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Witness: David C. Roos
Sponsoring Party: MO PSC Staff
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Case No.: ER-2008-0318
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MISSOURI PUBLIC SERVICE COMMISSION

UTILITY OPERATIONS DIVISION

REBUTTAL TESTIMONY

OF

DAVID C. ROOS

**UNION ELECTRIC COMPANY
D/B/A AMERENUE**

CASE NO. ER-2008-0318

**Jefferson City, Missouri
October 2008**

Staff Exhibit No. 214
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

AFFIDAVIT OF DAVID C. ROOS

STATE OF MISSOURI)
) ss
COUNTY OF COLE)

David C. Roos, 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 8 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.

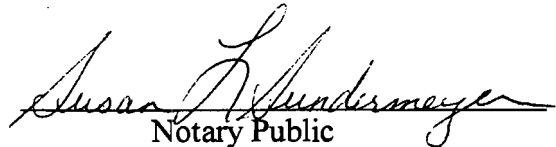


David C. Roos

Subscribed and sworn to before me this 14th day of October, 2008.



SUSAN L. SUNDERMEYER
My Commission Expires
September 21, 2010
Callaway County
Commission #06942086



Notary Public

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REBUTTAL TESTIMONY

OF

DAVID C. ROOS

UNION ELECTRIC COMPANY
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CASE NO. ER-2008-0318

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1 Q. Would you compare these other parties' CCOS study results?

2 A. Yes. My comparison is shown on Schedule DCR-R-1. Since the use of a
3 particular allocation method for allocating production (generation) capacity to classes is the
4 main determinant of the overall study results, I have identified each study by the party
5 sponsoring the study and by the production-capacity allocation method used.

6 For each party, the type of CCOS study and the witness who sponsors the study
7 follows:

8 AmerenUE (4 NCP A&E): An **Average and Excess** allocator that is calculated using
9 the highest noncoincident class peaks for energy by month per customer class for four months
10 (the four highest monthly demands for energy by that class) in the test year. [William M.
11 Warwick and Wilbon L. Cooper]

12 MIEC (1 NCP A&E): An **Average and Excess** allocator that is calculated using the
13 highest monthly class peak in the summer (June through September) of the test year per
14 customer class. [Maurice Brubaker]

15 Staff (12 NCP A&P): An **Average and Peak** allocator that is calculated using the
16 highest noncoincident class peaks for energy by month per customer class for each of the
17 twelve months in the test year. [David C. Roos]

18 OPC (4 CP A&P): An **Average and Peak** allocator that is calculated using the highest
19 monthly coincident (system) peaks for energy by month per customer class for four months in
20 the test year. [Barbara A. Meisenheimer and Ryan Kind]

21 OPC (TOU): A **Time-of-Use** allocator based upon class contribution to hourly
22 production costs during the test year. [Barbara A. Meisenheimer and Ryan Kind]

23 Q. What are the CCOS studies results for the Residential (RES) Class?

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1 A. Schedule DCR-R-1 shows the results of all the CCOS studies. For the
2 Residential class, the results of the various CCOS studies range from a reduction in class
3 revenues by 1.85% (OPC) to an increase in class revenues by 12.30% (MIEC) to match the
4 rate of return of the residential class to AmerenUE's overall rate of return. Four of the CCOS
5 studies—AmerenUE, Staff, OPC (4CP A&P), and MIEC—show positive values (increases)
6 for the required percentage change in the revenue responsibility of the Residential Class.
7 Only the OPC (TOU) study shows a negative value (decrease) for the required percentage
8 change in class revenue responsibility.

9 Q. What are the results of the CCOS studies regarding the Small General Service
10 (SGS) Class?

11 A. Schedule DCR-R-1 shows that the results of all the CCOS studies indicate that
12 the SGS Class now provides revenues in excess of the revenues required to provide a rate of
13 return equal to the overall rate of return. For the SGS class, the percentage reductions
14 (decreases) to class revenue responsibility required to match the cost of serving that class
15 ranges from 9.90% (OPC) to 3.06% (Staff).

16 Q. What are the results of the CCOS studies regarding the Large General Service
17 (LGS) (LGS & SPS Rate Schedules)?

18 A. Schedule DCR-R-1 shows that the results of all the CCOS studies indicate that
19 the LGS Class now provides revenues in excess of the revenues required to provide a rate of
20 return equal to the overall rate of return. For the LGS Class, the percentage reductions
21 (decreases) to class revenue responsibility required to match the cost of serving that class
22 ranges from 11.00% (MIEC) to 2.13% (OPC).

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1 Q. What are the results of the CCOS studies regarding the Large Primary Service
2 (LPS)?

3 A. Schedule DCR-R-1 shows the results of the various CCOS studies range from
4 a reduction in class revenues by 3.80% (MIEC) to an increase in class revenues by 14.47%
5 (OPC) would be required to equate the rate of return of the residential class to the overall rate
6 of return. Four of the CCOS studies: AmerenUE, Staff, OPC (4 CP A&P), and OPC (TOU),
7 show positive values (increases) for the required percentage change in the revenue
8 responsibility of the LPS Class. Only the MIEC study shows a negative value (decrease) for
9 the required percentage change.

10 Q. What are the results of the CCOS studies regarding the Large Transmission
11 Service (LTS)?

12 A. Of the six classes considered in the CCOS studies, the LTS Class results
13 produced the widest range of outcomes with regard to changes in class revenue required to
14 provide a rate of return equal to the overall rate of return. The results range from a reduction
15 in class revenues by 16.20% (MIEC) to an increase in class revenues by 23.01% (OPC).
16 Three of the CCOS studies: Staff, OPC (4 CP A&P), and OPC (TOU), show positive values
17 (increases) for the required percentage change in the revenue responsibility of the LTS Class.
18 Two of the CCOS studies: AmerenUE and MIEC show a negative value (decreases) for the
19 required percentage change in revenue responsibility.

20 Q. Would you summarize your conclusions regarding class revenue
21 responsibilities based on the CCOS study results?

22 A. The Staff's study shows that the RES, LPS, and LTS classes are currently
23 providing less revenue than the cost of serving each class, while the SGS and LGS classes are

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1 providing more revenues than the cost of serving them. A comparison of these results with
2 the results of the various parties shows the Staff's study results to be reasonable, because for
3 four of the five rate classes Staff's results are bracketed by other parties' results.

4 **Class Cost of Service Study – Allocation of Production Capacity and Transmission Costs**

5 Q. Are there various ways to allocate production capacity and transmission costs?

6 A. Yes. There are basically two categories of production and transmission
7 allocators -- Peak Responsibility methods and Capacity Utilization methods. Three variations
8 of the Capacity Utilization method are the two Average and Peak (A&P) methods used by the
9 Staff and the OPC, and the Time-of-Use method used by OPC. Two variations of the Peak
10 Responsibility method are the different Average and Excess (A&E) methods used by both
11 AmerenUE and MIEC. Each method is based on different assumptions about the reason an
12 electric utility adds capacity and transmission. The A&P method assumes that an electric
13 utility adds capacity and transmission to meet the entire load of the electric utility. The A&E
14 method assumes that an electric utility adds capacity and transmission to meet peak demands.

15 Q. How do the A&E methods used by AmerenUE and MIEC differ from the A&P
16 method used by Staff?

17 A. The difference between the two methods is how the demand piece of the
18 allocator is determined. Both methods agree on the average piece of the allocator.

19 Q. What is the difference between the two methods in the demand piece of the
20 allocator?

21 A. The demand-related piece of the A&E method is determined by taking the
22 difference between a class' peak demand and its monthly peak demands averaged over the
23 test year. In the case of MIEC Mr. Brubaker's CCOS study, each class' peak is determined

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1 by using the class' non-coincident monthly peak for August, because the system's summer
2 peak is in August (Brubaker, Direct, page 26, lines 13 to 17). AmerenUE's method uses the
3 "four maximum non-coincident monthly peak demands for each customer class during the test
4 year" (Cooper, Direct, page 14, lines 4 and 5). The Staff's A&P method determines the
5 appropriate demand-related weight by using the Capacity Utilization method as described in
6 the Staff's Class Cost of Service and Rate Design Report. This method takes the monthly
7 demands for each class for each month of the year, not just the highest month or the four
8 highest months, and determines each class' percent of that monthly maximum demand.

9 Q. What assumption are analysts making about why an electric utility increases its
10 generation capacity when they choose the A&E method?

11 A. Inherent in the A&E method proposed by Mr. Brubaker is the assumption that
12 an electric utility adds generation capacity to meet peak demands (Brubaker, Direct, page 21,
13 line 13). However, that is not entirely the case. An electric utility adds generation capacity
14 costs when doing so reduces the running costs of meeting its load requirements throughout the
15 year by more than the cost of additional capacity.

16 Q. What do you mean by your statement that an electric utility adds generation
17 capacity to meet its load requirements throughout the year rather than just to meet its peak
18 requirements?

19 A. There are three types of electric generation facilities: base, intermediate, and
20 peaking. Base generation facilities using coal or nuclear fuel are generally the most expensive
21 capacity plants to build. Peaking generation facilities are generally the least expensive to
22 build and usually use natural gas to generate electricity. Base generation facilities generally
23 have lower running costs than peaking generation facilities.

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1 Therefore, if, as suggested by Mr. Brubaker in his direct testimony, the primary driver
2 which causes a utility to expand its generation and transmission capacity (Brubaker, Direct,
3 page 24, lines 12 to 16) is its need to serve peak demands, it would only make sense that the
4 appropriate generation facility to build would be a peaking facility, i.e., a natural gas
5 combustion turbine. Since the only reason to expand an electric utility's generation capacity
6 are peak loads (according to Mr. Brubaker), it would make zero economic sense to spend
7 billions of dollars to build a base generation facility to reduce fuel and purchased power costs.

8 Q. If generation and transmission facilities are built to satisfy the loads throughout
9 the year, is the A&E method employed by Mr. Brubaker and Mr. Cooper more reasonable
10 than the Average and Peak method?

11 A. No. The A&E method does not take into account the fact that generation
12 facilities are built to meet the entire load of the electric utility. The A&E method unfairly
13 puts too great of a responsibility on the classes that have lower load factors. This happens
14 because the demand-related piece of the allocator is determined by the difference between
15 each class' peak demand and the class' average demand. Thus, a low load factor class would
16 have a greater difference between its peak demand and its average demand causing an
17 excessive amount of costs to be allocated to that class.

18 On the other hand, the A&P method considers each class's contribution to the
19 system's total load, as opposed to each class's excess demands at peak. This is a more
20 reasonable approach because peak is a function of the loads of each class, not just one class.

21 Q. Did Staff use the same A&P method that OPC used?

22 A. No. Staff used a 12 non-coincident peak (12-NCP) variation of the A&P
23 method. OPC used a 4 coincident peak (4-CP) variation of the A&P method.

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1 Q. Is Staff's 12-NCP variation for the A&P method more appropriate than OPC's
2 4-CP variation?

3 A. Yes, because it takes into account every month of the year, not just the months
4 with the highest peak. Including the entire year is particularly significant with regard to
5 generating facility maintenance. Generation facilities need to be taken out of service for
6 maintenance. This would generally occur during low demand months. The amount of
7 capacity to meet all of the system's loads must take into account the demands in the low
8 demand months as well as the months in which the system may be peaking. Staff's 12-NCP
9 methodology takes this into account.

10 Further, class peak (non-coincident peak or NCP) demand is the maximum demand of
11 each class whenever it occurs during each month. While using coincident peak (CP or system
12 peak) demand is theoretically appropriate, the Staff uses class peak demands because of the
13 relative stability of class contribution to class peak demands, when compared to class
14 contribution to coincident (system) peak demand. Each class's contribution to class peak is
15 independent of when the system peaks; however, using coincident peaks would complicate
16 comparisons over time.

17 Q. Does this conclude your rebuttal testimony in this case?

18 A. Yes, it does.

AMERENUE CASE ER-2008-0318
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)

	Mo Retail	RES	SGS	LGS	LPS	LTS
Staff (12 NCP A&P)	0.00%	3.160%	-3.063%	-5.092%	2.901%	4.882%
AmerenUE (4 NCP A&E)	0.000%	6.820%	-6.626%	-7.561%	3.536%	-2.641%
OPC (TOU)	0.000%	-1.850%	-9.900%	-2.130%	14.470%	23.010%
OPC (4CP A&P)	0.000%	0.060%	-7.080%	-2.550%	10.480%	11.630%
MIEC (1 NCP A&E)	0.000%	12.300%	-5.800%	-11.000%	-3.800%	-16.200%