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Witness:	*Sarah L. Kliethermes*
Sponsoring Party:	*MoPSC Staff*
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MISSOURI PUBLIC SERVICE COMMISSION

COMMISSION STAFF DIVISION

OPERATIONAL ANALYSIS DEPARTMENT

SURREBUTTAL TESTIMONY

OF

SARAH L. KLIETHERMES

THE EMPIRE DISTRICT ELECTRIC COMPANY

CASE NO. ER-2016-0023

Jefferson City, Missouri
May 2016

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THE EMPIRE DISTRICT ELECTRIC COMPANY

CASE NO. ER-2016-0023

Q. Please state your name and business address.

A. My name is Sarah L. Kliethermes and my business address is 200 Madison Street, P.O. Box 360, Jefferson City, Missouri 65102.

Q. Are you the same Sarah L. Kliethermes that contributed to Staff's *Cost-of-Service Revenue Requirement Report* and Staff's *Rate Design and Class Cost-of-Service Report ("CCOS Report")* filed in this The Empire District Electric Company ("Empire" or "Company") proceeding, and filed Direct and Rebuttal testimonies?

A. Yes, I am.

Q. How is your testimony organized?

A. I provide Staff's Detailed Base Intermediate Peak ("BIP") Class Cost of Service ("CCoS") results corrected for an error brought to Staff's attention in the rebuttal testimony of Kavita Maini on behalf of the Midwest Energy Consumers Group ("MECG"). I will respond to the rebuttal testimonies of Geoff Marke on behalf of the Office of the Public Counsel ("OPC") regarding energy efficiency program costs, Kavita Maini on behalf of the MECG regarding her assumptions and subsequent conclusions concerning Staff's CCoS production allocation method, Donald E. Johnstone on behalf of the Midwest Energy Users' Association ("MEUA") regarding the precision of Staff's CCoS study, W. Scott Keith on

behalf of Empire, concerning rate treatment of Special Contract revenues, and finally respond to Kavita Maini on behalf of MECG regarding Staff's treatment of Praxair.

Q. Does Staff agree with Ms. Maini's criticism that Staff inappropriately allocated "demand only" costs using the energy allocator?

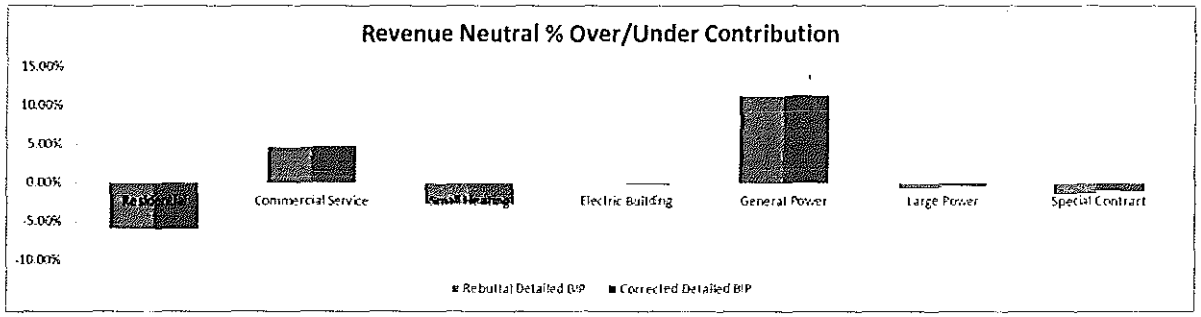
A. Yes. I appreciate Ms. Maini bringing this error to my attention. I have corrected the allocation.

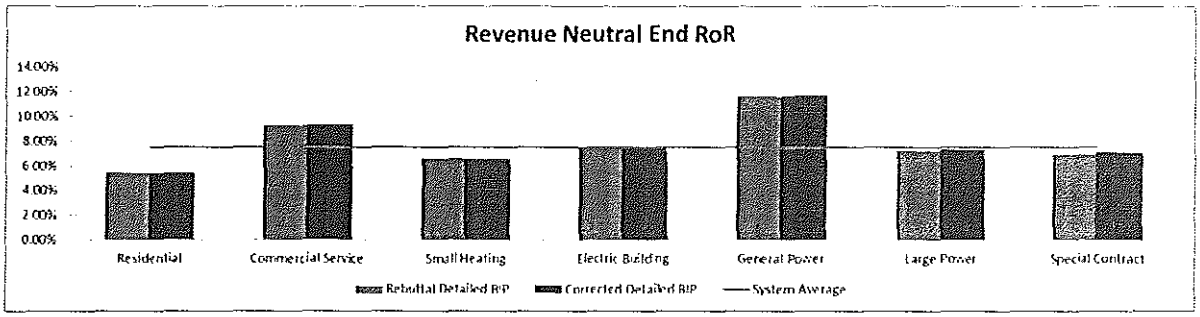
Q. Does this correction have a noticeable impact on Staff's CCoS results?

A. No. A comparison of the results presented in my rebuttal testimony and the corrected results is provided below.

Rebuttal Detailed BIP	Revenue Change to Equalize Class Rates of Return	Start % over/under contribution	% Change to Class Revenue to Exactly Match Cost of Service	Revenue Neutral End RoR	Additional Revenue Change to Equalize Class Rates of Return	Revenue Neutral % Over/Under Contribution
Residential	$24,296,068	-10.43%	11.64%	5.44%	$13,795,194	-5.92%
Commercial Service	$126,598	-0.29%	0.29%	9.31%	-$2,038,009	4.72%
Small Heating	$814,726	-7.26%	7.83%	6.61%	$290,181	-2.59%
Electric Building	$1,877,087	-4.78%	5.03%	7.49%	-$9,557	0.02%
General Power	-$5,036,429	5.97%	-5.64%	11.66%	-$9,545,863	11.32%
Large Power	$3,023,761	-5.34%	5.64%	7.25%	$360,859	-0.64%
Special Contract	$274,703	-5.98%	6.36%	6.97%	$61,192	-1.33%
Feed Mill	-$23,862	26.33%	-20.85%	20.28%	-$29,593	32.66%
Lighting	-$2,503,931	48.20%	-32.52%	24.58%	-$2,884,422	55.52%

Corrected Detailed BIP	Revenue Change to Equalize Class Rates of Return	Start % over/under contribution	% Change to Class Revenue to Exactly Match Cost of Service	Revenue Neutral End RoR	Additional Revenue Change to Equalize Class Rates of Return	Revenue Neutral % Over/Under Contribution
Residential	$24,424,812	-10.48%	11.71%	5.42%	$13,923,938	-5.97%
Commercial Service	$97,151	-0.23%	0.23%	9.34%	-$2,067,456	4.79%
Small Heating	$831,126	-7.39%	7.98%	6.56%	$306,581	-2.73%
Electric Building	$1,918,988	-4.89%	5.14%	7.46%	$32,344	-0.08%
General Power	-$5,062,497	6.00%	-5.66%	11.67%	-$9,571,931	11.35%
Large Power	$2,876,986	-5.09%	5.37%	7.34%	$214,084	-0.38%
Special Contract	$257,936	-5.63%	5.97%	7.11%	$44,425	-0.97%
Feed Mill	-$23,744	26.17%	-20.75%	20.23%	-$29,475	32.49%
Lighting	-$2,472,037	47.29%	-32.11%	24.39%	-$2,852,528	54.57%





Q. Does Staff have any changes to its interclass shift recommendation or intra-class rate design recommendation as a result of this correction or any information presented in the rebuttal testimonies of Marke, Maini, Johnstone, or Keith?

A. Staff does not oppose Dr. Marke's recommendation to reallocate energy efficiency program costs to the class's benefiting from the programs; however, Staff has not performed the necessary calculations to implement this reallocation. Ms. Maini suggests using minimum demand as an alternative to average demand for calculating the base component of the production allocators, and appears to suggest that it may be appropriate to directly model the integrated energy market to assign (as opposed to allocate) all production-related costs to the classes. While these suggestions do not diminish the reliability of Staff's study in this case, Staff appreciates these suggestions and may seek to incorporate them into future studies. Staff recommends the following:

1. The Residential class's revenue responsibility be increased by $4,000,000, with a reduction to the GP class's revenue responsibility of $4,000,000.

2. Unless program costs are assigned to the classes or class types benefiting from those programs as recommended by Dr. Marke, allocate the portion of the revenue increase/decrease that is attributable to energy efficiency programs to applicable classes based on that class's level of kWh less opt-out customers.

3. Determine the amount of revenue increase awarded to Empire not associated with the EE revenue assigned in Step 2, and allocate this amount to various customer classes as an equal percent of current base revenues after making the adjustment in Step 1. Based on CCoS results, Staff recommends that the PFM and combined lighting classes receive no retail increase as existing revenues received from these classes are providing more revenue to Empire than Empire's cost to serve.

4. Set the Residential Customer Charge to $15.00. This is a $2.48 increase in the customer charge, and since it is above the system average increase, the applicable energy charges will have a below system average increase. With that exception, Staff generally recommends that each rate component of each class increase across-the-board for each class on an equal percentage basis after consideration of steps 1 through 4 above. Staff also recommends minor clean-up adjustments to return consistency to charges that have become slightly misaligned.

ALLOCATION OF ENERGY EFFICIENCY COSTS

Q. How does Staff respond to Dr. Geoff Marke's rebuttal testimony on page 41, lines 20 – 23?

A. Staff does not oppose allocating residential program costs to residential customers and non-residential program costs to non-residential customers who have not been

approved to opt-out of Empire's demand-side programs. Staff has not performed an analysis to reallocate program costs to residential customer and to non-residential customers. Staff looks forward to receiving and considering any such analysis which may have been performed by OPC.

PRODUCTION ALLOCATORS AND CLASS COST OF SERVICE STUDIES

Q. Have you reviewed Ms. Maini's rebuttal testimony at pages 7 – 16 in which she states her understanding of Staff's calculation of production-related allocators?

A. Yes.

Q. Is her understanding as described in her rebuttal testimony factually accurate?

A. No. First, from her testimony, it appears that she believes Staff assigns the plant and reserve of each plant to the various customer classes. Second, she states that Staff assumes that "investment in base load plants is not caused by system demands and that these plants don't have a capacity cost."[1] Finally, she states that "Staff attributes the same capacity cost to a customer class that consumes all of its energy at the system peak hour as it would to a class which consumes energy steadily at the same amount every hour throughout the year."[2] These assumptions and assertions are not factually accurate. Her remaining criticisms are largely or solely premised on these inaccurate assumptions.

Q. Is Staff's calculation of the production-related allocators described in Staff's *CCOS Report* at pages 15 – 24?

A. Yes. As explained briefly at page 21 of the *CCOS Report*, and as detailed in the workpapers provided to the parties, Staff calculated an allocator based on the

[1] Maini Rebuttal, page 10, lines 1 – 15.

[2] Maini Rebuttal, page 11, lines 4 – 16.

relative **dollar-weighted** cost of capacity for each class, and an allocator based on the relative **dollar-weighted** cost of energy for each class.[3] Ms. Maini's assertions that Staff direct-assigned plant costs based on unweighted assignments is simply inaccurate.

Q. Do baseload plants have a capacity cost and a capacity value in setting rates and in system planning?

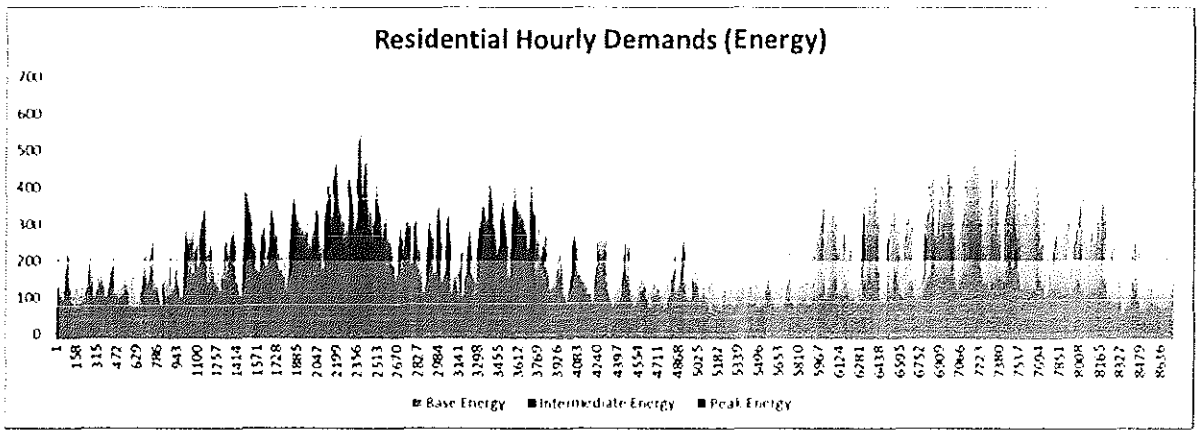
A. Yes.

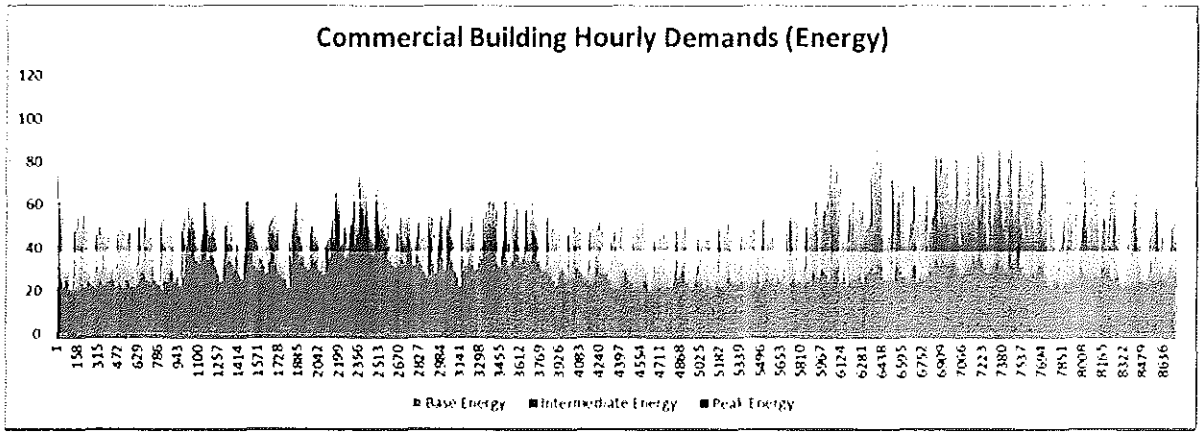
Q. Do baseload plants have a capacity cost and a capacity value in Staff's calculation of Detailed BIP production allocators?

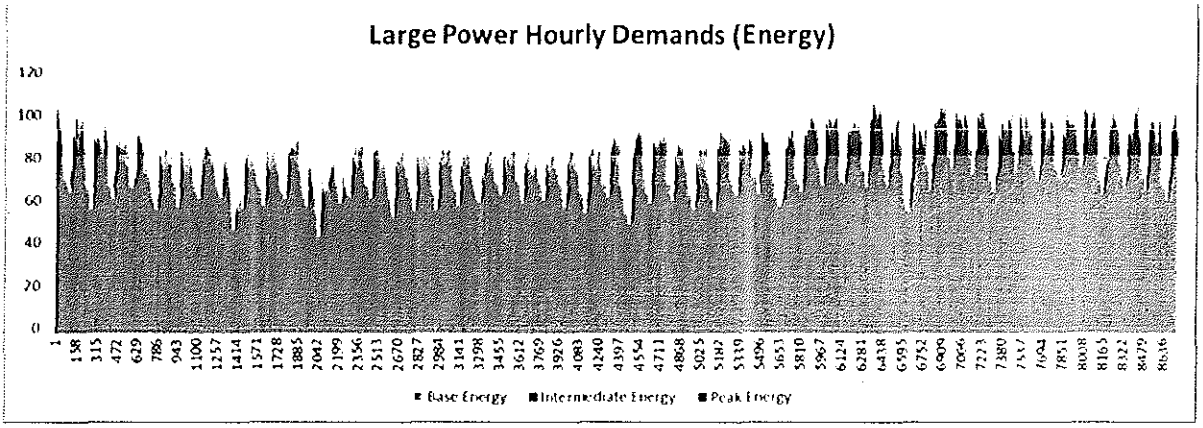
A. Yes. The premise of Staff's BIP study is to recognize the role different types of plants play to provide capacity to meet customer demands in every hour of the year, including the hours of highest demand. As illustrated below, Staff assumes that base plants will be used to contribute towards meeting overall capacity requirements in every single hour, giving appropriate consideration to the time that energy is consumed. For example, the hourly demands of the Residential, Commercial Building, and Large Power classes are provided below:

[3] *See* Staff *CCOS Report* at Page 21, "Staff relied on the demand characteristics of each customer class to appropriately assign: (1) the relatively expensive capacity costs of base generation on each class's base level of demand, (2) the relatively moderate capacity costs of intermediate generation on each class's intermediate level of demand, and (3) the relatively inexpensive capacity costs of peaking generation on each class's peak level of demand. Under this approach, Empire's net investment in each of the plants assigned to each of the BIP components is allocated to the classes based on each class's base, intermediate, and peak demand (in MW). The relative value – by class – of the investment allocated to each class is used as the Production-Capacity allocator.

Staff relied on the energy characteristics of each customer class to appropriately assign (1) the relatively inexpensive fuel costs of base generation on each class's base energy usage, (2) the relatively moderate fuel costs of intermediate generation on each class's intermediate energy usage, and (3) the relatively expensive fuel costs of peaking generation on each class's peak energy usage. The fuel cost on a per MWh basis for each plant, as used in the Staff revenue requirement, is used as the price to serve each class's base, intermediate, and peak load (in MWh). The relative value – by class – of the fuel to serve the load requirements of each class is used as the Production-Energy allocator."







These graphs indicate that while the usage patterns of these classes are quite different, in all cases the class will only have usage that counts as intermediate energy (and that counts

towards its incremental intermediate capacity requirement) when that class's hourly energy demand exceeds that class's base capacity level. Similarly, the class will only have usage that counts as peak energy (and that counts towards its incremental peak capacity requirement) when that class's hourly energy demand exceeds that class's intermediate capacity level. This stacking accounts for the need to treat base capacity resources as resources that contribute to meeting total system capacity requirements.

Staff's method most reasonably recognizes that Empire's load is most efficiently served by some plants that run virtually year round (base), some that run only part of the year (intermediate), and some that run rarely during the year (peak). This method also makes a step towards accounting for the market-based energy costs Empire now experiences due to its participation in the SPP's integrated energy market.

Q. Would Staff attribute "the same capacity cost to a customer class that consumes all of its energy at the system peak hour as it would to a class which consumes energy steadily at the same amount every hour throughout the year," as Ms. Maini states?[4]

A. Not at all. Ms. Maini conflates how an initial assignment of relative base capacity requirements would be treated with how the overall allocator is calculated. Her hypothetical on page 11 of her Rebuttal testimony looks at only the first step of a four step process, and the subject of her criticism is the reason for the remaining three steps that she ignores.

Q. Is Ms. Maini's hypothetical an accurate representation of Staff's calculation of the production-capacity allocator?

[4] Maini Rebuttal, page 11, lines 4 – 16.

A. No. Ms. Maini's hypothetical is akin to arguing the following scenario: two customers go out to dinner and Customer A orders a glass of wine and steak and lobster, while Customer B orders a glass of wine and a salad. Ms. Maini concludes that since both customers would be charged the same for their wine that Customer B is unfairly overcharged for his salad. By looking only at one step of the Staff's allocator calculation, Ms. Maini constructs a strawman argument that does not accurately reflect Staff's calculation of the production-capacity allocator.

Q. Under Staff's method, would two classes that have different load factors, but the same average demand, be allocated the same amount of production capacity costs?

A. No, not at all. Those classes would have different intermediate and peak demands, and so the overall allocator would allocate more capacity costs to the class with the lower load factor than to the class with the higher load factor. Ms. Maini does not provide enough information in her hypothetical to calculate what those two allocators would be if the remaining three steps of the analysis were performed.

Q. What are the four steps of Staff's analysis for calculating the production capacity allocator?

A. As described in Staff's *CCOS Report*, and as Staff has calculated the allocator in Case Nos. ER-2014-0370 (KCPL), ER-2014-0351 (Empire), and ER-2014-0258 (Ameren Missouri), to calculate the production capacity allocator, Staff performs the following calculation:

(1) Assign the relatively expensive capacity costs of base generation to each class based on each class's base level of demand.[5] This step is shown as Line 1, in Table 2, below.

(2) Assign the relatively moderate capacity costs of intermediate generation to each class based on each class's incremental intermediate level of demand.[6] This step is shown as Line 3, in Table 2, below.

(3) Assign the relatively inexpensive capacity costs of peaking generation to each class based on each class's incremental peak level of demand.[7] This step is shown as Line 5, in Table 2, below.

(4) Divide the sum of each class's assigned capacity costs by the total assigned capacity costs to calculate the relative dollar-weighted investment assigned to each class. This step is shown as Line 7, in Table 2, below. Each class's percent of the total is the Production-Capacity allocator. This result is shown as Line 8, in Table 2, below.

Q. What are the results of this analysis in this case?

A. The BIP demand characteristics and the BIP capacity allocator calculation are provided below:

[5] Staff found each class's average demand in MW. That MW of demand value is the "base demand" used for each class in the BIP calculation.

[6] Staff found each class's demand in MW at the time of each month's system peak. Staff then averaged each class's 12 demands to a single MW value. That additional MW value over the base demand MW value is each class's intermediate demand. The difference between each class's base demand and its intermediate demand is its incremental intermediate demand.

[7] Staff found each class's demand in MW at the time of the four system peaks. Staff then averaged each class's demands at those four peaks to a single MW value. That MW value is each class's peak demand. The difference between each class's intermediate demand and its peak demand is its incremental peak demand.

Table 1

	Residential	Commercial	Small Heating	Electric Building	General Power	Large Power	Praxair	Feed Mill	Lighting
Base Demand:	200.94	38.20	10.94	45.00	110.04	81.04	8.11	0.08	3.93
Incremental Intermediate Demand:	169.46	24.57	8.97	31.30	32.81	12.32	-	0.05	-
Incremental Peak Demand:	112.48	12.75	2.99	9.16	18.29	5.78	-	0.01	-

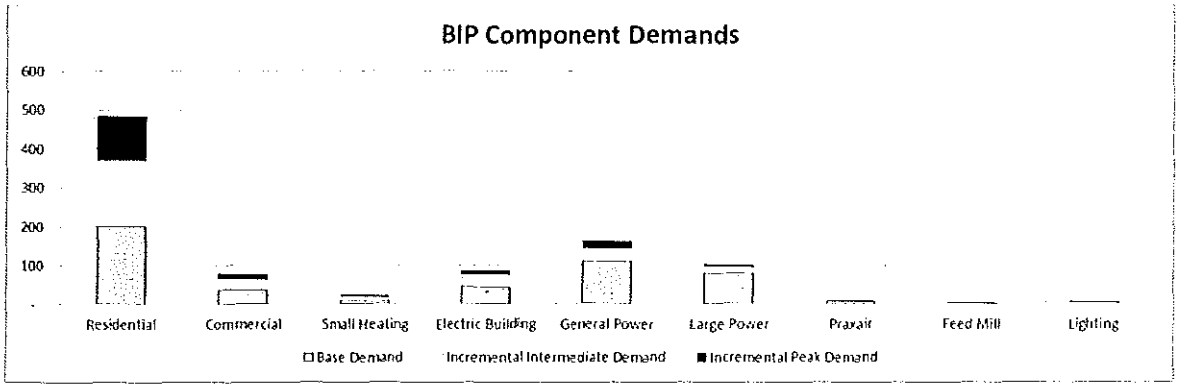


Table 2

			BIP Installed Capacity Allocator								
		Total	Residential	Commercial	Small Heating	Electric Building	General Power	Large Power	Praxair	Feed Mill	Lighting
1	Base Capacity	$ 624,579,295	$ 251,872,368	$ 47,882,574	$ 13,712,958	$ 56,405,174	$ 137,931,897	$ 101,581,252	$ 10,165,646	$ 100,278	$ 4,926,139
2	% of Assigned Dollar Weighted Base Capacity Costs:		40.327%	7.666%	2.196%	9.031%	22.084%	16.264%	1.628%	0.016%	0.789%
3	Incremental Intermediate Capacity	$ 210,575,108	$ 127,680,184	$ 18,512,346	$ 6,758,475	$ 23,583,086	$ 24,720,800	$ 9,282,544	$ -	$ 37,673	$ -
4	% of Assigned Dollar Weighted Intermediate Capacity Costs:		60.634%	8.791%	3.210%	11.199%	11.740%	4.408%	0.000%	0.018%	0.000%
5	Incremental Peak Capacity	$ 32,625,514	$ 22,728,340	$ 2,576,337	$ 604,176	$ 1,850,921	$ 3,695,780	$ 1,167,939	$ -	$ 2,021	$ -
6	% of Assigned Dollar Weighted Peak Capacity Costs:		69.664%	7.897%	1.852%	5.673%	11.328%	3.580%	0.000%	0.006%	0.000%
7	Totals:	$ 857,779,919	$402,280,893	$58,971,257	$21,075,619	$81,840,181	$166,348,478	$112,031,735	$10,165,646	$139,971	$4,926,139
8	BIP Installed Capacity Allocator:		46.36%	7.95%	2.43%	9.43%	19.17%	12.91%	1.17%	0.02%	0.57%

Q. What do the results of this analysis demonstrate?

A. The results of the analysis demonstrate that looking at the dollar-weighted assignment of base capacity costs in isolation is not an accurate predictor of the final calculated allocator for production-capacity costs. For example, while the Large Power class's share of assigned dollar-weighted base capacity costs is over 16% (shown in line 2),

the Large Power class was only allocated 12.91% of capacity costs under Staff's CCoS (shown in line 8). Ms. Maini's testimony is premised on criticism of Line 2 excluding consideration of Line 3 and Line 5, but that criticism ignores the fact that Line 8 fully considers Lines 1, 3, and 5.

These results also illustrate that Ms. Maini's assumptions about Staff's CCoS are inaccurate. For example, the Residential class has a relatively poor load factor, and these results demonstrate that less than one half of the Residential class's total capacity requirement is met by base capacity. The Large Power class has a relatively high load factor, and these results demonstrate that almost all of the Large Power class's total capacity requirement is met by base capacity. The resulting dollar-weighted allocators are used to allocate Empire's actual capacity accounts among the classes.[8]

Q. Has Staff consistently performed this calculation the same way in Case No. ER-2016-0023 and Case Nos. ER-2014-0370 (KCPL), ER-2014-0351 (Empire), and ER-2014-0258 (Ameren Missouri)?

A. Yes.

Q. Are Ms. Maini's criticisms of Staff's calculation of production-related allocators supportable?

A. No. Ms. Maini's criticisms are based on her incorrect assumptions about Staff's CCoS. Because the assumptions are incorrect, the resulting conclusions and criticisms do not apply. For example, Ms. Maini's Table 1 on page 11 of her Rebuttal testimony, titled "Comparison of Baseload Generation Fixed Cost Allocators vs. Energy Allocators," provides

[8] Ms. Maini in some instances appears to assert that Staff's CCoS results directly assign the dollar values to classes for collection. This is inaccurate. These values are used only to determine the dollar-weighted allocation of costs among classes.

what she describes as "Staff's allocation associated with baseload capacity costs," despite the fact that nowhere in its study did Staff allocate baseload capacity costs.[9] She is inaccurately referring to Line 2 of Table 2, above, as though Staff allocated the capital costs of the base capacity plants to the classes using the amounts provided in her table. Staff did not separately allocate the capacity costs of each type of plants, Staff developed an allocator based on assignment of dollar-weighted capacity costs, and Staff applied the resulting allocator to all capacity costs. Despite this misstatement of Staff's process, Ms. Maini devotes the following two pages of her testimony criticizing a method of allocation that does not exist in Staff's study.

Q. Do you agree with Ms. Maini's statement that "when applying the BIP method, base load usage is generally regarded as usage with a 100% load factor meaning that it is present all 8760 hours of the year?"[10]

A. No. What Ms. Maini describes is a class's minimum demand, and Staff is not aware of a BIP study that relies on minimum demand as the measure of base demand.[11] However, as discussed above, in calculating incremental intermediate demand, it is necessary to remove base demand, and in calculating incremental peak demand it is necessary to remove both incremental intermediate demand and base demand. It is possible that Ms. Maini's insistence that Staff does not count base demand towards meeting system peaks (which is not accurate) is the source of her confusion about what base demand consists of.

[9] The values she identifies as "Baseload Capacity Cost Allocation" in this table are the dollar values that result from the first step of Staff's 4-step process.

[10] Maini Rebuttal, page 13, lines 1 – 15.

[11] While Staff performed a more detailed study than is described in the NARUC manual, as stated in the NARUC Manual (attached to Staff's *CCOS Report* as Schedule CCOS-2, at page 61), "base load production plant costs are allocated using the classes' average demands for the base or off-peak rating period."

Q. Would Staff consider performing a BIP study that relies on minimum demand as a measure of base demand?

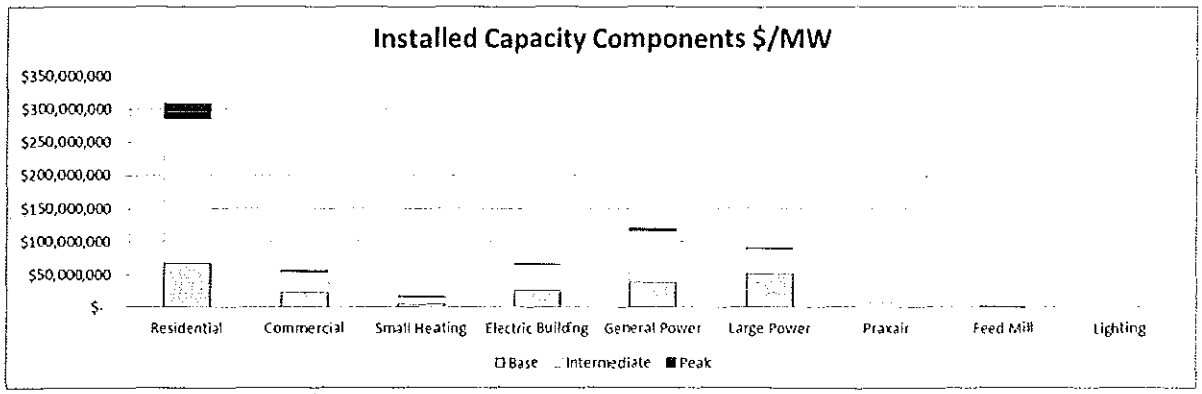
A. While Staff is concerned that use of a minimum demand amount does not reasonably recognize the safe ramp rates of Empire's generating fleet, Staff also recognizes the benefit of considering alternative measures of base demand, and of the review of multiple studies as permitted by time and resources.[12]

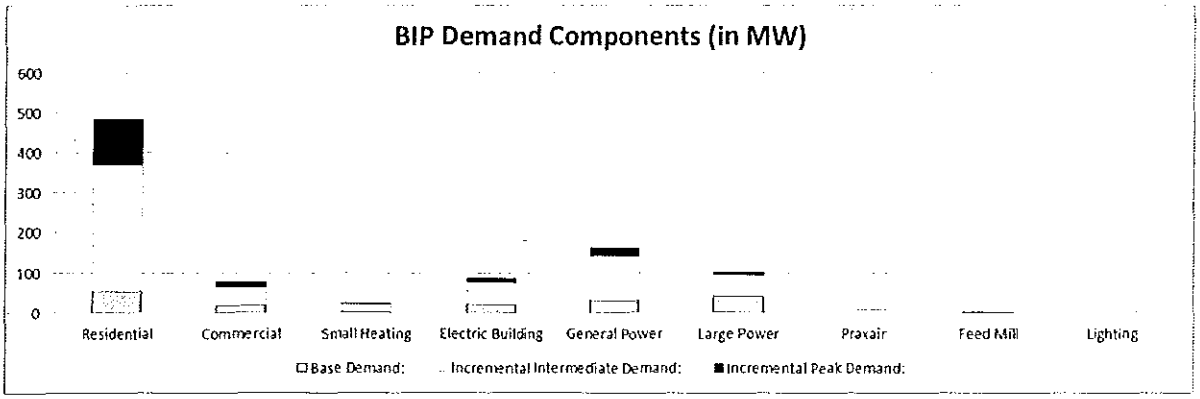
Q. In this case, would the Large Power class be allocated more or less capacity costs if minimum demand were used for the base capacity determinant?

A. In this case, the production-capacity allocator for the Large Power class is higher if minimum demand is used in place of average demand, causing Large Power to be allocated more capacity costs. The allocator calculation is provided below, as well as the associated determinants.

	Total	Residential	Commercial	Small Heating	Electric Building	General Power	Large Power	Praxair	Feed Mill	Lighting
Base Capacity	$ 210,555,716	$ 67,236,698	$ 22,779,683	$ 5,099,381	$ 25,488,546	$ 38,345,597	$ 51,594,247	$ -	$ 11,545	$ 19
Incremental Intermediate Capacity	$ 415,704,432	$ 217,348,392	$ 30,598,694	$ 10,864,854	$ 38,399,830	$ 77,031,053	$ 35,817,910	$ 5,562,188	$ 81,511	$ -
Incremental Peak Capacity	$ 32,624,908	$ 22,728,340	$ 2,576,134	$ 604,984	$ 1,850,113	$ 3,695,578	$ 1,167,939	$ -	$ 1,819	$ -
Totals:	$ 658,885,056	$307,313,430	$55,954,512	$16,569,220	$65,738,489	$119,072,228	$88,580,096	$5,562,188	$94,875	$19
BIP Installed Capacity Allocator:		46.64%	8.49%	2.51%	9.98%	18.07%	13.44%	0.84%	0.01%	0.00%

[12] For example, if minimum demand were found to be at a level that, given Empire's wind generation, assumes that Plum Point and the Iatan units shut off every evening and fire back up every morning to be running at full capacity by 2:00 in the afternoon, I would be concerned that such a result should be regarded as unreasonable, in that it is not practical or even possible for those units to operate safely in that manner. Staff's use of each class's average demand to determine the base component determinants is reasonable, particularly in light of the limited ramp rates of the generating units assigned to the base component. Staff assumes that unless there is a required outage, the generating units assigned to the base component will run year round. This assumption is reasonable. Staff further assumed that the generating units assigned to the base component will run at some amount greater than 50% of their capacity, but less than 100% of their capacity. This assumption is also reasonable. Both assumptions are consistent with Staff's decision to use of each class's average demand to determine the base component.





Q. For all classes, how does the production-capacity allocator Ms. Maini proposes relate to that actually used by Staff?

A. The production-capacity allocators under each method are provided below for all classes:

	Residential	Commercial	Small Heating	Electric Building	General Power	Large Power	Praxair	Feed Mill	Lighting
Minimum Demand:	46.64%	8.49%	2.51%	9.98%	18.07%	13.44%	0.84%	0.01%	0.00%
Average Demand:	46.04%	7.93%	2.41%	9.39%	19.33%	13.10%	1.20%	0.02%	0.58%
Difference:	0.60%	0.56%	0.10%	0.59%	-1.26%	0.34%	-0.35%	0.00%	-0.58%

Q. Does Ms. Maini advocate for a more market-based approach to class cost of service studies?

A. Yes. While the average and excess study she provides as an alternative completely ignores the time-differentiation of energy costs, she does discuss Empire's

participation in the SPP's Integrated Marketplace ("IM") at pages 14 – 15 of her rebuttal testimony.

Q. Is there merit to exploration of a market-based class cost of service study?

A. Absolutely. In practice, because SPP's dispatch is ordered according to security-constrained economic merit, the SPP's dispatch results in energy price signals resulting from plants stacking for dispatch in a manner consistent with those experienced by a vertically integrated utility with an appropriately constituted generation fleet as those price signals are estimated by Staff's Detailed BIP. For example, Staff has made efforts to perform a CCoS that relies on actual MISO IM market data in cases involving Ameren Missouri, where there are multiple years of market price data available to analyze. However, at this time, only approximately a year of market price data is available for the SPP, and there are substantial complications to performing a market-based study using only fuel run information. Performing a CCoS under which all sales and purchases are separately allocated would require un-netting of amounts within the accounts to be allocated, and each separate transaction would be subject to dispute among the parties. Staff is concerned that parties would dispute each hour's market price, each unit's generation for each hour, and each unit's fuel price for each hour, and that such disputes would undermine reliance on any such study. Under such a study, each hour's market price, each unit's generation for each hour, and each unit's fuel price for each hour, could result in significant swings in class's calculated revenue responsibility. Staff resources do not currently allow for such a labor-intensive study to be performed. In addition, at this time, Staff is unaware of a method to account for the Real Time and Ancillary Services market.

PRECISION OF STAFF'S CCOS

Q. At page 5 of his rebuttal testimony, Mr. Johnstone states that "the Staff [CCoS] study is not based on Staff's direct case for revenue requirement." Is this accurate?

A. Staff can understand that there is confusion on this point. Staff allocated the revenue requirement that was presented in Staff's *Cost-of-Service Revenue Requirement Report* ("*COS Report*") and Accounting Schedules filed March 25, 2016. That revenue requirement included expected changes for a true-up ending March 31, 2016, based on current information. The *Order Setting Procedural Schedule* outlined that data shall be trued-up through March 31, 2016. Rate base items for Riverton through March 31, 2016, may be included if the in-service criteria is determined by the Commission to have been met by June 1, 2016. As such, Staff's Accounting Schedules included an "Allowance for Known and Measureable Changes/True-Up Estimate" in the amount of $20,913,732 at Staff's midpoint Rate of Return.

The fuel and purchased power calculations included in Staff's direct-filed revenue requirement did not assume that Riverton Unit 12 will include a Heat Recovery Steam Generator ("HRSG"). Staff did prepare a fuel run under which the Riverton Unit 12 HRSG was dispatched. The fuel and purchase prices that result from this run were not included in Staff's direct-filed revenue requirement calculation, but were provided as Staff workpapers.

In performing its CCoS, Staff used the fuel run that included the Unit 12 HRSG to determine average base, intermediate, and peak, values for capacity, energy, fuel in storage, and operations and maintenance costs. The fuel and purchased power costs allocated by the BIP fuel for energy allocator are the costs Staff direct-filed, which do not include the Unit 12 HRSG. The capacity costs allocated by the BIP capacity allocator are the costs Staff

direct-filed, which include Staff's "Allowance for Known and Measureable Changes/True-Up Estimate" in the amount of $20,913,732, which is associated with the Unit 12 HRSG.

Q. If the HRSG is not included in rates at the conclusion of this case, how does Staff recommend any ordered increase or decrease in rates be allocated?

A. As stated in its CCoS report, if the Riverton 12 increase is not included in rates resulting from this case, Staff recommends not making any interclass revenue-neutral adjustments.

Q. Is there a relationship between this complicated arrangement and Mr. Johnstone's criticism of Staff's 5% "Dead Zone?"

A. Yes. Rate cases are complicated. Mr. Johnstone's criticism of the confusion surrounding what dollars were allocated using which fuel run is a good illustration of these complications. A CCoS allocates the dollars in each and every account described in the Accounting Schedules to the various classes. What dollars go in which account are not resolved until the Commission enters its final order, and even then, the specificity needed to conduct a class cost of service study is rarely provided. The data relied upon for allocating those dollars among accounts is sometimes in dispute and may not be resolved prior to the Commission order. Given the length of time in which a case must be completed, the complexity of the revenue requirement calculation, and the incredibly diverse mix of approaches to get to the same revenue requirement, it is not reasonable to assert that any class cost of service study is reliable down to the percentage point.

SPECIAL CONTRACT REVENUES AND CCOS TREATMENT

Q. Did Empire provide any support or workpapers for the credits offered to Praxair under the "Special Transmission Service Contract: Praxair, Schedule SC-P" tariff sheets?

A. No. Empire provides no evidence supporting the level of credit offered, or the comparableness of the credit to those offered to other customers. No customer other than Praxair is offered service under this tariff, and so far as Staff is aware, the valuation of the credit is the result of negotiation between Empire and Praxair, which may be unrelated to cost-causation. Neither party provides a valuation of the benefit accorded under the tariff, and there is no evidence that any curtailment has been called or executed under the tariff.

Q. Have the credits offered to Praxair under the "Special Transmission Service Contract: Praxair, Schedule SC-P" tariff sheets been included in the revenues in prior Empire cases?

A. Not from Staff's position and not as supported by any record. The revenues in Empire rate cases dating back through at least ER-2004-0570 have been resolved as "black box" stipulations. Staff's filed positions in those cases has been to impute the credit back to Empire, consistent with treatment of special contracts.

Q. Did Staff reduce Praxair's revenue in its CCoS by the value of the credits it receives under the "Special Transmission Service Contract: Praxair, Schedule SC-P" tariff sheets?

A. No. For its CCoS, Staff treated Praxair as if it did not receive a credit.

Q. Does Staff's allocation of production-related costs favor Praxair?

A. Yes. In allocating production-related costs, because Praxair's coincident peaks are lower than its average demand, Praxair is allocated roughly half of the demand-related costs that it would otherwise be allocated.

Q. Does this conclude your surrebuttal testimony?

A. Yes.

BEFORE THE PUBLIC SERVICE COMMISSION

OF THE STATE OF MISSOURI

In the Matter of The Empire District Electric Company's Request for Authority to Implement a General Rate Increase for Electric Service	)))	Case No. ER-2016-0023

AFFIDAVIT OF SARAH L. KLIETHERMES

STATE OF MISSOURI)
) ss.
COUNTY OF COLE)

COMES NOW SARAH L. KLIETHERMES and on her oath declares that she is of sound mind and lawful age; that she contributed to the foregoing SURREBUTTAL TESTIMONY; and that the same is true and correct according to her best knowledge and belief.

Further the Affiant sayeth not.

Sarah L. Kliethermes

SARAH L. KLIETHERMES

JURAT

Subscribed and sworn before me, a duly constituted and authorized Notary Public, in and for the County of Cole, State of Missouri, at my office in Jefferson City, on this 13th day of May, 2016.

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

D. Suzie Mankin

Notary Public