

Exhibit No.:  
Issues: Cash Working Capital  
Witness: Michael J. Adams  
Sponsoring Party: Union Electric Company  
Type of Exhibit: Direct Testimony  
Case No.: GR-2010-  
Date Testimony Prepared: June 11, 2010

**MISSOURI PUBLIC SERVICE COMMISSION**

**Case No. GR-2010-\_\_\_\_\_**

**DIRECT TESTIMONY**

**OF**

**MICHAEL ADAMS**

**On Behalf**

**Of**

**UNION ELECTRIC COMPANY d/b/a AmerenUE**

**St. Louis, Missouri  
June, 2010**

## **TABLE OF CONTENTS**

I. INTRODUCTION AND WITNESS QUALIFICATIONS .....	1
II. PURPOSE AND SCOPE .....	2
III. SUMMARY OF THE COMPANY’S CASH WORKING CAPITAL ANALYSIS .....	3
A. Revenue Lags.....	5
1. Base Revenue Lag .....	5
2. Pass-Through Taxes Revenue Lag .....	7
B. Expense Leads .....	8

## 1

2

3

4

## 5

6

7

9

10

11

12

17

18

**Q. Please describe your education.**

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

**Q. Please describe your qualifications.**

A. I have over twenty-five years of direct experience in the public utility industry. I have worked for an investor-owned utility, a regulatory agency, and most recently as a consultant to the energy industry. I have managed and/or participated in a wide variety of consulting engagements and have testified in other regulatory proceedings and jurisdictions.

## **II. PURPOSE AND SCOPE**

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

A. My testimony discusses a lead-lag study prepared for Union Electric Company d/b/a AmerenUE's gas business ("AmerenUE" or the "Company") by Concentric that I used to develop cash working capital factors ("CWC factor"). The CWC factors are used by AmerenUE witness Thomas Opich to calculate the cash working capital requirements of the Company.

**Q. Please define what you mean by the phrase "cash working capital."**

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

**Q. Are you sponsoring any schedules?**

A. Yes. I am sponsoring Schedule MJA-G1, which I will discuss later in my testimony.

1                   **III.     SUMMARY OF THE COMPANY'S CASH WORKING**  
2   **CAPITAL ANALYSIS**

3     **Q.     For what period was the lead-lag study performed?**

4     A.     The lead-lag study analyzed the Company's cash transactions and invoices for the twelve  
5             months ended December 31, 2009.

6     **Q.     How should the results of the cash working capital analysis be treated for**  
7             **ratemaking purposes?**

8     A.     The cash working capital requirements should be included as part of AmerenUE's rate  
9             base for ratemaking purposes.

10    **Q.     Is the analysis of the revenue lags and expense leads typically referred to as a**  
11            **lead-lag study?**

12    A.     Yes. Cash working capital requirements are generally determined by lead-lag studies that  
13             are used to analyze the lag time between the date customers receive service and the date  
14             that customers' payments are available to the company. This lag is offset by a lead time  
15             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  
17             lag days are then divided by 365 to determine a daily CWC factor. This CWC factor is  
18             then multiplied by the annual test year cash expenses to determine the amount of cash  
19             working capital required for operations. The resulting amount of cash working capital is  
20             then included as part of the Company's rate base. The test year operating expenses to  
21             which the leads and lags were applied are described in the direct testimony of Company  
22             witness Mr. Opich.

1 **Q. What are the various leads and lags that should be considered in a cash working**  
2 **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 a company ("revenue lags"); and 2) lead times associated  
5 with the payments for goods and services received by the company ("expense leads").

6 **Q. What is a revenue lag?**

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

10 **Q. What is an expense lead?**

11 A. The expense lead refers to the elapsed time from when a good or service is provided to the  
12 company to the point in time when the company pays for the good or service and the funds  
13 are no longer available to the company.

14 **Q. What was the source of information you employed to determine the leads and lags**  
15 **in your cash working capital analysis?**

16 A. Information from Ameren Services Company's Accounts Payable, Customer Service,  
17 Human Resources, Payroll, and Tax systems was utilized. The information derived from  
18 these sources, together with analyses of specific invoices, led to the determination of the  
19 appropriate number of lead-lag days for AmerenUE.

1           **A.     Revenue Lags**

2       **Q.     Was one revenue lag applied to all of the AmerenUE's revenues?**

3       A.     No. Concentric calculated a base revenue lag that was applied to all cash operating  
4           revenues with the exception of pass-through taxes. A separate revenue lag was calculated  
5           and applied to all revenues associated with pass-through taxes.

6                   **1.     Base Revenue Lag**

7       **Q.     How was the base revenue lag determined?**

8       A.     The base revenue lag measures the number of days from the date service was rendered by  
9           the Company until the date payment was received from customers and such funds were  
10          deposited by the Company. In the calculation, the revenue lag was divided into four  
11          distinct components: 1) service lag; 2) billing lag; 3) collections lag; and 4) payment lag.  
12          Considered together, these four components of the base revenue lag totaled 45.38 lag  
13          days. An explanation of each component of the base revenue lag follows.

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 the provisioning of service was 15.21 days (365 days in the  
18          year divided by 12 months divided by 2).

19      **Q.     What is meant by billing lag?**

20      A.     Billing lag refers to the average number of days from the date on which the meter was read  
21          until the customer was billed. The billing lag was determined by analyzing the

Company's monthly billing schedules and meter reading records. The average billing lag was determined to be 0.96 days.

**Q. What is meant by collections lag?**

A. The collections lag refers to the average amount of time from the date when the customer received a bill to the date that the Company received payment from its customers. Based on weighted average data from the Company's Customer Service System and by considering accounts receivables balances by class of customer by days aged, the average collection lag was determined to be 27.60 days.

**Q. What is meant by payment lag?**

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

**Q. What factors can influence the payment lag?**

A. The Company received payments from customers typically in one of four ways: 1) by mail; 2) from payment centers; 3) by credit card; or, 4) via an Electronic Data Interchange ("EDI") mechanism. Based on data from a sample of daily cash processing reports and by considering the lag time associated with the various payment methods, the average payment lag was determined to be 1.62 days.

**Q. Please summarize the calculation of base revenue lag days.**

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



Base Revenue Lag Component	Lag Days
Meter Reading	15.21
Billing	0.96
Collections	27.60
Payment	1.62
Total Revenue Lag	45.38

1

2

**2. Pass-Through Taxes Revenue Lag**

3 **Q. Does the revenue lag applied to pass-through taxes differ from the base revenue lag?**

4 A. Yes.

5 **Q. How does the revenue lag applied to pass-through taxes differ from the base**  
6 **revenue lag?**

7 A. The only difference between the base revenue lag and the revenue lag which is applied to  
8 the pass-through taxes is that the revenue lag applied to pass-through taxes excludes the  
9 service lag. Therefore, the revenue lag applied to pass-through taxes is 30.17 days.

10 **Q. Should a different revenue lag be applied to the pass-through tax revenues?**

11 A. Yes.

1 **Q. Please explain.**

2 A. In prior cases<sup>1</sup>, the Missouri Public Service Commission Staff (“Staff”) has argued that  
3 pass-through taxes are not generated as a result of the provisioning of a service by the  
4 utility. Therefore, in these proceedings a revenue lag which excludes a lag associated  
5 with the provisioning of utility service has been applied to the pass-through tax revenues.

6 **Q. Are the revenues attributable to pass-through taxes collected in the same manner  
7 and at the same time as all other revenues?**

8 A. Yes. The Company’s customers pay one bill. That bill (and thus the payment) includes  
9 both operating revenues associated with the provisioning of gas service as well as  
10 revenues associated with pass-through taxes.

11 **Q. What impact does the exclusion of the service lag have on the CWC calculation?**

12 A. The service lag represents the period of time during which the Company has provided a  
13 service for which it has not yet been compensated. Since the Company serves primarily  
14 as a collect and remit agent for the various taxing bodies, by excluding the service lag  
15 from the revenue lag applied to the pass-through taxes, the Company is reflecting that it  
16 has no out-of-pocket expense for which it is awaiting payment.

17 **B. Expense Leads**

18 **Q. What expense-related leads were considered in the lead-lag analysis?**

19 A. Lead times associated with the following expense categories were considered in the lead-  
20 lag study: a) employee pensions and benefits; b) base payroll; c) FICA (social security)

---

<sup>1</sup> Such proceedings include Case Nos. ER-2010-0036 (AmerenUE), ER-2008-0318 (AmerenUE), ER-2007-0291 (Kansas City Power & Light Company), ER-2008-0093 (The Empire District Electric Company), GR-2007-0208 (Laclede Gas Company), and GR-2006-0422 (Missouri Gas Energy).

1 and other withholdings; d) cost of gas; e) other operations and maintenance expenses;  
2 f) general taxes other than income taxes, excluding pass-through taxes; g) pass-through  
3 taxes; h) federal income taxes; i) state income taxes; and, j) interest on long-term debt.

4 **Q. What types of leads associated with the Company's Employee Benefit programs were**  
5 **considered in the analysis?**

6 A. The estimated lead times associated with the following major categories of the Company's  
7 employee benefit programs were considered: a) group life insurance; b) group health  
8 insurance including claims processing, claims payment, and administration costs;  
9 c) contributions to the Company's pension fund; d) Other Post-Employment Benefits  
10 costs; and e) the Company's 401-K plan. Taken together, these programs had a dollar-  
11 weighted lead time of 32.68 days for the twelve months ended December 31, 2009.

12 **Q. What were the expense leads associated with the Company's group life insurance**  
13 **program?**

14 A. The analysis of invoices paid to the Company's providers of group life insurance indicated a  
15 weighted average lead time of 25.66 days.

16 **Q. What were the expense leads associated with the Company's group health insurance**  
17 **programs?**

18 A. The Company's group health insurance program had three major categories of activities:  
19 a) claims processing, i.e., from the time a claim was filed to the time it was processed;  
20 b) claims payment, i.e., from the time the provider provided the claim to the Company for  
21 reimbursement and the time the reimbursement occurred; and c) administration-related  
22 expenses. Based on annual summaries of performance provided to the Company by its group

1 health plan administrators, the claims processing period was determined to be 5.22 days.  
2 Additionally, based on actual service requests and electronic payment instructions  
3 from the Company's Human Resources Department, the claims reimbursement time was  
4 determined to be 6.37 days. Finally, based on an examination of invoices and payment  
5 instructions from within the Company's accounts payable system, a lead time of 4.50 days  
6 was derived for group health administration expenses.

7 **Q. What was the expense lead time associated with the Company's contribution to its**  
8 **pension plan?**

9 A. The Company made quarterly contributions to its pension plan during calendar year  
10 2009. Taking this information into account and using the actual date and dollar  
11 contributions made by the Company, a pension expense lead time of 52.95 days was  
12 determined.

13 **Q. What was the expense lead associated with the funding of the Company's OPEB**  
14 **fund?**

15 A. The Company made two contributions to the OPEB fund during 2009. Based upon the  
16 actual funding dates, the expense lead was determined to be 83.25 days.

17 **Q. What was the expense lead associated with the Company's match associated with the**  
18 **401-K plan?**

19 A. The expense lead time associated with the Company's 401-K plan contributions was  
20 14.15 days.

1 **Q. Provide an explanation of the leads associated with the Company's payroll expenses.**

2 A. Payroll lead days were determined by calculating the nominal and weighted lead time  
3 by pay period and weighting the resulting lead days by the amounts paid out by the  
4 Company to cover their payroll obligations. The resulting total on a dollar-weighted  
5 basis was 11.76 days.

6 **Q. Please explain the lead effects associated with FICA and other federal and state**  
7 **withholding taxes.**

8 A. The Company electronically transfers the dollar amounts associated with the employee  
9 and employer share of Federal Insurance Contributions and state withholding taxes to the  
10 appropriate federal and state authorities on their respective due dates – the next business  
11 day to the federal authorities, and the third business day following the end of a period  
12 (periods end on the 7th, 15th, 22nd, and the last day of the month) to the state taxing  
13 authorities. Taking this payment schedule into account and considering weekends and bank  
14 holidays, an incremental lead time of 2.51 days was estimated for federal withholding and  
15 2.50 days for social security or FICA-related transactions. This lead time is "incremental"  
16 in the sense that it should be added to the lead time on base payroll to derive the total  
17 amount of lead time associated with federal withholding taxes. An incremental lead time of  
18 6.09 days was determined for transactions involving the State of Missouri. When added to  
19 the base payroll lead time, these lead time estimates total 12.82 days for federal  
20 withholding remittances, 12.81 days for FICA remittances to the federal government, and  
21 16.40 days for remittances of state withholdings.

1 **Q. How were withholdings associated with Supplemental Life Insurance and**  
2 **Accidental Death and Dismemberment (“AD&D”) Insurance, Savings**  
3 **Investment Plan contributions, and employee 401-K contributions handled in**  
4 **the lead-lag study?**

5 A. The lead-lag study reflects the remittance of the employees’ payment of  
6 Supplemental Life Insurance and AD&D insurance premiums to the providers  
7 employing actual historical data for the calendar year 2009. The lead days were  
8 determined to be 40.31 for Supplemental Life Insurance and AD&D insurance  
9 premiums. The lead-lag study also reflects contributions made to the Savings  
10 Investment Plan and employee 401-K contributions. The lead days were determined  
11 to be 17.31 days for the Savings Investment Plan contributions and 14.15 days for the  
12 employee portion of 401-K contributions.

13 **Q. How was the Vacation Accrual handled in the lead-lag study?**

14 A. In AmerenUE’s last electric rate proceeding (ER-2010-0036), Staff proposed that the  
15 variation in the level of the vacation accrual for contract employees between the test  
16 year and the prior year be included in the lead-lag study. For the gas business, the  
17 accrual variation from 2008 to 2009 produced a negative result; therefore, instead of  
18 reducing the lead-lag days, the vacation accrual was excluded from the analysis.

19 **Q. What are other operations and maintenance expenses and what lead times were**  
20 **associated with such expenses?**

21 A. The Company engages in transactions with other vendors (not associated with pensions,  
22 benefits, payroll, fuel, or taxes) for a variety of purposes including facility maintenance,

1 system maintenance, and customer service. Invoices from providers of such services were  
2 analyzed in order to estimate a lead time associated with payment for services related to  
3 other operations and maintenance activities. The analysis indicates that on average,  
4 invoices were paid by the Company 37.36 days after receipt.

5 **Q. What is the expense lead time associated with the Company's purchases of natural gas?**

6 A. Based on an examination of invoices of a sample of commodity and pipeline suppliers to the  
7 Company, a weighted expense lead time of 37.38 days was determined. This lead time  
8 includes a half month of service lead time.

9 **Q. What are the various general taxes considered in the analysis?**

10 A. The following general taxes were considered in the study: a) Federal Unemployment  
11 Taxes; b) State Unemployment Taxes; c) Corporation Franchise Taxes; d) Real Estate  
12 and Property Taxes; e) Missouri Sales Tax; f) Missouri and Iowa Use Taxes; g) St. Louis  
13 Corporate Earnings Taxes; and, h) Gross Receipts Taxes. Where taxes were required to  
14 be paid to a single taxing authority pursuant to a set schedule, the statutory payment dates  
15 were considered in the analysis.

16 **Q. Explain the lead effects associated with each type of non-pass through general taxes**  
17 **considered in the analysis.**

18 A. The treatment of each category of general taxes in the study is described below:

19 a) Federal Unemployment Taxes: Federal unemployment taxes are due  
20 quarterly by the last day of the month following the end of the quarter.  
21 Taking this information into account, a weighted average expense lead  
22 time of 76.38 days was determined.

- 1           b)    State Unemployment Taxes: The Company does not pay state  
2                   unemployment taxes on behalf of its employees in the State of Missouri,  
3                   but does pay unemployment taxes on behalf of AmerenUE employees that  
4                   reside in the States of Illinois and Iowa and who work on AmerenUE  
5                   properties in those states. Like its federal counterpart, state unemployment  
6                   taxes are due by the last day of the month following the end of the quarter.  
7                   Taking this information into account, a weighted average expense lead  
8                   time of 76.38 days was determined.
- 9           c)    Corporation Franchise Taxes: The State of Missouri levies a corporation  
10                  franchise tax on companies with in-state assets of \$1,000,000 or more.  
11                  The tax is due on April 15<sup>th</sup> of the current year. Based on this information  
12                  a negative expense lead time of 77.50 days was determined.
- 13          d)    Real Estate and Property Taxes: All current-year property taxes in  
14                  Missouri are due on December 31<sup>st</sup> of the current year. Taking this  
15                  schedule into consideration, a dollar-weighted expense lead of 182.50 days  
16                  was calculated.
- 17          e)    Missouri Sales Tax: Missouri sales tax is payable to the Missouri  
18                  Department of Revenue and is calculated as a percent of billings less a 2  
19                  percent timely payment allowance. These taxes are due monthly by the  
20                  20<sup>th</sup> of the month following except for the payments at the end of the  
21                  quarter which are paid on the last day of the month following. Taking this



information into account, and including a half month of service lead time, a weighted expense lead time of 38.79 days was determined.

f) Missouri and Iowa Use Taxes: Missouri and Iowa use taxes are payable to the Missouri and Iowa Departments of Revenue for purchases made by the Company from out-of-state vendors (and are thus known as compensating taxes). This tax is paid quarterly and is due on the last day of the month following the end of a quarter. Based on when payments are due, a weighted lead time of 76.38 days was calculated.

g) St. Louis Corporate Earnings Tax: The Company pays corporate earnings taxes to the City of St. Louis. This tax is paid by check to the City of St. Louis annually on April 1<sup>st</sup> for the previous year. Taking this information into account, the expense lead time associated with corporate earnings taxes was determined to be 273.50.

**Q. What pass-through taxes are included in the CWC analysis?**

A. The only pass-through tax considered in the CWC analysis was Gross Receipts Taxes.

**Q. Please describe the timing of the payment of the Gross Receipt Taxes.**

A. In the State of Missouri, gross receipts taxes are payable to municipalities and are typically estimated as a percent of billings to customers within the municipality. The Company typically pays these taxes on the last day of the month following the end of a monthly, quarterly, semi-annual, or annual tax period depending on the municipality. Based on the specific tax periods of the various municipalities, a dollar-weighted gross receipts tax expense lead time of 27.66 days was calculated.

1 **Q. How did your study address federal income taxes?**

2 A. The lead time associated with federal income tax payments was based on the provisions  
3 of the Internal Revenue Code that require estimated tax payments of 25 percent of total  
4 income taxes due on April 15, June 15, September 15, and December 15 of the current  
5 year. Taking this schedule into consideration a lead time of 37.88 days for federal  
6 income tax payments made by the Company was determined.

7 **Q. How did the study address state income taxes?**

8 A. State income taxes follow a pattern similar to federal taxes. Thus, assuming quarterly  
9 payments due on April 15, June 15, September 15, and December 15 of the current year,  
10 an expense lead time of 37.88 days was determined.

11 **Q. Provide a description of how lead times associated with the Company's interest  
12 expenses were addressed by the study.**

13 A. The Company's interest payments on its long-term bonds were made from current  
14 revenues. Thus, there was a lead (or lag) between the date the interest payments were  
15 collected from customers and the date when such amounts were paid to financial  
16 institutions. The Company generally made interest payments on its long-term debt twice  
17 a year at varying times. Using actual due dates on interest payments, a dollar-weighted  
18 lead of 90.58 days for interest payments were determined.

19 **Q. Please describe Schedule MJA-G1.**

20 A. Schedule MJA-G1 summarizes the leads and lags discussed within my direct testimony.  
21 These leads and lags are used by Company witness Mr. Opich to calculate the  
22 Company's cash working capital requirements.

Direct Testimony of  
Michael Adams

1    **Q.     Does this conclude your direct testimony?**

2    A.     Yes, it does.

In the Matter of Union Electric Company                    )  
d/b/a AmerenUE for Authority to File                        )  
Tariffs Increasing Rates for Natural Gas                    )  
Service Provided to Customers in the                        )  
Company's Missouri Service Area.                            )

Case No. GR-2010-

**STATE OF MISSOURI                 )**  
  **) ss**  
**CITY OF ST. LOUIS                 )**

1. My name is Michael J. Adams. My office is in Marlborough, Massachusetts, and I am a Vice President with Concentric Energy Advisors, Inc.

2. Attached hereto and made a part hereof for all purposes is my Direct Testimony on behalf of Union Electric Company d/b/a AmerenUE consisting of 17 pages, and Schedule MJA-G1, all of which have been prepared in written form for introduction into evidence in the above-referenced docket.

3. I hereby swear and affirm that my answers contained in the attached testimony to the questions therein propounded are true and correct.

Michael J. Adams

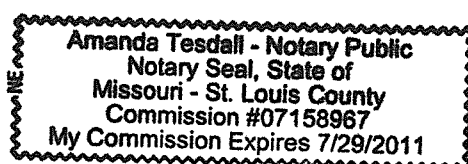
Michael J. Adams

Subscribed and sworn to before me this 8<sup>th</sup> day of June, 2010.

Amanda Tesdall

Notary Public

My commission expires:



AmerenUE  
**Cash Working Capital Requirement**  
For the Twelve Months Ended December 31, 2009

Line No.	Description (A)	Revenue Lag (B)	Expense Lead (C)	Net Lag (D)	CWC Factor (E)
1	Pensions & Benefits	45.38	(32.68)	12.70	0.0348
2	Payroll and Withholdings	45.38	(11.76)	33.63	0.0921
3	Employer FICA Contribution	45.38	(12.81)	32.57	0.0892
4	Other Operations and Maintenance Expenses	45.38	(37.36)	8.02	0.0220
5	Federal Unemployment Taxes	45.38	(76.38)	(30.99)	(0.0849)
6	State Unemployment Taxes	45.38	(76.38)	(30.99)	(0.0849)
7	Corporation Franchise Taxes	45.38	77.50	122.88	0.3367
8	Property/Real Estate Taxes	45.38	(182.50)	(137.12)	(0.3757)
9	Sales Tax	45.38	(38.79)	6.59	0.0181
10	Use Tax	45.38	(76.38)	(30.99)	(0.0849)
11	Gross Receipts Taxes	30.17	(27.66)	2.52	0.0069
12	Federal Income Tax	45.38	(37.88)	7.51	0.0206
13	State Income Tax	45.38	(37.88)	7.51	0.0206
14	St Louis Corporate Earnings Tax	45.38	(273.50)	(228.12)	(0.6250)
15	PGA Expense	45.38	(37.38)	8.01	0.0219
16	Interest Expense	45.38	(90.58)	(45.19)	(0.1238)
17	Uncollectible Expense	45.38	(45.38)	-	-