed in the last 5 to 10 years. Other LDCs are quite conservative in that they design for the worst historical weather observed in the last 100 years.[81]

So how does this Staff claim stand up when the evidence is considered? The allegation that MGE did not separate the service territories for design day planning in these two ACA periods is **true** from the standpoint that MGE used Kansas City weather data for planning for the Joplin and St. Joseph areas, but probably **not true** from the standpoint that MGE did compile usage data on a service area basis, even though in the more compact reports in the later years it was not separately identified by service area. But the *implication* that MGE's use of Kansas City weather data for the Joplin area was imprudent is **debunked** by expert testimony. It simply shows that MGE was being conservative in its planning.

D. The Actual Peak Day Requirement … [Was Significantly less] Than MGE Calculated It Would Need … If a Truly Severely Cold Day Took Place

> Staff's claim: *This chart also shows the amount of gas actually used on the peak – the actual coldest day that occurred during those two years. … I wanted to mention this because the actual peak day requirement for those two years, the actual that was needed to serve the coldest day was over 300,000 dekatherms less than MGE calculated it would need if the peak – if a truly severely cold day took place.*[82]

[81] ***Exhibit 4 HC (part 1 of 3), Schedule DNK-2***, p. 000138
[82] Tr. 20, l. 9 - 21

Staff has recommended only a 60,000 dekatherm per day disallowance because we allow a margin of error which you see in the allowed reserve portion.[83]

The context in which this claim was made indicates Staff is trying to persuade the Commission that MGE is carrying a substantial amount of excess pipeline capacity, and that Staff is only recommending a disallowance of a portion of that. Staff compared *actually experienced* annual peak demands to *estimated* demands projected to occur on a design day – levels that might occur only once in 100 years. As Mr. Reed testified, this is "comparing apples and oranges."

Analysis: The Staff included a chart on page 12 of its Pre-hearing Brief. It was not a copy of any document previously disclosed in pre-filed testimony. Staff made representations in the Pre-hearing Brief about what that chart represents. It said:

> The row denominated "Excess Reserve" sets out the figure, in dekatherms per day, by which the capacity available to MGE exceeded its forecast peak day requirement less an allowed reserve. For both periods at issue, Staff's calculations reveal a significant excess. That excess represents unnecessary capacity that MGE now expects its ratepayers to pay for. The actual usage figures are included to make it unmistakably clear that … the ratepayers are going to have to pay for quite a lot of capacity that proved to be unnecessary because these winters did not include demand at historic cold day levels. (Staff Pre-hearing Brief, p. 12)

So the claim is that because "actual peak customer usage" in these two years was substantially less than the "design day" estimate, "the ratepayers are going to have to pay for quite a lot of capacity that proved to be unnecessary because these winters did not include demand at historic cold [design] day levels." The Staff also blends into this discussion the phrase "unnecessary capacity that MGE expects its customers to pay for."

At the hearing, Staff took that chart from the Pre-hearing Brief and expanded it into a two-page document by adding more breakdowns. Staff counsel talked about it at some

[83] Tr. 20, l. 2-5

length, cross-examining Mr. Reed about the numbers. The two-page document was marked for identification as ***Exhibit 10 HC***. (Tr. 66) Staff counsel indicated that it contained calculations he had performed.[84] The document was never offered into evidence.[85] Of course, it therefore is not a part of the evidentiary record. In most situations, that would mean that it would not even be discussed in a brief.

However, Staff undoubtedly decided that by twice showing the Commission a comparison of "actual" versus "predicted" demand numbers that varied greatly, and making claims about that in the Pre-hearing Brief and opening statement, it could raise some eyebrows and sling some mud on MGE. All of that, of course, would be designed to convince someone not familiar with what the numbers actually represent that MGE isn't very capable when it comes to predicting demand.

Commissioner Clayton asked Mr. Reed specifically about the document and how it compared to the table in the Staff's Pre-hearing Brief.[86] Mr. Reed said he "had a pretty strong reaction" to it in the Pre-hearing Brief, "because I think it's a very misleading table."[87] Commissioner Clayton inquired as to the basis for that opinion, and Mr. Reed provided it. He said it is "a dramatic comparison of apples and oranges. The numbers [in the Peak Day Requirement category] under the … MGE column and the Staff column are design day numbers. They are predictions of send-out on a design day, not a peak day. It is the send-out [or customer usage] you expect … on a day when it is so cold, really coldest in 100 years kind of weather, that you would expect to occur."[88]

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[84] Tr. 71, l. 16-18
[85] Tr. 159, l. 14
[86] Tr. 75, l. 12-25
[87] Tr. 76, l. 3-5
[88] Tr. 76, l. 12 to Tr. 77, l. 25

The "Peak Day Requirement" term used by Staff in the chart is "a mixture of two different concepts."[89] The numbers that appear under the conjunction of the "Actual" column and the "Peak Day Requirement" line merely reflect usage on the coldest day of the period measured.[90] It is not accurate to call that a "requirement."[91] It is "just what literally flowed through a meter."[92] That the actual usage is some fraction of the predicted design day usage simply tells you that the weather on one day was cold, but it is not relevant because that day "was probably 30 degrees warmer than a design day which tells us nothing … ."[93]

A design day is a statistical prediction and it reflects different weather.[94] A simple comparison between what actually flowed through the meter on a peak day "in no way, shape or form tells you what was necessary" in the way of pipeline capacity on a design day.[95] "In terms of planning criteria, the actual has nothing to do with what was necessary."[96]

A comparison such as the Staff attempts in the chart appearing in its Pre-hearing Brief and ***Exhibit 10 HC*** tells you absolutely nothing about the level of capacity a utility needs to hold to protect the customers under extremely cold conditions. It also is of no benefit in highlighting potential planning errors.[97] All the "Actual" column numbers "would tell you is the error of predicting weather as opposed to the error of predicting how much gas you actually need to hold."[98] Mr. Reed illustrated the folly of comparing actual usage on a peak day to a design day situation by saying that if you relied on the predictive ability of the actual peak

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[89] Tr. 82, l. 25 to Tr. 83, l. 1
[90] Tr. 81, l. 16-19; see also the definition of Peak Day discussed above.
[91] Tr. 82, l. 1-3
[92] Tr. 83, l. 12-13
[93] Tr. 81, l. 20-23. Actually, as it turns out, it was approximately 40° warmer.
[94] Tr. 83, l. 11-12
[95] Tr. 84, l. 4-8
[96] Tr. 84, l. 16-18
[97] Tr. 84, l. 19 – Tr. 85, l. 2
[98] Tr. 84, l. 25 – Tr. 85, l. 1-2

shown in the chart for 2001/2002 to plan for the actual peak in 2002/2003, "which was still far below design [day] conditions, you'd have to shut off 10 percent of your customers; you're 10 percent short."[99] Mr. Reed explained that "really, the [appropriate] comparison isn't between capacity held today and demand today. The appropriate one which Staff has done, not on Exhibit 10, but the appropriate one is between capacity held today and expected demand over the next five to ten years.[100] "[B]oth Staff and we agree that you should make a prediction for at least four to five years and make your capacity decisions based on the projected requirements over that interval, not just at the beginning of that interval, and we've done that, Staff has done that."[101]

So how does this Staff claim stand up when the evidence is considered? **Debunked.** This appears to have been a stunt designed solely for theatrical effect. It is an inappropriate (e.g., apples to oranges) comparison. It is inconsistent with the analysis performed by the Staff witness. It does not advance any argument in a rational manner. It simply does not tend to prove or disprove any issue. All the chart shows is the usage corresponding to the actual weather, and that the temperatures actually experienced in the 24 months between July 1, 2001 and June 30, 2003, did not plummet to the sustained level of below-zero temperatures actually experienced in late December 1989 or anything close to approximating "design day" conditions. Comparing the actual to the design day conditions is the functional equivalent of saying "My house did not burn down in the last two years."

E. Mr. Reed's Result is the Same as MGE's, But that Doesn't Mean MGE Was Prudent

[99] Tr. 85, l. 3-10
[100] Tr. 97, l. 10-15
[101] Tr. 97, l. 3-9

Staff's claim: *The expert MGE has retained to come here from Boston and testify does an after-the-fact analysis using a completely different methodology than MGE. He runs his numbers and says well, MGE's numbers are like mine, so their analysis is okay. But you know, in his testimony he also says that prudence applies to decisions, not results. So just because his result is like MGE's doesn't mean it's okay, does it? (Tr. 22, l. 4-12)*

Analysis: It is true that Mr. Reed's business office is in Massachusetts, although it is not true that it is in Boston. It is true that in order to come to Jefferson City to testify he was a passenger on an airplane that departed from the Boston airport.

It is true that Mr. Reed performed the design day analysis presented in his direct testimony *after* MGE did its, *after* June 30, 2003, and *after* the Staff witness performed hers. That is because he was not retained by MGE until after MGE saw the Staff recommendations for disallowance. (Tr. 39, l. 1-3) So in the very narrow sense of when the calculations were actually performed, Mr. Reed's analysis, as with the Staff's, was "after-the-fact." Mr. Reed did, however, as with the Staff, confine his data selection to the same "raw data" -- the temperature and usage data that would have been available to MGE at the time -- so both Mr. Reed and Staff analyzed *the same information* that MGE would have had at the time MGE performed its demand analysis.[102]

It is also true that Mr. Reed employed a completely different "methodology" than either Staff or MGE.[103] Mr. Reed's design day demand analysis was not an attempt to duplicate the specific MGE analysis being challenged. That was "the whole point" of him doing something different. (Tr. 41, l. 9-14) There are no officially sanctioned or mandated methods at either the federal or state level for a gas utility to use in a design day demand analysis.[104] The

[102] ***Exhibit 1 NP***, p. 24, l. 4-5
[103] ***Exhibit 1 NP***, p. 24, l. 5-12
[104] ***Exhibit 1 NP***, p. 9–11

method he used was a "best practices in the industry" approach.[105] "We used our own methodology to try and ascertain whether the decisions … [MGE] made were appropriate." (Tr. 41, l. 19-21) His analysis used "the same robust design day planning methodology reflected in MGE's current reliability report."[106]

Mr. Reed said he

> wasn't asked to grade the company's performance or the Staff's performance. I was asked to comment on Staff's particular recommendation for this case which was the disallowance of four million dollars. And that was four million dollars associated with a specific capacity decision [MGE] made shortly before the two year period at issue in this case. I decided the best way to analyze that question from a prudence perspective, which I think is the appropriate standard, was to apply best practices in the industry, to do the … planning analysis utilizing the best practices and to say what is the decision you would have made based upon best practices. (Tr. 112, l. 1-15)

Staff counsel put this claim made in the opening statement directly to Mr. Reed on the witness stand:

> Q. In order to analyze the decisions of MGE, you ran a separate analysis, and the results were similar, so your conclusion is, therefore, MGE's analysis was reasonable?
>
> A. No. That's a very important distinction. My conclusion is the company's <u>decisions</u> were reasonable. [Emphasis supplied] That is what's at issue in this case are the company's decisions. (Tr. 44, l. 23 – Tr. 45, l. 5)

Staff counsel tried the same question again:

> Q. The results of your analysis are similar to MGE's analysis; your opinion is since the results are similar, MGE's analysis was reasonable?
>
> A. Again, let me restate that. The answer is no, that's not the conclusion I've drawn. The conclusion I've drawn first and foremost is that the Commission Staff's disallowance, recommended disallowance, is unreasonable because it's a flawed analysis. (Tr. 46, l. 6-14)

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[105] Tr. 112, l. 11-13. It is significant Staff did not challenge the general nature of Mr. Reed's approach. Staff challenged his use of 12 data points compared to its 604 for determining heat load, but that turned out to really only highlight the Staff's judgment error in data selection; confusing "available" data with "appropriate" data. Staff also challenged his assumed base load, but that also turned out to highlight the fact that Staff's approach deviated from industry definitions; and it was half of what was actually observed. It also was inconsistent with a method previously deemed acceptable to Staff.

[106] ***Exhibit 1 NP***, p. 22, l. 12-13

Mr. Reed has emphasized throughout this case that in a prudence review, it is the *decisions* of the utility that are examined.

> The first theme is that the prudence standard is applied to the decisions and actions taken by management. This is distinct from the results of the action. If management uses available information to make reasonable decisions within the then-current framework, the decision is prudent, regardless of the outcome. The second theme follows the first, i.e., costs, in and of themselves, cannot be prudent or imprudent. Rather, costs are only imprudent if they arise out of imprudent management action.[107]

That is why Mr. Reed compared the results of his analysis with the results produced by MGE and Staff, explaining that "It goes to the point of looking at the decision-making process that underlies the company's … design day planning process." (Tr. 44, l. 2-4) "So it looked at all three, it compared the results, because those results were part of the decision-making process that underlay the company's decision to make the capacity commitments it did. And that is the entire point, of course, is that the decisions that are at issue here are the capacity commitments. … We're not seeking to determine whether the planning process is prudent; we're seeking to determine whether the decisions which are the capacity commitments are prudent." (Tr. 44, l. 5-15) "We then … looked to the process by which those decisions were made, and I've compared the process that I think best represents best standards to the process that the Staff is recommending and to the process that the company used." (Tr. 44, l. 17-22)

So how does this Staff claim stand up when the evidence is considered? **Debunked.** Mr. Reed's independent analysis was designed to ascertain the design day demand that would be predicted under a "best practices" approach. The results of the "best practices" analysis and MGE's analysis were "not materially different." (***Exhibit 1 NP***, p. 46, l. 19; Tr. 42,

[107] ***Exhibit 1 NP***, p. 15, l. 13-21

l. 10-12) Because the results were so close, he concluded MGE had an appropriate level of pipeline capacity, not a surplus. Since the results of the MGE analysis (further tested against the results of the best practices analysis) did not indicate a surplus, the decision MGE made to keep its capacity at the same level in the early 2001 negotiations with Southern Star was a reasonable (and therefore prudent) decision. "The decisions that Staff has identified, which are particularly the pipeline capacity commitments that [MGE] made shortly before this two-year period, were reasonable without a doubt. They were well within the bounds of reasonable conduct by a prudent, well-run gas distribution utility." (Tr. 109, l. 15-20)

F. What Did MGE Know? You'll Hear No Evidence from MGE Explaining Its Demand Forecast

> Staff's claim: *MGE's own expert, Mr. Reed, will tell you that the Commission should develop a record of the facts, not the opinions, the facts as MGE knew them at the time. What did MGE know? You'll hear no evidence from MGE explaining their demand forecast. (Tr. 21, l. 16-20)*

Analysis: "No evidence" from MGE explaining its demand forecast? Oh, come on! Doesn't anyone on the Staff read the pre-filed testimony in these cases?

The HC version of Mr. Kirkland's direct testimony was equivalent to three reams of paper. On page 5 of ***Exhibit 4 HC (Part 1 of 3)*** he said the purpose of his direct testimony was to provide "a general description of the capacity planning and acquisition process" of LDCs in general and MGE in particular. He spent three pages (pp. 7-9) doing that. He then said he would provide "the history surrounding MGE's capacity planning and acquisition from February 1994 through June 2003." He spent about 13 pages (pp. 10-23) doing that.

In order to ensure that no one could claim Mr. Kirkland glossed over something, or left something out, and *to document the facts MGE knew at any particular point in time*, Mr. Kirkland attached a copy of *each one* of the Reliability Reports prepared and filed by MGE

from 1996 through 2004. See, ***Schedules DNK-2, 3, 4, 8, 9, 10, 14***. In each one of those, MGE laid out for the Staff and the Commission exactly what MGE had done in planning for reliable service, showed the data it was relying upon to do that, explained what it was considering doing in the future to maintain reliable service, and explained why it was doing that. It disclosed its design day projections, the peak days it had experienced, its Heating Degree Day analysis, its annual load projections, and its projected gas supply and transportation requirements and resources under contract. It relayed detailed information on proposed interstate pipelines and disclosed strategies for pipeline and supplier diversification. The facts that MGE knew, what it had been told by others, what it was assuming, and the calculations it made are all there in black and white for anyone to review. It is all in evidence. It may not possess an interesting plot like a Tom Clancy novel, but the information is there just as it was previously submitted to the Staff and the Commission.

There was additional explanation concerning various components of MGE's forecast in evidence. Mr. Reed summarized it by saying that MGE

> utilized a consistent method for determining and forecasting historical peak [design] day requirements. Specifically, MGE calculated base load as usage during the summer months, which was then deducted from the highest usage experienced to develop the use per HDD. The calculated use per HDD was then applied to the planned HDD level to calculate the temperature sensitive load; and then base load was added to that to determine total load."[108]

He noted that this process is similar to how Cascade Natural Gas calculates design day load.[109] He also explained how MGE calculated base load in accordance with industry-wide definitions.[110]

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[108] ***Exhibit 3 NP,*** p. 3, l. 1-8
[109] ***Exhibit 3 NP,*** p. 3, ftn. 6
[110] ***Exhibit 3 NP***, p. 21, l. 8-21

So how does this Staff claim that "you'll hear no evidence from MGE explaining its demand forecast" stand up when the evidence is considered? **Debunked.** All the MGE demand forecasts were a part of the pre-filed direct testimony, along with everything else that made up the series of Reliability Reports. There was additional explanation of the specific process MGE followed by Mr. Reed in pre-filed testimony.

G. Inadequate Documentation and Inability to Produce Records Documenting its Planning Activities

Staff's claim: *Staff's Pre-hearing Brief, p. 13, contains the heading "Inadequate Documentation." In the discussion there, Staff claims that certain documents that cannot presently be located are "a badge of imprudence" and refers to a data request response in which MGE states that it cannot locate the "original base regression." In the opening statement, Staff counsel said:" Where is the regression analysis they say they ran?" (Tr. 23, l. 17-18) On the stand during redirect, Staff's witness said: "Well, the reliability report refers to a regression analysis, but I can't confirm that because they can't provide the regression analysis."* (Tr. 254, l. 17-19)

The essence of this Staff claim is that there is some "inadequate" documentation (that may or may not be the same thing as the "missing" documentation), the implication being that this stuff is critical to determine the accuracy of something, and therefore because MGE cannot locate it, Staff is "astonished", it can't confirm something, and MGE is the equivalent of "a third grader without her homework."[111]

Analysis: It is true that there is some documentation that MGE has not been able to locate, specifically the input and output sheets to the "original" regression analysis that presumably related to a heat load factor that MGE has used in the past. This regression analysis may have been performed as early as 1994, but the Staff has been aware that MGE cannot locate it at since at least May of 2002.[112]

[111] Staff Prehearing Brief, p. 13
[112] ***Exhibit 7 HC, Schedule 12-2***

Whether this "missing" material contains some critical information relevant to this case is an entirely different subject, though. The 2001/2002 Reliability Report contained a reference to "a series of regression analyses" being performed on historic data "to determine the base (constant) and weather sensitive or heat load (variable) factors.[113] The same sentence appears in the 2000/2001 Report,[114] and the 1998/1999 Report.[115] There is a different reference to a regression analysis in the 1997/1998 Report[116] that uses the same words as a reference contained in the 1996 Report.[117] All of these references to a regression are in the context of how MGE determined the heat load factor it used in its demand projections.

If we look at 2001/2002 Reliability Report dated July 1, 2001, that coincides with the start of the two ACA periods under review here, we can see exactly how MGE determined the heat load factor it used without having to refer to any "regression equation" inputs or outputs. It says in the top part of page 000005 of ***Exhibit 4 HC (Part 2 of 3), Schedule DNK-9***, that "After adjusting for wind speed, the Company used **___** HDD for purposes of forecasting system loads." Material on the same page identifies the value MGE used for Heat Load (HL), which appears in the right hand column as **_____** and the value used for Heat Load Factor (HL/HDD) as **_____**.

The expression HL/HDD clearly indicates that Heat Load Factor is obtained by dividing the Heat Load (HL) by the Heating Degree Days (HDD). When you divide **_____** by **___** you get **_____**. That is how MGE determined the Heat Load Factor. The Heat

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[113] ***Exhibit 4 HC (Part 2 of 3), Schedule DNK-9***, p. 000003
[114] ***Exhibit 4 HC (Part 2 of 3), Schedule DNK-8***, p. 000004
[115] ***Exhibit 4 HC (Part 2 of 3), Schedule DNK-4***, p. 000008
[116] ***Exhibit 4 HC (Part 1 of 3), Schedule DNK-3***, p. 000005
[117] ***Exhibit 4 HC (Part 1 of 3), Schedule DNK-2***, p. 000004

Load Factor MGE used was not determined by means of a regression equation. Mr. Reed said that, as far as this case is concerned, MGE didn't use a regression analysis to predict usage.[118] Instead, just as explained above, MGE used the actual send-out on the coldest day minus the base load send-out, and then divided that by the number of heating degree days or effective heating degree days on that day.[119]

It did not concern Mr. Reed that MGE cannot locate that regression material. "That really doesn't enter into the quality of the analytical procedures the company is using."[120] Mr. Reed didn't need it so didn't ask for it.[121] He said it was his understanding that the material had been used "as a check on their methodology, not in determining the coefficients directly."[122] It was not the "primary vehicle that [MGE] used for making that estimate. Therefore, it wasn't really part of the … forecasting technique."[123]

So how does this Staff claim of inadequate or missing records stand up when the evidence is considered? The part that deals with MGE's inability to locate the original regression that was referred to in most of the Reliability Reports is **true**. At some point over time, due to relocations and changes in personnel, this material apparently was misplaced, so there is some "missing documentation." Was that a violation of some document retention rule or policy? **There is no evidence of that.** Was this missing material part of MGE's demand planning in this case, and therefore relevant in determining the accuracy of MGE's demand forecast? **No.** That claim is **debunked** because the evidence shows MGE did not

[118] Tr. 102, l. 10-11
[119] Tr. 102, l. 2-8
[120] Tr. 108, l. 19-21
[121] Tr. 62, l. 8-10
[122] Tr. 63, l. 5-7
[123] Tr. 92, l. 14-16

use a regression analysis in the forecast relevant to this case. And that logically leads into the analysis of the next Staff claim.

H. Sloppy and Inept Planning

Staff's claim: *These costs were incurred by MGE due to its refusal to adopt a reasonable and effective method for predicting its winter heating season transportation needs. Consequently, MGE's ratepayers have had to foot the bill for MGE's sloppy and inaccurate forecasting. (Staff Pre-Hearing Brief, p. 2) (Staff's Pre-Hearing Brief, pp. 6-11 contains numerous statements under the heading of "Inept Planning.") Staff's witness criticized the use of one data point as being "insufficient" and "sloppy" (Tr. 220, l. 24-25). Why one data point to calculate such an important thing? (Tr. 23, l. 18-19)*

The Staff claim here is that MGE "refused to adopt a reasonable and effective method" of design day demand planning, and in particular, its use of one data point to calculate heat load must be evidence of "insufficient," "sloppy" and "inept" planning.

Analysis: These claims are coming from one Staff witness who definitely found herself on the defensive when all the judgment errors in her analysis were brought to light. Her perception of MGE's alleged "refusal to adopt a reasonable and effective method" may really just translate to MGE being wary of Staff's approach, and MGE's resulting reluctance to adopt the unique approach she created. If the testimony from anyone with experience in evaluating plans of companies outside of Missouri is considered, MGE's approach doesn't sound so bad. Mr. Reed said that MGE's planning process is

> well within industry norms, both then and now. I think it has undergone a process of continuous improvement which certainly is something I'd like to see, but as of 1995 when we first became involved, I think it is within industry norms. I think it remains there today. So as I said, I would not even come close to labeling this as being sloppy, incompetent or third graders losing their homework. (Tr. 108, l. 7-15)

Similarly, Mr. Kirkland, with demand planning experience from New Mexico, read through all of the MGE Reliability Reports filed with the Commission and said that he did not find anything stupid or bad or sloppy. (Tr. 149, l. 4-8)

And then there is the telling fact that while Mr. Reed gave Staff's approach "higher marks in terms of theoretical underpinnings," he gave it "worse marks in terms of actual predictive ability of the equations"[124] since, when it was back-tested on real situations, it under-predicted. In contrast, the result from MGE's approach did not show a "meaningful difference" from the result using "best practices," reflecting his assessment that MGE's approach (even with the single coldest day approach to determine heat load) "has a better predictive ability" even though it has "probably worse theoretical underpinnings."[125]

There was no evidence, other than Ms. Jenkins' unsubstantiated opinion, that the use of one data point for the calculation of heat load is "sloppy" or "inappropriate." There was evidence that Cascade Natural Gas uses only one data point.[126] While the Staff witness expressed disagreement with that approach, we have to evaluate the accuracy and reliability of her opinion using what we now know about her philosophy of: "Let's use ***all*** the data points and test it with R-squared." Again, there is no "One True Way" to do this stuff. It can be a single data point as used by MGE and Cascade Natural Gas, 12 points as used by CEA, or 30 points as used by Laclede Gas Company.[127]

So how does this Staff claim of "sloppy and inept planning" stand up when the evidence is considered? **Debunked.** MGE's planning approach was shown to be within industry norms and on top of that, to have a better predictive ability than Staff's home-grown approach.

I. Joplin Would Have Run Out of Gas

[124] Tr. 46, l. 21-24
[125] Tr. 47, l. 1-2
[126] Exhibit 3 NP, p. 29, l. 7-8
[127] ***Exhibit 3 NP***, p. 29, l. 4-11. It may also be that Laclede simply has access to more data points simply because it has been in existence much longer than MGE, which only had four years of data at this time.

Staff's claim: *What else do we find from these calculations, is that based on MGE's claims they were careful and diligent, if a design peak day had occurred, Joplin would have run out of gas. This raises serious doubt about MGE's planning decisions.* (Tr. 21, l. 5-9)

Analysis: This is a classic "red herring" argument. It is a diversion intended to distract attention from the real issue.

The Staff did not claim that MGE acted in an imprudent manner by *not contracting for enough* capacity for the Joplin area.[128] Ms. Jenkins specifically stated in her direct testimony that "No disallowance is proposed for the Joplin service area" even though she noted that MGE's projections showed a potential shortfall of capacity for a design day a few years out in the long-range plan.[129]

Instead, the claimed imprudent action was MGE's alleged failure to *reduce excess* capacity in the Kansas City and St. Joseph areas by **_____** Dth per day during the two-year period. (Tr. 116, l. 5-10) That is the *only* source of the $4,057,592 recommended disallowance. As the Staff's own calculation demonstrates, that figure has no connection whatsoever with the Joplin area.[130]

That a projected need for capacity may not perfectly match the capacity under contract for a local distribution company is simply a fact of life. Capacity is added in "lumps" and must be acquired when it becomes available.[131] The Staff essentially told the Commission the same thing back in 1996 when it said: "Many of Missouri's LDCs receive their natural gas from only one interstate pipeline (or one major interstate pipeline and a secondary pipeline of

[128] Tr. 110, l. 2-19
[129] ***Exhibit 7***, p. 37, l. 14-15
[130] ***Exhibit 7***, p. 37, l. 11-18
[131] ***Exhibit 4 NP,*** p. 8

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much smaller capacity.) This puts the LDC at the mercy of the reliability of that interstate pipeline they depend upon."[132]

Obtaining additional pipeline capacity is not like making a late-night trip to a gas station to fill up your car for a trip the next day.[133] MGE must rely on natural gas being transported from other states by interstate pipelines to connections with its own distribution system. Interstate pipelines construct incremental capacity in large blocks on a periodic basis as opposed to having capacity available on a continual basis.[134] It usually is several years between the times additional capacity becomes available.[135]

In the case of the Joplin area, what was formerly known as the Williams Natural Gas pipeline (now Southern Star Central) is the *only* interstate pipeline serving that area.[136] Southern Star has historically been fully contracted.[137] That means MGE cannot add capacity on that pipeline any time it feels like it. Just as MGE has no control over how fast new houses or commercial buildings are built in southwest Missouri, it has no control over when SSC, or any other interstate pipeline for that matter, may decide to expand their facilities so that more natural gas can be delivered.

MGE told the Commission in the 1996 Reliability Report that "The Company is also negotiating to add incremental firm capacity on certain WNG [Williams] line segments that are currently capacity constrained."[138] MGE added 10,000 MMBtu of capacity for southwest

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[132] ***Exhibit 4 HC (part 1 of 3), Schedule DNK-2***, p. 000138
[133] ***Exhibit 6 NP***, p. 3, l. 1-3
[134] ***Exhibit 4 NP,*** p. 8
[135] ***Exhibit 6 NP***, p. 3, l. 1-3
[136] ***Exhibit 4 NP, Schedule DNK-1***
[137] ***Exhibit 6 NP***, p. 12, l. 18
[138] ***Exhibit 4 HC (part 1 of 3), Schedule DNK-2***, p. 000074

Missouri (Joplin) effective February 1998 for the 1997-1998 heating season.[139] Therefore, MGE is carefully monitoring the situation.

As explained in the 2002/2003 Reliability Report (and in previous ones), "the timing of pipeline expansion projects do not necessarily match the needs of the LDC and may result in a temporary surplus or temporary deficiency of firm capacity. Because the Company's capacity is contracted for in longer blocks and added periodically over a five to ten year time horizon, capacity may be lower or higher than the historic peak [design] day at any given point in time."[140] Indeed, back in the 2000 Reliability Report, MGE told the Commission the same thing, and further explained that it was "due to the longer lead times and economics associated with pipeline construction and capacity expansion projects."[141] Essentially the same message was contained in the 1998 Reliability Report.[142]

Was Joplin in any real danger due to the difference between contracted capacity and the projected demand as Staff claims? Mr. Reed testified that "there doesn't appear to have been any imminent danger at that point to Joplin and the integrity of service there."[143]

Mr. Kirkland explained at length that although MGE added capacity for Joplin in 1998, Southern Star currently has no available capacity in the Joplin area that can be obtained by MGE, and none can be officially "transferred" there from other areas, that does not necessarily mean Joplin is doomed. MGE's capacity on SSC that may be attributable to Kansas City (and that has been characterized as "excess" by Staff) can effectively be "used" in Joplin. Because MGE negotiated certain contract changes with SSC just prior to the start

[139] ***Exhibit 4 HC (part 3 of 3), Corrected Schedule DNK-15***; Tr. 123, l. 1-12
[140] ***Exhibit 4 HC (part 3 of 3), Corrected Schedule DNK-10***, p. 28-29
[141] ***Exhibit 4 HC (part 2 of 3), Schedule DNK-8***, p. 000016
[142] ***Exhibit 4 HC (part 2 of 3), Schedule DNK-4***, p. 000023
[143] Tr. 111, l. 1-3

of these ACA periods (the same negotiation the Staff challenges in this case), MGE obtained additional flexibility in serving that area through the new TSS service contract. That translates into the possibility of MGE exceeding contract limits, if necessary, without incurring penalties.[144] Mr. Kirkland related specific instances where this has occurred while he has been at MGE.[145] "We can over-deliver to Joplin under our TSS contract, and we have done so, if Southern Star is not in a situation where that would jeopardize delivery to other customers."[146] Further, there is no evidence from the Staff contradicting that assessment, and there is no Staff testimony alleging that the projection concerning Joplin constituted imprudent conduct.

So how does this Staff claim stand up when the evidence is considered? The claim that Joplin would have run out of natural gas during this two-year period is **debunked** by uncontested expert testimony.

J. Miscellaneous Aspersions

Staff made some other outrageous claims that at least require a brief response lest someone believe them.

⇒ In the Staff Pre-hearing Brief, p. 8, the claim is made that "The peak day that MGE must plan for, consequently, is the highest HDD day recorded for each of its service areas." Where is that commandment found? The evidence is that, since there are no rules or standards mandating how any gas company anywhere is supposed to plan for a design day, the question of what HDD to plan for is simply left up to the judgment of each company. So there is **no truth** to this Staff assertion.

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[144] ***Exhibit 5 NP,*** pp. 37-39
[145] ***Exhibit 5 NP,*** p. 37, l. 20-23
[146] ***Exhibit 5 NP***, p. 39, l. 1-3

⇒ In Staff's opening statement, the claim was made that "MGE paid too much money for [the pipeline capacity.]"[147] This was not raised as an issue in Staff's prepared testimony. This is apparently a claim that MGE paid *more* than the FERC-approved tariff rate for the capacity, since, by definition, that is the only way MGE could have paid "too much" for the capacity. There was no evidence at the hearing in support of this allegation, so this allegation must be considered completely spurious.

⇒ In the Staff Pre-hearing Brief, p. 11, the assertion is made that "calculation errors and unjustified assumptions do not lead to confidence in results." Exactly what calculation errors would this be? The reference apparently is to footnote 35 in Staff's Pre-hearing brief, where Staff quibbles over the difference between two numbers in a 2004 analysis, which itself is not even relevant to these ACA periods because it doesn't show what information MGE had back in early 2001. The differences cited are *fractions* of one degree Fahrenheit and may even be due to rounding.

⇒ Staff made two attempts[148] at the last minute to suggest there was some sort of interruptible load, such as a power plant, on MGE's system in the summer. This was obviously designed to show MGE's base load calculation was faulty. Staff had the chance to directly challenge MGE's base load approach in the rebuttal and surrebuttal rounds of testimony by providing evidence on this point. It did not do that. This "mystery" power plant would, according to Staff, justify how the base load calculated by Staff could be lower than the actual base load recorded by MGE. In other words, that *interruptible* load was part of the base load numbers and should have been subtracted (Tr. 257, l. 8-13). The facts show otherwise.

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[147] Tr. 15, l. 1-2
[148] Tr. 243, l. 21 – Tr. 246, l. 3; Tr. 256, l. 16 – Tr. 257, l. 20

Mr. Kirkland testified that MGE has no interruptible load now, and has not had any since he started in late 2003. (Tr. 131, l. 18-25; Tr. 132, l. 1-10) A simple calculation from data shown in ***Exhibit 4 HC (Part 3 of 3), Schedule DNK-14*** will dispel the myth. The base load information for 1997 through 2004 provided on pages C-1 (000016), C-3 (000018) and C-5 (000020) illustrate how consistent the MGE base load has been. When the amounts since 2003 (when we know there was no interruptible load) are compared to the amounts in the previous years, they are equivalent. In other words, the base load values for the time period when Mr. Kirkland states MGE has no interruptible load are equivalent to the base load values when calculated under the two-year average approach previously sanctioned by Ms. Jenkins. This confirms that there was no interruptible load during these two ACA periods; base load was the same all along.

⇒ Ms. Jenkins claimed in her surrebuttal testimony that the 2001 SSC contract containing the substantial changes in terms had not been provided to Staff by MGE in the context of the 2000/2001 ACA case.[149] Mr. Kirkland testified he examined MGE's file of material that had been sent to the Staff in the 2000/2001 case in response to Staff's data requests, and that showed the SSC contract had been provided to Staff on July 20, 2001 in response to data request number 6.[150]

III. Summary

The Southern Star (formerly Williams) pipeline contract is the cornerstone of the MGE capacity portfolio. Mr. Kirkland related the changes that MGE has made to it over time to allow MGE to meet growing demands from customers and to diversify both the pipeline and

[149] ***Exhibit 9 NP***, p. 7, l. 7-8
[150] Tr.128, l. 19-24

supply resources available to those customers.[151] The SSC renewal negotiation in 2001 included production area capacity, storage capacity and withdrawal quantity, market area capacity and service selection. It was a complex process conducted by experienced MGE gas supply personnel.

Ms. Jenkins agreed with the statement made by the Staff in Case No. GO-2003-0354 that strategic and tactical decisions made by natural gas companies require years of specifically applicable experience in the area of procurement negotiations and planning. (Tr. 228, l. 14-21) She conceded that the SSC negotiation was an important decision (Tr. 229, l. 11-13) and that Mr. Langston, who did the negotiations for MGE, had that particular type of experience. (Tr. 228, l. 22 – Tr. 229, l. 3)

Not only does the SSC capacity represent 75% of the overall MGE portfolio, it also delivers gas to all three of the MGE regions, accesses three major natural gas supply basins and has the most flexible storage resources. MGE's level of capacity has always been reasonable compared to its forecasts.[152] The SSC renewal and consolidation considered and leveraged MGE's existing capacity assets and also resulted in a $3 million discount flowed through to ratepayers in accordance with terms approved by the Commission. The capacity that MGE maintains on all its pipelines provides substantial benefit to its customers. Sometimes it allows MGE to obtain discounts. To the extent it may be temporarily in excess of MGE's needs, it also is marketed according to programs approved by the Commission and the proceeds from those efforts are shared with the customers in a manner approved by the Commission.[153]

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[151] ***Exhibit 4 HC (Part 1 of 1)***, pp. 10-19
[152] ***Exhibit 4 HC (Part 1 of 1)***, pp. 19, l 4-9
[153] ***Exhibit 4 HC (Part 1 of 1)***, pp. 19-23

Ms. Jenkins initially gave the impression that the SSC decision and one other were imprudent when she described both of them under a heading to that effect and spoke of "excess capacity."[154] However, late in the case she said "the Staff does not state that the [Pony Express] decision [which *increased* capacity] was imprudent."[155] She also stated in her surrebuttal, at the same time she was claiming the Pony Express decision was "not imprudent," that MGE had "unreasonably increased capacity without adequate evaluation of the data."[156] The SSC contract renegotiation did not increase pipeline capacity. The only "increase" in the same time frame was on Pony Express, and she was specifically claiming that was "not imprudent." So within two pages in her surrebuttal, she was claiming an increase in capacity was "unreasonable" but also saying that the only increase MGE made was "not imprudent."

Being unsure of this, and whether "not imprudent" was the same thing as "prudent," MGE sent a data request seeking clarification from Ms. Jenkins. The response Ms. Jenkins provided[157] was anything but clear, since it indicated she considered the Pony Express decision was both "not imprudent" and "not prudent."

Cross-examination of Ms. Jenkins at the hearing attempted to unravel this riddle. What is showed was her claim that she did not review these contracts for all possible prudence aspects, and her view that even though Staff is not challenging the 1996 decision to increase capacity on the Pony Express pipeline in 2001 in this case, MGE still faces the

[154] ***Exhibit 7 HC***, p. 29, l. 16-23
[155] ***Exhibit 9 HC***, p. 6, l. 7-8
[156] ***Exhibit 9 NP***, p. 4, l. 14
[157] ***Exhibit 11 HC***

risk that it may be subject to a claim of imprudence on that 1996 decision at *any time* in the future.[158]

It also showed that this Staff witness did not take into account the fact that if MGE were to give up the level of capacity she claimed was excessive, MGE might not be able to ever get it back at the same historical average cost of service pricing. This is because the FERC's policy is to now price pipeline expansions on an incremental basis.[159] She was not even aware of that FERC policy until it was shown to her.[160]

This confirms MGE's representation to the Commission that capacity decisions are extremely complex and in making them, the utility has to consider and balance many complex factors and essentially do "long-range" planning. The Staff acknowledges there are many complex aspects, but in this case it chose to evaluate only one aspect – a design day demand forecast -- and it did that badly in a prime example of "Garbage in – Garbage out." Although the Staff used a general approach (regression analysis) that can reasonably be employed in that process, it committed judgment errors in selecting the inputs for the equation. When Staff was confronted with these judgment errors, it refused to acknowledge them. So the Commission is now responsible for deciding the issue within the context of the law applicable to prudence and the evaluation it must make of expert testimony.

MGE's method of design day forecasting has been under constant scrutiny by the Staff and the Commission since that first Reliability Report in 1996. Up until this ACA period, it has been deemed "adequate." MGE did not do anything different in these ACA periods from what it had done before. MGE, however, has been improving its process as reasonable

[158] Tr. 169, l. 8 – Tr. 171, l. 17
[159] ***Exhibit 12 NP***
[160] Tr. 203, l. 3-10

suggestions from the Staff are implemented over time. The approach MGE used for these two ACA periods was shown to be within industry norms, and the capacity decisions MGE made in reliance on the forecasts were shown to be reasonable. The Staff's particular approach in this case, held up as the sole standard by which to judge MGE's approach, was discredited for numerous reasons, not the least of which is that it does not perform its function very well.

We need to put this in perspective. MGE did not make some risky decision that imperiled the safety of customers. MGE did not make some extravagant investment that it seeks to earn on. It used an approach to conservatively forecast the possible demands of its customers in a scenario of extreme cold. It then attempted to tailor a level of capacity to meet those needs, taking into consideration numerous other factors such as the future availability and cost of incremental pipeline capacity and the future expiration of other pipeline contracts. MGE's approach, tested against a "best practices" in the industry approach, proved to be accurate for its intended purpose. So the capacity level that MGE obtained, like a fire hydrant, is there for the benefit of its customers when it is needed in an extreme situation.

There were no imprudent decisions made by MGE. The Staff's method by which MGE was judged by Staff was proven to be unreliable. The Commission should reject the Staff's recommendation.

Respectfully submitted,

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ATTORNEYS FOR MGE

The undersigned certifies that a true and correct version of the foregoing brief was served upon all counsel of record by electronic mail this 23rd day of October, 2006.

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