Exhibit No.:	
Issues:	Class Cost-of-Service Rate Design
Witness:	Michael S. Scheperle
Sponsoring Party:	MO PSC Staff
Type of Exhibit:	Rebuttal Testimony
Case No.:	ER-2011-0028
Date Testimony Prepared:	March 25, 2011

MISSOURI PUBLIC SERVICE COMMISSION

UTILITY OPERATIONS DIVISION

REBUTTAL TESTIMONY

OF

MICHAEL S. SCHEPERLE

UNION ELECTRIC COMPANY
d/b/a Ameren Missouri

CASE NO. ER-2011-0028

Jefferson City, Missouri
March 2011

BEFORE THE PUBLIC SERVICE COMMISSION

OF THE STATE OF MISSOURI

In the Matter of Union Electric Company d/b/a AmerenUE's Tariff to Increase Its Annual Revenues for Electric Service	)))	File No. ER-2011-0028

AFFIDAVIT OF MICHAEL S. SCHEPERLE

STATE OF MISSOURI)
) **ss**
COUNTY OF COLE)

Michael S. Scheperle, of lawful age, on his oath states: that he has participated in the preparation of the following Rebuttal Testimony in question and answer form, consisting of 9 pages of Rebuttal Testimony to be presented in the above case, that the answers in the following Rebuttal Testimony were given by him; that he has knowledge of the matters set forth in such answers; and that such matters are true to the best of his knowledge and belief.

Michael S. Scheperle
Michael S. Sheperle

Subscribed and sworn to before me this 24th day of March, 2011.

SUSAN L. SUNDERMEYER
Notary Public - Notary Seal
State of Missouri
Commissioned for Callaway County
My Commission Expires: October 03, 2014
Commission Number: 10942086

Susan L. Sundermeyer
Notary Public

TABLE OF CONTENTS

REBUTTAL TESTIMONY

OF

MICHAEL S. SCHEPERLE

UNION ELECTRIC COMPANY
d/b/a Ameren Missouri

CASE NO. ER-2011-0028

REBUTTAL TESTIMONY

OF

MICHAEL S. SCHEPERLE

UNION ELECTRIC COMPANY
d/b/a Ameren Missouri

CASE NO. ER-2011-0028

Q. Please state your name and business address.

A. My name is Michael S. Scheperle and my business address is Missouri Public Service Commission, P. O. Box 360, Jefferson City, Missouri 65102.

Q. Are you the same Michael S. Scheperle who filed on February 10, 2011, direct testimony in question and answer format and as part of the Missouri Public Service Commission Staff's (Staff's) Rate Design and Class Cost-of-Service Report?

A. Yes, I am.

Q. What is the purpose of your rebuttal testimony?

A. The purpose of this testimony is to provide results of a revised class cost-of-service (CCOS) study and to address the direct testimony of Union Electric Company d/b/a Ameren Missouri (Ameren Missouri), Missouri Industrial Energy Corporation (MIEC), and the Office of Public Counsel (OPC) concerning CCOS production allocators and CCOS study results. I explain why the CCOS study of Ameren Missouri, MIEC, and OPC are inappropriate and, therefore, lead to rate design recommendations the Commission should not rely on. As part of that explanation I compare the results of the CCOS studies parties presented in direct testimony in this case. I specifically address:

- Production-Capacity Allocator

- Production-Maintenance Expense Allocator
- Comparison of CCOS Study Results

Q. Is Staff revising its direct-filed CCOS recommendation?

A. No. Staff's revision to its CCOS did not materially affect the results of its initial study, and Staff's recommendation under the revised study is consistent with its earlier recommendation.

Q. Why is Staff providing the results of a revised CCOS study at this time?

A. The revised study was prompted by an inquiry that I received from one of the other parties about the manner in which I allocated production-maintenance expenses. In reviewing the manner in which I allocated production-maintenance expense between a fixed and variable component, it came to my attention that I transposed the amounts of the production-maintenance expenses between fixed and variable. Staff promptly alerted all parties to the oversight and furnished the revised results and corrected workpapers on February 24, 2011. While this correction does change the results of the CCOS study given in Table 1 of the CCOS Report and Schedule MSS-1, it does not change Staff's recommendation on rate design or Staff's overall recommendation on revenue neutral shifts between classes. Attached are revised Table 1 designated as Schedule MSS-R1 and revised Schedule MSS-1 detailed in this Rebuttal Testimony as Schedule MSS-R2.

Class Cost-of-Service Study Allocators

Q. Who has presented CCOS study results in this case?

A. The Staff, Ameren Missouri, MIEC, and OPC.

Q. Did they all use the same allocation factors in their CCOS studies?

A. No.

Q. Does Staff agree with the allocation factors other parties used?

A. Staff agrees with some allocation factors and disagrees with others.

Q. What allocation factors does Staff disagree with?

A. In particular, Staff disagrees with two significant allocators: the production-capacity allocator and the production-maintenance expense allocator.

Production-Capacity Allocator

Q. What costs are allocated as production-capacity?

A. Examples of these costs are investments in Ameren Missouri generating plants (Callaway Nuclear Plant, Sioux Plant, Venice Plant, etc.).

Q. What different production-capacity allocators did the parties use?

A. The Staff used a "Base, Intermediate and Peak" (BIP) Method; Ameren Missouri and MIEC use an "Average and Excess" (A&E) Method; and OPC used an "Average and Peak" (A&P) Method. Ameren Missouri's allocators are addressed by company witness William Warwick. MIEC's allocators are addressed in the direct testimony of Maurice Brubaker. OPC's allocators are addressed by two OPC witnesses, Ryan Kind and Barbara Meisenheimer.

Q. Does Staff agree with the A&E methodology used by Ameren Missouri and MIEC?

A. No, it does not. This method favors high load factor customers and does not appropriately account for the cost those customers contribute to peak.[1]

Q. Did Ameren Missouri and MIEC calculate the A&E allocators correctly?

[1] Industrial customers tend to have the highest load factors when compared to residential and small general service customers.

A. No, they did not. Staff believes that the use of non-coincident peaks (NCP) in developing class cost allocations should be representative of the system peak or periods of highest system costs. This is not necessarily the method used by Ameren Missouri and MIEC in developing the A&E allocator. For the test year used in this case, the appropriate months are June, July, August, and January. In Ameren Missouri's and MIEC's studies the "excess" component used was class peaks from months other than June, July, August, and January at least once for each class. For example, for the Residential (RES) class Ameren Missouri and MIEC uses class peaks for January, July, August, and December for the allocation. December was not a month when one of the four highest monthly peaks occurred. This distorts the A&E production allocator for the residential and all other classes.

Q. How does Ameren Missouri and MIEC studies' production-capacity allocator compare, methodologically, to Staff's BIP study?

A. The "Average" piece in Ameren Missouri's and MIEC's A&E method is very similar to Staff's base piece in the BIP method, as both methodologies use the annual usage at generation. The difference in approach between the A&E methodology and Staff's BIP methodology is in how the next component(s) of the allocator are determined. Both Staff's BIP method and Ameren Missouri's and MIEC's A&E method use NCP information, but Staff's BIP method separates the remaining capacity piece into two components, an intermediate component and peak component. The Intermediate component is calculated on the proportion of demand established, less the Base piece already allocated. The Peak component is calculated on the proportion of demand established, less the Base and Intermediate components already allocated.

Staff calculates the Intermediate component ("I" component of BIP method) using 12 NCP information from all months and the Peak component ("P" component of BIP method) using 3 NCP information from the months of June, July and August, because these were the months of three highest system peaks. Ameren Missouri is a summer-peaking utility with annual system peak (July) occurring in a summer month with other summer months of June and August of similar percentage to the annual system peak.

Q. Since the methods are similar, how different are Ameren Missouri's and MIEC's allocation factors from the Staff's allocation factors calculated using the BIP method?

A. In this case the production allocators calculated by Ameren Missouri, MIEC, and Staff result in similar percentages for each class. The production allocator percentage allocator is detailed in Schedule MSS-R3 for all parties filing CCOS studies.

Q. Why doesn't Staff use the A&P method used by OPC to allocate Production–Capacity?

A. In the last two Ameren Missouri cases the Commission has rejected the A&P method as being unreliable based on findings that it double counts the average system usage. Staff notes that the average piece of the A&P method is calculated the same way as the average piece of the A&E Method and Base component of Staff's BIP method. The BIP method proposed by Staff ensures double counting doesn't occur as it subtracts the Base component already allocated when it considers the Intermediate component. Furthermore, Staff's BIP method subtracts the Base and Intermediate component already allocated in the Base and Intermediate component when considering the Peak component. This process

eliminates any double counting that could occur because the BIP method reduces peaks already allocated from previous components.

Production-Maintenance Expenses

Q. What costs are allocated as production-maintenance?

A. Examples of these costs are Federal Energy Regulatory Commission (FERC) accounts 510 through 514 and FERC accounts 528 through 532. These relate to maintenance on structures, boiler plants, electric plants, reactor plant equipment and other miscellaneous plant equipment. A listing of FERC accounts related to maintenance expenses are detailed in Schedule MSS-R5.

Q. Are production-maintenance expenses related to demand or energy?

A. Production-maintenance expenses are classified as both fixed (demand related) and variable (energy related) cost components, depending on the methodology used. While variations may exist, two basic methods have been utilized typically for classifying production-maintenance expenses. These methods are referenced as the "National Association of Regulatory Utility Commission (NARUC) Method" and the "FERC Method." In general, the NARUC Method treats many of the labor cost elements as being demand–related fixed costs, while treating expense cost elements (e.g., materials) as being energy-related variable costs. The FERC Method is an all-or-none predominance approach to classification. Thus, if more than half of a given production-maintenance FERC account is related to demand (energy) cost, then the whole account is considered to be a demand (energy) account.

Q. What are the different production-maintenance expense allocators the parties used?

A. Ameren Missouri classified production-maintenance expenses as 100% variable and allocated on the production variable allocator. MIEC and OPC classified production-maintenance expenses as 100% fixed and allocated on the fixed production allocator. There is a large variation in using a fixed or variable allocator for production-maintenance expenses (i.e., large users of electricity such as the Large Primary Service (LPS) and Large Transmission Service (LTS) classes are allocated more costs using a variable allocator as many of the customers in the LPS and LTS class use generation facilities 24 hours a day).

Staff used the NARUC Method which is a mixture of fixed and variable based on each production-maintenance account. Staff believes the NARUC Method is a more equitable allocation for the classes of customers than Ameren Missouri's (variable) or MIEC's and OPC's (fixed) production-maintenance allocation. Both the NARUC Method and FERC Method for production-maintenance expenses allocate both fixed and/or variable components and not 100% for all production-maintenance accounts as proposed by Ameren Missouri, MIEC and OPC. Attached is Schedule MSS-R5 from the NARUC Manual detailing the allocation of maintenance expense by account and by demand or energy related categories.

Comparison of CCOS Study Results

Q. Have you prepared a summary of the CCOS study results parties presented in their direct cases?

A. Yes. For ease of reference, I summarized their revenue neutral results. Schedule MSS-R4, is a table and chart of each of the CCOS study results. It includes the percent change in customer class revenues required to equalize class rates of return on a revenue neutral basis.

Q. What are the CCOS study results for the total RES class?

A. For the RES class the results of the various CCOS studies range from an increase in class revenues by 3.12% (OPC) to an increase in class revenues by 9.70% (MIEC) to match the rate of return of the RES class to the overall rate of return. All of the CCOS studies show positive values (revenue neutral increases) for the required percentage change in the revenue responsibility of the RES class.

Q. What are the CCOS study results for the total Small General Service (SGS) class?

A. Schedule MSS-R4 shows that the results of all CCOS studies indicate that the SGS class now provides revenues in excess of the revenues required to provide a rate of return equal to the overall rate of return. For the SGS class, the percentage reductions (decreases) to class revenue responsibility required to match the cost of serving that class ranges from -11.22% (OPC) to -5.52% (Staff). All of the CCOS studies show negative values (revenue neutral decreases) for the required percentage change in the revenue requirement of the SGS class.

Q. What are the CCOS study results for the total Large General Service (LGS) class?

A Schedule MSS-R4 shows that the results of all CCOS studies indicate that the LGS class now provides revenues in excess of the revenues required to provide a rate of return equal to the overall rate of return. For the LGS class, the percentage reductions (decreases) to class revenue responsibility required to match the cost of serving that class ranges from -10.82% (Staff) to -5.69% (OPC). All of the CCOS studies show negative values

(revenue neutral decreases) for the required percentage change in the revenue requirement of the LGS class.

Q. What are the CCOS study results for the total LPS class (industrial customers)?

A. Schedule MSS-R4 shows the results of the various CCOS studies range from a reduction in class revenues by -7.01% (Staff) to an increase in class revenues by 6.34% (OPC) would be required to equate the rate of return of the LPS class to the overall rate of return. Three of the CCOS studies: Ameren Missouri, Staff and MIEC show negative values for the required percentage change in the revenue responsibility of the LPS class. Only the OPC study shows a positive value (increase) for the required percentage change.

Q. What are the CCOS study results for the total LTS class?

A. Of the six classes considered in the CCOS studies, the LTS class results produced the widest results of outcomes with regard to changes in class revenues required to provide a rate of return equal to the overall rate of return. The results range from a reduction in class revenues by -5.00% (MIEC) to an increase in class revenues by 18.85% (OPC). Three of the CCOS studies show positive values (increases) for the required percentage change in the revenue responsibility of the LTS class.

Q. What are the CCOS study results for the Lighting class?

A. Schedule MSS-R4 shows the results of the various CCOS studies range from an increase in class revenues by 17.62% (Staff) to an increase of 24.90% (MIEC) would be required to equate the rate of return of the Lighting class to the overall rate of return.

Q. Does this conclude your rebuttal testimony?

A. Yes, it does.

Missouri Public Service Commission
Case No. ER-2011-0028
Summary Results of Staff's CCOS Study

Table 1 - Original Direct Filin
Summary Results of Staff's CCOS Study - Ameren Missour

Customer Class	Revenue Deficiency	CCOS % Increase
Residential	$144,594,385	13.21%
Small General Service	($4,965,489)	-1.78%
Large General Service/Small Primary Service	($60,438,738)	-8.52%
Large Primary Service	($11,468,161)	-6.42%
Large Transmission Service	($2,285,337)	-1.64%
Lighting	$6,567,039	21.02%
Total	$72,003,700	2.96%

Table 1 - Revised Direct Filing
Summary Results of Staff's CCOS Study - Ameren Missouri

Customer Class	Revenue Deficiency	CCOS % Increase
Residential	$131,356,544	12.00%
Small General Service	($7,166,279)	-2.56%
Large General Service/Small Primary Service	($55,752,238)	-7.86%
Large Primary Service	($7,233,012)	-4.05%
Large Transmission Service	$4,369,552	3.13%
Lighting	$6,429,134	20.58%
Total	$72,003,700	2.96%

Table 1 - Staff Rate Design and Class Cost-of-Service Report Page 3

Missouri Public Service Commission
Case No. ER-2011-0028
Summary Results of Staff's CCOS Study

Schedule MSS-1 - Original Direct Filing
Summary Results of Staff's CCOS Study - Ameren Missouri

Customer Class	CCOS % increase	Less: System Average	Revenue Neutral % Increase
Residential	13.21%	-2.96%	10.25%
Small General Service	-1.78%	-2.96%	-4.74%
Large General Service/Small Primary Service	-8.52%	-2.96%	-11.48%
Large Primary Service	-6.42%	-2.96%	-9.38%
Large Transmission Service	-1.64%	-2.96%	-4.60%
Lighting	21.02%	-2.96%	18.07%
Total	2.96%	-2.96%	0.00%

Schedule MSS-1 - Revised Direct Filing
Summary Results of Staff's CCOS Study - Ameren Missouri

Customer Class	CCOS % increase	Less: System Average	Revenue Neutral % Increase
Residential	12.00%	-2.96%	9.04%
Small General Service	-2.56%	-2.96%	-5.52%
Large General Service/Small Primary Service	-7.86%	-2.96%	-10.82%
Large Primary Service	-4.05%	-2.96%	-7.01%
Large Transmission Service	3.13%	-2.96%	0.17%
Lighting	20.58%	-2.96%	17.62%
Total	2.96%	-2.96%	0.00%

Schedule MSS-1 (Part of Staff Rate Design and Class Cost-of-Service Report)

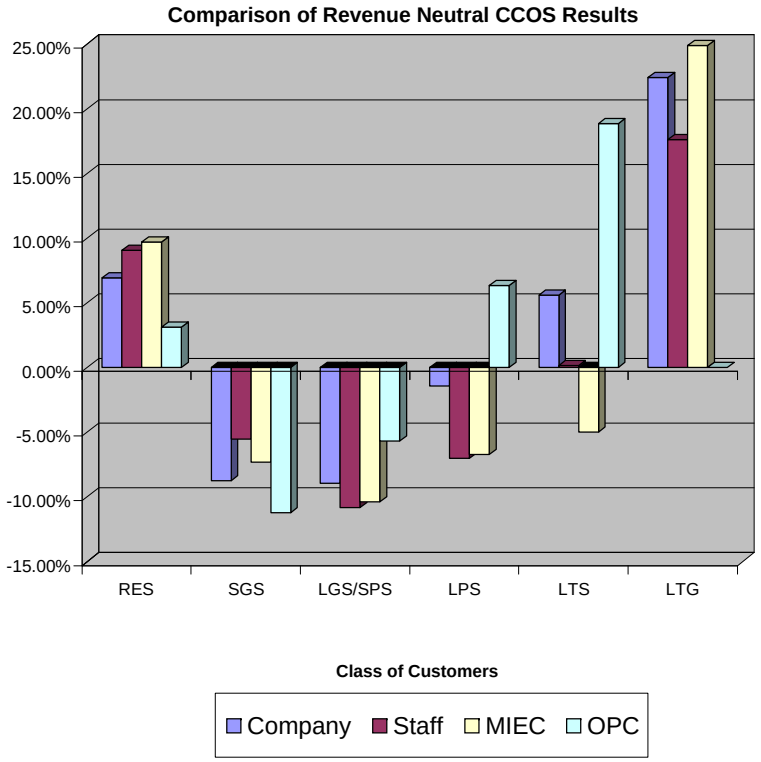
Missouri Public Service Commissio
Case No. ER-2011-002

Production Allocator - Comparison

	RES	SGS	LGS/SPS	LPS	LTS	Lighting
Ameren Missouri	46.68%	10.91%	28.41%	7.14%	6.13%	0.74%
Staff	46.50%	11.14%	28.41%	7.16%	6.07%	0.72%
MIEC	46.68%	10.91%	28.41%	7.14%	6.13%	0.74%
OPC	43.23%	9.79%	29.47%	8.63%	8.88%	N/A

Ameren Missouri
Case No. ER-2011-0028
A Comparison of the Results of the Class Cost-of-Service Studies
The Percent Change in Class Revenues Required to Equalize Class Rates of Return
(Revenue Neutral)

	Missouri RES	SGS	LGS/SPS	LPS	LTS	LTG
Company	6.95%	-8.77%	-8.94%	-1.42%	5.60%	22.41%
Staff	9.04%	-5.52%	-10.82%	-7.01%	0.17%	17.62%
MIEC	9.70%	-7.30%	-10.40%	-6.70%	-5.00%	24.90%
OPC	3.12%	-11.22%	-5.69%	6.34%	18.85%	N/A



III. CLASSIFICATION OF PRODUCTION FUNCTION COSTS

Production plant costs can be classified in two ways between costs that are demand-related and those that are energy-related.

A. Cost Accounting Approach

Production plant costs are either fixed or variable. Fixed production costs are those revenue requirements associated with generating plant owned by the utility, including cost of capital, depreciation, taxes and fixed O&M. Variable costs are fuel costs, purchased power costs and some O&M expenses. Fixed production costs vary with capacity additions, not with energy produced from given plant capacity, and are classified as demand-related. Variable production costs change with the amount of energy produced, delivered or purchased and are classified as energy- related. Exhibit 4-1 summarizes typical classification of FERC Accounts 500-557.

EXHIBIT 4-1

CLASSIFICATION OF PRODUCTION PLANT

CLASSIFICATION OF RATE BASE[1]

Production Plant

FERC Uniform System of Accounts No.	Description	Demand Related	Customer Related
301-303	Intangible Plant	x	-
310-316	Steam Production	x	x
320-325	Nuclear Production	x	-
330-336	Hydraulic Production	x	x[2]
340-346	Other Production	x	-

Schedule MSS-R5-1

Exhibit 4-1
(Continued)
CLASSIFICATION OF PRODUCTION PLANT

FERC Uniform System of Accounts No.	Description	Demand Related	Energy Related
	CLASSIFICATION OF EXPENSES[1]		
	Production Plant		
	Steam Power Generation Operations		
500	Operating Supervision & Engineering	Prorated On Labor[3]	Prorated On Labor[3]
501	Fuel	-	x
502	Steam Expenses	x[4]	x[4]
503-504	Steam From Other Sources & Transfer. Cr.	-	x
505	Electric Expenses	x[4]	x[4]
506	Miscellaneous Steam Pwr Expenses	x	-
507	Rents	x	-
	Maintenance		
510	Supervision & Engineering	Prorated On Labor[3]	Prorated On Labor[3]
511	Structures	x	-
512	Boiler Plant	-	x
513	Electric Plant	-	x
514	Miscellaneous Steam Plant	-	x
	Nuclear Power Generation Operation		
517	Operation Supervision & Engineering	Prorated On Labor[3]	Prorated On Labor[3]
518	Fuel	-	x
519	Coolants and Water	x[4]	x[4]
520	Steam Expense	x[4]	x[4]
521-522	Steam From Other Sources & Transfe. Cr.	-	x
523	Electric Expenses	x[4]	x[4]
524	Miscellaneous Nuclear Power Expenses	x	-
525	Rents	x	-

EXHIBIT 4-1

(Continued)

CLASSIFICATION OF EXPENSES [1]

FERC Uniform System of Accounts No.	Description	Demand Related	Energy Related
	Maintencance		
528	Supervision & Engineering	Prorated on Labor[3]	Prorated on Labor[3]
529	Structures	x	-
530	Reactor Plant Equipment	-	x
531	Electric Plant	-	x
532	Miscellaneous Nuclear Plant	-	x
	Hydraulic Power Generation Operation		
535	Operation Supervision and Engineering	Prorated on Labor[3]	Prorated on Labor[3]
536	Water for Power	x	-
537	Hydraulic Expenses	x	-
538	Electric Expense	x[4]	x[4]
539	Misc Hydraulic Power Expenses	x	-
540	Rents	x	-
	Maintenance		
541	Supervision & Engineering	Prorated On Labor[3]	Prorated On Labor[3]
542	Structures	x	-
543	Reservoirs, Dams, and Waterways	x	x
544	Electric Plant	x	x
545	Miscellaneous Hydraulic Plant	x	x

Exhibit 4-1
(Continued)

FERC Uniform System of Account	Description	Demand Related	Energy Related
	CLASSIFICATION OF EXPENSES[1]		
	Other Power Generation Operation		
546, 548-554	All Accounts	x	-
547	Fuel	-	x
	Other Power Supply Expenses		
555	Purchased Power	x[5]	x[5]
556	System Control & Load Dispatch	x	-
557	Other Expenses	x	-

[1] Direct assignment or "exclusive use" costs are assigned directly to the customer class or group that exclusively uses such facilities. The remaining costs are then classified to the respective cost components.

[2] In some instances, a portion of hydro rate base may be classified as energy related.

[3] The classification between demand-related and energy-related costs is carried out on the basis of the relative proportions of labor cost contained in the other accounts in the account grouping.

[4] Classified between demand and energy on the basis of labor expenses and material expenses. Labor expenses are considered demand-related, while material expenses are considered energy-related.

[5] As-billed basis.

The cost accounting approach to classification is based on the argument that plant capacity is fixed to meet demand and that the costs of plant capacity should be assigned to customers on the basis of their demands. Since plant output in KWH varies with system energy requirements, the argument continues, variable production costs should be allocated to customers on a KWH basis.

B. Cost Causation

Cost causation is a phrase referring to an attempt to determine what, or who, is causing costs to be incurred by the utility. For the generation function, cost causation attempts to determine what influences a utility's production plant investment decisions. Cost causation considers: (1) that utilities add capacity to meet critical system planning reliability criteria such as loss of load probability (LOLP), loss of load hours (LOLH),