Exhibit No.:	
Issue:	Class Cost of Study, Revenue Allocation, Rate Design
Witness:	Kavita Maini
Type of Exhibit:	Surrebuttal Testimony
Sponsoring Parties:	MECG
Case No.:	ER-2021-0312
Date Testimony Prepared:	January 20, 2022

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

In the Matter of The Empire District Electric Company of Joplin, Missouri for Authority to File Tariffs Increasing Rates for Electric Service Provided to Customers in the Missouri Service Area of the Company	**)**	**File No. ER-2021-0312**

Surrebuttal Testimony of

Kavita Maini

On behalf of

MIDWEST ENERGY CONSUMERS GROUP

January 20, 2022

Protecting Your Bottom Line

KM ENERGY CONSULTING, LLC

BEFORE THE PUBLIC SERVICE COMMISSION
OF THE STATE OF MISSOURI

In the Matter of The Empire District Electric Company for Authority to File Tariffs Increasing Rates for Electric Service Provided to Customers in the Company's Missouri Service Area	)	Case No. ER-2021-0312

STATE OF WISCONSIN	)	
	)	SS
COUNTY OF WAUKESHA	)	

AFFIDAVIT OF KAVITA MAINI

Kavita Maini, being first duly sworn, on her oath states:

1. My name is Kavita Maini. I am a consultant with KM Energy Consulting, LLC. having its principal place of business at 961 North Lost Woods Road, Oconomowoc, WI 53066. I have been retained by the Midwest Energy Consumers Group ("MECG") in this proceeding on their behalf.

2. Attached hereto and made a part hereof for all purposes are my surrebuttal testimony and schedules which were prepared in written form for introduction into evidence in Missouri Public Service Commission Case No. ER-2021-0312

3. I hereby swear and affirm that the testimony and schedules are true and correct and that they show the matters and things that they purport to show.

/s/ Kavita Maini
Kavita Maini

BEFORE THE PUBLIC SERVICE COMMISSION OF THE STATE OF MISSOURI

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Surrebuttal Testimony of Kavita Maini

I. INTRODUCTION

Q. PLEASE STATE YOUR NAME AND OCCUPATION.

A. My name is Kavita Maini. I am the principal and sole owner of KM Energy Consulting, LLC.

Q. PLEASE STATE YOUR BUSINESS ADDRESS.

A. My office is located at 961 North Lost Woods Road, Oconomowoc, WI 53066.

Q. ARE YOU THE SAME KAVITA MAINI WHO HAS PREVIOUSLY FILED DIRECT AND REBUTTAL TESTIMONY IN THIS CASE?

A. Yes, I filed direct and rebuttal testimony on behalf of the Midwest Energy Consumers Group ("MECG"). My direct testimony provided my recommendations regarding class cost of service; revenue allocation and rate design for the GP and LP rate classes. My rebuttal testimony addressed Staff's proposed revenue allocation to classes as well as the time of use ("TOU") rate design recommendations made by Staff and by

Empire District Electric Company, A Liberty Utilities Company's ("Empire" or "Company") for the LP class.

Q. WHAT IS THE PURPOSE OF YOUR SURREBUTTAL TESTIMONY?

A. The purpose of my surrebuttal testimony is to respond to (a) Empire witness Mr. Timothy Lyons regarding class cost of service (CCOS), revenue allocation, and rate design issues, (b) OPC witness Mr. Geoff Marke regarding revenue allocation and (c) Staff witness Mr. Sarah Lange regarding CCOS, revenue allocation, and rate design issues. The fact that I do not address any particular issue should not be interpreted as my implicit approval of any position taken by the Company, OPC or Staff on that issue.

II. SUMMARY

Q. PLEASE SUMMARIZE YOUR TESTIMONY AND RECOMMENDATIONS.

A. The following is a summary of my testimony and recommendations:

Section III: Class Cost of Service Study (CCOS)

(a) Response to Empire

1. I appreciate the Company's adoption of my recommendations to (a) allocate interruptible credits to firm load only and (b) correct the load factor calculation in determining the average and excess (A&E) production cost allocator.

2. I continue to believe that MECG's recommended A&E 5 NCP better captures Southwest Power Pool's (SPP) resource adequacy requirements in that it uses all months where the demands are within 10% of the system peak. Nevertheless, given that Empire is summer and winter peaking and in order to narrow the issues in this case, I am not opposed to the Company's proposal to use 8 NCP in calculating the average and excess production cost allocator. The resulting class cost of study service results using the A&E 8 NCP to allocate fixed production plant related costs are similar to the A&E 5 NCP allocator.

(b) Response to Staff

1. While Ms. Lange seems to have considerable criticisms of Empire and MECG's A&E methodology, she does not provide a practically achievable alternative methodology or corresponding results.

2. Ms. Lange's criticisms claiming that the A&E methodology (a) relies heavily on class peaks and (b) is not compatible with the Southwest Power Pool (SPP) market, are not persuasive. SPP relies on two data points – each utility's summer and winter peak, in order to calculate the resource adequacy requirements. Compared to SPP, the Company and MECG's A&E approaches could be regarded as more conservative since more than two peaks are utilized and since the A&E approach utilized by both Empire and MECG also consider class energy requirements.

3. The A&E production cost allocator is appropriately applied to all types of generation including coal, nuclear, natural gas and renewable generation. This is because by incorporating class contribution to average demands (i.e., energy usage) and maximum demands and further weighting by load factor, the A&E allocator reasonably considers all aspects of a utility's load profile characteristics which result in building generation infrastructure.

4. Contrary to Ms. Lange's view, off system sales are reasonably allocated on the basis of the energy allocator. Since (a) retail energy requirements are necessarily energy based and (b) the Company's fuel and other variable costs of producing energy output from its generation is allocated on the basis of the energy allocator, it makes sense and is consistent to use the energy allocator to allocate the off system sales revenues on the same basis. If the utility was a net buyer in terms of energy requirements, the net costs would have been allocated on an energy basis.

5. The A&E method remains compatible with Missouri utilities participating in the SPP market and all Missouri utilities continue to utilize this methodology.

Section IV: Revenue Allocation

(a) Response to Empire

1. The Company's initial proposal as submitted in Mr. Tim Lyons' direct testimony over moderates the impacts to the residential class while unfairly and inequitably increasing rates for other classes at higher amounts than appropriate. Specifically, Mr. Lyons now acknowledges that his proposed revenue allocation was solely an effort to limit the residential increase to less than 10%.[1] Furthermore, Mr. Lyons admits that "the results of the class cost of service study support a higher rate increase for residential customers

[1] Lyons Rebuttal, page 18 ("The Company's residential rate proposals in both proceedings are designed to mitigate customer bill impacts through base rate increases just below 10.0 percent.").

since their current rates recover less than the cost of service."[2] In rebuttal testimony, Mr. Lyons indicates support for MECG's principles of fairness and equity subject to bill considerations. Given that the Company's initial revenue allocation proposal was based on its filed revenue requirement of $79.9 million, which has decreased significantly due to the elimination of storm Uri related costs from this proceeding and will likely be reduced further, I expect that Empire will now support a revenue neutral shift to bring classes closer to cost-based rates.

(b) Response to Office of Public Council

1. Mr. Geoff Marke does not support my 25% revenue neutral adjustment and instead indicates support for Staff's equal percent increase recommendation on the basis of factors including inflation, the health pandemic and inclusion of winter storm Uri costs. These factors are not unique to the residential class. Rather, each of these factors are equally applicable to the commercial and industrial rate classes. Therefore, such factors should not be used as justifications to ask the industrial / commercial classes to pay disproportionately more to subsidize another class, on top of the impacts associated with these factors. My recommended revenue neutral adjustment is 25%, which means that the remaining 75% of the adjustments (including the residential subsidy) still remain for each class and therefore gradualism has already been given substantive weight.

(c) ***Response to Staff***

1. Contrary to Staff position, the EEI average rate comparison is a valid benchmark to assess industrial customers' relative rate competitiveness. Rate migration or growth does not result in making this comparison unreliable since such factors are not unique to Empire but are prevalent in other jurisdictions as well. More importantly, the Missouri Commission has found this information credible and a reasonable benchmark in past cases. Finally, the EEI average rate comparison is also used by customers to evaluate and benchmark utility costs within the state, regionally and nationally.

Section V: Rate Design

(a) Response to Empire

1. In his rebuttal testimony, Mr. Lyons acknowledges the appropriateness of MECG's proposed rate design for the LP, GP and TS rate classes.[3] That proposal would recover any allocated increase to the LP, TS and GP classes by increasing the billing demand charges subject to bill considerations. However, it is worth noting that under the Company's original proposal, the bill impacts would have been much higher for high load

[2] *Id.* at pages 16-17.

[3] Lyons Rebuttal, page 19 ("The Company does not oppose MECG's recommendation to apply increases for the GP, TEB, and LP classes to the billing demand charges, subject to bill impact considerations. This approach better aligns recovery of demand-related costs through demand charges and energy-related costs through energy-related charges.")

factor customers because of substantive proposed increases to the tail block energy charges. The Company's own analysis demonstrates that over 50% of cost recovery should be from demand charges for the GP and LP classes and the Company's proposed approach would have limited recovery to 28% and 34% respectively. My proposal on the other hand, would be more equitable compared to the Company's approach because it would result in increasing demand based recovery to 35% to 40% for the GP and LP classes respectively thereby helping mitigate intra-class subsidization. At the same time, this approach also considers gradualism because a portion of fixed portion would continue to be recovered through demand based charges.

(b) Response to Staff

1. Ms. Lange improperly attempts to demonstrate that LP rates are not economically efficient simply because the LP billing demand can be set at any time during the month. Noticeably, I attempted to address this issue in the 2014 rate case where I recommended a time-differentiated billing demand. This recommendation would have meant that the demand for purposes of billing demand charges would have only been established during peak hours. Nevertheless, despite the economic efficiency of such a proposal, Staff did not shown an interest and the issue remained unresolved. In the 2016 case, it is my understanding that no progress was made due to billing system issues. If these barriers to implementation no longer exist at present, I would support the implementation of time differentiating only the billing demand for the LP class in this case and using the same definition for on peak hours for setting demand as Schedule TS. As discussed in my rebuttal testimony, for a variety of reasons, I do not support Staff's mandated time differentiated energy charges at the present time.

III. CLASS COST OF SERVICE STUDY (CCOS)

1. Response to Empire

Q. WHICH OF YOUR CCOS RECOMMENDATIONS DID THE COMPANY ADOPT?

A. At page 18 of his rebuttal testimony Mr. Timothy Lyons supports and incorporates my recommendation regarding the allocation of interruptible credits to firm load only. This recommendation was initially found at pages 25-28 of my direct testimony. He also does not oppose my recommendation to correct the calculation of the load factor in the Average and Excess (A&E) method using the Company's system peak demand instead of the 12 CP.[4] This recommendation was initially found at pages 23-25 of my direct testimony. I appreciate the Company's efforts to reconcile both of these matters.

Q. HOW DID THE COMPANY RESPOND TO YOUR RECOMMENDATION REGARDING THE USE OF THE A&E 5 NCP TO ALLOCATE FIXED PRODUCTION PLANT RELATED COSTS RATHER THAN THE A&E 12 NCP UTILIZED BY EMPIRE?

A. This recommendation was reflected at pages 19-21 of my direct testimony. There I showed that 5 months are within 10% of the system peak. These peaks then are those which impact the Company's decision to construct generation. All other months are necessarily subsumed within these peaks and are largely irrelevant to the decision to construct generation.

Mr. Lyons opposed this recommendation on the basis that the 5 NCP is not consistent with the Company's capacity planning requirements. He states the following on page 20 of his rebuttal testimony:

> Specifically, the Company's capacity planning requirements are based on the Southwest Power Pool's ("SPP") resource adequacy requirements in the summer and winter periods. The summer requirements are based on peak load and reserve margin in the summer period (June through September), and the winter requirements are based on peak load and reserve margin in the winter period (December through March).

[4] I understand Mr. Lyons does not oppose the load factor calculation, due in part to my observation that Ameren makes the calculation using the system peak as the denominator. To ensure a relevant reference is included here from Ameren's rate case, please see Direct testimony of Thomas Hickman in docket ER-2021-0240, page 19 where he describes the weighting of the average and excess factors: Average class demands are weighted by the Company's annual system load factor ("LF") (LF = average demand ÷ peak demand) and excess class demands are weighted by the complement of the load factor (1.0 – LF) in the development of cost allocation factors using this methodology.

Mr. Lyons indicates however, that instead of 5 NCP, the Company would support a change to allocate production costs based on 8 NCP, which would include the class demands for months used in evaluation of the capacity planning requirements, that is, 4 winter months (December through March) and 4 summer months (June through September).

Q. HOW DO YOU RESPOND TO THE COMPANY'S REBUTTAL?

A. Since SPP's reserve margin requirements are based on the highest expected demands in the summer and winter respectively, my 5 NCP methodology better captures the SPP requirements because I use all months where the demands are within 10% of the system peak. That said, however, given that Empire is both a summer and winter peaking utility, and in order to narrow the issues in this case, I am not opposed to the Company's proposal to use 8 NCP in calculating the average and excess production cost allocator so long as the Company utilizes the correct load factor calculation as shown in Figure 7, Column entitled "A&E 8NCP Rebuttal [2]" on page 22 of Mr. Lyons' Rebuttal testimony.

Q. HOW DOES THIS ALLOCATOR COMPARE TO MECG'S A&E 5 NCP ALLOCATOR?

A. The class allocators are substantially similar as can be observed in Table 1.

Table 1: Production Cost Allocator Comparison

Column	MECG - A&E 5NCP	Company Rebuttal - A&E 8NCP
	Total	Total
	Allocator	Allocator
Rate Class	(%)	(%)
RG-Residential	49.82%	49.42%
CB-Commercial	8.27%	8.50%
SH-Small Heating	1.96%	1.95%
GP-General Power	17.22%	17.45%
TS - Transmssion Service	0.82%	0.78%
TEB-Total Electric Bldg	6.87%	6.93%
PFM-Feed Mill/Grain Elev	0.02%	0.02%
LP-Large Power	13.97%	13.83%
MS-Miscellaneous	0.0017%	0.00%
SPL-Municipal St Lighting	0.52%	0.57%
PL-Private Lighting	0.44%	0.45%
LS-Special Lighting	0.10%	0.08%

The results using the A&E 8 NCP allocator are therefore also similar to MECG's A&E 5 NCP allocator and provided in Schedule KM – 1s.[5]

2. Response to Staff

Q. DOES STAFF HAVE CONCERNS REGARDING THE A&E METHOD THAT EMPIRE AND MECG HAVE UTILIZED IN THIS CASE FOR PURPOSES OF ALLOCATING FIXED PRODUCTION COSTS?

A. Yes. Ms. Sarah Lange is critical of this method and its alleged "heavy reliance on peak hour class loads". She complains that in Empire's case, (a) migration between the customer classes results in less reliable class loads; (b) fixed production plant related costs are not allocated properly for specific generation types such as wind using the A&E method; (c) off system sales revenues are not correctly allocated; and

[5] The A&E 5 NCP results were submitted in direct testimony, Schedule KM-4.

(d) the A&E method is now outdated because Empire is a market participant in the SPP IM market.[6] Ms. Lange sums up her concerns on page 23 on her rebuttal testimony as follows:

> For example, within the Empire study, unreasonable classes were selected to develop unreliable class loads, which were used to develop unreliable class peaks, which are then used to allocate non-dispatchable generation and to unreasonable allocate the proceeds of generation.

Q. DOES STAFF PROVIDE AN ALTERNATIVE METHODOLOGY TO ADDRESS THESE ALLEGED CONCERNS?

A. No. While Ms. Lange seems to have considerable criticisms of the A&E methodology, she does not seem to have decisive solutions. Nor does she attempt to provide alternative results that she believes are more "reliable". Instead, Ms. Lange introduces some exploratory concepts that she believes would work when more data is available through AMI.[7] Given her inability to provide practical application and resolution of her concepts, the Commission should disregard them here. As for her criticisms of the A&E approach, I do not find them persuasive and respond to them below.

Q. PRIOR TO ADDRESSING ISSUES RELATED TO THE A&E APPROACH, WHAT IS YOUR RESPONSE TO MS. LANGE'S VIEW THAT THE CUSTOMER CLASSES ARE "UNREASONABLE"?

A. Ms. Lange appears to indicate that customer classes are "unreasonable" because of the possibility of switching among classes. I find Ms. Lange's arguments to be inconsistent because on the one hand she appears to be seeking more granular load

[6] See, pages 17-21 of Ms. Sarah Lange's rebuttal testimony.
[7] See, Ms. Lange's rebuttal testimony on page 23.

data to assign costs. Yet, on the other hand, Staff recommended consolidation of certain customer classes thereby decreasing the granularity of such data.[8] Consolidation of classes necessarily reduces the granularity of data as customer data is buried in a consolidated class with even more customers. Ms. Lange cannot have it both ways.

Q. WHAT IS YOUR RESPONSE TO MS. LANGE'S CRITICISM THAT THE A&E METHOD RELIES HEAVILY ON PEAK HOUR CLASS LOADS?

A. I disagree. It makes sense to rely on peak hour class loads to assign fixed production plant based costs because capacity is built primarily to reliably fulfill firm service obligations. In fact, SPP relies on just two data points -- the expected summer and winter peaks of its participating utilities to calculate their firm capacity obligations. I provide SPP as an example since I understand Ms. Lange's preference is be consistent with participation in the SPP market.

For resource adequacy purposes and to demonstrate that each utility can reliably serve its load, SPP requires that each utility have sufficient capacity to meet both its maximum peak summer demand plus a planning reserve margin requirement (PRMR) and maximum winter demand plus a planning reserve margin requirement respectively.[9] Thus, from SPP's perspective, the member utilities such as Empire are required to rely only on two forecasted peaks to calculate the PRMR respectively. Since the capacity requirements are based on just these two expected peak demands, even a retail CCOS study based on the coincident peak method using two peaks (i.e., 2

[8] Staff would like to consolidate (a) Class CB with Class SH into a small general service rate schedule; (b) class GP with TEB into medium general service and (c) PFM eliminated and placed into the medium general service rate or as applicable.

[9] See response to MECG 12.6 and MECG 12.7.

CP) or A&E 2 NCP would be compatible with SPP's requirements. Thus, recognizing that the Company's and my proposed fixed production allocator would rely on 8 months, it is much less dependent on peak hour class loads than even SPP.

Q. DO YOU AGREE WITH MS. LANGE REGARDING HER CONCERNS ABOUT USING THE A&E PRODUCTION COST ALLOCATOR FOR WIND GENERATION?

A. No, I do not. First, I do not consider it good practice to mix and match production cost allocators based on generation type, to allocate fixed production plant related costs, because such an approach will necessarily include more subjectivity and potential for analytical bias. Second, Ms. Lange appears to assume that the A&E allocator considers only peak demands and ignores the fact that the calculation of the allocator also includes average demand, which is energy usage. Third, all generation acquired by the Company has capacity value including hydro, natural gas, coal and wind generation. By incorporating class contribution to average demands and maximum demands and further weighting by load factor, the A&E allocator reasonably considers all aspects of a utility's load profile characteristics which result in building generation infrastructure. Consequently, the A&E approach is an appropriate allocator to use in order to allocate all fixed production plant related cost.

Q. HOW DO YOU RESPOND TO MS. LANGE'S CLAIM THAT OFF SYSTEM SALES ALLOCATION TO CLASSES IS NOT CONSISTENT WITH HOW

CLASSES ARE ALLOCATED FIXED PRODUCTION PLANT RELATED COSTS?

A. Ms. Lange is confusing resource adequacy with operations. The role of SPP's (and utility's) resource adequacy is to ensure adequate capacity is available to reliably serve native load requirements while the role of its operations is to ensure efficient dispatch of generation output. The resource adequacy requirements were discussed earlier.

From an operational perspective, the generation offers generally include the variable costs of production including fuel and variable O&M costs, which are used to generate the output. Therefore, since (a) retail energy requirements are necessarily energy based and (b) the Company's fuel and other variable costs of producing energy output from its generation is correctly allocated on the basis of the energy allocator, it makes sense and is consistent to use the energy allocator to allocate the off system sales revenues on the same basis. If the utility was a net buyer in terms of energy requirements, the net costs would have been allocated on an energy basis. Similarly, if the utility is a net seller, the net gains should accordingly be allocated on the same basis.

Q. IS THE A&E METHOD OUTDATED NOW THAT EMPIRE AND OTHER MISSOURI UTILITIES ARE PARTICIPATING IN THE SPP MARKET?

A. No. as I demonstrated above, the A&E method remains compatible with Missouri utilities participating in the SPP market. All Missouri utilities, and numerous other utilities operating in vertically integrated states, also find this method to be compatible since they continue to utilize this method as noted in the most recent Ameren case, as well as the pending Empire and Evergy rate cases.

Q. SHOULD THE COMMISSION ACCEPT STAFF'S POSITION THAT THE CCOS AND RESULTING COST ALLOCATIONS SUBMITTED IN THIS CASE ARE UNRELIABLE?

A. No. This position appears to be a continuation of Staff's view in the Ameren rate case that "cost allocations are more of an art than a science." As discussed above, Staff's arguments with regards to the A&E approach are not persuasive. Furthermore, Ms. Lange's justification that class loads are not reliable is contradictory and not reasonable when Staff relies on the same type of data to allocate costs on a jurisdictional basis. Ratemaking is inherently based on the use of allocations and these allocations are done based upon objective, verifiable metrics of demand, energy and customers. For instance, when it allocates fixed production plant costs to its jurisdictions, Empire also relies upon allocation based on jurisdictional demands and jurisdictional energy consumption for fuel and other variable costs. Noticeably, Staff did not object to the use of such allocations or consider them unreliable when it established the revenue requirement in this case. Staff did not seek to deny any of these costs or to accept a subsidization of the other states by the Missouri ratepayers simply on the basis that allocations are not reliable. Therefore, the Commission should not accept Staff's assertion that such allocations within a class cost of service study are unreliable.

IV. REVENUE ALLOCATION

1. Response to Empire

Q. HOW DID THE COMPANY RESPOND TO YOUR RECOMMENDATION REGARDING A 25% REVENUE NEUTRAL ADJUSTMENT PRIOR TO APPLYING THE FINAL INCREASE ON AN EQUAL PERCENT BASIS?

A. In his rebuttal testimony (pages 16-18), Mr. Lyons states that Empire's initial revenue allocation proposal (which would result in further exacerbation of the residential subsidy) was based out of concerns with residential bill impacts resulting from the initially requested $79.9 million rate increase.[10] Specifically, Mr. Lyons states:

> Q. Would the Company support a revenue neutral adjustment if the residential rate impact was lower?
>
> A. Yes. The Company supports the principles of fairness and equity raised by MECG, subject to bill impact considerations consistent with its filed position.

Since that time, Empire has agreed to remove the impacts from Winter Storm Uri from this case and, instead, securitize those costs.[11] With the removal of the Winter Storm Uri impacts from this case, Empire's initial request has been reduced from $79.9 million to $50.0 million. It is also likely that overall revenue requirement will be further reduced.[12] Thus, the impacts on residential customers associated with Empire's rate increase will have been reduced dramatically. Therefore, given Mr. Lyons testimony that my revenue neutral adjustment "supports the principles of fairness and equity," and the reduced impact of this case on residential customers, it is

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[10] See, Wilson Direct, page 14.

[11] See, Emery Surrebuttal, Case No. EU-2021-0274, page 5 ("On January 5, 2022, Empire notified the parties in that proceeding that it intends to officially remove all of the costs associated with Winter Storm Uri from its revenue request when it files its surrebuttal testimony.")

[12] For instance, on January 20, Empire filed its notice of intent to file an application to remove the impacts of Asbury from this case and to securitize those costs.

reasonable to expect that Empire will now support a revenue neutral shift to bring classes closer to cost-based rates.

Q. HOW DO YOU RESPOND TO THE COMPANY'S INITIAL PROPOSAL NOT TO MAKE ANY REVENUE NEUTRAL SHIFTS?

A. The Company's initial proposal over moderates the impacts to the residential class while unfairly and inequitably increasing rates for other classes at higher amounts than appropriate. As indicated in my direct testimony, the Company's revenue allocation has not only disregarded the results of its CCOS but by giving a below average increase to the residential class, the residential subsidy is further exacerbated.

Q. ARE YOU AWARE OF OTHER MISSOURI UTILITIES THAT HAVE TAKEN STEPS SIMILAR TO THOSE THAT YOU PROPOSED IN ORDER TO ADDRESS THE RESIDENTIAL SUBSIDY?

A. Yes. On January 7, Evergy filed rate cases for its Evergy Metro and Evergy West subsidiaries. There, Evergy conducted class cost of service studies for each subsidiary that showed the existence of a significant residential subsidy. Evergy proposed to take steps to eliminate the residential subsidy. For Evergy Metro, Evergy proposed that the residential class receive an increase that is 36% above the system average. Therefore, while seeking an overall increase of 5.65%, Evergy proposed that the residential class receive an increase of 7.73% and the Large Power class receive an increase of 4.24%. Evergy proposed similar revenue neutral shifts for its Evergy West subsidiary. Specifically, while seeking an overall increase of 8.31%, Evergy proposed that the residential class receive an increase of 10.84% and the Large Power class receive an increase of 7.05%. Clearly other utilities reject Empire's over-moderation of residential impacts and, instead, have taken steps to bring all classes rates closer to cost of service.

Q. ON PAGE 17 OF HIS REBUTTAL TESTIMONY, MR. LYONS SHOWS A COMPARISON OF THE BASE RATE INCREASE BETWEEN THE COMPANY'S AND MECG'S REVENUE ALLOCATION PROPOSALS. DOES THIS COMPARISON ACCURATELY REFLECT MECG'S REVENUE ALLOCATION PROPOSAL?

A. No. A review of Mr. Lyons' workpapers shows that he applied my proposed 25% adjustment just to the residential class. As reflected in the table on page 33 of my direct testimony, my proposal is to apply the 25% revenue neutral adjustment to all classes as the first step followed by an equal percent increase of the final revenue requirement. I am also including Table 2 below to show my proposed 25% revenue neutral adjustment comparisons using the A&E 5 NCP versus A&E 8 NCP. As previously mentioned, given the comparability of the results using either the 5 NCP or 8 NCP, as well as Empire's willingness to utilize the 8 NCP, I am not opposed to utilizing either of these two alternatives before applying the final equal percent increase.

Table 2: Comparison of 25% Revenue Neutral Adjustment Using A&E 8 NCP versus A&E 5 NCP

Rate Class	25% Revenue Neutral Adjustment Using A&E 8NCP	25% Revenue Neutral Adjustment Using A&E 5NCP - MECG Direct Testimony
RG-Residential	4.75%	4.84%
CB-Commercial	-1.05%	-1.31%
SH-Small Heating	-0.55%	-0.52%
GP-General Power	-4.95%	-5.09%
TS - Transmission Service	-7.96%	-7.55%
TEB-Total Electric Bldg	-5.84%	-5.92%
PFM-Feed Mill/Grain Elev	-2.39%	-5.12%
LP-Large Power	-4.90%	-4.79%
MS-Miscellaneous	9.36%	9.35%
SPL-Municipal St Lighting	9.99%	8.66%
PL-Private Lighting	-7.61%	-7.81%
LS-Special Lighting	107.02%	117.21%

2. Response to Staff

Q. DID MS. SARAH LANGE CHANGE HER PERSPECTIVE REGARDING AN EQUAL PERCENT INCREASE FOR REVENUE ALLOCATION IN HER REBUTTAL TESTIMONY?

A. No. It is worth noting that while her goal for introducing time of use rate design is to align rates with cost causation and revenue responsibility, she did not take the necessary first step of conducting a CCOS analysis. Therefore, she cannot claim to demonstrate proper alignment of rates with cost causation or revenue responsibility. By assuming an equal percent increase, she is simply implying that current rates exactly match cost of service – which is clearly not true, as shown by both the Company's and my CCOS results.

Q. IN YOUR DIRECT TESTIMONY, YOU USED EEI DATA TO DEMONSTRATE THAT EMPIRE'S AVERAGE INDUSTRIAL RATE IN MISSOURI IS NOT COMPETITIVE. MS. LANGE INDICATES THAT IT IS NOT REASONABLE TO RELY ON THE EEI DATA. HOW DO YOU RESPOND?

A. Ms. Lange uses the possibility of customer switching between classes or growth in particular classes as rationale for not relying on the EEI data. I do not find her rationale to be persuasive because customer migration and growth would be occurring in other jurisdictions as well. Therefore, since these factors are not unique to Empire and are experienced by all utilities in all jurisdictions, comparisons of the competitiveness of rates are still valid. If Ms. Lange identified a factor that was unique solely to Empire, then such a concern may be legitimate. Further, the idea of utilizing average EEI data is to show relative comparisons. More importantly, the Missouri Commission has found this information credible and a reasonable benchmark in past cases. Specifically, as I mentioned at page 8 of my direct testimony, the Commission expressly relied on my testimony, including the EEI comparisons, in 2014 in deciding to adopt my recommended 25% revenue neutral shifts. Finally, as indicated in my direct testimony, the EEI average rate comparison is also used by customers to evaluate and benchmark utility costs within the state, regionally and nationally. In this regard, the Commission should consider the previous testimony of two of Empire's largest customers (Walmart and Praxair), which found that, based upon their operations in multiple states, the comparisons in EEI are valid. For instance, Walmart indicated the following:

> Walmart operates in all 50 states and the District of Columbia, so we are able to easily benchmark our utility cost in one market against other utilities in the market as well as regional and national benchmarks. . . Our experience mirrors the results of the EEI Report and reinforces large customer concerns about the competitiveness of EDE's rates.[13]

Praxair provided similar testimony:

> Praxair has comparison data from twenty-six states and provinces in the United States and Canada in which Praxair operates production plants. Of those twenty-six places, just one – California – has higher rates than Empire for electric power supplied by regulated utilities. . . The uncompetitive nature of Empire's industrial rate, as depicted in the EEI data, is consistent with the real life costs that Praxair pays, day in, day out. Specifically, when compared to other regional utilities, Empire's industrial rate is not competitive with other service areas.[14]

3. Response to the Office of Public Counsel

Q. WHAT IS OPC'S REVENUE ALLOCATION RECOMMENDATION?

A. While also not conducting a class cost of service analysis, Mr. Geoff Marke indicates support for Staff's equal percent increase recommendation. While he agrees with me that industrial customers are paying well above state, regional and national averages, he asserts, that this is true for other classes as well. In addition he suggests that inflation, the health pandemic and inclusion of winter storm Uri costs as justifications for the equal percent recommendation.

Q. DO YOU AGREE WITH MR. MARKE?

[13] Chriss Surrebuttal, Case No. ER-2016-0023, pages 3 and 7.
[14] Nelson Surrebuttal, page ER-2016-0023, page 11.

A. No. The effect of the health pandemic, inflation and winter storm Uri are equally applicable to the commercial and industrial rate classes as well. They are not unique to the residential class. For instance, the health pandemic has led to numerous businesses being required to take steps to protect workers against the transmission of COVID-19. These steps have come at a significant cost to these businesses. Moreover, a well-known impact of the pandemic has been the number of workers that have left the employment space. Thus, many companies are likely having to increase wages to attract employees or suffer from reduced productivity. Similarly, inflation is not a factor that is unique to the residential class. Increased inflation has led to an increase in the cost of raw materials for industrial customers. To the extent that competition has prevented these industrial customers from passing these increased costs through to the customer in the former of higher prices, the industrial customer has simply had to absorb the cost of inflation. Finally, winter storm Uri has affected all customers. Specifically, all customers were subjected to the rolling blackouts imposed by SPP and, prior to its decision to securitize such costs and remove them from this case, Empire proposed that such costs would be recovered from all customers, residential, commercial and industrial, on a per kWh basis. Therefore, all customers would pay such costs based upon level of usage. Therefore, such factors should not be used as justifications to ask the industrial / commercial classes to pay disproportionately more to subsidize the residential class. It is not equitable to do so. My recommended revenue neutral adjustment is 25%, which means that the remaining 75% adjustments will remain for each class and therefore gradualism has already been given substantive weight.

Further, in response to Mr. Marke's observations regarding rates, I note that while the Company's overall, residential and commercial rates are also above the national average, no other class has a rate differential comparable to that experienced by the industrial classes. Table 3 shows the comparisons.

Table 3: Comparison of Empire's rates with the National Average[15]

	Cents/kWh	Percent higher than national average
Average rate Empire MO	11.51	7.9%
National Average	10.67	
Average Residential Rate - Empire	13.50	3.6%
National Average	13.03	
Average Commercial Rate - Empire	11.27	5.4%
National Average	10.69	
Average Industrial Rate - Empire	8.24	24.3%
National Average	6.63	

V. RATE DESIGN

1. Response to Company

Q. HOW DID THE COMPANY RESPOND TO YOUR RECOMMENDATION TO RECOVER ANY INCREASE THROUGH BILLING DEMAND CHARGES FOR THE LP, GP AND TS CLASSES RESPECTIVELY?

A. The Company does not oppose my recommendation subject to bill impact considerations. It is worth noting that Figure 5 in Mr. Lyons' rebuttal testimony on

[15] Source: EEI Typical Bills and Average Rate Report, Summer 2020

page 19 reinforces the fact over 50% of its current cost recovery should be from demand based billing determinants. Yet, at present, demand based cost recovery is only 28% to 33% for the GP and LP classes respectively. Therefore, the Company's original proposal, to place the entirety of the increase in energy charges, will exacerbate this rate recovery problem. Given this, in evaluating bill impact considerations, the Company ignored the equity concerns and impacts on high load factor customers who would end up paying more than their appropriate cost share.

My proposal on the other hand, to recover the entirety of the GP, LP and TS rate increases through demand charges, would be more equitable compared to the Company's approach because it would result in increasing demand based recovery to 35% to 40% for the GP and LP classes respectively thereby helping mitigate intra-class subsidization. At the same time, this approach also considers gradualism because all fixed costs classified as demand or capacity related would still not being recovered through demand based charges.

2. Response to Staff

Q. MS. LANGE ATTEMPTS TO SHOW, THROUGH AN EXAMPLE ON PAGE 25 OF HER REBUTTAL, THAT LP RATES ARE NOT ECONOMICALLY EFFICIENT. PLEASE COMMENT.

A. While it is not clearly articulated, I think Ms. Lange is making the point that, since the LP billing demand can be set at any point in time throughout the month, the LP rates are not economically efficient. It appears that, at least in regard to billing demand, Ms. Lange is searching for a more efficient way to measure when the billing demand is set during a month (i.e., on-peak versus off-peak). If this understanding is accurate, it is important to point out that I recommended time differentiated billing demand charges seven years ago, in the 2014 rate case. Specifically, I stated the following on page 29 of my direct testimony in Docket ER-2014-0351:

> Finally, similar to the Schedules SC-P and SC-T, it would also be preferable to time differentiate the billing demand charge in the Large Power rate schedule to send the proper signal regarding transmission and generation infrastructure costs. Time differentiation of the billing demand sends pricing signals that encourage industrial customers to shift operations to move any peaks to an off-peak period. In this way, future utility capacity additions can either be postponed or cancelled. MECG requests that the Commission order Empire to submit a Large Power rate schedule in its next case that recognizes a time differentiated billing demand charge for the Large Power class.

In that case, Staff did not show an interest in this "economically efficient" proposal and the issue remained unresolved. In the 2016 case, it is my understanding that no progress was made due to billing system issues. If these barriers do not exist at present, I would support the implementation of time differentiating only the billing demand for the LP class in this case and using the same definition for on peak hours for setting demand as currently contained in Schedule TS.

While MECG has expressed some interested in time differentiated energy charges, for the numerous reasons expressed at pages 6-8 of my rebuttal testimony, I do not support Staff's mandated time differentiated energy charges at the present time. Therefore, I would limit the changes to the LP class to just the time-differentiated billing demand.

Q. WHAT IS MS. LANGE'S GUIDANCE WITH RESPECT TO TOU RATES?

A. On page 6 of her rebuttal testimony, Ms. Lange states the following:

> From the perspective of Staff in providing recommendations to the Commission to establish just and reasonable rates, the primary goal of ToU rates is improved alignment of actual or allocated cost causation and revenue responsibility. I do agree that a goal is more efficient system utilization and reduction of overall required system resources, which would reduce the overall cost of providing services to all customers

Q. HAS MS. LANGE DEMONSTRATED THAT HER RATE DESIGN RESULTS IN IMPROVED ALIGNMENT OF ACTUAL OR ACTUAL COST CAUSATION AND REVENUE RESPONSIBILITY?

A. No. Since Ms. Lange did not take the first step to provide a CCOS analysis, she cannot claim to demonstrate proper alignment with cost causation or revenue responsibility. Putting aside the rate design issues which I discussed in my rebuttal testimony, her approach starts with an incorrect foundation of revenue responsibility. As discussed earlier, by assuming an equal percent increase, she is implying that the current revenue responsibility is reasonable – which it is clearly not, as shown by both the Company's and CCOS results. With significantly lower and subsidized revenue responsibility, the resulting rates are inefficient and artificially lower thus resulting in misleading and economically inefficient pricing signals.

Q DOES THIS CONCLUDE YOUR SURREBUTTAL TESTIMONY?

A Yes.

MECG COSS Results Summary at Present Rates Using A&E 8NCP

	Total Company	Res Gen RG	Comm CB	Small Heating SH	Gen Pow GP	Transmission TS	otal Elect Bld TEB	Feed Mill PFM	Large Power LP	Misc. Service MS	Street Lts SPL	Private Lts PL	Spec Lts LS
Rate Base	2,169,303,277	1,135,423,942	190,200,460	43,013,339	344,631,125	13,298,864	139,260,692	389,902	268,508,402	44,512	23,578,596	8,957,442	1,996,001
Operating Revenues	658,540,973	293,277,030	57,739,891	13,005,847	120,486,308	7,413,475	50,644,284	99,697	107,099,177	20,109	4,031,061	4,624,095	100,000
Current Delivery Revenues	464,748,916	216,633,250	43,153,741	9,356,502	82,426,006	4,397,771	35,162,635	78,273	67,285,606	14,032	2,177,563	3,983,179	80,357
Operating Expenses													
O&M Expenses	403,597,959	196,698,735	33,118,960	7,725,415	66,077,129	4,614,816	26,953,548	48,286	64,616,694	19,392	2,017,987	1,556,502	150,496
Depreciation & Amortization	93,598,105	52,100,682	8,541,719	1,869,210	13,050,974	448,378	5,337,792	15,409	9,877,797	2,315	1,154,195	1,063,730	135,906
Taxes Other than Income	33,838,116	18,690,741	3,069,334	675,977	4,862,119	171,986	1,985,571	5,642	3,718,554	1,042	349,163	267,594	40,392
Interest on Customer Deposits	590,827	490,429	73,549	12,807	9,149	-	4,404	50	-	8	-	-	431
Total Operating Income	126,915,966	25,296,443	12,936,329	2,722,439	36,486,937	2,178,295	16,362,969	30,310	28,886,132	(2,647)	509,716	1,736,268	(227,225)
Less:													
Interest Expense	38,839,673	20,328,875	3,405,390	770,120	6,170,350	238,106	2,493,353	6,981	4,807,432	797	422,156	160,376	35,737
Net Income Before Taxes	88,076,293	4,967,568	9,530,939	1,952,319	30,316,587	1,940,189	13,869,615	23,329	24,078,700	(3,444)	87,560	1,575,892	(262,962)
Total Income Tax	20,907,174	1,136,997	2,264,268	463,644	7,213,163	461,990	3,300,735	5,545	5,729,213	(823)	19,893	375,322	(62,774)
Excess ADIT Amortization & ITC	(8,839,130)	(4,626,444)	(774,998)	(175,264)	(1,404,248)	(54,188)	(567,437)	(1,589)	(1,094,075)	(181)	(96,074)	(36,498)	(8,133)
Net Income after Taxes	114,847,922	28,785,890	11,447,059	2,434,059	30,678,022	1,770,493	13,629,670	26,353	24,250,995	(1,643)	585,898	1,397,445	(156,319)
Earned ROR	5.29%	2.54%	6.02%	5.66%	8.90%	13.31%	9.79%	6.76%	9.03%	-3.69%	2.48%	15.60%	-7.83%
Income at Equal ROR	114,847,922	60,111,964	10,069,651	2,277,225	18,245,567	704,073	7,372,782	20,642	14,215,454	2,357	1,248,305	474,228	105,673
Difference Between Income at Equal ROR and Actual		31,326,074	(1,377,408)	(156,833)	(12,432,454)	(1,066,420)	(6,256,888)	(5,711)	(10,035,540)	3,999	662,407	(923,217)	261,991
Revenue Needed (Inc adj for Gross Up Factor) for equal ROR at present rates	(0)	41,131,994	(1,808,574)	(205,926)	(16,324,154)	(1,400,239)	(8,215,466)	(7,499)	(13,176,939)	5,251	869,759	(1,212,209)	344,002

A&E 8 NCP Revenue Neutral Detail

Column	1	2	3	4	5	5	6	7	8	9
Rate Class	Base Revenues	Current Rate Base	Net Operating Income	Earned ROR	Indexed ROR	Income @ Equal ROR	Difference in Incomce	Revenue Change to attain Equal ROR	% Revenue Neutral Increase @ equal ROR	25% Revenue Neutral Adjustment Using A&E 8NCP
RG-Residential	$216,633,250	1,135,423,942	28,785,890	2.54%	48	$60,111,964	$31,326,074	$41,131,994	18.99%	4.75%
CB-Commercial	$43,153,741	190,200,460	11,447,059	6.02%	114	$10,069,651	($1,377,408)	($1,808,574)	-4.19%	-1.05%
SH-Small Heating	$9,356,502	43,013,339	2,434,059	5.66%	107	$2,277,225	($156,833)	($205,926)	-2.20%	-0.55%
GP-General Power	$82,426,006	344,631,125	30,678,022	8.90%	168	$18,245,567	($12,432,454)	($16,324,154)	-19.80%	-4.95%
TS - Transmission Service	$4,397,771	13,298,864	1,770,493	13.31%	251	$704,073	($1,066,420)	($1,400,239)	-31.84%	-7.96%
TEB-Total Electric Bldg	$35,162,635	139,260,692	13,629,670	9.79%	185	$7,372,782	($6,256,888)	($8,215,466)	-23.36%	-5.84%
PFM-Feed Mill/Grain Elev	$78,273	389,902	26,353	6.76%	128	$20,642	($5,711)	($7,499)	-9.58%	-2.39%
LP-Large Power	$67,285,606	268,508,402	24,250,995	9.03%	171	$14,215,454	($10,035,540)	($13,176,939)	-19.58%	-4.90%
MS-Miscellaneous	$14,032	44,512	(1,643)	-3.69%	-70	$2,357	$3,999	$5,251	37.42%	9.36%
SPL-Municipal St Lighting	$2,177,563	23,578,596	585,898	2.48%	47	$1,248,305	$662,407	$869,759	39.94%	9.99%
PL-Private Lighting	$3,983,179	8,957,442	1,397,445	15.60%	295	$474,228	($923,217)	($1,212,209)	-30.43%	-7.61%
LS-Special Lighting	$80,357	1,996,001	(156,319)	-7.83%	-148	$105,673	$261,991	$344,002	428.09%	107.02%
Company Total	$ 464,748,916	$ 2,169,303,277	$ 114,847,922	5.29%	100	$114,847,922	($0)	($0)		