Exhibit No.:	
Issue:	Class Cost of Study, Revenue Allocation, Rate Design,
Witness:	Kavita Maini
Type of Exhibit:	Direct Testimony
Sponsoring Parties:	MECG
Case No.:	ER-2016-0023
Date Testimony Prepared:	April 8, 2016

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-2016-0023** Tariff No. YE-2016-0104

Direct Testimony and Schedules of

Kavita Maini

On behalf of

MIDWEST ENERGY CONSUMERS GROUP

April 8, 2016

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-2016-0023

STATE OF WISCONSIN COUNTY OF WAUKESHA	)))	SS

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 direct testimony and schedules which were prepared in written form for introduction into evidence in Missouri Public Service Commission Case No. ER-2016-0023

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.

____
Kavita Maini

Subscribed and sworn to before me this ___ day of April 2016

____
Notary Public

**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-2016-0023** Tariff No. YE-2016-0104

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**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-2014-0351** Tariff No. YE-2015-0074

Direct 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. PLEASE STATE YOUR EDUCATIONAL AND PROFESSIONAL BACKGROUND.

A. I am an economist with over 24 years of experience in the energy industry. I graduated from Marquette University, Milwaukee, Wisconsin with a Master's in Business and a Masters in Applied Economics. From 1991 to 1997, I worked for Wisconsin Power & Light Company ("WP&L") as a Market Research Analyst and Senior Market Research Analyst. In this capacity, I conducted process and impact evaluations for WP&L's

Demand Side Management ("DSM") programs. I also conducted forward price curve and asset valuation analysis. From 1997 to 1998, I worked as Senior Analyst at Regional Economic Research, Inc. in San Diego, California. My responsibilities primarily included DSM evaluations. From 1998 to 2002, I worked as a Senior Economist at Alliant Energy Integrated Services' Energy Consulting Division. In this role, I was responsible for providing energy consulting services to commercial and industrial customers in the area of electric and natural gas procurement, contract negotiations, forward price curve analysis, rate design and on site generation feasibility analysis. I was also involved in strategic planning and due diligence on acquisitions.

Since 2002, I have been an independent consultant. In this role, I have provided consulting services in the areas of class cost of service studies, rate design, resource planning and revenue requirement related issues, Midcontinent Independent System Operator ("MISO") related matters and various policy matters. I also represent industrial trade associations at MISO's various task forces and committees and am the End Use Sector representative at MISO's Planning Advisory Committee.

Q. HAVE YOU PARTICIPATED IN OTHER UTILITY RELATED PROCEEDINGS?

A. Yes, I have testified before a number of state regulatory commissions. I have also submitted technical comments on a variety of issues related to energy policy and cost recovery, allocations and rate design in transmission and renewable rider proceedings before regulatory commissions. I have also provided technical comments in Federal

Energy Regulatory Commission ("FERC") proceedings, several of which have involved MISO related activities.

Q. HAVE YOU PARTICIPATED IN PREVIOUS RATE CASES BEFORE THE MISSOURI PUBLIC SERVICE COMMISSION?

A. Yes, I testified as an expert witness on behalf of Midwest Energy Consumers Group ("MECG") in Empire's most recent rate case ER-2014-0351.

Q ON WHOSE BEHALF ARE YOU TESTIFYING IN THIS PROCEEDING?

A. I am testifying as an expert witness on behalf of the MECG. The MECG is an ad-hoc group of seven large commercial and industrial customers taking service from Empire District Electric Company ("Empire") on its Large Power and Special Transmission rate schedules. These customers are all listed among Empire's 20 largest customers and collectively use almost 450,000,000 kWh on an annual basis. The outcome of this proceeding will have a significant impact on MECG members' electricity costs.

Q. WHAT IS THE PURPOSE OF YOUR DIRECT TESTIMONY?

A. The purpose of my direct testimony is to discuss and provide recommendations regarding (a) class cost of service study, (b) an appropriate allocation approach for any rate increase, and (c) rate design for the Large Power and Schedule SC-P rate schedules. The rest of my testimony is organized as follows:

Section II: Summary

Section III: Importance of Competitive Industrial Rates

Section IV: Class Cost of Study

Section V: Revenue Requirement Allocation

Section VI: Large Power Rate Design

II. SUMMARY

Q. PLEASE SUMMARIZE YOUR TESTIMONY AND RECOMMENDATIONS.

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

Section III: Importance of Competitive Industrial Rates

a) Many of MECG member companies operate energy intensive facilities that are sensitive to energy cost increases, which affect their overall cost of doing business. For instance, electric costs comprise 50-75% of Praxair's overall production costs depending on the industrial gas to be produced. Consequently, electricity cost increases have a significant impact on their competitiveness;

b) The Commission appeared to have recognized the importance of competitive industrial rates in the Company's previous case (Docket ER-2015-0351); and

c) Most recent data from the Edison Electric Institute ("EEI") publication continues to indicate that average industrial rates for Empire are not competitive with the national average. However, this data is for rates effective as of June 30, 2015 and therefore, does not capture the impacts of the Commission's decision in the Company's most recent rate case. I expect to provide an updated comparison in future rounds of testimony.

Section IV: Class Cost of Service Study ("CCOSS")

a) I support the Company's decision to not file a CCOSS in this case given the short time period between the resolution of the last case and filing of this case. The conclusions reached regarding revenue neutral shifts and revenue allocations from the previous case are still applicable; and

b) For its next rate case, however, I recommend that the Commission include an order point requiring the Company to file a CCOSS in the next case. And to avoid inconsistencies, the Company's CCOSS should be based on the same test year period as the rate case. Further, the Company should be required to refresh the results during the rate case for the same time period and for adjusted revenue requirements as done by Commission Staff.

Section V: Revenue Requirement Allocation

a) I support the Company's proposed revenue requirement allocation at the interclass level (i.e., between classes). The Company followed the allocation method approved by the Commission in the most recent rate case, ER-2014-0351, with one appropriate difference:

i. The Company used a revenue neutral rate shift equal to that used by the Commission in the final rate determination in last case (ER-2014-0351). This resulted in the Residential class receiving a positive revenue neutral adjustment and Commercial, Small Heating, General Power, Total Electric Building and Large Power classes receiving a negative revenue neutral adjustment. The remaining classes receiving no revenue neutral adjustment;

ii. After revenue neutral shifts, the proposed increase was allocated in proportion to each class' adjusted revenues relative to the total adjusted revenues excluding classes with no rate increases (i.e., Lighting, PFM). This approach is consistent with the method approved by the Commission in the last case; and

iii. The one difference in the revenue allocation method from the last case is the Company's appropriate exclusion of capacity-based cost allocation associated with the Riverton conversion to Schedule SC-P class. This was based upon the recognition that this class takes non-firm service and is interruptible. This approach is appropriate because the Company needs to fulfill capacity obligations for firm load and does not plan for capacity for interruptible load. The resulting costs avoided by Schedule SC-P ($242,000) were allocated to the Residential class, to further eliminate the revenue disparity acknowledged by the Commission in the last case.

Section VI: Large Power ("LP") / Special Transmission ("SC-P") Rate Design

a) It is important for retail rates to reflect accurate pricing signals because they drive consumer behavior, which in turn results in more efficient use of the system thereby minimizing system costs;

b) Recovery of fixed costs through volumetric charges provides faulty pricing signals and ultimately results in higher costs for all customers. Such an approach also causes inequity within the class as it results in disproportionately recovery of costs from high load factor customers that use the utility system more efficiently;

c) I support the Company's approach of recovering the revenue deficiency allocated to the LP and Schedule SC-P by proportionately increasing the non-volumetric charges. This is because:

i. this approach is consistent with the cost drivers in this case, which are fixed in nature;

ii. the proposed base cost of energy is flat and the Company's most recent Fuel Adjustment Clause filing indicates a refund due to over-recovery for the recent six month period;

iii. the Company highlighted concerns about recovery of fixed costs through energy charges in the last case. Since the rate design did not change in the last case, this concern still persists; and

d) I also recommend at 10% reduction in the LP rate schedule's tail block energy charge in order to improve pricing signals. Using the Commission Staff's method of using average annual LMPs, I demonstrate that there has been a 33% reduction in average annual LMPs compared to the prior period. Using the average annual LMP yardstick and after load weighting and loss adjustments, the adjusted LMPs are more than \$0.01/kWh (or \$10/MWh) lower than the tail block summer and winter energy charges. While using Staff's method could arguably justify an even greater reduction in the tail block energy charges for the LP rate, I have conservatively recommended that the tail block be reduced by 10% for the summer and winter periods respectively. The resulting tail block energy charges that I recommend are \$0.03315/kWh and \$0.03197/kWh for the summer and winter months respectively. The fixed costs removed from the tail block energy charge should instead be recovered through the billing demand charge.

III. IMPORTANCE OF COMPETITIVE INDUSTRIAL RATES

Q. WHAT WERE YOUR FINDINGS REGARDING EMPIRE'S INDUSTRIAL RATES IN THE COMPANY'S MOST RECENT RATE CASE (DOCKET ER-2014-0351)?

A. I found that Empire's rates were not competitive. Empire's average industrial rate was not only the highest amongst investor owned utilities in Missouri but also high when compared to the national average. Specifically, in that case, Empire's average industrial rate was 16% higher than the national average. I also noted that while Empire's industrial rate was 16% above the national average, just 5 years earlier the average industrial rate had been below the national average.

Furthermore, I observed that Empire's residential rates were 3.5% below the national average (compared to industrial rates that were 16% higher).

I also indicated that a critical factor that could cause the industrial rates to be less competitive than the residential rates was the failure to properly assign costs to the class that caused them to be incurred. This failure leads to a misalignment of rates with embedded costs to serve. Indeed, this was borne out in the Class Cost of Service ("CCOSS") study results from Empire, Commission Staff and various intervening parties such as OPC and MECG; all of which indicated that the residential class rates were below cost. For example, Commission Staff's results using updated revenue requirements indicated that residential rates were 8.06% below cost of service, while large power ("LP") rates were 8.35% above cost of service and general power ("GP") rates were 7.9% above cost of service.

Q. WHY ARE COMPETITIVE INDUSTRIAL RATES IMPORTANT?

A. Many of MECG member companies operate energy intensive facilities that are sensitive to energy cost increases, which affect their overall cost of doing business. For instance, electric costs comprise 50-75% of Praxair's overall production costs depending on the industrial gas to be produced. Thus, energy affordability affects the competitiveness, output and potential employment levels for these companies. High energy costs directly impact the profitability of industrial customers because in many cases, these costs cannot be passed to downstream customers or markets due to highly competitive business conditions.

Competitive industrial rates are also an important factor in helping to retain and expand industry within the utility's service area. Business retention and expansion result in positive impacts on local economy and employment. Further, if businesses relocate or expand in Empire's service area, it has the potential to lower costs for customers as the fixed costs are spread over a larger amount of billing determinants. The converse is also true – if businesses shift operations from Empire's area, the remaining customers bear the burden of the same fixed costs but over a smaller amount of billing determinants thereby increasing rates for all customers. The Commission clearly appeared to understand this concept in its decision in the most recent Empire case.

> Competitive industrial rates are important for the retention and expansion of industries within Empire's service area. If businesses leave Empire's service area, Empire's remaining customers bear the burden of covering the utility's fixed costs with a smaller amount of billing determinants. This may result in increased rates for all of Empire's remaining customers.[1]

Q. WHAT IS THE CURRENT STATUS OF THE EEI RATE COMPARISONS?

A. Data from the most publication of EEI data shows a similar trend. Average Industrial rates for Empire are 16.7% above the national average while average residential rates are 3.4% below the national average respectively. However, this data is for rates effective as of June 30, 2015 and therefore, did not capture the impacts of the Commission's decision in the Company's most recent rate case (rates became effective on July 26, 2015). It is my understanding that EEI will be publishing information for rates effective as of December 31, 2015, sometime later in April. Since this information was clearly relied upon by the Commission in its most recent Empire rate decision, I will seek to supplement this testimony with updated rate information once it is available from EEI.

[11] Case No. ER-2014-0351, Report and Order, issued June 24, 2015, at page 18.

IV. CLASS COST OF SERVICE STUDY ("CCOSS")

Q. DID THE COMPANY CONDUCT A NEW CCOSS IN THE CURRENT CASE?

A. No; in response to OPC's discovery request 5047, the Company stated the following:

> The class cost of service for each of Empire's customer classes was extensively litigated in the last case, which just concluded in late July 2015. Due to the short time between the end of the last case and the filing of this case, Empire does not believe a class cost of service analysis is required or needed in this case.

Q. DO YOU SUPPORT THE COMPANY'S POSITION OF NOT FILING A CCOSS IN THIS CASE?

A. Yes, given the short time period between the resolution in the last case (i.e., Commission's Order effective July 24, 2015) and filing of this case (October 16, 2015), I believe that the conclusions reached regarding revenue neutral shifts and revenue allocations from the previous case are still applicable and that an additional class cost of service study is not necessary.

Q. HAVE YOU CONDUCTED A CCOSS FOR THIS CASE?

A. No; for the same reasons as identified by the Company.

Q. IF THE COMPANY WERE TO DECIDE TO FILE ANOTHER RATE CASE SOON AFTER RESOLUTION OF THE CURRENT CASE, IS IT NECESSARY TO FILE A RETAIL CCOSS?

A. Yes, most certainly. The current case is an exception due to the short timing between rate cases and the extensive litigation regarding revenue neutral adjustments needed to work towards bringing equity between classes in the previous case. If another rate case were to be filed this fall, it would make sense to refresh the allocators used in the CCOSS. I recommend that the Commission include an order point requiring the Company to file a CCOSS in the next case, and to avoid inconsistencies, the Company's CCOSS should be based on the same test year period as the rate case.[2] Further, the Company should be required to refresh the results during the rate case for the same time period and for adjusted revenue requirements as done by Commission Staff.

V. REVENUE REQUIREMENT ALLOCATION

Q. WHAT IS A REVENUE NEUTRAL ADJUSTMENT?

A. A revenue neutral adjustment consists of revenue shifts between classes without changing a utility's total system revenues. These adjustments are made to more closely align each class with its cost of service. A positive revenue neutral adjustment is made when the rates for the class result in revenues which are below costs to serve. Similarly, a negative revenue neutral adjustment is made when the rates for the class result in revenues which are above costs to serve.

Q. DID THE COMMISSION ORDER REVENUE NEUTRAL ADJUSTMENTS IN THE LAST CASE?

A. Yes; the residential class received a positive revenue neutral adjustment while the Small Heating (SH), Commercial Building (CB), Large Power (LP), Total Electric Building

[2] In the previous rate case, the Company's cost of service information was based upon adjusted test year information ending December 31, 2013. The rate case was based upon a test year ending April 30, 2014 with known and measurable changes through December 31, 2014.

(TEB), and General Power (GP) rate classes received negative revenue neutral adjustments.

Q. WHAT FACTORS LED TO THE COMMISSION'S DECISION TO MAKE POSITIVE REVENUE NEUTRAL ADJUSTMENTS TO THE RESIDENTIAL CASE IN THE PREVIOUS CASE?

A. The Commission noted that all four CCOSS results filed by the Company, OPC, Commission Staff and MECG showed that residential rates were below cost. I note that even Commission's Staff's CCOSS, which relies on a production allocator that is highly punitive to high load factor industrial customers[3], showed that residential rates were 8.06% below costs, while large power ("LP") rates were 8.35% above costs and general power ("GP") rates were 7.9% above costs.

In light of the conclusion reached from all four class cost of service studies, the Commission determined revenue neutral adjustments higher than those recommended by Commission Staff were necessary. The Commission's Report and Order indicates that while "attempting to completely eradicate the 8.1% residential rate class discrepancy in this rate case would be too punitive to the customers in that class", a 2% revenue neutral adjustment (or 25% of the 8.1% deviation from costs to serve) for the residential class was found to be appropriate "and helps to eliminate any residential subsidy in a shorter timeframe."[4] Thus, the Commission's decision indicated that the increase to residential rates of 25% of the needed 8.1% revenue neutral adjustment was just and reasonable.

[3] See Maini Surrebuttal, pages 12-14, docket ER-2014-0351
[4] See Commission Report and Order, paragraphs 20 and 21.

Q. WHICH CLASSES RECEIVED THE OFFSETTING NEGATIVE REVENUE NEUTRAL ADJUSTMENTS?

A. The Small Heating (SH), Commercial Building (CB), Large Power (LP), Total Electric Building (TEB), and General Power (GP) rate classes received the off-setting revenue neutral decreases to these classes' revenue requirements by approximately 25% of the over contribution identified for each of these classes.

Q. WHICH CLASSES RECEIVED NO REVENUE NEUTRAL ADJUSTMENTS OR NO RATE INCREASES?

A. The Special Transmission ("SC-P") class received no revenue neutral adjustment. The Feed Mill ("PFM") and Combined Lighting classes received no rate increase.

Q. WHAT DID THE COMPANY RECOMMEND IN THE CURRENT CASE WITH RESPECT TO REVENUE NEUTRAL ADJUSTMENTS?

A. Empire witness Scott Keith testified that he used a revenue neutral rate shift equal to that used by the Commission in the final rate determination in Case No. ER-2014-0351 ($4.16 million or the next 25% increment). He also followed the same revenue neutral approach as approved in the last case and as described earlier – the residential class receives a positive revenue neutral adjustment, CB, SH, GP, TEB and LP classes receive a negative revenue neutral adjustment and the remaining classes receive no revenue neutral adjustment. Table 1 shows the revenue neutral shift by class. Similar to the last case, the impact is approximately 2% (1.969%) to the residential class.

Table 1: Empire's Proposed Revenue Neutral Shifts by Class

Rate Classes	Revenue Shift
Residential - RES	$4,166,016
Commercial - CB	($271,902)
Small Heating - SH	($70,414)
General Power -GP	($1,809,612)
Special Transmission - SC-P	$0
Total Electric Building - TEB	($685,116)
Feed Mill - PFM	$0
Large Power - LP	($1,328,972)
Traffic signals - MS	$0
Municipal Lighting - SPL	$0
Private Lighting - PL	$0
Special Lighting - LS	$0
TOTALS	($0)

Source: Empire Workpapers (Rate Design – RR Alloc Tab)

Q. DO YOU SUPPORT THESE REVENUE NEUTRAL ADJUSTMENTS?

A. Yes, I do. Given the extensive vetting by the Commission in the previous case regarding the magnitude of the revenue neutral adjustments, and the short period of time between this case and the last case, it is reasonable to follow the Commission directed approach from the last case. These adjustments will continue the Commission's effort to eliminate the residential subsidy in a timely manner and help to push the Company's industrial rates towards the national average. These adjustments are also consistent with the Commission's recognition that competitive industrial rates are important for the retention and expansion of industries within Empire's service area.

Q. HOW WAS EMPIRE'S PROPOSED RATE INCREASE ALLOCATED TO CLASSES?

A. Table 2 shows this breakdown. After the previously referenced revenue neutral shifts, the proposed increase was allocated in proportion to each class' adjusted revenues in Column D relative to the total adjusted revenues excluding classes with no rate increases (i.e., Lighting, PFM). This approach is consistent with the method approved by the Commission in the last case.

Table 2: Empire's Proposed Allocation by Classes (excluding MEEIA)

	A	B	C	D= B+C	E	F= D+E	G
		Retail	Revenue	Adjusted	Retail	Target Retail	% Increase
Line No:	Rate Classes	Revenue	Shift	Retail	Increase	Revenue	Non-MEEIA
1	Residential - RES	$211,579,758	$4,166,016	$215,745,774	$16,073,576	$231,819,351	9.57%
2	Commercial - CB	$43,270,835	($271,902)	$42,998,933	$3,155,305	$46,154,238	6.66%
3	Small Heating - SH	$10,301,226	($70,414)	$10,230,812	$750,747	$10,981,559	6.60%
4	General Power -GP	$86,384,626	($1,809,612)	$84,575,014	$6,206,200	$90,781,214	5.09%
5	Special Transmission - SC-P	$3,719,421	$0	$3,719,421	$31,000	$3,750,421	0.83%
6	Total Electric Building - TEB	$37,334,274	($685,116)	$36,649,158	$2,689,352	$39,338,510	5.37%
7	Feed Mill - PFM	$113,173	$0	$113,173	$0	$113,173	0.00%
8	Large Power - LP	$55,035,413	($1,328,972)	$53,706,441	$3,941,033	$57,647,474	4.75%
9	Traffic signals - MS	$13,840	$0	$13,840	$0	$13,840	0.00%
10	Municipal Lighting - SPL	$2,270,677	$0	$2,270,677	$0	$2,270,677	0.00%
11	Private Lighting - PL	$4,297,702	$0	$4,297,702	$0	$4,297,702	0.00%
12	Special Lighting - LS	$123,757	$0	$123,757	$0	$123,757	0.00%
13	TOTALS	$454,444,702	($0)	$454,444,702	$32,847,214	$487,291,916	7.23%

Source: Empire Workpapers (Rate Design – RR Alloc Tab)

Q. DID THE COMPANY MAKE ANY OTHER ADJUSTMENTS TO THE REVENUE ALLOCATION OF OTHER CLASSES?

A. Yes; Company witness Scott Keith testifies that he shifted an additional $242,000 from Special Transmission: SC-P class to the Residential class.

Q. WHY DID THE COMPANY SHIFT THESE COSTS FROM SC-P?

A. The Company made such an adjustment to recognize the non-firm nature of this class which consists of one customer, Praxair. The predominant cost driver in this case is the

Company's investment is the Riverton 12 conversion[5]. These are fixed costs that are, by their nature, capacity related. Recognizing that capacity costs are invested for the purpose of meeting firm peak demand, and that the Company does not procure capacity for interruptible customers, the vast majority of this rate increase should be allocated only to firm customers. The Company indicated the following in response to OPC discovery requests 5039 and 5063:

> "The Praxair exception is directly related to the non-firm nature of the service provided. Most of the case was related to the fixed cost of the Riverton conversion which is capacity related."
>
> "The Riverton costs in the case are directly related to replacing the capacity lost due to the retirement of Riverton units 7 and 8. Praxair is not a firm customer and Empire does not plan capacity decisions due to the Praxair load."

Thus, since the Company does not plan for capacity for Praxair, due to its interruptible nature, it did not allocate Riverton related costs to Praxair.

Q. WHY DID THE COMPANY SHIFT THE COSTS TO THE RESIDENTIAL CLASS?

A. In response to OPC discovery request 5055, the Company stated the following:

> a: The Commission determined the residential rate class was deficient in the last rate case and authorized the shifting of a portion of this revenue disparity to the residential class. This additional, shift of revenue will further eliminate this residential revenue disparity.

Q. DO YOU AGREE WITH THE COMPANY'S ADJUSTMENTS AND ARGUMENTS RELATED TO NOT ALLOCATING RIVERTON RELATED COSTS TO PRAXAIR?

[5] See Beecher Direct, page 4.

A. Yes, I do. The Company does not procure capacity for interruptible load such as Praxair. Rather, Empire utilizes the interruptible load to net against its load forecast prior to determining the planning reserve margin requirement. According to SPP rules, utilities' system load obligations are based on firm load plus a 13.6% planning reserve or capacity margin.[6] For example, suppose that Empire's system firm load is 1000 MWs, it would need to have 1,136 MWs (1000 MW plus 136 MW capacity) to comply with the SPP requirement. Now if it were assumed that Empire had 100 MW of interruptible load, the utility would be required to carry only 1,022 MWs of reserves (900 MW + 122 MW), a reduction of 114 MWs in reserve margin requirements. Thus, interruptible load such as Praxair's load is excluded from the Company's capacity obligations required to maintain the planning reserve margin requirements. Importantly, the lower capacity obligations due to the exclusion of interruptible load results in lower costs that benefit all customers.

In conclusion, since this case is driven primarily by capital investment that is capacity related, interruptible customers such as Praxair are appropriately excluded from such costs. Instead, such costs should be allocated to firm customers.

Q. THE COMPANY ALLOCATED THE RIVERTON RELATED PORTION OF COSTS FROM PRAXAIR TO ONLY THE RESIDENTIAL CLASS. WHY WASN'T THE COSTS AVOIDED BY PRAXAIR ALLOCATED TO ALL FIRM CUSTOMERS?

A. Based upon all of the class cost of service studies in the last case, the Commission has already found that industrial rates are above cost of service. Similarly, all of the class cost of service studies in the last case showed that residential rates were below cost of

[6] SPP has a 12% capacity margin (i.e., supply-demand/supply) which translates to a 13.6% planning reserve margin (i.e., supply-demand/demand)

service. It would be contrary to the logic of the Commission's finding in the last case to allocate costs away from the industrial class with one hand and then allocate costs to the industrial class with the other hand. As such, Empire was correct to allocate the costs avoided by Praxair to the residential class. The Company appropriately stated the following in response to OPC data request 5055:

> The Commission determined the residential rate class was deficient in the last rate case and authorized the shifting of a portion of this revenue disparity to the residential class. This additional, shift of revenue will further eliminate this residential revenue disparity.

VI. RATE DESIGN

Q. WHY IS IT IMPORTANT FOR RETAIL RATES TO REFLECT ACCURATE PRICING SIGNALS?

A. Retail rates reflect the pricing signals to customers and are used by utilities to recover costs. It is important for retail rates to reflect accurate pricing signals because they drive consumer behavior, which in turn result in more efficient use of the system thereby minimizing system costs. Provided that rates reflect costs to serve, there is equitable recovery of costs from customers within the classes and customers have the proper pricing signals and incentives. However, if rates are misaligned with costs to serve, not only does this result in inequity amongst customers within the class but also provides misleading signals which ultimately raises costs for all customers.

For example, given a certain amount of revenue requirement to be recovered from a class, if rates are designed such that fixed transmission and generation costs are recovered through variable (energy) charges, it distorts the pricing signal to the customers. By including fixed costs in the energy charge, the demand charge is kept artificially low, thus implying that generation and transmission costs are cheaper than is actually the case. Similarly, such a situation would imply that energy costs are more expensive than is actually the case. Customers, would therefore, be incentivized to use less energy (responding to the inflated energy charges) and become less concerned with their contribution to peak demand (responding to the deflated demand charge). Such a response would result in lowering the system load factor as peak demand is increased, but total energy usage is decreased. The ultimate result is higher costs to all customers as utilities need to secure more capacity to reliably serve the higher peak load.

Furthermore, over pricing the energy charge, disproportionately recovers costs from high load factor customers in a class that have relatively flatter load profiles and use the system more efficiently. The Company's witness, Edwin Overcast, highlighted similar concerns related to volumetric recovery of fixed costs in rate design in the last rate case. Since no rate design changes were made in the LP and Schedule SC-P in the last case, these concerns persist.

Q. DID THE COMMISSION RECOGNIZE THE IMPORTANCE OF PROPER PRICING SIGNALS IN THE LAST CASE?

A. Yes; in the last case, MECG had recommended that LP billing demand rate should be time differentiated to encourage customers to shift operations from on peak to off peak periods, which in turn benefit all customers. By offering a time differentiated billing demand charge, Empire will send the proper price signals regarding transmission and generation infrastructure costs. If customers of the LP rate class shift their operations to off peak times based on the price signals, Empire may be able to postpone or cancel future capacity additions. The Commission found this to be a compelling argument and supported the investigation of time differentiated billing demand.[7]

Q. WHAT DID EMPIRE PROPOSE FOR THE LP AND SC-P RATE DESIGN?

A. Recognizing that the cost drivers in this case are fixed in nature, the Company is recommending that the proposed deficiency in LP and Schedule SC-P rates be recovered through an increase in non-volumetric charges. Table 3 below shows the proposed rate design changes for the LP Class. As can be observed, the Company proposes to increase all fixed charges by the same percentage and leave the volumetric charges (i.e., energy charges) unchanged. I also note that the Company has proposed the same approach for the Schedule SC – P class.

Table 3: Company's Current and Proposed Changes to the LP Rate Design

Large Power - LP	CURRENT		PROPOSED		PERCENT CHANGE	
	Summer	Winter	Summer	Winter	Summer	Winter
Customer Charge	$251.38	$251.38	$291.04	$291.04	15.8%	15.8%
Demand kW	$13.90	$7.68	$16.45	$9.10	18.3%	18.5%
Facilities Demand kW	$1.67	$1.67	$1.67	$1.67	0.0%	0.0%
kWh Blocking:						
First 350 hrs use	$0.06809	$0.06048	$0.06809	$0.06048	0.0%	0.0%
All additional kWh	$0.03683	$0.03552	$0.03683	$0.03552	0.0%	0.0%

[7] In response to MECG's recommendation that Empire develop a time-differentiated billing demand, Empire pointed out that the current billing system could not handle such a demand charge and that such a change would involve manual input. As such, the Commission directed Empire to work with the parties to determine the feasibility of the time-differentiated billing demand charge. Consistent with the Commission's direction, MECG has had conversations with Empire and is hopeful that upcoming billing system changes will allow for the development of the time-differentiated billing demand charge.

Q. DO YOU SUPPORT THE COMPANY'S PROPOSAL TO INCREASE NON-VOLUMETRIC CHARGES?

A. Yes; while I recognize that the final percent increases may change based on the potential adjustments in revenue requirements, I support the Company's concept to increase the non-volumetric charges in the rate design for the LP Class and Schedule SC-P Class. I support this approach as it is a step in the right direction and prevents further exacerbating the inequities resulting within the class from recovery of fixed costs in energy charges. I also have an additional recommendation to improve the efficiency of the pricing signal. I discuss this later in my testimony.

Q. PLEASE EXPLAIN YOUR REASONS.

A. First, the drivers in this case are fixed costs as demonstrated by Company's testimony.

Table 4: Empire's Proposed Cost Drivers

Description	Revenue Requirement (in Millions $)
Riverton Unit 12 Combined Cycle Conversion	$27.4
Asbury True-Up	2.1
Effect of New Rates from Depreciation Study	(1.0)
ROE / Capital Structure	(3.2)
Other Normal Plant Additions	6
Administrative Costs	2.1
Total Base Rates	$33.4

Source: Empire Witness Owens, Direct Testimony, page 5

Second, the proposed base fuel cost is essentially flat compared to the last case.[8] Specifically, the Company also submitted a Fuel Adjustment Clause ("FAC") related filing on April 1, 2016, which indicates that for the most recent six month period ending February 29, 2016, Empire's Missouri jurisdictional energy costs eligible for the FAC were lower than the base amounts established in rates by approximately $4.26 million or 7.5%.

Third, in the last case, the Company had also pointed out that significant amount of fixed costs were being recovered from volumetric charges, i.e., energy charges.[9] Specifically, Company witness Overcast stated the following:

> For classes with demand charges, the proportion of costs recovered in fixed charges is larger but is still not equal to the entire fixed costs. Even after excluding the cost of energy, the portion of volumetric recovery is still significant and is an unacceptable basis for meeting the standard of just and reasonable rates.

Q. DID THE COMMISSION MAKE RATE DESIGN CHANGES IN THE LAST CASE?

A. No. The final rate changes in the last case resulted in equal percentage increases to demand and energy charges. Therefore, the rate design relationship between fixed and volumetric components was not altered. Since the base cost of fuel is proposed to remain flat, there continues to be significant cost recovery of fixed costs through volumetric or energy charges.

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[8] See Tartar Direct Testimony, page 17, lines 1-5.

[9] See Overcast direct, pages 23-24, ER-2014-0351; the final rate changes in the last case resulted in equal percentage increases to demand and energy charges and therefore, the rate design relationship between fixed and volumetric components was not altered.

Q. DO YOU AGREE WITH EMPIRE'S PROPOSED RATE DESIGN FOR THE LP AND SC-P CLASSES?

A. In general, based on the foregoing observations and given that the Company's current case consists of cost drivers pertaining to fixed cost recovery, I support the Company's proposed approach of proportionately increasing the non-volumetric based charges. That said, I am making an additional recommendation to improve the efficiency of the LP pricing signals. This recommendation consists of a modest reduction in the tail block energy charge for the LP rate class.

Q. IN THE LAST CASE, THE COMMISSION REJECTED YOUR RECOMMENDATION TO REDUCE THE TAIL BLOCK ENERGY CHARGE. DO YOU HAVE NEW EVIDENCE IN SUPPORT OF A DECREASE IN THIS CHARGE?

A. Yes, I do. In the previous case, the Commission appeared to agree with Staff's argument that the cost of energy is at or above the tail block energy charge. The average locational market price ("LMP") at the SPP EDE.EDE node for the 12 month period ending March 1, 2015 was used as a primary basis to demonstrate that the cost of energy was higher than the base cost of fuel embedded in rates. Commission staff testimony indicated the average annual LMP was $34.34/MWh and the load weighted LMP for the LP class was slightly higher at $35.06/MWh. [10]

While I don't agree completely with this methodology, I used the Commission Staff approach and calculated the average annual LMPs for the most recent 12-month period March 1, 2015-February 29, 2016. The resulting average is $23.11/MWh, a 33%

[10] See Sarah Kliethermes, Surrebuttal testimony at page 7, docket ER-2015-0351.

reduction from the previous year market price average calculated by Staff at $34.34/MWh.[11] As shown in Table 5, I then adjusted the LMPs for LP load using the same ratio that Staff calculated in the last case and applied the loss factors for secondary and primary service respectively. The resulting LMPs for the LP secondary and primary are $25.36/MWh and $24.75/MWh respectively. These are significantly lower than the current tail block energy charges of $36.83/MWh in the summer period and $35.52/MWh in the winter period).

Table 5: Loss and Load Adjusted LMP

Line No:	Item	Average Annual LMP ($/MWh)	Comments
1	March 1, 2014 - February 29, 2015	$34.34	Sarah Kliethermes Surrebuttal Testimony Docket ER-2014-0351
2	Load Weighted for LP Class	$35.06	Sarah Kliethermes Surrebuttal Testimony Docket ER-2014-0351
3	March 1, 2015 - February 29, 2016	$23.11	Response to MECG 2.1
4	Load Weighted LMP for LP Class	$23.59	(Line 2/Line 1) * Line 3 (Assumed same ratio as S.Kliethermes in ER-2014-0351)
5	Loss Adjusted LP Secondary	$25.36	Line 4 * 1.075 (See Company Datasheet workpapers in ER-2014-0351 (Allocators Tab for losses))
6	Loss Adjusted LP Primary	$24.75	Line 4 * 1.049 (See Company Datasheet workpapers in ER-2014-0351 (Allocators Tab for losses))

Q. WHAT IS YOUR SPECIFIC PROPOSAL WITH REGARD TO THE LP TAIL BLOCK ENERGY CHARGE?

A. While using Staff's method would justify a significantly lower LP tail block energy charge, I have conservatively recommended that the tail block be reduced by 10% for the summer and winter periods respectively. This results in a reduction in the tail block energy charge of $0.00368/kWh (or $3.68/MWh) and $0.00355/kWh ($3.55/MWh) for the summer and winter periods respectively. By reducing the energy tail blocks by these

[11] See response to MECG 2.1; using the LMP data provided, I calculated the average LMP for the 12 month period March 1, 2014-February 28, 2015 at $34.45/MWh.

amounts, the resulting tail block energy charges are $0.03315/kWh and $0.03197/kWh for the summer and winter months respectively. The fixed costs removed from the tail block energy charge should instead be recovered through the Billing Demand charges.

Q. PLEASE SUMMARIZE YOUR RECOMMENDATIONS FOR THE LP AND SC-P RATE DESIGN?

A. I generally support the Company's proposed approach to recover any cost increases in this case from the LP rate and Schedule SC-P rate by proportionately increasing the non-volumetric charges. In order to improve the pricing signals in the LP rate schedule, however, I also recommend a 10% reduction in the tail energy block for the summer and winter time periods. The costs removed from the tail energy block should instead be recovered through the Billing Demand charges.

Q. DOES THIS CONCLUDE YOUR TESTIMONY?

A. Yes.