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Issues: Rate Design  
Greenwood Solar  
Witness: Donald Johnstone  
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Kansas City Power & Light  
Greater Missouri Operations  
(GMO)

Case No. ER-2016-0156

Prepared Rebuttal Testimony of

**Donald Johnstone**

On behalf of

Office of Public Counsel  
(OPC)

August, 2016





Before the  
Missouri Public Service Commission

**Kansas City Power & Light  
Greater Missouri Operations  
(GMO)**

**Case No. ER-2016-0156**

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Rebuttal Testimony of Donald Johnstone**

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Before the  
Missouri Public Service Commission

Kansas City Power & Light  
Greater Missouri Operations  
(GMO)

Case No. ER-2016-0156

### Prepared Rebuttal Testimony of Donald Johnstone

1 Q PLEASE STATE YOUR NAME AND ADDRESS.

2 A My name is Donald Johnstone and my business address is 384 Black Hawk Drive, Lake  
3 Ozark, Missouri, 65049. I am employed by Competitive Energy Dynamics, L.L.C.

4 Q ON WHOSE BEHALF ARE YOU APPEARING?

5 A I am appearing on behalf of the State of Missouri, Office of Public Counsel ("OPC").  
6 The customers of Kansas City Power and Light Company's Greater Missouri Operations  
7 ("GMO" or "Company") directly represented by OPC in matters of rate design in this  
8 case are those served under the Residential and Small General Service Rate schedules.

9 Q PLEASE STATE YOUR QUALIFICATIONS AND EXPERIENCE.

10 A I have been working in the utility business since 1973. I started as an engineer for the  
11 Union Electric Company where I had assignments in power operations and corporate  
12 planning. Since 1981, I have worked as a consultant in the field of utility regulation.  
13 My work has taken me to many states and I have addressed various matters including  
14 rate design, the cost of service, fuel costs, forecasting, resource planning, and

1 industry restructuring. My experience has included electric, gas, water, sewer, and  
2 steam utility services. A more complete description is set forth in Appendix A.

3 **CLASS COST OF SERVICE**

4 Q WHAT IS THE DIRECT TESTIMONY ON THE MATTER OF CLASS COST-OF-SERVICE  
5 STUDY?

6 A GMO submitted a class cost-of-service study for each division and also a study based on  
7 the consolidated customer classes that it proposes.

8 Staff declined to prepare a study because of deficiencies in the load research  
9 data in the context of the proposed consolidated classes.

10 Midwest Energy Consumers Group ("MECG") and Missouri Industrial Energy  
11 Consumers ("MIEC") did not prepare a class cost-of-service study, but their expert  
12 presents a discussion of a method MECG/MIEC would have supported if they had filed a  
13 class cost-of-service study.

14 Other parties, including OPC, did not address the matter in direct testimony.

15 Q DOES THE PROPOSED RATE CONSOLIDATION RELATE IN ANY WAY TO THE CLASS  
16 COST-OF-SERVICE STUDY TESTIMONIES?

17 A Yes. First, I note that the power and general service customer classes were and are  
18 defined differently in the L&P and MPS rates. For the consolidated rates there is yet  
19 another definition. As a consequence, load research performed for the present  
20 customer classes is of limited value in the context of the rate consolidation proposal.  
21 In fact, even after moving customers from their existing rate to a corresponding  
22 consolidated rate, additional analysis was necessary to find the most economical rate

1 alternative for each customer. Assuming consolidation precedes, the result will be  
2 customer classes with new combinations of customers coming from various pre-  
3 consolidation rate classes. Additional future analysis will be necessary to determine  
4 the contributions of the new customer classes to the demands used for cost allocations  
5 in a class cost-of-service study.

6 Q WHAT IS YOUR RESPONSE TO PUBLIC SERVICE COMMISSION STAFF ("STAFF")  
7 TESTIMONY ADDRESSING THE ISSUE OF CLASS COST OF SERVICE?

8 A I agree that GMO provided information that is inadequate for preparation of a useful  
9 consolidated class cost-of-service study. Even the composition of the customer classes  
10 has been fluid. Certainly the customers that comprise the customer classes must be  
11 defined before there can be a reliable estimate of the class demand characteristics for  
12 class cost-of-service study purposes.

13 Q WHAT IS YOUR RESPONSE TO MECG/MIEC TESTIMONY ADDRESSING THE ISSUE OF  
14 CLASS COST OF SERVICE?

15 A Mr. Maurice Brubaker, submitting testimony on behalf of MECG/MIEC, states: "... in  
16 light of the recommendation for an equal percentage increase, I do not believe that it  
17 is an issue that needs to be addressed in this case." He did not prepare a class cost-of-  
18 service study and only describes a class cost-of-service study methodology he would  
19 propose if he were to prepare a study. Since there is no MECG/MIEC study, there is no  
20 need for a response at this time. My silence as to what he would propose should not  
21 be construed as agreement with the method he describes.

1 Q WHAT IS YOUR COMMENT ON THE GMO TESTIMONY ON THE MATTER OF CLASS COST  
2 OF SERVICE?

3 A GMO addressed the limitations of the load research data in the context of its  
4 consolidated class cost-of-service study. GMO also proposed an equal percentage  
5 spread of the proposed increase among customer classes.

6 Q IS THERE A STIPULATION BEFORE THE COMMISSION THAT WOULD PROVIDE FOR A  
7 SPREAD OF THE INCREASE AMONG THE CLASSES ON AN EQUAL PERCENTAGE BASIS?

8 A Yes. As this testimony is drafted, I am aware that parties are working to provide what  
9 the Commission needs for early approval of the stipulation. For the purposes of this  
10 testimony I will assume approval of the stipulation in the near future and that will  
11 resolve the matter for the purposes of this docket. Of course, OPC plans to offer  
12 relevant testimony in future GMO cases when class cost-of-service study matters are  
13 again ripe for decision.

#### 14 RATE CONSOLIDATION

15 Q ARE THERE EXTRAORDINARY INDIVIDUAL CUSTOMER IMPACTS IDENTIFIED IN THE  
16 DIRECT TESTIMONY OF GMO?

17 A Not in a direct way. GMO showed the impact of moving L&P customers to MPS rates  
18 and *vice versa*. Under this analysis, thousands of customers were shown to have  
19 impacts several times the 8.2% overall increase under this analysis.

20 GMO testimony did not provide the individual customer impacts under its  
21 proposed rates because the work was not complete at that time. Although GMO had  
22 not fully analyzed the impacts before it filed the proposed rates, there certainly are

1 extraordinary individual customer impacts. The reasons stem from many factors that  
2 have been documented. Among the causes are:

- 3 • Customer charge increases
- 4 • New customer class definitions
- 5 • Changes from two different existing structures to a new one that in  
6 many respects follows the KCPL mold
- 7 • Migration of customers between customer classes
- 8 • Charges based on rate elements that are a not a part of existing rates

9 Q DOES THE STIPULATION THAT ADDRESSES THE SPREAD OF THE INCREASE RESOLVE  
10 THE MATTER OF CUSTOMER IMPACTS DUE TO THE PROPOSED RATE  
11 CONSOLIDATION?

12 A No. There are significant changes in the design of the rates and many examples of  
13 sharp and extraordinary individual customer impacts. Schedule 1 is a copy of  
14 customer impact data provided by GMO during the workshops. It is marked with notes.  
15 I also marked the numbers of customers that would experience increases of 20% or  
16 more under the proposed rates. The problem arises on many of the rate schedules. In  
17 total, under the GMO analysis there are several thousand customers with impacts  
18 above 20%. GMO provided further analysis and explanation, but significant impacts  
19 remain.

20 Q HAVE ALTERNATIVE RATE POSSIBILITIES BEEN CONSIDERED AS A PART OF THE  
21 WORKSHOP PROCESS?

22 A Yes. However, at this time there is no consensus among parties as to appropriate  
23 rates.



1 Q WHAT DO YOU RECOMMEND?

2 A There are at this time three possibilities. I recommend consideration of two of the  
3 three.

4 First, I expect Parties to move from the workshop discussions of the proposed  
5 consolidated rate design to discussions of settlement possibilities. Hence, one  
6 possibility may be a settlement supported by OPC. I would of course recommend due  
7 consideration of any settlement that may emerge.

8 Second, in the absence of an agreed structure and rates, I would recommend  
9 the Commission consider an equal percentage adjustment of existing rates to the  
10 extent needed to accommodate any change in the revenue requirement (as  
11 determined by the Public Service Commission or "Commission" in due course). This is  
12 embodied in the unconsolidated rates filed by GMO.

13 Third, the possibility of the proposed consolidated rates remains. However,  
14 the impacts of the proposed consolidated rates on customers are in many cases sharp  
15 and extraordinary. I do not recommend approval of the GMO proposed consolidated  
16 rates.

17 Q IS IT A SIMPLE MATTER TO DESIGN RATES WHICH MINIMIZE POTENTIALLY DISPARATE  
18 IMPACTS ON CUSTOMERS?

19 A No. Indeed, based on my participation in the workshops, it is fair to say minimization  
20 of the impacts in this case is difficult and in any event will require trade-offs. In fact,  
21 the impacts on individual customers necessarily depend upon a great deal of analysis.  
22 Also, efforts to minimize the individual customer impacts can easily be lost in  
23 summaries and averages.

1 Q DO YOU RECOMMEND MITIGATION OF SHARP AND EXTRAORDINARY IMPACTS?

2 A Yes. This possibility is raised in the MECG/MIEC direct testimony and some form of  
3 mitigation should be pursued as a part of any rate consolidation.

4 Q DID MECG/MIEC PROVIDE SPECIFIC MITIGATION PROPOSALS?

5 A Yes. The proposals focus on relief for large customers by adjusting demand rates and  
6 the Annual Base Demand definition.

7 Q WHAT IS YOUR RESPONSE TO THE PROPOSAL?

8 A It identifies sources of some of the extraordinary impacts on large customers. It does  
9 not address the impact on smaller customers.

10 Q WHAT DO YOU OFFER IN RESPONSE?

11 A For mitigation in this case I recommend a target maximum annual increase for  
12 individual customers of 16.4% for the first year that restructured rates are in effect.  
13 This is two times the proposed overall increase.

14 Q PLEASE EXPLAIN YOUR MITIGATION RECOMMENDATION

15 A For customers on demand rates, a demand credit mechanism is appropriate. For  
16 others a credit per kWh is recommended.

17 Q WHAT IS THE LEVEL OF CREDIT YOU RECOMMEND?

18 A There are many exigencies to be considered and, to date, I am aware of no rate  
19 proposal that would result in satisfactory customer impacts in every circumstance.

1           Consequently, I believe it is necessary to provide for limited GMO discretion in the  
2           application of credits for the first year under consolidated rates.

3   **Q     PLEASE DESCRIBE THE RECOMMENDED TARIFF LANGUAGE AND EXPLAIN HOW IT**  
4           **COULD BE APPLIED.**

5   **A     The recommended language is as follows for demand rates:**

6           GMO shall have the discretion to provide demand rate credits  
7           determined for individual customers to reduce the impact of the rate  
8           change to approximately 16.4% on an annual basis for a period of one  
9           year. GMO shall consider the impact on a combined basis for any  
10          customer that takes service at multiple locations or under multiple  
11          rates. This authority to provide demand rate credits shall expire 12  
12          months after the initial effective date of this rate. A rate credit  
13          established during this period either may be applied retroactively to the  
14          first effective date of this rate, or it may be applied prospectively, but  
15          in no event shall the effective period of the rate credit for any  
16          customer be greater than 12 months.

17          The language I recommend for non-demand rates is as follows:

18          GMO shall have the discretion to provide kWh based rate credits  
19          determined for individual customers to reduce the impact of the rate  
20          change to approximately 16.4% on an annual basis for a period of one  
21          year. GMO shall consider the impact on a combined basis for any  
22          customer that takes service at multiple locations or under multiple  
23          rates. This authority to provide kWh based rate credits shall expire 12  
24          months after the initial effective date of this rate. A rate credit  
25          established during this period either may be applied retroactively to the  
26          first effective date of this rate, or it may be applied prospectively, but  
27          in no event shall the effective period of the kWh rate credit for any  
28          customer be greater than 12 months.

1 Q HOW SHOULD THE FORGONE REVENUES BE TREATED?

2 A I recommend consideration of alternative approaches, depending on the impact on  
3 GMO.

4 First, assuming an overall impact of the mitigation that would not deny GMO  
5 the opportunity for a fair return on equity, the impact should not be recoverable. This  
6 is a simple solution and GMO would have a vested interested in providing relief only in  
7 cases where the magnitude of the impact, in its reasonable discretion, is worthy of  
8 mitigation.

9 Second, if shown to be necessary to provide the opportunity for a fair return,  
10 GMO could be authorized to maintain a record of the relief provided and seek recovery  
11 in a future rate case.

12 Q IS THERE ANY REASON FOR GMO TO BEAR RESPONSIBILITY FOR THE COST OF  
13 MITIGATION?

14 A Yes. One important consideration is the timing of notice that was provided. As GMO  
15 explained in the workshops, it did not initially send notice of the possibility of  
16 extraordinary impacts that result from its proposed consolidated rates because it did  
17 not want to do so before it had sufficient reason to believe consolidated rates would  
18 be approved. The consequence of the Company's decision is that notice was delayed  
19 and sent only recently.

1 Q IS THE DELAY OF NOTICE OF IMPORTANCE IN THE CONTEXT OF THE PROPOSED  
2 CONSOLIDATED RATES?

3 A Yes. The rate impacts vary substantially based on seasonal demands and based on  
4 annual maximum demands. Customers have had no timely notice with respect to  
5 summer 2016 or the future impact of recent past consumption, and to that extent it  
6 has been impossible for customers to prepare for the new rates with adjustments to  
7 consumption or even to attempt to budget for any extraordinary increases. Thus,  
8 while GMO chose to delay providing notice, the delay unavoidably exacerbates an  
9 already difficult situation.

10 **ALLOCATION OF GREENWOOD SOLAR PROJECT COSTS**

11 Q DOES OPC AGREE THAT GMO CUSTOMERS SHOULD PAY FOR THE COST OF THE  
12 GREENWOOD SOLAR PROJECT?

13 A No. The matter is under appeal from Docket EA-2016-0256, and while this testimony  
14 will address possible rate treatment of the Greenwood Solar Project costs, OPC fully  
15 reserves its right to pursue appeals of the Commission's decision in Docket EA-2015-  
16 0256 that led to these costs. Any and all related matters, including but not limited to  
17 the tracking of revenues collected based on such costs, are also fully reserved.

18 Q HAS STAFF PROPOSED A KWH BASED ALLOCATION OF GREENWOOD SOLAR PROJECT  
19 COSTS BETWEEN KCPL AND GMO?

20 A Yes. The Commission's Report and Order in EA-2015-0256 cites a likely future need to  
21 reduce kWh from coal generation as important to its rationale for approval of the  
22 project. Beyond that, the Report and Order also cites a Company objective to obtain

1 operational experience for both GMO and KCPL. Another consideration is that the  
2 project will not be connected to the transmission system and it will not be  
3 dispatchable capacity in the Southwest Power Pool.

4 It is the perceived future need to offset coal fired generation that is the  
5 primary driver of this cost. As such, energy is the appropriate factor for the allocation  
6 of these costs.

7 **Q IF GMO IS ABLE TO INCLUDE THESE COSTS IN RATES, WHAT SHOULD BE ALLOCATED**  
8 **BETWEEN GMO AND KCPL?**

9 **A** As a hypothetical, it should be the net cost of project, which I would define as the  
10 total annual fixed cost of the project less the energy cost avoided due to the  
11 generation. The value of the solar RECs should be credited also if and when they have  
12 value to GMO.

13 **Q DOES THIS CONCLUDE YOUR TESTIMONY AT THIS TIME?**

14 **A** Yes it does.

Appendix A  
Qualifications of Donald E. Johnstone

1 Q PLEASE STATE YOUR NAME AND ADDRESS.

2 A Donald E. Johnstone. My business address is 384 Black Hawk Drive, Lake Ozark, MO  
3 65049.

4 Q PLEASE STATE YOUR OCCUPATION.

5 A I am President of Competitive Energy Dynamics, L. L. C. and a consultant in the field  
6 of public utility regulation.

7 Q PLEASE SUMMARIZE YOUR EDUCATIONAL BACKGROUND AND EXPERIENCE.

8 A In 1968, I received a Bachelor of Science Degree in Electrical Engineering from the  
9 University of Missouri at Rolla. After graduation, I worked in the customer engineering  
10 division of a computer manufacturer. From 1969 to 1973, I was an officer in the Air  
11 Force, where most of my work was related to the Aircraft Structural Integrity Program  
12 in the areas of data processing, data base design and economic cost analysis. Also in  
13 1973, I received a Master of Business Administration Degree from Oklahoma City  
14 University.

15 From 1973 through 1981, I was employed by a large Midwestern utility and  
16 worked in the Power Operations and Corporate Planning Functions. While in the  
17 Power Operations Function, I had assignments relating to the peak demand and net  
18 output forecasts and load behavior studies which included such factors as weather,  
19 conservation and seasonality. I also analyzed the cost of replacement energy  
20 associated with forced outages of generation facilities. In the Corporate Planning

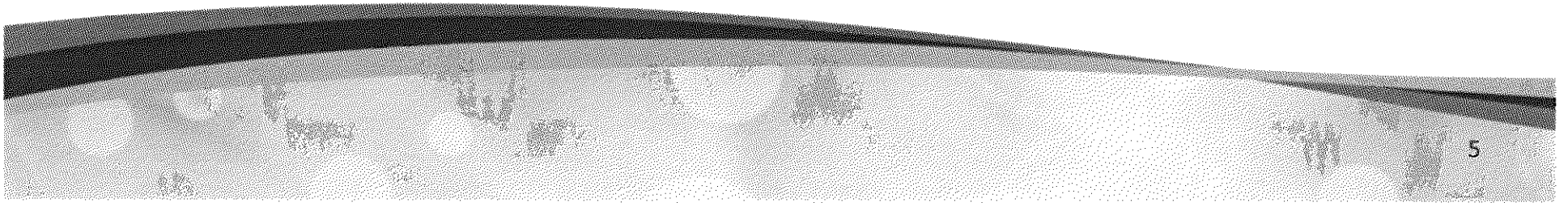
1 Function, my assignments included developmental work on a generation expansion  
2 planning program and work on the peak demand and sales forecasts. From 1977  
3 through 1981, I was Supervisor of the Load Forecasting Group where my  
4 responsibilities included the Company's sales and peak demand forecasts and the  
5 weather normalization of sales.

6 In 1981, I began consulting, and in 2000, I created the firm Competitive Energy  
7 Dynamics, L.L.C. As a part of my thirty-five years of consulting practice, I have  
8 participated in the analysis of various electric, gas, water, and sewer utility matters,  
9 including the analysis and preparation of cost-of-service studies and rate analyses. In  
10 addition to general rate cases, I have participated in electric fuel and gas cost reviews  
11 and planning proceedings, policy proceedings, market price surveys, generation  
12 capacity evaluations, and assorted matters related to the restructuring of the electric  
13 and gas industries. I have also assisted companies in the negotiation of power  
14 contracts representing over \$1 billion of electricity.

15 I have testified before the state regulatory commissions of Delaware, Hawaii,  
16 Illinois, Iowa, Kansas, Massachusetts, Missouri, Montana, New Hampshire, Ohio,  
17 Pennsylvania, Tennessee, Virginia and West Virginia, and the Rate Commission of the  
18 Metropolitan St. Louis Sewer District.



# Impact Summaries



# Best Fit Impact Summary – Large Power

Secondary Large Power

Primary Large Power

Large Power Service Class				
Impact	Previous Rate			
	MO730	MO944	MO735	MO945
<-50%	0	0	0	0
-50% to -40%	0	0	0	0
-40% to -30%	0	0	0	0
-30% to -20%	1	0	0	0
-20% to -10%	0	1	1	0
-10% to 0%	4	6	0	0
0% to 10%	88	56	15	8
10% to 20%	46	1	24	0
20% to 30%	0	0	0	0
30% to 40%	0	0	0	0
40% to 50%	0	0	0	0
>50%	0	0	0	0
Ave %	8.28%	3.78%	10.63%	3.08%
Total	139	64	40	8

Min

# Best Fit Impact Summary – Large Power

Large Power Service Class				
Impact	Previous Rate			
	MO732	MO939	MO946	MO947
<-50%	0	0	0	0
-50% to -40%	0	0	0	0
-40% to -30%	0	0	0	0
-30% to -20%	0	0	0	0
-20% to -10%	0	0	0	1
-10% to 0%	0	2	2	4
0% to 10%	1	0	0	0
10% to 20%	2	0	0	0
20% to 30%	0	0	0	0
30% to 40%	0	0	0	0
40% to 50%	0	0	0	0
>50%	0	0	0	0
Ave %	9.53%	-4.79%	-6.58%	-8.45%
Total	3	2	2	5



# Best Fit Impact Summary – Large General

Large General Service Class						
Impact	Previous Rate					
	MO720	MO940	MO725	MO938	MO722	MO942**
<-50%	12	19	0	0	0	4
-50% to -40%	5	14	0	0	0	1
-40% to -30%	4	19	0	0	0	4
-30% to -20%	10	38	0	0	0	6
-20% to -10%	23	116	1	0	1	10
-10% to 0%	45	315	1	8	2	32
0% to 10%	667	474	3	0	51	45
10% to 20%	616	124	12	0	56	10
20% to 30%	67	0	6	0	1	0
30% to 40%	10	0	1	0	0	0
40% to 50%	3	0	0	0	0	0
>50%	4	0	1	0	0	0
Ave %	9.40%	-2.34%	20.35%	-4.47%	10.37%	-5.06%
Total	1466	1119	25	8	111	112

Over 20% 84  
Over 50% 4

8  
1

\*\*Best fit data for MO942 has been corrected since the direct filing. Corrected work papers will be included with the case update.

Average per customer increase

# Best Fit Impact Summary – Large General

Large General Service - Select Detailed View						
Impact	Previous Rate					
	MO720		MO940		MO942**	
	Count	Ave. Annual \$	Count	Ave. Annual \$	Count	Ave. Annual \$
<-50%	12	\$ (1,230.40)	19	\$ (1,626.46)	4	\$ (1,639.95)
-50% to -45%	2	\$ (1,903.64)	5	\$ (1,297.18)	0	\$ -
-45% to 40%	3	\$ (1,729.44)	9	\$ (1,522.68)	1	\$ (365.30)
-40% to -35%	1	\$ (3,123.74)	11	\$ (1,302.84)	1	\$ (1,679.00)
-35% to -30%	3	\$ (2,664.15)	8	\$ (1,497.65)	3	\$ (1,255.55)
-30% to -25%	4	\$ (1,982.31)	15	\$ (964.23)	1	\$ (85.74)
-25% to -20%	6	\$ (1,663.35)	23	\$ (1,214.44)	5	\$ (1,357.44)
-20% to -15%	8	\$ (1,321.12)	36	\$ (1,691.38)	5	\$ (1,158.68)
-15% to -10%	15	\$ (1,210.74)	80	\$ (1,087.92)	5	\$ (909.81)
-10% to -5%	10	\$ (625.77)	113	\$ (1,224.75)	9	\$ (1,723.01)
-5% to 0%	35	\$ (306.14)	202	\$ (836.71)	23	\$ (437.14)
0% to 5%	88	\$ 1,403.35	280	\$ 809.42	34	\$ 1,104.81
5% to 10%	579	\$ 4,099.12	194	\$ 1,354.09	11	\$ 1,520.23
10% to 15%	421	\$ 5,532.89	109	\$ 2,221.75	10	\$ 2,726.47
15% to 20%	195	\$ 6,836.22	15	\$ 2,855.95	0	\$ -
20% to 25%	45	\$ 9,101.27	0	\$ -	0	\$ -
25% to 30%	22	\$ 6,366.01	0	\$ -	0	\$ -
30% to 35%	6	\$ 14,845.35	0	\$ -	0	\$ -
35% to 40%	4	\$ 9,319.15	0	\$ -	0	\$ -
40% to 45%	0	\$ -	0	\$ -	0	\$ -
45% to 50%	3	\$ 20,743.82	0	\$ -	0	\$ -
>50%	4	\$ 17,348.75	0	\$ -	0	\$ -
Ave %	9.40%		-2.34%		-5.06%	
Total	1466	\$ 4,685.13	1119	\$ 178.02	112	\$ 235.74

Over 20% 87

# Proposed SGS Non-Demand and Demand Rates

- Designed to accommodate small customers are more like Residential than C&I.
- Provide mechanism to change rates as customers grow.

## MAXIMUM MONTHLY USAGE

When energy usage of the customer exceeds five thousand four hundred (5,400) kWh per month in two (2) billing periods out of the most recent twelve (12) billing periods, or Company has reason to believe that the customer's demand exceeds thirty (30) kW regardless of the energy usage, Company shall install a demand meter.

- Proposed *Availability* terms

### **SERVICE WITHOUT DEMAND METER:**

The Service without Demand Meter rate (rate codes MOSGS or MOSNS) is available for general service to any non-residential customer whose monthly usage is no more than 5,400 kWh in two (2) billing periods out of the most recent twelve (12) billing periods.

### **SERVICE WITH DEMAND METER:**

The Service with Demand Meter rate (rate codes MOSDS, MOSND, or MOSGP) is available for all general service use, such as combined lighting and power service to any non-residential customer who shall contract for a minimum capacity of twenty-five (25) kilowatts (kW).



# Best Fit Impact Summary – Small General

Small General Service - Demand				
Impact	Previous Rate			
	MOSDS / MO711		MOSDS / MO931	
	Count	Ave. Annual \$	Count	Ave. Annual \$
<-50%	3	\$ (8,616.86)	6	\$ (8,752.52)
-50% to -45%	3	\$ (3,769.08)	2	\$ (7,658.91)
-45% to -40%	5	\$ (3,569.78)	5	\$ (3,836.15)
-40% to -35%	8	\$ (3,502.73)	2	\$ (4,149.19)
-35% to -30%	8	\$ (2,890.52)	12	\$ (3,510.13)
-30% to -25%	9	\$ (2,116.23)	20	\$ (2,373.57)
-25% to -20%	19	\$ (1,900.49)	28	\$ (2,013.49)
-20% to -15%	45	\$ (1,283.77)	42	\$ (1,839.33)
-15% to -10%	88	\$ (1,021.07)	39	\$ (1,564.29)
-10% to -5%	152	\$ (930.67)	75	\$ (730.70)
-5% to 0%	254	\$ (355.63)	23	\$ (288.81)
0% to 5%	348	\$ 370.29	3	\$ 53.78
5% to 10%	567	\$ 810.58	0	\$ -
10% to 15%	451	\$ 1,142.26	0	\$ -
15% to 20%	142	\$ 1,068.66	0	\$ -
20% to 25%	57	\$ 1,069.72	0	\$ -
25% to 30%	24	\$ 1,596.83	0	\$ -
30% to 35%	25	\$ 1,881.86	0	\$ -
35% to 40%	11	\$ 2,318.31	0	\$ -
40% to 45%	6	\$ 3,435.05	0	\$ -
45% to 50%	4	\$ 3,422.01	0	\$ -
>50%	10	\$ 5,885.74	0	\$ -
Ave %	5.48%		-16.18%	
Total	2239	\$ 437.54	257	\$ (1,715.28)

Over 20% 137

# Best Fit Impact Summary – Small General

Small General Service - No Demand				
Impact	Previous Rate			
	MOSGS / MO711		MOSGS / MO931	
	Count	Ave. Annual \$	Count	Ave. Annual \$
<-50%	70	\$ (1,202.67)	50	\$ (2,001.08)
-50% to -45%	15	\$ (906.51)	10	\$ (1,031.94)
-45% to -40%	14	\$ (929.03)	19	\$ (1,371.05)
-40% to -35%	31	\$ (510.69)	72	\$ (565.57)
-35% to -30%	45	\$ (640.47)	98	\$ (379.98)
-30% to -25%	34	\$ (484.65)	93	\$ (380.05)
-25% to -20%	75	\$ (297.67)	86	\$ (355.96)
-20% to -15%	103	\$ (266.43)	122	\$ (299.05)
-15% to -10%	175	\$ (159.61)	146	\$ (225.59)
-10% to -5%	250	\$ (97.83)	214	\$ (145.74)
-5% to 0%	386	\$ (30.28)	220	\$ (45.15)
0% to 5%	610	\$ 38.39	193	\$ 50.22
5% to 10%	968	\$ 105.39	117	\$ 142.66
10% to 15%	1382	\$ 173.88	46	\$ 186.57
15% to 20%	1585	\$ 233.93	4	\$ 123.12
20% to 25%	1636	\$ 283.31	2	\$ 47.68
25% to 30%	1310	\$ 290.94	0	\$ -
30% to 35%	1123	\$ 255.08	0	\$ -
35% to 40%	1200	\$ 266.32	0	\$ -
40% to 45%	1084	\$ 227.86	0	\$ -
45% to 50%	655	\$ 189.52	0	\$ -
>50%	1525	\$ 166.74	0	\$ -
Ave %	24.94%		-12.51%	
Total	14276	\$ 177.00	1492	\$ (238.16)

kva is common transformer and basis for the break

20% to 25% 1636 \$ 283.31 2 \$ 47.68  
 25% to 30% 1310 \$ 290.94 0 \$ -  
 30% to 35% 1123 \$ 255.08 0 \$ -  
 35% to 40% 1200 \$ 266.32 0 \$ -  
 40% to 45% 1084 \$ 227.86 0 \$ -  
 45% to 50% 655 \$ 189.52 0 \$ -  
 >50% 1525 \$ 166.74 0 \$ -

Over 20% 8533



# Best Fit Impact Summary – Residential

Residential Service Class - General Service				
Impact	Previous Rate			
	MO910		MO860	
	Count	Ave. Annual \$	Count	Ave. Annual \$
<0%	10	\$ (7.09)	582	\$ (1.13)
0% to 5%	1145	\$ 69.31	8061	\$ 27.41
5% to 10%	25209	\$ 102.96	116038	\$ 103.74
10% to 15%	9261	\$ 57.02	21241	\$ 56.83
15% to 20%	2882	\$ 35.25	11851	\$ 35.39
20% to 25%	1377	\$ 31.14	7699	\$ 19.47
25% to 30%	949	\$ 28.88	2825	\$ 18.68
30% to 35%	616	\$ 29.36	1467	\$ 22.24
35% to 40%	465	\$ 30.95	2313	\$ 32.58
40% to 45%	314	\$ 37.54	1	\$ 45.88
45% to 50%	350	\$ 39.30	0	\$ -
>50%	808	\$ 44.28	0	\$ -
Ave %	12.51%		10.54%	
Total	43386	\$ 79.95	172078	\$ 82.49

Over 20% 4879

Over 20% 14,305

# Best Fit Impact Summary – Residential

Residential Service Class - Space Heating				
Impact	Previous Rate			
	MO920		MO870	
	Count	Ave. Annual \$	Count	Ave. Annual \$
<0%	480	\$ (36.10)	571	\$ (0.76)
0% to 5%	5174	\$ 69.95	3365	\$ 10.76
5% to 10%	7008	\$ 114.39	74682	\$ 126.74
10% to 15%	6235	\$ 100.08	10714	\$ 92.22
15% to 20%	4073	\$ 80.37	5445	\$ 31.86
20% to 25%	1697	\$ 52.88	4124	\$ 15.46
25% to 30%	804	\$ 27.79	1187	\$ 11.54
30% to 35%	394	\$ 26.30	390	\$ 15.82
35% to 40%	224	\$ 27.20	469	\$ 24.58
40% to 45%	84	\$ 26.58	0	\$ -
45% to 50%	66	\$ 33.44	0	\$ -
>50%	144	\$ 41.32	0	\$ -
Ave %	11.71%		10.11%	
Total	26383	\$ 84.77	100947	\$ 106.57

Over 20% 3413