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Adjustments
Witness: Joan E. Land
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Sponsoring Party: Empire District Electric
Case No. ER-2012-0345
Date Testimony Prepared: July 2012

**Before the Public Service Commission
of the State of Missouri**

**Direct Testimony
of
Joan E. Land**

July 2012



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DIRECT TESTIMONY OF
JOAN E. LAND
ON BEHALF OF
THE EMPIRE DISTRICT ELECTRIC COMPANY
BEFORE THE
MISSOURI PUBLIC SERVICE COMMISSION
CASE NO. ER-2012-0345

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DIRECT TESTIMONY
OF
JOAN E. LAND
THE EMPIRE DISTRICT ELECTRIC COMPANY
BEFORE THE
MISSOURI PUBLIC SERVICE COMMISSION
CASE NO. ER-2012-0345

1 **I. INTRODUCTION**

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

3 A. My name is Joan E. Land, and my business address is 602 S. Joplin Avenue, Joplin,
4 Missouri.

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

6 A. I am employed by The Empire District Electric Company (“Empire” or “Company”) as a
7 Regulatory Analyst.

8 **Q. PLEASE STATE YOUR EDUCATIONAL BACKGROUND AND**
9 **PROFESSIONAL EXPERIENCE.**

10 A. I graduated from the University of Central Oklahoma in May 2000 with a Bachelor of
11 Science in Accounting. During my graduate studies, I was employed by the University of
12 Oklahoma Health Sciences Center as an accountant for the office of Senior Vice
13 President and Provost. I have also served as Senior Accountant for Tamko Building
14 Products. I joined Empire in October 2008 and held various accounting positions in
15 revenue and fuel departments. In December 2010, I accepted my current position.

16 **Q. WHAT IS THE PURPOSE OF YOUR TESTIMONY IN THIS CASE BEFORE**
17 **THE MISSOURI PUBLIC SERVICE COMMISSION (“COMMISSION”)?**

18 A. My testimony will describe the lead-lag study used to develop Empire’s Cash Working

1 Capital ("CWC") requirements for the test year (the twelve months ending March 31,
2 2012). The results of a lead/lag study are one component used in the determination of a
3 company's rate base.

4 **II. LEAD-LAG STUDY**

5 **Q. PLEASE DEFINE WHAT YOU MEAN BY A LEAD-LAG STUDY.**

6 A. A lead-lag study is a method used to calculate the cash working capital requirements
7 necessary to meet the day-to-day operations of the Company. Lead-lag studies analyze
8 the difference between: (1) the date a service is rendered to the customer until the date
9 customers' payments are received (revenue lag); and (2) the date that goods and services
10 used to provide services are received by the Company and the date payments for those
11 services are made (expense lead). Both the "lag" and the "lead" are measured in days. For
12 each major category of expense, the net of the lead and lag days are divided by 365 to
13 determine a CWC factor. This CWC factor is multiplied by the test year balances to
14 determine the required cash working capital needed for operations. The result is included
15 as a component of rate base.

16 **Q. FOR WHAT PERIOD WAS THE LEAD-LAG STUDY PERFORMED?**

17 A. The Company's cash transactions and invoices for the twelve months ending December
18 31, 2011 were analyzed.

19 **Revenue Lag**

20 **Q. HOW WAS THE REVENUE LAG DETERMINED?**

21 A. Revenue lag is divided into 3 components: usage lag, billing lag, and collection lag. The
22 overall revenue lag totaled 48.44 days.

23 **Q. PLEASE EXPLAIN USAGE LAG.**

1 A. Usage lag is the number of days from the midpoint of the service period to the last day of
2 that service period. Empire's average usage lag is 15.21 days, which was determined by
3 dividing the number of days in the year (365) by 12 months, divided by 2. The final
4 divisor of two is necessary since Empire's meters are read and bills computed on a
5 cyclical basis throughout the month.

6 **Q. PLEASE EXPLAIN BILLING LAG.**

7 A. Billing lag is the number of days from the date the meter was read to the date the
8 customer was billed. The billing lag was calculated using data from Empire's customer
9 database for Missouri customers. A weighted average was used by multiplying the
10 charges by the lag days to obtain the weighted dollar amounts. The total weighted dollars
11 were divided by total charges to arrive at the weighted average billing lag of 5.32.

12 **Q. PLEASE EXPLAIN COLLECTION LAG.**

13 A. Collection lag is the average number of days from the date the customer was billed to the
14 date the Company receives the customer's payment. The collection lag was based on an
15 analysis of accounts receivable balances to credit sales, similar to accounts receivable
16 turnover ratio. The Company's Missouri billed electric revenues were divided by the
17 average of the monthly Missouri jurisdictional accounts receivable balances (net of an
18 allowance for uncollectible revenues) to arrive at an accounts receivable turnover ratio of
19 13.40 days. The collection lag was the calculated by dividing the number of days in a
20 year (365) by the accounts receivable turnover ratio to produce a collection lag of 27.91
21 days.

22 **Q. PLEASE SUMMARIZE THE REVENUE LAG.**

23 A. The revenue lag is summarized in the following table:

Lag Days

Usage Lag	15.21
Billing Lag	5.32
Collection Lag	27.91
Total Revenue Lag	48.44

1 **Expense Leads**

2 **Q. WHAT EXPENSES WERE EXAMINED FOR EMPIRE'S LEAD-LAG**
3 **ANALYSIS?**

4 A. The following expense categories were considered in the lead-lag study: a) fuel expense;
5 b) purchased power; c) payroll expense; d) federal income tax withheld and other tax
6 withholdings; e) employee pensions and benefits; f) other operations and maintenance
7 expenses (or cash vouchers); g) taxes other than income taxes; and h) pass-through taxes.

8 **Q. HOW DID YOU DETERMINE THE EXPENSE LEAD ON THE COMPANY'S**
9 **FUEL EXPENSES?**

10 A. Purchases of coal, natural gas, and oil and tires were examined to determine a service
11 period, and then a service midpoint was calculated. The midpoint was subtracted from
12 the payment date resulting in the expense leads for fuel. When weighted by the invoice
13 dollar amounts, the following weighted average expense lead times were determined:
14 coal – 20.12 days, natural gas – 27.33 days, oil and tires – 25.39 days.

15 **Q. WHAT IS THE LEAD TIME ASSOCIATED WITH EMPIRE'S PURCHASED**
16 **POWER?**

17 A. Based upon the inspection of the Company's purchased power invoices and transactions,
18 a lead time of 32.18 days was determined.

1 **Q. PLEASE EXPLAIN THE EXPENSE LEAD ASSOCIATED WITH THE**
2 **COMPANY'S BASE PAYROLL.**

3 A. Both the operations and administrative employees have a bi-weekly payroll service
4 period and are paid the following Friday. Taking the midpoint of the service period to
5 the date employees are paid resulted in an expense lead time of 11.50 days.

6 **Q. HOW DID YOU DETERMINE THE EXPENSE LEADS FOR FICA AND OTHER**
7 **TAX WITHHOLDINGS?**

8 A. Data was collected from the Company's payroll system regarding pay periods and the
9 related tax remittance dates. The resulting lead time for FICA and federal tax withholding
10 was 14.50 days. State tax withholding resulted in 18.88 days.

11 **Q. WHAT EMPLOYEE BENEFITS WERE CONSIDERED IN EMPIRE'S LEAD-**
12 **LAG STUDY?**

13 A. The following major categories of employee benefit programs were included: a) the
14 Company's 401-k plan; b) group life insurance; c) health care plan; d) accidental death
15 and dismemberment insurance ("AD&D"); e) dental and vision insurance; f) accrued
16 vacation; and g) contributions to the Company's pension fund.

17 **Q. PLEASE EXPLAIN THE EXPENSE LEAD ASSOCIATED WITH THE**
18 **COMPANY'S 401-K PLAN.**

19 A. Leads were calculated for both employee 401-k contributions and the Company's
20 matching contributions. Employee contributions to 401-k are remitted the same time as
21 payroll. Empire matches employee contributions to the 401-k on a quarterly basis. The
22 weighted average lead days were determined to be 11.50 days for employee 401-k
23 contributions and 52.98 days for the Company's matching contributions.

1 **Q. WHAT WERE THE EXPENSE LEADS ASSOCIATED WITH EMPIRE'S**
2 **GROUP LIFE, AD&D, AND DENTAL AND VISION INSURANCE?**

3 A. An analysis of the Company's remittances to the insurance providers was performed. The
4 resulting weighted average lead times were 8.87 for group life insurance, 11.87 for
5 AD&D insurance, and 8.31 for dental and vision insurance.

6 **Q. HOW DID YOU DETERMINE THE EXPENSE LEAD ASSOCIATED WITH**
7 **EMPIRE'S HEALTH CARE PLAN?**

8 A. The expense lead for health care insurance was calculated by taking the number of days
9 from the midpoint of the service period to the payment date for each payment. The
10 resulting days are then multiplied by the amount paid. Dividing the total weighted
11 dollars by the total amount paid resulted in a lead time for medical insurance of (5.67)
12 days.

13 **Q. PLEASE EXPLAIN THE EXPENSE LEAD ASSOCIATED WITH ACCRUED**
14 **VACATION.**

15 A. Employee vacation lead was not recalculated for this lead-lag study. For purposes of this
16 rate case, Empire used Staff's calculation from previous rate cases. The lead time is 365
17 days.

18 **Q. HOW DID YOU DETERMINE THE EXPENSE LEAD TIME FOR THE**
19 **COMPANY'S CONTRIBUTION TO ITS PENSION PLAN?**

20 A. Contributions to Empire's pension trust fund are made in quarterly installments with a
21 final payment, if necessary, due in September of the following year. Using actual
22 payment dates and dollar amounts, the Company's lead time for pension expense is 56.63
23 days.

1 **Q. PLEASE EXPLAIN THE EXPENSE LEAD ASSOCIATED WITH OTHER**
2 **OPERATIONS AND MAINTENANCE EXPENSE.**

3 A. Other operations and maintenance expense (cash vouchers) are cash expenses not
4 included in a separate line in the cash working capital schedule. Data provided from the
5 Accounts Payable system was analyzed to estimate a lead time. Empire assumed a 30 day
6 service period and used the actual payment date. As a result, the average lead time for
7 cash vouchers is 35.28 days.

8 **Q. WHAT GENERAL TAXES WERE INCLUDED IN THE ANALYSIS?**

9 A. The following general taxes were included: a) property taxes; b) federal and state
10 unemployment taxes; c) Iatan and Plum Point payroll taxes; and d) corporation franchise
11 taxes.

12 **Q. PLEASE ELABORATE ON THE EXPENSE LEADS FOR EACH OF THE**
13 **GENERAL TAXES.**

14 A. The expense leads for general taxes are shown and described below.

15 a) Property Taxes: Missouri property taxes are due annually on December 31st of the
16 current year. For this analysis, the service midpoint was obtained by dividing 365
17 calendar days by 2 for a total lead time of 182.50 days.

18 b) Federal Unemployment Taxes (FUTA) and State Unemployment Taxes (SUTA):
19 FUTA and SUTA taxes are paid quarterly. Using actual payment dates and dollar
20 amounts, the Company's lead time was determined to be 70.64 days for FUTA and 67.41
21 days for SUTA.

22 c) Iatan and Plum Point Payroll Taxes: Empire is billed for its ownership share of payroll
23 related taxes for the Iatan and Plum Point generating units. Data provided from Empire's

1 Accounts Payable system was analyzed to estimate a lead time. Empire assumed a 30 day
2 service period and used the actual payment date. As a result, the average lead time for
3 Iatan and Plum Point payroll taxes is 24.76 days.

4 d) Corporation Franchise Taxes: Corporate franchise tax is paid annually. The tax is due
5 on April 15 of the current year. A negative expense lead time of (77.50) days was
6 calculated.

7 **Q. PLEASE EXPLAIN THE EXPENSE LEAD ASSOCIATED WITH MISSOURI**
8 **GROSS RECEIPTS TAX.**

9 A. Empire collects taxes for municipalities in which they operate. The Company pays these
10 taxes based upon the individual requirements of the taxing entities. An analysis of the
11 specific tax periods of the various municipalities and the actual payment dates indicated a
12 dollar weighted expense leads time of 16.90 days.

13 **Q. PLEASE EXPLAIN THE EXPENSE LEAD ASSOCIATED WITH MISSOURI**
14 **SALES TAXES.**

15 A. The Company collects and remits the taxes assessed by the state and are included as a
16 separate line item on the customers' bills. These taxes are paid on a weekly basis and a
17 final payment due for the month on the last day of the following month. Taking this
18 information into account, it was determined that the expense lead time is 5.72 days.

19 **Q. WHY IS THE REVENUE LAG DIFFERENT FOR MISSOURI GROSS**
20 **RECEIPTS TAX AND SALES TAX?**

21 A. Empire acts only as an agent for collecting and remitting of these taxes, and, therefore, no
22 service is provided. As a result, the revenue and expense lag calculation excludes the
23 service lag.

1 **Q. PLEASE DESCRIBE SCHEDULE JEL-1.**

2 A. The results of the leads and lags are summarized in Schedule JEL-1. These results were
3 used to calculate the Company's CWC requirements.

4 **III. REVENUE ADJUSTMENTS**

5 **Q. PLEASE IDENTIFY THE REVENUE ADJUSTMENTS THAT HAVE BEEN**
6 **MADE TO MISSOURI JURISDICTIONAL REVENUE.**

7 A. Missouri jurisdictional revenues included in the test year have been adjusted to reflect
8 customer growth, normalized weather, and the rate increase authorized by the
9 Commission in Case No. ER-2011-0004. In addition, kilowatt-hour ("kWh") sales and
10 revenues were adjusted to reflect the effect of significant load changes for Empire's large
11 commercial and industrial customers, as well as unbilled sales and revenues.
12 Furthermore, adjustments were made to remove revenues for the Fuel adjustment as well
13 as those related to Empire's water business, excess facilities revenue was annualized, and
14 city franchise taxes were eliminated. Each adjustment is discussed below.

15 **Customer Growth**

16 **Q. PLEASE EXPLAIN THE ADJUSTMENT RELATED TO CUSTOMER**
17 **GROWTH.**

18 A. Missouri jurisdictional revenues have been adjusted to reflect the amount of revenue that
19 would have been generated if the number of Empire customers existing at March 31,
20 2012, had been served by the Company for the entire test year, with an exception for
21 residential customers. Due to the tornado that occurred in Joplin on May 22, 2011, the
22 number of residential customers was adjusted using a historical average. For the
23 commercial, industrial TEB, and GP classes, the differences between the March 31, 2012

1 level of customers and the average customers billed in each month of the test year were
2 multiplied by the average weather normalized kWh per customer for that month. The
3 resulting change in kWh sales was then multiplied by the average class weather
4 normalized cost per kWh to obtain the revenue adjustment related to customer growth.
5 The industrial customer class, LP, was reviewed on an individual customer basis to
6 calculate the impact of customer growth on revenue. This individual customer approach
7 was used for the LP class, because LP customers have a higher usage per customer, and
8 changes in LP customer load patterns due to anomalies can have a significant impact on
9 revenue. In total, the customer growth adjustment to revenue resulted in an increase of
10 \$2,171,886 in revenue and 16,670,497 kWh in sales.

11 **Weather Normalization Adjustment**

12 **Q. WAS THE REVENUE ADJUSTED FOR THE EFFECT OF WEATHER?**

13 A. Yes. The test year sales and revenue were adjusted to account for the impact of abnormal
14 weather. The calculation of the weather normalized sales and revenue is presented in the
15 direct testimony of Empire witness Aaron Doll. The adjustment for weather resulted in a
16 decrease in revenue of \$3,509,933.

17 **Rate Increase**

18 **Q. WHY WAS AN ADJUSTMENT MADE TO REVENUE FOR THE RATE**
19 **INCREASE AUTHORIZED BY THE COMMISSION IN CASE NO. ER-2011-004?**

20 A. As a result of the Commission's decision in that case, the rate increase became effective
21 on June 15, 2011. The test year in this case of March 31, 2012 does not include a full
22 year of the rate increase. Therefore, an adjustment is needed to reflect a full year of the
23 rate increase. This adjustment results in an increase in revenues of \$4,682,578 to reflect

1 the impact on revenue for the months in which the rate increase was not in effect.

2 **Unbilled Revenue**

3 **Q. PLEASE DESCRIBE THE ADJUSTMENT RELATED TO UNBILLED**
4 **REVENUE.**

5 A. The revenue in the test year should equal the amount actually billed to customers and the
6 portion of sales that were used but not billed during the test year. While the amount of
7 revenues actually billed to customers is known, the portion not yet billed to customers is
8 not known and therefore must be estimated. This adjustment is calculated by multiplying
9 a rate per kWh to the unbilled sales by pricing plan. The unbilled sales computation is
10 discussed by Empire Witness Aaron Doll in his direct testimony. The unbilled sales were
11 multiplied by the determined rates to derive the unbilled revenue. This resulted in an
12 adjustment that decreased revenue by \$1,352,869.

13 A second adjustment was needed to reverse the unbilled revenue recorded on Empire's
14 financial statement. This adjustment resulted in an increase to rate revenue of
15 \$3,786,139.

16 **Other Revenue Adjustments**

17 **Q. WHAT OTHER ADJUSTMENTS WERE MADE TO REVENUE?**

18 A. Three other adjustments were made to revenue. These adjustments include removal of
19 miscellaneous revenues related to the fuel adjustment and Empire's water business,
20 normalization of excess facilities revenue, and elimination of city franchise taxes.

21 The fuel adjustment revenue must be removed from the test year revenue so that in the
22 future, this revenue will be collected in base rates rather than through the fuel adjustment
23 clause. Revenue was decreased by \$8,640,922 Missouri jurisdictional.

1 Reconnect charges, late fees, and returned check fees related to the water business are
2 recorded in other revenue. In order to eliminate them, an adjustment of \$7,945 has been
3 made.

4 The excess facilities revenue is a charge based on the Rider XC. This charge is related to
5 the excess facilities that Empire installs at the request of a customer. If this occurs,
6 Empire and the customer enter into a contract for the additional charge (excess facilities)
7 to the customer. Those amounts under contract at March 31, 2012, were annualized and
8 compared to the excess facilities revenue actually recorded during the test year. The
9 difference between these two amounts resulted in an adjustment of \$46,865 in additional
10 excess facilities revenue.

11 City franchise tax is not a revenue source for Empire. It is a municipal tax Empire is
12 obligated to collect and remit to the various municipalities where the Company provides
13 electric service. There is no impact on Empire's earnings related to the collection of city
14 franchise taxes, because it is offset by an equal amount of expense, so it is more
15 appropriate if Empire's revenue requirement reflects only the revenue generated through
16 the application of approved Commission tariffs and does not reflect the revenue
17 associated with franchise taxes. The adjustment of \$8,156,989 to eliminate the taxes
18 from revenue has been reflected as both a reduction in revenue and a reduction in taxes
19 other than income taxes.

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

21 **A. Yes.**

The Empire District Electric Company
Cash Working Capital
Schedule JEL-1

Line No.	Description	Revenue Lag	Expense Lag	Net Lag	CWC Factor
1	Fuel - Coal	48.44	20.12	28.3200	0.077589
2	Fuel - Gas	48.44	27.33	21.1100	0.057836
3	Fuel - Oil	48.44	25.39	23.0500	0.063151
4	Purchased power	48.44	32.18	16.2600	0.044548
5	Payroll expense	48.44	11.50	36.9400	0.101205
6	Federal Income Tax Withheld	48.44	14.50	33.9400	0.092986
7	State Income Tax Withheld	48.44	18.88	29.5600	0.080986
8	Employees 401K withheld	48.44	11.50	36.9400	0.101205
9	Employers 401K matchings	48.44	52.98	-4.5400	-0.012438
10	Employers Life Insurance matchings	48.44	8.87	39.5700	0.108411
11	Employers Healthcare	48.44	-5.67	54.1100	0.148247
12	Employers AD&D	48.44	11.87	36.5700	0.100192
13	Employers Dental/Vision	48.44	8.31	40.1300	0.109945
14	Vacation Accrued	48.44	365.00	-316.5600	-0.867288
15	Pension	48.44	56.63	-8.1900	-0.022438
16	Cash vouchers	48.44	35.28	13.1600	0.036055
17	Property taxes	48.44	182.50	-134.0600	-0.367288
18	Federal Unemployment	48.44	70.64	-22.2000	-0.060822
19	State Unemployment	48.44	67.41	-18.9700	-0.051973
20	FICA Withheld	48.44	14.50	33.9400	0.092986
21	Iatan and Plum Point Payroll Taxes	48.44	24.76	23.6800	0.064877
22	Corporation Franchise	48.44	-77.50	125.9400	0.345041
23	Employer FICA	48.44	14.50	33.9400	0.092986
24	MO Gross Receipts Tax	27.91	16.90	11.0100	0.030164
25	Sales Taxes	27.91	5.72	22.1900	0.060795

