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Missouri Public  
Service Commission

Exhibit No.: 213  
Issues: Class Cost of Service  
Rate Design  
Witness: Sarah L. Kliethermes  
Sponsoring Party: MoPSC Staff  
Type of Exhibit: Surrebuttal Testimony  
Case No.: ER-2016-0285  
Date Testimony Prepared: January 27, 2017

**MISSOURI PUBLIC SERVICE COMMISSION**

**COMMISSION STAFF DIVISION**

**OPERATIONAL ANALYSIS DEPARTMENT**

**SURREBUTTAL TESTIMONY**

**OF**

**SARAH L. KLIETHERMES**

**KANSAS CITY POWER & LIGHT COMPANY**

**CASE NO. ER-2016-0285**

*Jefferson City, Missouri  
January 2017*

Staff Exhibit No. 213

Date 2-22-17 Reporter mm

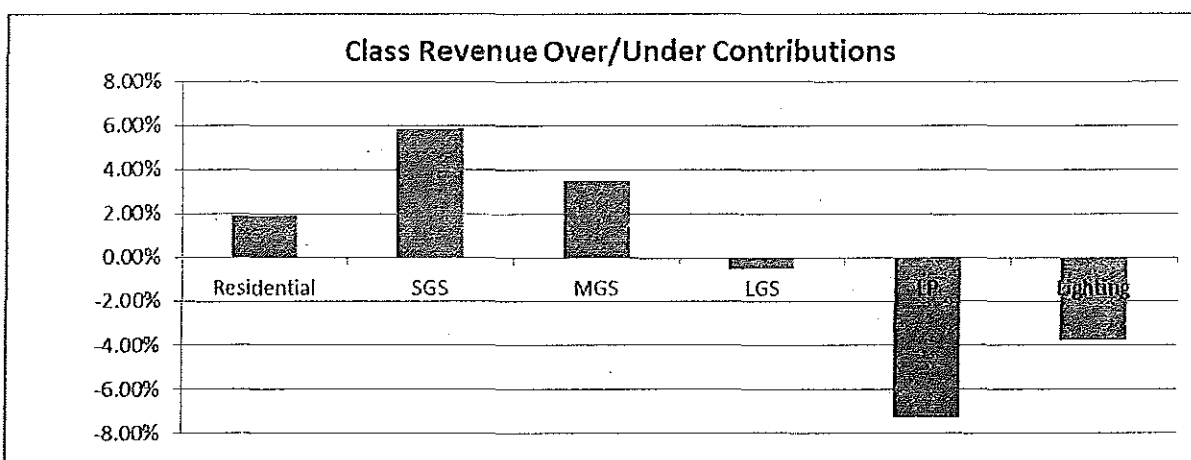
File No. ER-2016-0285



Surrebuttal Testimony of  
Sarah L. Kliethermes

A summary of the results is provided below:

	Current Revenue <i>p/l's Allocated Other Revenue</i>	Revenue Change to Equalize Class Rates of Return	Start % over/ under contribution	% Change to Class Revenue to Exactly Match Cost of Service	Start RoR	System Average Increase + Energy Efficiency	End RoR	Additional Revenue Change to Equalize Class Rates of Return	End % over/ under contribution
Residential	\$ 353,786,419	-\$6,130,971	1.91%	1.91%	7.64%	\$ (43,401)	7.63%	-\$6,087,570	1.90%
Small General Service	\$ 55,899,523	-\$2,832,465	5.85%	5.85%	9.03%	\$ (12,643)	9.02%	-\$2,819,821	5.83%
Medium General Service	\$ 133,714,244	-\$4,062,679	3.47%	3.47%	8.17%	\$ 20,649	8.18%	-\$4,083,329	3.49%
Large General Service	\$ 216,851,869	\$1,016,573	-0.52%	-0.52%	6.83%	\$ 63,630	6.84%	\$952,943	-0.49%
Large Power	\$ 167,164,955	\$11,502,053	-7.30%	-7.30%	4.45%	\$ (10,379)	4.45%	\$11,512,442	-7.31%
Lighting	\$ 11,613,007	\$414,339	-3.79%	-3.79%	5.65%	\$ (17,856)	5.59%	\$432,195	-3.96%
General Service Group	\$ 405,465,636	\$ (5,878,571)	1.64%	N/A	N/A	\$ 71,636	N/A	\$ (5,950,205)	1.66%
System Average:					7.01%		7.01%		



Included in the table and chart above, where applicable, are amounts for the General Service classes as a group.

Q. Does this modify Staff's recommended interclass shifts in revenue responsibility?

A. Yes. This correction drops the Large General Service ("LGS") class from a position of slight over-contribution as initially filed, to the position of slight under-contribution indicated above. For rate design purposes, Staff is mindful of the aggregated revenue contributions and cost of service results for the Small General Service ("SGS"), Medium General Service ("MGS"), and LGS service classes, as a single general service rate group, due to rate switching that can occur between these rate classes. As indicated above, while the SGS class is over-contributing by over 5%, as a group, the General Service classes are over-

1 contributing by less than 2%. While the Large Power Service (“LPS”) class continues to be  
2 under-contributing by more than 5%, no other class is over-contributing by more than 5%. It  
3 would not be reasonable to rely on the results of a class cost of service study that has not  
4 synchronized to ordered rates to implement revenue shifts within this +5/-5% band.

5 Q. Does Staff’s correction to its Production Capacity allocator address any concerns  
6 raised in the rebuttal testimonies in this case?

7 A. Yes. This correction addresses Mr. Schmidt’s concern that Staff used absolute  
8 intermediate and peak demands instead of incremental capacity requirements in calculating its  
9 Production Capacity allocator.

10 Q. Does Mr. Schmidt state other concerns?

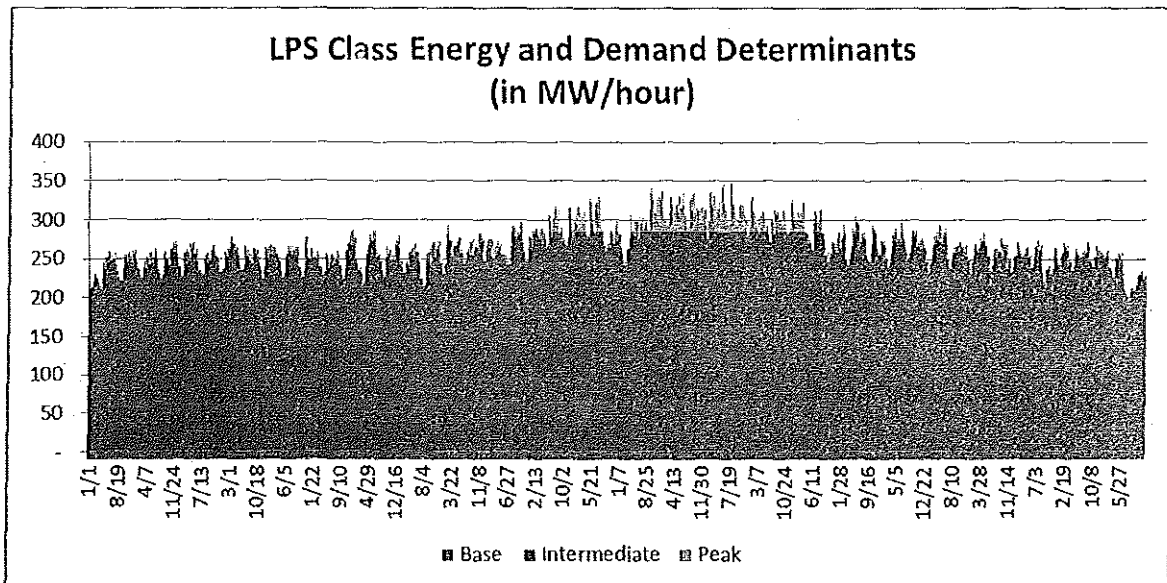
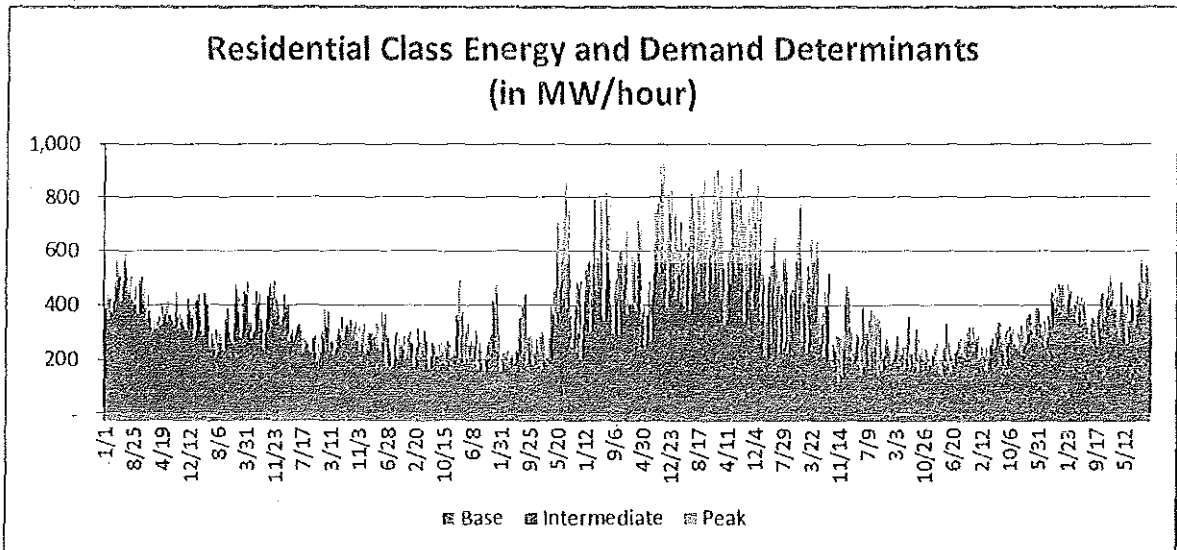
11 A. Yes. Mr. Schmidt states that “Regardless of load factor or customer class, all  
12 customers that use electric power during the peak period are responsible for the peak. Any of  
13 these types of customers could reduce their demand during the peak, and thus reduce the peak.  
14 The allocation methodology should reflect this proposition.”<sup>1</sup>

15 Q. Is this statement accurate?

16 A. Yes, this statement is the basis of Staff’s detailed Base Intermediate Peak (“BIP”)  
17 method. While Mr. Schmidt asserts Staff’s method fails to take this into account, this is in  
18 fact the entire point of the BIP production capacity allocator. For example, the determinants  
19 for the Residential and LPS classes are provided in the graphs below:

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<sup>1</sup> Schmidt CCOS Rebuttal at page 2.



3 Notice that the Intermediate hourly use for both classes exists only in hours that exceed that  
4 class's average (Base) demand, and Peak hourly use exists only in the hours that exceed that  
5 class's Intermediate demand.

6 Q. Do you agree with Mr. Schmidt's contentions regarding the significance of peak  
7 demand?

8 A. No. If true peak were the only consideration in generation and transmission system  
9 planning, no rational utility would build the interconnected generation and transmission

Surrebuttal Testimony of  
Sarah L. Kliethermes

1 system as it exists today. If a utility only needed to meet demands an hour or two (or four) a  
2 year, the utility would only build simple cycle combustion turbines, and perhaps rely on  
3 batteries or capacitors. The complex generation fleets and interconnected transmission  
4 systems that exist are a reflection of the diversity of load, generation, and geography that are  
5 the simple reality of the complex and interconnected utility industry. The BIP method, among  
6 those proposed by the parties in this case, uniquely recognizes the tradeoffs that exist between  
7 the cost of installing a plant, the generation capabilities of a plant, and the cost of obtaining  
8 energy from that plant.

9 Q. What is the logical conclusion of the discussion Mr. Schmidt presents at pages 5-6?

10 A. Mr. Schmidt's discussion of the treatment of Missouri's vertically integrated utilities  
11 as distinct entities selling generation, providing transmission services, and serving load would  
12 support using the cost of market energy bundled with the net cost of the production-related  
13 function to determine class revenue responsibility. This would significantly shift cost  
14 recovery to higher load factor classes.

15 Q. Do parties raise other concerns in their rebuttal testimonies that have already been  
16 addressed by Staff in its CCOS Report and your rebuttal testimony?

17 A. Yes. For example, Mr. Brubaker alleges that Staff allocates production capacity  
18 primarily on the basis of class energy. As discussed in Staff's CCOS Report at page 17 - 18,  
19 that is simply inaccurate. Similarly, Mr. Brubaker alleges that Staff does not consider capacity  
20 in allocating operations and maintenance ("O&M") expenses. As indicated on pages 18 - 19,  
21 Staff's O&M allocation is calculated by prorating capacity-based costs to kWh, which  
22 appropriately considers both the capacity of the plant and its energy output in ultimately  
23 allocating O&M costs.

1           Mr. Schmidt and Ms. Miller discuss their respective positions that the BIP method is  
2 not the best production capacity method to use for a utility that procures its energy from the  
3 integrated market, however, both ignore the Commission's continued treatment of Missouri's  
4 vertically integrated utilities as vertically integrated utilities for rate making purposes. While  
5 Staff continues to investigate and refine production allocation methodologies, the alternative  
6 allocators selected by Mr. Schmidt and Ms. Miller are irreconcilably divergent and neither  
7 reflects the tradeoffs that exist between the shape of load over time with the cost of capacity  
8 and the cost of generating energy using that capacity. Finally, Mr. Brubaker appears to take  
9 issue with the impact of the newly occurring cost-competitiveness of natural gas generation  
10 with the traditionally low cost of coal generation on a per kWh basis. Staff agrees that the  
11 average per-kWh cost of coal generation has increased over the last decade while the average  
12 per-kWh cost of natural gas generation has fallen over the last decade, but Staff is not  
13 persuaded that it would be appropriate to modify the costs assumed to be associated with  
14 natural gas generation or steam generation to achieve a given result.

15           Q.     Is it reasonable to make shifts to class revenue responsibility at the level urged  
16 by various parties to this case?

17           A.     No. A CCoS allocates the dollars in each and every account described in the  
18 Accounting Schedules to the various classes. What dollars go in which account are not  
19 resolved until the Commission enters its final order, and even then, the specificity needed to  
20 conduct a class cost of service study is rarely provided. The data relied upon for allocating  
21 those dollars among accounts is sometimes in dispute and may not be resolved prior to the  
22 Commission order. Given the length of time in which a case must be completed, the  
23 complexity of the revenue requirement calculation, and the incredibly diverse mix of

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1 approaches to get to the same revenue requirement, it is not reasonable to assert that any class  
2 cost of service study is reliable down to the percentage point.

3 Q. Does this conclude your surrebuttal testimony?

4 A. Yes.



BEFORE THE PUBLIC SERVICE COMMISSION

OF THE STATE OF MISSOURI

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

**AFFIDAVIT OF SARAH L. KLIETHERMES**

STATE OF MISSOURI )  
 ) ss.  
COUNTY OF COLE )

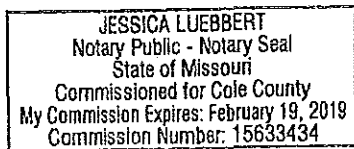
COMES NOW SARAH L. KLIETHERMES, and on her oath declares that she is of sound mind and lawful age; that she contributed to the foregoing Surrebuttal Testimony; and that the same is true and correct according to her best knowledge and belief.

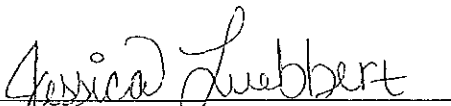
Further the Affiant sayeth not.

  
\_\_\_\_\_  
SARAH L. KLIETHERMES

**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 26<sup>th</sup> day of January, 2017.



  
\_\_\_\_\_  
Notary Public

**Table 1**

	Current Revenue plus Allocated Other Revenue	Revenue Change to Equalize Class Rates of Return	Start % over/under contribution	% Change to Class Revenue to Exactly Match Cost of Service	Start RoR
Residential	\$ 353,786,419	-\$6,130,971	1.91%	1.91%	7.64%
Small General Service	\$ 55,899,523	-\$2,832,465	5.85%	5.85%	9.03%
Medium General Service	\$ 133,714,244	-\$4,062,679	3.47%	3.47%	8.17%
Large General Service	\$ 216,851,869	\$1,016,573	-0.52%	-0.52%	6.83%
Large Power	\$ 167,164,955	\$11,502,063	-7.30%	-7.30%	4.45%
Lighting	\$ 11,613,007	\$414,339	-3.79%	-3.79%	5.65%
General Service Group	\$ 406,465,636	\$ (5,878,571)	1.64%	N/A	N/A
System Average:	0	0	0	0	7.01%

**Table 2 and Graph**

	Start % over/under contribution	Revenue Shift	Energy Efficiency Increase	End % over/under contribution
Residential	1.91%	\$0	\$ 504,623.41	1.90%
Small General Service	5.85%	\$0	\$ 73,305.41	5.83%
Medium General Service	3.47%	\$0	\$ 223,013.18	3.49%
Large General Service	-0.52%	\$0	\$ 385,724.99	-0.49%
Large Power	-7.30%	\$0	\$ 234,325.83	-7.31%
Lighting	-3.79%	\$0	\$ -	-3.96%
Total / System Average:			\$ 1,420,992.81	

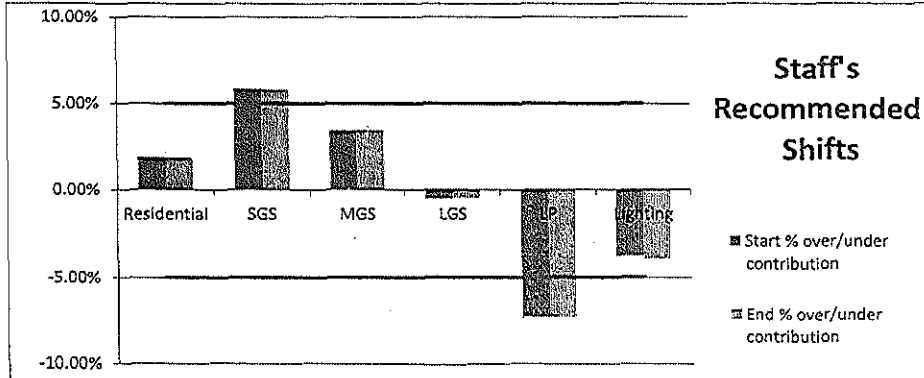
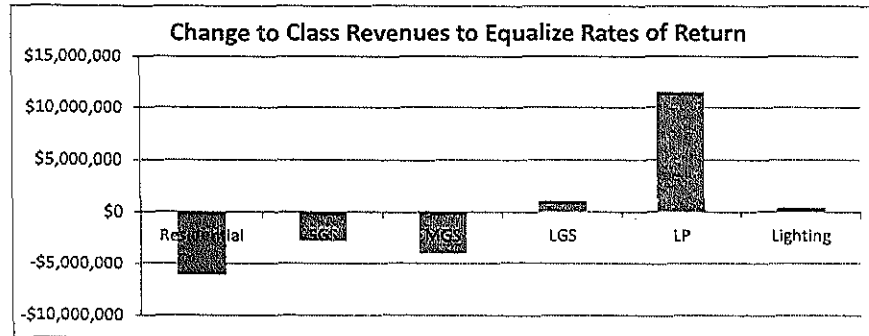
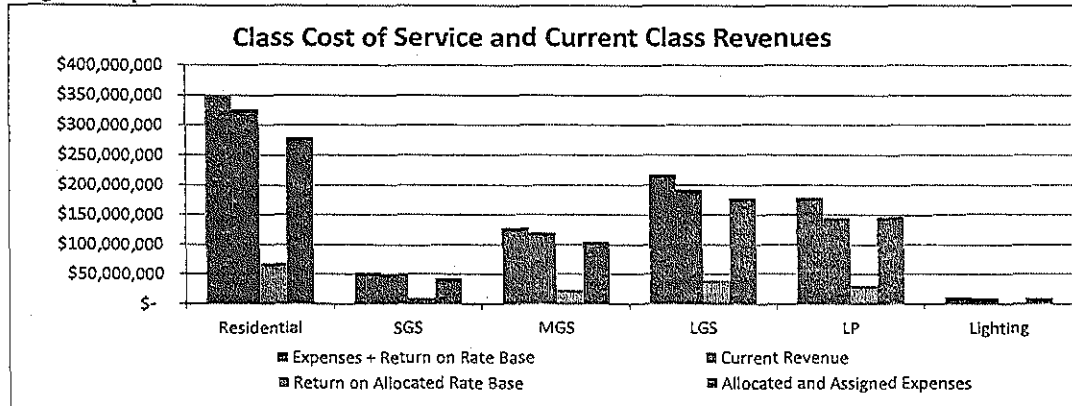
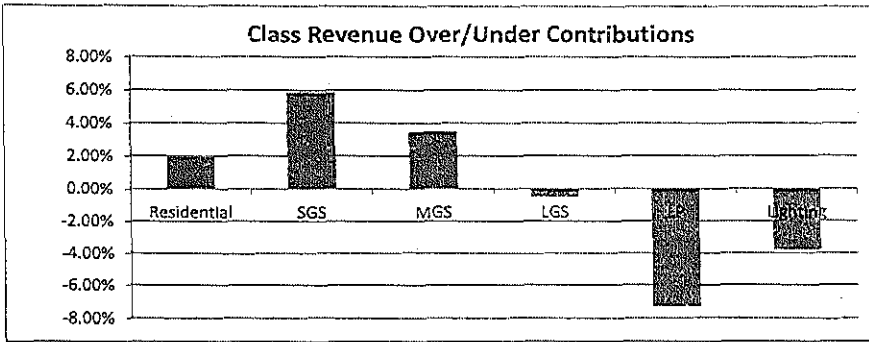


Table 3

	1	2	3	4	5	6	7	8	9
	Current Revenue plus Allocated Other Revenue	Revenue Change to Equalize Class Rates of Return	Start % over/under contribution	% Change to Class Revenue to Exactly Match Cost of Service	Start RoR	System Average Increase + Energy Efficiency	End RoR	Additional Revenue Change to Equalize Class Rates of Return	End % over/under contribution
Residential	\$ 353,786,419	-\$6,130,971	1.91%	1.91%	7.64%	\$ (43,401)	7.63%	-\$6,087,570	1.90%
Small General Service	\$ 55,899,523	-\$2,832,465	5.85%	5.85%	9.03%	\$ (12,643)	9.02%	-\$2,819,821	5.83%
Medium General Service	\$ 133,714,244	-\$4,062,679	3.47%	3.47%	8.17%	\$ 20,649	8.18%	-\$4,083,329	3.49%
Large General Service	\$ 216,851,869	\$1,016,573	-0.52%	-0.52%	6.83%	\$ 63,630	6.84%	\$952,943	-0.49%
Large Power	\$ 167,164,955	\$11,502,063	-7.30%	-7.30%	4.45%	\$ (10,379)	4.45%	\$11,512,442	-7.31%
Lighting	\$ 11,613,007	\$414,339	-3.79%	-3.79%	5.65%	\$ (17,856)	5.59%	\$432,195	-3.96%
General Service Group	\$ 406,465,636	\$ (5,878,571)	1.64%	N/A	N/A	\$ 71,636	N/A	\$ (5,950,206)	1.66%
System Average:					7.01%		7.01%		

Page 8 Graphs





**Page 10**

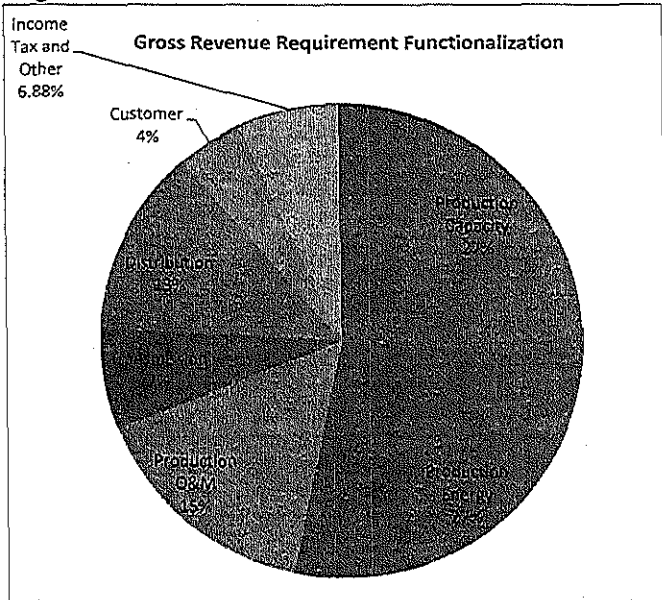


Table 4 and Graph

	Residential	SGS	MGS	LGS	LPS	Lighting	Total
Production Capacity	\$ 88,604,956	\$ 12,634,086	\$ 34,523,057	\$ 59,379,523	\$ 51,483,007	\$ 1,998,603	\$ 248,623,232
Production Energy	\$ 73,284,434	\$ 12,618,878	\$ 35,236,794	\$ 66,811,529	\$ 59,935,424	\$ 3,078,637	\$ 250,965,696
Production O&M	\$ 46,878,646	\$ 7,476,461	\$ 20,456,427	\$ 35,402,408	\$ 33,301,575	\$ 1,851,134	\$ 145,366,651
Transmission	\$ 23,855,733	\$ 3,506,285	\$ 9,039,787	\$ 15,974,232	\$ 12,188,374	\$ 391,012	\$ 64,955,423
Distribution	\$ 91,580,585	\$ 9,591,979	\$ 19,240,879	\$ -	\$ -	\$ -	\$ 120,413,443
Customer	\$ 33,440,456	\$ 4,783,275	\$ 2,757,490	\$ 240,366	\$ 235,990	\$ -	\$ 41,457,577
Income Tax and Other	\$ 27,161,718	\$ 4,619,166	\$ 10,422,301	\$ 14,254,769	\$ 7,301,263	\$ 628,570	\$ 64,387,787
Lighting	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 2,767,078	\$ 2,767,078

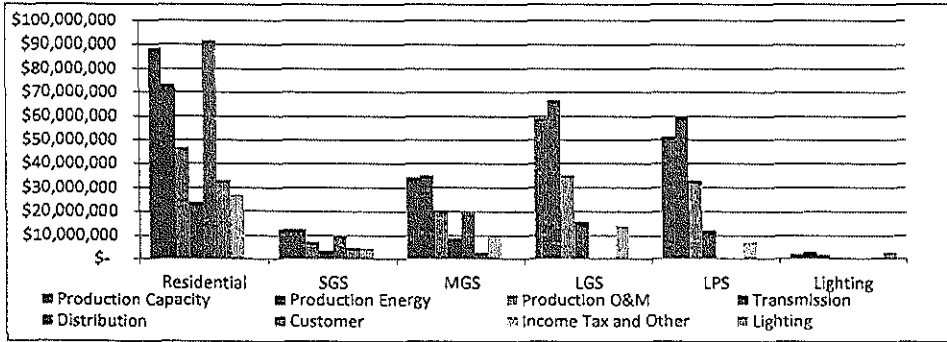
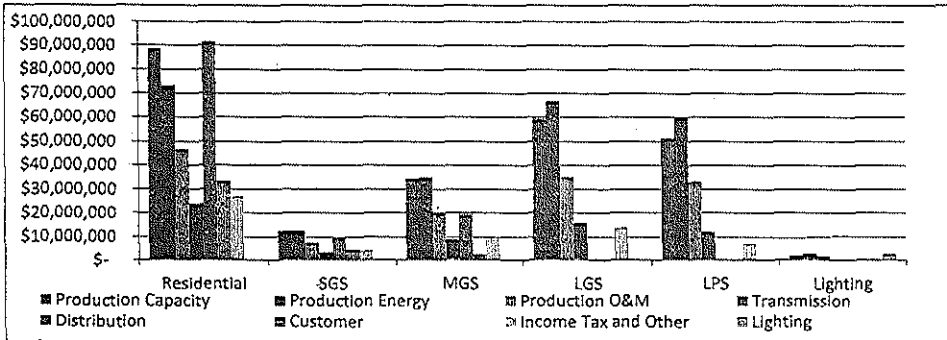
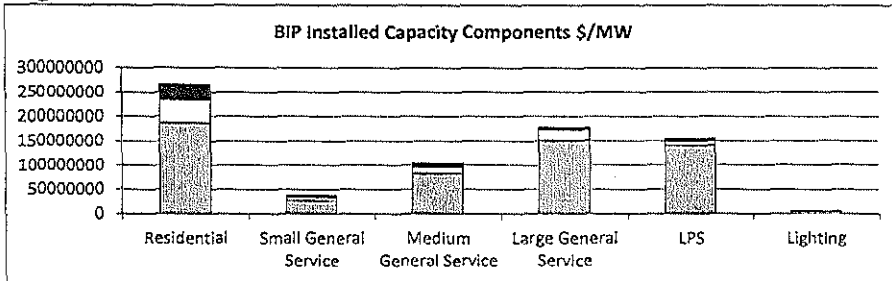


Table 5 and Graph

	Residential	SGS	MGS	LGS	LPS	Lighting	Total
Production Capacity	23.0%	22.9%	26.2%	30.9%	31.3%	25.1%	26.6%
Production Energy	19.0%	22.8%	26.8%	34.8%	36.4%	38.7%	26.8%
Production O&M	12.2%	13.5%	15.5%	18.4%	20.3%	23.3%	15.5%
Transmission	6.2%	6.3%	6.9%	8.3%	7.4%	4.9%	6.9%
Distribution	23.8%	17.4%	14.6%	0.0%	0.0%	0.0%	12.9%
Customer	8.7%	8.7%	2.1%	0.1%	0.1%	0.0%	4.4%
Income Tax and Other	7.1%	8.4%	7.9%	7.4%	4.4%	7.9%	6.9%
Lighting	0.0%	0.0%	0.0%	0.0%	0.0%	34.8%	0.3%

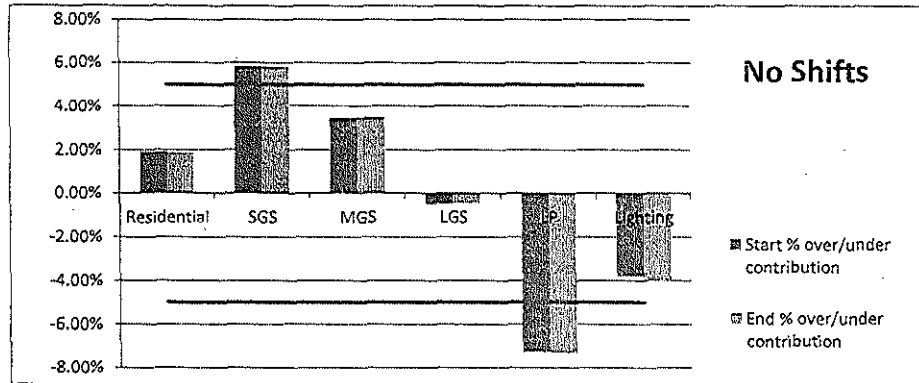


BIP Installed Capacity Allocator							
	Total	Residential	Small General Service	Medium General Service	Large General Service	LPS	Lighting
Base Capacity	\$ 596,823,511	\$ 187,361,696	\$ 27,247,972	\$ 83,294,759	\$ 151,127,261	\$ 141,786,418	\$ 6,005,405
Incremental Intermediate Capacity	\$ 95,852,911	\$ 46,007,635	\$ 6,861,441	\$ 13,224,382	\$ 22,020,944	\$ 7,738,509	\$ -
Incremental Peak Capacity	\$ 55,575,708	\$ 33,588,436	\$ 3,937,736	\$ 7,373,539	\$ 5,391,798	\$ 5,284,198	\$ -
Totals:	\$ 748,252,130	\$266,957,767	\$38,047,149	\$103,892,681	\$178,540,003	\$154,809,125	\$6,005,405
BIP Installed Capacity Allocator:		0.35677515	0.05084803	0.13884716	0.23860942	0.20689433	0.00802591



**Table 8 and Graph**

	Start % over/under contribution	System Average Increase + Energy Efficiency	End % over/under contribution
Residential	1.91%	-\$43,401	1.90%
Small General Service	5.85%	-\$12,643	5.83%
Medium General Service	3.47%	\$20,649	3.49%
Large General Service	-0.52%	\$63,630	-0.49%
Large Power	-7.30%	-\$10,379	-7.31%
Lighting	-3.79%	-\$17,856	-3.96%
General Service Group	1.64%	\$ 71,636	1.66%



**Table 9**

	Current RoR	Revenue Shift	Energy Efficiency Increase	Retail Increase	End RoR	% Increase to Retail Non-EE Revenues
Residential	7.64%	\$ -	\$ 504,623	\$ (548,024)	7.63%	-0.01%
Small General Service	9.03%	\$ -	\$ 73,305	\$ (85,949)	9.02%	-0.02%
Medium General Service	8.17%	\$ -	\$ 223,013	\$ (202,364)	8.18%	0.02%
Large General Service	6.83%	\$ -	\$ 385,725	\$ (322,095)	6.84%	0.03%
Large Power	4.45%	\$ -	\$ 234,326	\$ (244,705)	4.45%	-0.01%
Lighting	5.65%	\$ -	\$ -	\$ (17,856)	5.59%	-0.17%
<b>Total / System Average:</b>	<b>7.01%</b>	<b>\$ -</b>	<b>\$ 1,420,993</b>	<b>\$ (1,420,993)</b>	<b>7.01%</b>	<b>0.00%</b>