

**MISSOURI PUBLIC SERVICE COMMISSION**

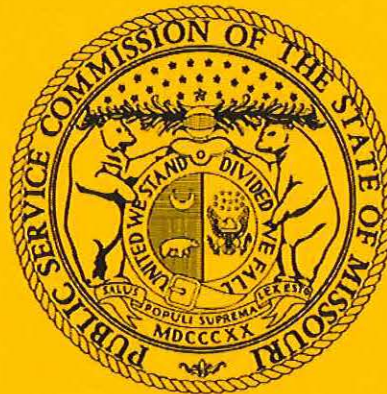
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**STAFF REPORT**

Missouri Public  
Service Commission

**RATE DESIGN**



**KCP&L GREATER MISSOURI OPERATIONS COMPANY**

**CASE NO. ER-2016-0156**

*Jefferson City, Missouri  
July 29, 2016*

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**KCP&L GREATER MISSOURI OPERATIONS COMPANY**  
**CASE NO. ER-2016-0156**

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1 In its direct filing, GMO proposed to implement consistent rates for similarly situated  
2 customers without regard for that customer's geographic location, and proposed  
3 comprehensive changes to its rate structure and rate design. GMO's proposed consolidated  
4 rate structure and rate design would bring consistency in rate structure across its service  
5 territory, but some level of changes to GMO's currently tariffed rate structures are necessary  
6 to effectuate GMO's proposal. The proposed changes to GMO's residential customers' rate  
7 structure are minimal. The proposed changes to GMO's General Service and Large Power  
8 rate classifications are more significant.

9 Currently, there are not consistent rate structures or rate designs between GMO's rate  
10 districts.<sup>2</sup> The rate structure and design GMO has proposed for consolidated rates  
11 incorporates elements of each existing rate structure. However, the differences in rate  
12 structures and designs currently tariffed across districts and the further distinctions  
13 incorporated in GMO's proposed consolidated structure and design are significant.  
14 For example, the structure and design of the L&P rate district's "Large General Service" rate  
15 schedule is quite different from the MPS rate district's "Large General Service" rate schedule.  
16 GMO's proposed "Large General Service" rate schedule includes some concepts from each,  
17 but it is also quite distinct from each. If one were to simply assign all customers currently  
18 receiving service on the MPS rate district's or L&P rate district's "Large General Service"  
19 rate schedule to the proposed "Large General Service" rate schedule, those customers would  
20 likely (1) experience an overall bill increase on a revenue-neutral basis, and (2) be a better fit  
21 with a lower annual bill if they were to be served on the proposed consolidated "Small  
22 General Service – Demand" rate. This process is further complicated by the fact that for some  
23 GMO customers, they would currently receive a lower bill if they were to switch to a different  
24 qualifying rate in that customer's current rate district.<sup>3</sup>

25 While not included in its direct filing, GMO is conducting a "best-fit" process to  
26 distribute customers to the newly created classes. This process is necessary to establish the

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<sup>2</sup> For example, a customer situated in the L&P rate district that qualifies for service on the L&P rate district Large Power rate schedule, MO944, may qualify for and receive a lower rate under the MPS rate district's rate schedule MO720, which is a Large General Service rate schedule.

<sup>3</sup> For example, the Large Power rate schedules in the L&P rate district are very sensitive to a customer's non-coincident demand. Customers who may have been on that rate schedule since the mid-2000s but have since reduced load either due to energy efficiency or economic reasons could reduce their bills today by switching to the Large General Service rate schedule for the L&P rate district, MO940.

1 | billing determinants that will be used to design the rates ultimately resulting from this case.  
2 | Discussed in greater detail in the "Billing Determinants" section of this Report, GMO  
3 | and Staff employed a process of "assigning" customers to a given service classification based  
4 | on that customer's current classification to create an initial consolidated classification,  
5 | then employing a "best-fit" placement of customers to the proposed rate classifications.  
6 | The best-fit placement consists of migrating the billing determinants and associated revenues  
7 | of those customers who would receive a lower annual bill by switching to a different  
8 | consolidated service classification. <sup>4</sup>The difference in revenues from what that customer  
9 | would pay on the assigned classification to what the customer would pay on the best-fit  
10 | classification will be spread to all classes as part of the overall revenue requirement.<sup>5</sup>

11 |       Class-level hourly load information is necessary to produce class-level coincident and  
12 | non-coincident peak information, among other things. Because the process of reassigning  
13 | customers and revenues from current rate classifications to consolidated rate classification is  
14 | unable to provide the hourly loads associated with the final consolidated rate classification,  
15 | Staff determined that the information needed to produce a reasonably reliable class cost of  
16 | service study is not available. In the absence of a class cost of service study, Staff prioritizes  
17 | minimization of customer impact in recommending a rate design for the total-company rate  
18 | schedules that will be promulgated in the compliance tariff of this case. Similarly, Staff does  
19 | not recommend any deliberate interclass revenue-neutral shifts to revenue responsibility.<sup>6</sup>

20 |       Given the complexity of the best-fit process that is necessary to establish billing  
21 | determinants, Staff is unable to recommend significant changes to the rate structures and rate  
22 | designs that GMO has proposed for non-residential customers. For example, if Staff were to  
23 | design rates that reduce the emphasis on a given customer's non-coincident demand, then it is  
24 | likely that many customers would best-fit to a different rate schedule than that to which Staff

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<sup>4</sup> These best-fit placements of customers and associated billing determinants into classes is based on the rate structures and rate designs GMO has proposed, and would be different if alternative rate structures or designs are ultimately ordered, though the range of difference would depend on the significance of the changes made.

<sup>5</sup> Were the revenue shortfall from the best-fit customer movements to be allocated directly to the receiving class, that class's revenue requirement would necessarily change, which would change that class's rates, which would cause some customers to move out of that class and cause customers to not move into that class, which would impact the level of revenues to be reallocated.

<sup>6</sup> The reassignment and best-fit processes and potential resulting revenue shortfalls will result in some level of interclass revenue responsibility shifts. However, these shifts are not intended to be indicative of intentional shifts resulting from classes over- or under-contributing relative to one another.

1 and GMO are currently working to move that given customer's determinants. Without that  
2 customer's determinants, the rates for the destination schedule would change, and the new  
3 rates would result in a different best-fit for other customers.

4 In summary, while the proposed rate structure and rate designs for the non-residential  
5 rate classifications are not what Staff would have proposed, GMO's non-residential rate  
6 design is not unreasonable for use in this case, with Staff's recommended condition to file a  
7 rate design case as soon as necessary data is available. Given the lack of reliable hourly usage  
8 data and firm billing determinants, Staff supports GMO's non-residential rate design.  
9 With regard to the residential classifications, customers do not have the ability to freely  
10 switch to a non-residential rate schedule. Staff, therefore, recommends a residential rate  
11 design that differs from that proposed by GMO.

12 In general, GMO's proposed structure and design prioritizes revenue recovery stability  
13 first, and minimization of customer impact second. In light of the comprehensive nature of  
14 GMO's proposal, Staff will identify areas of concern and explain recommended refinements  
15 to GMO's proposal, as opposed to providing a ground-up Staff proposal for rate  
16 consolidation. This approach is necessary for Staff to have reasonable confidence in the  
17 billing determinants calculated from the changes in rate structure.<sup>7</sup>

18 With an eye towards refining GMO's rates to better implement good rate-making  
19 policies including cost causation, Staff recommends that the Commission order GMO to  
20 perform load research to sample the newly-consolidated classes. Once a year of hourly data  
21 for the new classes is available, Staff recommends that GMO file a rate design case to  
22 implement rates that better recognize cost causation and the additional rate design policies  
23 that will be discussed in the "Rate Design" section below.

24 During the pendency of this case, Staff recommends that GMO pursue all reasonable  
25 avenues of customer communication to inform customers of the probable changes to each  
26 customer's applicable rate design and charge elements. In particular, given the requested  
27 changes in the impact of annual customer non-coincident peak on a customer's bill in each  
28 month of the year, Staff expects GMO to have communicated the importance of this  
29 determinant to customers prior to the start of the summer cooling season. Staff recommends

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<sup>7</sup> Customer movement to final rate schedules is contingent on Commission decisions on rate design.

1 that the parties adopt a method of determining the best-fit rate for customers based on the  
2 available customer information, and that those class determinants not be further adjusted for  
3 customer switching, other than net growth per class.

4 Staff recommends that the Commission order GMO to move customers to that best-fit  
5 rate beginning with that customer's first bill on the compliance tariffed rates resulting from  
6 this case. Staff further recommends the Commission order GMO to work with customers to  
7 advise the customer of the changes to that customer's rate schedule, rate elements,  
8 likely average annual bill, and likely actual monthly bills. In designing rates to recover the  
9 final revenue requirement ordered in this case, Staff recommends that all energy-variable rates  
10 for all classes cover the incremental cost of energy at the appropriate voltage as purchased  
11 or netted through the SPP Integrated Marketplace, including a reasonable factor for ancillary  
12 services. Staff further recommends that residential rates be established as described in  
13 the "Rate Design" section of this Report, including a customer charge of \$10.71 per customer  
14 per month.

15 Staff recommends the Commission order GMO to do new and/or reassigned load  
16 sampling, and to derive new load research data that is appropriate for the classes resulting  
17 from this case. Staff recommends the Commission order GMO to file a rate design case upon  
18 the completion of one year's worth of load research data. Included in this filing should be  
19 (1) a class cost of service study, (2) GMO's proposal to make Time of Use ("ToU") rates  
20 available to all customers including a study of applicable ToU determinants, and (3) a study  
21 of the reasonableness of modifying GMO's seasonal rates to establish rates for Peak months  
22 and Shoulder months, as opposed to GMO's current Summer / Non-Summer seasonal split,  
23 including applicable determinants.

24 Additional recommendations concerning the Fuel Adjustment Clause are provided in  
25 that section of this Report.

26 *Staff Experts/Witnesses: Sarah L. Kliethermes, Robin Kliethermes*

1 **II. Terms and Concepts**

2 Rate Design

3 Rate design is the relative pricing of one element of a rate structure to another, within  
4 or across classes. Cost causation is typically the driving factor of rate design, although other  
5 policies must be considered.<sup>8</sup>

6 Rate Structure

7 Rate structure is the composition of the various charges for the utility's products.<sup>9</sup>  
8 These include customer charges, energy (usage) charges, demand charges, and facilities  
9 charges. More elaborate variations include seasonal variations, time-of-day differentials,  
10 declining/inclining block rates, and hours-use rates. These variations send different price  
11 signals to customers based on the usage and demand characteristics of the customer and the  
12 features of the rate structure, and the relative pricing of the rate design. The most simple rate  
13 structures consist of two to five elements, while structures that are more complex may have  
14 more than 16 elements.

15 Many rate elements are seasonally distinguished. The Summer rate is different from  
16 those applied in the non-summer months. In addition, not all classes' rates will include all of  
17 the following elements:

- 18 (1) Customer charge,  
19 (2) Facilities charge,  
20 (3) Demand Charge,  
21 (4) Energy charges, either simple, blocked, hours-of-use, or seasonal,  
22 (5) Reactive demand.

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<sup>8</sup> Other important policies include minimization of rate shock to any one customer class or customers within a class, meeting of incremental costs, rate continuity, rate stability, revenue stability, consideration of promotional practices, and impact on energy efficiency policies. For purposes of rate design, cost causation is typically deemed as the distribution of costs that results from the allocation of a vertically integrated utility's gross revenue requirement net of other revenues. It is necessary to make an exception to this general assumption in certain instances when considering costs that would not be incurred but-for a customer, such as the cost of energy purchased through the integrated energy market to serve a customer.

<sup>9</sup> Some revenues are recovered through miscellaneous charges such as line extension policies or bad check fees. These charges are not typically included in the discussion of retail revenue recovery.



1 A good rate structure is a compromise between the complexity necessary to match cost  
2 causation to revenue recovery as precisely as possible and the level of understandability and  
3 predictability of bills and revenues desired by utilities, customers, and regulators. The tension  
4 between the interest in providing revenue stability and indicating cost causation should also  
5 be considered when reasonably designing rates and selecting rate structure components.  
6 Changes to rate structure may require additional metering or customer information system  
7 investment, and the cost of that investment should be weighed against the benefit of the  
8 increased complexity.

9 Energy

10 Energy is measured in kilowatt-hours, ("kWh"). "Energy" and "usage" are often used  
11 interchangeably for rate design purposes.

12 Demand

13 Demand is measured in kilowatts, ("kW"), and refers to the level of energy used in a  
14 given hour. Often, when someone refers to a demand, the intended meaning is the peak  
15 demand experienced during the referenced time period.

16 Hourly Loads

17 Hourly loads are determined from a review of class-level load research data. Load  
18 research data is developed by placing "sample meters" at customer locations that record  
19 hourly usage for a relatively small number of customers within that class. That usage is then  
20 expanded based on the sample-metered customers' share of total class energy for the study  
21 period to reflect hourly energy usage for the class for the study period. The "classes" used in  
22 load research may be individual classes as they are tariffed, or may be larger "rate groups,"  
23 such as all general service classes. Load research classes may also be more granular than  
24 tariffed classes, such as if hourly data were to be developed for customers taking service  
25 under space-heating and general-service schedules within a tariffed class.

26 Hourly loads developed from load research are the foundation of weather  
27 normalization studies as well as class cost of service studies, which is why it is important to  
28 have the most accurate load research data for each rate class.

1           Customer Non-Coincident Peak

2           Customer non-coincident peak (“NCP”) demand is the highest 15 minutes of usage  
3 a customer exhibits during the relevant time period. The reference time period may be a  
4 billing month, a calendar month, or annually. Customer NCPs can be measured with a  
5 “ratchet meter” that physically records the highest point of usage, or by a later review of  
6 hourly data captured by an AMI or AMR meter where hourly and sub hourly meter  
7 information is retained by billing software.

8           Class Non-Coincident Peak

9           Class NCP is the highest level of energy estimated to have been used by a studied  
10 class in a given hour of the reference period. The reference period is typically a calendar  
11 month or annually.<sup>10</sup> Class NCP is determined from a review of the hourly loads, and can be  
12 measured either before or after application of normalization factors.

13           System Peak

14           System peak is either (1) the usage determined to have been experienced in the hour  
15 that system experienced its peak level of demand for the reference period per hourly data, or  
16 (2) the highest level of load metered per transmission-level metering or RTO billing during  
17 the reference period.

18           Class Coincident Peak

19           Class coincident peak is the amount of energy a class was determined to have used per  
20 hourly data in the hour that the system experienced its peak level of demand for the reference  
21 period per hourly data.

22           Customer Coincident Peak (relative to class and system)

23           Customer coincident peak relative to class is the amount of energy a single customer is  
24 metered to have used in the hour that the customer’s class experienced its NCP for the  
25 reference period per hourly data. Currently, it can only be accurately measured after-the-fact.

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<sup>10</sup> If all customers within the class are on the same billing cycle, it may be possible to determine a class NCP for a billing month.

1 Customer coincident peak relative to system is the amount of energy a single customer is  
2 metered to have used in the hour of system peak for the reference period. Currently, it can  
3 only be accurately measured after-the-fact.

#### 4 Billing Determinants

5 Billing determinants are the quantity of each charge type to be billed to collect an  
6 allowed revenue requirement. Every charge type that appears in a company's rate structure  
7 must have an associated billing determinant. Energy-related billing determinants are  
8 developed from the normalized and annualized usages and revenues Staff developed as part of  
9 its Cost of Service filing. Additional billing determinants are developed from actual billing  
10 demands during the test period, and from annualized customer counts.

11 The normalized and annualized usages and revenues developed by Staff serve three  
12 purposes in each rate case. The first purpose is to determine the normalized and annualized  
13 level of revenue that is generated by existing tariffs. The second purpose is for the  
14 development of Net System Input for the calculation of variable fuel and purchased  
15 power expenses. Finally, normalized and annualized usage is also used with the ordered  
16 revenue requirement resulting from a case to determine the appropriate value for each  
17 energy-related rate element to be included in the compliance tariff sheets. This latter usage is  
18 commonly referred to as billing determinants.

19 *Staff Expert/Witness: Sarah L. Kliethermes*

### 20 **III. Rate Structures and Designs**

21 In its direct filing, GMO proposed to implement consistent rates for similarly situated  
22 customers across all geographic locations, and proposed comprehensive changes to its rate  
23 structure and rate design. GMO's proposed consolidated rate structure and rate design would  
24 bring consistency in rate structure across its service territory, but some level of changes to  
25 GMO's currently tariffed rate structures are necessary to effectuate GMO's proposal. The  
26 changes to GMO's residential customers' rate designs structure are minimal. The changes to  
27 GMO's General Service and Large Power rate classifications are more significant.

1 **GMO's Proposed Rate Structure**

2 GMO's proposed rate structure includes the following rate elements:

- 3 (1) A customer charge, payable as a fixed dollar amount each month  
4 regardless of usage. This charge does not vary by billing season. All rate  
5 classes include this charge, though the levels vary significantly by class.  
6
- 7 (2) A facilities charge, payable as a fixed dollar amount each month  
8 regardless of usage in that month. The magnitude of this charge is  
9 established by the highest monthly customer's non-coincident peak  
10 ("NCP") demand in the prior year including the current month. If the  
11 customer has not exceeded the minimum demand for the customer's class,  
12 then that minimum demand is used. For example, if a customer had an  
13 NCP of 100kW in August and an NCP of 97 in September that customer  
14 will be billed a facilities charge based on 100kW every month, unless and  
15 until a different peak is set or twelve months have passed and the then-  
16 highest peak is used. This charge does not vary by billing season. SGS-  
17 Demand, LGS, and LPS classes include this charge.  
18
- 19 (3) A demand charge as measured by a customer's NCP. This charge is the  
20 sum of two separate calculations.  
21
- 22 a. During the summer billing months, a rate is applied to the customer's  
23 entire metered NCP demand for the billing month to calculate the  
24 demand charge.  
25
- 26 b. During non-summer billing months, the charge is calculated by the  
27 lesser of that customer's actual NCP demand during the billing month,  
28 or the maximum NCP demand that customer experienced during the  
29 prior summer.<sup>11</sup>
- 30 (4) For example, if a customer had an NCP of 100kW in August and an NCP  
31 of 150kW in October, that customer will be billed for 100kW of  
32 demand in the October billing month. The rates applied to determine this  
33 charge vary by billing season. SGS-Demand, LGS, and LPS classes  
34 include this charge.

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<sup>11</sup> The maximum NCP demand during the prior summer is defined as that customer's "Annual Base Demand." In non-summer months, the difference between the metered NCP and the prior summer's maximum NCP is defined as "Seasonal Demand." As the tariff is structured, all months are subject to a base billing demand charge and a seasonal billing demand charge. However, as the rates are designed, during the summer billing months both base and seasonal demand are billed at the same rate, and during non-summer billing months, the rate applied to seasonal demand is \$0.00/kW.

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- (5) An energy charge based on kWh consumed. GMO has four distinct methods for calculating the energy charge, which vary by customer class. For all rate classes, the rates applied to determine this charge vary by billing season.
- a. A charge comprised of a summer rate applicable to “All kWh”, and a non-summer rate applicable to “All kWh”. For the Residential “Other Use” class, the same charge applies to each kWh used, though the charge does vary by season.
  - b. A charge comprised of rates applicable to “Base Energy”, with “Seasonal Energy” blocks. For the SGS Non-Demand classifications, during the summer billing months, all kWh are billed at the same given rate. During the non-summer billing months, usage up to the level of that customer’s highest usage during one of the prior summer’s billing month’s is billed at one rate, and usage in excess of that level is billed at a different rate.<sup>12</sup> The rate for this second block of usage applicable to customers having greater non-summer usage than summer usage is designed at a declining (lower) price. The rates applied to determine this charge vary by billing season.
  - c. A volumetrically blocked energy charge comprised of rates applicable to usage within specified volumes. For Residential and Residential space heating customers, different rates may be applied to usage from 0 – 600kWh, 601 – 1000kWh, and usage over 1,001kWh. During the summer billing months the same rate is applied to all kWh across all volumetric blocks of usage. During the non-summer billing months the rates applied are designed at a declining (lower) price as usage progresses through the volumetric blocks.
  - d. An hours-of-use blocked energy charge, with “Base Energy Charge” and “Seasonal Energy Charge” blocks. Hours-of-use is a method of blocking the price of energy sales in a given billing month to a given customer based on the relationship of that customer’s usage to the applicable demand, usually that customer’s NCP during that billing month. Typical Hours-of-use break points are at 180 Hours’ Use and at 360 Hours’ Use. For example, to determine usage relative to 180 Hours’ Use, a customer’s energy usage for a billing month is divided

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<sup>12</sup> The maximum energy usage during the prior summer is defined as that customer’s “Annual Base Energy.” In non-summer months, the difference between the metered energy usage and the prior summer’s maximum energy usage is defined as “Seasonal Energy.” As the tariff is structured, all months are subject to a base energy charge and a seasonal energy charge. However, as the rates are designed, during the summer billing months both base and seasonal energy are billed at the same rate.

1 by that customer's metered NCP for that billing month to find the  
2 customer's monthly hours of use, and if the result is over 180 then  
3 multiply the customer's metered NCP demand by 180. The volume of  
4 kWh sold up to the resulting number would be billed at the first 180  
5 Hours' Use rate. Usage up to double that resulting number would be  
6 billed at the next 180 Hours' Use rate. Usage over double that  
7 resulting number would be billed at the Hours' Use over 360 rate.  
8

9 For SGS-Demand customers, the blocks are based on usage above and  
10 below 180 Hours' Use. For LGS and LPS customers, the blocks are  
11 based on usage below 180 Hours' Use, usage for the next 180 Hours'  
12 Use, and usage over 360 Hours' Use. Energy within those hours-of-  
13 use blocks is further distinguished into "Base" and "Seasonal" energy  
14 portions, in the same ratio as base to seasonal demand is billed for that  
15 same customer within the same billing month. In the summer billing  
16 months, for a given hours-of-use block, the seasonal energy rate is set  
17 equal to the base energy rate, with the prices declining from the first  
18 hours-of-use block to the last hours-of-use block. For the non-summer  
19 billing months, for a given hours-of-use block, the seasonal energy  
20 rates in all blocks are set at the same price and that price is lower than  
21 that of any base energy rate in any hours-of-use block. For the non-  
22 summer billing months, the base energy rates decline from the first  
23 hours-of-use block to the last hours-of-use block.  
24

25 For example, assume a LGS-Demand customer in the month of  
26 February had a metered demand of 189kW with a base demand of  
27 175kW leaving 14kW to be billed as seasonal demand. If that  
28 customer used 77,082kWh of energy then there would be 34,020kWh  
29 of energy billed in the first 180 Hours' Use, 34,020kWh of energy in  
30 the next 180 Hours' Use, and 9,042 kWh of energy over 360 Hours'  
31 Use. The ratio for that billing month of base demand to seasonal  
32 demand is .08, so in the first 180 Hours' Use, that customer would be  
33 billed for 201kWh at the seasonal energy rate, and 2,319kWh at that  
34 block's base energy rate. For the next 180 Hours' Use, that customer  
35 would be billed for 201kWh at the seasonal energy rate, and  
36 2,319kWh at that block's base energy rate. For the Hours' Use over  
37 360, that customer would be billed for 53kWh at the seasonal energy  
38 rate, and for 617kWh of usage at that block's base energy rate.  
39

1 (6) A Reactive Demand Adjustment is charged to LPS customers when the  
 2 reactive demand in kVar is greater or less than 50% of that customer's  
 3 NCP demand in kW for that billing month. This charge does not vary by  
 4 billing season.<sup>13</sup>

5 Many of these rate elements are seasonally distinguished, in that the "Summer" rate  
 6 applicable to the months of June, July, August, and September, is different from those applied  
 7 in the "Winter" month.<sup>14</sup> Not all classes' rates will include all of the previously described  
 8 elements.

9 **Rate Structures of Existing Classes**

10 Provided below is a brief description of current rate class designations for customers  
 11 in GMO's MPS rate district. Each of these rate structures also includes a customer charge.

12

MPS Rate District Rate Schedules	Rate Structure	Minimum Demand <sup>15</sup>
<b>MPS Rate District Residential</b>		
Res General Use	First 600 kWh, Next 400 kWh, Over 1000 kWh (inclining block summer rate design, declining in winter)	
Res with SH	First 600 kWh, Next 400 kWh, Over 1000 kWh	
Res Other Use	No blocked energy charge, but seasonal differentiation	
Res Net Metering General Use	Same as Res General Use	
Res Net Metering with SH	Same as Res Space Heating	

<sup>13</sup> Reactive demand is separately accounted for in billing where large customers have large loads that impact the relationship of energy and voltage.

<sup>14</sup> GMO uses the term "Winter" in its proposed tariff. Staff prefers the term "Non-Summer" as more meaningful to customers and accurate.

<sup>15</sup> The minimum demand requirements set guidelines for the size of customers in the class. It is also the minimum that a customer must pay as part of the demand charge component of the rate design. A customer's qualification for a non-demand rate may be determined by that customer's maximum kWh usage not exceeding a specified threshold.

<b>MPS Rate District Rate Schedules</b>	<b>Rate Structure</b>	<b>Minimum Demand</b>
<b>MPS Rate District Small General Service</b>		
SGS No Demand	No Demand Charge, Base and Seasonal Usage	< 5,400 kWh
SGS Short Term	No Demand Charge, No Blocked Energy Charge	<5,400 kWh
SGS Secondary	Demand Charge, Base and Seasonal Hours of Use (First 180, Next 180, Over 360)	
SGS Primary	Demand Charge, Base and Seasonal Hours of Use (First 180, Next 180, Over 360)	
SGS Net Metering No Demand	No Demand Charge, Base and Seasonal Usage	
SGS Net Metering Demand	Demand Charge, Base and Seasonal Hours of Use rate design	
<b>MPS Rate District Large General Service</b>		
LGS Secondary	Demand Charge, Base and Seasonal Hours of Use (First 180, Next 180, Over 360)	100 kW
LGS Primary	Demand Charge, Base and Seasonal Hours of Use (First 180, Next 180, Over 360)	100 kW
LGS Secondary Net Metering	Demand Charge, Base and Seasonal Hours of Use (First 180, Next 180, Over 360)	100 kW
<b>MPS Rate District Large Power Service</b>		
LPS Secondary	Demand Charge, Base and Seasonal Hours of Use (First 180, Next 180, Over 360)	500 kW
LPS Net Metering Secondary	Demand Charge, Base and Seasonal Hours of Use (First 180, Next 180, Over 360)	500 kW
LPS Primary	Demand Charge, Base and Seasonal Hours of Use (First 180, Next 180, Over 360)	500 kW
LPS Real Time Pricing Primary	No customers	500 kW

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1            Provided below is a brief description of current rate class designations for customers  
2 in GMO's L&P rate district. A customer charge is included in the rate structures of the  
3 residential classes and the SGS non-demand classes. The SGS demand, LGS, and LPS class  
4 rate structures do not include a customer charge, however these class structures do feature a  
5 minimum facilities charge that varies by the class minimum demand.  
6

<b>L&amp;P Rate District Rate Schedules</b>	<b>Rate Design</b>	<b>Minimum Demand</b>
<b>L&amp;P Rate District Residential</b>		
Res General Use	First 650 kWh and Over 650 kWh (flat rate for summer, declining for winter)	
Res General Use Multiple Occupancy	First 650 kWh and Over 650 kWh	
Res Other Use	Seasonally differentiated kWh charge	
Res with Space Heating	First 1,000 kWh and Over 1,000 kWh	
Res with Space Heating Multiple Occupancy	First 1,000 kWh and Over 1,000 kWh	
Res Separately Metered Space Heating / Water Heating	Seasonally differentiated kWh charge	
Res Net Metering General	First 650 kWh and Over 650 kWh	
Res Net Metering Space Heating	First 1,000 kWh and Over 1,000 kWh	
<b>L&amp;P Rate District General Service</b>		
GS Short Term	Seasonally differentiated kWh charge	<3,000 kWh
GS Limited Demand	Seasonally differentiated kWh charge	<3,000 kWh
GS General Use	Facilities demand charge and Hours of Use (First 150 hours, over 150)	
GS Separately Metered Space Heating / Water Heating	Seasonally differentiated kWh charge	
GS Net Metering Limited Demand	Seasonally differentiated kWh charge	
GS Net Metering Demand	Facilities demand charge and Hours of Use rate design (same as GS General Use)	
<b>L&amp;P Rate District Large General Service</b>		
LGS Primary	Demand & Facilities charge and Hours of Use (First 200 hours, over 200 hours)	40 kW
LGS Substation	Demand & Facilities charge and Hours of Use (First 200 hours, over 200 hours)	40 kW
LGS Secondary	Demand & Facilities charge and Hours of Use (First 200 hours, over 200 hours)	40 kW
LGS Net Metering Secondary	Demand & Facilities charge and Hours of Use (First 200 hours, over 200 hours)	40 kW

L&P Rate District Rate Schedules	Rate Design	Minimum Demand
<b>L&amp;P Rate District Large Power Service</b>		
LPS ToU Secondary	Demand & Facilities Charge and On-Peak/Off Peak seasonal rate design	500 kW
LPS ToU Primary	Demand & Facilities Charge and On-Peak/Off Peak seasonal rate design	500 kW
LPS ToU Substation	Demand & Facilities Charge and On-Peak/Off Peak seasonal rate design	500 kW
LPS ToU Transmission	Demand & Facilities Charge and On-Peak/Off Peak seasonal rate design	500 kW

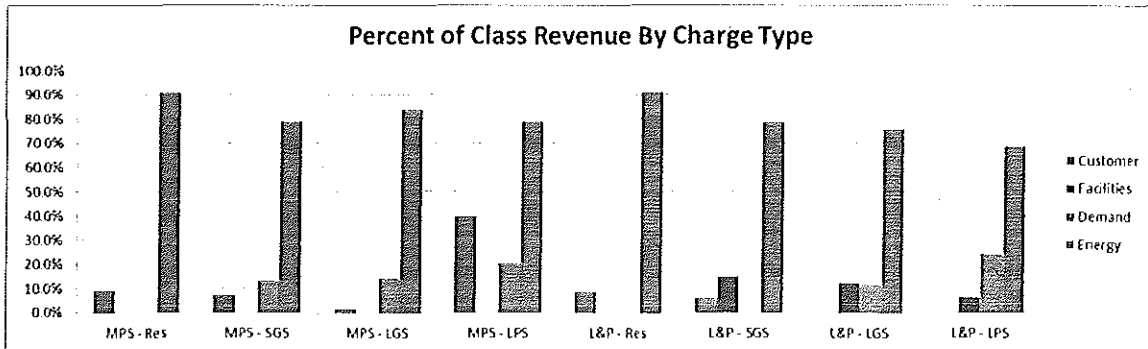
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**Revenue Recovery of Existing Classes**

The percent of class revenue provided by each type of rate element for each current major customer rate classification in each existing rate district are provided in the table and graph below.

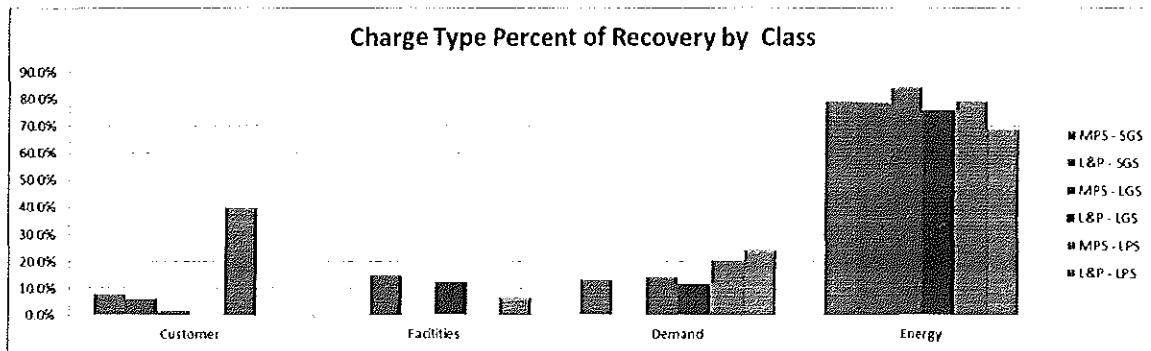
Percent of Class Revenue by Charge Type				
	Customer	Facilities	Demand	Energy
MPS - Res	9.2%	0.0%	0.0%	90.8%
MPS - SGS	7.6%	0.0%	13.3%	79.1%
MPS - LGS	1.6%	0.0%	14.2%	84.2%
MPS - LPS	40.0%	0.0%	20.6%	79.0%
L&P - Res	8.8%	0.0%	0.0%	91.2%
L&P - SGS	6.2%	15.0%	0.0%	78.8%
L&P - LGS	0.0%	12.4%	11.8%	75.8%
L&P - LPS	0.0%	6.6%	24.5%	68.9%

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1 Energy charges provide most of the revenue for most of the existing classes.  
 2 However, for classes relying on an hours-use rate structure, the customer's NCP demand for a  
 3 given month is used to determine the portion of energy charged at each blocked energy rate.  
 4 Similarly, for classes using seasonal energy weighting, an annual measure of demand is used  
 5 to weight the energy between seasonal and base energy rates. These relationships must be  
 6 considered in evaluating the relative recovery between "energy" rate elements that would  
 7 typically be considered "fixed." Provided below is a comparison of the percent of revenue of  
 8 each existing non-residential class provided by each charge type.



11 This graph illustrates that the lowest percentages of recovery from energy charges are  
 12 in the existing L&P LPS class, where approximately 69% of class revenue, on average,  
 13 is billed on energy sales. The highest percentages of recovery from energy charges are in  
 14 the MPS LGS class, where 88% of class revenue is billed on energy sales. On average,  
 15 energy-related revenues account for percentages in the mid-to-upper 70s of class revenues.

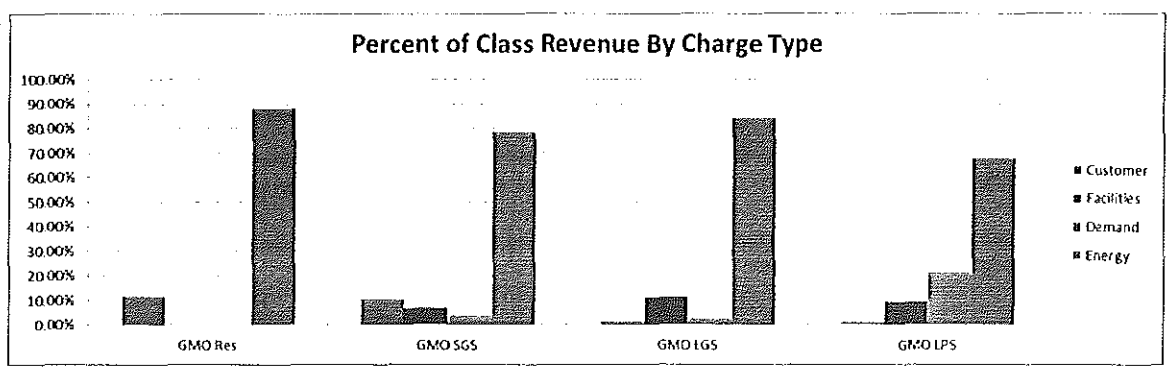
16 **Revenue Recovery of Proposed Classes**

17 The percent of class revenue provided by each type of rate element that GMO has  
 18 requested for each proposed major customer classification for uniform rates are provided in  
 19 the table and graph below. These percentages are derived from customers' placement within  
 20 their new best-fit rate.<sup>16</sup>

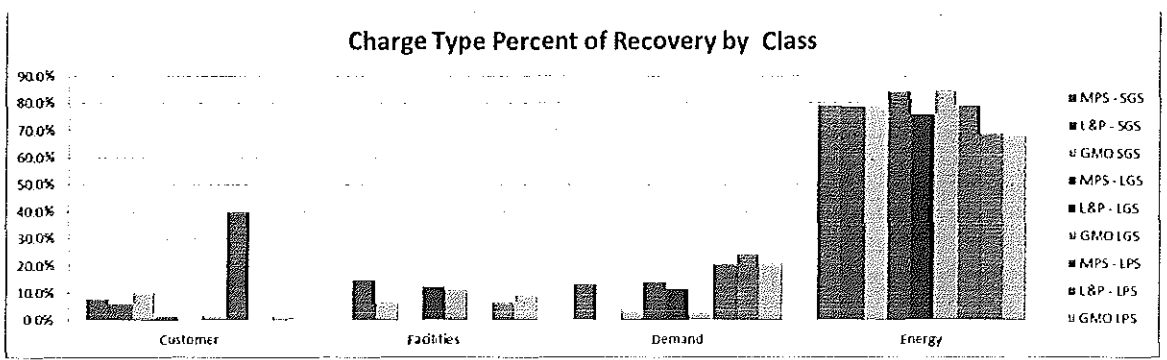
<sup>16</sup> As discussed in the "Class Billing Determinants" section, there is significant movement of customers among these classes from the nominal assignment starting point to the final best-fit final rate classification.

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Percent of Class Revenue by Charge Type				
	Customer	Facilities	Demand	Energy
GMO Res	11.8%	0.0%	0.0%	88.2%
GMO SGS	10.5%	6.8%	3.9%	78.8%
GMO LGS	1.5%	11.3%	2.7%	84.5%
GMO LPS	1.2%	9.5%	21.2%	68.1%



Provided below is a comparison of the percent of revenue of each existing non-residential class and the proposed classes provided by each charge type.



This graph illustrates that GMO's proposed LPS class will provide the lowest percentage of revenue recovery from an energy charge. However, because the revenues from GMO uniform rates are based on the best-fit reassignment of customers, some amount of this difference is attributable to the retention of customers with higher load factors and minimum demands on the LPS class, while other customers were migrated to the LGS class. These migrations are discussed more fully in the "Class Billing Determinants" section below.

1 **GMO Rate Studies**

2 As part of GMO's last rate case, Case No. ER-2012-0175, the parties agreed that:

3 GMO will perform, prepare and file in its general electric rate case the  
4 results of a comprehensive study on the impacts on its retail customers  
5 of eliminating MPS and L&P rate districts and implementing company-  
6 wide uniform rate classes, and rates and rate elements for each rate  
7 class, taking into account the potential future consolidation of GMO  
8 rates with those of KCPL. In this study, GMO will provide a  
9 distribution of rate impact on each of its customers of moving from  
10 MPS to L&P rate structures, and rate elements, and likewise, from L&P  
11 to MPS rate structures, and rate elements. If GMO would prefer a class  
12 rate structure that is different from a current MPS or L&P class rate  
13 structure, then individual customer impacts should be provided for the  
14 rate structure that GMO proposes.<sup>17</sup>

15 Staff has reviewed the studies GMO has provided. Staff has determined that, as a whole,  
16 customers experience less variation in bills by migrating to GMO's proposed classes than  
17 customers would experience from a given rate district's customers migrating to the other rate  
18 district's structure and rates.

19 For example, provided below are a sample of average annual bills that would be  
20 experienced for a given customer under GMO's proposed rate structures and designs, versus  
21 GMO's existing district-specific rate structures and designs, escalated to account for GMO's  
22 requested rate increase. Each set of rows reflects a particular customer load shape across the  
23 year, and moving left to right reflects that same load shape at a different level of demand.<sup>18</sup>  
24 For each demand, an increase and decrease of 10% of energy usage is provided. The rate  
25 codes and name of each class for each rate structure are provided for reference.

MO750 L&P at Secondary from MPS
MO720 LGS at Secondary from MPS
MO711 SGS at Secondary from MPS
MO710 SGS ND from MPS
MO940 L&P at Secondary from L&P
MO940 LGS at Secondary from L&P
MO931 SGS at Secondary from L&P
MO930 SGS ND from L&P
147.1 L&P Secondary
148.1 LGS Secondary
147.2 SGS Demand Secondary
147.1 A SGS Non-Demand Secondary

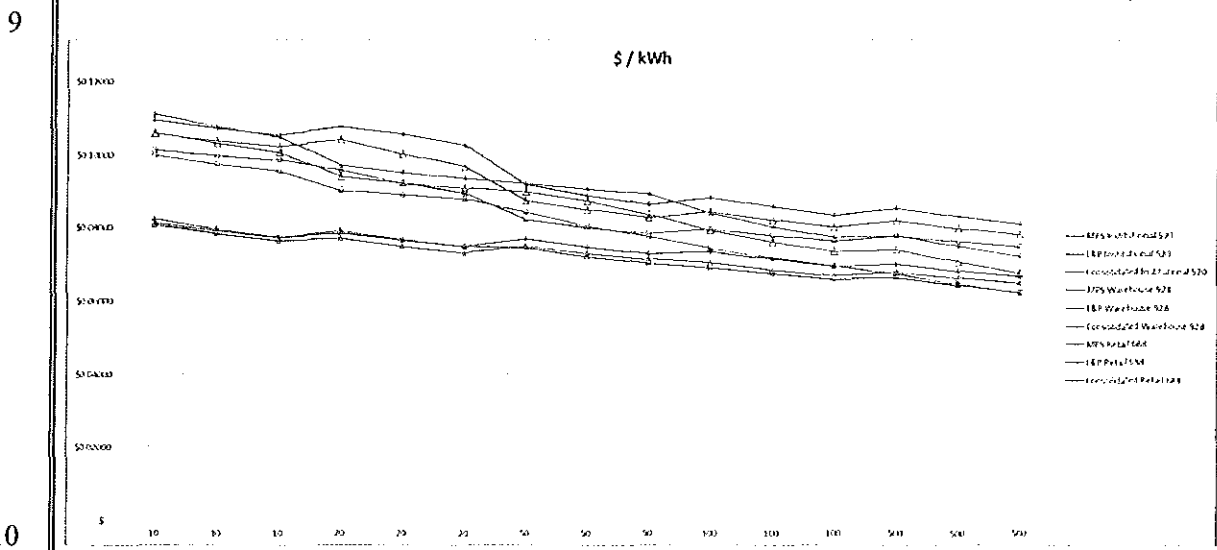
26  
<sup>17</sup> See pages 10 – 11 the *Non-Unanimous Stipulation and Agreement as to Certain Issues* filed October 19, 2012, in Case Nos. ER-2012-0174 and ER-2012-0175, as modified, and *Commission Order Incorporating Unopposed Non-Unanimous Stipulations and Agreements*, November 7, 2012.

<sup>18</sup> Given the data-intensive nature of this exercise, only a very small sample is provided below for illustrative purposes.



1 This indicates that the name of the rate classification under which a given customer  
 2 would receive the lowest average annual bill varies across GMO's existing and proposed rate  
 3 classifications. Put another way, the same customer would experience different annual bills,  
 4 on a different rate code, with a different percentage of their bill related directly to energy  
 5 usage depending on whether that customer is in the MPS rate district or the L&P rate district.  
 6 GMO's proposal eliminates that distinction.

7 As illustrated below, across all customer shapes, rate districts, and classes, customers  
 8 tend to experience a lower average annual bill as usage increases.

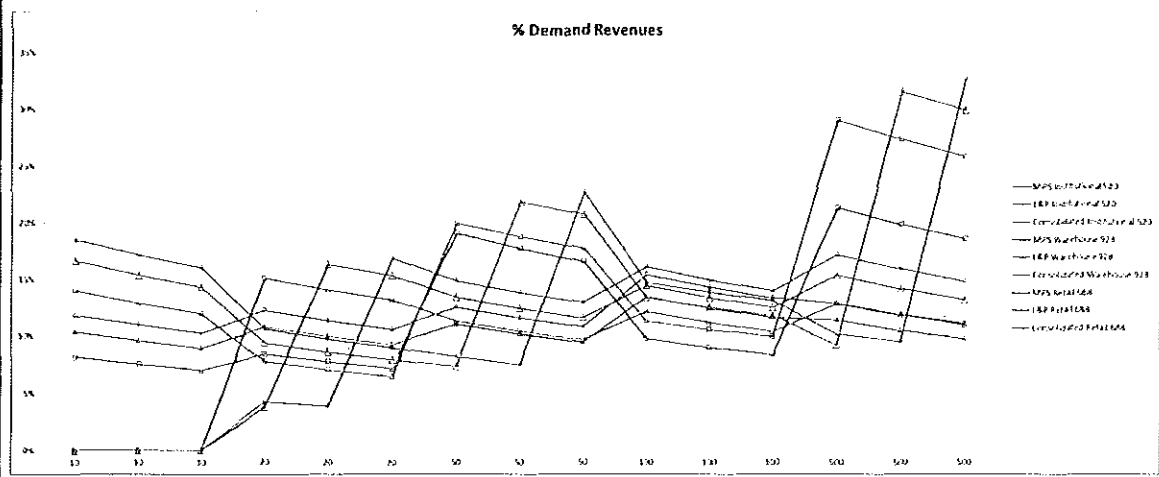


11 As illustrated below, across most customer shapes and demand levels, the portion of  
 12 a customer's bill that is based on that customer's NCP demand is higher under  
 13 GMO's proposed rate structure and design than under the existing structures and designs of  
 14 the rate districts.

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*Staff Experts/Witnesses: Sarah L. Kliethermes, Robin Kliethermes*

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#### **IV. Class Billing Determinants**

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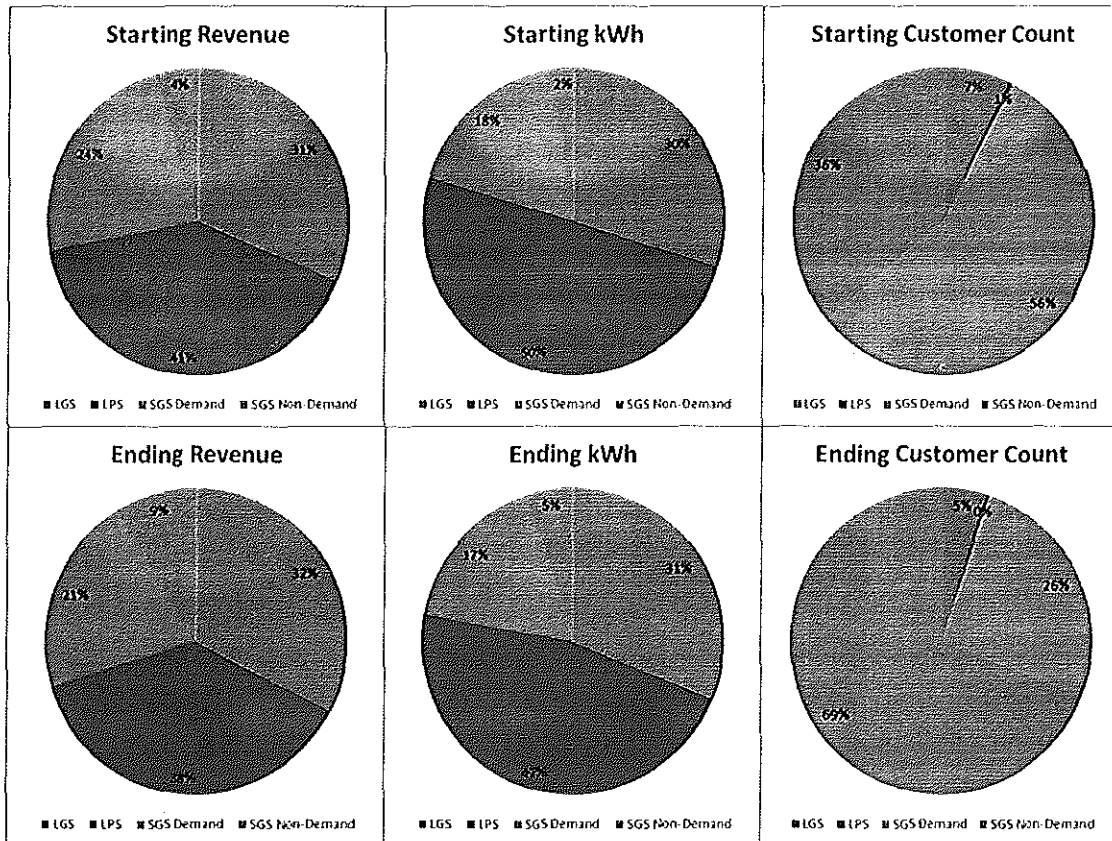
While not included in its direct filing, GMO is conducting a “best-fit” process to distribute customers to the newly created classes. This process is necessary to establish the billing determinants that will be used to design the rates ultimately resulting from this case. GMO and Staff each continue to employ a process of “assigning” customers to a given service classification based on that customer’s current classification to create an initial consolidated classification, and then removing those customers and associated revenues who would receive a lower annual bill by switching to a different consolidated service classification. Given the complexity of the overall process, GMO and Staff have “best-fit” the customers and those customers associated determinants to the classification that produces the lower annual bill, but, at the time of direct, have not reassigned that customer’s revenues to the new classification. The difference in revenues from what that customer would pay on the assigned classification to what the customer would pay on the best-fit classification will be spread to all non-residential classes as part of the overall revenue requirement.<sup>19</sup>

17

<sup>19</sup> Were the revenue shortfall from the best-fit customer movements to be allocated directly to the receiving class, that class’s revenue requirement would necessarily change, which would change that class’s rates, which would cause some customers to move out of that class and cause customers to not move into that class, which would impact the level of revenues to be reallocated.



1 Graphic indication of the movement of customers among classes is provided below.  
 2 These graphs provide the specified determinants that result from adding the nominal classes of  
 3 each rate district together as the "starting" point, with the best-fit of customers to classes where  
 4 each customer would pay the lowest annual average bill provided as the "ending" point.<sup>20</sup>

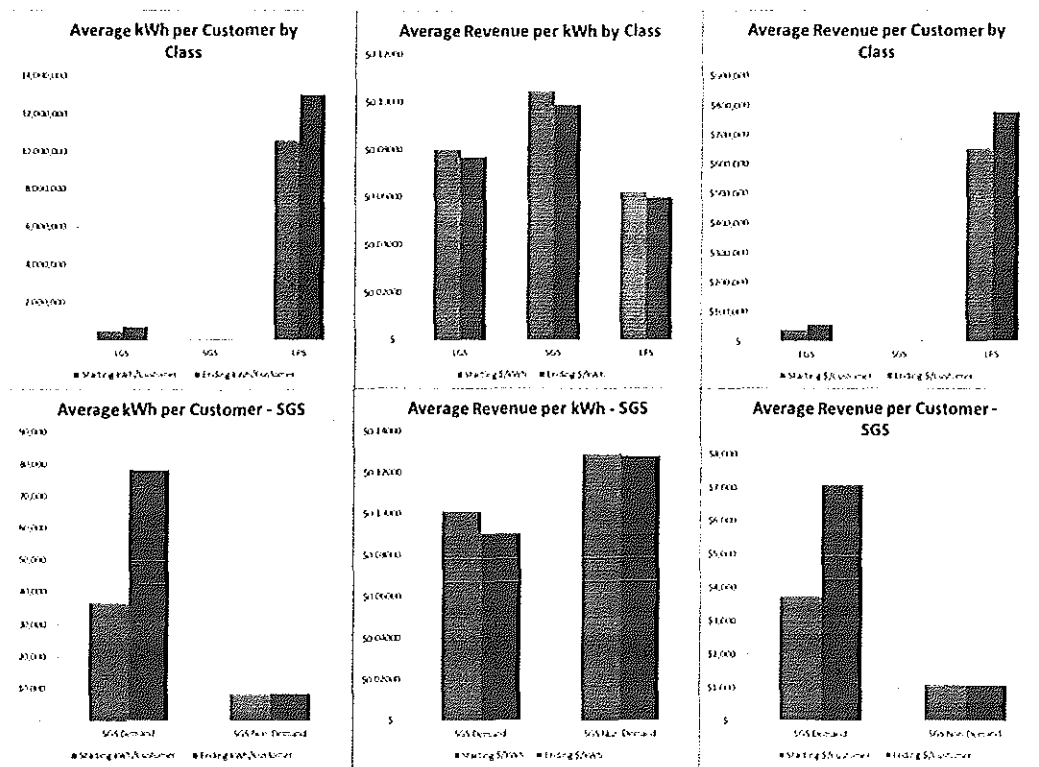


5  
 6 As indicated above, there was a noticeable increase in the Small General Service  
 7 Non-Demand rate classification in terms of as the revenue generated by that class, the kWh  
 8 consumed by that class, and the number of customers served. While the revenues and kWh  
 9 percentage values more than doubled, the ending customer count number did not quite double.  
 10 This indicates that the customers who were migrated into the SGS Non-Demand class are, on  
 11 average, above the average size for the SGS Non-Demand class. While some customers left  
 12 this class for a more favorable bill on the SGS Demand schedule, generally the net change in

<sup>20</sup> Subclasses have been compressed for simplicity in this illustration. For example, the Net-Metering rate schedules are not broken out separately, nor are the voltage-level schedules within each class separately provided. Because these numbers are not adjusted for voltage levels, there is not complete parity in beginning and ending relative values.

1 this class is due to customers moving into the class for a more favorable bill. As the graphs  
 2 below indicate, the average kWh per customer and the average revenue per customer for the  
 3 SGS Non-Demand class both increased as a result of best fitting customers, while the average  
 4 revenue per kWh decreased slightly.<sup>21</sup>

5 For the SGS Demand class, there was movement of SGS Demand customers down  
 6 to the SGS Non-Demand class, and up the LGS class. The net of these migrations had  
 7 an impact on the SGS Demand metrics that was similar to the changes observed in the  
 8 SGS Non-Demand Class. However, comparing the shares of the pie charts above to the  
 9 graphs below indicates that for the SGS Demand class, more small customers moved out than  
 10 large customers moved in. This is demonstrated by the SGS Demand shares of total  
 11 non-residential Revenues and kWh decreasing only slightly, while retaining less than half of  
 12 its total customer amounts. As shown in the graphs below, the average kWh and Revenue per  
 13 SGS Demand customer increased significantly, while the average revenue per kWh decreased.



14

<sup>21</sup> For purposes of the graphs provided below, Staff has factored down GMO's requested rates as structured and designed to collect GMO's current revenues. This provides comparability from the starting revenues by class and customer to the ending revenues by class and customer. The resulting differences are due to the movement of customers from the "assigned" class to the "best-fit" class as discussed above.

1 A similar analysis of the LGS class indicates that on the net, a few larger-than average  
2 customers moved into the LGS class, but many smaller-than-average customers moved out.  
3 These below-average size LGS customers typically became larger-than-average SGS Demand  
4 customers. Similarly, the LPS class experienced only modest declines to its share of sales and  
5 revenues, yet its average kWh per customer increased noticeably. These smaller-than-average  
6 LPS customers became larger-than-average LGS customers, which resulted in decreases  
7 to the average revenue per kWh for the LPS class, while the average revenue per  
8 customer increased.

9 Customers are migrated to the best-fit rate according to where that customer would be  
10 billed the lowest annual amount. The rates that are used to calculate the bills used in this  
11 analysis were designed to recover a specific amount of revenue, based on the billing  
12 determinants associated with that assigned class. Migration of customers to rate schedules  
13 that result in a lower annual bill will result in recovery of an overall lower amount for the  
14 company. Staff's current estimate of the revenue adjustment associated with the best-fit  
15 process is a reduction in retail rate revenue of approximately \$8 million.

16 *Staff Experts/Witnesses: Sarah L. Kliethermes, Robin Kliethermes*

## 17 **V. Rate Design**

18 In general, GMO's proposed structure and design prioritizes revenue recovery  
19 stability first, and minimization of customer impact second. In light of the comprehensive  
20 nature of GMO's proposal, Staff will identify areas of concern and explain recommended  
21 refinements to GMO's proposal, as opposed to providing a ground-up Staff proposal for rate  
22 consolidation. This approach is necessary for Staff to have reasonable confidence in the  
23 billing determinants calculated to result from the changes in rate structure. However,  
24 customer movement to final rate schedules is contingent on Commission decisions on rate  
25 design, which cannot be known until after the Report and Order is issued.

26 With an eye towards refining GMO's rates to better implement good rate-making  
27 policies including cost causation, Staff recommends that the Commission order GMO to  
28 perform load research to sample the newly-consolidated classes. Once a year of hourly data  
29 for the new classes is available, Staff recommends that GMO file a rate design case to  
30 implement rates that better recognize cost causation and additional rate design policies.

1 GMO's proposed rate design for each class excluding lighting and certain minor rate  
 2 schedules is provided below.  
 3

	146.1 A		146.1 B		146.3	
	Residential		Residential Space Heating		Residential Other Use	
	Summer	Non-Summer	Summer	Non-Summer	Summer	Non-Summer
Customer Charge	\$ 14.50	\$ 14.50	\$ 14.50	\$ 14.50	\$ 13.25	\$ 13.25
All kWh					0.16946	0.12707
0-600 kWh	0.13072	0.10152	0.13072	0.10152	0.13072	0.10152
601-1000 kWh	0.13072	0.09853	0.13072	0.08213	0.13072	0.08213
1001+ kWh	0.13072	0.07490	0.13072	0.05200	0.13072	0.05200

	147.1 A		147.1 B		147.2		147.3	
	SGS Non-demand		SGS Non-demand Frozen		SGS Demand Secondary		SGS Demand Primary	
	Summer	Non-Summer	Summer	Non-Summer	Summer	Non-Summer	Summer	Non-Summer
Customer Charge	\$ 27.00	\$ 27.00	\$ 11.00	\$ 11.00	\$ 27.00	\$ 27.00	\$ 27.00	\$ 27.00
Facilities Charge					\$ 1.632	\$ 1.632	\$ 1.632	\$ 1.632
Minimum Demand					25		25	
Base Billed Demand					\$ 1.432	\$ 1.399	\$ 1.389	\$ 1.357
Seasonal Billed Demand					\$ 1.432	\$ -	\$ 1.389	\$ -
All kWh	0.15800	0.09927	0.15800	0.07392				
Seasonal kWh	0.15800	0.05092	0.15800	0.05092				
Base first 180 HOU					0.11077	0.08016	0.10392	0.07902
Base over 180 HOU					0.08336	0.07262	0.07820	0.07132
Seasonal first 180 HOU					0.11077	0.05092	0.10392	0.04892
Seasonal over 180 HOU					0.08336	0.05092	0.07820	0.04892

	148.1		148.2	
	LGS Secondary		LGS Primary	
	Summer	Non-Summer	Summer	Non-Summer
Customer Charge	\$ 76.00	\$ 76.00	\$ 250.00	\$ 250.00
Facilities Charge	\$ 2.325	\$ 2.325	\$ 1.506	\$ 1.506
Minimum Demand	150		150	
Base Billed Demand	\$ 0.920	\$ 0.620	\$ 0.892	\$ 0.602
Seasonal Billed Demand	\$ 0.920	\$ -	\$ 0.892	\$ -
Base first 180 HOU	0.09544	0.07273	0.09256	0.07009
Base next 180 HOU	0.07222	0.06666	0.07003	0.06423
Base over 360 HOU	0.05054	0.04564	0.04900	0.04396
Seasonal first 180 HOU	0.09544	0.03992	0.09256	0.03892
Seasonal next 180 HOU	0.07222	0.03992	0.07003	0.03892
Seasonal over 360 HOU	0.05054	0.03992	0.04900	0.03892

	149.1		149.2		149.3		149.4	
	LPS - Secondary		LPS - Primary		LPS - Substation		LPS - Transmission	
	Summer	Non-Summer	Summer	Non-Summer	Summer	Non-Summer	Summer	Non-Summer
Customer Charge	\$ 680.00	\$ 680.00	\$ 680.00	\$ 680.00	\$ 680.00	\$ 680.00	\$ 680.00	\$ 680.00
Facilities Charge	\$ 3.244	\$ 3.244	\$ 2.834	\$ 2.834	\$ -	\$ -	\$ -	\$ -
Minimum Demand	500		500		500		500	
Base Billed Demand	\$ 10.861	\$ 5.656	\$ 10.539	\$ 5.488	\$ 10.311	\$ 5.370	\$ 10.238	\$ 5.331
Seasonal Billed Demand	\$ 10.861	\$ -	\$ 10.539	\$ -	\$ 10.311	\$ -	\$ 10.238	\$ -
Base first 180 HOU	0.05790	0.05404	0.05612	0.05242	0.05458	0.05157	0.05565	0.05026
Base next 180 HOU	0.04558	0.04253	0.04417	0.04125	0.04296	0.04058	0.04380	0.03954
Base over 360 HOU	0.03996	0.03728	0.03872	0.03615	0.03765	0.03556	0.03840	0.03465
Seasonal first 180 HOU	0.05790	0.03392	0.05612	0.03392	0.05458	0.03392	0.05565	0.03392
Seasonal next 180 HOU	0.04558	0.03392	0.04417	0.03392	0.04296	0.03392	0.04380	0.03392
Seasonal over 360 HOU	0.03996	0.03392	0.03872	0.03392	0.03765	0.03392	0.03840	0.03392
Reactive Demand Adjust.	0.433	0.433	0.433	0.433	0.433	0.433	0.433	0.433

4  
 5 GMO's proposed rate structure has more elements than are included on any given  
 6 current rate schedule. Inclusion of these additional elements does have some advantages in  
 7 that (1) multiple rate elements can allow for better alignment of individual customers within a  
 8 class with cost causation, and (2) GMO's proposal makes available more billing data to refine

1 rate elements in a future redesign of rate structure. However, Staff is concerned that the  
2 inclusion of these rate elements at the proposed rate design will have the following impacts:

- 3 (1) make it more difficult to predict what revenues will be at the conclusion of  
4 this case to the extent that billing determinants are less predictable;
- 5 (2) reduce customer understanding of bills;
- 6 (3) reduce customer control of bills, given the shift to NCP demand-based  
7 revenue recovery and away from energy recovery;
- 8 (4) send price signals that improperly weight the relevance of customer NCP  
9 demand as a determinant of production-capacity related costs;
- 10 (5) send the improper price signal that the cost of energy is decreasing relative  
11 to the last GMO general rate case;
- 12 (6) disincentivize prior and potential customer investment in energy efficiency;
- 13 (7) shift customer bill impact from particular months to a flatter pattern in  
14 a manner that may catch certain customers unprepared or that may  
15 cause certain customers to pay more during the period immediately  
16 preceding the implementation of compliance tariffs and following the  
17 implementation of compliance tariffs than the utility would be entitled to  
18 recover during that period.

19 To address these concerns, Staff recommends the Commission order GMO to do new and/or  
20 reassigned load sampling, and to derive new load research data that is appropriate for  
21 the classes resulting from this case. Staff recommends the Commission order GMO to file  
22 a rate design case upon the completion of one year's worth of load research data. Included  
23 in this filing should be (1) a class cost of service study, (2) GMO's proposal to make  
24 Time of Use ("ToU") rates available to all customers including a study of applicable ToU  
25 determinants, and (3) a study of the reasonableness of modifying GMO's seasonal rates to  
26 establish rates for Peak months and Shoulder months, as opposed to GMO's current Summer /  
27 Non-Summer seasonal split, including applicable determinants.

1           Among Staff's concerns with GMO's proposed rate design is that the requested rates  
2 shift emphasis of revenue recovery away from energy and onto customer NCP demand.  
3 Whether or not this is consistent with cost-causation cannot be reliably known until a  
4 reasonable class cost of service study can be performed on the class compositions that result  
5 from GMO's new rate structure. While customer NCP demand is a reliable indicator of the  
6 local distribution facilities necessary to directly serve a customer, the relationship to  
7 production capacity is more tenuous.<sup>22</sup> GMO should study this relationship and present a  
8 complete justification of this revenue recovery method, or propose an alternative recovery that  
9 more reasonably reflects the cost of capacity as allocated to classes and customers within a  
10 class. As an alternative, GMO should make ToU rates available to all customers on an opt-in  
11 basis at this time, and consider moving to Peak and Shoulder month seasonal rates that better  
12 reflect the current drivers of system capacity needs and market energy price variation.

13           An additional concern with the shift to customer NCP as a primary basis of revenue  
14 recovery is that GMO has not proposed a reasonable means of normalizing customer NCP  
15 demands, and that Staff is not aware of a feasible efficient means of normalizing individual  
16 customer demand billing determinants on a class-aggregated level.<sup>23</sup> This means that for  
17 purposes of revenues and billing determinants, it is not possible to use normalized data and  
18 actual data that may contain weather-related abnormalities must be used instead.

19           Other important policies to be considered by GMO in its proposal in the rate design  
20 case include minimization of rate shock to any one customer class or customers within a class,  
21 meeting of incremental costs, rate continuity, rate stability, revenue stability, consideration of  
22 promotional practices, and impact on energy efficiency policies.

23 *Staff Experts/Witnesses: Sarah L. Kliethermes, Robin Kliethermes*

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<sup>22</sup> A good example is a customer with a poor load factor, but that uses energy entirely or almost entirely off-peak. For example, a football field may use much more energy on a Friday evening in October than it does at any other time, resulting in a very low load factor and a very high NCP. However, almost all of that customer's usage would be off-peak energy both in term of the time of the day and of the season of the year. This means that the energy would be below the average cost of energy, and that the demand would likely not drive system planning.

<sup>23</sup> The L&P rate district already has a high reliance on demand revenue. For example, the current L&P LGS class has a facilities charge and billing demand based on the customers maximum demands, this is why some of these customers are getting a rate decrease going to consolidated rates (before a rate increase is applied). The MPS district, which has the majority of the customers, is the district that is increasing reliance on demand and therefore GMO as a whole is increasing reliance on demand revenue.

1           **A. Residential Customer Charge**

2           As discussed above Staff did not conduct a class cost of service study in this case,  
3 because load research data does not yet exist for the new consolidated rate classes that take  
4 into account Staff and GMO's "Best-Fit" analysis. However, for the residential class, Staff  
5 was able to perform an analysis of GMO's calculation of the residential customer charge.  
6 GMO found, on an equalized rate of return, that approximately \$47.7 million were costs  
7 related to customer services, meters and customer service drops. Based on GMO's response  
8 to Staff data requests 370 and 370.1, approximately \$9.3 million of the \$47.7 million was  
9 identified as cost booked to customer service accounts that related to amortizations of solar  
10 rebates, DSIM and ERRP programs. These costs are more appropriately related to a  
11 customer's energy usage rather than a customer coming onto the system, therefore, Staff  
12 removed these costs from the calculation of the customer charge.

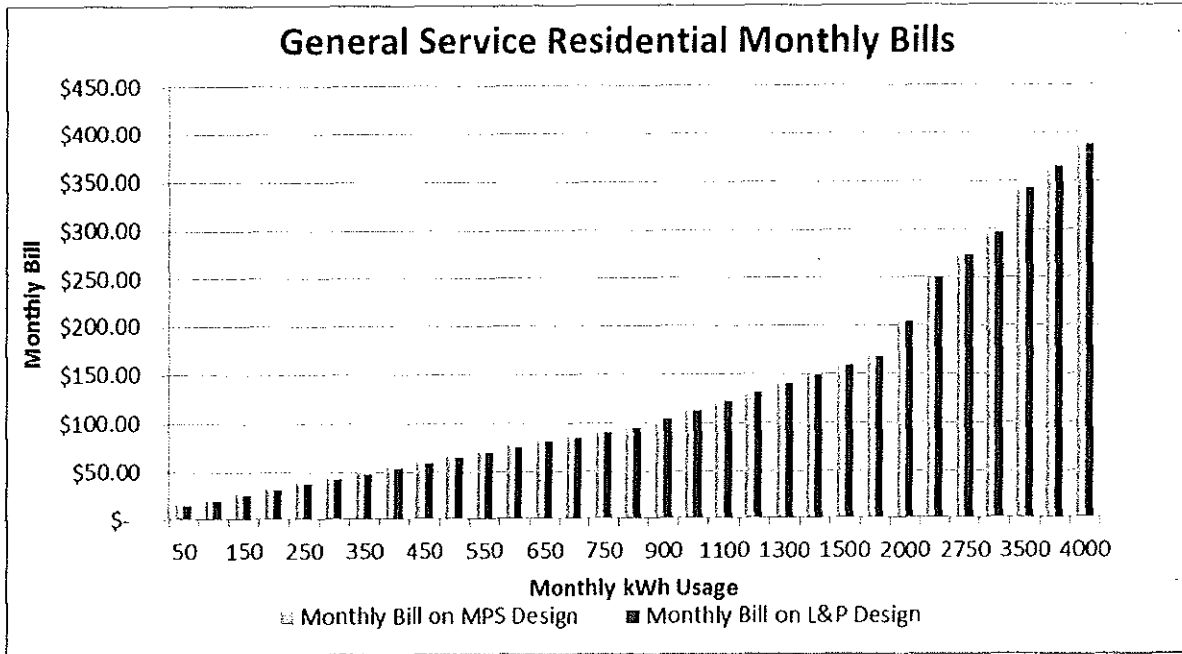
13           Further, GMO's class cost of service results include an overall rate increase of  
14 approximately 8.17%, whereas as Staff's overall rate increase filed on July 15, 2016 was  
15 \$3,653,338 or 0.5 %. Staff adjusted GMO's calculated costs to reflect Staff's overall rate  
16 increase and based on these adjustments, Staff calculated a customer charge of approximately  
17 \$10.71. Currently, the customer charge for customers in GMO's MPS rate district is \$10.43  
18 and for customers in GMO's L&P rate district it is \$9.54. Since approximately 80% of the  
19 Residential General Use customers are from the GMO MPS rate district and Staff's overall  
20 recommended increase at Staff's mid-point ROE, which is below the ROE requested by  
21 GMO, Staff recommends a residential customer charge of \$10.71 as a reasonable customer  
22 charge for this case.

23 *Staff Expert/Witness: Robin Kliethermes*

24           **B. Residential Rate Design**

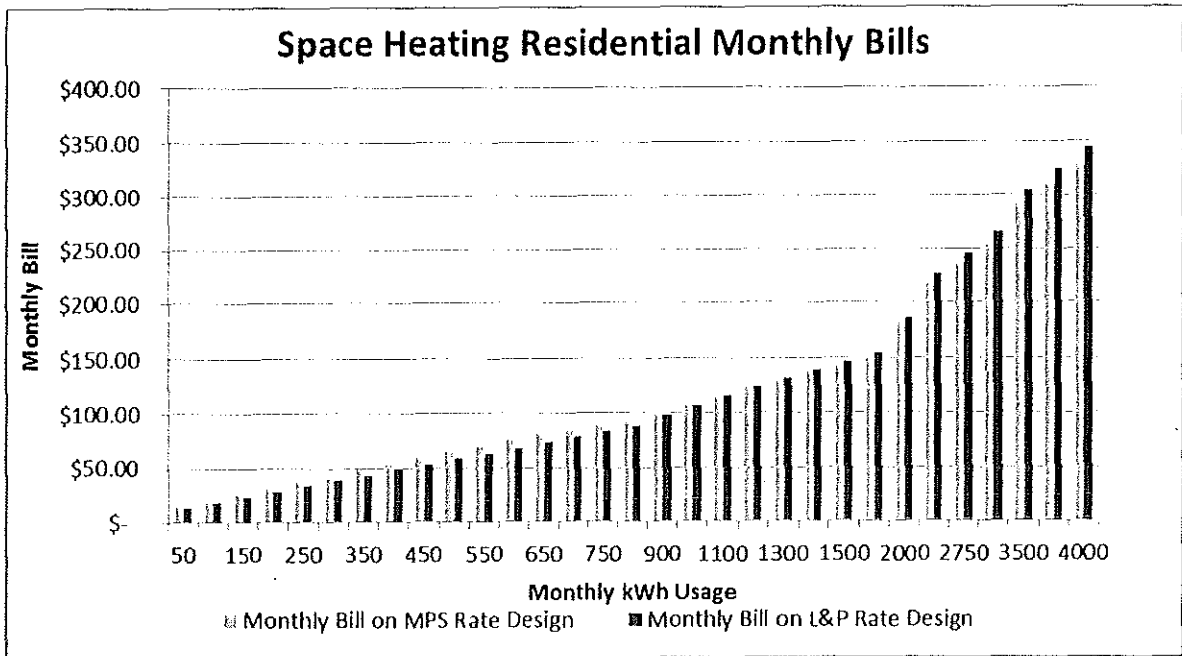
25           For residential customers, the current tariffed rates for the L&P rate district and the  
26 MPS rate district result in similar monthly bills across levels of usage. A comparison of the  
27 monthly bills for various levels of usage on the L&P rate design and the MPS rate design is  
28 provided in the graphs below, for (1) general service customers, and (2) customers taking  
29 service on the space heating schedules.

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These graphs demonstrate that there is significant parity in GMO's existing residential schedules. However, GMO's proposal would shift revenue recovery out of the non-summer billing months in a manner that does not minimize customer impact as part of its uniform rate



1 proposal. GMO's existing and proposed rate designs for its residential rate schedules and  
 2 Staff's recommended residential rate design are provided below:<sup>24</sup>

	MO860 Residential General Use (MPS)	MO910 Residential General Use (L&P)	GMO Requested Res. General Use Increase Removed	Staff Recommended Res. General Use Before Increase	MO 870 Residential Space Heat (MPS)	MO 920 Residential Space Heat (L&P)	GMO Requested Res. Space Heat Increase Removed	Staff Recommended Res. Space Heating Before Increase
Customer Charge:	\$ 10.43	\$ 9.54	\$ 13.36	\$ 10.71	\$ 10.43	\$ 9.54	\$ 13.36	\$ 10.71
Summer First 600/650 kWh:	\$ 0.11150	\$ 0.11910	\$ 0.12045	\$ 0.10871	\$ 0.11150	\$ 0.11910	\$ 0.12043	\$ 0.10871
Summer Next 400 kWh:	\$ 0.11480	\$ 0.11910	\$ 0.12045	\$ 0.10871	\$ 0.11480	\$ 0.11910	\$ 0.12043	\$ 0.10871
Summer over 1000 kWh:	\$ 0.12050	\$ 0.11910	\$ 0.12045	\$ 0.10871	\$ 0.12050	\$ 0.11910	\$ 0.12043	\$ 0.10871
Winter First 600/650 kWh:	\$ 0.11150	\$ 0.10580	\$ 0.09354	\$ 0.10871	\$ 0.11150	\$ 0.08760	\$ 0.09351	\$ 0.10871
Winter Next 400 kWh:	\$ 0.07640	\$ 0.07800	\$ 0.09079	\$ 0.07724	\$ 0.06010	\$ 0.08760	\$ 0.07565	\$ 0.08932
Winter over 1000 kWh:	\$ 0.07640	\$ 0.07800	\$ 0.06901	\$ 0.07724	\$ 0.04970	\$ 0.05900	\$ 0.04790	\$ 0.05903

3  
 4  
 5 In the absence of a reliable class cost of service study, Staff recommends residential  
 6 rate designs minimize customer impact. Staff's rate design is intended to not send the  
 7 improper price signal that the cost of energy is decreasing relative to the last GMO general  
 8 rate case nor disincentivize prior and potential customer investment in energy efficiency.  
 9 Also, Staff's design reduces the tendency to shift customer bill impact from particular months  
 10 to a flatter pattern in a manner that may catch certain customers unprepared or that may cause  
 11 certain customers to pay more during the period immediately preceding the implementation of  
 12 compliance tariffs and following the implementation of compliance tariffs than the utility  
 13 would be entitled to recover during that period.

14 *Staff Experts/Witnesses: Sarah L. Kliethermes, Robin Kliethermes*

### 15 C. Energy Prices

16 Because hourly class loads that reasonably relate to the best-fit proposed classes are  
 17 unavailable, Staff was unable to analyze the voltage-adjusted load-weighted average cost of  
 18 energy for each class for the 12 months ending June 30, 2015.<sup>25</sup> Provided below are the  
 19 indicated average energy costs through the SPP Integrated Marketplace, at generation voltage.  
 20 These values do not include any of the costs for ancillary and supportive services, or capacity.

<sup>24</sup> For purposes of this discussion Staff has scaled GMO's requested rates to remove the impact of its requested rate increase so that the differences in rate design can be studied more clearly.

<sup>25</sup> This period includes November of 2014 in the "shoulder" calculation.

	Summer	Non-Summer	Winter	Shoulder
Load Weighted Around the Clock Average:	\$30.68	\$26.05	\$25.71	\$26.31
Load Weighted On Peak Average:	\$33.41	\$28.62	\$28.04	\$29.03
Load Weighted Wrap Average:	\$28.77	\$24.43	\$24.28	\$24.54

*Staff Expert/Witness: Sarah L. Kliethermes*

**D. Income-Eligible Pilot**

To the extent the Commission is interested in studying the impact of an income-eligible customer charge subsidy in the GMO service territory, Staff provides below an outline of program characteristics and items to study.

Geographic scope should be limited to the counties served by a selected community action agency. This would limit the administrative burden on the community action agencies that serve the counties that make up GMO's service territory. The selected community action agency would certify to GMO the eligibility of customers to participate in the pilot based on the LIHEAP and WIHEAP eligibility status of the household. Fifty percent of participating households would not be charged the otherwise applicable residential customer charge in any month, and the remaining households would not be charged the otherwise applicable residential customer charge in the summer billing months and the billing months of December, January, and February. Recovery for the program could be handled in a manner similar to that utilized for Missouri-American Water Company in Case No. WR-2015-0301.

After a four year implementation period, GMO would file its findings regarding the following items:

1. Impact on reduction of customers' failure to pay,
2. Impact on company bad debt in its calculated revenue requirement,
3. Impact on the number of disconnects experienced,
4. Relative usage patterns for LIHEAP recipients and LIHEAP eligible households,
5. Whether any of the above items are consistent among those households subsidized in all months versus in peak months.

1 Staff cautions against creation of an income eligible “class” in this case in that billing  
2 determinants and hourly loads associated with that class are necessary to develop rates for  
3 such a class. Load sampling meters would need to be placed at qualifying households, and  
4 load research data developed.

5 *Staff Expert/Witness: Sarah L. Kliethermes*

## 6 **VI. Fuel Adjustment Clause**

### 7 **A. Tariff Sheet Changes**

8 In Staff’s COS Report in this case, Staff provided to the Commission the following  
9 recommendations regarding GMO’s Fuel Adjustment Clause (“FAC”):

- 10 1. Consolidate GMO’s MPS and L&P Base Factors into one Base Factor and Fuel  
11 Adjustment Rates (“FARs”) into one set of FARs unless the Commission decides  
12 not to consolidate the rates of MPS and L&P in this case;
- 13
- 14 2. Include one new Base Factor in the FAC tariff sheets calculated from the Net Base  
15 Energy Cost<sup>26</sup> that the Commission includes in the revenue requirement upon  
16 which it sets GMO’s consolidated general rates in this case;
- 17
- 18 3. Order GMO to suspend all of its hedging activities (cross hedging and natural gas  
19 fuel hedging);
- 20
- 21 4. Retain language in the FAC tariff sheets that would allow GMO to resume its  
22 natural gas fuel hedging activities should the market place and/or other factors  
23 change in such a fashion that natural gas fuel hedging would be warranted. Order  
24 GMO to notify the Commission and the Staff if it decides to resume its natural gas  
25 fuel hedging activities between general rate cases;
- 26
- 27 5. Clarify that the only transmission costs that are included in GMO’s FAC are those  
28 that GMO incurs to transmit electric power it did not generate to its own native  
29 load and costs to transmit excess electric power it is selling to third parties to  
30 locations outside of the Southwest Power Pool (“SPP”) excluding any and all  
31 Midcontinent Independent System Operator (“MISO”) transmission charges  
32 related to GMO’s Crossroads generating plant;
- 33
- 34 6. Order GMO to exclude any and all MISO transmission charges related to its  
35 Crossroads generating plant from the FAC; and,

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<sup>26</sup> Net Base Energy Cost is defined in GMO’s Original Sheet No. 126.1 as Net base energy costs ordered by the Commission in the last general rate case consistent with the costs and revenues included in the calculation of the FPA.

1  
2 7. Order GMO to continue to provide the additional information as part of its  
3 monthly reports<sup>27</sup> as GMO was ordered<sup>28</sup> to do in Rate Case No. ER-2012-0175  
4 and has continued to provide in its monthly reports.

5 *Staff Expert/Witness: Matthew J. Barnes*

6 **B. Consolidated GMO Base Factor Rate**

7 Staff recommends the Commission consolidate the Base Factor rates for the MPS and  
8 L&P rate districts into the below single Base Factor rate based upon the following  
9 information in Staff's COS Report in this case: (1) net base energy cost (fuel and purchased  
10 power costs less off-system sales revenue) including Staff's accounting adjustments to test  
11 year; (2) updated voltage expansion factors<sup>29</sup>; and (3) normalized net system inputs:

12 Base Factor: \$0.02026 per kWh

13 Staff will update the Base Factor before voltage adjustment rate for GMO as part of the test  
14 year true-up in this case.

15 *Staff Expert/Witness: Matthew J. Barnes*

16 **C. Changes to GMO's Hedging Policy**

17 In Staff's COS Report beginning on page 189, line 7 through page 192, line 13,  
18 Staff recommends that the Commission order GMO to suspend its current hedging practices  
19 related to its hedging for natural gas fuel for electric generating plants and hedging for  
20 electricity purchases, i.e., hedging for energy. It is Staff's position that the energy and natural  
21 gas markets have changed significantly and GMO's energy and natural gas hedging practices  
22 are not providing value to its customers. Specific changes include: (1) SPP's implementation  
23 of its Integrated Marketplace, which optimizes energy prices across a large regional area, and  
24 (2) stabilized natural gas supply and price. Further, GMO's FAC inherently provides  
25 protection for its customers and shareholders from short-term price spikes. Staff also  
26 recognizes that the natural gas market is dynamic and GMO may find it is warranted – at

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<sup>27</sup> Monthly reports are required by 4 CSR 240-3.161(5).

<sup>28</sup> Page 64 of the Commission's *Report and Order*, issued January 9, 2013 in File No. ER-2012-0175.

<sup>29</sup> See the FAC Voltage Adjustment Factor section of Staff witness David C. Roos in this Report.

1 | some time in the future - to resume its natural gas hedging practices and having hedging  
2 | language in its FAC would allow GMO to respond to changes more quickly. Therefore, Staff  
3 | recommends language in the FAC tariff that would allow GMO to resume its natural gas fuel  
4 | hedging if market forces change that would warrant such a resumption of such practices.

5 | The current FAC Tariff Sheet No. 126 includes the following definition of Hedging Costs:

6 |           Hedging costs are defined as realized losses and costs (including broker  
7 |           commissions fees and margins) minus realized gains associated with  
8 |           mitigating volatility in the Company's cost of fuel, fuel additives, fuel  
9 |           transportation, emission allowances, transmission and purchased power  
10 |           costs, including but not limited to, the Company's use of derivatives  
11 |           whether over-the counter or exchange traded including, without  
12 |           limitations, futures or forward contracts, puts, calls, caps, floors,  
13 |           collars, and swaps.

14 | Staff recommends changing the definition of Hedging Costs in the FAC tariff sheet to  
15 | the following:

16 |           Hedging costs are defined as realized losses and costs (including broker  
17 |           commissions fees and margins) minus realized gains associated with  
18 |           mitigating volatility in the Company's cost of fuel, fuel additives, fuel  
19 |           transportation, emission allowances, including but not limited to, the  
20 |           Company's use of derivatives whether over-the counter or exchange  
21 |           traded including, without limitations, futures or forward contracts, puts,  
22 |           calls, caps, floors, collars, and swaps.

23 | *Staff Expert/Witness: Dana E. Eaves*

24 |           **D. Clarification Regarding MISO Transmission Charges Related to GMO's**  
25 |           **Crossroads Generating Plant**

26 |           In Staff's COS Report beginning on page 185, line 16 through page 186, line 23, Staff  
27 |           recommends to the Commission that it order that certain transmission costs be included in  
28 |           GMO's FAC and that MISO transmission charges related to GMO's Crossroads generating  
29 |           plant be excluded. Staff clarifies that the only transmission costs that should be included in  
30 |           GMO's FAC are those costs that GMO incurs to: (1) transmit electric power it did not  
31 |           generate to its own native load, and (2) transmit excess electric power it is selling to third  
32 |           parties located outside of the Southwest Power Pool ("SPP") excluding any and all  
33 |           Midcontinent Independent System Operator ("MISO") transmission charges related to GMO's  
34 |           Crossroads generating plant. This is consistent with the Commission's Report and Orders in

1 | GMO's previous two rate cases. In GMO's last rate case, File No. ER-2012-0175 the  
2 | Commission's *Report and Order*<sup>30</sup> stated the following concerning GMO's Crossroads  
3 | generating plant:

4 |           **Crossroads Transmission.** Several parties ask the Commission to  
5 |           order that GMO's FAC tariff sheets state expressly that GMO's FAC  
6 |           excludes transmission costs related to the Crossroads. Insofar as the  
7 |           Commission has determined that no transmission costs from  
8 |           Crossroads will enter GMO's MPS rates, there is no further dispute,  
9 |           and no further findings of fact and conclusions of law are required. The  
10 |           Commission will order GMO's FAC clarified to state that GMO's FAC  
11 |           excludes transmission costs related to Crossroads.

12 | The Commission also stated in its *Report and Order*<sup>31</sup> in File No. ER-2010-0356 the  
13 | following concerning GMO's Crossroads generating plant:

14 |           If the Commission accepts Staff's position on fuel costs in the  
15 |           Crossroads issue, Staff recommends the Commission authorize and  
16 |           require modification of GMO's fuel adjustment clause to include a new  
17 |           factor that would exclude an increment of GMO's fuel costs for its  
18 |           Crossroads generating station from Fuel and Purchased Power  
19 |           Adjustments (GMO FAC —FPAs). Consistent with its position that  
20 |           GMO's ratepayers should pay costs based on two 105 megawatt  
21 |           combustion turbines built in 2005 and located at the South Harper site,  
22 |           GMO's fuel clause should be modified so that its customers do not bear  
23 |           the incremental costs associated with higher gas prices and  
24 |           *transmission costs* of the Crossroads Energy Center which is located  
25 |           near Clarksdale, Mississippi. [Emphasis Added]

26 | In Staff's COS Report in this case, it recommends to the Commission continue to exclude all  
27 | of GMO's transmission costs related to GMO's Crossroads generating plant consistent with  
28 | the Commission's Report and Order's in GMO's 2010 and 2012 rate cases. A more detailed  
29 | discussion of GMO's Crossroads generating plant and Staff's recommendation to exclude all  
30 | Crossroads transmission costs in base rates and the FAC is in Staff's COS Report beginning  
31 | on page 53 through page 61.

32 | *Staff Expert/Witness: Matthew J. Barnes*

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<sup>30</sup> Page 64 of the Commission's *Report and Order* in File No. ER-2012-0175.

<sup>31</sup> Page 212 through 213 of the Commission's *Report and Order* in File No. ER-2010-0356.

1           **E.     Additional Recommendations**

2           Staff makes the following additional recommendations to the Commission concerning  
3 transmission expenses, MISO transmission charges related to GMO's Crossroads generating  
4 plant, and Regulatory Commission Expense:

5           1.     Staff recommends to the Commission that 39.82%<sup>32</sup> of the SPP transmission  
6 costs that GMO incurs to transmit electric power it did not generate to its own native load  
7 and costs to transmit excess electric power it is selling to third parties to locations outside  
8 of the Southwest Power Pool excluding any and all Midcontinent Independent  
9 System Operator transmission charges related to GMO's Crossroads generating plant be  
10 included in GMO's FAC. This is consistent with the Commission's *Report and Order* in  
11 Kansas City Power & Light Company's ("KCPL") last general rate case.<sup>33</sup> Beginning on  
12 page 34 of the Commission's *Report and Order* in File No. ER-2014-0370, the Commission  
13 stated the following:

14                     The Commission has addressed this issue in recent rate cases. In the  
15 Report and Order issued in File No. ER-2014-0258 for Ameren  
16 Missouri, the Commission stated:

17                     The evidence demonstrated that for purposes of operation of the MISO  
18 tariff, Ameren Missouri sells all the power it generates into the MISO  
19 market and buys back whatever power its needs to serve its native load.  
20 From that fact, Ameren Missouri leaps to its conclusion that since it  
21 sells all its power to MISO and buys all that power back, all such  
22 transactions are off system sales and purchased power within the  
23 meaning of the FAC statute. The Commission does not accept this  
24 point of view. The drafters of the FAC statute likely did not envision a  
25 situation where a utility would consider all its generation purchased  
26 power or off system sales. In fact, the policy underlying the FAC  
27 statute is clear on its face. The statute is meant to insulate the utility  
28 from unexpected and uncontrollable fluctuations in transportation costs  
29 of purchased power. At the time the statute was drafted, and even in  
30 our more complex present-day system, the costs of transporting energy  
31 in addition to the energy generated by the utility or energy in excess of  
32 what the utility needs to serve its load are the costs that are unexpected  
33 and out of the utility's control to such an extent that a deviation from

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<sup>32</sup> This percent is from Staff's fuel model and subject to change when Staff files its True-up on September 30, 2016.

<sup>33</sup> File No. ER-2014-0370.

1 traditional rate making is justified. Therefore, of the three reasons  
2 Ameren Missouri incurs transmission costs cited earlier, the costs that  
3 should be included in the FAC are 1) costs to transmit electric power it  
4 did not generate to its own load (true purchased power) and 2) costs to  
5 transmit excess electric power it is selling to third parties to locations  
6 outside of MISO (off-system sales). Any other interpretation would  
7 expand the reach of the FAC beyond its intent.

8 Similarly, in a subsequent rate case for The Empire District Electric Company, which is also a  
9 member of SPP, the Commission concluded:

10 Furthermore, as has been the case since the FAC statute was created,  
11 the costs of transporting energy in addition to the energy generated by  
12 the utility or energy in excess of what the utility needs to serve its load  
13 are the costs that are unexpected and out of the utility's control to such  
14 an extent that a deviation from traditional rate making is justified.  
15 Therefore, the costs Empire incurs related to transmission that are  
16 appropriate for the FAC, from a policy perspective and by statute, are:  
17 1) Costs to transmit electric power it did not generate to its own load  
18 ("true purchased power"); or 2) Costs to transmit excess electric power  
19 it is selling to third parties to locations outside of its RTO ("Off-system  
20 sales").

21 The evidence shows in this case that on a daily basis, KCPL sells all of  
22 the power it generates into the SPP market and purchases from SPP  
23 100% of the electricity it sells to its retail customers. However, based  
24 on the Commission's analysis in the two cases cited above, it would not  
25 be lawful for KCPL to recover all of its SPP transmission fees through  
26 the FAC. In addition, while KCPL's transmission costs are increasing,  
27 those costs are known, measurable, and not unpredictable, so the costs  
28 are not volatile. The Commission concludes that the appropriate  
29 transmission costs to be included in the FAC are 1) costs to transmit  
30 electric power it did not generate to its own load (true purchased  
31 power); and 2) costs to transmit excess electric power it is selling to  
32 third parties to locations outside of SPP (off-system sales).

33 2. Staff recommends that the Commission order GMO to create subaccounts  
34 under Federal Energy Regulatory Commission ("FERC") Accounts 561.4, 561.8, 565000,  
35 575, and 928 to record any and all MISO transmission charges related to GMO's Crossroads  
36 generating plant. Booking MISO transmission charges related to GMO's Crossroads  
37 generating plant to a subaccount would reduce the possibility of future errors and allow Staff  
38 and other stakeholders to audit the MISO transmission charges for prudence.



1           3.     Staff recommends that the Commission exclude Regional Transmission  
2 Organization (“RTO”) administrative fees and Regulatory Commission Expense from GMO’s  
3 FAC. These expenses are administrative in nature and are not related to fuel and purchased  
4 power expenses. This is consistent with the Commission’s *Report and Order* in KCPL’s last  
5 general rate case, File No. ER-2014-0370. Beginning on page 36 of the Commission’s  
6 *Report and Order* in File No. ER-2014-0370, the Commission stated the following:

7                   KCPL has requested that SPP Schedule 1-A and 12 fees be included in  
8 its FAC. The Commission finds that these fees are administrative in  
9 nature and not directly linked to fuel and purchased power costs. These  
10 fees support the operation of SPP and are not needed for KCPL to buy  
11 and sell energy to meet the needs of its customers. These fees are neither  
12 fuel and purchased power expenses nor transportation expenses incurred  
13 to deliver fuel or purchased power. The Commission concludes that  
14 including such fees would be unlawful under Section 386.266.1, RSMo,  
15 and, therefore, Schedule 1-A and 12 fees should not be included in the  
16 FAC. These fees are appropriate for recovery in base rates.

17 *Staff Expert/Witness: Matthew J. Barnes*

18           **F.     Changes to the Transmission Definition in GMO’s FAC Tariff Sheet**

19           The current FAC Tariff Sheet No. 126 includes in its definition of the transmission  
20 costs the following:

21                   The following costs reflected in FERC Account Number 565  
22 (excluding Base Plan Funding costs and costs associated with the  
23 Crossroads generating stations): transmission costs that are necessary to  
24 receive purchased power to serve native load and transmission costs  
25 that are necessary to make off system sales.

26 Staff recommends changing the definition of transmission costs in the FAC tariff sheet to the  
27 following:

28                   The following costs reflected in FERC Account 565: 39.82% of SPP  
29 transmission costs that GMO incurs to transmit electric power it did not  
30 generate to its own native load and costs to transmit excess electric  
31 power it is selling to third parties to locations outside of the Southwest  
32 Power Pool excluding any and all Midcontinent Independent System  
33 Operator transmission charges related to GMO’s Crossroads  
34 Generating plant.

1 The change to GMO's definition of Transmission Costs in its FAC tariff sheet is consistent  
2 with the Commission's Report and Orders concerning transmission expense to be included in  
3 FAC's as described in Staff's recommendation above.

4 *Staff Expert/Witness: Matthew J. Barnes*

5 **G. FAC Voltage Adjustment Factors**

6 Rule 4 CSR 240-20.090(9) states:

7 (9) Rate Design of the RAM [rate adjustment mechanism]. The design of  
8 the RAM rates shall reflect differences in losses incurred in the delivery  
9 of electricity at different voltage levels for the electric utility's different  
10 rate classes. Therefore, the electric utility shall conduct a Missouri  
11 jurisdictional system loss study within twenty-four (24) months prior to  
12 the general rate proceeding in which it requests its initial RAM. The  
13 electric utility shall conduct a Missouri jurisdictional loss study no less  
14 often than every four (4) years thereafter, on a schedule that permits the  
15 study to be used in the general rate proceeding necessary for the electric  
16 utility to continue to utilize a RAM.

17 In 2013, Staff and all four investor-owned electric utilities in Missouri, including GMO,  
18 agreed to the following interpretation of Rule 4 CSR 240-20.090(9):

- 19
- 20 • When the electric utility initially seeks authority to use a rate adjustment  
21 mechanism, the end of the 12-month period of actual data collected that  
22 is used in its Missouri jurisdictional system loss study must be within the  
23 twenty-four (24) months immediately preceding the date the utility files  
its application for a general rate case; and
  
  - 24 • When the electric utility seeks to continue or modify its rate adjustment  
25 mechanism, the end of the 12-month period of actual data collected that  
26 is used in its Missouri jurisdictional system loss study must be no earlier  
27 than four (4) years before the end of the 12-month period the utility uses  
28 for developing the general rates it proposes the Commission approve in  
29 that general rate proceeding.

1 In this case, GMO supplied Staff with the KCPL Loss Study R075-14,<sup>34</sup> in which  
2 December 31, 2013 is the end of the 12-month period of actual data collected for the study.  
3 Since December 31, 2013, is within four (4) years of July 31, 2016, which is the end of the  
4 anticipated true-up period for new rates in this rate case, the 12-month period of the actual  
5 data collected for performance of Loss Study R075-14 is in compliance with the rule for this  
6 rate case.

7 However, as a result of his review of Loss Study R075-14, Staff witness Alan J. Bax  
8 found that the loss factors calculated for GMO's MPS and L&P rate districts are suspect when  
9 compared to the results of previous loss studies. Specifically, Mr. Bax determined that:

10 In comparing the results of the most recent loss study received in  
11 October 2014 to the immediately previous loss study received in  
12 October 2009, Staff notes the approximate 15% change in the total  
13 losses between the two studies reported for both the MPS and the L&P  
14 rate districts. Furthermore, in addition to the unusual change in  
15 magnitude of the losses reported in these two loss studies, the reported  
16 losses for the MPS rate district increased by this amount while the  
17 reported losses for the L&P rate district decreased by a similar amount.  
18 This resulted in a nearly 2% difference between the overall loss  
19 percentage reported between the MPS and L&P rate districts.  
20 Historically, there has been little variance between the loss percentages  
21 of MPS and L&P rate districts. The corresponding difference between  
22 the loss percentages of the MPS and L&P rate districts in the 2009 loss  
23 study is 0.11% as compared to the nearly 2% difference in the 2014  
24 study.<sup>35</sup>

25 Mr. Bax has recommended that Staff use the results of the previous 2009 loss study (KCPL  
26 Loss Study R145-09 Revision 1) in determining the combined MPS and L&P rate district  
27 FAC Voltage Adjustment Factors.<sup>36</sup> Therefore, the combined MPS and L&P voltage  
28 adjustment factors presented below are derived from KCPL Loss Study R145-09 Revision 1.

29 The voltage adjustment factors account for the energy losses incurred in the  
30 transmission and distribution of energy from the generator to the customer. These factors are  
31 used in the FAC calculations to adjust the fuel adjustment rates in the Company's FAC to the

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<sup>34</sup> This is the same loss study provided to Staff in October 2014 with the request of KCPL to establish a Fuel Adjustment Clause in File No. ER-2014-0370.

<sup>35</sup> See pages 108-109 Staff's COS Report, Alan J. Bax testimony.

<sup>36</sup> See pages 108-109 Staff's COS Report, Alan J. Bax testimony.

1 fuel adjustment rates applicable to the individual voltage service classification. Table 1 and  
2 Table 2 provide Staff's proposed new combined FAC voltage adjustment factors.

3

Table 1: Primary Voltage Level		
Voltage Adjustment Factors	Rate District	
	MPS	L&P
Current Tariff	1.0419	1.0421
<b>Proposed</b>	<b>1.0419</b>	<b>1.0419</b>
Change	0.0000	-0.0002

Table 2: Secondary Voltage Level		
Voltage Adjustment Factors	Rate District	
	MPS	L&P
Current Tariff	1.0712	1.0701
<b>Proposed</b>	<b>1.0709</b>	<b>1.0709</b>
Change	-0.0003	0.0008

4

5 *Staff Expert/Witness: David C. Roos*

6 **VII. Appendix**

7 Appendix 1 - Staff Credentials

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

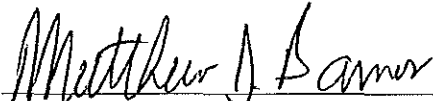
In the Matter of KCP&L Greater Missouri )  
Operations Company's Request for Authority ) Case No. ER-2016-0156  
to Implement A General Rate Increase for )  
Electric Service )

**AFFIDAVIT OF MATTHEW J. BARNES**

STATE OF MISSOURI     )  
                                  )     ss.  
COUNTY OF COLE     )

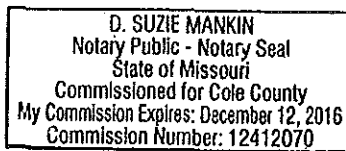
**COMES NOW MATTHEW J. BARNES** and on his oath declares that he is of sound mind and lawful age; that he contributed to the foregoing Staff Report - Rate Design; and that the same is true and correct according to his best knowledge and belief.

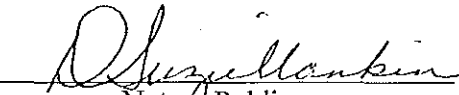
Further the Affiant sayeth not.

  
\_\_\_\_\_  
MATTHEW J. BARNES

**JURAT**

Subscribed and sworn before me, a duly constituted and authorized Notary Public, in and for the County of Cole, State of Missouri, at my office in Jefferson City, on this 28<sup>th</sup> day of July, 2016.



  
\_\_\_\_\_  
Notary Public

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

In the Matter of KCP&L Greater Missouri )  
Operations Company's Request for Authority ) Case No. ER-2016-0156  
to Implement A General Rate Increase for )  
Electric Service )

**AFFIDAVIT OF DANA E. EAVES**

STATE OF MISSOURI    )  
                                  )    ss.  
COUNTY OF COLE     )

COMES NOW DANA E. EAVES and on his oath declares that he is of sound mind and lawful age; that he contributed to the foregoing Staff Report - Rate Design; and that the same is true and correct according to his best knowledge and belief.

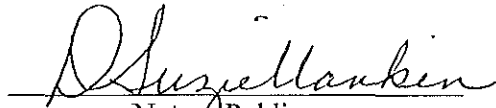
Further the Affiant sayeth not.

  
\_\_\_\_\_  
DANA E. EAVES

**JURAT**

Subscribed and sworn before me, a duly constituted and authorized Notary Public, in and for the County of Cole, State of Missouri, at my office in Jefferson City, on this 28<sup>th</sup> day of July, 2016.

D. SUZIE MANKIN Notary Public - Notary Seal State of Missouri Commissioned for Cole County My Commission Expires: December 12, 2016 Commission Number: 12412070
--

  
\_\_\_\_\_  
Notary Public







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

In the Matter of KCP&L Greater Missouri )  
Operations Company's Request for Authority ) Case No. ER-2016-0156  
to Implement A General Rate Increase for )  
Electric Service )

**AFFIDAVIT OF DAVID C. ROOS**

STATE OF MISSOURI    )  
                                  )    ss.  
COUNTY OF COLE     )

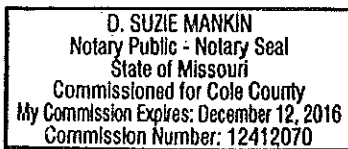
**COMES NOW DAVID C. ROOS** and on his oath declares that he is of sound mind and lawful age; that he contributed to the foregoing Staff Report - Rate Design; and that the same is true and correct according to his best knowledge and belief.

Further the Affiant sayeth not.

  
\_\_\_\_\_  
**DAVID C. ROOS**

**JURAT**

Subscribed and sworn before me, a duly constituted and authorized Notary Public, in and for the County of Cole, State of Missouri, at my office in Jefferson City, on this 28<sup>th</sup> day of July, 2016.



  
\_\_\_\_\_  
Notary Public

**MISSOURI PUBLIC SERVICE COMMISSION**

**STAFF REPORT**

**RATE DESIGN**

**APPENDIX 1**

**Staff Credentials**

**KCP&L GREATER MISSOURI OPERATIONS COMPANY**

**CASE NO. ER-2016-0156**

*Jefferson City, Missouri  
July 2016*

**APPENDIX 1**  
**STAFF CREDENTIALS**  
**TABLE OF CONTENTS**

**Matthew J. Barnes .....1**

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**Robin Kliethermes .....11**

**Sarah L. Kliethermes.....14**

**David C. Roos .....18**

## MATTHEW J. BARNES

### Educational and Employment Background and Credentials

I am a Utility Regulatory Auditor IV in the Water and Sewer Department, Commission Staff Division for the Missouri Public Service Commission. I was promoted to Utility Regulatory Auditor IV in the Energy Resources Department, Commission Staff Division for the Missouri Public Service Commission in June 2008. I accepted the position of Utility Regulatory Auditor I/II/III in June 2003. I transferred to the position of Utility Regulatory Auditor IV in the Water and Sewer Department in June 2016.

In December 2002, I earned a Bachelor of Science Degree in Business Administration with an Emphasis in Accounting from Columbia College. In May 2005, I earned a Masters in Business Administration with an Emphasis in Accounting from William Woods University.

### RATE CASE PARTICIPATION

Date Filed	Issue	Case Number	Exhibit	Case Name
09/08/2004	Merger with TXU Gas	GM20040607	Staff Recommendation	Atmos Energy Corporation
10/15/2004	Rate of Return	TC20021076	Supplemental Direct	BPS Telephone Company
06/28/2005	Finance Recommendation	EF20050387	Staff Recommendation	Kansas City Power and Light Company
06/28/2005	Finance Recommendation	EF20050388	Staff Recommendation	Kansas City Power and Light Company
08/31/2005	Finance Recommendation	EF20050498	Staff Recommendation	Kansas City Power and Light Company
11/15/2005	Spin-off of landline operations	IO20060086	Rebuttal	Sprint Nextel Corporation
03/08/2006	Spin-off of landline operations	TM20060272	Rebuttal	Alltel Missouri, Inc.

**MATTHEW J. BARNES**

**RATE CASE PARTICIPATION cont'd**

<b>Date Filed</b>	<b>Issue</b>	<b>Case Number</b>	<b>Exhibit</b>	<b>Case Name</b>
08/08/2006	Rate of Return	ER20060314	Direct	Kansas City Power & Light Company
09/08/2006	Rate of Return	ER20060314	Rebuttal	Kansas City Power & Light Company
09/13/2006	Rate of Return	GR20060387	Direct	Atmos Energy Corporation
10/06/2006	Rate of Return	ER20060314	Surrebuttal	Kansas City Power & Light Company
11/07/2006	Rate of Return	ER20060314	True-Up Direct	Kansas City Power & Light Company
11/13/2006	Rate of Return	GR20060387	Rebuttal	Atmos Energy Corporation
11/23/2006	Rate of Return	GR20060387	Surrebuttal	Atmos Energy Corporation
12/01/2006	Rate of Return	WR20060425	Direct	Algonquin Water Resources of Missouri LLC
12/28/2006	Rate of Return	WR20060425	Rebuttal	Algonquin Water Resources of Missouri LLC
01/12/2007	Rate of Return	WR20060425	Surrebuttal	Algonquin Water Resources of Missouri LLC
02/07/2007	Finance Recommendation	GF20070220	Staff Recommendation	Laclede Gas Company
05/04/2007	Rate of Return	GR20070208	Direct	Laclede Gas Company

**MATTHEW J. BARNES**

RATE CASE PARTICIPATION cont'd

<b>Date Filed</b>	<b>Issue</b>	<b>Case Number</b>	<b>Exhibit</b>	<b>Case Name</b>
07/24/2007	Rate of Return	ER20070291	Direct	Kansas City Power and Light Company
08/30/2007	Rate of Return	ER20070291	Rebuttal	Kansas City Power and Light Company
09/20/2007	Rate of Return	ER20070291	Surrebuttal	Kansas City Power and Light Company
11/02/2007	Rate of Return	ER20070291	True-up Direct	Kansas City Power and Light Company
02/01/2008	Finance Recommendation	EF20080214	Staff Recommendation	Kansas City Power and Light Company
02/22/2008	Rate of Return	ER20080093	Cost of Service Report	The Empire District Electric Company
04/04/2008	Rate of Return	ER20080093	Rebuttal Testimony	The Empire District Electric Company
04/25/2008	Rate of Return	ER20080093	Surrebuttal Testimony	The Empire District Electric Company
08/18/2008	Rate of Return	WR20080311	Cost of Service Report	Missouri-American Water Company
09/30/2008	Rate of Return	WR20080311	Rebuttal Testimony	Missouri-American Water Company
10/16/2008	Rate of Return	WR2008031	Surrebuttal Testimony	Missouri-American Water Company
02/26/2010	Fuel Adjustment Clause	ER20100130	Cost of Service Report	The Empire District Electric Company

## MATTHEW J. BARNES

### RATE CASE PARTICIPATION cont'd

<b>Date Filed</b>	<b>Issue</b>	<b>Case Number</b>	<b>Exhibit</b>	<b>Case Name</b>
04/02/2010	Fuel Adjustment Clause	ER20100130	Rebuttal Testimony	The Empire District Electric Company
04/23/2010	Fuel Adjustment Clause	ER20100130	Surrebuttal Testimony	The Empire District Electric Company
02/23/11	Fuel Adjustment Clause	ER20110004	Cost of Service Report	The Empire District Electric Company
04/22/11	Fuel Adjustment Clause	ER20110004	Rebuttal Testimony	The Empire District Electric Company
04/28/11	Fuel Adjustment Clause	ER20110004	Surrebuttal Testimony	The Empire District Electric Company
05/06/11	Fuel Adjustment Clause	ER20110004	True-up Direct Testimony	The Empire District Electric Company
10/21/11	Costs for the Phase-In Tariffs	ER20120024	Direct Testimony	KCP&L Greater Missouri Operations Company
11/17/11	Rate of Return	WR20110337	Cost of Service Report	Missouri-American Water Company
08/09/12	Fuel Adjustment Clause	ER20120175	Staff Report	KCP&L Greater Missouri Operations Company
09/12/12	Fuel Adjustment Clause	ER20120175	Rebuttal Testimony	KCP&L Greater Missouri Operations Company
10/10/12	Fuel Adjustment Clause	ER20120175	Surrebuttal Testimony	KCP&L Greater Missouri Operations Company
11/30/12	Fuel Adjustment Clause	ER20120345	Cost of Service Report	The Empire District Electric Company

**MATTHEW J. BARNES**

## RATE CASE PARTICIPATION cont'd

<b>Date Filed</b>	<b>Issue</b>	<b>Case Number</b>	<b>Exhibit</b>	<b>Case Name</b>
12/13/14	Fuel Adjustment Clause	ER20120345	Class Cost of Service Report	The Empire District Electric Company
01/16/13	Fuel Adjustment Clause	ER20120345	Rebuttal Testimony	The Empire District Electric Company
02/14/13	Fuel Adjustment Clause	ER20120345	Surrebuttal Testimony	The Empire District Electric Company
12/05/14	Fuel Adjustment Clause	ER20140258	Cost of Service Report	Ameren Missouri
12/19/14	Fuel Adjustment Clause	ER20140258	Class Cost of Service Report	Ameren Missouri
01/16/15	Fuel Adjustment Clause	ER20140258	Rebuttal Testimony	Ameren Missouri
02/06/15	Fuel Adjustment Clause	ER20140258	Surrebuttal Testimony	Ameren Missouri
03/17/15	Fuel Adjustment Clause	ER20140258	True-up Direct Testimony	Ameren Missouri
07/15/16	Fuel Adjustment Clause	ER20160159	Cost of Service Report	KCP&L Greater Missouri Operations Company



**DANA E. EAVES**  
**CAREER EXPERIENCE**

**Missouri Public Service Commission, Jefferson City, Missouri**

**Utility Regulatory Auditor IV** January 1, 2013 – Present

**Utility Regulatory Auditor III** April 23, 2003– December 31, 2012

**Utility Regulatory Auditor II** April, 2002 – April, 2003

**Utility Regulatory Auditor I** April, 2001 – April, 2002

Perform rate audits and prepare miscellaneous filings as ordered by the Commission. Review all exhibits and testimony on assigned issues from the most recent previous case and the current case. Develop accounting adjustments and issue positions which are supported by workpapers and written testimony. Prepare Staff Recommendation Memorandum for filings that do not require prepared testimony. As a Utility Regulatory Auditor IV, in the Energy Resource Analysis Department, I was the lead Auditor for Fuel Adjustment Clause Prudence Reviews and Missouri Energy Efficiency Investment Act Prudence Reviews and perform other tasks as assigned by management. I have testified under cross-examination as an expert witness for litigated rate cases.

**Midwest Block and Brick, Jefferson City, Missouri**

**Accountant** December 2000 – March 2001

**CIS/Accounting Assistant** July 2000 – December 2000

**Practice Management Plus, Inc., Jefferson City, Missouri**

**Vice President Operations** October 1998 – May 2000

**Capital City Medical Associates (CCMA), Jefferson City, Missouri**

**Director of Finance** March, 1995-October, 1998

**ADDITIONAL EXPERIENCE**

Wright Camera Shop/Sales 1987-1995

Movies To Go, Inc/Store Manager 1984-1987

Butler Shoe Corp./Store Manager 1982-1984

Southeastern Illinois College/Student 1979-1982

Kassabaum's Bicycle Shop/Store Manager 1977-1979

**EDUCATION**

**Bachelor of Science, Business Administration; Emphasis Accounting (1995)**

COLUMBIA COLLEGE, JEFFERSON CITY, MO

**CASE PROCEEDING PARTICIPATION**

**DANA E. EAVES**

<b>PARTICIPATION</b>		<b>TESTIMONY</b>
<b>COMPANY</b>	<b>CASE NO.</b>	<b>ISSUES</b>
KCP&L Greater Missouri Operations (GMO)	ER-2016-0156	Rate Case Hedging Activities
Kansas City Power and Light (KCP&L)	EO-2016-0183	MEEIA Prudence Review Case Lead
KCP&L Greater Missouri Operations (GMO)	EO-2015-0180	MEEIA Prudence Review Case Lead
Ameren Missouri	EO-2015-0029	MEEIA Prudence Review Case Lead Program costs and TD-NSB Share, Software system costs, Contractors, Interest Costs
Empire District Electric Company	EO-2014-0057	FAC Prudence Review Risk Management
AmerenUE	EO-2013-0407	FAC Prudence Review Risk Management
KCP&L Greater Missouri Operations (GMO)	EO-2013-0325	FAC Prudence Review Purchased Power Agreements & Costs, Hourly weighted Transfer Pricing, Off- system sales revenue
Empire District Electric Company	EO-2013-0114	FAC Prudence Review Financial Hedges, Off-system sales revenue

cont'd DANA E. EAVES  
**CASE PROCEEDING PARTICIPATION**

PARTICIPATION		TESTIMONY
COMPANY	CASE NO.	ISSUES
Ameren Missouri	EO-2012-0074	FAC Prudence Review Direct/Rebuttal Requirements Contracts
KCP&L Greater Missouri Operations (GMO)	EO-2011-0390	FAC Prudence Review Direct/Rebuttal Hedging Purchased Power
Empire District Electric Company	EO-2011-0285	FAC Prudence Review FAC Components
AmerenUE	EO-2010-0255	FAC Prudence Review Direct/Rebuttal Requirements Contracts
Empire District Electric Company	EO-2010-0084	FAC Prudence Review Fuel Cost, Off-System Sales, Interest Cost
Missouri American Water Company	WR-2008-0311	Surrebuttal; Pension and Other Post-Retirement Employee Benefits Costs, Annual Incentive Plan Pay-out Based Upon Meeting Financial Goals and Customer Satisfaction Survey, Labor and Labor-Related Expenses, Rate Case Expenses, Insurance Other than Group, and Waste Disposal Expense
Empire District Electric Company	ER-2008-0093	Fuel and Purchased Power, Fuel Inventories, FAS 87 (pension), FAS 106 (OPEBS), Expenses and Regulatory Assets, Off System Sales, Transmission Revenue, SO2 Allowances, Maintenance Expense
Laclede Gas Company	GR-2007-0208	Accounting Schedules Reconciliation
Aquila, Inc d/b/a Aquila Networks-MPS & L&P	ER-2007-0004	Payroll Expense, Payroll Taxes and Employee Benefits

cont'd DANA E. EAVES  
**CASE PROCEEDING PARTICIPATION**

PARTICIPATION		TESTIMONY
COMPANY	CASE NO.	ISSUES
Empire District Electric Company	ER-2006-0315	Direct - Jurisdictional Allocations Factors, Revenue, Uncollectible Expense, Pensions, Prepaid Pension Asset, Other Post-Employment Benefits  Rebuttal - Updated: Pension Expense, Updated Prepaid Pension Asset, OPEB's Tracker, Minimum Pension Liability
Missouri Gas Energy (Gas)	GR-2004-0209	Direct - Cash Working Capital, Payroll, Payroll Taxes, Incentive Compensation, Bonuses, Materials and Supplies, Customer Deposits and Interest, Customer Advances and Employee Benefits  Surrebuttal - Incentive Compensation
Aquila, Inc. d/b/a Aquila Networks-MPS & L&P (Natural Gas)	GR-2004-0072	Direct - Payroll Expense, Employee Benefits, Payroll Taxes  Rebuttal - Payroll Expense, Incentive Compensation, Employer Health, Dental and Vision Expense
Aquila, Inc. d/b/a Aquila Networks-MPS (Electric)	ER-2004-0034	Direct - Payroll Expense, Employee Benefits, Payroll Taxes  Rebuttal - Payroll Expense, Incentive Compensation, Employer Health, Dental and Vision Expense
Aquila, Inc. d/b/a Aquila Networks-L&P (Electric & Steam)	HR-2004-0024	Direct - Payroll Expense, Employee Benefits, Payroll Taxes
Osage Water Company	ST-2003-0562 WT-2003-0563	Direct - Plant Adjustment, Operating & Maintenance Expense Adjustments
Empire District Electric Company	ER-2002-0424	Direct - Cash Working Capital, Property Tax, Tree Trimming, Injuries and Damages, Outside Services, Misc. Adjustments

cont'd DANA E. EAVES  
**CASE PROCEEDING PARTICIPATION**

PARTICIPATION		TESTIMONY
COMPANY	CASE NO.	ISSUES
Citizens Electric Corporation	ER-2002-0297	Direct - Depreciation Expense, Accumulated Depreciation, Customer Deposits, Material & Supplies, Prepayments, Property Tax, Plant in Service, Customer Advances in Aid of Construction
UtiliCorp United Inc, d/b/a Missouri Public Service	ER-2001-672	Direct - Advertising, Customer Advances, Customer Deposits, Customer Deposit Interest Expense, Dues and Donations, Material and Supply, Prepayments, PSC Assessment, Rate Case Expense

**Robin Kliethermes**

**Present Position:**

I became Manager of the Tariff and Rate Design Unit, Operational Analysis Department, Commission Staff Division, of the Missouri Public Service Commission on July 16, 2016. Previously I was a Regulatory Economist in the Tariff and Rate Design Unit, Operational Analysis Department, Commission Staff Division, of the Missouri Public Service Commission. I have been employed by the Missouri Public Service Commission since March of 2012. In May of 2013, I presented on Class Cost of Service and Cost Allocation to the National Agency for Energy Regulation of Moldova (ANRE) as part of the National Association of Regulatory Utility Commissioners (NARUC) Energy Regulatory Partnership Program. I also serve on the Electric Meter Variance Committee.

**Educational Background and Work Experience:**

I have a Bachelor of Science degree in Parks, Recreation and Tourism with a minor in Agricultural Economics from the University of Missouri – Columbia in 2008, and a Master of Science degree in Agricultural Economics from the same institution in 2010. Prior to joining the Commission, I was employed by the University of Missouri Extension as a 4-H Youth Development Specialist and County Program Director in Gasconade County.

Additionally, I completed two online classes through Bismarck State College: Energy Markets and Structures (ENRG 420) in December, 2014 and Energy Economics and Finance (ENRG 412) in May, 2015.

**Previous Testimony of Robin Kliethermes**

<b>Case No.</b>	<b>Company</b>	<b>Type of Filing</b>	<b>Issue</b>
ER-2012-0166	Ameren Missouri	Staff Report	Economic Considerations
ER-2012-0174	Kansas City Power & Light	Staff Report	Economic Considerations
ER-2012-0175	KCP&L Greater Missouri Operations Company	Staff Report	Economic Considerations & Large Power Revenues
ER-2012-0345	Empire District Electric Company	Staff Report	Economic Considerations, Non-Weather Sensitive Classes & Energy Efficiency
HR-2014-0066	Veolia Kansas City	Staff Report	Revenue by Class and Class Cost of Service
GR-2014-0086	Summit Natural Gas	Staff Report	Large Customer Revenues
GR-2014-0086	Summit Natural Gas	Rebuttal	Large Customer Revenues
EC-2014-0316	City of O'Fallon Missouri and City of Ballwin, Missouri v. Union Electric Company d/b/a Ameren Missouri	Staff Memorandum	Overview of Case
EO-2014-0151	KCP&L Greater Missouri Operations Company	Staff Recommendation	Renewable Energy Standard Rate Adjustment Mechanism (RESRAM)
ER-2014-0258	Ameren Missouri	Staff Report	Rate Revenue by Class, Class Cost of Service study, Residential Customer Charge
ER-2014-0258	Ameren Missouri	Rebuttal	Weather normalization adjustment to class billing units
ER-2014-0258	Ameren Missouri	Surrebuttal	Residential Customer Charge and Class allocations
ER-2014-0351	Empire District Electric Company	Staff Report	Rate Revenue by Class, Class Cost of Service study, Residential Customer Charge
ER-2014-0351	Empire District Electric Company	Rebuttal & Surrebuttal	Residential Customer, Interruptible Customers

**Cont'd Previous Testimony**  
**of Robin Kliethermes**

<b>Case No.</b>	<b>Company</b>	<b>Type of Filing</b>	<b>Issue</b>
ER-2014-0370	Kansas City Power & Light Company	Staff Report	Rate Revenue by Class, Class Cost of Service study, Residential Customer Charge
ER-2014-0370	Kansas City Power & Light Company	Rebuttal & Surrebuttal	Class Cost of Service, Rate Design, Residential Customer Charge
ER-2014-0370	Kansas City Power & Light Company	True-Up Direct & True-Up Rebuttal	Customer Growth & Rate Switching
EE-2015-0177	Kansas City Power & Light Company	Staff Recommendation	Electric Meter Variance Request
EE-2016-0090	Ameren Missouri	Staff Recommendation	Tariff Variance Request
EO-2016-0100	KCP&L Greater Missouri Operations Company	Staff Recommendation	RESRAM Annual Rate Adjustment Filing
ET-2016-0185	Kansas City Power & Light Company	Staff Recommendation	Solar Rebate Tariff Change
ER-2016-0023	The Empire District Electric Company	Staff Report	Rate Revenue by Class, CCOS and Residential Customer Charge
ER-2016-0023	The Empire District Electric Company	Rebuttal & Surrebuttal	Residential Customer Charge and CCOS
ER-2016-0156	KCP&L Greater Missouri Operations Company	Staff Report	Executive Summary and Retail Rate Revenues



## Sarah L. Kliethermes

### MOPSC EMPLOYMENT EXPERIENCE

#### Regulatory Economist III (July 2013 – Present)

Tariff and Rate Design Unit, Operational Analysis Department, Commission Staff Division, of the Missouri Public Service Commission. In this position my duties include providing analysis and recommendations in the areas of RTO and ISO transmission, rate design, class cost of service, tariff compliance and design, and energy efficiency mechanism and tariff design. I also continue to provide legal advice and assistance regarding generating station and environmental control construction audits and electric utility regulatory depreciation.

My prior positions in the Commission's General Counsel's Office, which was reorganized as the Staff Counsel's Office, consisted of leading major rate case litigation and settlement and presenting Staff's position to the Commission, and providing legal advice and assistance primarily in the areas of depreciation, cost of service, class cost of service, rate design, tariff issues, resource planning, accounting authority orders, construction audits, rulemakings and workshops, fuel adjustment clauses, document management and retention, and customer complaints. Those positions were:

#### Senior Counsel (September 2011 – July 2013)

#### Associate Counsel (September 2009 – September 2011)

#### Legal Counsel (September 2007 – September 2009)

#### Legal Intern (May 2006 – September 2007)

### TESTIMONY

Provided initial Staff Recommendation to reject Kansas City Power & Light Company's proposed tariff sheets to modify its Demand Side Investment Mechanism, and subsequent Staff Recommendation to approve tariff sheet in Case No. ER-2014-0095.

Provided at on the record presentations, as well as contributor to Contributor to Staff Cost of Service Report; and Staff Class Cost of Service and Rate Design Report; prefiled Rebuttal and Surrebuttal, regarding special contract revenues, Class Cost of Service, Rate Design, tariff issues, low income rates, and tail block rate designs in Case No. ER-2016-0023, In the Matter of The Empire District Electric Company's Request for Authority to File Tariffs to Increase Rates.

Provided at hearing, as well as prefiled Rebuttal concerning retail rate impact and public interest concerning Case No. EA-2015-0146, Application of Ameren Transmission Company of Illinois for Other Relief or in the Alternative, a Certificate of Public Convenience and Necessity Authorizing it to Construct, Install, Own, Operate, Maintain and Otherwise Control and Manage a 345,000-volt Electric Transmission Line from Palmyra, Missouri, to the Iowa Border and Associated Substation near Kirksville, Missouri.

cont'd Sarah L. Kliethermes

Contributor to Staff recommendations concerning Case No. EA-2015-0145, Application of Ameren Transmission Company of Illinois for Other Relief or in the Alternative, a Certificate of Public Convenience and Necessity Authorizing it to Construct, Install, Own, Operate, Maintain and Otherwise Control and Manage a 345,000-volt Electric Transmission Line in Marion County, Missouri and an Associated Switching Station Near Palmyra, Missouri.

Contributor to Staff Class Cost of Service and Rate Design Report, regarding Class Cost of Service; prefiled Rebuttal and Surrebuttal, regarding Class Cost of Service and marginal energy cost, in Case No. ER-2014-0370, In the Matter of Kansas City Power & Light Company's Request for Authority to File Tariffs to Increase Rates.

Provided at hearing, as well as deposed, as well as prefiled Rebuttal, Supplemental Direct, and Rebuttal to Supplemental Direct, regarding marginal revenue calculation, throughput disincentive, earnings opportunity and performance incentive, and customer-related issues, in Case No. ER-2015-0055, Union Electric Company d/b/a Ameren Missouri application under the Missouri Energy Efficiency Investment Act.

Provided at hearing, as well as contributor to contributor to Staff Cost of Service Report, regarding special contract tariff revenues, and Staff Class Cost of Service and Rate Design Report, regarding Class Cost of Service and miscellaneous tariff issues; prefiled Rebuttal and Surrebuttal, regarding Class Cost of Service and special contracts, in Case No. ER-2014-0351, In the Matter of The Empire District Electric Company's Request for Authority to File Tariffs to Increase Rates.

Provided at hearing and deposed, as well as contributor to Staff Cost of Service Report, regarding Noranda revenues, and Staff Class Cost of Service and Rate Design Report, regarding Class Cost of Service; prefiled Rebuttal and Surrebuttal, regarding Class Cost of Service, incremental cost of energy, and Noranda rate design, in Case No. ER-2014-0258, In the Matter of Union Electric Company d/b/a Ameren Missouri for Authority to File Tariffs to Increase Rates.

Provided at hearing, as well as prefiled Rebuttal and Surrebuttal, regarding energy price efficiency and transmission, in Case No. EA-2014-0207, Application of Grain Belt Express Clean Line LLC for a Certificate of Convenience and Necessity.

Contributor to Staff recommendation concerning Ameren Missouri municipal lighting, in Case No. EC-2014-0316, City of O'Fallon, Missouri, and City of Ballwin, Missouri, Complainants v. Union Electric Company d/b/a Ameren Missouri, Respondent.

Contributor to Staff Report, regarding a requested Certificate of Convenience and Necessity, a requested Special Contract tariff sheet, and tariff review, in Case No. HR-2014-0066, In the Matter of Veolia Energy Kansas City, Inc. for Authority to File Tariffs to Increase Rates.

cont'd Sarah L. Kliethermes

Provided at hearing, as well as prefiled Rebuttal and Surrebuttal, regarding average wholesale energy prices, in Case No. EC-2014-0224, Noranda Aluminum, Inc., et al., Complainants, v. Union Electric Company d/b/a Ameren Missouri, Respondent.

Rebuttal, regarding DSIM tariff design, margin rate calculation, and customer-related issues, in Case No. ER-2014-0095, Kansas City Power & Light application under the Missouri Energy Efficiency Investment Act. Case resolved by stipulation.

Contributor to Staff recommendation concerning KCP&L Greater Missouri Operations Company's Application for a Renewable Energy Standard Rate Adjustment Mechanism, in Case No. EO-2014-0151, addressing issues of customer notice and tariff design. Staff recommendation to approve compliance tariffs.

**RELATED TRAINING AND EXPERIENCE**

2015, participant in Missouri's Comprehensive Statewide Energy Plan working group on Energy Pricing and Rate Setting Processes.

Presented:

*Support for Low Income and Income Eligible Customers, Cost-Reflective Tariff Training, in cooperation with U.S.A.I.D. and NARUC, Addis Ababa, Ethiopia (February 23 - 26, 2016)*

*Fundamentals of Ratemaking at the MoPSC (October 8, 2014)*

*Ratemaking Basics (Sept. 14, 2012)*

Attended:

*Using Deemed Savings and Technical Reference Manuals for Efficiency Programs and Projects Evaluation, Measurement and Verification for Energy Efficiency (June 27, 2016)*

*Demand Charges: Pathway or Detour? (December 10, 2015)*

*Net Metering presented by Ralph Zarumba (December 9, 2014)*

*Fourth Annual Public Utility Law Symposium (October 17, 2014)*

*Electricity Energy Storage Sources (August 29, 2014)*

*Combined Heat & Power: Planning, Design and Operation (August 11, 2014)*

*Today's U.S. Electric Power Industry, the Smart Grid, ISO Markets & Wholesale Power Transactions (July 29-30, 2014)*

*MISO Markets & Settlements Training for OMS and ERSC Commissioners & Staff (Jan. 27 - 28, 2014)*

*Validating Settlement Charges in New SPP Integrated Marketplace (July 22, 2013)*

*PSC Transmission Training (May 14 - 16, 2013)*

*Grid School (March 4 - 7, 2013)*

*Specialized Technical Training - Electric Transmission (April 18 - 19, 2012)*

*Legal Practice Before the Missouri Public Service Commission (Sept. 1, 2011)*

**cont'd Sarah L. Kliethermes**

*Renewable Energy Finance Forum* (Sept. 29 – Oct 3, 2010)

*The New Energy Markets: Technologies, Differentials and Dependencies* (June 16, 2011)

Mid-American Regulatory Conference Annual Meeting (June 5 – 8, 2011)

*Utility Basics* (Oct. 14 – 19, 2007)

**EDUCATION**

Studied Energy Transmission at Bismarck State College, online (2014 – 2015).

Licensed to Practice Law in Missouri, MoBar # 60024 (Summer 2007).

Juris Doctorate, University of Missouri, Columbia, Missouri (2004 – 2007).

Bachelor of Science in Historic Preservation, Cum Laude, minor in Architectural Design,  
Southeast Missouri State University, Cape Girardeau, Missouri (2002 – 2004).

2000 – 2002: Studied Architecture and English Literature at Drury University, Springfield,  
Missouri.

2013 Economics courses at Columbia College, Jefferson City campus.

**OTHER EMPLOYMENT EXPERIENCE**

Law Clerk, Contracting and Organization Research Institute. Performed legal research;  
analyzed, described, and categorized contracts.

Paid Intern, Southeast Missouri State University. Accessioned and organized artifact  
collections for the Missouri Department of Natural Resources, Division of State Parks and  
Historic Sites.

Intermediate Clerk, Missouri Department of Elementary and Secondary Education.  
Responsibilities included organizing and managing various forms of data.

## David C. Roos

**Present Position:** I am a Regulatory Economist III in the Energy Resource Department, Commission Staff Division of the Missouri Public Service Commission.

### **Educational Background and Work Experience:**

In May 1983, I graduated from the University of Notre Dame, Notre Dame, Indiana, with a Bachelor of Science Degree in Chemical Engineering. I also graduated from the University of Missouri in December 2005, with a Master of Arts in Economics. I have been employed at the Missouri Public Service Commission as a Regulatory Economist III since March 2006. I began my employment with the Commission in the Economics Analysis section where my responsibilities included class cost of service and rate design. In 2008, I moved to the Energy Resource Analysis section where my testimony and responsibility topics include energy efficiency, resource analysis, and fuel adjustment clauses. Prior to joining the Public Service Commission I taught introductory economics and conducted research as a graduate teaching assistant and graduate research assistant at the University of Missouri. Prior to the University of Missouri, I was employed by several private firms where I provided consulting, design, and construction oversight of environmental projects for private and public sector clients.

### **Previous Cases**

<u>Company</u>	<u>Case No.</u>
Empire District Electric Company	ER-2006-0315
AmerenUE	ER-2007-0002
Aquila Inc.	ER-2007-0004
Kansas City Power and Light	ER-2007-0291
AmerenUE	EO-2007-0409

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<u>Company</u>	<u>Case No.</u>
Empire District Electric Company	ER-2008-0093
Kansas City Power and Light	ER-2008-0034
Greater Missouri Operations	HR-2008-0340
Greater Missouri Operations	ER-2009-0091
Greater Missouri Operations	EO-2009-0115
Greater Missouri Operations	EE-2009-0237
Greater Missouri Operations	EO-2009-0431
Empire District Electric Company	ER-2010-0105
Greater Missouri Operations	EO-2010-0002
AmerenUE	ER-2010-0036
AmerenUE	ER-2010-0044
Empire District Electric Company	EO-2010-0084
Empire District Electric Company	ER-2010-0105
AmerenUE	ER-2010-0165
Greater Missouri Operations	EO-2010-0167
AmerenUE	EO-2010-0255
Greater Missouri Operations (Aquila)	EO-2008-0216
Ameren Missouri	ER-2011-0028
Empire District Electric Company	EO-2011-0066
Empire District Electric Company	EO-2011-0285
Ameren Missouri	EO-2012-0074
Greater Missouri Operations	EO-2012-0009
Ameren Missouri	EO-2012-0142
Ameren Missouri	ER-2012-0166
Greater Missouri Operations	EO-2013-0325
Ameren Missouri	EO-2013-0407
Empire District Electric Company	EO-2014-0057
Greater Missouri Operations	EO-2014-0256
Empire District Electric Company	ER-2014-0351
Greater Missouri Operations	EO-2015-0252
Kansas City Power and Light	EO-2015-0254
Empire District Electric Company	ER-2015-0214
Greater Missouri Operations	EO-2016-0053
Empire District Electric Company	ER-2016-0023