| | |
|---|---|
| Exhibit No.: | 169 |
| Issue: | Production Cost Allocation |
| Witness: | Thomas J. Sullivan, Jr. |
| Type of Exhibit: | Surrebuttal Testimony |
| Sponsoring Party: | Kansas City Power & Light Company, KCP&L Greater Missouri Operations Company |
| Case Nos.: | ER-2018-0145 and ER-2018-0146 |
| Date Testimony Prepared: | September 4, 2018 |

**MISSOURI PUBLIC SERVICE COMMISSION**

**CASE NOS. ER-2018-0145 and ER-2018-0146**

# SURREBUTTAL TESTIMONY

**OF**

**THOMAS J. SULLIVAN, JR.**

**ON BEHALF OF**

**KANSAS CITY POWER & LIGHT COMPANY, and**
**KCP&L GREATER MISSOURI OPERATIONS COMPANY**

**September 2018**

## TABLE OF CONTENTS


| SUBJECT | PAGE |
|---|---|
| INTRODUCTION | 1 |
| ISSUES RAISED IN MR. BRUBAKER'S REBUTTAL TESTIMONY | 3 |
| MS. LANGE'S REBUTTAL TESTIMONY | 13 |
| OTHER INHERENT FLAWS IN STAFF'S DBIP ALLOCATION | 14 |
| COMMISSION ORDER IN CASE NO. ER-2016-0285 | 16 |
| SUMMARY | 19 |

**SURREBUTAL TESTIMONY**

**OF**

**THOMAS J. SULLIVAN, JR.**

**CASE NOS. ER-2018-0145 AND CASE NO. ER-2018-0146**

## INTRODUCTION

**Q. PLEASE STATE YOUR NAME AND BUSINESS ADDRESS.**

A. Thomas J. Sullivan, Jr., 15898 Millville Road, Richmond, Missouri, 64085.

**Q. ARE YOU THE SAME THOMAS J. SULLIVAN, JR. WHO FILED DIRECT TESTIMONY IN THESE MATTERS?**

A. Yes, I am.

**Q. WHAT IS THE PURPOSE OF YOUR SURREBUTTAL TESTIMONY?**

A. The purpose of my surrebuttal testimony is to discuss issues raised in the rebuttal testimony of Mr. Maurice Brubaker who filed testimony on behalf of the Missouri Industrial Energy Consumers ("MIEC") and Ms. Sarah L. K. Lange on behalf of the Missouri Public Service Commission Staff ("Staff") related to the production cost allocation methodology proposed by the Missouri Public Service Commission Staff ("Staff") for Kansas City Power & Light Company ("KCP&L"). In the current case, Staff refers to its production cost allocation as the Detailed Base, Intermediate, and Peak ("DBIP") methodology but in actuality, the method used in this case is not different from what is commonly referred to and has been historically referred to as the Base, Intermediate, and Peak ("BIP") methodology.

**Q. DO YOU SPONSOR ANY SCHEDULES WITH YOUR TESTIMONY?**

A. Yes. I sponsor the following schedules:

- Schedule TJS-11 – Comparison of Staff BIP Allocation between 2016 and 2018 Rate Cases
- Schedule TJS-12 – Staff BIP Allocation – Corrected
- Schedule TJS-13 – Staff Production Cost Allocation - Corrected

Schedules TJS-1 through TJS-10 were provided with my direct testimony.

**Q. PLEASE SUMMARIZE THE ISSUES RAISED BY MR. BRUBAKER IN HIS REBUTTAL THAT YOU WILL ADDRESS IN YOUR SURREBUTTAL TESTIMONY.**

A. The following are three issues raised by Mr. Brubaker that I will address in my surrebuttal:

1. The significant change in the Staff's production cost allocation using the Base-Intermediate-Peak ("BIP") methodology between KCP&L's current rate case and its last rate case.
2. The inconsistency in the Staff's allocation of production operation and maintenance expenses.
3. The acceptance and use of the BIP methodology within the industry.

**Q. PLEASE SUMMARIZE THE ISSUES RAISED BY MS. LANGE IN HER REBUTTAL THAT YOU WILL ADDRESS IN YOUR SURREBUTTAL TESTIMONY.**

A. I will address the comparison made by Ms. Lange in Table 3 of her rebuttal testimony with the issues raised by Mr. Brubaker.

**Q. PLEASE OUTLINE YOUR SURREBUTTAL TESTIMONY.**

A. My surrebuttal testimony addresses the following topics:

1. Discussion of Mr. Brubaker's rebuttal testimony;

2. Discussion of Ms. Lange's rebuttal testimony;

3. Other inherent flaws in the BIP/DBIP methodology; and

4. Discussion of the Commission's Order in KCP&L's last rate case.

## ISSUES RAISED IN MR. BRUBAKER'S REBUTTAL TESTIMONY

**Q. PLEASE DISCUSS THE FIRST ISSUE RAISED BY MR. BURBAKER THAT YOU WOULD LIKE TO ADDRESS.**

A. As highlighted by Mr. Maurice Brubaker on Page 7 of his rebuttal testimony, Staff's BIP allocation differs substantially from the Staff's allocation in the Company's last rate case. Mr. Brubaker points out that the Staff's BIP allocation results in approximately 80 percent (Page 7, Line 5) of fixed capacity costs being allocated on an energy basis, whereas, the Staff's BIP allocation in the Company's last rate case resulted in approximately 53 percent (Page 7, Line 12) being allocated on an energy basis.

This concern of Mr. Brubaker is consistent with that expressed by Company witness Lutz on page 5 of his rebuttal testimony where he states:

> I note that Staff does not establish a 'size' for the base component. Instead, the generating plants are simply grouped with no consideration of the load being served[.]

and then goes on to say

> I would offer that in past determinations LaCygne was generally considered as an intermediate resource while in the Staff allocation, it is treated as base.

These two major flaws in the Staff's application of the BIP methodology result in Staff's failure to properly synchronize the assets being allocated with the customer

loads being served. Further, these two flaws contribute to the issue raised by Mr. Brubaker.

**Q. PLEASE FURTHER EXPLAIN THESE DIFFERENCES NOTED BY MR. BRUBAKER BETWEEN THE STAFF'S APPLICATION OF THE BIP METHODOLOGY IN CASE NO. ER-2016-0285 AND IN THIS CASE.**

A. On Page 15 of the Staff Report – Class Cost of Service dated July 6, 2018 ("2018 Staff Report"), the Staff assigns $1,147,678,422 to the Base function out of a total of $1,429,867,203 in total capacity costs, or 80.26 percent to the Base function. The Staff allocates the Base function to customer classes based on average demand which is equivalent to allocating costs based on class annual energy requirements.

On Page 19 of the Staff's Rate Design and Class Cost of Service Report dated December 14, 2016 ("2016 Staff Report) which was prepared in connection with Case No. ER-2016-0285 (KCP&L's last Missouri rate case), the Staff assigns $596,823,511 to the Base function out of a total of $1,133,742,682 in total capacity costs, or 52.64 percent to the Base function.

**Q. DID THE STAFF CHANGE ITS ASSIGNMENT OF GENERATING UNITS BETWEEN THE 2016 AND 2018 REPORTS?**

A. No. The Staff assigned the same generating units to the Base, Intermediate, and Peak functions in both cases.

**Q. DID THE STAFF'S ASSIGNMENT OF CUSTOMER LOADS TO THE BIP FUNCTIONS CHANGE SIGNIFICANTLY BETWEEN THE 2016 AND 2018 REPORTS?**

A. No. As shown in Schedule TJS-11, the relative percentages of class load assigned to the BIP functions in the current case (2018 Staff Report) and the relative percentages assigned in the last case (2016 Staff Report) differ very little. In fact, the class load assigned to the Base function in both cases was approximately 67 percent.

**Q. PLEASE EXPLAIN FURTHER HOW THE STAFF'S APPLICATION OF THE BIP METHODOLOGY FAILS TO SYCNRONIZE THE GENERATING ASSETS WITH THE CUSTOMER LOADS AND CONTRIBUTES TO THE APPARENT VOLATILITY IN THE STAFF'S PRODUCTION COST ALLOCATION.**

A. As shown in Schedule TJS-12, the Staff has assigned customer loads to the Base, Intermediate, and Peak functions as follows:

- Base – 51.54 percent
- Intermediate – 25.85 percent
- Peak – 22.61 percent

Yet, the actual capacity of the generating units that Staff has assigned to each of these functions is as follows:

- Base – 69.16 percent
- Intermediate – 15.46 percent
- Peak – 15.39 percent

It does not make any logical sense that there is such a discrepancy between the class demands and the capacity of the resources Staff assumes meets these demands.

**Q. HAS THE STAFF ASSIGNED GENERATING UNITS TO THE BIP FUNCTIONS IN A REASONABLE MANNER?**

A. No. As indicated by Mr. Lutz, KCP&L, when it applied in the BIP methodology in the past, the resources assigned to the Base Function were synchronized with the load assigned to the Base Function and this was accomplished by assigning the LaCygne units to the Intermediate function. Based on the data reported by the Company in its 2017 FERC Form No.1. LaCygne Unit 1 operated at a 35 percent capacity factor and LaCygne Unit 2 operated at a 26 percent capacity factor. The Staff assignment of these units to the Base function results in significantly more capacity being assigned to the Base function than the customers' base load. In addition, Staff has assigned Hawthorn Units 6 and 9 to the Intermediate function, yet these units consistently operated at capacity factors of approximately 2 percent. This is more consistent with a peaking unit.

**Q. IF THE STAFF HAD ASSIGNED GENERATING UNITS TO THE BIP FUNCTIONS IN A MANNER CONSISTENT WITH ITS CUSTOMER LOAD ASSIGNMENT AND THE ACTUAL USE OF THE GENERATING FACILTIES, HOW WOULD THIS IMPACT THE ASSIGNMENT OF CAPACITY TO THE BIP FUNCTIONS?**

A. As shown in Schedule TJS-12, the assignment of the LaCygne units to the Intermediate function results in 50.91 percent of generating capacity being

assigned to the Base function. This is much closer to the Staff's assignment of 51.54 percent of customer demand to the Base function. Further, the assignment of the Hawthorn 6 and 9 units to the Peak function results in 26.83 percent of capacity being assigned to the Intermediate function and 22.26 percent to the Peak function, both of which are much closer to Staff's assignment of customer demands to these functions.

**Q. HOW DOES THE RECLASSIFICATION OF THESE GENERATING UNITS IMPACT THE STAFF'S BIP CAPACITY ALLOCATION FACTOR?**

A. In Schedule TJS-12, the Staff's proposed capacity allocation is shown on Line 8. When I changed the classification of the LaCygne and Hawthorn units in the Staff's DBIP calculation model, the resulting allocation is shown on Line 31 of Schedule TJS-12. The net result of Staff's improper assignment of the LaCygne and Hawthorn units is to overstate the BIP allocation to the high load factor customers. Staff allocates 19.69 percent of capacity costs to the Large Power customer class; the reclassification of these units would result in only 17.33 percent of capacity costs being assigned to the Large Power customer class.

In addition, primarily due to the fact that the Staff's DBIP allocation is not properly synchronized between class load and generating capacity, the total capacity cost of $1,429,867,203 used in the Staff's "DBIP Installed Capacity Allocator) varies substantially from the actual capacity cost (i.e. rate base) of the generating units in Staff's DBIP allocation ($1,825,069,917). The reclassification of the LaCygne and Hawthorn units results in a capacity cost of $1,715,616,791

for the "DBIP Installed Capacity Allocator" which is at least in the ballpark of the actual rate base.

**Q. HAVE YOU ESTIMATED THE IMPACT OF THE MISCLASSIFICATION OF LACYGNE AND HAWTHORN GENERATING UNITS IN STAFF'S DBIP ALLOCATION?**

A. Yes. In Schedule TJS-13, I show the Staff's production cost allocation on Line 1 through 7. Please note that this summary does not include income taxes or the allocation of administrative and general expenses (discussed later in my surrebuttal testimony). On Lines 15 through 20, I show what the allocation of production related costs would be if the LaCygne and Hawthorn units were correctly classified. As shown on Line 21, the Staff's misclassification results in a significant overstatement of the costs assigned to the higher load factor customer classes and particularly to the Large Power and Lighting classes. Please note that the differences would be slightly higher if income taxes and the change in the allocation of administrative and general expenses were included. The Staff's DBIP allocation overstates the costs assigned to the Large Power class by approximately $11.1 million and to the Lighting class by approximately $1.6 million compared to a BIP allocation with the LaCygne and Hawthorn generating units properly classified.

**Q. IN YOUR OPINION, WHAT SHOULD BE THE PRIMARY DRIVER BEHIND THE ALLOCATIONS USED IN A CLASS COST OF SERVICE STUDY?**

A. The primary purpose of a class cost of service study is to allocate costs to customer classes based on each class' responsibility for those costs and the allocation

factors used should reflect how those customers use the facilities being allocated. Secondarily, one would not expect a reasonable allocation basis to change significantly over a relatively short period of time. The class cost of service allocation and a rate design relying on a class cost of service study should be relatively stable especially over the short term unless there have been significant changes in the overall revenue requirement or there has been a substantial change in the make-up of the customer classes (large losses in load for example).

**Q. DOES THE STAFF'S PROPOSED PRODUCTION CAPACITY COST ALLOCATION MEET THESE PRINCIPLES?**

A. No. In fact, the Staff's methodology produces a result that makes no sense at all. The Staff did not change its assignment of generating units and the class load characteristics did not change appreciably, yet the Staff's methodology results in an increase in the assignment of fixed costs to a variable allocation factor from 53 percent in December 2016 to over 80 percent in July 2018. The primary driver in any allocation should reflect how the customer's use the facilities. Further, it is totally unreasonable to use an allocation methodology that is so volatile.

**Q. IS THE STAFF'S PROPOSED PRODUCTION CAPACITY COST ALLOCATION REASONABLE?**

A. No. As indicated above, the Staff's application of the BIP methodology does not produce stable results. Further, any methodology that assigns 80 percent of fixed capacity costs to a variable energy allocation cannot reasonably assign costs to customer classes based on how they use facilities unless that system is operating at a very high load factor. As indicated in my direct testimony, KCP&L's system

load factor is 56 percent (Schedule TJS-5). At this relatively low system load factor, allocation bases that give higher recognition to energy requirements become less and less appropriate because they fail to adequately recognize which classes are contributing to the lower system load factor. It doesn't matter into how many detailed parts you slice the allocation factor if in the end the result varies little from a simple average demand (or energy) allocation.

Also, as discussed later in my surrebuttal testimony, the Staff's model appears to have an inherent logical flaw in that the total dollar amount in its "DBIP Installed Capacity Allocator" bears little resemblance to the costs it is targeted to allocate (i.e. rate base) and furthermore, the total dollar amount in this allocator varies significantly depending upon how units are assigned to the functions. This lack of synchronization in their model raises serious questions about the veracity of Staff's DBIP allocation and their model.

**Q. DOES THE PRODUCTION COST ALLOCATION PROPOSED BY THE COMPANY PROVIDE A MORE REASONABLE BALANCE BETWEEN ENERGY AND DEMAND?**

A. Yes. The Company's proposed Average and Excess Demand allocation assigns 56 percent of fixed costs to the energy function (compared to 80 percent for the Staff) and 44 percent to the capacity function. As system load factor improves or increases, the Average and Excess Demand allocation assigns more cost to the energy part of the allocation and as load factor declines, the Average and Excess Demand allocations assigns less cost to the energy part of the allocation. There are so many moving and inconsistent components in the Staff's DBIP allocation, it

is not clear whether there is any real link between changes in customer load and the resulting allocations (i.e. the Staff's allocation changes even when loads do not).

Furthermore, the Average and Excess Demand allocation focuses purely on class usage and load characteristics. Thus, the Average and Excess Demand methodology will provide more stable results over time and is not subject to the vagaries or biases of the assumptions made in the Staff's DBIP allocation and the inconsistencies in the logic of the Staff's model. The Average and Excess Demand methodology directly correlates with and differentiates between class load characteristics.

**Q. PLEASE DISCUSS THE SECOND ISSUE RAISED BY MR. BRUBAKER THAT YOU WOULD LIKE TO ADDRESS.**

A. On Pages 10 and 11 of his rebuttal testimony, Mr. Brubaker points two inconsistencies in the Staff's allocation of operation and maintenance expenses. First, Mr. Brubaker points out that non-fuel production O&M expenses are typically allocated in the same manner as the related plant costs (Page 11, Lines 2 through 6). Second, Mr. Brubaker points out that administrative and general ("A&G") costs are not typically allocated based on other operation and maintenance expenses including fuel and purchased power costs (Page 11, Line 7 through Page 12, Line 15).

**Q. DO YOU AGREE WITH MR. BRUBAKER'S ASSESSMENT OF THE STAFF'S ALLOCATION OF NON-FUEL PRODUCTION O&M EXPENSES?**

A. Yes. In my experience, rate base (including plant) costs are traditionally functionalized and classified first, then the operation and maintenance and depreciation expenses are functionalized and classified based on how their associated plant costs are functionalized and classified. The general exception to this is for operation and maintenances costs that are truly variable in nature. For example, fuel and purchased power costs are traditionally classified as production energy.

Staff's separate DBIP allocation of non-fuel production O&M expenses is even closer to a pure energy allocation than the DBIP allocation Staff uses to allocate capacity costs discussed earlier in my surrebuttal testimony. Any production allocation that allocates these fixed costs based on a variable allocation is unreasonable.

**Q. DO YOU AGREE WITH MR. BRUBAKER'S RECOMMENDED ALLOCATION OF ADMINISTRATIVE AND GENERAL EXPENSES?**

A. Yes. Based on my experience I have never prepared or seen a class cost of service study that allocates administrative and general expenses using an allocation bases that includes all of the fuel and purchased power costs. Similarly, the same can be said for class cost of service studies for natural gas distribution utilities. For them, administrative and general expenses are not allocated using a basis that includes purchased gas costs.

**Q. DO YOU AGREE WITH MR. BRUBAKER'S ASSESSMENT OF THE INDUSTRY ACCEPTANCE OF THE BIP METHODOLOGY?**

A. Yes. While I have worked with base, intermediate, and peak rate designs which are principally time-of-use type rates as mentioned by Mr. Brubaker on Line 3, Page 8 of his rebuttal testimony, I have never used and have never seen the BIP methodology used to allocate production costs in a class cost of service study accept for KCP&L. I first developed class cost of service models in the 1980's and the primary methodology I have used is the Average and Excess Demand methodology, and secondarily, a Coincident Peak methodology for capacity related production costs.

## MS. LANGE'S REBUTTAL TESTIMONY

**Q. PLEASE COMPARE YOUR SCHEDULE TJS-13 TO TABLE 3 IN MS. LANGE'S REBUTTAL TESTIMONY.**

A. On Page 18 of her rebuttal testimony, Ms. Lange presents Table 3 that shows the impact of applying the Company's proposed Average and Excess Demand allocation (A&E 4CP) to the Staff's revenue requirement. Table 3 shows an $11.1 million "$ change to exactly levelized RoR" for the Large Power customer class. An alternate way to state this is that this $11.1 million is the amount by which the Large Power revenues exceed their cost of service based on using the A&E 4CP allocation. As shown in Schedule TJS-13, the errors and inconsistencies in the Staff's DBIP allocation result in at least $11.1 million in overallocation of cost to the Large Power class. It should be noted that the Staff's overallocation is at least $11.1 million because the analysis in Schedule TJS-13 does not including the

impact of income taxes and does not include the impact of properly allocating administrative and general expenses.

## OTHER INHERENT FLAWS IN STAFF'S DBIP ALLOCATION

**Q. DOES THE STAFF'S APPLICATION OF THE BIP METHODOLOGY DEMONSTRATE SOME OF THE INHERENT PROBLEMS WITH THE BIP METHODOLOGY?**

A. Yes. As highlighted earlier in my surrebuttal testimony, Staff' DBIP methodology has a lot of moving parts, and if these moving parts are not properly synchronized, the methodology can produce widely varying and even illogical results. When applying any cost allocation methodology, it is important to not lose sight of the bigger picture. More detail and a bigger model are no surety of producing a more reasonable result. In fact, the added complexity can increase the potential of producing an unreasonable result if all of the assumptions and analyses are not consistent and properly aligned.

**Q. PLEASE DISCUSS SOME ADDITIONAL PROBLEMS WITH THE BIP METHODOLOGY?**

A. As discussed in my direct testimony and shown in Schedule TJS-9, the BIP methodology tends to be most similar to a pure energy allocation method on the scale between a 100 percent energy allocation and a 100 percent peak allocation. The principle problem with the BIP (or DBIP) approach is that it does not explicitly recognize the class usage characteristics that directly contribute to a deterioration in system load factor. As load factor declines (and KCP&L's system load factor is relatively low), it is important that the allocation of capacity recognize how this

impacts the efficiency of the resources and the resource decisions of the utility. Further, as highlighted earlier in my surrebuttal testimony, this problem can be further exacerbated by failing to synchronize class loads with generating resources.

A large part of the decline in load factor is attributable to the operation of customer equipment that is highly weather dependent. KCP&L's summer and winter peaks are driven primarily by weather extremes that cause wide variation in the use of this weather dependent customer equipment. The need for intermediate and peaking generation is driven by this incremental and variable weather-related load. The equipment that is highly weather dependent is concentrated in residential and small commercial customer classes whose highest demand equipment is typically their air conditioning and/or heating equipment whose demands are highly correlated with outside temperatures. Even larger commercial customers typically operate their businesses primarily during the utility's on-peak hours. High load factor customers are primarily using electricity for processes many of which operate throughout the entire day that do not incrementally add to the system peak. KCP&L's Large Power customers operate at a class average load factor near the capacity factors of KCP&L's largest base load units. As such, it could be argued that these Large Power customers have virtually no intermediate or peaking requirements.

As highlighted earlier, the BIP method is highly influenced by assumptions and potential biases introduced into the model. The most complicated part of the BIP model is determining what portions of each customer classes' load is met by

the base, intermediate and peaking facilities. As discussed earlier, Staff's capacity allocation is completely out of synch with customer demands. Further, Staff's DBIP energy allocation assigns 88 percent of generation to the Base function, yet 97 percent of the system generation is provided by the resources that Staff has assigned to the Base function. Even though Staff appears to go through a very detailed hourly analysis assigning daily load to Base, Intermediate, and Peak, they have significantly overstated the amount assigned to the Intermediate and Peak functions for high load factor customers because they have failed to recognize the incremental nature of hourly loads and also how these incremental loads are actually served.

Finally, as also discussed in my direct testimony and pointed out by Mr. Brubaker in his rebuttal testimony, it is important to recognize what allocation methods are being used by other utilities. KCP&L does not operate its system in a vacuum. If a production allocation approach such as the BIP method is used for KCP&L and allocates significantly more cost to high low factor customers than does an Average and Excess Demand methodology that is more widely used, KCP&L and its industrial customers are put at a competitive disadvantage.

## COMMISSION ORDER IN CASE NO. ER-2016-0285

**Q. DID THE COMMISSION ADDRESS STAFF'S BIP METHOD IN KCP&L'S LAST RATE CASE IN CASE NO. ER-2016-0285?**

A. Yes. On Page 50, the Commission's Report and Order dated May 3, 2017 states the following:

"133. Of all the studies filed in this matter, only Staff's Base, Intermediate, Peak ("BIP") study recognizes disparity in capacity and fuel costs."

134. The BIP method uniquely recognizes the tradeoffs that exist between the cost of installing a plant, the generation capabilities of a plant, and the cost of obtaining energy from that plant."

135. Staff's ***detailed*** (emphasis added) BIP method takes into consideration the differences in the capacity costs associated with units that run at a stable level much of the year, versus the capacity costs associated with units that quickly dispatch only a few hours a year, as well as those units that have a cost and operation characteristic in between those extremes. Staff's ***detailed*** (emphasis added) BIP method also considers the inverse relationship between this cost of capacity and the cost of energy produces by based, intermediate, and peaking units. Other common CCOS methods tend to assume that energy costs are the same amount regardless of the hour of consumption or the source of the energy, and or do not consider the operating characteristics of plants and assume that capacity costs are equal among types of plants."

**Q. WHY DID YOU ADD EMPHASIS TO THE WORD "DETAILED" IN THE ABOVE QUOTATION?**

A. For two reasons. First, the Commission's preference for the Staff's approach appears to be primarily based on the greater level of detail in the BIP methodology compared to other methodologies, particularly as it related to the generating facilities. Second, in the current rate case, it appears as though the Staff picked up on this emphasis on "detail" and incorporated that adjective into the name of their approach for this case. In the Company's last case, the Staff labeled its production cost allocation the BIP method. It has added the "D" in this case to emphasize the "detail".

**Q. IS THE COMMISSION'S ASSESSMENT OF OTHER PRODUCTION COST ALLOCATION METHODS AND HOW THEY COMPARE TO THE BIP METHOD FAIR?**

A. I don't believe it is a fair assessment. The Commission's order focused on the fact that the BIP method puts a very high emphasis on classifying generating units and the added detail that this segregation provides. As discussed earlier in my surrebuttal, if this segregation is not synchronized with class loads, the BIP method can produce results that make little intuitive sense. The other methods, and the Average and Excess Demand method in particular, do not focus on specific generating resources. These methods focus on customer demands and most importantly on explicitly recognizing the relative differences in the demands between customer classes. The purpose of a class cost of service study is not to parse costs into as much detail as possible, the purpose of a class cost of service study is to recognize the differences in the cost to serve different classes of customers and how the load characteristics of those customers impact cost.

**Q. DOES THE ADDED DETAIL IN THE STAFF'S BIP METHOD MAKE IT SUPERIOR TO OTHER METHODS?**

A. No. As discussed earlier in my surrebuttal testimony, the Staff's allocation gets lost in the details and fails to recognize the goal. For all the detail in Staff's DBIP allocation it produces results that approach a pure energy (or average demand) allocation basis. Further, the Staff's analyses fail to get the details correct. The Staff's DBIP allocation fails to synchronize the loads and use of the generating assets with the loads and use of the customers; and it also fails to synchronize the

costs being allocated with the allocations bases. The Staff's allocation gets so lost in the details, that it ultimately produces an unreasonable result that fails to give proper recognition to what factors contribute to not only how system resources are used but what customer usage characteristics contribute to the need for the various resources. Staff's allocation is a clear example of more being less.

## SUMMARY

**Q. PLEASE SUMMARIZE YOUR SURREBUTTAL TESTIMONY?**

A. I support MECG witness Brubaker's recommendation that the Commission should reject the Staff's DBIP allocation of production related costs and accept the Company's proposed Average and Excess Demand allocation for the following reasons:

1. Staff is utilizing an approach that has an inherent bias against high load factor customers and Staff has made this bias even worse by misapplying the BIP method.
2. The BIP methodology is prone to biased and arbitrary assumptions regarding how generating units are defined as Base, Intermediate, and Peak.
3. The BIP methodology is prone to biased and arbitrary assumptions regarding how customer loads are defined as Base, Intermediate, and Peak.
4. The BIP model can provide inconsistent and unreasonable results when the assignment of generating units and the assignment of customer loads are not synchronized.

5. The Staff's DBIP model fails to synchronize the allocation bases with the costs being allocated.

6. The Staff's DBIP is overly detailed and thus easily prone to logical errors when not done properly, which is a significant problem in Staff's allocation in this case.

7. The Staff's BIP/DBIP models are prone to volatile results overly relatively short periods of time even when the assignment of generating units and customer loads do not change appreciably.

8. The BIP methodology is not widely used and changes in the industry since the 1992 NARUC Manual have made the BIP methodology archaic.

9. Unlike the Average and Excess Demand methodology, the BIP (or DBIP) methodology does not explicitly recognize the class usage characteristics that contribute to lower system load factor and less efficient use of generating resources.

10. The Average and Excess Demand methodology does not rely upon numerous and potentially contradictory assumptions in it application.

11. The Average and Excess Demand methodology is not prone to widely varying results over short periods of time since the parameters are well defined.

12. Unlike the BIP method, the Average and Excess Demand method is widely used.

**Q. DOES THIS COMPLETE YOUR SURREBUTTAL TESTIMONY?**

A. Yes, it does.

**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-2018-0145 |
| In the Matter of KCP&L Greater Missouri Operations Company's Request for Authority to Implement A General Rate Increase for Electric Service | ) ) ) ) | Case No. ER-2018-0146 |

**AFFIDAVIT OF THOMAS J. SULLIVAN, JR.**

**STATE OF MISSOURI** )
) **ss**
**COUNTY OF JACKSON** )

Thomas J. Sullivan, Jr., being first duly sworn on his oath, states:

1. My name is Thomas J. Sullivan, Jr. and my business address is Navillus Utility Consulting LLC, 15898 Millville Road, Richmond, Missouri, 64085. I have been retained to serve as an expert witness to provide testimony on behalf of Kansas City Power & Light Company and KCP&L Greater Missouri Operations Company.

2. Attached hereto and made a part hereof for all purposes is my Surrebuttal Testimony on behalf of Kansas City Power & Light Company and KCP&L Greater Missouri Operations Company consisting of twenty-one (21) pages, having been prepared in written form for introduction into evidence in the above-captioned docket.

3. I have knowledge of the matters set forth therein. I hereby swear and affirm that my answers contained in the attached testimony to the questions therein propounded, including any attachments thereto, are true and accurate to the best of my knowledge, information and belief.

Thomas J. Sullivan, Jr.

Subscribed and sworn before me this 4th day of September 2018.

Notary Public

My commission expires: 4/26/2021

ANTHONY R WESTENKIRCHNER
Notary Public, Notary Seal
State of Missouri
Platte County
Commission # 17279952
My Commission Expires April 26, 2021

Kansas City Power & Light Company
Comparison of Staff BIP Allocation - 2016 and 2018 Rate Cases

| Line No. | [A] Function | [B] Residential | [C] Small GS | [D] Medium GS | [E] Large GS | [F] Large Power | [G] Lighting | [H] Total |
|---|---|---|---|---|---|---|---|---|
| 1 | **2018 Staff Report** | | | | | | | |
| 2 | Class Assignment - MW | | | | | | | |
| 3 | Base | 317 | 54 | 152 | 255 | 233 | 10 | 1,021 |
| 4 | Intermediate | 227 | 33 | 91 | 127 | 34 | 0 | 512 |
| 5 | Peak | 289 | 24 | 47 | 53 | 35 | 0 | 448 |
| 6 | Base | | | | | | | 66.60% |
| 7 | Intermediate | | | | | | | 33.40% |
| 8 | Peak | | | | | | | 29.22% |
| 9 | **2016 Staff Report** | | | | | | | |
| 10 | Class Assignment - MW | | | | | | | |
| 11 | Base | 325 | 47 | 144 | 262 | 246 | 10 | 1,034 |
| 13 | Intermediate | 233 | 35 | 67 | 111 | 39 | 0 | 485 |
| 13 | Peak | 277 | 32 | 61 | 44 | 44 | 0 | 458 |
| 14 | Base | | | | | | | 67.45% |
| 15 | Intermediate | | | | | | | 31.65% |
| 16 | Peak | | | | | | | 29.85% |

Kansas City Power & Light Company
Staff BIP Allocation - Corrected

| Line No. | [A] Function | [B] Residential | [C] Small GS | [D] Medium GS | [E] Large GS | [F] Large Power | [G] Lighting | [H] Total |
|---|---|---|---|---|---|---|---|---|
| 1 | **Class Assignment - MW** | | | | | | | |
| 2 | Base | 317 | 54 | 152 | 255 | 233 | 10 | 1,021 |
| 3 | Intermediate | 227 | 33 | 91 | 127 | 34 | 0 | 512 |
| 4 | Peak | 289 | 24 | 47 | 53 | 35 | 0 | 448 |
| 5 | Base | | | | | | | 51.54% |
| 6 | Intermediate | | | | | | | 25.85% |
| 7 | Peak | | | | | | | 22.61% |
| 8 | BIP Allocation | 35.07% | 5.43% | 14.95% | 24.06% | 19.69% | 0.80% | 100.00% |
| 9 | Fuel Allocation | 32.21% | 5.25% | 14.91% | 24.79% | 21.60% | 1.23% | 100.00% |
| 10 | **Capacity of Generating Facilities Assigned to Functions** | | | | | | | |
| 11 | Base | | | | | | | 3,029 |
| 12 | Intermediate | | | | | | | 677 |
| 13 | Peak | | | | | | | 674 |
| 14 | Base | | | | | | | 69.16% |
| 15 | Intermediate | | | | | | | 15.46% |
| 16 | Peak | | | | | | | 15.39% |
| 17 | **Assignment of LaCygne to Intermediate Function** | | | | | | | |
| 18 | Base | | | | | | | 2,230 |
| 19 | Intermediate | | | | | | | 1,476 |
| 20 | Peak | | | | | | | 674 |
| 21 | Base | | | | | | | 50.91% |
| 22 | Intermediate | | | | | | | 33.71% |
| 23 | Peak | | | | | | | 15.39% |
| 24 | **Assignment of Hawthorn 6&9 to Peaking Function** | | | | | | | |
| 25 | Base | | | | | | | 2,230 |
| 26 | Intermediate | | | | | | | 1,175 |
| 27 | Peak | | | | | | | 975 |
| 28 | Base | | | | | | | 50.91% |
| 29 | Intermediate | | | | | | | 26.83% |
| 30 | Peak | | | | | | | 22.26% |
| 31 | BIP Allocation | 36.93% | 5.63% | 15.40% | 24.06% | 17.33% | 0.65% | 100.00% |
| 32 | Fuel Allocation | 31.95% | 5.26% | 14.92% | 24.86% | 21.83% | 1.19% | 100.00% |

Kansas City Power & Light Company
Staff Production Cost Allocation - Corrected

| Line No. | [A] Functional Category | [B] Class Cost of Service | [C] Allocation Basis | [D] Residential | [E] SGS | [F] MGS | [G] LGS | [H] LPS | [I] Lighting | [J] Total |
|---|---|---|---|---|---|---|---|---|---|---|
| 1 | **Staff's Production Cost Allocation** | | | | | | | | | |
| 2 | Production Capacity | 258,080,348 | 2-BIP Installed Capacit | 90,519,977 | 14,014,347 | 38,580,439 | 62,090,056 | 50,822,032 | 2,053,497 | 258,080,348 |
| 3 | Production Energy | 212,623,668 | 3-BIP Fuel for Energy | 68,489,583 | 11,172,145 | 31,700,420 | 52,708,430 | 45,932,965 | 2,620,124 | 212,623,667 |
| 4 | Production Fuel in Storage | 5,157,118 | 4-BIP Fuel in Storage | 1,698,653 | 281,136 | 789,239 | 1,287,451 | 1,056,837 | 43,801 | 5,157,117 |
| 5 | Production O&M | 150,166,176 | 5-BIP O&M | 48,649,134 | 7,928,566 | 22,559,256 | 37,453,631 | 31,443,272 | 2,132,316 | 150,166,175 |
| 6 | Energy | 32,564,465 | 7-Sales @ Generation | 10,107,329 | 1,713,003 | 4,852,390 | 8,146,838 | 7,422,087 | 322,819 | 32,564,466 |
| 7 | Total | | | 219,464,676 | 35,109,197 | 98,481,744 | 161,686,406 | 136,677,193 | 7,172,557 | 658,591,773 |
| 8 | Energy - MWh | | | 2,774,987 | 470,308 | 1,332,233 | 2,236,730 | 2,037,748 | 88,630 | 8,940,636 |
| 9 | Unit Cost - $/kWh | | Line 7 / Line 8 | 0.0791 | 0.0747 | 0.0739 | 0.0723 | 0.0671 | 0.0809 | 0.0737 |
| 10 | Fuel - $/kWh | | Line 3 / Line 8 | 0.0247 | 0.0238 | 0.0238 | 0.0236 | 0.0225 | 0.0296 | 0.0238 |
| 11 | Non-fuel - $/kWh | | Line 9 - Line 10 | 0.0544 | 0.0509 | 0.0501 | 0.0487 | 0.0445 | 0.0514 | 0.0499 |
| 12 | **Corrected Staff Production Cost Allocation** | | | | | | | | | |
| 13 | Corrected BIP | | Schedule TJS-11 | 0.369329 | 0.056328 | 0.153968 | 0.240627 | 0.173250 | 0.006498 | 1.000000 |
| 14 | Corrected Fuel | | Schedule TJS-11 | 0.319500 | 0.052578 | 0.149163 | 0.248554 | 0.218299 | 0.011905 | 1.000000 |
| 15 | Corrected Fuel in Storage | | Staff Model - Corr. | 0.338071 | 0.055388 | 0.154882 | 0.249403 | 0.194412 | 0.007844 | 1.000000 |
| 16 | Production Capacity | 258,080,348 | Line 13 | 95,316,563 | 14,537,089 | 39,736,088 | 62,101,155 | 44,712,530 | 1,676,924 | 258,080,348 |
| 17 | Production Energy | 212,623,668 | Line 14 | 67,933,343 | 11,179,429 | 31,715,568 | 52,848,393 | 46,415,597 | 2,531,339 | 212,623,668 |
| 18 | Production Fuel in Storage | 5,157,118 | Line 15 | 1,743,472 | 285,643 | 798,745 | 1,286,201 | 1,002,605 | 40,452 | 5,157,118 |
| 19 | Production O&M | 150,166,176 | Line 13 | 55,460,727 | 8,458,525 | 23,120,770 | 36,134,068 | 26,016,354 | 975,732 | 150,166,176 |
| 21 | Energy | 32,564,465 | Energy | 10,107,329 | 1,713,003 | 4,852,390 | 8,146,838 | 7,422,087 | 322,819 | 32,564,465 |
| 21 | Total | | | 230,561,433 | 36,173,688 | 100,223,560 | 160,516,655 | 125,569,173 | 5,547,265 | 658,591,775 |
| 22 | Difference | | Line 21 - Line 7 | 11,096,757 | 1,064,491 | 1,741,816 | -1,169,751 | -11,108,020 | -1,625,292 | 2 |
| 23 | Unit Cost - $/kWh | | Line 21 / Line 8 | 0.0831 | 0.0769 | 0.0752 | 0.0718 | 0.0616 | 0.0626 | 0.0737 |
| 24 | Fuel - $/kWh | | Line 17 / Line 8 | 0.0245 | 0.0238 | 0.0238 | 0.0236 | 0.0228 | 0.0286 | 0.0238 |
| 25 | Non-Fuel - $/kWh | | Line 23 - Line 24 | 0.0586 | 0.0531 | 0.0514 | 0.0481 | 0.0388 | 0.0340 | 0.0499 |