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MISSOURI PUBLIC SERVICE COMMISSION

FILE NO. ER-2014-0258

AMENDED REBUTTAL TESTIMONY

OF

WILLIAM M. WARWICK

ON

BEHALF OF

**UNION ELECTRIC COMPANY
d/b/a Ameren Missouri**

**St. Louis, Missouri
January 2015**

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1 **AMENDED REBUTTAL TESTIMONY**

2 **OF**

3 **WILLIAM M. WARWICK**

4 **FILE NO. ER-2014-0258**

5 **I. INTRODUCTION**

6 **Q. Please state your name and business address.**

7 A. William M. Warwick, Union Electric Company d/b/a Ameren Missouri
8 (“Ameren Missouri” or “Company”), One Ameren Plaza, 1901 Chouteau Avenue,
9 St. Louis, Missouri 63103.

10 **Q. By whom and in what capacity are you employed?**

11 A. I am Manager of Rate Engineering for Ameren Missouri.

12 **Q. Are you the same William M. Warwick who filed direct testimony in**
13 **this case?**

14 A. Yes, I am.

15 **Q. What is the purpose of your rebuttal testimony?**

16 A. The purpose of my rebuttal testimony is to discuss the primary differences
17 in the Class Cost of Service Studies (“CCOSS”) presented by the Company and those
18 presented by the Missouri Public Service Commission Staff (“Staff”), the Office of the
19 Public Counsel (“OPC”) and the Missouri Industrial Energy Consumers (“MIEC”). The
20 fact that I am not addressing all of the differences between Ameren Missouri’s CCOSS
21 and those performed by the other parties should not be construed as an endorsement of
22 the allocation methods employed by those parties; rather, the remaining differences do
23 not drive materially different CCOSS results between the Company and the other parties.

- 1 • Company – The Company utilized a four non-coincident peak
2 (“4 NCP”) version of the Average and Excess Demand Allocation
3 method (“A&E”) that gives weight to both a) class peak demands and
4 b) class energy consumption.
- 5 • Staff – The Staff utilized the Base, Intermediate, and Peaking (“BIP”)
6 method, which is a time-differentiated method that assigns production
7 plant costs to three rating periods: (1) peak hours; (2) secondary peak,
8 or intermediate hours; and (3) base loading hours. The Staff also
9 performed an Alternative Market-Based Study and a Modified BIP.
10 Staff is not recommending either of these studies and only used them
11 to assess the reasonableness of the results of their detailed BIP study.
12 Therefore, at least for purposes of this case, I will neither address the
13 merits nor the flaws of either of the two methods.
- 14 • OPC – The OPC utilized a four coincident peak (“4 CP”) version of
15 the Peak and Average method (“P&A”) that gives weight to both
16 a) adjusted class peak demands and b) class energy consumption.
17 OPC also prepared a second study that utilized the Average and
18 Excess 4 NCP Demand Allocation method, which is similar to the
19 Company’s fixed production allocation method.
- 20 • MIEC – MIEC also recommends an A&E method, although MIEC
21 believes the use of the two predominant summer peaks (July and
22 August) is more conceptually correct. However, because there are no
23 significant differences between the resulting allocation factors of the

1 two methods, MIEC has elected, for this case, to use the results of the
2 Company's recommended 4 NCP version of the Average and Excess
3 Demand Allocation method.

4 **Q. Have you prepared a table that summarizes, by customer class, the**
5 **production plant allocation and associated production plant allocation factors that**
6 **are produced by each of the parties' recommended methods?**

7 A. Yes, Table 1 below depicts this summary.

8 **Table 1**

Production Plant Allocators							
Party	Method	RES	SGS	LGS/SPS	LPS	LTS	Lighting
Company	A&E 4NCP	45.34%	10.67%	29.05%	7.74%	6.50%	0.70%
MPSC Staff	Base-Intermediate-Peak	45.26%	10.36%	28.94%	7.61%	7.42%	0.40%
MIEC	A&E 4NCP	45.34%	10.67%	29.05%	7.74%	6.50%	0.70%
OPC 2	A&E 4NCP	45.34%	10.67%	29.05%	7.74%	6.50%	0.69%
OPC 1	P&A 4CP	41.45%	9.98%	29.87%	9.18%	9.13%	0.36%

9

10 **Q. Please explain the differences between the A&E method, which was**
11 **used by the Company, MIEC, and in OPC's second study, versus the P&A 4 CP**
12 **method, which is used in OPC's first study.**

13 A. The A&E method first allocates production plant investment based on the
14 average demand on the Company's system by the various customer classes. Any excess
15 demand above the average demand is then allocated based on each class' contribution to
16 these excess demands. The P&A method also initially allocates production plant
17 investment to customer classes based on average demand, but instead of allocating just
18 the excess average demand to the cost causing classes, the P&A method allocates the
19 entire peak demand to the classes.

1 **Q. Are there issues with OPC’s P&A method that are of concern?**

2 A. Yes. It has been pointed out in the Company’s more recent electric cases
3 that OPC’s P&A method is inherently flawed because it double counts the average
4 demand of customer classes. This double counting results from the use of class average
5 demand for a portion of production plant allocation and the use of class peak or
6 non-coincident peak demands, which include an average demand component for the
7 remaining allocation of production plant. More specifically, this double counting causes
8 customers with higher load factors to be allocated an inequitable share of production
9 plant investment. Also, because higher-load factor customers demonstrate a better
10 correlation between average demands and peak demands than do lower-load factor
11 customers, higher-load factor customers receive a disproportionate share of the
12 non-average demand portion of production plant investment under the P&A method.

13 **Q. Has the Missouri Public Service Commission (“Commission”)**
14 **previously ruled on OPC’s P&A method?**

15 A. Yes, the Commission specifically found in two of the Company’s recent
16 rate cases – File Nos. ER-2010-0036 and ER-2011-0028 - the use of the P&A method is
17 flawed because it double counts the average demand of customer classes.

18 **Q. What did the Commission’s Report and Order in each of those cases**
19 **state regarding the OPC’s use of a P&A production plant investment allocation**
20 **method?**

21 A. In File No. ER-2010-0036, at page 85 of the Commission’s Report and
22 Order, it states in finding of facts number 14: “The Peak and Average method, in
23 contrast, initially allocates average costs to each class, but then, instead of allocating just

1 the excess of the peak usage period to the various classes to the cost causing classes, the
2 method reallocates the entire peak usage to the classes that contribute to the peak. Thus,
3 the classes that contribute a large amount to the average usage of the system but add little
4 to the peak, have their average usage allocated to them a second time. Thus, the Peak and
5 Average method double counts the average system usage, and for that reason is
6 unreliable.”

7 Again, in File No. ER-2011-0028, at page 114 of the Report and Order it states,
8 “Public Counsel’s study uses an Average and Peak allocation method that the
9 Commission has rejected as unreliable in previous cases.” At page 115 of that same
10 Order, the Commission further states that, “[T]he Peak and Average method double
11 counts the average system usage, and for that reason is unreliable.”

12 **Q. Please comment on the Staff’s use of the BIP method for allocating**
13 **fixed production plant versus the Company’s use of the 4 NCP A&E method.**

14 A. As with the A&E method, the BIP method gives weighting to the energy
15 requirements of customer classes. The BIP method is one of the methods for production
16 plant investment allocation that is listed in the National Association of Regulatory
17 Commissioners’ (“NARUC”) Electric Utility Cost Allocation Manual. It appears the
18 Staff’s application of the BIP method for the Company’s production plant results in
19 approximately 66% of production demand being allocated on an energy basis – an
20 allocation that produces results similar to my study. Therefore, at least for purposes of
21 this case, I will not argue the merits of the 4 NCP A&E method versus the BIP method
22 for the allocation of the Company’s generation assets.

1 **Q. Please summarize the Company's overall position regarding the**
2 **allocation of fixed production plant costs.**

3 A. The Company's net investment in fixed production assets represents
4 approximately 72% of net original cost rate base in this case. Consequently, any
5 substantive variations with respect to the allocation of the cost of these assets can
6 contribute materially to significant differences among the parties in class cost of service
7 requirements. As can be seen from Table 1, with the exception of OPC's P&A method,
8 all of the parties' fixed production plant allocators are identical or reasonably close.

9 The Commission should continue the use of the A&E 4 NCP method for
10 allocation of fixed production plant. The Company is not suggesting there is a single
11 method that can be deemed the absolute, correct, and only method for the allocation of
12 fixed production plant. However, the Commission has specifically adopted the A&E
13 4 NCP method in the Company's adjudicated electric rate case, File No. ER-2010-0036,
14 which is the last time the Commission made a class cost of service determination in an
15 Ameren Missouri case. It would be desirable to continue use of the A&E 4 NCP method
16 in this case as well because there has been no material change in the Company's load
17 characteristics, the relative short time period between cases, and also because such
18 consistency affords all parties the ability to rely upon a standardized method whose
19 results can be reasonably predicted. These considerations promote CCOSS stability in
20 that they contribute to the prevention of material case-to-case swings in class revenue
21 responsibility for the most significant portion of the Company's investment in rate base.

22 For the reasons stated above, OPC's P&A 4 CP method should be rejected by the
23 Commission.

1 **Q. Are there differences among the parties' CCOSS regarding**
2 **allocation of transmission costs?**

3 A. The Company and Staff allocated transmission costs on the basis of the
4 twelve coincident peak (“12 CP”) demands of each class, and MIEC used this same
5 method despite expressing reservations. OPC allocated transmission costs to customer
6 classes using their respective production capacity allocation factors.

7 **Q. Do you agree with OPC’s use of its fixed production plant allocator to**
8 **allocate transmission costs?**

9 A. No. Transmission investment and associated expenses should not be
10 allocated based on a fixed production allocation factor that gives weight to both class
11 peak demands and class energy consumption. The transmission system must be
12 constructed to handle maximum system peak loads. Considering such, it is more
13 appropriate that transmission plant costs be allocated using a method which incorporates
14 class peak demands rather than a method which incorporates both peak demands and
15 average demands.

16 **Q. What is the difference between the parties regarding the classification**
17 **and allocation of production non-fuel operations and maintenance expense?**

18 A. Staff, MIEC, and OPC categorized all production non-fuel O&M expenses
19 as fixed, and then allocated those costs based on each party's respective fixed production
20 plant allocator. In contrast, the Company categorized non-fuel labor as fixed, and
21 allocated such based on its fixed production allocator. The remaining balance, or “other”
22 non-fuel production O&M, was split into fixed and variable categories following an
23 approach prescribed in the NARUC Electric Utility Cost Allocation Manual for

1 classification of such costs. This approach strikes a balance of these non-fuel, non-labor
2 “other” expenses between fixed and variable that most closely follows cost causation for
3 our plants. The fixed component was then allocated based on the Company’s fixed
4 production allocator and the variable component was allocated on the Company’s energy
5 kilowatt-hour (“kWh”) allocator.

6 **Q. What is included in the category of production non-fuel operations**
7 **and maintenance costs designated as “other”?**

8 A. The category "other" includes materials and indirect labor costs associated
9 with operating and maintaining the Company’s production plant. Relevant to the
10 allocation differences between the parties, a cursory review of the “other” O&M accounts
11 in question indicates, among other things, substantial expenses associated with items that
12 should be classified as variable in nature. For example, variable water treatment
13 chemical costs, fuel additives and other similar expenses are variable in nature.

14 **Q. Do you agree with MIEC witness Maurice Brubaker’s statement that**
15 **“the vast majority of these costs do not vary in any appreciable way with the**
16 **number of kWh generated, but occur primarily as a function of the existence of the**
17 **plants, the hours of operation and the passage of time”?**

18 A. No, I do not. A cursory review of the O&M accounts in question indicates
19 expenses in those accounts – e.g., expenses for valve repair, temporary non-company
20 labor, fuel additives and other similar expenses — are variable in nature. Furthermore,
21 "the hours of operation" that Mr. Brubaker referred to is a rough definition of kWh
22 generated – also a variable component. For example, a one megawatt (“MW”) plant

1 operating for one hour produces 1,000 kWh of energy whereas a one MW plant operating
2 for 100 hours produces 100,000 kWh of energy.

3 **Q. What would be the effect on the Company's CCOSS if it were to**
4 **allocate all non-fuel production O&M using its fixed production plant allocator?**

5 A. Table 2 below shows the shift in class revenues, per the Company's
6 original CCOSS filing, which splits non-fuel, non-labor expenses ("other") between fixed
7 and variable, compared to Staff's, MIEC's and OPC's method, which classify these
8 expenses as fixed only.

9 **Table 2**

Class Revenue Requirements Shift per Company's Class-Cost-Of-Service (\$1,000's)						
	RES	SGS	LGS/SPS	LPS	LTS	Lighting
Present Revenues	\$1,230,497	\$302,850	\$804,460	\$202,782	\$159,333	\$37,876
Company's CCOSS Based Rev. Req.	\$1,425,335	\$318,180	\$813,493	\$221,361	\$181,869	\$41,660
As Adjusted	\$1,431,762	\$319,018	\$811,388	\$219,320	\$178,589	\$41,821
Rev. Req. Shift	\$6,427	\$838	\$(2,105)	\$(2,041)	\$(3,280)	\$161
% Difference*	0.52%	0.28%	-0.26%	-1.01%	-2.06%	0.43%

* As a percent of as filed present revenues.

10

11 **Q. Please describe the major difference among the various studies in**
12 **regard to the allocation of distribution Accounts 364-368.**

13 A. The major difference is the allocation of customer-related costs to the rate
14 classes. The Company, Staff and MIEC equitably allocated these costs to the various
15 customer classes based on the ratio of number of customers. OPC used what is described
16 as a weighted meter investment allocator.

17 **Q. Do you believe OPC's use of a weighted meter investment allocator to**
18 **allocate these costs is reasonable?**

1 A. The Company and MIEC allocated off-system sales revenues based on
2 their respective energy (kWh) allocators, which is consistent with the method approved in
3 File No. ER-2010-0036, where the Commission states, “the Commission finds that
4 AmerenUE’s class cost of service study, modified to allocate revenues from off-system
5 sales on the basis of class energy requirements, is the most reliable of the submitted
6 studies.” The OPC's allocation of off-system sales revenues is based on its production
7 capacity (demand) allocator, and Staff allocated the portion of off-system sales revenues
8 equal to off-system sales fuel using its production energy (kWh) allocator, and allocated
9 the balance of off-system sales revenues, or off-system sales margin, using their fixed
10 production allocator.

11 **Q. What would be the effect on the Company's CCOSS results if OPC or**
12 **Staff’s allocation method of off-system sales revenues were employed?**

13 A. Table 5 below shows the shifts in class revenues per the Company’s
14 CCOSS filing using OPC's or Staff’s method of allocating off-system sales revenues to
15 the customer classifications. As shown, OPC's proposed method decreases the revenue
16 requirement of the residential, small general service and lighting classes, and increases
17 the revenue requirement of the large general service, small primary service, large primary
18 service and large transmission service classes. Staff’s method has the same results only
19 of lesser magnitude.

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Table 5

Class Revenue Requirements Shift per Company's Class-Cost-Of-Service (\$1,000's)						
	RES	SGS	LGS/SPS	LPS	LTS	Lighting
Present Revenues	\$1,230,497	\$302,850	\$804,460	\$202,782	\$159,333	\$37,876
Company's CCOSS Based Rev. Req.	\$1,425,335	\$318,180	\$813,493	\$221,361	\$181,869	\$41,660
Per OPC Method	\$1,405,294	\$315,568	\$820,056	\$227,725	\$192,097	\$41,158
Rev. Req. Shift	\$(20,041)	\$(2,612)	\$6,564	\$6,364	\$10,228	\$(502)
% Difference*	-1.63%	-0.86%	0.82%	3.14%	6.42%	-1.33%
Per Staff's Method	\$1,413,428	\$316,328	\$817,393	\$225,142	\$187,946	\$41,362
Rev. Req. Shift	\$(11,907)	\$(1,552)	\$3,900	\$3,781	\$6,077	\$(298)
% Difference*	-0.97%	-0.51%	0.48%	1.86%	3.81%	-0.79%

* As a percent of as filed present revenues.

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Q. Please explain the differences among the parties' respective CCOSS with respect to the allocation of income taxes.

4

5

A. The Company and OPC allocate income tax as a percentage of net rate base. Staff and MIEC have allocated income tax based on the current taxable income of each class.

7

8

Q. Why is it more appropriate to allocate income tax to classes based on a percentage of net rate base than on the taxable income of each class?

9

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A. The purpose of the Company's CCOSS is to determine, as near as practical and based on cost causation principles, the final revenue requirement of each class on an equalized rate of return basis. For the determination of final (including increases) cost-based revenue requirements, where the goal or objective should be an equivalent rate of return on the existing customer class net rate base, the allocation of

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1 income taxes on the basis of rate base is appropriate and allocates each class its fair share
2 of income tax.

3 As MIEC correctly points out, on a current basis, each class is not providing the
4 same rate of return. However, rates are not determined on a current basis. Using MIEC's
5 method, a class with a lower than average rate of return would be under-allocated its fair
6 share of income tax on an equivalent rate of return basis utilizing the Company's
7 proposed revenue requirement.

8 **Q. Can you please elaborate about why net rate base is the driver for**
9 **income taxes?**

10 A. The reason Ameren Missouri has income to be taxed in the first place is
11 because of its return-on-invested capital. The amount of invested capital subject to such
12 return in a rate case is represented by net rate base. Since net rate base is allocated to
13 customer classes as a part of the CCOSS, return is a direct function of net rate base, and
14 income taxes are a direct function of return, it follows that both return and income taxes
15 should be allocated to customer classes based on the class responsibility with respect to
16 net rate base.

17 **Q. Does this conclude your rebuttal testimony?**

18 A. Yes, it does.

