

Exhibit No.: 023  
Issues: Cash Working Capital  
Witness: Michael J. Adams  
Sponsoring Party: Missouri Gas Energy  
Case No.: GR-2006-  
Date Testimony Prepared: May 1, 2006

MISSOURI PUBLIC SERVICE COMMISSION

MISSOURI GAS ENERGY

CASE NO. GR-2006-\_\_\_\_\_

DIRECT TESTIMONY OF

MICHAEL J. ADAMS

FILED

FEB 07 2007

Missouri Public  
Service Commission

Jefferson City, Missouri

May 2006

MGE Exhibit No. 23  
Case No(s) GR-2006-0422  
Date 1-10-07 Rptr NT

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**MICHAEL J. ADAMS**

**Jefferson City, Missouri**

**May 2006**

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**CASE NO. GR-2006-**

**MAY 2006**

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**DIRECT TESTIMONY OF**

**MICHAEL J. ADAMS**

**CASE NO. GR-2006-**

**MAY 2006**

**1. INTRODUCTION AND WITNESS QUALIFICATIONS**

**Q. PLEASE STATE YOUR NAME AND BUSINESS ADDRESS.**

A. My name is Michael Adams. My business address is 77 South Bedford Street, Suite 400, Burlington, MA 01803.

**Q. BY WHOM ARE YOU EMPLOYED, AND IN WHAT CAPACITY?**

A. I am a Director in the Energy Practice of Navigant Consulting, Inc.

**Q. PLEASE DESCRIBE NAVIGANT CONSULTING, INC.**

A. Navigant Consulting, Inc. ("NCI") is a specialized independent consulting firm providing professional services to assist clients in identifying practical solutions to the challenges of uncertainty, risk and distress. We focus on large industry segments that are typically highly regulated and are undergoing significant change.

NCI has served the electric and natural gas industries since 1983. We offer a wide range of consulting services related to business strategy and planning, operations advisory management, financial and transaction advisory activities, and technology and innovation management designed to assist our clients in a business environment of changing regulation, increased competition and evolving technology.

1  
2 **Q. PLEASE DESCRIBE YOUR EDUCATION.**

3 A. I have an MBA in Finance from the University of Illinois at Springfield and a BS in  
4 Accounting from Illinois College. I am a member of the American Institute of Certified  
5 Public Accountants and the Illinois Society of Certified Public Accountants.  
6

7 **Q. WHAT ARE YOUR RESPONSIBILITIES IN YOUR CURRENT POSITION?**

8 A. As a consultant, my responsibilities include assisting clients in identifying and addressing  
9 business issues. My primary areas of focus have been regulatory-, financial- and  
10 accounting-related issues.  
11

12 **Q. PLEASE DESCRIBE YOUR QUALIFICATIONS.**

13 A. I have over twenty years of direct experience in the public utility industry. I have worked  
14 for an investor-owned utility, a regulatory agency, and most recently as a consultant to  
15 the energy industry. I have managed and/or participated in a wide variety of consulting  
16 engagements and have testified in other regulatory proceedings. I have provided expert  
17 testimony or reports on issues related to cash working capital requirements before the  
18 Arkansas Public Service Commission, the Illinois Commerce Commission, the Missouri  
19 Public Service Commission, the Oklahoma Public Service Commission, the Ontario  
20 Energy Board, and the Pennsylvania Public Utility Commission. I have testified on other  
21 financial, operational or regulatory matters before the Arkansas Public Service  
22 Commission, the Illinois Commerce Commission, the Massachusetts Department of  
23 Telecommunications and Energy, and the Pennsylvania Public Utility Commission.

1  
2 **2. EXECUTIVE SUMMARY**

3 **Q. WHAT IS THE PURPOSE OF YOUR TESTIMONY?**

4 A. I am sponsoring this testimony addressing Missouri Gas Energy's ("MGE" or the  
5 "Company") cash working capital requirements. As a result of my analysis, I have  
6 determined that the appropriate level of cash working capital required by MGE for its gas  
7 operations is \$13,353,691, which amount should be added to the Company's rate base.  
8

9 **Q. ARE YOU SPONSORING ANY SCHEDULES?**

10 A. Yes. In addition to my prepared testimony, which has been labeled as MGE Schedule  
11 MJA-1, I am co-sponsoring Schedule MJA-2 with Company witness Noack. I will  
12 discuss the nature of the schedules later in my testimony.  
13

14 **3. SUMMARY OF THE CASH**  
15 **WORKING CAPITAL ANALYSIS**  
16

17 **Q. HAS NCI PERFORMED A STUDY TO DETERMINE THE LEVEL OF CASH**  
18 **WORKING CAPITAL THE COMPANY REQUIRES TO FINANCE ITS DAY-**  
19 **TO-DAY OPERATIONS?**

20 A. Yes, NCI performed a lead lag study by analyzing the Company's cash transactions and  
21 invoices for the twelve months ended December 31, 2005.  
22

23 **Q. PLEASE DEFINE WHAT YOU MEAN BY THE PHRASE "CASH WORKING**  
24 **CAPITAL."**

1 A. Cash working capital is the amount of funds required to finance the day-to-day operations  
2 of the Company.  
3

4 **Q. HOW SHOULD THE RESULTS OF THE CASH WORKING CAPITAL**  
5 **ANALYSIS BE TREATED FOR RATEMAKING PURPOSES?**

6 A. The cash working capital requirements should be included as part of MGE's gas business  
7 rate base for ratemaking purposes.  
8

9 **Q. IS THE ANALYSIS OF THE DIFFERENCES BETWEEN THE REVENUE LAGS**  
10 **AND EXPENSE LEADS TYPICALLY REFERRED TO AS A LEAD LAG**  
11 **STUDY?**

12 A. Yes. Cash working capital determinations are generally intertwined with lead lag studies  
13 that are used to analyze the lag time between the date customers receive service and the  
14 date that customers' payments are available to the Company. This lag is offset by a lead  
15 time during which the Company receives goods and services, but pays for them at a later  
16 date. The "lead" and "lag" are both measured in days. The dollar-weighted lead and lag  
17 days are then divided by 365 to determine a daily cash working capital factor ("CWC  
18 factor"). This CWC factor is then multiplied by the annual test year cash expenses to  
19 determine the amount of cash working capital required for operations. The resulting  
20 amount of cash working capital is then included as part of the Company's rate base. The  
21 test year operating expenses to which the leads and lags were applied are described in the  
22 direct testimony of Company witness Noack.  
23

1 Q. WHAT ARE THE VARIOUS LEADS AND LAGS THAT SHOULD BE  
2 CONSIDERED IN A CASH WORKING CAPITAL ANALYSIS?

3 A. Two broad categories of leads and lags should be considered: 1) lags associated with the  
4 collection of revenues owed to the Company ("revenue lags"); and 2) lead times  
5 associated with the payments for goods and services received by the Company ("expense  
6 leads").

7  
8 Q. WHAT IS A REVENUE LAG?

9 A. A revenue lag refers to the elapsed time between the delivery of the Company's product  
10 (i.e., natural gas) and its ability to use the funds received as payment for the delivery of  
11 the product.

12  
13 Q. WHAT IS AN EXPENSE LEAD?

14 A. The expense lead refers to the elapsed time from when a good or service is provided to  
15 the Company to the point in time when the Company pays for the good or service and the  
16 funds are no longer available to the Company.

17  
18 Q. WHAT SOURCES OF INFORMATION WERE EMPLOYED TO DETERMINE  
19 THE LEADS AND LAGS IN THE CASH WORKING CAPITAL ANALYSIS?

20 A. Personnel in the Company's Accounting, Customer Service, Human Resources, Payroll,  
21 and Tax Departments were interviewed to identify payment policies and procedures.  
22 Data from the Company's Accounts Payable, Customer Service, Payroll, and Tax  
23 Systems as well as records from the Company's bank accounts were also utilized. The



1 information derived from these sources, together with analyses of specific invoices, led to  
2 the determination of the appropriate number of lead lag days for MG&E's gas operations.

3 **a. Revenue Lags**  
4

5 **Q. HOW IS THE REVENUE LAG DETERMINED?**

6 A. The revenue lag measures the number of days from the date service was rendered by the  
7 Company until the date payment was received from customers and such funds were  
8 available to the Company. In the calculation, the revenue lag was divided into five  
9 distinct components: 1) service lag; 2) billing lag; 3) collections lag; 4) payment lag, and  
10 5) bank float on collections from customers. Considered together, these five components  
11 of retail revenue lag totaled a weighted average of 47.59 lag days. An explanation of  
12 each component of the base revenue lag follows.  
13

14 **Q. WHAT IS MEANT BY SERVICE LAG?**

15 A. The service lag refers to the number of days from the mid-point of the service period to  
16 the meter reading date for that service period. Using the mid-point methodology, the  
17 average lag associated with meter reading was 15.21 days (365 days in the year divided  
18 by 12 months divided by 2).  
19

20 **Q. WHAT IS MEANT BY BILLING LAG?**

21 A. Billing lag refers to the average number of days from the date on which the meter was  
22 read until the date the customer was billed. The billing lag was determined by analyzing  
23 the Company's monthly billing schedules, and meter reading records. The analysis  
24 resulted in a billing lag of 4.26 days.

1  
2 **Q. WHAT IS MEANT BY COLLECTIONS LAG?**

3 A. The collections lag refers to the average amount of time from the date when the Company  
4 mailed a bill to the date that the Company received payment from its customers. An  
5 aging report from the Company's customer service system was used to determine the  
6 collections lag for MG&E's Missouri operations. Based on weighted average data from  
7 the Company's Customer Service System and by considering accounts receivables  
8 balances by class of customer by days aged, the average collection lag was determined to  
9 be 27.17 days.  
10

11 **Q. WHAT IS MEANT BY PAYMENT LAG?**

12 A. Payment lag refers to the elapsed time between the Company's receipt of the customer's  
13 payment and its transmittal to the bank for collection from the customer's account.

14 **Q. WHAT FACTORS CAN INFLUENCE THE PAYMENT LAG?**

15 A. The Company received payments from customers typically in one of the following ways:  
16 a) by check; b) via payment agents; c) by credit cards; or d) electronically. Taking this  
17 information into account and using deposits from all the methods listed above by day for  
18 the twelve months ended December 31, 2005 for the purpose of dollar-weighting the un-  
19 weighted payment lags, the payment lag was determined to be 0.96 days.  
20

21 **Q. WHAT IS MEANT BY BANK FLOAT?**

22 A. Bank float refers to the time between the Company's deposit of the customer's check and  
23 the time the Company had access to the cash. Based on interviews with Company

1 personnel, NCI determined that there is no float time on cash deposits and that funds  
2 were generally available on the same day as the deposit.

3  
4 **Q. PLEASE SUMMARIZE THE CALCULATION OF REVENUE LAG DAYS.**

5 A. The calculation of the overall revenue lag, by lag component is summarized in the  
6 following table.

| Lag Component     | Lag Days |
|-------------------|----------|
| Meter Reading Lag | 15.21    |
| Billing Lag       | 4.26     |
| Collections Lag   | 27.17    |
| Payment Lag       | 0.96     |
| Bank Float        | -        |
| Total Lag Days    | 47.59    |

7  
8 **b. Expense Leads**

9 **Q. WHAT EXPENSE-RELATED LEADS WERE CONSIDERED IN THE LEAD**  
10 **LAG ANALYSIS?**

11 A. Lead times associated with the following expense categories were considered in the  
12 study: a) base payroll; b) FICA (social security) and other withholdings; c) Employee  
13 pensions and benefits; d) other operations and maintenance expenses; e) fuels – gas; f)  
14 general taxes including taxes other than income taxes; g) federal income taxes; h) state  
15 income taxes; and i) interest on long-term debt.

1 Q. PROVIDE AN EXPLANATION OF THE LEADS ASSOCIATED WITH THE  
2 COMPANY'S PAYROLL EXPENSES.

3 A. Company employees are paid on a bi-weekly basis. Payday is on the Friday following  
4 the end of a pay period ending the Saturday prior. Beginning in 2006, the Company  
5 plans to outsource its payroll operations. Payroll and related funds such as withholdings,  
6 FICA, and 401-K contributions will be transferred to the Company's payroll  
7 administrator two days before the Friday payday. Taking this information into account,  
8 NCI determined that the payroll related expense lead time was 11 days.

9  
10 Q. PLEASE EXPLAIN THE LEAD EFFECTS ASSOCIATED WITH FICA AND  
11 OTHER FEDERAL AND STATE WITHHOLDING TAXES.

12 A. As discussed above, the Company plans to remit employee FICA and employee Federal  
13 and State withholdings to its external payroll administrator two days before the Friday  
14 payday. Thus, NCI determined that there will be no incremental lead time associated  
15 with employee FICA and federal and state withholding remittances over and above the  
16 normal payroll expense lead time discussed above. Since the Company plans to remit to  
17 its payroll administrator the Company share of FICA two days before payday, NCI  
18 determined that the expense lead time associated with the employer share of FICA was  
19 11 days.

20  
21 Q. WHAT TYPES OF LEADS ASSOCIATED WITH THE COMPANY'S  
22 EMPLOYEE BENEFIT PROGRAMS WERE CONSIDERED IN THE  
23 ANALYSIS?

1 A. The estimated lead times associated with the following major categories of the  
2 Company's employee benefit programs were considered: a) contributions to the  
3 Company's pension fund; b) group life insurance, c) group health insurance including  
4 claims and administration costs, and d) the Company's 401-K plan. Taken together,  
5 these programs had a dollar-weighted lead time of 47.19 days for the twelve months  
6 ended December 31, 2005.

7  
8 **Q. WHAT WAS THE EXPENSE LEAD TIME ASSOCIATED WITH THE**  
9 **COMPANY'S CONTRIBUTION TO ITS PENSION PLAN?**

10 A. Based on an actuarial study, the Company plans to make contributions to its pension fund  
11 in July and October 2006. Taking this information into account and using actual dates  
12 and expected dollar contributions to be made by the Company, a weighted average  
13 pension expense lead time of 62.93 days was determined. Since these contributions will  
14 be made electronically, no additional float time was included.

15  
16 **Q. WHAT WERE THE EXPENSE LEADS ASSOCIATED WITH THE COMPANY'S**  
17 **GROUP LIFE INSURANCE PROGRAM?**

18 A. Based on interviews with the Company's Human Resources Department, NCI determined  
19 that the Company, beginning in 2006, pays its provider of life insurance on a monthly  
20 basis. The Company expects to pay its bill around the 15<sup>th</sup> of the month for the current  
21 month. Payment will be made by check. Taking this information into account and  
22 including bank float (since the payment is made by check), NCI determined that the  
23 group life insurance expense lead time was 7.46 days.

1  
2 **Q. WHAT WERE THE EXPENSE LEADS ASSOCIATED WITH THE COMPANY'S**  
3 **GROUP HEALTH INSURANCE PROGRAMS?**

4 A. NCI examined the time taken to pay: a) health and dental claims (i.e., from the time the  
5 provider provided the claim to the Company for reimbursement and the time the  
6 reimbursement occurred); and, b) group health and dental administration related  
7 expenses. Based on interviews with the Company's Human Resources department, NCI  
8 determined that, beginning 2006, group health claims are paid by MGE's parent  
9 company; MGE reimburses, via wire transfer, its parent company monthly typically  
10 around the 18<sup>th</sup> of the month following. Taking this information into account, NCI  
11 determined an expense lead time of 33.21 days associated with group health claims  
12 payments. Also beginning in 2006, MG&E reimburses its dental claims administrator  
13 weekly via ACH on the last day of the week for claims settled two weeks prior. Taking  
14 this information into account, NCI determined that the expense lead time associated with  
15 dental claims was 18 days. Finally in 2006, health and dental administration fees are  
16 expected to be paid by MGE around the 10<sup>th</sup> of the month for the current month via ACH  
17 resulting in an expense lead time of negative (5.21) days.

18  
19 **Q. WHAT WAS THE EXPENSE LEAD ASSOCIATED WITH THE COMPANY'S**  
20 **MATCH ASSOCIATED WITH THE 401-K PLAN?**

21 A. The Company remits 401-K funds to its payroll administrator two days before a Friday  
22 payday. Taking this information into account, NCI determined that the lead time  
23 associated with the Company's 401-K program was 11 days.

1  
2 **Q. WHAT ARE OTHER OPERATIONS AND MAINTENANCE EXPENSES AND**  
3 **WHAT LEAD TIMES WERE ASSOCIATED WITH SUCH EXPENSES?**

4 A. The Company engages in transactions with other vendors (not associated with payroll,  
5 benefits, pensions, interest payments, or taxes) for a variety of purposes including facility  
6 maintenance, maintenance of system reliability, and customer service. Invoices from  
7 providers of such services were analyzed in order to estimate a lead time associated with  
8 payment for services related to other operations and maintenance activities. The analysis  
9 indicates that on average, invoices were paid by the Company 38.47 days after receipt.  
10 This estimate of lead time relating to the Company's other operations and maintenance  
11 expenses is the sum of 30.80 days of weighted invoice processing lead time (including  
12 15.21 days of service lead time) and 7.67 days of bank float since most of these other  
13 operations and maintenance related expense payments were made by check.

14  
15 **Q. WHAT DOES BANK FLOAT MEAN IN THE CONTEXT OF THE COMPANY'S**  
16 **ACCOUNTS PAYABLES?**

17 A. Bank float is the difference in time between the date the Company mails a check to one  
18 of its vendors and the date the cash leaves the Company's bank account.

19  
20 **Q. WHY IS IT NECESSARY TO CONSIDER THE FLOAT ON THE COMPANY'S**  
21 **ACCOUNTS PAYABLES IN A LEAD LAG STUDY?**

22 A. It is the Company's intent to present an unbiased and comprehensive analysis of its cash  
23 working capital requirements to the Commission in this proceeding; thus, the estimate of

1 float (or bank processing) time was considered on both the receivable and payable side of  
2 the cash working capital equation.

3  
4 **Q. HOW WAS THE BANK FLOAT ON THE COMPANY'S ACCOUNTS**  
5 **PAYABLES ESTIMATED?**

6 A. The float time was estimated using data on cancelled checks provided by the Company's  
7 bank. Using a sample of checks for the twelve months ended December 31, 2005, the  
8 analysis indicated that the average float time was 7.67 days, on a dollar weighted basis.

9  
10 **Q. WHAT IS THE EXPENSE LEAD TIME ASSOCIATED WITH THE**  
11 **COMPANY'S PURCHASES OF NATURAL GAS?**

12 A. Based on an examination of invoices of a sample of commodity and pipeline suppliers to  
13 the Company, a weighted expense lead time of 40.01 days was determined. This lead  
14 time includes a half month's worth of service lead time and excludes float since payments  
15 are made electronically.

16  
17 **Q. WHAT ARE THE VARIOUS GENERAL TAXES CONSIDERED IN THE**  
18 **ANALYSIS?**

19 A. Each category of General Taxes and how it was considered in the Company's study is  
20 described below:

21  
22 a) **Federal Unemployment Taxes:** Federal unemployment taxes are due quarterly  
23 by the 15<sup>th</sup> of the month following the end of the quarter. Taking this information



1 into account, a weighted average expense lead time of 60.63 days was  
2 determined. Since payments are made by wire transfer, no additional bank float  
3 time was considered.

- 4
- 5 b) **Property Taxes:** The Company pays real estate and personal property taxes in  
6 Missouri. In the State of Missouri, all current-year property taxes are due on  
7 December 31st of the current year. Taking this schedule into consideration a  
8 dollar-weighted expense lead of 182.50 days was estimated. Since payments are  
9 made by check, an additional float time of 7.67 days was included bringing the  
10 total weighted property tax expense lead time estimate to 190.17 days.

- 11
- 12 c) **Corporation Franchise Taxes:** The State of Missouri levies a Corporation  
13 Franchise Tax on companies with in-state assets of \$1,000,000 or more. The tax  
14 is due on April 15th of the current fiscal year. Based on this information a  
15 negative expense lead time of negative (69.83) days was used in the calculation of  
16 cash working capital associated with corporation franchise taxes. Since the  
17 payment is made by check, this estimate of lag includes bank float time.

- 18
- 19 d) **Missouri Sales and Use Taxes:** The Company pays its Sales Tax in quarter  
20 month installments to the Missouri Department of Revenue. Equal installments  
21 are remitted on the 7<sup>th</sup>, 14<sup>th</sup>, 21<sup>st</sup>, and 28<sup>th</sup> of each month electronically. Taking  
22 this information into account, NCI determined that the expense lead time  
23 associated with sales taxes was 2.29 days. Missouri Use Taxes are payable to the

1 Missouri Department of Revenue for purchases made by the Company from out-  
2 of-state (and is thus known as a compensating tax). This tax is paid quarterly and  
3 is due on the last day of the month following the end of a quarter. Based on when  
4 payments are due, a weighted lead time of 76.31 days was calculated. .Since  
5 payments are made by check, an additional float time of 7.67 days was included  
6 bringing the total use tax related expense lead time to 83.98 days.

- 7
- 8 e) **Gross Receipts Taxes:** In the State of Missouri, gross receipts taxes are payable  
9 to municipalities and are typically estimated as a percent of billings to customers  
10 within the municipality. The Company typically pays these taxes on the last day  
11 of the month following the end of a monthly, quarterly, semi-annually, or annual  
12 tax period depending on the municipality. Based on the specific tax periods of the  
13 various municipalities, a dollar-weighted gross receipts tax expense lead time of  
14 60.90 days was calculated. This lead time includes float since the municipalities  
15 are paid by check.

16

17 **Q. HOW DID THE STUDY ADDRESS FEDERAL INCOME TAXES?**

- 18 A. The lead time associated with federal income tax payments was based on the provisions  
19 of the Internal Revenue Code that require estimated tax payments of 25 percent of total  
20 income taxes on the 15<sup>th</sup> of the month following the end of a quarter. Taking this  
21 schedule into consideration a lead time of 60.63 days for federal income tax payments  
22 made by the Company was determined. This lead time did not include bank float since  
23 payments were made electronically.

1  
2 **Q. HOW WERE STATE INCOME TAXES CONSIDERED IN THE STUDY?**

3 A. State income taxes follow a patter similar to that of its federal counterpart. Thus,  
4 assuming quarterly payments due on the 15<sup>th</sup> of the month following the end of a quarter,  
5 an expense lead time of 60.63 days was determined. Since payments are made  
6 electronically, no additional float time was considered in this study.  
7

8 **Q. PROVIDE A DESCRIPTION OF HOW LEAD TIMES ASSOCIATED WITH THE**  
9 **COMPANY'S INTEREST EXPENSES WERE ADDRESSED BY THE STUDY.**

10 A. The Company's interest payments on its long-term bonds were made from current  
11 revenues. Thus, there was a lead (or lag) between the date the interest payments were  
12 collected from customers and the date when such amounts were paid to financial  
13 institutions. The Company generally made interest payments on its long-term debt twice  
14 a year at varying times. Using actual due dates on interest payments, a dollar-weighted  
15 expense lead time of negative (4.72) days for interest payments were determined. Since  
16 interest payments were made electronically, no additional lead time was included.  
17

18 **Q. HAVE YOU SUMMARIZED THE RESULTS OF YOUR ANALYSIS OF THE**  
19 **COMPANY'S CASH WORKING CAPITAL REQUIREMENTS?**

20 A. Yes. The results of the cash working capital study are presented in MG&E Exhibit No.  
21 MJA-2. I am sponsoring the data in the columns labeled "Revenue Lag Days", "Expense  
22 Lead Days", "Net Lag Days", and "CWC Factor" as set forth on the exhibit. The  
23 expense amounts included on the exhibit are being sponsored by MGE witness Noack.

1 As the exhibit shows, the appropriate level of cash working capital required by MGE for  
2 its gas operations is \$13,353,691. In the context of this proceeding, I recommend that  
3 this amount be added to the Company's rate base.  
4

5 **Q. DOES THIS CONCLUDE YOUR DIRECT TESTIMONY?**

6 **A.** Yes, it does.  
7

BEFORE THE PUBLIC SERVICE COMMISSION  
OF THE STATE OF MISSOURI

In the Matter of Missouri Gas Energy's  
Tariff Sheets Designed to Increase Rates  
for Gas Service in the Company's Missouri  
Service Area.

)  
) Case No. GR-2006-\_\_\_\_  
)  
)

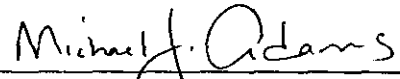
AFFIDAVIT OF MICHAEL J. ADAMS

STATE OF ILLINOIS    )


ss.

COUNTY OF SANGAMON    )

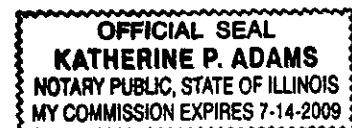
Michael J. Adams, of lawful age, on his oath states: that he has participated in the preparation of the foregoing Direct Testimony in question and answer form, to be presented in the above case; that the answers in the foregoing Direct Testimony were given by him; that he has knowledge of the matters set forth in such answers; and that such matters are true and correct to the best of his knowledge and belief.

  
MICHAEL J. ADAMS

Subscribed and sworn to before me this 26<sup>th</sup> day of April 2006.

  
Notary Public

My Commission Expires: 7/14/2009



Missouri Gas Energy  
A Division of Southern Union Gas Company  
Cash Working Capital Requirement  
For the Twelve Months Ended December 31, 2005

| Line No. | Description (A)                           | Revenue Lag (B) | Expense Lag (C) | Net Lag (D) | CWC Factor (E) | Test Year Operations and Maintenance Expense at Proposed Rates (F) | Cash Working Capital Requirement (G) |
|----------|---|-----------------|-----------------|-------------|----------------|--|--------------------------------------|
| 1        | Pensions & Benefits                       | 47.59           | (47.19)         | 0.40        | 0.0011         | \$ 17,511,732  | \$ 19,227                            |
| 2        | Payroll and Employee Withholdings         | 47.59           | (11.00)         | 36.59       | 0.1003         | 28,471,632   | 2,854,293                            |
| 3        | Employer FICA Taxes                       | 47.59           | (11.00)         | 36.59       | 0.1003         | 2,155,151  | 216,055                              |
| 4        | Other Operations and Maintenance Expenses | 47.59           | (38.47)         | 9.12        | 0.0250         | 31,401,433   | 784,574                              |
| 5        | Federal Unemployment Taxes                | 47.59           | (60.63)         | (13.03)     | (0.0357)       | 28,413   | (1,015)                              |
| 6        | Corporation Franchise Taxes               | 47.59           | 69.83           | 117.42      | 0.3217         | 246,794  | 79,395                               |
| 7        | Property/Real Estate Taxes                | 47.59           | (190.17)        | (142.58)    | (0.3906)       | 6,687,532  | (2,612,294)                          |
| 8        | Sales Tax                                 | 47.59           | (2.29)          | 45.30       | 0.1241         | 9,825,601  | 1,219,444                            |
| 9        | Use Tax                                   | 47.59           | (83.98)         | (36.39)     | (0.0997)       | 2,037,860  | (203,177)                            |
| 10       | Gross Receipts Taxes                      | 47.59           | (60.90)         | (13.31)     | (0.0365)       | 38,982,985   | (1,421,785)                          |
| 11       | Federal Income Tax                        | 47.59           | (60.63)         | (13.03)     | (0.0357)       | 3,166,399  | (113,067)                            |
| 12       | State Income Tax                          | 47.59           | (60.63)         | (13.03)     | (0.0357)       | 497,536  | (17,766)                             |
| 13       | Interest Expense                          | 47.59           | 4.72            | 52.31       | 0.1433         | 19,509,692   | 2,796,278                            |
| 14       | Fuel - Gas                                | 47.59           | (40.01)         | 7.58        | 0.0208         | 469,859,289  | 9,753,529                            |
| 15       | Uncollectible Expense                     | 47.59           | (47.59)         | -           | -              | 8,881,391  | -                                    |
| 16       | Total                                     |                 |                 |             |                | \$ 639,263,440   | \$ 13,353,691                        |