MIEC Ex 855

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Issues:	Cost of Service | Rate Design
Witness:	Maurice Brubaker
Type of Exhibit:	Surrebuttal Testimony
Sponsoring Parties:	Missouri Industrial Energy Consumers
Case No.:	ER-2016-0285
Date Testimony Prepared:	January 27, 2017

BEFORE THE PUBLIC SERVICE COMMISSION
OF THE STATE OF MISSOURI

In the Matter of Kansas City Power & Light Company's Request for Authority to Implement A General Rate Increase for Electric Service	))))))	**Case No. ER-2016-0285**

Surrebuttal Testimony and Schedule of

Maurice Brubaker

On behalf of

Missouri Industrial Energy Consumers

January 27, 2017

BAI
BRUBAKER & ASSOCIATES, INC.

Project 10277

BEFORE THE PUBLIC SERVICE COMMISSION
OF THE STATE OF MISSOURI

In the Matter of Kansas City Power & Light Company's Request for Authority to Implement A General Rate Increase for Electric Service	)	Case No. ER-2016-0285

STATE OF MISSOURI)
) SS
COUNTY OF ST. LOUIS)

Affidavit of Maurice Brubaker

Maurice Brubaker, being first duly sworn, on his oath states:

1. My name is Maurice Brubaker. I am a consultant with Brubaker & Associates, Inc., having its principal place of business at 16690 Swingley Ridge Road, Suite 140, Chesterfield, Missouri 63017. We have been retained by the Missouri Industrial Energy Consumers in this proceeding on their behalf.

2. Attached hereto and made a part hereof for all purposes are my surrebuttal testimony and schedule which were prepared in written form for introduction into evidence in Missouri Public Service Commission Case No. ER-2016-0285.

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

M W Brubaker
Maurice Brubaker

Subscribed and sworn to before me this 26th day of January, 2017.

TAMMY S. KLOSSNER
Notary Public - Notary Seal
STATE OF MISSOURI
St. Charles County
My Commission Expires: Mar. 18, 2019
Commission # 15024862

Tammy S Klossner
Notary Public

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Surrebuttal Testimony of Maurice Brubaker

Q PLEASE STATE YOUR NAME AND BUSINESS ADDRESS.

A Maurice Brubaker. My business address is 16690 Swingley Ridge Road, Suite 140, Chesterfield, MO 63017.

Q ARE YOU THE SAME MAURICE BRUBAKER WHO HAS PREVIOUSLY FILED TESTIMONY IN THIS PROCEEDING?

A Yes. I have previously filed both direct and rebuttal testimony on cost of service/rate design issues presented in this proceeding.

Q ARE YOUR EDUCATIONAL BACKGROUND AND EXPERIENCE OUTLINED IN YOUR PRIOR TESTIMONY?

A Yes. This information is included in Appendix A to my direct testimony.

Q ON WHOSE BEHALF ARE YOU APPEARING IN THIS PROCEEDING?

A This testimony is presented on behalf of the Missouri Industrial Energy Consumers ("MIEC"), a non-profit company that represents the interests of industrial customers in Missouri utility matters. These companies purchase substantial amounts of electricity from Kansas City Power & Light Company ("KCPL") and the outcome of this proceeding will have an impact on their cost of electricity.

Q WHAT IS THE PURPOSE OF YOUR SURREBUTTAL TESTIMONY?

A The purpose of my surrebuttal testimony to address the rebuttal testimony of Staff witness Sarah Kliethermes.

Q PLEASE SUMMARIZE YOUR PRIMARY FINDINGS AND RECOMMENDATIONS.

A They may be summarized as follows:

1. The Detailed Base, Intermediate and Peak method ("Detailed BIP") that Staff continues to propose is founded upon erroneous assumptions about how a utility is planned and operated. Staff's approach pretends that there are essentially three sub-systems (base, intermediate and peak) and makes separate cost allocations of each to each customer class. In reality, however, a utility system actually is planned and operated on a portfolio basis and all plants are used to serve all customers.

2. Staff's reference to a BIP method sponsored in Case No. ER-2014-0351 is incomplete in that it fails to report all relevant facts. The Commission specifically noted in its July 22, 2015 Order that despite what was said about Staff's cost of service study in the case: "The Commission's June 24, 2015, Report and Order does not establish a general preference by the Commission for a specific methodology to calculate the cost of service for various rate classes."

3. Staff's proposal to judge the adequacy of the tail block rates in Rates LGS and LPS by use of market energy prices, instead of the embedded cost of energy, is completely at odds with the embedded cost regulatory paradigm that is used in Missouri. Depending on the specific levels of average cost and market prices, designing rates using a market price benchmark for energy prices could over-allocate costs to high load factor customers in the LPS and LGS customer classes, and should be rejected. However, in this case, the embedded and market costs are similar, so use of either shows that the tail blocks are too high.

4. My rate design proposal for LGS and LPS is fully justified by costs.

Class Cost of Service Issues

Q AT PAGE 1 OF HER REBUTTAL TESTIMONY, STAFF WITNESS SARAH KLIETHERMES REFERENCES PAGE 9 OF YOUR DIRECT TESTIMONY WHERE YOU STATE THAT NOT ALL KILOWATTHOURS ARE THE SAME. SHE THEN USES THAT TO LAUNCH INTO A DISCUSSION OF WHY SHE BELIEVES STAFF'S DETAILED BIP METHOD IS APPROPRIATE FOR THE ALLOCATION OF GENERATION PLANT. DOES YOUR STATEMENT AT PAGE 9 HAVE ANYTHING TO DO WITH THE ALLOCATION OF GENERATION COSTS?

A No. My discussion at page 9 was in the context of explaining the meaning of "functionalization" in an electric utility system and describing why customers taking service at different voltage levels impose different costs on the utility.

Q DO YOU AGREE WITH STAFF WITNESS SARAH KLIETHERMES' REBUTTAL TESTIMONY (AT THE BOTTOM OF PAGE 1 AND THE TOP OF PAGE 2) THAT STAFF'S COST OF SERVICE STUDY TAKES INTO ACCOUNT THE "REALITY" THAT THE COST OF PRODUCING A KWH OF ENERGY VARIES DEPENDING UPON WHAT PLANT IS PRODUCING THAT ENERGY AND WHAT PLANTS ARE OPERATING TO PRODUCE ENERGY AT A GIVEN TIME?

A No. While Staff likes to think of its Detailed BIP method as one that accomplishes this end, it actually ignores reality. The Detailed BIP method pretends that there are three separate groups of plants, or subsystems, that produce energy for the different classes of customers, and that the output of individual plants, or groups of plants, can be associated with service to portions of the load curve of the individual customer classes without regard to what plants are actually on line and generating, and the level at which they are generating, at any particular point in time. Under the guise of

being more "detailed," the BIP method actually engages in gross over-simplifications and uses unrealistic assumptions about how a utility system is planned and operated.

Q PLEASE ELABORATE.

A No utility builds plants or groups of plants for the specific purpose of serving particular customer classes, or segments of its load. Rather, the combination of the loads of individual customer classes produces an overall utility load shape and service requirement. Whenever the utility is considering how to adjust its generation resource portfolio, it looks at its existing resources, the current and projected economics of different options, projected future loads, retirements, regulations and other important factors. It then selects the resources that best meet the needs of its customers giving due consideration to all of these factors. At no time is planning for generation resources based on loads of individual customer classes.

From an operational perspective, the utility operates the generation resources that it has (owned, purchased, or contracted for) in such a way as to provide reliable service at the lowest overall reasonable cost.

The approach accepted in the industry is to recognize the portfolio nature of a utility's generation resources and perform the allocations to customer classes accordingly. This is why all of the fixed costs of the generation resources typically are added together and allocated to customer classes on the basis of a reasonable measurement of demand (for example, A&E-4NCP) and all variable costs are added together and allocated to customer classes based on customer class energy requirements.

Q AT PAGE 2 OF HER REBUTTAL TESTIMONY, STAFF WITNESS SARAH KLIETHERMES TAKES ISSUE WITH YOUR STATEMENT THAT THE TWO GENERALLY ACCEPTED METHODS FOR ALLOCATING GENERATION AND TRANSMISSION FIXED COSTS ARE AVERAGE AND EXCESS ("A&E") AND COINCIDENT PEAK ("CP"). HER BASIS FOR THE DISAGREEMENT IS A NARROW FINDING BY THE COMMISSION IN A SINGLE EMPIRE DISTRICT ELECTRIC RATE CASE, CASE NO. ER-2014-0351. PLEASE RESPOND TO MS. KLIETHERMES' REBUTTAL ON THIS ISSUE.

A First, it is important to understand what the Commission said in terms of its use of Staff's BIP method in that case. The Commission merely expressed a preference for that study in relation to the other studies presented in that case. Furthermore, in its July 22, 2015 Order at page 2, the Commission specifically noted as follows:

> "The Commission's June 24, 2015, Report and Order does not establish a general preference by the Commission for a specific methodology to calculate the cost of service for various rate classes."

Q DID MS. KLIETHERMES OFFER ANY REBUTTAL TO YOUR STATEMENT THAT A&E AND CP ARE THE MOST WIDELY USED METHODS?

A No. She did not provide any evidence to refute my statement that the A&E method and the CP method are the most widely used methods. In addition, citing one instance in which BIP was used, particularly when accompanied by a Commission decision saying that it was not precedential, certainly does not constitute evidence contrary to my statement.

Q AT PAGE 6 OF HER REBUTTAL TESTIMONY, STAFF WITNESS SARAH KLIETHERMES BEGINS A DISCUSSION OF A COMPARISON BETWEEN THE COST OF SERVICE STUDIES SUBMITTED BY THE VARIOUS PARTIES AND MAKES THE CLAIM THAT THE OVERALL REVENUE REQUIREMENT AND ITS COMPOSITION IS AS BIG OR BIGGER A DRIVER OF DIFFERENCES IN COST OF SERVICE RESULTS THAN IS THE SELECTION OF THE PRODUCTION CAPACITY AND ENERGY ALLOCATORS. DO YOU AGREE?

A No. In the chart and graph on page 7, Ms. Kliethermes uses Staff's cost of service revenue requirement components and allocations, and substitutes an A&E allocator, leaving the other elements of Staff's class cost of service unchanged. She suggests that even had it used an A&E allocation, Staff's cost of service study would have shown that the LPS class should receive an above-average increase.

The problem with her analysis is that the Staff's study she uses for this comparison is seriously flawed. As I discussed in my rebuttal testimony, Staff made significant errors in the development of the allocation factors for distribution investment – which errors materially over-allocate costs to the LPS class. In addition, Staff's study uses inappropriate allocations of Administrative and General expenses, which also overstate the cost to serve the LPS class. Had Staff performed its study correctly, the results would have been closer to the results of my study.

Rate Design

Q PUTTING ASIDE FOR THE MOMENT THE ASSUMPTIONS MADE WHEN ALLOCATING COSTS AMONG CUSTOMER CLASSES, DO YOU HAVE ISSUES WITH RESPECT TO HOW STAFF HAS DEFINED ENERGY COSTS FOR PURPOSES OF RATE DESIGN?

A Yes. Staff defines energy costs for rate design purposes as equal to wholesale market costs. I have a major disagreement with Staff in this regard.

Q WHAT IS THE NATURE OF THE DISAGREEMENT?

A Missouri is an embedded cost jurisdiction for purposes of revenue requirements and for purposes of cost of service. Embedded costs are also typically used as a benchmark in determining the customer, demand and energy costs for each class. KCPL does not simply buy power from the SPP to serve its load. Rather, it must build or acquire sufficient capacity to serve its load and must use fuel to generate power needed to serve that load, supplemented with net power purchases.

Q WHY DO YOU DISAGREE WITH HER POSITION?

A While it is true that on an hourly basis KCPL does clear all of its generation and all of its load in the SPP energy market, this does not mean KCPL purchases all of the power required to serve its customers. If that were the case, it would mean that the fuel and purchased power costs for power paid by customers would be equal to the wholesale market price of power – and not to KCPL's cost to produce power in its own generating units, supplemented by occasional wholesale market purchases. It also would mean that the entire output of KCPL's generation facilities would be dedicated to the production of market sales – and not to serving KCPL's retail

customers. Under such circumstances, no fuel cost would be assigned to KCPL's retail customers – only purchased power costs. In addition, there would be no basis to include in rate base KCPL's investment in generation facilities, since those facilities would no longer be serving the company's retail customers.

Furthermore, Ms. Kliethermes' position is contrary to FERC Order 668, which specifies how hourly clearing in RTO markets of load and generation must be addressed. Under Order 668, a utility must net its SPP-cleared load and generation in each hour and report the net as either a sale for resale or a power purchase. In any given hour, therefore, a utility has either an off-system sale to SPP or a power purchase from SPP – but not both.

The reality is that KCPL offers all of its generation and bids all of its load into the SPP energy market in coordination with each other, on behalf of native load customers. The purpose of doing so is to supplement the energy available from its own generation with power purchases, and to engage in economy sales of excess energy from its own generation facilities.

Q WHAT DOES THIS MEAN IN TERMS OF STAFF'S PROPOSALS?

A Staff uses its misperception of the relationship between KCPL and SPP to justify defining the energy component that it views as appropriate for rate design purposes as the hourly SPP market cost of energy. In fact, though, KCPL invests in generation plant and purchases fuel to serve load, and that is why those costs are figured into the rates that its customers pay. Staff's misperception is further belied by the fact that, in most hours, KCPL is a net seller into the SPP energy market, and not a net buyer. Staff's fundamental flaw from a rate design perspective is the unwarranted

reliance upon hourly market prices in SPP to measure the adequacy of the energy rates in KCPL's retail tariffs.

Q HOW MUCH OF AN ERROR WOULD STAFF'S APPROACH INTRODUCE INTO THE RATE DESIGN ANALYSIS?

A It depends on the relationship of market prices to average costs. By using the market price proxy for energy cost, Staff must necessarily understate the other components of cost of service in order to avoid allowing KCPL to over-collect. However, in this case (unlike in the previous KCPL rate case) the impact would be small. KCPL's analysis shows average energy costs to be 2.0¢ - 2.1¢ per kWh, and Staff's market price average is about 2.3¢ per kWh. Tail block rates are higher, and no increase is necessary, even if the market price benchmark were to be used.

Staff's approach is a material departure from generally accepted procedures in the industry, and, if applied, could result in a material distortion in rate design. Since it inflates the cost of energy and deflates the cost of capacity, it would over-price high load factor customers and under-price low load factor customers. This is not only inequitable, but it would reduce the incentive for customers to minimize their peak demands because the cost consequences to the customer of imposing higher demands would be under-priced relative to the cost of serving the peak demand. For example, if on-peak demands cost $15 per kilowatt, customers will be incented to control demands to a much greater extent than if it costs $5.00 per kilowatt.

Q ARE THERE ANY CIRCUMSTANCES IN WHICH THE MARKET COST IS RELEVANT?

A Yes. The market cost is relevant in circumstances other than full embedded cost ratemaking, such as when an analysis is being conducted to determine an appropriate price to be charged to an "at risk" customer in order to preserve the load on the system, rather than to lose the load. In such circumstances, a comparison between the price to be charged to the customer and the price that power would fetch in the market (SPP market price) is a relevant consideration. However, for the traditional embedded cost ratemaking that we are doing in this case, it is not a relevant factor.

Q WHAT NUMBER SHOULD BE USED TO EVALUATE THE ADEQUACY OF THE TAIL BLOCK RATES?

A The actual true average embedded cost of energy, which is about $20/MWh (2.0¢/kWh), is a reasonable proxy. Were we to look at the average embedded cost during off-peak hours versus the average during all hours, we would find that the average cost during off-peak hours is even lower than these amounts.

Q AT PAGE 9 OF HER REBUTTAL TESTIMONY, STAFF WITNESS SARAH KLIETHERMES DISAGREES WITH YOUR EXPLANATION OF HOW THE LOAD FACTOR BLOCKED RATES WORK AND YOUR STATEMENT THAT TAIL BLOCK ENERGY USE TENDS TO OCCUR OFF-PEAK. HOW DO YOU RESPOND?

A It generally is true that, just as a result of the ordinary nature of commerce, the higher load factor customers, particularly those who have significant usage in the tail block of the rate (load factor over 50%) tend to have their maximum demands during the

day and purchase considerable amounts of energy during off-peak hours as well. The only way that a low load factor customer could have considerable usage during off-peak hours would be if the customer had its maximum demand at night. Certainly, there can be some customers like this, but it is unlikely that we would find many customers who were imposing their maximum demands on the utility system at night.

Q DO YOU HAVE ANY EVIDENCE TO SUPPORT THAT?

A Yes. I looked at KCPL's load research data and, for LGS and LPS, compared the class coincident peak (which occurs when the system has its peak – principally during the daytime) with the sum of the maximum demands of the individual customers in each class in order to determine the extent to which these maximum customer demands are correlated with class coincident peaks. Schedule MEB-COS-SR-1 shows these results.

A high ratio of class coincident peak to the sum of individual customer maximum demands indicates that the maximum customer demands are occurring near the times of the system coincident peaks. As an example, for the LPS schedule, note that the monthly ratios range from 69% to 88%, and average 83% for the year. This is a clear indication that, for the most part, maximum demands of customers are occurring during the hours when the utility system peaks, and not during night or weekend times. This adds further credence to the association of third block energy usage with off-peak times, and is additional support for my rate design recommendation.

Q DOES THIS CONCLUDE YOUR SURREBUTTAL TESTIMONY?

A Yes, it does.

KANSAS CITY POWER & LIGHT COMPANY

Case No. ER-2016-0285

Load Research Coincident Peak (CP) and Maximum Diversified Demand (MDD) of Customers

		LGS			LPS		
Line	Month	CP (MW) (1)	MDD (MW) (2)	Ratio (3)	CP (MW) (4)	MDD (MW) (5)	Ratio (6)
1	January	345	484	71%	227	287	79%
2	February	378	484	78%	244	290	84%
3	March	347	484	72%	233	299	78%
4	April	298	418	71%	254	300	85%
5	May	285	413	69%	261	308	85%
6	June	327	443	74%	291	336	87%
7	July	360	482	75%	303	347	87%
8	August	368	462	80%	301	342	88%
9	September	362	462	78%	298	338	88%
10	October	321	434	74%	270	313	86%
11	November	292	431	68%	237	302	78%
12	December	291	427	68%	199	289	69%
13	Total	3,974	5,423	73%	3,117	3,748	83%

Note:
(1) CP is the demand of all customers on the rate at the time of the KCPL monthly peak.
(2) MDD is the summation of the maximum demands of all of the customers on the rate.

Source: KCPL Allocators MO Rev 6-17-16 Avg & Pk 4 CP.xls