Exhibit No.:
Witness: David L. Stowe
Type of Exhibit: Direct Testimony
Issues: Distribution System Studies
Sponsoring Party: Missouri Industrial Energy Consumers
Case No.: ER-2008-0318

BEFORE THE PUBLIC SERVICE COMMISSION
OF THE STATE OF MISSOURI

In the Matter of Union Electric Company d/b/a AmerenUE for Authority to File Tariffs Increasing Rates for Electric Service Provided to Customers in the Company's Missouri Service Area.	)	**Case No. ER-2008-0318**

Direct Testimony and Schedules of

David L. Stowe

on Distribution System Studies

On Behalf of

Missouri Industrial Energy Consumers

BRUBAKER & ASSOCIATES, INC.
ST. LOUIS, MO 63141-2000

Project 8983
September 11, 2008

MIEC Exhibit No. 608
Case No(s). ER-2008-0318
Date 12-04-08 Rptr KF

BEFORE THE PUBLIC SERVICE COMMISSION
OF THE STATE OF MISSOURI

In the Matter of Union Electric Company d/b/a AmerenUE for Authority to File Tariffs Increasing Rates for Electric Service Provided to Customers in the Company's Missouri Service Area.	)	**Case No. ER-2008-0318**

STATE OF MISSOURI)
) **SS**
COUNTY OF ST. LOUIS)

Affidavit of David L. Stowe

David L. Stowe, being first duly sworn, on his oath states:

1. My name is David L. Stowe. I am a consultant with Brubaker & Associates, Inc., having its principal place of business at 1215 Fern Ridge Parkway, Suite 208, St. Louis, Missouri 63141-2000. We have been retained by the Missouri Industrial Energy Consumers in this proceeding on their behalf.

2. Attached hereto and made a part hereof for all purposes is my direct testimony and schedules which were prepared in written form for introduction into evidence in Missouri Public Service Commission Case No. ER-2008-0318.

3. I hereby swear and affirm that the testimony and schedules are true and correct and that they show the matters and things that they purport to show.

David L. Stowe

Subscribed and sworn to before me this 10th day of September, 2008.

TAMMY S. KLOSSNER
Notary Public - Notary Seal
STATE OF MISSOURI
St. Charles County
My Commission Expires: Mar. 14, 2011
Commission # 07024862

Notary Public

BEFORE THE PUBLIC SERVICE COMMISSION
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In the Matter of Union Electric Company d/b/a AmerenUE for Authority to File Tariffs Increasing Rates for Electric Service Provided to Customers in the Company's Missouri Service Area.	)	**Case No. ER-2008-0318**

Direct Testimony of David L. Stowe

Q PLEASE STATE YOUR NAME AND BUSINESS ADDRESS.

A David L. Stowe. My business address is 1215 Fern Ridge Parkway, Suite 208, St. Louis, Missouri 63141-2000.

Q WHAT IS YOUR OCCUPATION?

A I am a consultant in the field of public utility regulation and president of Brubaker & Associates, Inc., energy, economic and regulatory consultants.

Q PLEASE DESCRIBE YOUR EDUCATIONAL BACKGROUND AND EXPERIENCE.

A This information is included in Appendix A to my direct testimony.

Q ON WHOSE BEHALF ARE YOU PRESENTING THIS DIRECT TESTIMONY ON COST OF SERVICE AND RATE DESIGN ISSUES?

A This testimony is presented on behalf of the Missouri Industrial Energy Consumers (MIEC).

Q WHAT IS THE PURPOSE OF YOUR TESTIMONY?

A The purpose of my testimony is to present the results of my analysis of AmerenUE's ("AmerenUE" or "Company") distribution system studies wherein the division of facilities by voltage level and the percentages of primary and secondary costs were determined, and wherein the zero intercept calculations were preformed.

Q HOW IS YOUR TESTIMONY ORGANIZED?

A First, I present an overview of the results of the detailed cost of service analysis for AmerenUE. This cost study indicates how individual customer class revenues compare to the costs incurred in providing service to them. This discussion of Mr. Brubaker's proposed cost of service study ("COSS") is then followed by my analysis of two distribution system studies prepared by AmerenUE as input into the COSS. I discuss two errors I found in these distribution system studies, and make recommendations on how these errors should be corrected.

SUMMARY

Q PLEASE SUMMARIZE YOUR TESTIMONY AND RECOMMENDATIONS.

A My testimony and recommendations may be summarized as follows:

1. The study performed by Mr. Michael E. Vandas ("Vandas Study") identifies percentage values for high voltage ("HV") components operating at voltages above 34.5 kV, primary voltage components operating at voltages levels from 600 V to 15 kV, and secondary voltage components operating at voltage levels below 600 V. In addition, the Vandas Study identifies the customer and demand percentages using the "zero intercept" analysis method.

2. The Vandas Study performed by Mr. Michael E. Vandas to determine the primary and secondary percentages, while in many ways commendable, contains specific errors that have a significant effect on the results.

3. AmerenUE combines the HV and Primary voltage results that were determined in the Vandas Study into a single category. AmerenUE then uses this combined

category in its COSS. In applying the Vandas Study results in this way, AmerenUE effectively loses the ability to distinguish costs caused by customers taking service at voltage above 15 kV, from those taking service at voltages below 15 kV.

4. I recommend use of the results of MIEC witness Maurice Brubaker's COSS as summarized on Schedule MEB-COS-4, but with the additional modification to allocate separately the HV, Primary and Secondary costs.

5. I recommend that the Commission direct AmerenUE to conduct new voltage level and zero intercept studies of its distribution system and provide them to the parties no later than six months from the date of the order in this case.

DISTRIBUTION SYSTEM STUDIES

Overview

Q PLEASE DESCRIBE THE ELECTRICAL DISTRIBUTION SYSTEM STUDIES PERFORMED BY MR. MICHAEL VANDAS.

A In response to a discovery request issued by the MIEC,[1] the Company provided the following response:

> "The objective of this distribution system allocation analysis was to assign the investment in the Distribution Plant accounts to the various service voltage classes. The intent is to ensure that the cost of each of the elements of the distribution system is appropriately allocated to the various individual customer classes that benefit from the system.
>
> To achieve this objective it was necessary to first allocate the costs by distribution voltage class. This was followed by a determination of the customer-related and demand-related portions of these allocated costs. The customer-related portion was determined by using the zero-intercept of a linear or non-linear regression of current installed cost versus capacity for the major material in each account. The demand-related portion of each account is simply the portion of the account remaining after the customer-related portion has been determined."

[1] Company's Response to MIEC 02-01.

Q HOW DOES MR. VANDAS' VOLTAGE LEVEL ANALYSIS DIFFER FROM THE ZERO INTERCEPT ANALYSIS?

A The voltage level analysis was designed to separate distribution costs into the HV distribution, primary distribution, and secondary distribution functions. These distinct functions were then used in the functionalization phase of the COSS.

The zero intercept analysis was designed to estimate that portion of the distribution costs which is necessary to provide service to the customer, yet is independent of customer's peak demand or energy usage. The zero intercept study was used as part of the classification phase of the COSS. For a complete discussion of the three phases of a COSS: (1) functionalization, (2) classification, and (3) allocation, please see the direct testimony of MIEC witness Brubaker.

PRIMARY AND SECONDARY VOLTAGE ANALYSIS

Q PLEASE EXPLAIN HOW MR. VANDAS PERFORMED THE VOLTAGE LEVEL ANALYSIS.

A The voltage level analysis focused entirely on the Distribution Plant Accounts, FERC Accounts 360 - 370. The first step in the analysis was to identify the various voltage levels, and then determine the distribution facilities in each plant account, operated in whole or in part, at each of the major voltage levels (High-Voltage, Primary, and Secondary).

AmerenUE's accounting system provided the detailed data necessary to separate distribution components by unit-of-property, voltage level, and an item description. The accounting data allowed the identification of the components operated exclusively at one voltage level. If the data needed to assign a distribution

component exclusively to a single voltage level were not available, sampling was used to determine the proportion to allocate to two or more voltage levels.

The results of Mr. Vandas' voltage level analysis show component costs from each distribution plant account, divided into High-Voltage, Primary, and Secondary, and "Lighting" distribution categories.

My analysis of Mr. Vandas' study focused on only the Distribution Accounts 364 (Poles and Towers), 365 (Overhead Lines and Devices), 366 (Conduit), and 367 (Underground Cables and Devices).

Q WHAT IS MEANT BY THE TERMS HIGH VOLTAGE, PRIMARY, AND SECONDARY?

A HV refers to primary voltage levels above 15,000 volts or "15 kV." Primary refers to primary voltage levels between 15 kV and 600 volts. Finally, Secondary refers to voltage levels below 600 volts. Mr. Vandas also considers Lighting as a separate voltage class.

Q WHAT ARE THE RESULTS OF MR. VANDAS' VOLTAGE LEVEL ANALYSIS?

A Table 1 shows the results of Mr. Vandas' voltage level analysis for FERC Accounts 364 - 367.

TABLE 1

Results of Mr. Vandas's Voltage Level Analysis

Line	Account	Description	HV %	Primary %	Secondary %	Lighting %	Total
1	364	Poles	20.2%	51.3%	24.0%	4.5%	100%
2	365	Overhead Lines	22.0%	65.5%	12.5%	0.0%	100%
3	366	Conduit	6.4%	60.3%	30.2%	3.1%	100%
4	367	Underground Cables	3.5%	64.8%	31.7%	0.0%	100%

Q WHAT ERRORS HAVE YOU FOUND IN THE PRIMARY AND SECONDARY VOLTAGE ANALYSIS?

A In my review of the voltage analysis of FERC Account 367 (Underground Cables and Devices), I found that the component description included a maximum voltage rating for the cable. This voltage rating is an indication of the amount of electrical insulation and describes the maximum voltage at which the cable can be safely operated without arcing. I found that more than $26 million in costs associated with cables that were rated at 600 V were classified as Primary and/or HV. In other words, the result of AmerenUE's voltage level analysis for the HV and Primary costs are overestimated by $26 million. This $26 million represents 15.7% of the total HV and Primary underground cable costs.

It is unreasonable to assign the costs of underground cables with a voltage rating of only 600 V as if they operate at primary or HV voltage levels, i.e., 12 kV or 34.5 kV. The amount of electrical insulation on these cables is simply not enough to protect the line against arcing.

Q HAVE YOU ATTEMPTED TO CORRECT FOR THESE ERRORS?

A Yes. I reassigned the costs associated with all underground cables that were described with a voltage rating of 600 V but were originally assigned in Mr. Vandas' study as Primary or HV voltage levels. I corrected these mis-assignments by assigning these cables exclusively to the Secondary voltage level. Schedule DLS-COS-1 shows the original and reassigned costs.

Q DO YOU INTRODUCE "NEW" OR ADDITIONAL DATA INTO THE VOLTAGE LEVEL ANALYSIS TO CORRECT THIS ERROR?

A No. I am able to make the corrections using only the data provided by AmerenUE in its own analysis.

Q WHAT ARE THE RESULTS OF YOUR CORRECTED VOLTAGE LEVEL ANALYSIS?

A Table 2 shows the results of my modification to Mr. Vandas' original voltage level analysis for FERC Account 367.

TABLE 2

Results of Modified Voltage Level Analysis

Line	Account	Description	HV %	Primary %	Secondary %	Lighting %	Total
1	364	Poles	20.2%	51.3%	24.0%	4.5%	100%
2	365	Overhead Lines	22.0%	65.5%	12.5%	0.0%	100%
3	366	Conduit	6.4%	60.3%	30.2%	3.1%	100%
4	**367**	**Underground Cables[1]**	**2.8%**	**56.2%**	**41.0%**	**0.0%**	**100%**

[1]Reassignments made only to Account 367 costs.

Q DID AMERENUE USE THE RESULTS OF THE VANDAS VOLTAGE LEVEL STUDY IN ITS COSS?

A No. The Company combined the Primary and HV categories into a single category prior to its inclusion in the COSS. This introduced additional error into the COSS results beyond the error described earlier. Specifically, by combining the HV and Primary voltage level percentages, AmerenUE lost much of the resolution or "refinement" that existed in Mr. Vandas' original study. In addition, the combination of the HV and Primary voltage level percentages guarantees that HV customers taking

service only at voltages above 15 kV will be allocated costs associated with distribution components operating at voltages below 15 kV.

Q DOES AMERENUE HAVE CUSTOMERS THAT TAKE SERVICE ONLY AT VOLTAGES ABOVE 15 KV?

A Yes, it does. By combining the HV and Primary voltage categories, AmerenUE ensures that the COSS will allocate costs to these customers which were incurred on the Primary voltage levels.

Q WHAT DO YOU RECOMMEND?

A The Commission should require AmerenUE to adjust its voltage level analysis so that buried cable rated at 600 V is assigned solely to the Secondary category. The Commission should also require AmerenUE to separate the HV, Primary, and Secondary voltage categories in its COSS.

Q HAVE YOU USED THE RESULTS OF A MODIFIED VOLTAGE LEVEL ANALYSIS IN A COSS?

A Yes, I have. MIEC witness, Maurice Brubaker, has presented testimony in this case supporting his recommendations of certain modifications to the Company's COSS. The results of Mr. Brubaker's proposed COSS are shown in Schedule MEB-COS-4, and are shown again, for illustrative purposes only, in my Schedule DLS-COS-2.

Using Mr. Brubaker's proposed COSS as a starting point; I modified the COSS to separately calculate costs at HV and Primary voltage levels.

Q DOES YOUR MODIFICATION OF THE COSS REQUIRE CALCULATION OF NEW ALLOCATION FACTORS OR USE DATA FROM SOURCES OTHER THAN THOSE PROVIDED BY AMERENUE?

A No. I was able to make the modification using only the data provided by AmerenUE in its own COSS, workpapers and analysis.

Q WHAT ARE THE RESULTS OF YOUR MODIFICATIONS ON THE COSS?

A The results are shown in Schedule DLS-COS-3.

ZERO INTERCEPT ANALYSIS

Q PLEASE EXPLAIN HOW MR. VANDAS' ZERO INTERCEPT ANALYSIS WAS CONDUCTED.

A Mr. Vandas used the zero or "minimum" intercept method to determine the customer- and demand-related components of costs accrued in FERC Accounts 364 - 370. In response to Discovery Request MIEC 02-01, Mr. Vandas replied:

> "This method extrapolates a least-squares regression equation of current installed cost versus capacity to the zero-capacity cost intercept. To determine the regression equation, current installed costs (materials, labor, and overheads) for commonly used materials were obtained and plotted versus the capacity (as measured in amperes, kVA, or another suitable measure). Then a best fit linear or non-linear trend line (as measured by R^2) was fitted to the data points and extrapolated to the zero-capacity cost intercept. Separate intercepts were calculated for each voltage class by using the major materials applicable to that class.
>
> . . . Finally, in order to determine what portion of the total costs of each distribution account were customer or demand-related it was necessary to multiply the current dollar zero-capacity installed cost per unit determined above by the appropriate number of units in the account (feet of wire, number of poles, etc.), and then divide this result by the adjusted current dollar reproduction cost of the account. The current reproduction cost was determined by taking the original cost and age of each unit-of-property in the account and applying the Handy-Whitman Trended Cost factors to arrive at current dollars.

Reproduction cost was adjusted by the proportion of the account represented by the major material used in determining the zero-capacity cost, and also by the proportion of the account allocated to the voltage class of interest."

Q WHAT ARE THE RESULTS OF MR. VANDAS' ZERO INTERCEPT ANALYSIS?

A Table 3 shows the results of Mr. Vandas' zero intercept analysis as it relates to FERC Accounts 364 - 367. Only these FERC account customer- and demand-related percentages were used in AmerenUE's COSS. Therefore, Table 3 only shows the customer- and demand-related percentages for these four FERC accounts.

TABLE 3

Customer and Demand Percentage From Original Vandas Study

Line	Account	Description	Cust %	Dmd %
1	364	Poles & Fixtures	11.8%	88.2%
2	365	Wires & Devices	28.0%	72.0%
3	366	Conduit	5.6%	94.4%
4	367	Cable & Devices	21.5%	78.5%

Q DO YOU BELIEVE THE CUSTOMER- AND DEMAND-RELATED PERCENTAGES SHOWN IN TABLE 3 ARE REASONABLE?

A Not all of them. In particular, I believe the customer-related percentage for FERC Account 366 (Conduit) is unreasonably low. Correspondingly, the demand-related percentage for this account is unreasonably high. I also believe the customer-related percentage for FERC Account 367 (Underground Cables) is suspiciously low.

Q PLEASE EXPLAIN WHAT YOU MEAN?

A Mr. Vandas' use of the zero intercept analysis represents agreement with the fundamental concept of a "minimum distribution system." The basic premise of the minimum distribution system or "MDS" is that there is a cost associated with simply bringing service to the customer, which does not vary with either the peak demand of that customer or his energy usage. Thus, the customer-related costs are those costs associated with providing service to the customer.

The distribution system components associated with the costs in FERC Accounts 366 and 367 are, for the most part, buried underground. Since the cost of burying equipment is approximately ten times as expensive as placing that equipment overhead, the basic cost of providing service is significantly higher for these components. However, according to the results of Mr. Vandas' minimum intercept analysis, the costs associated with burying conduit represents just 5.4% of the total costs. In other words, Mr. Vandas' study claims that of every dollar spent burying conduit, less than 6¢ is needed to dig the trench, remove debris, backfill the trench, cut and repair surface features such as sidewalks and driveways, etc. At the same time, Mr. Vandas' results suggest that 94¢ out of every dollar is needed simply to purchase the conduit. These results are intuitively unreasonable.

Q HAVE YOU ATTEMPTED TO CORRECT THESE ERRORS?

A No.

Q WHAT DO YOU RECOMMEND?

A The Commission should direct AmerenUE to conduct a new distribution system voltage level study and a customer/demand split analysis and provide it to the parties not later than six months from the date of the order in this case.

Q DOES THIS CONCLUDE YOUR DIRECT TESTIMONY?

A Yes, it does.

Qualifications of David L. Stowe

Q PLEASE STATE YOUR NAME AND BUSINESS ADDRESS.

A David L. Stowe. My business address is 1215 Fern Ridge Parkway, Suite 208, St. Louis, Missouri 63141.

Q PLEASE STATE YOUR OCCUPATION.

A I am a consultant in the field of public utility regulation with the firm of Brubaker & Associates, Inc. (BAI), energy, economic and regulatory consultants.

Q PLEASE SUMMARIZE YOUR EDUCATIONAL BACKGROUND AND EXPERIENCE.

A I was graduated from the Kansas State University's College of Electrical and Computer Engineering in 1987, with a Bachelor of Science degree in Electrical Engineering. Following my graduation, I worked with the Kansas Corporation Commission (KCC) as a Utilities Engineer. My responsibilities included the review and engineering analysis of utility filings, investigations of compliance with the Commission's Orders and State laws, and filing and defending testimony regarding those filings. In addition, I served as Geographic Information Systems Coordinator as the KCC digitized and automated its utility facilities and territory maps from the original velum sheets.

In April of 1993, I accepted a position with the Missouri Public Service Commission where, again in the capacity of a Utilities Engineer, focused primarily on depreciation, jurisdictional allocations, and production cost modeling. My employment with the Commission also allowed me to complete the requirements for

Professional Engineer registration. I acquired my certificate for Professional Engineering registration in 1996.

From October 1995 until January 2002, I developed my expertise in computer engineering and communications; first acting as a Unix System Administrator and Oracle DBA with Kansas City Power and Light, and later offering both hardware and software consulting services to corporations with enterprise-wide application requirements with Digital Equipment Corporation and Compaq. During this time, I was also the president and owner of a company that installed analog and digital communication systems in cellular phone towers.

In January of 2002, I joined the Analytic Services Department of Aquila, Inc. as a Senior Regulatory Analyst where I was primarily responsible for developing and maintaining cost of service models for each of Aquila's electrical territories. In addition, I was solely responsible for completing associated engineering studies to determine the primary and secondary portions of each subsidiary's distribution systems, calculating the zero intercept values for the subsidiaries' poles, conductors, conduits, and transformers, performing customer impact analyses, and assisting in rate design.

In October of 2007, I joined Brubaker & Associates, Inc. as a consultant. Since that time, I have assisted on cost of service, revenue requirement, and tariff issues in Illinois, Michigan, Montana, Wyoming, and New York.

I have testified before the State Commissions of Kansas, Missouri, Illinois, and Colorado.

In addition to our main office in St. Louis, the firm has branch offices in Phoenix, Arizona and Corpus Christi, Texas.

AmerenUE
Case No. ER-2008-0318

Reassignment of Voltage Level Costs

ORIGINAL STUDY VOLTAGE LEVEL ASSIGNMENTS

Line No.	DESCRIPTION	HV	PRI	SEC	High Voltage	Primary	Secondary	TOTAL COST
1	CABLE,600V,3-350MCM,LEAD	5%	95%	0%	$1,073,193	$19,545,264	$0	$ 20,618,457
2	CABLE,600V,3-4/0,LEAD&XLP	0%	63%	37%	$0	$4,068,310	$2,358,285	$ 6,426,594
3	CABLE,600V,1-350MCM,LEAD	100%	0%	0%	$812,705	$0	$0	$ 812,705
4	CABLE,600V,750MCM,3,CU,LEAD	0%	100%	0%	$0	$578,290	$0	$ 578,290
6	CABLE,600V,1-1/0,LEAD	3%	61%	35%	$8,413	$153,212	$88,813	$ 250,438
					$1,894,310	$24,345,076	$2,447,098	$ 28,686,484
	Total				**6.60%**	**84.87%**	**8.53%**	**100.00%**

MODIFICATION OF VOLTAGE LEVEL ASSIGNMENTS

Line No.	DESCRIPTION	HV	PRI	SEC	High Voltage	Primary	Secondary	TOTAL COST
1	CABLE,600V,3-350MCM,LEAD	0%	0%	100%	$0	$0	$20,618,457	$ 20,618,457
2	CABLE,600V,3-4/0,LEAD&XLP	0%	0%	100%	$0	$0	$6,426,594	$ 6,426,594
3	CABLE,600V,1-350MCM,LEAD	0%	0%	100%	$0	$0	$812,705	$ 812,705
4	CABLE,600V,750MCM,3,CU,LEAD	0%	0%	100%	$0	$0	$578,290	$ 578,290
6	CABLE,600V,1-1/0,LEAD	0%	0%	100%	$0	$0	$250,438	$ 250,438
					$0	$0	$28,686,484	$28,686,484
	Total				**0.00%**	**0.00%**	**100.00%**	**100.00%**

AMERENUE
ELECTRIC COST OF SERVICE ALLOCATION STUDY
FOR THE TEST YEAR ENDED MARCH 2008
DOLLARS IN THOUSANDS

LINE	DESCRIPTION	MISSOURI	RESIDENTIAL	SMALL GEN SERV	LARGE GEN SERV / SMALL PRIMARY	LARGE PRIMARY	LARGE TRANS
1	GROSS PLANT IN SERVICE	$ 12,131,480	$ 6,270,304	$ 1,416,348	$ 3,188,036	$796,503	$460,290
2	RESERVES FOR DEPRECIATION	$ 5,342,894	$ 2,781,444	$ 625,391	$ 1,394,403	$343,149	$198,507
3	NET PLANT IN SERVICE	$ 6,788,586	$ 3,488,860	$ 790,957	$ 1,793,633	$453,354	$261,783
	RATE BASE ADDITIONS/REDUCTIONS:						
4	MATERIALS & SUPPLIES - FUEL	$ 284,601	$ 103,603	$ 28,042	$ 92,920	$ 30,736	$ 29,300
5	MATERIALS & SUPPLIES -LOCAL	$ 35,258	$ 21,517	$ 4,476	$ 7,809	$ 1,414	$ 41
6	CASH WORKING CAPITAL	$ 358	$ 168	$ 39	$ 100	$ 29	$ 22
7	CUSTOMER ADVANCES & DEPOSITS	$ (17,461)	$ (9,750)	$ (3,982)	$ (3,729)	$ -	$ -
8	ACCUMULATED DEFERRED INCOME TAXES	$ (1,191,761)	$ (615,973)	$ (139,169)	$ (313,200)	$(78,205)	$(45,214)
9	TOTAL NET ORIGINAL COST RATE BASE	$ 5,899,581	$ 2,988,425	$ 680,362	$ 1,577,533	$407,328	$245,933
	OPERATING REVENUES						
10	BASE REVENUE	$ 2,046,127	$ 890,574	$ 240,911	$ 625,173	$161,268	$128,201
11	OTHER REVENUE	$ 77,380	$ 40,142	$ 8,379	$ 19,767	$ 5,348	$ 3,743
12	LIGHTING REVENUE	$ 28,441	$ 14,407	$ 3,280	$ 7,605	$ 1,964	$ 1,186
13	SYSTEM REVENUE	$ 324,567	$ 115,760	$ 32,019	$ 107,089	$ 35,442	$ 34,257
14	TOTAL OPERATING REVENUE	$ 2,476,514	$ 1,060,882	$ 284,589	$ 759,634	$204,022	$167,387
	OPERATING EXPENSES						
15	TOTAL PROD, T&D, CUST, AND A&G EXP	$ 1,529,164	$ 716,205	$ 164,850	$ 427,454	$125,351	$ 95,304
16	TOTAL DEPR AND AMMORT EXPENSES	$ 328,502	$ 174,442	$ 38,829	$ 84,256	$ 20,336	$ 10,638
17	REAL ESTATE AND PROPERTY TAXES	$ 98,511	$ 50,916	$ 11,504	$ 25,889	$ 6,464	$ 3,737
18	INCOME TAXES	$ 124,514	$ 63,072	$ 14,359	$ 33,295	$ 8,597	$ 5,191
19	PAYROLL TAXES	$ 20,218	$ 10,459	$ 2,266	$ 5,263	$ 1,451	$ 778
20	FEDERAL EXCISE TAX	$ -	$ -	$ -	$ -	$ -	$ -
21	REVENUE TAXES	$ -	$ -	$ -	$ -	$ -	$ -
22	TOTAL OPERATING EXPENSES	$ 2,100,909	$ 1,015,095	$ 231,809	$ 576,157	$162,199	$115,648
23	NET OPERATING INCOME	$ 375,605	$ 45,787	$ 52,780	$ 183,477	$ 41,822	$ 51,739
24	RATE OF RETURN	6.367%	1.532%	7.758%	11.631%	10.268%	21.038%
25	RATE OF RETURN INDEX	100	24	122	183	161	330
26	REVENUE CHANGE TO EQUAL COS	0	144,475	-9,464	-83,041	-15,889	-36,081
27	PERCENT OF BASE REVENUE	0.0%	16.2%	-3.9%	-13.3%	-9.9%	-28.1%

AmerenUE
ELECTRIC COST OF SERVICE ALLOCATION STUDY
TEST YEAR: 12 MONTHS ENDED MARCH 2008
MEB-COS-4 Further Modified with HV and Primary Cost Separation

	TITLE: SUMMARY	MISSOURI	RESIDENTIAL	SMALL GEN SERV	LARGE G.S. / SMALL PRIMARY	LARGE PRIMARY	LARGE TRANS
1	GROSS PLANT IN SERVICE	$ 12,131,480	$ 6,283,386	$ 1,419,408	$ 3,185,179	$ 783,263	$ 460,236
2	RESERVES FOR DEPRECIATION	$ 5,342,894	$ 2,786,812	$ 626,647	$ 1,393,400	$ 337,545	$ 198,486
3	NET PLANT IN SERVICE	$ 6,788,586	$ 3,496,574	$ 792,761	$ 1,791,779	$ 445,717	$ 261,750
	RATE BASE ADDITIONS/REDUCTIONS						
4	MATERIALS & SUPPLIES - FUEL	$ 284,601	$ 103,603	$ 28,042	$ 92,920	$ 30,736	$ 29,300
5	MATERIALS & SUPPLIES -LOCAL	$ 35,258	$ 21,634	$ 4,503	$ 7,785	$ 1,295	$ 42
6	CASH WORKING CAPITAL	$ 358	$ 169	$ 39	$ 100	$ 29	$ 22
7	CUSTOMER ADVANCES & DEPOSITS	$ (17,461)	$ (9,750)	$ (3,982)	$ (3,729)	$ -	$ -
8	ACCUMULATED DEFERRED INCOME TAXES	$ (1,191,761)	$ (617,260)	$ (139,471)	$ (312,920)	$ (76,901)	$ (45,209)
9	TOTAL NET ORIGINAL COST RATE BASE	$ 5,899,581	$ 2,994,970	$ 681,893	$ 1,575,936	$ 400,876	$ 245,904
	OPERATING REVENUES						
10	BASE REVENUE	$ 2,046,127	$ 890,574	$ 240,911	$ 625,173	$ 161,268	$ 128,201
11	OTHER REVENUE	$ 77,380	$ 40,180	$ 8,390	$ 19,761	$ 5,312	$ 3,737
12	LIGHTING REVENUE	$ 28,441	$ 14,438	$ 3,287	$ 7,597	$ 1,933	$ 1,185
13	SYSTEM, OFF-SYS SALES & DISP OF ALLOW	$ 324,567	$ 115,668	$ 32,007	$ 107,126	$ 35,476	$ 34,288
14	RATE REVENUE VARIANCE	$ -	$ -	$ -	$ -	$ -	$ -
15	TOTAL OPERATING REVENUE	$ 2,476,514	$ 1,060,860	$ 284,596	$ 759,657	$ 203,988	$ 167,412
	OPERATING EXPENSES						
16	TOTAL PROD, T&D, CUST, AND A&G EXP	$ 1,529,164	$ 717,680	$ 165,164	$ 426,951	$ 124,290	$ 95,052
17	TOTAL DEPR AND AMMORT EXPENSES	$ 328,502	$ 174,901	$ 38,937	$ 84,157	$ 19,868	$ 10,638
18	REAL ESTATE AND PROPERTY TAXES	$ 98,511	$ 51,023	$ 11,529	$ 25,866	$ 6,357	$ 3,737
19	INCOME TAXES	$ 124,514	$ 63,211	$ 14,392	$ 33,261	$ 8,461	$ 5,190
20	PAYROLL TAXES	$ 20,218	$ 10,473	$ 2,270	$ 5,256	$ 1,436	$ 776
21	FEDERAL EXCISE TAX	$ -	$ -	$ -	$ -	$ -	$ -
22	REVENUE TAXES	$ -	$ -	$ -	$ -	$ -	$ -
23	TOTAL OPERATING EXPENSES	$ 2,100,909	$ 1,017,288	$ 232,292	$ 575,491	$ 160,412	$ 115,392
24	NET OPERATING INCOME	$ 375,605	$ 43,572	$ 52,304	$ 184,166	$ 43,577	$ 52,020
25	**RATE OF RETURN**	**6.367%**	**1.455%**	**7.670%**	**11.686%**	**10.870%**	**21.154%**
26	RATE OF RETURN INDEX	100	23	120	184	171	332
27	REVENUE CHANGE TO EQUAL COS	-	147,107	(8,891)	(83,832)	(18,054)	(36,364)
28	PERCENT OF BASE REVENUE	0.0%	16.5%	-3.7%	-13.4%	-11.2%	-28.4%

AmerenUE COSS; Modified by BAI

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