

Exhibit No.:  
Issue: Rate Design  
Witness: Maurice Brubaker  
Type of Exhibit: Rebuttal Testimony  
Sponsoring Parties: Industrials  
Case No.: ER-2010-0356  
Date Testimony Prepared: December 17, 2010

**BEFORE THE PUBLIC SERVICE  
COMMISSION OF THE STATE OF MISSOURI**

\_\_\_\_\_  
In the Matter of the Application of )  
KCP&L Greater Missouri Operations )  
Company for Approval to Make )  
Certain Changes in its Charges for )  
Electric Service )  
\_\_\_\_\_ )

Case No. ER-2010-0356


Rebuttal Testimony and Schedules of

**Maurice Brubaker**

On behalf of

**Ag Processing, Inc.  
Sedalia Industrial Energy Users Association  
Federal Executive Agencies**

December 17, 2010

1409   
Industrials Exhibit No. ~~1409~~ BRUBAKER & ASSOCIATES, INC.  
Date 1/18/11 Reporter LMB CHESTERFIELD, MO 63017  
File No. ER-2010-0356 Project 9216





1 customers purchase substantial amounts of electricity from KCP&L Greater Missouri  
2 Operations Company ("GMO"), both in the MPS territory and in the L&P territory. The  
3 outcome of this proceeding will have an impact on their cost of electricity.

4 **Q WHAT IS THE PURPOSE OF YOUR TESTIMONY?**

5 A In my rebuttal testimony, I will respond to the cost of service allocation proposals  
6 made by GMO and by the Staff of the Missouri Public Service Commission ("Staff"),  
7 and the revenue allocation proposed by the Office of Public Counsel ("OPC").  
8 Because of the similarity of issues, and in order to avoid unnecessary repetition, I will  
9 discuss and illustrate these issues primarily in the context of MPS. The same  
10 principles apply to L&P. My schedule MEB-COS-R-1 is generic and applies to both  
11 MPS and L&P. Schedules MEB-COS-R-2 and MEB-COS-R-3 pertain specifically to  
12 MPS, and Schedules MEB-COS-4 and MEB-COS-R-5 pertain specifically to L&P.

13 **Q PLEASE SUMMARIZE YOUR PRIMARY FINDINGS AND CONCLUSIONS.**

14 A My rebuttal testimony may be summarized as follows:

- 15 1. The Base-Intermediate-Peaking ("BIP") allocation studies sponsored by GMO  
16 and Staff are not supported as to theory or shown to be applicable to the GMO  
17 system. These studies significantly over-allocate costs to the larger high-load  
18 factor customers.
- 19 2. GMO's BIP cost of service study is internally inconsistent in that it allocates a  
20 greater share of the generation fixed costs to high load factor customers, but  
21 does not give them the benefit of the lower variable costs (mostly fuel) that  
22 correspond to the above-average capital cost allocation.
- 23 3. The Staff also sponsors a version of a BIP study. The methodology differs  
24 slightly, but the end result similarly over-allocates costs to the larger high-load  
25 factor customers.
- 26 4. The Average & Excess ("A&E") approach that I offered in my direct testimony is  
27 the most appropriate allocation method for the GMO system, and should be  
28 adopted by the Commission and used as a guide to distribute any revenue  
29 increase found appropriate.

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1 energy consumption. The intermediate plants are allocated on a function of class 12  
2 monthly coincident peaks minus base demands. Facilities identified as peaking  
3 facilities are allocated on class four summer coincident peak demands reduced by the  
4 base and intermediate demands.

5 **Q IS THE BIP STUDY METHODOLOGY ACCEPTED IN THE INDUSTRY?**

6 A No, it is not. The BIP method first surfaced circa 1980 as an approach that some  
7 thought might be useful when trying to develop time-differentiated rates. However,  
8 the BIP method never caught on and is only infrequently seen in regulatory  
9 proceedings. The BIP method is certainly not among the frequently used mainstream  
10 cost allocation methodologies, and lacks precedent for its use.

11 **Q WHAT SEEMS TO BE THE FUNDAMENTAL TENANT OF THE BIP METHOD?**

12 A Mr. Normand does not go into great detail, but on page 6 of his direct testimony he  
13 says that he attempted to determine the intended use of specific plant investments  
14 and then examined the use of these assets in the test period. By choosing to allocate  
15 100% of the investment (fixed costs) associated with base load plants essentially on  
16 the basis of class energy, Mr. Normand is effectively assuming that base load plants  
17 do not provide any capacity value. This is an assumption that we all know is false.  
18 All plants provide capacity value as well as supplying energy. It appears from Mr.  
19 Normand's studies that nearly 80% of total generation fixed costs are allocated on the  
20 basis of energy consumption.

1    **Q    PLEASE EXPLAIN WHAT YOU MEAN WHEN YOU SAY THAT BASE LOAD**  
2           **PLANTS ARE ALLOCATED "ESSENTIALLY" ON THE BASIS OF CLASS**  
3           **ENERGY.**

4    A    The specific method used is to identify the month that each class (by voltage level)  
5           used the minimum amount of energy. The energy in this month is divided by the  
6           hours in the month to determine the average demand for that month. These average  
7           demands for the minimum month for each class are added together to determine a  
8           total, and the allocation factor for base load plant is the ratio of each class's minimum  
9           month average demand to the sum of the minimum month average demands of all  
10          classes.

11                 In the case of the MPS residential class, this produces a factor for the  
12                 allocation of fixed costs associated with base load plant equal to 42% of the total,  
13                 despite the fact that the energy allocation factor for the residential class is 47%, and  
14                 its responsibility for the four summer peak demands is 60%. Clearly, then, the BIP  
15                 methodology fails to adequately allocate an appropriate share of the base load units  
16                 to the residential class.

17    **Q    DOES THE CONCEPT OF ALLOCATING BASE LOAD PLANT ON A MEASURE**  
18           **OF CLASS ENERGY MAKE SENSE IN LIGHT OF SYSTEM PLANNING**  
19           **CONSIDERATIONS?**

20    A    No. The BIP approach attempts to assign only one purpose for each class of plant.  
21           In reality, when systems are planned, the utility attempts to install that combination of  
22           generation facilities which, giving consideration to fixed costs and variable costs, is  
23           expected to serve the needs of all customers, collectively, on a least-cost basis. All  
24           plants contribute to meeting peak demands, and the failure to allocate the fixed costs

1 associated with base load plants on a measure of peak demand produces a biased  
2 result.

3 **Q HOW DOES THE RELATIONSHIP BETWEEN FIXED COSTS AND VARIABLE**  
4 **COSTS GUIDE A UTILITY IN SELECTING THE APPROPRIATE MIX OF**  
5 **GENERATION RESOURCES?**

6 A Base load plants have relatively higher fixed costs, but relatively lower variable costs  
7 (mostly fuel), as compared to other technology choices. The relationship among  
8 technology choices is often described in terms of a "break-even" point, which defines  
9 the number of hours of annual operation (out of 8,760 hours per year) that one facility  
10 would be economical to operate as compared to another facility. For example, please  
11 see Schedule MEB-COS-R-1 attached to this testimony. This schedule illustrates the  
12 concept in terms of a comparison between base load generating facilities and  
13 peaking facilities. The data sources are indicated on the schedule.

14 **Q WHAT DOES THIS SHOW?**

15 A This shows that a base load generating facility is more economical than the peaking  
16 facility as long as it would be expected to operate more than 4,129 hours per year.  
17 This is an expected capacity factor of 47%. If a facility would operate fewer than this  
18 number of hours, then the peaking facility would be more economical.

19 **Q WHAT ARE THE IMPLICATIONS OF THESE RESULTS FOR COST**  
20 **ALLOCATION?**

21 A Even if one wanted to pursue the kind of disaggregation that the BIP method  
22 contemplates, this analysis clearly demonstrates that a base load facility is the least



1 cost facility up to approximately 47% capacity factor. This means that increasing the  
2 number of hours of operation beyond 4,129 hours would not change the capacity  
3 installation decision. Stated differently, once a customer imposes load that is  
4 expected to be present for more than 4,129 hours, the utility would still install the  
5 base load generation facility, and use by a customer, or customers collectively, in  
6 excess of those break-even hours does not cause the incurrence of any additional  
7 capacity costs.

8 Thus, an allocation of these base load facilities that considers essentially all of  
9 the investment to be energy-related is demonstrably wrong. It significantly  
10 over-allocates fixed costs to high load factor customers (i.e., those customers with the  
11 more consistent load through the 8,760 hours of the year), even though under the BIP  
12 conceptual framework much of the kWh used by these customers would not  
13 contribute to the decision to construct a facility that would be more costly to build.

14 **Q DID THIS COMMISSION RECENTLY RULE ON THE USE OF DEMAND**  
15 **ALLOCATION METHODS THAT ARE HEAVILY DEPENDENT UPON THE**  
16 **ENERGY USAGE BY THE VARIOUS CUSTOMER CLASSES?**

17 **A** Yes. In the most recent Ameren Missouri electric rate case, Case No. ER-2010-0036,  
18 Staff and OPC had offered cost of service studies wherein the allocation basis for  
19 fixed generation cost was a weighted average of class energy consumption and class  
20 contribution to peak demands. In ruling on the case, the Commission rejected these  
21 heavily energy-weighted methods.

22 10. In starting the process to develop just and reasonable rates, the  
23 first question the Commission must resolve is which of the submitted  
24 class cost of service studies best describes AmerenUE's cost to serve  
25 its various customer classes. As a first step, the Commission will  
26 discard the Staff and Public Counsel studies that utilize a Peak and  
27 Average Demand production demand allocation method.

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1 11. Staff asserts that its Peak and Average Demand allocation method  
2 is superior to the Average and Excess method because it considers  
3 each class' contribution to the system's total peak rather than each  
4 class' excess demand at peak.<sup>277</sup> However, what Staff describes as  
5 its method's strength is actually its downfall because the Peak and  
6 Average demand method double counts the average demand of the  
7 customer classes.

8 (Report and Order, Case No. ER-2010-0036, May 28, 2010, page 84)

9 **Q IN THE AMEREN MISSOURI CASE, WHAT PERCENTAGE OF GENERATION  
10 FIXED COSTS WAS ALLOCATED ON ENERGY UNDER STAFF'S AND OPC'S  
11 PROPOSALS?**

12 **A** About 55%.

13 **Q IS THE ALLOCATION OF GENERATION CAPACITY COSTS MORE HEAVILY  
14 DEPENDENT UPON CLASS ENERGY CONSUMPTION UNDER THE BIP METHOD  
15 IN THIS CASE THAN WAS TRUE IN THE AMEREN MISSOURI CASE WHERE  
16 THE ENERGY BASED ALLOCATION WAS REJECTED?**

17 **A** Yes, much more for MPS. It is 71% with BIP as compared to 55% in the Ameren  
18 case.

19 **Q HOW HAS GMO ALLOCATED TRANSMISSION INVESTMENT?**

20 **A** GMO uses the average of the 12 monthly coincident peaks.

21 **Q DO YOU AGREE WITH THIS ALLOCATION APPROACH FOR TRANSMISSION?**

22 **A** No, I do not. I believe that it is appropriate to allocate the transmission investment on  
23 an average and excess or summer coincident peak method, much like generation  
24 plant would be allocated. After all, the transmission facilities need to meet the

1 maximum demands on the utility system, and not the average of the 12 monthly  
2 demands. Peaks drive the need for investment in transmission plant, and it is my  
3 recommendation that GMO's proposed allocation of transmission investment be  
4 rejected.

5 **Q HOW HAS GMO ALLOCATED THE MARGIN ON OFF-SYSTEM SALES?**

6 A GMO has allocated the margin on off-system sales using a BIP demand allocation  
7 factor.

8 **Q IS THIS APPROPRIATE?**

9 A No. This Commission has held in a prior KCPL case (ER-2006-0314) and a prior  
10 Ameren Missouri case (ER-2010-0036) that it is appropriate to allocate the margin  
11 earned from off-system sales on an energy basis.

12 The only costs assigned to non-firm off-system sales is the fuel and  
13 purchased power costs – the variable costs – hence the  
14 appropriateness of using the energy allocator. This is consistent with  
15 the way KCPL itself allocates the costs relating to the energy portion of  
16 firm capacity contracts – using the energy allocator. The reason is  
17 simple – the energy allocator is used to allocate variable costs of fuel  
18 and purchased power costs relating to retail sales. Using the same  
19 rationale, the energy allocator is equally appropriate to use as the  
20 allocation factor for both energy of firm (as KCPL does) and non-firm  
21 off-system sales. (Report and Order, Case No. ER-2006-0314,  
22 December 31, 2006, page 39)

23 This is also the most commonly used approach in the industry, and should be used in  
24 this case.

1 **Staff's Study**

2 **Q HOW HAS STAFF ALLOCATED THE FIXED COSTS ASSOCIATED WITH**  
3 **GENERATION INVESTMENT?**

4 A Staff has essentially followed a BIP approach. The Staff's approach is slightly  
5 different mechanically, but the end result is not much different. For example, instead  
6 of using minimum month average demand as a basis for allocating base load plant,  
7 Staff uses annual average energy, which is identical to an allocation based on the  
8 annual kWh of each class.

9 **Q HOW HAS STAFF ALLOCATED FUEL COSTS?**

10 A Staff's allocation factor development is very complex, and consists of developing sets  
11 of percentages and then weighting them by other sets of percentages. As a result, it  
12 is not entirely clear what Staff's assumptions are with respect to the allocation of  
13 variable cost. It does appear, however, that Staff may have attempted to allocate the  
14 variable cost of each classification of plant on something other than annual  
15 kilowatthours by class. If so, Staff has at least attempted to recognize some  
16 association of variable cost with the different types of plants that it allocates in various  
17 ways. However, the basic premise, including the allocation of 100% of base load  
18 plant on class energy, is so fundamentally flawed that the study is unreliable and  
19 should be rejected.

20 **Q HOW HAS STAFF ALLOCATED TRANSMISSION INVESTMENT?**

21 A Staff has allocated transmission investment using the 12 monthly coincident peaks.  
22 This is inappropriate for the reasons stated previously in my response to GMO.

1    **Q    HOW HAS STAFF ALLOCATED GENERATION O&M EXPENSE OTHER THAN**  
2    **FUEL AND VARIABLE PURCHASED POWER?**

3    A    Staff has divided these costs into fixed and variable cost categories.  Approximately  
4    46% of these dollars are categorized as variable and allocated on class energy  
5    consumption.

6    **Q    IS THIS APPROPRIATE?**

7    A    No.  I believe it is more appropriate to allocate all of the generation O&M expense,  
8    other than fuel and variable purchased power, on the basis of the fixed cost allocation  
9    factor, namely, on a demand basis.  This is consistent with the concept that  
10   "expenses should follow plant" and also recognizes that the operation of and the  
11   maintenance on generation facilities is a function of the existence of the plant and the  
12   passage of time, more so than the hours of operation of the facilities.

13    **Symmetry of Fuel and Capital Cost Allocation**

14    **Q    ARE VARIABLE COSTS USUALLY ALLOCATED ON THE BASIS OF CLASS**  
15    **ENERGY REQUIREMENTS, ADJUSTED FOR LOSSES?**

16    A    Yes, in the context of traditional studies like coincident peak and A&E, average  
17    variable costs are allocated to customers, and average capital costs are allocated to  
18    customers.  However, in the context of the non-traditional studies that GMO and Staff  
19    have offered, all of which are heavily weighted toward energy in the allocation of fixed  
20    or demand-related generation costs, thereby de-averaging the fixed costs, it is not  
21    appropriate to average the variable costs.

1    **Q    USING THE GMO STUDY AS A POINT OF REFERENCE, PLEASE EXPLAIN WHY**  
2           **IT IS NOT APPROPRIATE TO ALLOCATE AVERAGE VARIABLE COSTS TO ALL**  
3           **CLASSES IN THIS FASHION WHEN USING STUDIES SUCH AS BIP?**

4    **A    The GMO study allocates significantly more generation fixed costs to high load factor**  
5           **customers than do the traditional studies. In other words, the higher the load factor of**  
6           **a class, the larger the share of the generation fixed costs that gets allocated to the**  
7           **class. If the costs allocated to classes under this method are divided by the**  
8           **contribution of these classes to the system peak demand, or by the A&E demand, the**  
9           **result is a higher capital cost per kW for the higher load factor classes, and a lower**  
10           **capital cost per kW for the low load factor classes. Effectively, this means that the**  
11           **high load factor classes have been allocated an above-average share of capital cost**  
12           **for generation, and the low load factor customer classes have been allocated a below**  
13           **average share of capital costs.**

14                 Given the de-averaged allocations of capital cost, it would not be appropriate  
15                 to charge average variable costs to all classes. Rather, the variable cost allocation  
16                 should assign below average variable cost to the higher load factor customer classes  
17                 to correspond to the above-average capital cost (similar to base load units) allocated  
18                 to them, and the lower load factor classes should get an allocation of these costs that  
19                 is above the average, corresponding to the lower than average capital cost (i.e.,  
20                 peaking units) allocated to them.

1 **Q** **WHY WOULD IT BE APPROPRIATE TO RECOGNIZE A LOWER VARIABLE**  
2 **COST ALLOCATION TO THOSE CLASSES THAT ARE ALLOCATED A HIGHER**  
3 **CAPITAL COST?**

4 **A** It is not only appropriate, but it is essential if the heavily energy-weighted GMO  
5 allocation of generation costs is employed. Failure to make this kind of distinction  
6 would give high load factor customers the worst of both worlds – above-average  
7 capital costs and average variable energy costs; and the low load factor customers  
8 the best of both worlds – below average capital costs and average variable costs.

9 **Q** **HAVE YOU PERFORMED ANY CALCULATIONS AND DEVELOPED A**  
10 **SCHEDULE TO ILLUSTRATE THIS?**

11 **A** Yes, I have. Please refer to Schedule MEB-COS-R-2 attached to this testimony.  
12 This schedule compares, for MPS, the generation investment per kW and the variable  
13 costs per kWh across classes for the traditional A&E allocation method, the traditional  
14 4CP method and the GMO allocation.

15 **Q** **PLEASE EXPLAIN WHAT THIS SCHEDULE SHOWS.**

16 **A** The first three sections of the schedule show that under traditional allocation methods  
17 (A&E-4NCP, A&E-2NCP and 4CP), the capacity costs per kW allocated to each class  
18 are the same and the variable costs per kWh allocated to each class are the same.

19 The fourth section shows the allocation results under GMO's BIP allocation  
20 method. Note that the impact of BIP is to allocate significantly more capital costs, in  
21 fact, 27% more to the Large Power class than under the traditional approaches,  
22 which allocate average capacity costs to all classes. Note also that variable costs per  
23 kWh are the same for all classes.

1           Schedule MEB-COS-R-3 shows the skewing graphically on page 1. In  
2 contrast, note from page 2 that under the traditional A&E-4NCP method all classes  
3 are allocated average fixed costs and average variable costs.

4           Schedules MEB-COS-R-4 and MEB-COS-R-5 show the same information with  
5 respect to L&P and the same conclusions follow.

6   **Q    YOU INDICATED THAT THE VARIABLE COSTS PER KWH ARE THE SAME**  
7   **UNDER GMO'S BIP ALLOCATION. HOW DIFFERENT ARE THE ENERGY**  
8   **COSTS OF THE DIFFERENT GENERATING FACILITIES?**

9   **A**They are quite diverse. For example, the fuel cost is about 1.2¢ per kWh for Iatan,  
10 and 1.8¢ per kWh for Jeffery Energy Center. Costs for the less efficient Sibley coal  
11 units are about 2.4¢ per kWh and for coal-based generation from Lake Road about  
12 2.7¢ per kWh. The costs associated with generation from GMO's various peaking  
13 units generally is in excess of 10¢ per kWh. (Note: These fuel costs are taken from  
14 GMO's 2009 FERC Form 1 report.) Obviously, if some classes are allocated higher  
15 fixed costs than others (i.e., a larger share of the baseload units), they should be  
16 entitled to at least an above-average share of the energy output from the higher  
17 capital cost, more fuel efficient, base load type generating units, which would make  
18 their variable cost per kWh lower than average. The allocation method advanced by  
19 GMO does not recognize this relationship, and as a result over-allocates costs to high  
20 load factor customers.



1    **Q    WHAT SHOULD BE CONCLUDED FROM SCHEDULES MEB-COS-R-2 THROUGH**  
2    **MEB-COS-R-5?**

3    A    These schedules clearly demonstrates that the BIP study that GMO has sponsored is  
4    highly non-symmetrical.  It burdens high load factor classes with above-average  
5    capacity costs, but does not allow them to benefit from the lower variable cost that  
6    goes with the higher capacity costs.  No theory supports this result and this flawed  
7    study should be given no weight.

8    **Q    HAS THIS ISSUE OF ALLOCATING A BELOW AVERAGE SHARE OF VARIABLE**  
9    **COSTS TO HIGHER LOAD FACTOR USERS RECENTLY BEEN ADDRESSED IN**  
10   **A KCPL RATE PROCEEDING?**

11   A    Yes.  Staff witness Lena Mantle addressed this topic in her September 8, 2006  
12   rebuttal testimony in a recent KCPL rate case, Case No. ER-2006-0314.  Her  
13   testimony discussed planning principles and the relationship between load factors  
14   and generation mix.  Her testimony clearly demonstrates that as capital cost  
15   increases (with higher load factor), energy cost decreases.  While her testimony was  
16   in the context of jurisdictional allocations, the principle is the same at the class level.  
17   In fact, the recognition of the principles at the class level is even more critical since  
18   the differences among class load factors are much greater than the differences  
19   between jurisdictional load factors.

1 **OPC's Recommendation**

2 **Q DID OPC OFFER A CLASS COST OF SERVICE STUDY?**

3 A No. OPC witness Meisenheimer relied on GMO's BIP study to develop a class  
4 revenue shift recommendation. Since her recommendation is based on the flawed  
5 BIP study, it should not be accepted.

6 **Importance of Precedent**

7 **Q IN EARLIER TESTIMONY, YOU POINTED OUT THAT STUDIES BEING**  
8 **PROPOSED BY GMO AND STAFF IN THIS PROCEEDING ARE NOT USED IN**  
9 **OTHER JURISDICTIONS AND ARE NOT SUPPORTED BY PRECEDENT OR**  
10 **ACCEPTANCE IN THE INDUSTRY. WHAT IS THE SIGNIFICANCE OF THE FACT**  
11 **THAT A METHODOLOGY IS NOT USED IN OTHER JURISDICTIONS?**

12 A Cost of service studies for electric systems has been performed for well over 50  
13 years. This means that there has been a significant amount of analysis that has gone  
14 into the question of determining how best to ascertain cost-causation on electric  
15 systems, across a broad spectrum of utility circumstances. Methods that have not  
16 had the benefit of that analysis and withstood the test of time must be viewed with  
17 skepticism. Proponents of such methods bear a special burden of proving that they  
18 do a more accurate job of identifying cost-causation than do recognized methods,  
19 and are not merely ad hoc creations designed simply to support a particular result  
20 desired by the analyst.

21 **Q DOES THIS CONCLUDE YOUR REBUTTAL TESTIMONY?**

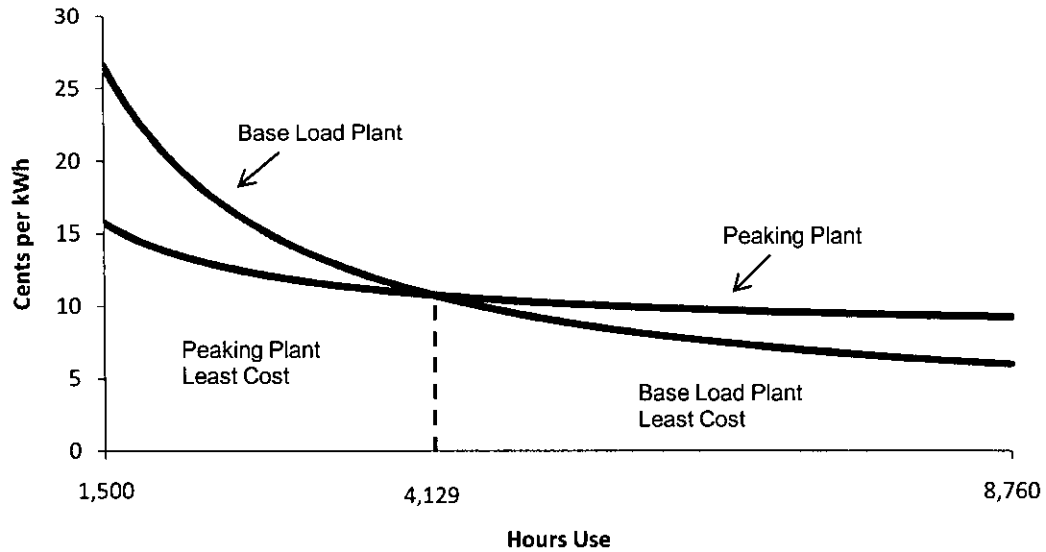
22 A Yes, it does.

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# KCP&L GREATER MISSOURI OPERATIONS COMPANY

## Generation Technology Break-Even Point



Line	Technology	Installed Cost per kW (1)	Times 15% (2)	Fixed O&M (3)	Total Fixed (4)	Variable ¢/kWh		
						Fuel (5)	O&M (6)	Total (7)
1	Coal	\$2,300	\$345	\$28	\$373	1.2*	0.5	1.7
2	Combustion Turbine	\$700	\$105	\$12	\$117	7.5**	0.4	7.9

Break-Even Point:

$$\frac{3}{4} \quad \frac{\$373 - \$117}{\$0.079 - \$0.017} = 4,129 \text{ hours}$$

Source: 2010 EIA Annual Energy Outlook  
Energy Market Module unless otherwise noted

\* latin

\*\* 10,800 Btu/kWh at \$7.00/MMBtu

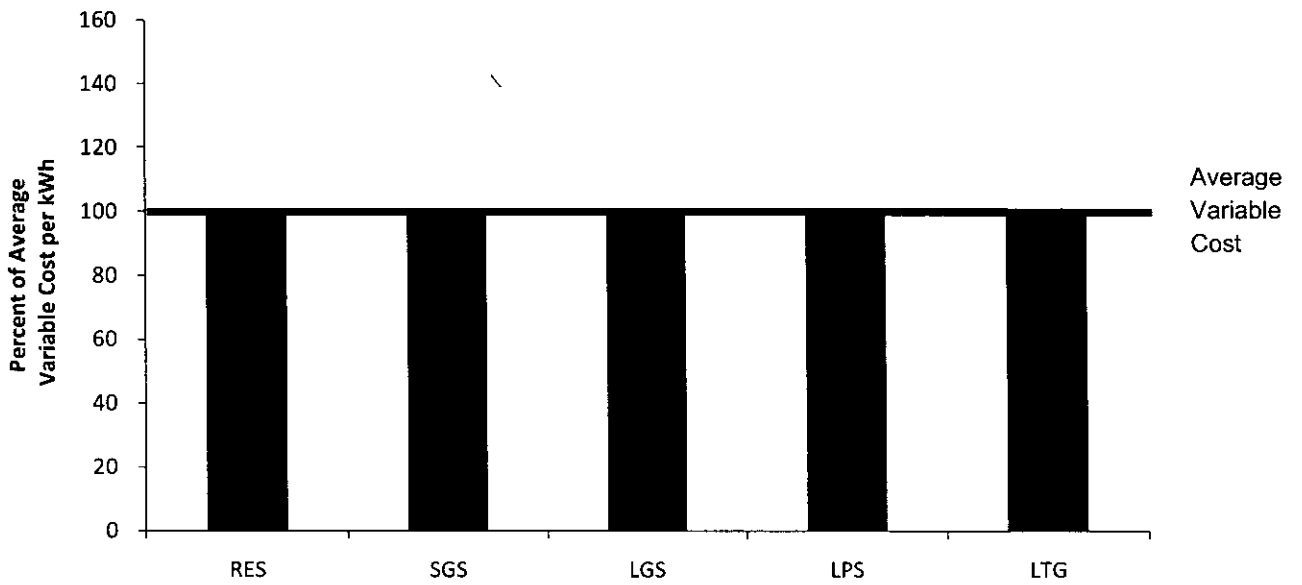
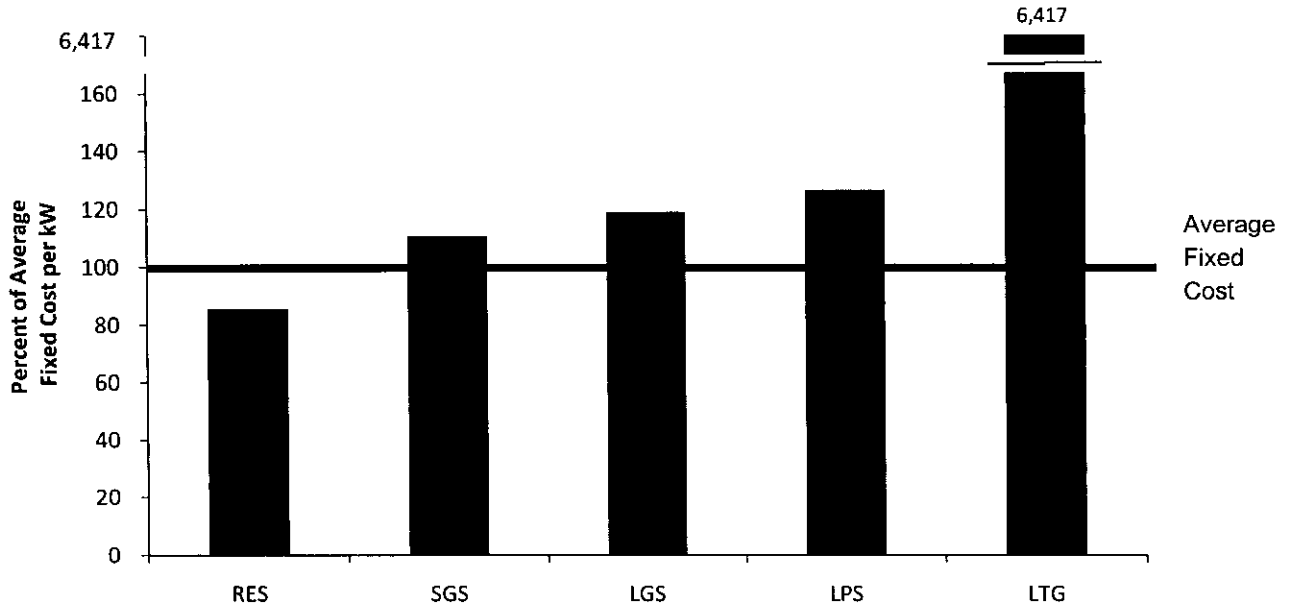
**KCP&L GREATER MISSOURI OPERATIONS COMPANY  
For All Territories Served as MPS**

Allocation of Fixed Costs and Variable Costs

Line	Description	MPS Retail (1)	Residential (2)	Small General Service (3)	Large General Service (4)	Large Power Service (5)	Lighting (6)
<u>Traditional Methods</u>							
<b>4 NCP A&amp;E</b>							
1	Fixed Cost per kW	\$564	\$564	\$564	\$564	\$564	\$564
2	Index	100	100	100	100	100	100
3	Variable Cost per kWh	3.0¢	3.0¢	3.0¢	3.0¢	3.0¢	3.0¢
4	Index	100	100	100	100	100	100
<b>2 NCP A&amp;E</b>							
5	Fixed Cost per kW	\$564	\$564	\$564	\$564	\$564	\$564
6	Index	100	100	100	100	100	100
7	Variable Cost per kWh	3.0¢	3.0¢	3.0¢	3.0¢	3.0¢	3.0¢
8	Index	100	100	100	100	100	100
<b>4 CP</b>							
9	Fixed Cost per kW	\$564	\$564	\$564	\$564	\$564	\$564
10	Index	100	100	100	100	100	100
11	Variable Cost per kWh	3.0¢	3.0¢	3.0¢	3.0¢	3.0¢	3.0¢
12	Index	100	100	100	100	100	100
<u>GMO's BIP Method</u>							
13	Fixed Cost per kW	\$564	\$484	\$624	\$671	\$714	\$36,170
14	Index	100	86	111	119	127	6,417
15	Variable Cost per kWh	3.0¢	3.0¢	3.0¢	3.0¢	3.0¢	3.0¢
16	Index	100	100	100	100	100	100

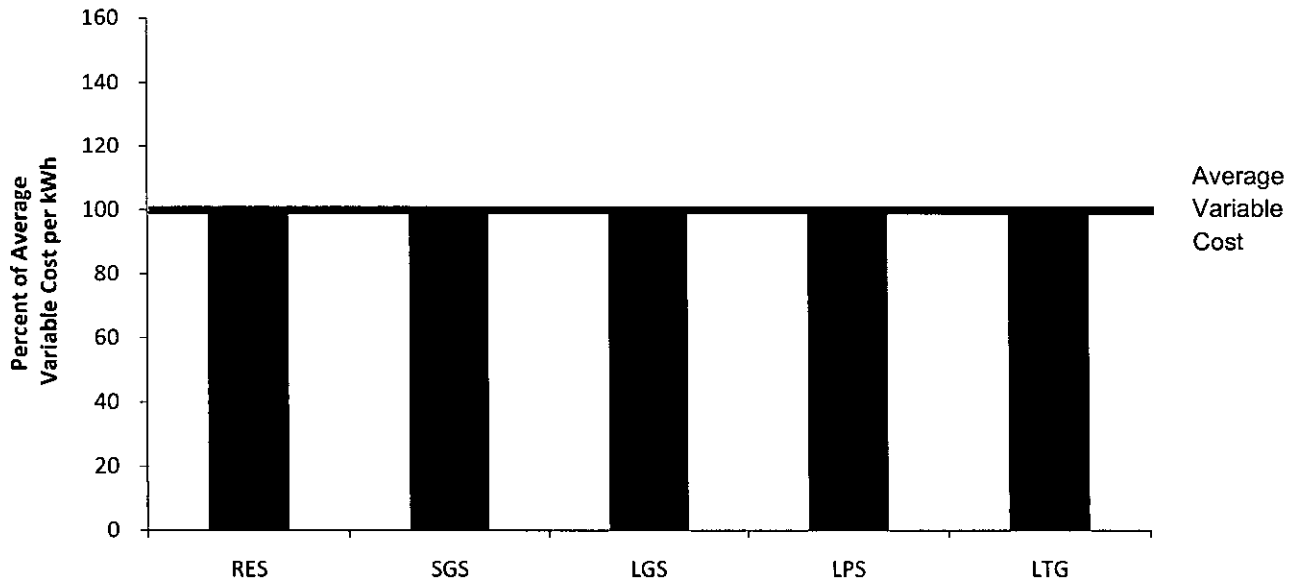
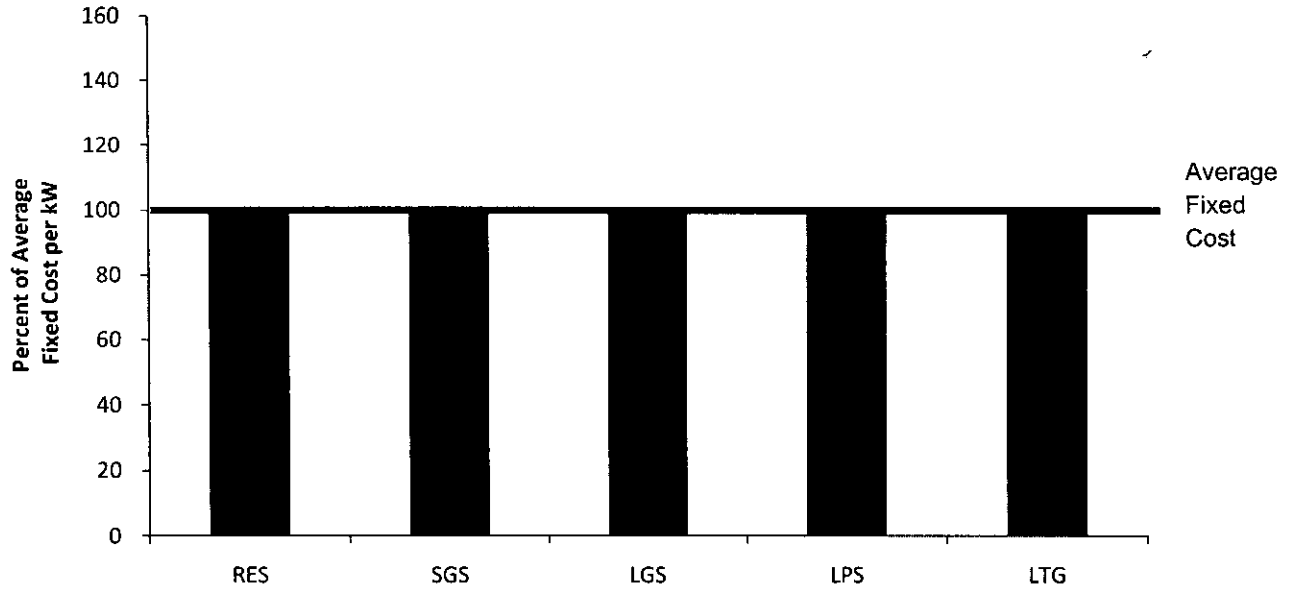
# KCP&L GREATER MISSOURI OPERATIONS COMPANY For All Territories Served as MPS

## Illustration of Skewed Allocation of Fixed Costs and Variable Costs Under GMO's Base-Intermediate-Peaking COS



# KCP&L GREATER MISSOURI OPERATIONS COMPANY For All Territories Served as MPS

## Allocation of Fixed Costs and Variable Costs Under 4 NCP Average & Excess COS



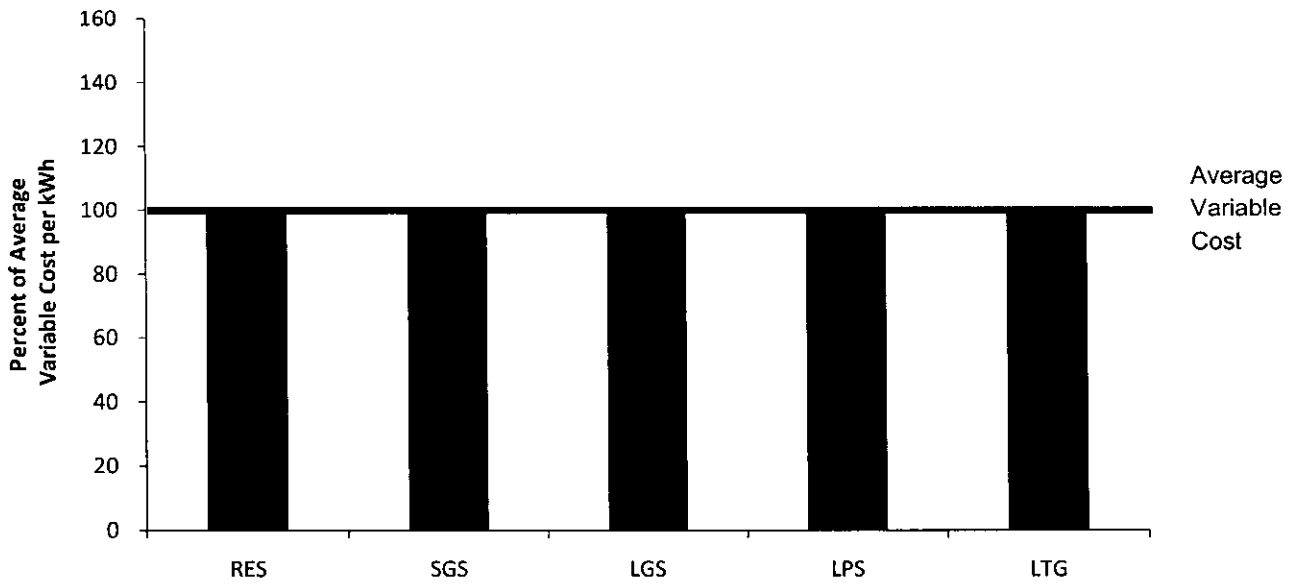
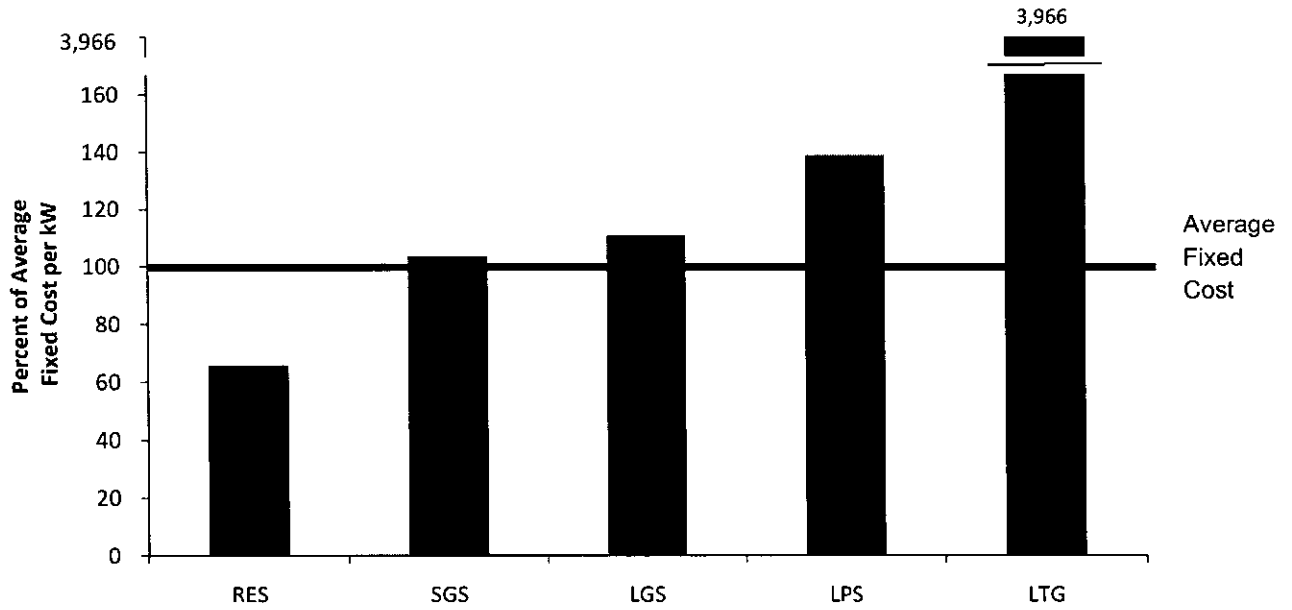
**KCP&L GREATER MISSOURI OPERATIONS COMPANY**  
**For All Territories Served as L&P**

Allocation of Fixed Costs and Variable Costs

Line	Description	L&P Retail (1)	Residential (2)	Small General Service (3)	Large General Service (4)	Large Power Service (5)	Lighting (6)
<u>Traditional Methods</u>							
<u>4 NCP A&amp;E</u>							
1	Fixed Cost per kW	\$563	\$563	\$563	\$563	\$563	\$563
2	Index	100	100	100	100	100	100
3	Variable Cost per kWh	2.8¢	2.8¢	2.8¢	2.8¢	2.8¢	2.8¢
4	Index	100	100	100	100	100	100
<u>2 NCP A&amp;E</u>							
5	Fixed Cost per kW	\$563	\$563	\$563	\$563	\$563	\$563
6	Index	100	100	100	100	100	100
7	Variable Cost per kWh	2.8¢	2.8¢	2.8¢	2.8¢	2.8¢	2.8¢
8	Index	100	100	100	100	100	100
<u>4 CP</u>							
9	Fixed Cost per kW	\$563	\$563	\$563	\$563	\$563	\$563
10	Index	100	100	100	100	100	100
11	Variable Cost per kWh	2.8¢	2.8¢	2.8¢	2.8¢	2.8¢	2.8¢
12	Index	100	100	100	100	100	100
<u>GMO's BIP Method</u>							
13	Fixed Cost per kW	\$563	\$371	\$583	\$624	\$782	\$22,339
14	Index	100	66	104	111	139	3,966
15	Variable Cost per kWh	2.8¢	2.8¢	2.8¢	2.8¢	2.8¢	2.8¢
16	Index	100	100	100	100	100	100

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## Illustration of Skewed Allocation of Fixed Costs and Variable Costs Under GMO's Base-Intermediate-Peaking COS





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