

Exhibit No.:
Issue(s): Class of Cost Service
Witness: Thomas Hickman
Type of Exhibit: Rebuttal Testimony
Sponsoring Party: Union Electric Company
File No.: ER-2019-0335
Date Testimony Prepared: January 21, 2020

MISSOURI PUBLIC SERVICE COMMISSION

FILE NO. ER-2019-0335

REBUTTAL TESTIMONY

OF

THOMAS HICKMAN

ON

BEHALF OF

UNION ELECTRIC COMPANY

D/B/A AMEREN MISSOURI

**St. Louis, Missouri
January 2020**

TABLE OF CONTENTS

I. INTRODUCTION 1

II. PURPOSE 1

III. STAFF'S NEW CAPACITY ASSIGNMENT METHOD..... 2

IV. NON-LABOR COMPONENT OF NON-FUEL O&M EXPENSES..... 5

V. ALLOCATION OF DISTRIBUTION ACCOUNTS 364-368..... 6

VI. METER DATA RETENTION 11

REBUTTAL TESTIMONY

OF

THOMAS HICKMAN

FILE NO. ER-2019-0335

1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19

I. INTRODUCTION

Q. Please state your name and business address.

A. My name is Thomas Hickman. My business address is One Ameren Plaza, 1901 Chouteau Ave., St. Louis, Missouri.

Q. Are you the same Thomas Hickman that submitted Direct Testimony in this case?

A. Yes, I am.

II. PURPOSE

Q. To what testimony or issues are you responding?

A. I will be responding to four primary issues related to the Class Cost of Service studies conducted by parties as a part of the rate design direct testimony:

- Staff's proposed Capacity Assignment Method for allocating Production Capacity, Production Energy, Production Operations and Maintenance ("O&M") Expense, and Transmission related costs;
- Missouri Industrial Energy Consumers' ("MIEC") proposal relating to the non-labor portion of non-fuel O&M expenses;
- The allocation of certain distribution accounts; and
- Staff's recommendation for additional data retention relating to meter installations.

1 **III. STAFF'S NEW CAPACITY ASSIGNMENT METHOD**

2 **Q. Staff has recommended the Company move to something they call a**
3 **"capacity assignment method" for the allocation of Production Capacity, Production**
4 **Energy, Production O&M expense, and Transmission costs. Do you agree with the**
5 **new method?**

6 A. I do not. Staff did not provide any evidence that this methodology has been
7 adopted in any other jurisdiction or that it was based on any studies, papers, articles, other
8 documents or any other form of economic research. At the time of filing, the Company has
9 not received a response from Staff to DR 552 to indicate any other jurisdictions or other
10 research that this approach is based on. Staff's methodology would dramatically overhaul
11 the traditionally accepted embedded cost of service study.

12 Staff's new methodology is allegedly based on Ameren Missouri's participation in
13 the Midcontinent Independent System Operator, Inc.'s ("MISO") integrated marketplace
14 ("IM"). Ameren Missouri's participation in MISO is not new. Ameren Missouri has been a
15 participant of MISO since 2003 and has been a participant in the MISO energy market
16 since the market's inception on April 1, 2005. In addition, Ameren Missouri actively
17 participated in energy and capacity markets for years prior to participating in MISO. The
18 concept of Ameren Missouri having purchased power and off-system sales is not new and
19 does not support a significant overhaul in the way in which we perform a class cost of
20 service study.

21 In addition, Ameren Missouri is still a vertically integrated utility that uses
22 integrated resource planning in order to measure and continue to meet and serve our
23 customers' expected electricity demand over a long-term planning horizon. The simple fact

1 is that we invest in and plan our investment in generation as a means of meeting the needs
2 of our customers. This concept is even highlighted on MISO's website: "In the MISO
3 region, customer-facing utilities are responsible for making sure they can meet customer
4 needs."¹ Regardless of the market transactions through which we buy and sell energy, the
5 primary driving factor and therefore source of cost causation of our production investment
6 is the energy and demand that our customers require. Trying to functionalize and assign
7 our costs as capacity or energy driven based on market factors is not appropriate. More
8 traditionally-accepted cost of service methods seek to align costs more directly with what
9 is driving the investment.

10 Third, the method leaves over \$270 million of underlying costs, or approximately
11 17% of the Gross Market Production and Transmission Revenue Requirement, lumped into
12 this "unassignable" bucket that Staff then allocated on the basis of energy. Staff ran
13 multiple scenarios employing a variety of allocation concepts to look for sensitivities rather
14 than deliberately assigning these costs based on direct cost causation. I believe this has the
15 impact of leaving a number of costs that would be driven in part by demand, in a bucket
16 that is being allocated exclusively by energy.

17 **Q. Did this have an impact on Staff's study results for which its revenue**
18 **allocations are based?**

19 A. It did. As Staff pointed out in its testimony, the allocation of the Production
20 & Transmission function has a significant impact on Class Cost of Service Study results,
21 due to the relative nature and size of the costs invested in the Production & Transmission
22 system. The following table summarizes how the results of Staff's Class Cost of Service

¹ MISO Website, at <https://www.misoenergy.org/planning/resource-adequacy/#t=10&p=0&s=FileName&sd=desc>.

1 Study in its direct testimony filed in Ameren Missouri's previous rate case (File No. ER
2 2016-0179) differs from the results of the Class Cost of Service Study Staff filed in the
3 current case (File No. ER 2019-0335).

Figure 1 % Change to Class Revenue/Current Rates to Exactly Match Calculated Class Cost of Service		
	ER-2016-0179	ER-2019-0335
Residential	2.92%	-6.34%
SGS	-3.56%	-7.65%
LGS/SPS	1.70%	1.49%
LPS	5.63%	16.58%
Lighting	-0.54%	-18.65%

4 As the table reflects, the required change to the class revenues to match the cost of
5 service has changed materially. While this is driven by a number of factors, the allocation
6 of Production and Transmission-related costs is certainly a significant one. The required
7 change for the Residential class has even changed directionally, from a moderate increase
8 to match cost of service in 2016, to a decrease double that size in terms of percentage in
9 2019. Small General Service ("SGS") and Lighting are both receiving larger decreases and
10 that offsetting increase is being absorbed almost entirely by the Large Primary Service
11 ("LPS") class. Considering the lack of material cost drivers underlying Staff's
12 methodological departure from traditional cost of service principals as I noted above, to
13 rely on outcomes this dramatically different from the 2016 rate case to the 2019 rate case
14 is not reasonable. These results are not surprising considering that as previously stated, I
15 believe this allocation method to be allocating a number of demand driven costs on the
16 basis of energy. The Large Primary Service class generally has a much better load factor
17 than other classes, and therefore inherently receives a larger allocation of energy-based
18 costs.

1 **IV. NON-LABOR COMPONENT OF NON-FUEL O&M EXPENSES**

2 **Q. Are there any other differences from other parties' testimony relating**
3 **to production costs you would like to address?**

4 A. Yes. MIEC's expert witness Maurice Brubaker disagrees with Ameren
5 Missouri's treatment of the non-labor component of production non-fuel O&M expenses.
6 He believes that these costs do not vary in any appreciable way with the number of
7 kilowatt-hours generated and has allocated them on the basis of demand.²

8 **Q. Do you agree with this approach? Why or why not?**

9 A. I do not agree with this approach for a few reasons. Mr. Brubaker highlights
10 the fact that maintenance on coal and nuclear generation units is scheduled based on the
11 passage of time. I think focusing on how maintenance is scheduled misses the point almost
12 entirely. The bigger issue is not how often or when maintenance is scheduled, but how
13 much non-labor material is used during each maintenance period, and what causes the need
14 for maintenance in the first place. The fact that maintenance occurs is a significant driver
15 on the labor portion, and we have classified the labor portion as fixed. The extent of
16 maintenance performed is variable in nature and can vary significantly with the amount of
17 time and extent to which a plant has run. Further, the need for this regularly scheduled
18 maintenance is related to utilization of the unit – the wear and tear that occurs as energy is
19 generated, making the energy-related allocator consistent with cost causation.

20 In our production operations, there are components of non-labor O&M expense
21 which are actually budgeted based on anticipated plant generation. Our engineers noted a
22 number of specific examples where this is the case, including but not limited to, conveyers,

² Rate Design Direct Testimony of Maurice Brubaker on behalf of MIEC, at 32.

1 coal mills, chemicals, and the limestone in scrubbers. To the extent we are even budgeting
2 costs on the basis of kilowatt-hours generated, I find it hard to justify these costs being
3 allocated by a different means. For these reasons, I believe our classification of these costs
4 is completely appropriate.

5 **V. ALLOCATION OF DISTRIBUTION ACCOUNTS 364-368**

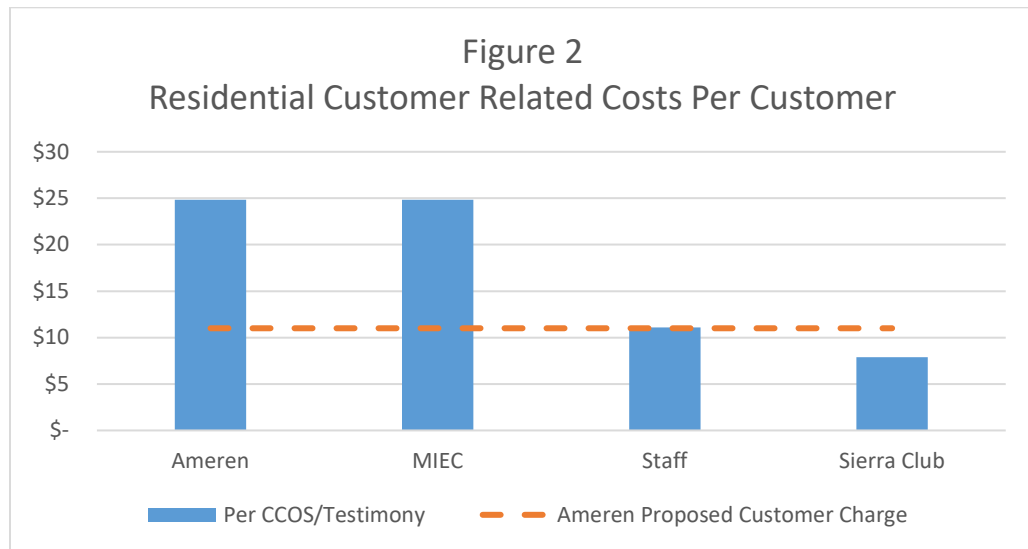
6 **Q. Please describe the major difference among the various parties' studies**
7 **in regard to the allocation of distribution accounts 364-368.**

8 A. Distribution accounts 364-368 include items such as poles, overhead,
9 underground conductors, devices, and line transformers. The Company, Staff and MIEC
10 used allocations to separate these costs into demand-related costs and customer-related
11 costs. The demand-related costs were then allocated on the basis of a demand allocator and
12 the customer-related costs based on the number of customers. While there are some
13 differences in the allocation processes utilized, the three parties that submitted a full class
14 cost of service model agree that some portion of the distribution system should be allocated
15 based on the number of customers served. Sierra Club did not perform a full Class Cost of
16 Service Study or specifically look at interclass allocations. They did, however, allocate
17 100% of these costs as demand-related for the purpose of trying to inform a residential
18 customer charge.³

19 **Q. Please summarize how the differences in allocation of distribution**
20 **Accounts 364-368 impact the results.**

³ Rate Design Direct Testimony of Avi Allison on behalf of Sierra Club at 8-10.

1 A. The graph below shows the results of each party's analysis. The Residential
2 class was selected to be representative, as it has the largest number of customers.



3

4 **Q. What specific differences in the allocation process used occurred**
5 **between the Company, Staff and MIEC?**

6 A. The Company utilized the Minimum Distribution System ("MDS")
7 approach. MIEC utilized the Company's approach. Staff utilized the Company's approach
8 with a few exceptions. Specifically, Staff used the Zero-Intercept Cost Minimum System
9 method to allocate poles, Account 364. Staff also omitted the costs associated with
10 lightning arrestors, switches, and reclosers from its analysis of the minimum size
11 calculation for overhead, Account 365.

12 **Q. Do you agree with Staff's approach for Accounts 364 and 365?**

13 A. I do not. Regarding Account 365, I believe the lightning arrestors, switches,
14 and reclosers are equipment necessary to bring safe and reliable service to our customers.
15 Bringing safe and reliable service is not a condition that varies with demand. These pieces
16 of equipment have more to do with the geographic size of the system than the load carrying
17 size of the system, and therefore, it is appropriate that the costs of these pieces of equipment

1 be specifically considered customer-related costs. Regarding Account 364, I believe the
2 Zero-Intercept Cost Minimum System method to result in particularly unintuitive results.
3 Staff's analysis results in approximately 5.5% of the pole account being considered
4 customer-related. This implies that 94.5% of the cost of poles relate to the demand carrying
5 capability of a pole.

6 We place poles to connect and serve our customers. In some circumstances, larger
7 poles may be needed so that we can attach larger equipment with larger load carrying
8 capabilities. In cases where larger poles are utilized for larger load carrying capability
9 equipment, I believe it is appropriate that a portion of the cost of that pole be considered
10 demand-related. However, the most common and frequent scenario of installing a 40-foot
11 wood pole with an average book cost of \$1,094, is driven by the customer's existence on
12 our system, regardless of the level of demand that customer realizes. The fact that Staff's
13 analysis implies only \$70 of that pole's cost is driven by the presence of the customer is
14 not reasonable. At the very least, it is inconsistent to utilize the MDS methodology for four
15 of the secondary distribution accounts but to have selected the zero-intercept method for
16 the pole account.

17 **Q. Does Figure 2 show Sierra Club as an outlier?**

18 A. Yes. Notwithstanding the differences between Staff and the Company's
19 approach to allocating distribution costs as customer-related and demand-related, Sierra
20 Club is the only party whose analysis results in a customer-related cost per customer below
21 the \$11 customer charge that Ameren Missouri proposes in this case. Ameren Missouri
22 witness Steve Wills will address the merits of rates being reflective of Class Cost of Service

1 Study results, and the Company's proposed increase to the customer charge further in his
2 testimony.

3 **Q. Sierra Club witness Avi Allison states a general concern with the MDS**
4 **methodology. What is that concern?**

5 A. Mr. Allison's general concern is that he believes the costs of the secondary
6 distribution system have no relationship to the number of customers on the system.

7 **Q. Do you agree with this concern? Why or why not?**

8 A. I do not agree with this concern. Mr. Allison claims that the costs associated
9 with the secondary distribution system are driven by two factors: customer demand and
10 geographic dispersion of the grid. In fact, geographic dispersion of the grid is driven by the
11 number of customers we serve and where they physically exist on the system — both of
12 which have absolutely nothing to do with customer demand. If this is true, stating
13 distribution costs are driven by "geographic dispersion" is simply another way to state that
14 they are driven by the number of customers we serve and where they are located. Where
15 our customers are located is not an intuitive way to assign cost, and therefore, assigning a
16 portion of these costs based on the number of customers is not only reasonable, but
17 appropriate. What is missing from Mr. Allison's approach is any logical connection of how
18 the costs driven by geographic dispersion relate at all to demand, as Mr. Allison would
19 classify them.

20 **Q. Mr. Allison goes on to quote a few statements from the National**
21 **Association of Regulatory Utility Commissioners ("NARUC") Electric Cost**
22 **Allocation Manual to dispute the soundness of the MDS methodology. Do you agree**
23 **with his characterization of the methodology as it relates to those quotes?**

1 A. I do not. Mr. Allison notes that the NARUC manual refers to classification of
2 distribution system costs as customer-related as being controversial.⁴ The NARUC manual
3 makes no mention of a "Basic Customer Method" suggested by Mr. Allison. In fact, the
4 NARUC manual only mentions two methods of allocating distribution costs into demand
5 and customer costs: the Minimum-System and Minimum-Intercept methods, and in fact
6 unambiguously describes Accounts 364-368 as having customer- and demand-related
7 elements. The "controversy" referenced in the quote from the manual simply speaks to the
8 differences between the two methods discussed, and not whether an unnamed third method,
9 such as a "Basic Customer Method," should be used.

10 Mr. Allison also highlights an issue of a method that can produce statistically
11 unreliable results. But, he left out a key part of the quote he selectively included. With that
12 key part (underlined below), it reads as follows:

13 The minimum-intercept method can sometimes produce statistically
14 unreliable results. The extension of the regression equation beyond the
15 boundaries of the data normally will intercept the Y axis at a positive value.
16 In some cases, because of incorrect accounting data or some other
17 abnormality in the data, the regression equation will intercept the Y axis at
18 a negative value. When this happens, a review of the accounting data must
19 be made and suspect data must be deleted.⁵

20 Not only does this quote refer to the minimum-intercept method, a method which
21 Ameren Missouri is not utilizing, it provides for a method of review to help verify the
22 statistical validity. His selective use of this quote does nothing to dispel the appropriateness
23 of the minimum size method the Company has used, and nothing of consequence related

⁴ The exact statement within the NARUC manual is as follows: "While the classification of the following distribution-plant accounts is an important step, it is not as controversial as the classification of substations, poles, transformers, and conductors." NARUC. *Electric Utility Cost Allocation Manual* at 95-96 (1992).

⁵ NARUC *Electric Utility Cost Allocation Manual* at 95 (1992).

1 to the zero intercept method as long as the analyst performs the proper checks that are
2 outlined within the same paragraph as the quote Mr. Allison relied on.

3 **Q. Do you take issue with any other quotes from the NARUC manual**
4 **relied upon by Mr. Allison?**

5 A. Yes. Mr. Allison references the NARUC manual's statement that "the
6 results can be influenced by multiple factors." ⁶ It's difficult to envision a form of analysis
7 of a system as complex as the electric grid whose results would not be influenced by
8 multiple factors. That, to me, is the very nature of an analysis and is in no way a reason not
9 to use the MDS approach. The entire Class Cost of Service Study process is influenced by
10 hundreds, if not thousands, of factors. Mr. Allison further makes a point that regardless of
11 the use of MDS in the allocation of embedded costs that he deems it not justified for use in
12 rate design. Company witness Steve Wills will testify further as to the appropriateness of
13 using the results of a class cost of service study to inform rate design.

14 **VI. METER DATA RETENTION**

15 **Q. Staff recommends the Commission order Ameren Missouri to track**
16 **meter installations by service classification and voltage level. Do you agree with this?**

17 A. No. I believe our allocation method for meters is more than reasonable and
18 that we have appropriate data to perform this allocation. We have meter data available by
19 meter form, meter class, and customer rate class. This data is available to query on an as
20 needed basis. We have data related to the marginal costs to install these meters by meter
21 form, meter class, and installation type.

⁶ *Id.*

1 The only information we do not have tracked specifically in our system, as we
2 explained through multiple data request responses to Staff, is how a meter is specifically
3 installed in the field. This affects the installed cost, in that a meter with current transformers
4 and potential transformers may either be mounted on the Ameren Missouri pole at the
5 customer premise, or it may be located indoors on the customer premise. In situations
6 where the transformer is mounted to Ameren Missouri equipment, the installed cost is
7 higher. This is due to the cost of the bracket, mounting equipment, additional labor is
8 required, as well as other things. Whether transformers are indoor or outdoor at the
9 customer premise is not something we track. While this can have an impact on the cost of
10 the metering configuration, we believe it is completely reasonable to make this allocation
11 based on experienced field personnel's feedback on roughly what percentage are indoors
12 or outdoors. Similar to Staff's request for additional "interesting to have" information as
13 described in Mr. Wills' rebuttal testimony, to track this information just on the basis of
14 improving our cost allocation factor for meters is not an efficient effective use of Company
15 resources. To be clear, the allocation of meter costs between classes is based on distinct
16 meter types being associated to the classes and weighting them by the relative costs of
17 those meters. This allocation clearly and appropriately differentiates between the costs of
18 the metering types appropriate for each class. We strongly believe the data we currently
19 have available and the method through which we allocate these costs are completely valid.

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

21 A. Yes, it does.

