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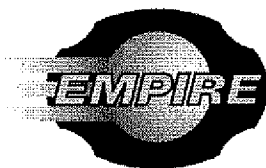
Before the Kansas Corporation Commission

Direct Testimony

of

Kelly A. Emanuel

October 2009



SERVICES YOU COUNT ON

TABLE OF CONTENTS
OF
KELLY A. EMANUEL
ON BEHALF OF
THE EMPIRE DISTRICT ELECTRIC COMPANY
BEFORE THE
KANSAS CORPORATION COMMISSION

<u>SUBJECT</u>	<u>PAGE</u>
INTRODUCTION.....	1
LEAD/LAG STUDY.....	2
CASH WORKING CAPITAL.....	4
METER TREATER TARRIFF.....	4

DIRECT TESTIMONY
OF
KELLY A. EMANUEL
THE EMPIRE DISTRICT ELECTRIC COMPANY
BEFORE THE
KANSAS CORPORATION COMMISSION
DOCKET NO.

1 **INTRODUCTION**

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

3 A. Kelly A. Emanuel. My business address is 602 S. Joplin Avenue, Joplin, Missouri.

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

5 A. The Empire District Electric Company (“Empire” or “Company”), as a Regulatory
6 Analyst.

7 **Q. PLEASE DESCRIBE YOUR EDUCATIONAL AND PROFESSIONAL
8 BACKGROUND FOR THE COMMISSION.**

9 A. I hold a Bachelor of Science degree in Business Information Systems from the University
10 of Phoenix. I began my career in accounting and worked up to the positions of Branch
11 Accounting and Human Resources Manager for the Marriott Corporation. I also served
12 as Director of Finance for a manufacturing company, Shaffer Sportswear. I combined
13 my accounting and finance experience into the Information Systems field where I worked
14 in several areas. In 2006, I joined Empire as an Internal Auditor. In 2008, I moved into
15 my current position of Regulatory Analyst.

16 **Q. WHAT IS THE PURPOSE OF YOUR TESTIMONY IN THIS CASE?**

17 A. My testimony will describe Empire’s Cash Working Capital requirements based upon the
18 lead lag study used in calculating the Cash Working Capital requirement for the test year

1 (the twelve months ending June 30, 2009), and a proposed tariff change related to the
2 Meter Treater program.

3 **LEAD/LAG STUDY**

4 **Q. WHAT IS A LEAD/LAG STUDY AND HOW IS IT USED?**

5 A. A lead/lag study is a method used to calculate the cash working capital requirements
6 necessary to meet the ongoing operating needs of a utility company. The results of a
7 lead/lag study are one component used in the determination of a company's rate base.

8 **Q. HOW DOES A LEAD/LAG STUDY MEASURE THE AMOUNT OF CASH
9 REQUIRED TO MEET OPERATING EXPENSE?**

10 A. A lead/lag study measures the difference between (1) the time a service is rendered until
11 the time revenues for that service are received (lag), and (2) the time that services,
12 materials, etc. are obtained and the time expenditures for those services are made (lead).
13 The applicable lead period for each major category of expense is compared to the revenue
14 lag period. The difference between those periods, expressed in days, multiplied by the
15 average daily operating expense provides the amount of cash working capital required.

16 **Q. HOW WAS THE TEST YEAR AVERAGE REVENUE LAG DAYS
17 DETERMINED?**

18 A. Revenue Lag is the total of 3 components: the usage lag, the billing lag, and the payment
19 lag. How each of these lags is calculated is explained in Schedule KAE-1.

20 **Q. PLEASE DESCRIBE THE METHODS USED TO DETERMINE THE EXPENSE
21 LEADS?**

22 A. The expense lead days were determined by compiling actual data for the same time
23 period for each of the following categories:

- 1 ▪ Fuel Expenses -- Gas and Coal
- 2 ▪ Purchased Power Expense
- 3 ▪ Payroll Expenses
- 4 ▪ Benefits Expenses
- 5 ▪ FICA Employee Withholding and Employer Match
- 6 ▪ Federal Income Tax Withheld
- 7 ▪ State Income Tax Withheld
- 8 ▪ 401K
- 9 ▪ Other Operation and Maintenance Expenses
- 10 ▪ Property Taxes
- 11 ▪ Federal Unemployment Taxes
- 12 ▪ State Unemployment Taxes
- 13 ▪ Use Tax
- 14 ▪ Sales Tax
- 15 ▪ Income Tax Offset
- 16 ▪ Interest Offset

17 Each of these components and the related methodology used in the lead/lag study are
18 discussed in detail in the 2009 Lead-Lag Study for Kansas Electric Operations, which is
19 presented in Schedule KAE-1, attached to my testimony.

20 **Q. WHAT WERE THE RESULTS OF THE LEAD/LAG STUDY?**

21 A. Schedule KAE-1, page 12, shows the calculations for average lead days for the expense
22 categories. The average lag days are also shown on Schedule KAE-1, pages 2, 3 and 4,

1 for each component Usage (15.28 days), Billing (4.14 days), and Payment (29.46 days)
2 for a total lag of 48.88 days.

3 **CASH WORKING CAPITAL**

4 **Q. HOW ARE THE RESULTS OF THE LEAD/LAG STUDY USED TO**
5 **CALCULATE THE REQUIRED CASH WORKING CAPITAL FOR THE TEST**
6 **YEAR?**

7 A. The lead time for the various expense categories, as listed in Schedule KAE-1 page 12, is
8 subtracted from the total lag time to achieve the total Cash Working Capital Lag. Next, a
9 Cash Working Capital Factor is calculated by dividing the Cash Working Capital Lag by
10 365 (total number of days in the test year) for a daily lag. The daily lag factor is then
11 used to calculate the required cash for that expense category by multiplying the daily
12 factor by the test year total expenses for that category.

13 **Q. WHAT WAS THE RESULT OF YOUR WORKING CAPITAL**
14 **CALCULATIONS?**

15 A. The result was a total increase in Empire's ratebase in the amount of \$ 890,923 associated
16 with necessary working capital.

17 **METER TREATERS**

18 **Q. IS EMPIRE RECOMMENDING ANY TARIFF CHANGES NOT RELATED TO**
19 **RATE DESIGN?**

20 A. Yes, Empire is proposing to delete Schedule MT Index 3, Sheets 1, 2, 3, and 4.

21 **Q. WHY IS EMPIRE RECOMMENDING THIS DELETION?**

22 A. The Meter Treater program has been in place since January 4, 2006 and has been utilized
23 by less than 1% of Empire's customer base (.1055%). The program required installation

1 of a surge suppressor product to the customer meter and requires that the unit be replaced
2 every 10 years. The program includes insurance coverage for damages to motor driven
3 appliances, such as washers, dryers, and refrigerators, but does not for damages to
4 electronic equipment. Since the plan has been in place, there have been no claims against
5 this program. Instead of investing the time and capital required to replace the surge
6 protectors and continue the insurance coverage, Empire is recommending eliminating the
7 above referenced tariff sheets and discontinuing the program all together.

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

9 A. Yes, it does.

The Empire District Electric Company

**Lead/Lag Study
For Kansas Electric Operations**

For the Year Ending June 30, 2009

Purpose. A lead/lag study is performed to determine the cash working capital component necessary to compute the working capital portion of rate base. The remaining components of working capital, such as the investment in materials and supplies, electric purchase expense, prepayments, etc., are determined by generally accepted regulatory methods. A lead/lag study measures the differences in time frames between (1) the time that service is rendered until the revenues for that service are received (lag) and (2) the time that labor, materials, or services are used in providing service until expenditures for such items are made (lead). Each major category of expense and its applicable lead days is compared to the calculated revenue lag days. The difference between these periods, expressed in terms of days, times the average daily operating expenses, produces the cash working capital required or available for those operating expenses.

Components of the Lead/Lag Study. This lead/lag study will compile and analyze revenues collected and expenses paid to determine the lead or lag days. This study has been categorized into the following major classifications:

Lag Time for Revenues Collected

- A. Usage Lag
- B. Billing Lag
- C. Payment Lag

Lead Time for Expenses Paid

- A. Fuel Expense -- Coal and Electric
- B. Purchase Power Expense
- C. Payroll Expense
- D. FICA Withheld
- E. Federal Income Tax Withheld
- F. State Income Tax Withheld
- G. 401K-Employee Withholdings/Employer Match
- H. Employee Benefits Expenses
 - a. Life Insurance
 - b. Health Care
 - c. Accidental Death and Dismemberment
 - d. Dental/Vision
- I. Other Operation and Maintenance Expenses (Cash Vouchers)
- J. Property Taxes
- K. Federal Unemployment Taxes
- L. State Unemployment Taxes
- M. FICA -- Employer Match
- N. Sales Tax
- O. Use Tax
- P. Interest Offset
- Q. Income Tax Offset

Calculation of Revenue Lag Time

To calculate the revenue lag, a database was created using July 2008, August 2008, December 2008 and January 2009 as sample months. These months were selected as equally representative of 2 summer and winter months. The database contained records of all rate classes and transactions that occurred during these months.

A. Usage Lag. EDE's meters are read and bills are computed on a cyclical basis throughout the month. To calculate the usage lag, a query was written against the database to calculate the number of days between the end of the previous meter reading period and the current meter reading period in the sample months. A weighted average was used by multiplying the monthly charges for those months by the lag days calculated to obtain a weighted dollar amount for each charge. Totals for the charges and the weighted dollars were calculated and then the weighted dollars were divided by total charges to receive the average usage lag for the sample months. This lag was divided by 2 to achieve a midpoint average for the service period. The usage lag for customers was 15.28 days. The following table shows the computation of the average usage lag during the sample months.

Total Charges	Wt Dollar Amount	Lag Days	Midpoint Lag
\$186,387,084.17	\$5,693,562,817.99	30.55	15.28

B. Billing Lag. Billing lag reflects the number of days from the date a meter is read until the bills are mailed. To calculate the bill processing period, a query was written against the database to calculate the number of days between the end of the meter reading period and the date each bill was issued for every

electric customer during the sample months. A weighted average was used by multiplying the charges by the lag days calculated to obtain the weighted dollar amounts. Totals for the charges and the weighted dollars were calculated and then the weighted dollars were divided by total charges to receive the average billing lag for the sample months. The billing lag for customers was 4.14 days. The following table shows the computation of the average billing lag during the sample months.

Total Charges	Wt Dollar Amount	Lag Days
\$186,387,084.17	\$772,278,338.20	4.14

C. Payment Lag. The payment lag is the average number of days for EDE to receive customer payments. The payment lag was calculated by comparing the number of days between the statement date and the date the bill was paid. A weighted dollar amount was achieved by calculating the payment lag days by the total statement amounts and totals were calculated for the statement amounts and calculated weighted dollar amounts. The weighted dollar amount was then divided by the total statement amount to obtain the average payment lag. The payment lag for Missouri customers was 29.46 days. The following table shows the computation of the average billing lag during the sample months.

Statement Amount	Wt Statement Amount	Lag Days
\$186,385,007.30	\$5,491,244,730.38	29.46

Calculation of Expense Lead

A. Fuel Purchase Expense – Coal, Gas and Oil. The payment period for fuel purchases are calculated by taking the number of days from the midpoint of

the delivery period to the payment date for each invoice. The resulting payment time is then multiplied by the amount paid. Dividing the total weighted average payment amount by the total amount paid provides the lead time for electric purchases. This study reviewed all electric purchase invoices during the sample months with the following results:

Fuel	Statement Amount	Wt Statement Amount	Lead Days
Coal	\$20,479,753.91	\$132,053,311.37	6.45
Gas	\$56,251,779.26	\$401,850,485.20	7.14

B. Purchase Power Expense. The payment period for purchased power is calculated by taking the number of days from the midpoint of the delivery period to the payment date for each invoice. The resulting payment time is then multiplied by the amount paid. Dividing the total weighted average payment amount by the total amount paid provides the lead time for electric purchases. This study reviewed all electric purchase invoices during the sample months with the following results:

Statement Amount	Wt Statement Amount	Lead Days
\$53,390,655.72	\$477,164,493.48	8.94

C. Payroll. The payroll lead was broken down into components based on the timing of when the expenses were paid. Both the Operations and Administrative employees are paid bi-weekly (every other Friday). There are 26 pay periods in the year. The average lead time is 365 days divided by 26 pay periods, or 14.0 days. The average lead time would be one-half of the 14.0 days, or 7.0 days. In addition, payroll is paid 5 days in arrears, so the average payroll lead time is 12 days. This is the number of days between the midpoint of the pay period and the date the payroll is paid.

- D. FICA. FICA expenses for the employee are deducted with payroll, or 5 days in arrears, which makes the FICA lead 12 days. (Using same practice as Payroll: $365 \text{ days} / 26 \text{ pay periods} = 14.0 \text{ days} * \frac{1}{2} \text{ for midpoint} = 7 \text{ days} + 5 \text{ days in arrears} = 12 \text{ days}$).
- E. Federal Income Taxes. The payment period for federal income taxes are calculated by taking the number of days from the midpoint of the service period to the payment date for each payment. The resulting payment time is then multiplied by the amount paid. Dividing the total weighted average payment amount by the total amount paid provides the lead time for federal income taxes of 14.5 days.
- F. State Income Taxes. The payment period for state income taxes are calculated by taking the number of days from the midpoint of the service period to the payment date for each payment. The resulting payment time is then multiplied by the amount paid. Dividing the total weighted average payment amount by the total amount paid provides the lead time for state income taxes of 18.8 days.
- G. 401K-Employee. Employee contributions to 401K are paid at the same time payroll is made by EDE. The lead time, applying the same analysis as the payroll calculation, is 12 days. ($365 \text{ days} / 26 \text{ pay periods} = 14.0 \text{ days} * \frac{1}{2} \text{ for midpoint} = 7 \text{ days} + 5 \text{ days in arrears} = 12 \text{ days}$).
- H. 401K-Employer. EDE matches employee contributions to the 401K on a quarterly basis. The following data was collected for the analysis: the total amount of matches paid, the payment dates and the service period the match

covers. The lead time was calculated by subtracting the midpoint of the service period from the beginning of the period. The total amount paid in matches was multiplied by the number of lead days to obtain the Weighted Dollar Expense of each payment. Dividing the weighted dollar expense by the actual total expense equals the lead time of 60.56 days.

Statement Amount	Wt Statement Amount	Lead Days
\$1,122,660.81	\$67,992,136.76	60.56

I. Health Benefits

- a. *Life Insurance* – The payment period for life insurance is calculated by taking the number of days from the midpoint of the service period to the payment date for each payment. The resulting payment time is then multiplied by the amount paid. Dividing the total weighted average payment amount by the total amount paid provides the lead time for life insurance of 7.01 days.
- b. *Medical Care* – The payment period for medical insurance is calculated by taking the number of days from the midpoint of the service period to the payment date for each payment. The resulting payment time is then multiplied by the amount paid. Dividing the total weighted average payment amount by the total amount paid provides the lead time for medical insurance of (5.71) days.
- c. *AD&D* – The payment period for AD&D insurance is calculated by taking the number of days from the midpoint of the service period to the payment date for each payment. The resulting payment time is then multiplied by the amount paid. Dividing the total weighted average payment amount by

the total amount paid provides the lead time for AD&D insurance of 4.41 days.

d. *Dental/Vision* – The payment period for Dental and Vision insurance is calculated by taking the number of days from the midpoint of the service period to the payment date for each payment. The resulting payment time is then multiplied by the amount paid. Dividing the total weighted average payment amount by the total amount paid provides the lead time for Dental/Vision insurance of 9.23 days.

J. Other Operation and Maintenance Expense. Other O&M Expense consists of cash disbursements for items such as materials, miscellaneous services, professional and contractor services, and employee expenses. To determine the lead time for Other O&M Expenses, a computer query sorted all Missouri electric expenditures for the test period, excluding electric purchases and payroll. A lead time was calculated by subtracting the invoice date from the payment date and that time was multiplied by the invoice total for a weighted dollar amount. The total weighted average divided by the invoice totals equaled the lead time of 23.62 days. The following table shows the computation of the average payment lag during the test year.

Cash Vouchers	Wt Voucher Amount	Lead Days
\$23,781,070.07	\$561,640,827.21	23.62

K. Property Taxes. EDE begins accruing property taxes at the beginning of the calendar year, January 1, and continues through December 31, when the bill is due. There are 365 days in the calendar year and as a result, the service period

= 365 days. For this analysis, the midpoint must be obtained by dividing by 2 for a total lead time of 182.50 days. (365 days/2 = 182.50 days).

L. Federal Unemployment Taxes. Payments for the Federal Unemployment taxes are paid on a quarterly basis. The following data was collected for the analysis: the total amount of payment, the payment dates and the service period the payment covers. The lead time was calculated by subtracting the midpoint of the service period from the beginning of the period. The total amount paid was multiplied by the number of lead days to obtain the Weighted Dollar Expense of each payment. Dividing the weighted dollar expense by the actual total expense equals the lead time of 58.78 days.

FUTA	Wt FUTA Amount	Lead Days
\$42,088.56	\$2,473,864.89	58.78

M. State Unemployment Taxes. Payments for the State Unemployment taxes are paid on a quarterly basis. The following data was collected for the analysis: the total amount of payment, the payment dates and the service period the payment covers. The lead time was calculated by subtracting the midpoint of the service period from the beginning of the period. The total amount paid was multiplied by the number of lead days to obtain the Weighted Dollar Expense of each payment. Dividing the weighted dollar expense by the actual total expense equals the lead time of 63.11 days.

SUTA	Wt FUTA Amount	Lead Days
\$86,350.95	\$5,449,459.28	63.11

N. FICA-Employer Match. FICA expenses are paid the Monday after the payroll is paid, or 7 days in arrears, which makes the FICA lead 14 days. (Using

same practice as Payroll: $365 \text{ days} / 26 \text{ pay periods} = 14.0 \text{ days} * \frac{1}{2}$ for midpoint = 7 days + 7 days in arrears = 14 days).

O. Sales Tax. Sales tax payments are made by EDE on a monthly basis. The following data was collected for the analysis: the total amount of payment, the payment dates and the service period the payment covers. The lead time was calculated by subtracting the midpoint of the service period from the beginning of the period. The total amount paid was multiplied by the number of lead days to obtain the Weighted Dollar Expense of each payment. Dividing the weighted dollar expense by the actual total expense equals the lead time of 38.30 days.

Sales Tax Payments	Wt Dollar Amount	Lead Days
\$8,803,681.57	\$337,149,353.94	40.17

P. Use Tax. Use tax payments are made by EDE on a quarterly basis. The following data was collected for the analysis: the total amount of payment, the payment dates and the service period the payment covers. The lead time was calculated by subtracting the midpoint of the service period from the beginning of the period. The total amount paid was multiplied by the number of lead days to obtain the Weighted Dollar Expense of each payment. Dividing the weighted dollar expense by the actual total expense equals the lead time of 40.01 days.

Use Tax Payments	Wt Dollar Amount	Lead Days
\$5,772.27	\$230,925.40	40.01

Q. Interest Offset. Since the interest is paid semi-annually, the lag is calculated by dividing the number of days in a year, 365, divided by 2 to obtain the

number of days in the service period. The 182.5 days is also divided by 2 to get to the midpoint of the period, or lag days, 91.25.

R. Income Tax Offset. Lag Days for the income tax offset are calculated by figuring the time between the midpoint of the year and the payment date of installments for both the Federal and State. The percentage of the total tax payment for each installment is multiplied against the lag days to achieve weighted lag days. Once the weighted lag days are determined by tax type, a percentage of the total tax amount is applied and the two amounts are added together to get one total weighted lag day figure of 87.57.

	<u>Due Date</u>	<u>Year Midpoint</u>	<u>Lag Days</u>	<u>% Payment</u>	<u>C*D Days</u>	<u>Weighted Days</u>
FEDERAL:						
First payment	04/15	07/02	-77.50	15.0%	-11.63	
Second payment	06/15	07/02	-16.50	15.0%	-2.48	
Third payment	09/15	07/02	75.50	10.0%	7.55	
Fourth payment	12/15	07/02	166.50	60.0%	99.90	
Final installment	03/15	07/02	256.50	0.0%	0.00	
Income tax days lag					93.35	76.10
STATE:						
First payment	04/15	07/02	77.50	22.5%	-17.44	
Second payment	06/15	07/02	16.50	22.5%	-3.71	
Third payment	09/15	07/02	-75.50	22.5%	16.99	
Fourth payment	12/15	07/02	-166.50	22.5%	37.46	
Final installment	04/15	07/02	-287.50	10.0%	28.75	
Income tax days lag					62.05	11.47
Weighted tax days lag						87.57

Calculation of Days Cash Required

The difference between revenue lag and expense lead times for each expense category provides the net number of days of cash required. The cash requirements for expenses are illustrated in the chart on page 12.

