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Issues:	Class Cost-of-Service Rate Design
Witness:	Michael S. Scheperle
Sponsoring Party:	MO PSC Staff
Type of Exhibit:	Rebuttal Testimony
File No.:	ER-2010-0356
Date Testimony Prepared:	December 17, 2010

MISSOURI PUBLIC SERVICE COMMISSION

UTILITY OPERATIONS DIVISION

REBUTTAL TESTIMONY

OF

MICHAEL S. SCHEPERLE

KCP&L GREATER MISSOURI OPERATIONS COMPANY

FILE NO. ER-2010-0356

Jefferson City, Missouri
December 2010

BEFORE THE PUBLIC SERVICE COMMISSION

OF THE STATE OF MISSOURI

In the Matter of the Application of KCP&L Greater Missouri Operations Company for Approval to Make Certain Changes in its Charges for Electric Service	)))))	File No. ER-2010-0356

AFFIDAVIT OF MICHAEL S. SCHEPERLE

STATE OF MISSOURI)
) **ss**
COUNTY OF COLE)

Michael S. Scheperle, of lawful age, on his oath states: that he has participated in the preparation of the following Rebuttal Testimony in question and answer form, consisting of 15 pages of Rebuttal Testimony to be presented in the above case, that the answers in the following Rebuttal Testimony were given by him; that he has knowledge of the matters set forth in such answers; and that such matters are true to the best of his knowledge and belief.

Michael S. Scheperle
Michael S. Scheperle

Subscribed and sworn to before me this 17th day of December, 2010.

Susan L. Sundermeyer
Notary Public

SUSAN L. SUNDERMEYER
Notary Public - Notary Seal
State of Missouri
Commissioned for Callaway County
My Commission Expires: October 03, 2014
Commission Number: 10942086

TABLE OF CONTENTS

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FILE NO. ER-2010-0356

Q. Please state your name and business address.

A. My name is Michael S. Scheperle and my business address is Missouri Public Service Commission, P. O. Box 360, Jefferson City, Missouri 65102.

Q. Are you the same Michael S. Scheperle who filed in this case on December 1, 2010, direct testimony in question and answer format and as part of the Missouri Public Service Commission Staff's (Staff's) Rate Design and Class Cost-of-Service Report (CCOS Report)?

A. Yes, I am.

Q. What is the purpose of your rebuttal testimony?

A. I explain why the class cost-of-service (CCOS) studies of MPS and L&P performed by KCP&L Greater Missouri Operations Company (GMO) and the group of intervenors who call themselves the "Industrials"[1] are inappropriate and, therefore, lead to rate design recommendations for MPS and L&P the Commission should not rely on. As part of that explanation I show Staff's rate design recommendations by rate schedule. I also address a Southern Union Company d/b/a Missouri Gas Energy (MGE) rate design

[1] The "Industrials" consist of: (1) Ag Processing Inc.; (2) the Sedalia Industrial Energy Users Association, which in turn consists of the Pittsburgh Corning Corporation, Waterloo Industries, Hayes-Lemmerz International, EnerSys Inc., Alcan Cable Co., and Gardner Denver Corporation; and (3) the Federal Executive Agencies, which is representing the interests of Whiteman Air Force Base.

recommendation to eliminate certain residential rate schedules, and other issues related to CCOS studies raised by various parties. I specifically address:

- Production-Capacity Allocator
- Production Fuel Allocator
- Off-System Sales Allocator
- Rate Design Recommendations
- Proposed certain residential rate schedule elimination

Q. Who are the witnesses for GMO and the Industrials that presented CCOS studies?

A. Paul M. Normand and Maurice Brubaker, respectively.

Q. Who is the witness for MGE that sponsors eliminating certain residential rate schedules?

A. Michael R. Noack.

Class Cost-of-Service Study Allocators

Q. Did all the parties who presented CCOS study results use the same allocators in their CCOS studies?

A. No.

Q. What is Staff's response to the allocators the other parties used?

A. Staff disagrees with a number of allocators that other parties used. Staff has significant disagreement with the allocators used for: (1) Production-Capacity; (2) production fuel cost; and (3) off-system sales margins.

Production-Capacity Allocator

Q. What is Production-Capacity?

A. Production-Capacity is the ability of the power system components to adequately serve the system load requirements.

Q. What is the purpose of a Production-Capacity allocator?

A. It is used to allocate the rate base investment and related production expenses of generating facilities that are necessary to supply customers' service requirements each month during the period of maximum- or "peak-" level of system power consumption that month.

Q. What Production-Capacity allocation methods did the parties use for the studies presented in this case?

A. For both MPS and L&P, GMO used a Base, Intermediate and Peak method (BIP method); Staff used a related – but distinctly different – BIP method; the Industrials used three different methods: 1) an Average and Excess (A&E) 4-non-coincident peak (NCP) method; 2) an A&E 2 NCP method; and also 3) a 4 coincident peak (CP) method. The Industrials primarily recommend their A&E 4 NCP method for deriving the Production-Capacity allocators for MPS and L&P. Additional methods for deriving Production-Capacity allocators which were not used by any party in this case are described in Staff's Appendix A to its Rate Design and Class Cost-of-Service Report.

Q. Does Staff agree with GMO's BIP method for deriving the production–capacity allocators for MPS and L&P?

A. No. Although both GMO and Staff used a BIP method to allocate production investment and costs, Staff disagrees with GMO's BIP method because Staff disagrees with how GMO allocated the base and peak components. GMO has no intermediate generating facilities.

Q. What aspect of how GMO allocated the base and peak components does Staff disagree with?

A. The BIP methodology gives weight to both capacity and energy considerations. It does so by considering energy in the base component, through the allocation of base units to all classes, and by considering capacity in the allocation of intermediate and peak components. The BIP method is based on the assumption that generation facilities are built to meet the entire load of the electric utility at all times. The BIP method allocates three types of electric generation facilities: base, intermediate, and peaking. Base generation facilities, typically coal and nuclear generation plants, are generally the most expensive to build. Base generation facilities generally have lower running costs than peaking generation facilities. Peaking generation facilities, typically combustion turbines, are generally the least expensive to build, but use more expensive natural gas or oil as fuel to generate electricity. The output of peaking facilities can be changed quickly. Because of their low cost to build and their higher fuel cost, peaking units are only economic to run for a few hours of the year. Intermediate generation facilities fall between base and peaking generation facilities. The amount and type of each generation facility needed is unique to each utility's loads. However, generally, all three types of generation facilities are needed to meet load at the minimum cost. As I stated earlier, GMO has no intermediate generating facilities. The BIP method considers the differences in the capacity/energy cost trade-off that exists across a company's generation mix.

Q. How do the BIP methodology of GMO and Staff differ?

A. GMO used the following criteria in its BIP methodology to derive its Production-Capacity allocator:

- Base - Lowest monthly kWh (non-zero usage) for each rate
- Intermediate - 12 CP Remaining less Base
- Peak - 4 CP remaining less Base less Intermediate

Staff used the following criteria in its BIP methodology to derive its Production-Capacity allocator:

- Base – Annual kWh usage at generation for each rate schedule
- Intermediate – 12 NCP average less Base
- Peak – 3 NCP remaining less Base and Intermediate

Q. Why does Staff use annual kWh usage at generation for each rate schedule to allocate Base production capacity?

A. Staff uses annual kWh to define the base piece as all kWh (annual) at generation is allocated because it mitigates distortion of kWh usage that can result from the billing errors and corrections in kWh usage by the class.

Q. How does using the billed lowest month usage for each rate allow distortion?

A. Billing errors and the number of billing days in a particular month may distort the allocation factor if billed usage is used. These billing distortions typically occur in the large customer classes where an error in one customer's bill can impact the usage of the entire class. Staff's choice of using the annual energy avoids these distortions.

Q. How did the Intermediate component and the Peak component of the allocators GMO and Staff used differ?

A. Both Staff's and GMO's BIP methods are based on classifying generating facilities as either base facilities or peaking facilities (no intermediate component). GMO has no intermediate generating facilities; therefore, the methodology for the intermediate component has no impact when using the BIP method to derive Production-Capacity

allocators for GMO. GMO classified the peak component based on CP less base component. Staff classified the peak component based on NCP less base component.

Q. Why is use of NCP more appropriate for the Peak component of the BIP method?

A. Use of NCP ameliorates the impact of "free ridership." Free ridership is when service rendered completely off-peak is not assigned any responsibility for capacity costs. An example of free ridership that would occur with CP allocation is street lighting. Street lights are not on during the day; and, therefore, would not be allocated any capacity costs at all if the coincident peak occurred during daylight hours and a CP allocator was used.

Q. Does Staff agree with the Industrials' method for deriving the production – capacity allocator?

A. No. The Industrials filed three CCOS studies for MPS and three for L&P. In four of the studies, two for MPS and two for L&P, they use A&E methods for deriving the Production-Capacity allocator. The two different A&E methods they used are an A&E 4 NCP method and an A&E 2 NCP method. The A&E method has two parts. The "average" piece is simply the total kWh usage divided by the total number of hours in the year for each class, while the "excess" piece is a measure of demand equal to each class's contribution to the system peak load (or to a specified group of system peak demands). For MPS and for L&P, the Industrials determine the excess piece by using non-coincident class peaks, either two or four, less the average portion already allocated to determine the "excess" piece.[2]

Q. How does the Production-Capacity allocator of the Industrials' NCP studies compare, methodologically, to Staff's BIP study?

[2] The 4NCP study uses the four non-coincident peaks, while the 2NCP uses only two non-coincident peaks.

A. The "Average" piece in the Industrials' A&E method is very similar to Staff's base piece in the BIP method, as both methodologies use the annual kWh at generation. The difference in approach between the A&E methodology and Staff's BIP methodology is in how the demand piece of the allocator is determined. For the demand piece of the Production-Capacity allocator, both Staff's BIP method and the Industrials' A&E method use NCP, but Staff's BIP method, as does GMO's BIP method, separate the remaining capacity piece into up to two components, an intermediate component and peak component. Based on the type of generating facility and the hours of operation of that facility, Staff classified GMO's generating facilities as base load or peaking facilities, i.e., treated the costs of them as base or peak components.

Methodologically, since Staff's BIP method does not classify any generating facilities to the intermediate component, there are similarities of Staff's BIP to the Industrials A&E 4 NCP method for production capacity. The similarities are: 1) both use annual kWh at generation for base or average component; and 2) both use NCP demands for the peaking or excess component.

Q. Why do the A&E methods and the BIP methods differ in how the peaking component of the demand piece of the Production-Capacity allocator is derived?

A. The A&E methods use NCP information from the highest NCP in any 12-month period for each class. Staff's BIP method for the peaking component only uses NCP information from the months of June through September. Mr. Brubaker's "Excess" component of his A&E 4 NCP method uses the highest NCP which may occur outside the peak periods of the GMO system demand. As a result, the "Excess" component of his A&E allocator distorts the allocation to customer classes.

Q. Why is the BIP method superior to the A&E method for allocating the Production-Capacity costs of a regulated electric utility?

A. Generation facilities are built to meet the entire load of the electric utility at every point in time. The BIP production allocator is a more reasonable approach because peak load is a function of the total loads of each class based on a base, intermediate and peak load requirement, not just the average and excess loads of each class.

Q. Does Staff agree with the Industrials' Production–Capacity allocator method using the 4 CP method for MPS and L&P?

A. No. The Industrials' filed CCOS studies for MPS and L&P based on a 4 CP method. Staff agrees that GMO combined is a summer peaking utility—which is how both MPS and L&P should be treated for deriving the production–capacity allocators—and CP information may be applicable and accurate; however, Staff is concerned that studies relying on CP information could result in free ridership for service rendered to some customers that is completely, or mostly, off-peak. These customers then would be assigned very little, if any, responsibility for capacity costs.

Fuel Cost Allocator

Q. Does Staff agree with GMO's fuel cost allocation method?

A. No. GMO allocates fuel cost on the basis of class energy (kWh) use for both MPS and L&P. This concept ignores any matching of fuel costs with the allocation of production-capacity. The BIP method Staff used allocates a relatively larger share of expensive base load plant costs to each class based on each class's annual energy usage. Staff believes that each class's allocated base load costs should receive the corresponding benefit of being allocated the lower base load fuel costs savings.

Off-System Sales Allocator

Q. Does Staff agree with GMO's method for allocating Off-System sales margins?

A. No. GMO allocates off-system sales margins on the basis of the allocation of steam fixed generation plant or demand basis. Staff allocates off-system sales to customer classes on the basis of energy usage by the customer class at the generation level. The Commission adopted this energy allocation method in a KCPL case, Case No. ER-2006-0314, and in the recent Ameren Missouri Case, File No. ER-2010-0036. The Industrials also propose allocating off-system sales consistent with prior Commission rulings.

Rate Design Recommendations

Q. Have you prepared a summary of Staff's rate design recommendation by rate schedule?

A. Yes. Because a CCOS study is not precise, it should be used only as a guide for designing rates. In addition, bill impacts need to be considered. Based on its CCOS study results and judgment, Staff's recommended revenue adjustments for MPS are defined below. Schedule MSS-R1 is a worksheet (illustrative purposes only) detailing an overall increase of $15 million for MPS by rate schedule:

System Average Increase

- Residential (RES) - Regular
- RES – Space Heating
- Small General Service (SGS) – Primary and Secondary
- Large General Service (LGS) – Primary
- LGS – Secondary
- Large Power Service (LPS) – Primary
- LPS – Secondary

- Thermal Energy Storage Pilot Program

No Increase first $5 million – Equates to System Average less approximately 1%

- RES – Other
- SGS – non-demand (ND)
- SGS – Short Term Without Demand

System average increase plus approximately 1% additional

- Lighting

For L&P Staff's recommended revenue adjustments are defined below. Schedule MSS-R2 is a worksheet (Illustrative purpose only) detailing an overall increase of $30 million by rate schedule:

System Average Increase plus approximately an additional 1%

- RES – Regular
- RES – Other
- RES – Space Heating
- LPS –Time of Use (TOU) - Primary, Secondary, Substation, and Transmission

No Increase first $3 million – System average less approximately 2%

- General Service (GS) – General Use
- GS – Limited Demand, Short Term and Separate Meter Space Heating (SH)/Water Heating (WH)
- LGS – Primary, Secondary and Substation
- Lighting – All

However, different parties defined their customer classes differently for purposes of their CCOS studies. For example, Staff principally used each different rate schedule as a separate customer class. In contrast, the Industrials used groups of rate schedules as customer

classes for their CCOS studies. This means that Staff's study is more granular than the Industrials' studies and direct comparisons are difficult.

Q. Are the customer classes the same in each of the CCOS studies?

A. No. With a few exceptions, each customer class in Staff's CCOS study corresponds to an MPS rate schedule or an L&P rate schedule. The Industrials used the rate groups—RES, SGS for MPS, GS for L&P, LGS, LPS and Lighting to define their customer classes.

Q. Why didn't Staff aggregate rate schedules into larger, simpler rate groups for defining the customer classes it used in its COSS study?

A. Generally, if customer characteristics are distinct enough to warrant a separate rate schedule they should also be different enough to warrant a separate customer class, unless the number of customers on the rate schedules is insufficient to warrant distinct treatment for CCOS purposes. Using rate groups instead of customer classes makes it possible for customers' revenue responsibilities to move in the wrong direction when rates for the group as a whole are changed to better match the rate group's revenue responsibility to GMO's costs to serve the entire group.

Q. Do you have any examples?

A. Yes. For example, Schedule MSS-R1 shows that the MPS RES – Regular and RES Space Heating would receive the system average increase i.e., 2.7936%, but the RES – Other would receive an increase of 1.8624% or approximately 1% less than the system average increase (2.7936% - 1.8624%). However, if the three residential rate schedules are combined it appears that it would be appropriate to increase their rates more than the system average. Adjusting the aggregated RES rate schedules together - applying a revenue neutral

increase/decrease to all the customers in the RES rate group without considering them separately - would further distort the mismatch between the revenue responsibilities of the customers taking service on the residential rate schedules for Regular and Space Heating and those taking service Residential - Other rate schedule from GMO's (MPS's) costs to serve them.

Q. Does Staff agree with the rate design GMO is requesting for MPS?

A. No. GMO's rate design for MPS is to spread the non-fuel requested increase to all customer classes and all non-fuel rate components on an equal percentage basis. It is Staff's position that, instead, adjustments should be made to move certain customer class revenue responsibilities closer to GMO's (MPS's) costs to serve each MPS customer class and that the permanent rates reflect changes to all of GMO's MPS costs, not just non-fuel costs. Therefore, an equal percentage basis increase on all non-fuel components to each customer class is inappropriate.

Q. Does Staff agree with the rate design GMO is requesting for L&P?

A. No. GMO's rate design for L&P, like its rate design for MPS, is to spread the non-fuel requested increase to all customer classes and all non-fuel rate components on an equal percentage basis. It is Staff's position that, instead, adjustments should be made to move certain customer class revenue responsibilities closer to GMO's (L&P's) costs to serve each class and that the permanent rates reflect changes to all of GMO's (L&P's) costs to serve each L&P customer class, not just the non-fuel costs. Therefore, an equal percentage basis on all non-fuel components is inappropriate.

Q. Does Staff recommend interclass shifts in class revenue responsibilities at this time?

A. Yes. Staff recommends that it is time to start moving the revenue responsibilities of customer classes (generally correlating to rate schedules) closer to GMOs costs to serve them, for both MPS and L&P customer classes.

Q. Does Staff agree with MGE's proposed rate design?

A. No. MGE's rate design proposal is that the Commission eliminate residential electric rates for both MPS and L&P. Specifically, MPS Rate MO870 – Residential Electric Space Heating (Noack, Direct Testimony, p. 2 & 3); and L&P Rate MO920 – Residential Service – with Electric Space Heating; and Rate MO922 – Residential Space Heating/Water Heating – Separate Meter (Noack, Direct Testimony, p. 2 & 3). At this time, Staff does not support MGE's recommendation to eliminate GMO's residential rate schedules. Staff does not oppose all-electric residential rates; instead, Staff recommends that the customers on such rate schedule be moved closer to GMO's cost to serve them.

Q. Why does Staff oppose elimination of the residential electric rate schedules?

A. MGE portrays the residential electric rates as "discounted." However, Staff's CCOS for MPS, shows that the Residential Electric Space Heating rate schedule is not discounted. It is within 99% (Table 1, p.3, Staff's Rate Design and Class Cost-of-Service Report) of GMO's cost to serve the MPS class. So Staff does not agree with MGE that the residential electric rate is "discounted." If the residential electric rate was eliminated and the customers currently on the rate had to pay the regular residential rate, many of them would see a dramatic increase in their bills over and above whatever increase the Commission may order in this case. Therefore, Staff is recommending a system average increase (Schedule MSS-R1).

Q. Does Staff agree with the Office of Public Counsel's (OPC) proposed rate designs for MPS and L&P?

A. No. OPC's rate design proposal for MPS is that:

> [T]he maximum revenue neutral shift [Meisenheimer] would recommend would increase the Large Power class by one half of the "revenue neutral shifts" indicated by the class cost of service study or $2,197,678 [$242,837,322*1/2*(5.818%-4.008%)]. Currently, the company estimates that the Large General Service class provides a 4.995% return compared to the system average return of 5.818%. The maximum revenue neutral shift I would recommend would increase the Large General Service class by one half of the "revenue neutral shifts" indicated by the class cost of service study or $785,665 [$190,927,040*1/2 *(5.818%-4.995%]. The Residential and Small General Service classes should receive a revenue neutral reduction equal to the combined revenue neutral increase to the Large General Service and Large Power classes ($2,983,243=$2,197,678 + $785,665). The Small General Service class should receive a greater share of the reduction since Small General Service is substantially farther above cost than the Residential class. I'd recommend that Small General Service receive approximately 87% ($2,595,395) of the combined $2,983,243 revenue neutral reduction and Residential receiving the remaining 13% ($384,948) of the combined reduction.
>
> (Meisenheimer, Direct Testimony, P. 5, 6).

And OPC's rate design proposal for L&P is that:

> [T]he maximum revenue neutral shift [Meisenheimer] would recommend would increase the Large Power class by one half of the "revenue neutral shifts" indicated by the class cost of service study or $1,406,690 [$139,138,505*1/2*(5.77%-3.748%)]. The Residential, Small General Service and Large General Service classes should share in a revenue neutral reduction equal to the revenue neutral increase to the Large Power class. The Small General Service class should receive the greatest share of the reduction since Small General Service is substantially farther abovecost than the Large General Service class and Residential class. I'd recommend that the Small General Service receive approximately 78% ($1.096,754) followed by Large General Service receiving 14% ($197,980) of the revenue neutral reduction and Residential receiving the remaining 8% ($111,957) of the revenue neutral reduction.
>
> (Meisenheimer, Direct Testimony, p. 6).

Staff agrees that certain rate schedules in the MPS RES and SGS rate groups and the L&P RES SGS, LGS, and LPS rate groups need to be adjusted. However, based on Staff's CCOS study, OPC's recommended rate designs would cause some customers on rate schedules within these rate groups to have their revenue responsibilities moved in the opposite direction from GMO's cost to serve them; therefore, Staff does not support OPC's proposal.

Q. Does Staff agree with the Industrial's proposed rate designs for MPS and L&P?

A. No. The Industrial's rate design proposal for MPS is to:

> [M]ov[e] classes roughly 25% of the way toward cost of service. This 25% movement was selected because it makes a reasonable step in the right direction without imposing too disruptive of a revenue increase on the Lighting class. An overall revenue-neutral increase of about 3.4% on the Lighting class is a relatively modest step, but at least it is a step in the right direction.
>
> (Brubaker, Direct Testimony, p. 29).

The Industrial's rate design proposal for L&P is to:

> [M]ov[e] classes roughly 25% of the way toward cost of service. This 25% movement was selected because it makes a reasonable step in the right direction without imposing too disruptive of a revenue increase on the Residential and Lighting classes.
>
> (Brubaker, Direct Testimony, p. 29).

In addition, like OPC's proposal, the revenue responsibilities of customers on some rate schedules may be moved in the opposite direction from GMO's cost to serve them; therefore, Staff does not support Industrials' rate design proposal.

Q. Does this conclude your rebuttal testimony?

A. Yes, it does.

Missouri Public Service Commission
Case No. ER-2010-0356 MPS
Allocation of $15 Million Increase (Illustrative Purposes only)

	Current Revenues	Percent Increase First $5 Million	Revenue Increase First $5 Million	Percent Increase Above $5 million	Revenue Increase Above $5 Million	Total Increase	Total Revenues	Percent Increase
Residential								
Regular	$174,368,118	0.9312%	$1,623,693	1.8624%	$3,247,386	$4,871,080	$179,239,198	2.7936%
Space Heating	$115,255,630	0.9312%	$1,073,245	1.8624%	$2,146,491	$3,219,736	$118,475,366	2.7936%
Other	$337,037	0.00%	$0	1.8624%	$6,277	$6,277	$343,314	1.8624%
Small General Service								
Primary and Secondary (1)	$70,243,548	0.9312%	$654,099	1.8624%	$1,308,198	$1,962,296	$72,205,844	2.7936%
No Demand	$8,354,110	0.00%	$0	1.8624%	$155,585	$155,585	$8,509,695	1.8624%
Short Term without Demand	$382,557	0.00%	$0	1.8624%	$7,125	$7,125	$389,682	1.8624%
Large General Service								
Primary	$1,287,302	0.9312%	$11,987	1.8624%	$23,974	$35,962	$1,323,264	2.7936%
Secondary	$69,294,131	0.9312%	$645,258	1.8624%	$1,290,516	$1,935,774	$71,229,905	2.7936%
Large Power Service								
Primary	$42,250,773	0.9312%	$393,434	1.8624%	$786,867	$1,180,301	$43,431,074	2.7936%
Secondary	$46,396,126	0.9312%	$432,035	1.8624%	$864,069	$1,296,104	$47,692,230	2.7936%
Lighting	$8,779,748	1.8936%	$166,249	1.8624%	$163,512	$329,761	$9,109,509	3.7559%
Total	$536,949,080	0.9312%	$5,000,000	1.8624%	$10,000,000	$15,000,000	$551,949,080	2.7936%

Increase First $5 million	$5,000,000	
Additional Increase		$10,000,000
Subject to Increase		$536,949,080
% Increase		1.8624%

(1) Staff combined Primary and Secondary. Approximately 20.000 customers served at Secondary and 3 customers served at Primary.

Missouri Public Service Commissior
Case No. ER-2010-0356 L&P
Allocation of $30 Million Increase (Illustrative Purposes only

Rate Schedule/Class	Current Revenues	Percent Increase First $3 Million	Revenue Increase First $3 Million	Percent Increase Above $3 Million	Revenue Increase Above $3 Million	Total Increase	Total Revenues	Percent Increase
Residential								
Regular	$34,170,443	2.9709%	$1,015,155	19.2468%	$6,576,722	$7,591,877	$41,762,320	22.22%
Other	$1,204,068	2.9709%	$35,771	19.2468%	$231,745	$267,516	$1,471,584	22.22%
Space heating	$25,981,096	2.9709%	$771,861	19.2468%	$5,000,534	$5,772,394	$31,753,490	22.22%
General Service								
General Use	$6,854,046	0.00%	$0	19.2468%	$1,319,186	$1,319,186	$8,173,232	19.25%
Limited Demand, Short Term, Seoarate Meter SH/WH (1)	$3,834,738	0.00%	$0	19.2468%	$738,065	$738,065	$4,572,803	19.25%
Large General Service								
Primary, Secondary, and Substation (2)	$25,348,984	0.00%	$0	19.2468%	$4,878,872	$4,878,872	$30,227,856	19.25%
Large Power Service								
TOU - Primary,Secondary, Substation, and Transmission (3)	$39,625,395	2.9709%	$1,177,213	19.2468%	$7,626,627	$8,803,840	$48,429,235	22.22%
Lighting - All (4)	$3,264,178	0.00%	$0	19.2468%	$628,250	$628,250	$3,892,428	19.25%
Total	$140,282,948	2.1385%	$3,000,000	19.2468%	$27,000,000	$30,000,000	$170,282,948	21.39%

Increase First $3 Million	$3,000,000	
Additional increase		$27,000,000
Subject to Increase	$100,981,002	$140,282,948
% Increase	2.9709%	19.2468%

(1) Staff combined Limited Demand, Short Term without Demand and Separate SH/WH. Approximately 3,700 customers on Limited Demand, 77 customers served on Short term, and 73 customers with Separate SH/WH.
(2) Staff combined Primary, Secondary, and Substation since ther is only 1 rate schedule for all three voltage levels.
(3) Staff combined Primary, Secondary, Substation, and Transmission since ther is only 1 rate schedule for all four voltages.
(4) Staff combined Lighting into one class - separated by metered and non-metered in GMO CCOS study.
Metered revenue approximately 3.5 % of total lighting revenue.
Non-Metered revenue approximately 96.5% of total lighting revenue.