

Exhibit No.:
Issue: Rate Design
Witness: James C. Watkins
Type of Exhibit: Direct
Sponsoring Party: MoPSC Staff
Case No.: ER-97-81

MISSOURI PUBLIC SERVICE COMMISSION
POLICY & PLANNING DIVISION

DIRECT TESTIMONY
OF
JAMES C. WATKINS

FILED
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MISSOURI
PUBLIC SERVICE COMMISSION

THE EMPIRE DISTRICT ELECTRIC COMPANY

CASE NO. ER-97-81

Jefferson City, Missouri

February, 1997

1 DIRECT TESTIMONY

2 OF

3 JAMES C. WATKINS

4
5 THE EMPIRE DISTRICT ELECTRIC COMPANY

6 CASE NO. ER-97-81

7
8 Q. PLEASE STATE YOUR NAME AND BUSINESS ADDRESS.

9 A. My name is James C. Watkins and my business address is
10 301 West High Street, P. O. Box 360, Jefferson City, Missouri 65102.

11 Q. WHAT IS YOUR PRESENT POSITION WITH THE
12 MISSOURI PUBLIC SERVICE COMMISSION?

13 A. I am a Regulatory Economist in the Policy and Planning Division's
14 Department of Economic Analysis.

15 Q. PLEASE REVIEW YOUR EDUCATIONAL BACKGROUND
16 AND WORK EXPERIENCE.

17 A. I have a Bachelor of Arts Degree in Economics from William
18 Jewell College, a year of graduate study in Economics at the University of California at
19 Los Angeles in the Masters Degree Program, and have completed all requirements
20 except my dissertation for a Ph.D. in Economics from the University of Missouri-
21 Columbia. My previous work experience has been as an Instructor of Economics at
22 Columbia College, the University of Missouri-Rolla, and William Jewell College. I have
23 been on the Staff of the Missouri Public Service Commission since August 1, 1982.

1 Q. WHAT IS THE PURPOSE OF YOUR DIRECT TESTIMONY
2 IN THIS CASE?

3 A. The purpose of my direct testimony is to describe Staff's class
4 cost-of-service study and to propose adjustments to class revenues that will move class
5 revenues closer to class cost of service.

6 Q. HOW IS YOUR TESTIMONY ORGANIZED?

7 A. The next section of my testimony gives an overview of Staff's
8 class cost-of-service study; followed by a section on Staff's proposal to adjust class
9 revenues.

10 COST OF SERVICE

11 Q. WHAT IS THE GENERAL PROCEDURE FOLLOWED BY
12 STAFF IN CONDUCTING ITS CLASS COST-OF-SERVICE STUDY?

13 A. Staff used the procedure described in Chapter 2 of the National
14 Association of Regulatory Utility Commissioners (NARUC) ELECTRIC UTILITY
15 COST ALLOCATION MANUAL, January, 1992 (NARUC Manual). Costs were
16 allocated to customer classes in a manner consistent with the NARUC Manual and the
17 Commission's decision in St. Joseph Light & Power Company's class cost-of-service
18 case, Case No. EO-88-158, which is the most recent case in which the Commission
19 heard and decided class cost-of-service issues.

20 Q. WHAT IS THE FIRST PROCEDURAL STEP IN
21 PERFORMING A CLASS COST-OF-SERVICE STUDY?

22 A. Gathering or developing the required revenue, cost, and load data.

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1 Q. WHAT WAS THE SOURCE OF THE REVENUE AND COST
2 DATA USED IN STAFF'S STUDY?

3 A. Revenues and costs by major FERC account were provided for
4 the twelve month period (test year) ending September 30, 1991, by various Missouri
5 Public Service Commission Staff (Staff) witnesses as found in the Staff Accounting
6 Schedules filed on February 13, 1997.

7 Class level revenue detail is from Schedule 2 of Staff witness Ms. Janice
8 Pyatte's prepared direct testimony filed on February 13, 1997. Hourly fuel and
9 purchased power costs were provided by Staff witness Mr. Tom Y. Lin.

10 Q. WHAT WAS THE SOURCE OF THE LOAD DATA USED IN
11 STAFF'S STUDY?

12 A. The Empire District Electric Company (Company) provided
13 individual customer billing data and load research data for the study period. Economic
14 Analysis Department Staff developed hourly weather normalized net system and class
15 loads. Annual customer maximum demands were also determined. Hourly system loads
16 were provided by Staff witness Ms. Lena M. Mantle. Hourly class loads, voltage
17 adjusted to the generator, were provided by Staff witness Mr. Daniel I. Beck.

18 Q. WHAT CUSTOMER CLASSES ARE USED IN THE STAFF'S
19 STUDY?

20 A. The customer classes are:
21 Residential (RES)
22 Small General Service (SGS)

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1 Large General Service (LGS)

2 Large Power (LPS or PWR)

3 Special Contracts (SCS or SPC)

4 Q. WERE THE LIGHTING, POWER FURNACE, AND OTHER
5 MISCELLANEOUS TARIFF CLASSES A PART OF THIS STUDY?

6 A. The lighting, power furnace, and other miscellaneous classes were
7 not studied. Their revenues were used as an offset; first, against directly assigned costs
8 with the residual applied against the revenue requirements of the classes that were
9 studied.

10 Q. WHAT IS THE REVENUE REQUIREMENT IN THIS
11 STUDY?

12 A. The total revenue requirement for the purposes of this study is
13 Staff's mid-point test year overall revenue requirement, i.e., a \$6,816,760 increase. The
14 class cost-of-service study results were also calculated for Staff's anticipated mid-point
15 total revenue requirement including true up, i.e., a \$15,101,760 increase.

16 Q. WHAT ARE THE COMPONENTS OF THE REVENUE
17 REQUIREMENT OF EACH CUSTOMER CLASS?

18 A. The revenue requirement of each class is its share of total cost,
19 i.e., expenses plus return on rate base.

20 Q. WHAT IS THE SECOND STEP IN PERFORMING A CLASS
21 COST-OF-SERVICE STUDY?

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1 A. The second step is functionalization of costs. Each major account
2 was categorized by whether the costs associated with that account were related to the
3 utility's function of production, transmission, distribution, or customer services and
4 facilities; or, to some combination of these functions. Staff witness Ms. Anne E. Ross
5 was responsible for functionalizing costs in Staff's study.

6 Q. WHAT IS THE THIRD STEP IN PERFORMING A CLASS
7 COST-OF-SERVICE STUDY?

8 A. Classification of distribution costs. For each function, costs were
9 classified as demand related (costs that vary with KW demands) or customer related
10 (costs that vary with the number and type of customer served) and primary (utilized by
11 both primary and secondary customers) or secondary (utilized by only secondary
12 customers). Mr. Daniel I. Beck was responsible for the classification of distribution
13 costs.

14 Q. WHAT IS THE FINAL STEP IN PERFORMING A CLASS
15 COST-OF-SERVICE STUDY?

16 A. Allocating costs to the customer classes by function and summing
17 to calculate each class's revenue requirement or cost of service.

18 Q. WHY WERE TIME-OF-USE ALLOCATORS USED TO
19 ALLOCATE PRODUCTION COSTS?

20 A. Since different types of generating units (base, intermediate, and
21 peaking) have different operational and cost characteristics, utilities attempt to build the
22 amounts and types of generating units that provide the flexibility to match supply to

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1 demand in every hour throughout the year at the lowest possible cost. Because
2 production-energy costs are determined by loads throughout the year, each class's
3 contribution to the sum of hourly class loads was used to allocate hourly production-
4 energy costs. Because production-capacity costs are related to production-energy costs
5 each class's contribution to the sum of hourly class loads was also used to allocate
6 production-capacity costs.

7 Q. HOW WERE THE TIME-OF-USE ALLOCATORS
8 CALCULATED?

9 A. The hourly energy costs from Mr. Lin's fuel run were used to
10 develop a functional relationship between hourly energy costs and load level.

11 This functional relationship was used to calculate hourly marginal energy
12 costs. Assuming an optimal generating capacity mix, hourly marginal production-
13 capacity costs were derived from the hourly marginal energy costs. In each hour the
14 marginal energy costs are summed to determine the total energy cost. The total energy
15 cost in each hour is then allocated to the classes based on their contribution to total load
16 in that hour. A similar process was followed for summing marginal capacity costs and
17 allocating the total to the classes each hour. This is equivalent to the capacity utilization
18 method when each increment of capacity is priced at its marginal cost. Hourly
19 transmission-capacity costs were derived from functionalized transmission-capacity costs
20 based on capacity utilization with each increment of capacity priced the same, i.e.,
21 transmission-capacity costs per KW were assumed to be constant.

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1 In each hour the production-capacity costs, production-energy costs and
2 the transmission-capacity costs (separately) are allocated to each class based on their
3 contribution in that hour to the sum of the class loads. Summing the allocated costs over
4 all hours for each class results in annual costs. The time-of-use allocator is then
5 calculated as each class's contribution to the sum of the annual costs.

6 Q. WHY WERE TRANSMISSION COSTS ALLOCATED IN A
7 SIMILAR WAY TO THE ALLOCATION OF PRODUCTION-CAPACITY COSTS?

8 A. The transmission plant is generally considered to be an extension
9 of the production plant. The planning and operation of one is inexorably linked to the
10 other with the major factors that drive production costs tending also to drive
11 transmission costs. However, because transmission capacity does not have base,
12 intermediate, and peaking components with corresponding variations in capacity and
13 running costs, each increment of transmission capacity required to meet higher loads is
14 priced the same.

15 Q. WHY WAS CLASS CONTRIBUTION TO THE SUM OF THE
16 WEIGHTED NUMBER OF CUSTOMERS USED TO ALLOCATE THE
17 CUSTOMER RELATED PORTION OF TRANSFORMERS?

18 A. The zero-intercept costs (customer or length related) have no
19 capacity (demand) related component included in them, contrary to the case when a
20 "minimum system" method is used to determine the customer related portion of the
21 costs. These costs exist regardless of the size of the load placed on the transformers.

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1 Customer numbers were weighted to reflect the average number of customers per
2 transformer in each class. These weights were provided by Mr. Beck.

3 Q. WHY WAS CLASS CONTRIBUTION TO THE SUM OF
4 ANNUAL CLASS PEAK DEMANDS USED TO ALLOCATE THE PORTION OF
5 SUBSTATIONS, POLES, AND CONDUCTORS RELATED TO PRIMARY
6 DEMAND?

7 A. Substations and primary conductors are sized to meet the
8 diversified demands of the customers. Diversity incorporates the fact that customers do
9 not all peak at the same time. However, since each substation serves a geographic area
10 smaller than the total service territory, system coincident peak demands are not
11 appropriate. The class peak demands incorporate the diversity within each class, but do
12 not take that diversity all the way to the total system.

13 Q. WHY WAS CLASS CONTRIBUTION TO CUSTOMER
14 DIVERSIFIED DEMAND AT SECONDARY USED TO ALLOCATE THE
15 PORTION OF POLES, CONDUCTORS, AND TRANSFORMERS COSTS
16 RELATED TO SECONDARY DEMAND?

17 A. Since each line transformer and segment of secondary line with
18 associated poles serves a small group of customers, class peaks incorporate too much
19 diversity and customer maximum demand incorporates too little since it accounts for
20 none of the diversity between customers within these small groups.

21 Q. WHY WERE COSTS ASSOCIATED WITH SERVICE LINES
22 ALLOCATED ON WEIGHTED CUSTOMERS?

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1 A. The weights used in the allocations reflect the cost of a "typical"
2 service by class.

3 Q. WHY WAS CLASS CONTRIBUTION TO METER
4 REPLACEMENT COSTS USED TO ALLOCATE THE COST OF METERS?

5 A. These relative costs were used to allocate meter costs because
6 they reflect the current cost of installing a meter (or meters) for each class of customer.

7 Q. WHY WAS CLASS CONTRIBUTION TO METER-READING-
8 WEIGHTED NUMBER OF CUSTOMERS USED TO ALLOCATE THE COST OF
9 METER READING?

10 A. Since meter reading costs are related both to the number of
11 customers and customer density, the weights reflect the relative cost of meter reading by
12 class.

13 Q. WHAT FORMED THE BASIS FOR THE ALLOCATION OF
14 UNCOLLECTIBLE ACCOUNTS, BILLING AND RECORDS, CUSTOMER
15 SERVICES, AND SALES PROMOTION EXPENSES?

16 A. The Staff allocated these costs on unweighted customer numbers
17 because they vary with the number of customers and no special studies have been done
18 to determine what, if any, would be the appropriate weights. A portion of customer
19 services and sales promotion expenses were assigned to the classes based on Company's
20 assignments.

21 Q. WHAT ARE THE RESULTS OF STAFF'S CLASS COST-OF-
22 SERVICE STUDY?

1 A. Ms. Anne E. Ross, who functionalized costs and applied Staff's
2 allocation factors, is presenting the results of Staff's study in her testimony. A summary
3 of the results are shown in Schedule 1. Table 1 shows the results of the Staff's class
4 cost-of-service study for the test year. Table 2 shows the results of the Staff's class
5 cost-of-service study when the true up revenue requirement from line 15 of Accounting
6 Schedule 1-1 is included. In both tables the results are slightly different from those of
7 Ms. Ross. An adjustment was made to reflect a system average increase for the classes
8 that were excluded from the Staff's study, i.e., the lighting and power furnace classes.

9
10 **CLASS REVENUE ADJUSTMENTS**

11 Q. WHAT GENERAL CONCLUSIONS CAN BE DRAWN FROM
12 THE RESULTS OF STAFF'S CLASS COST-OF-SERVICE STUDY?

13 A. On a cost basis the SGS and LGS classes should have their rates
14 lowered even if overall rates increase by the \$6,816,760 associated with the test year.
15 SGS and LGS rates should be increased only slightly if overall rates increase by the
16 \$15,101,760 associated with the total revenue requirement (the sum of test year and true
17 up revenue requirements).

18 Q. WHAT WOULD BE THE IMPACT ON THE OTHER
19 CLASSES OF MOVING ALL THE RATES TO COST-OF-SERVICE LEVELS?

20 A. The 4.19% test year increase would have a 7.5% impact on
21 Residential customers and a nearly 12% impact on Large Power and Special Contract

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1 customers. The 9.29% total increase would have a 12.5% impact on RES and a nearly
2 18% impact on LPS and SCS.

3 Q. IS STAFF PROPOSING ANY ADDITIONAL RATE DESIGN
4 CHANGES WHICH WOULD CAUSE THE INCREASES TO INDIVIDUAL
5 CUSTOMERS WITHIN A CLASS TO BE DIFFERENT THAN THE CLASS
6 AVERAGE PERCENTAGE INCREASE?

7 A. No.

8 Q. HOW COULD THE COMMISSION TAKE INTO ACCOUNT
9 THE IMPACTS ON CUSTOMER CLASSES AND STILL MOVE RATES CLOSER
10 TO THEIR COST-OF-SERVICE LEVELS?

11 A. One possibility is shown in Schedules 2 and 3. Schedule 2 shows
12 a Step 1 modification to the class cost-of-service results for the test year. Schedule 3
13 shows a Step 2 modification to the class cost-of-service results for the true up revenue
14 requirement.

15 Q. WHAT IS THE STEP 1 MODIFICATION SHOWN ON
16 SCHEDULE 2?

17 A. Schedule 2 shows the effects of not giving any class a rate
18 reduction. In this step, a revenue shift made to the SGS class is limited to an amount
19 which will result in no rate reduction after applying an equal percentage rate increase to
20 the shifted revenues. Also, a revenue shift was made to the LGS class that is one third of
21 the percentage reduction made to the SGS class. The smaller percentage shift for LGS is
22 in proportion to the Staff's class cost-of-service results. To account for these revenue

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1 reductions, revenue increases were made to the remaining classes on an equal percentage
2 basis. Once the shifts are made, the Step 1 rate increase is applied on an equal
3 percentage basis to all classes.

4 As shown in the bold face type on Schedule 2, the effect of Step 1 is to
5 limit the impacts to RES, LPS, and SCS to under 6%. In the third table on Schedule 2,
6 the effect shown is to move RES, LPS, and SCS closer to cost of service; however, on a
7 percentage basis, SGS and LGS are moved farther away.

8 Q. WHAT IS THE STEP 2 MODIFICATION SHOWN IN
9 SCHEDULE 3?

10 Step 2 includes the true up revenue requirement. The objective in this
11 step is to move class revenue requirements closer to cost of service. However, in this
12 step the maximum acceptable impact to the LPS and SCS classes is limited to 15%.

13 As shown in Schedule 3, the incremental rate increase is first calculated
14 on an equal percentage basis. Then revenues are shifted away from those classes with
15 rates farthest above cost of service (SGS and LGS) to the classes with rates farthest
16 below cost of service (LPS and SCS). These increases and decreases are made on an
17 equal percentage basis between the two classes within each group.

18 As shown in the bold face type on Schedule 3, the overall result of both
19 steps is to reduce the impacts on those classes receiving increases by limiting the
20 increases to 11% for RES and 15% for LPS and SCS. In the third table on Schedule 3,
21 the effect shown is to move all classes to within about 2% of cost-of-service rate levels.

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1 Q. DO YOU RECOMMEND THAT THE COMMISSION, IN
2 ESTABLISHING CLASS REVENUE RESPONSIBILITY IN THIS CASE, TAKE
3 INTO ACCOUNT THE IMPACTS ON CUSTOMER CLASSES?

4 A. Yes, I do. The Commission has the responsibility for establishing
5 just and reasonable rates which are in the public interest. I believe that the Commission
6 has a responsibility to consider not only the level of rates, but also how quickly rates are
7 changing.

8 The Commission must balance cost of service with customer impacts
9 while giving full consideration to both.

10 Q. DO YOU HAVE A RECOMMENDATION REGARDING A
11 REASONABLE BALANCE BETWEEN COST OF SERVICE AND IMPACT?

12 A. I believe that the two-step approach shown in Schedules 2 and 3
13 is reasonable in this case. It limits customer impacts and moves rates closer to cost of
14 service. Furthermore, all classes contribute significantly to the overall rate increase.

15 Q. ARE YOU CONCERNED ABOUT THE IMPACT OF A 15%
16 RATE INCREASE FOR CUSTOMERS IN THE LPS AND SCS CLASSES?

17 A. A 15% increase seems big. However, to put things into
18 perspective, a 15% rate increase is only about 1.5 times the average increase while a
19 3.57% increase to SGS is almost 3 times the cost-based increase. A 15% increase is
20 only an additional 5% impact above the system average. In the aforementioned St.
21 Joseph Light and Power rate design case, the Commission determined that a 4.5% higher
22 than system average increase to residential rates was reasonable.

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1 I am particularly concerned about the effects that limiting revenue shifts
2 on the basis of impacts will have on the SGS class. The SGS class has historically paid
3 rates which have consistently been above their cost of service. Rate equity demands that
4 at some point the Commission limit increases to already too high SGS rates instead of
5 giving this class a large increase as a way to mitigate the impact on customer classes
6 whose rates are below cost of service levels.

7 Q. DOES THE STAFF HAVE ANY RECOMMENDATIONS FOR
8 COMMISSION ACTION IN THIS CASE?

9 A. Yes. The Staff recommends that the Commission: (1) find that
10 the results of Staff's class cost-of-service study are reasonable, (2) find that reasonable
11 increases to any customer class should be no more than 15%, and (3) set class revenue
12 requirements based on Staff's two-step approach as shown in Schedule 2 and 3.

13 In addition, the Commission should reject the tariffs filed by Company
14 and require that the rate levels of each tariff component on tariffs filed to comply with
15 the Commission's orders in this case be calculated by applying the percentage increase in
16 class revenues determined by the Commission to the current rate levels; however no
17 changes are to be made to any rate component on any of Company's Riders. The overall
18 average percentage increase should be applied to Lighting tariffs and Electric Furnace
19 Primary Service-Schedule PF (Rate 70).

20 Q. DOES THIS CONCLUDE YOUR DIRECT TESTIMONY?

21 A. Yes, it does.


BEFORE THE PUBLIC SERVICE COMMISSION
OF THE STATE OF MISSOURI

In the matter of the Empire District Electric Company)
of Joplin, Missouri, for Authority to File Tariffs) CASE NO. ER-97-81
Increasing Rates for Electric Service Provided to)
Customers in the Missouri Service Area of the Company.)

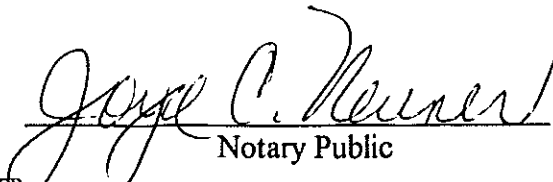
AFFIDAVIT OF JAMES C. WATKINS

STATE OF MISSOURI)
) ss
COUNTY OF COLE)

James C. Watkins, of lawful age, on his oath states: that he has participated in the preparation of the foregoing written testimony in question and answer form, consisting of 14 pages of testimony to be presented in the above case, that the answers in the attached written 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.


James C. Watkins

Subscribed and sworn to before me this 20th day of February, 1997.


Notary Public

My commission expires _____
JOYCE C. NEUNER
NOTARY PUBLIC STATE OF MISSOURI
OSAGE COUNTY
MY COMMISSION EXP JUNE 18, 1997

STAFF'S CLASS COST-OF-SERVICE RESULTS SUMMARY

TABLE 1: REFLECTS TEST YEAR MIDPOINT GROSS REVENUE REQUIREMENT

Customer Classes	Current Rate Revenues	Required Rate Increase	Required Rate Increase
	Dollars	Dollars	%
Residential Service	\$74,129,942	\$5,475,943	7.39%
Small General Service	\$24,056,415	(\$820,104)	-3.41%
Large General Service	\$39,800,915	(\$481,816)	-1.21%
Large Power Service	\$18,082,021	\$2,099,217	11.61%
Special Contracts	\$3,564,859	\$418,106	11.73%
Lighting & Rate 70	\$2,991,965	\$125,413	4.19%
Total Missouri Retail	\$162,626,117	\$6,816,760	4.19%

TABLE 2: REFLECTS TEST YEAR MIDPOINT GROSS REVENUE REQUIREMENT PLUS TRUE UP REVENUE REQUIREMENT

Customer Classes	Current Rate Revenues	Required Rate Increase	Required Rate Increase
	Dollars	Dollars	%
Residential Service	\$74,129,942	\$9,168,214	12.37%
Small General Service	\$24,056,415	\$297,860	1.24%
Large General Service	\$39,800,915	\$1,562,878	3.93%
Large Power Service	\$18,082,021	\$3,163,622	17.50%
Special Contracts	\$3,564,859	\$631,346	17.71%
Lighting & Rate 70	\$2,991,965	\$277,839	9.29%
Total Missouri Retail	\$162,626,117	\$15,101,759	9.29%

TAKING INTO ACCOUNT IMPACT ON VARIOUS CLASSES

STEP 1: HOLDING THE SGS RATE CHANGE TO ZERO

Customer Classes	Current Rate Revenues		Step 1 Rate Shifts		Shifted Rate Revenues	
	Dollars	% Dist	Dollars	% Chg	Dollars	% Dist
Residential Service	\$74,129,942	45.58%	\$1,189,143	1.60%	\$75,319,085	46.31%
Small General Service	\$24,056,415	14.79%	(\$967,800)	-4.02%	\$23,088,615	14.20%
Large General Service	\$39,800,915	24.47%	(\$568,588)	-1.43%	\$39,232,327	24.12%
Large Power Service	\$18,082,021	11.12%	\$290,060	1.60%	\$18,372,081	11.30%
Special Contracts	\$3,564,859	2.19%	\$57,185	1.60%	\$3,622,044	2.23%
Lighting & Rate 70	\$2,991,965	1.84%	\$0	0.00%	\$2,991,965	1.84%
Total Missouri Retail	\$162,626,117	100.00%	\$0	0.00%	\$162,626,117	100.00%

Customer Classes	Shifted Rate Revenues		Step 1 Rate Increases		Step 1 Rate Changes	
	Dollars	% Dist	Dollars	% Inc	Dollars	% Inc
Residential Service	\$75,319,085	46.31%	\$3,157,133	4.19%	\$4,346,276	5.86%
Small General Service	\$23,088,615	14.20%	\$967,800	4.19%	\$0	0.00%
Large General Service	\$39,232,327	24.12%	\$1,644,492	4.19%	\$1,075,904	2.70%
Large Power Service	\$18,372,081	11.30%	\$770,098	4.19%	\$1,060,158	5.86%
Special Contracts	\$3,622,044	2.23%	\$151,824	4.19%	\$209,009	5.86%
Lighting & Rate 70	\$2,991,965	1.84%	\$125,413	4.19%	\$125,413	4.19%
Total Missouri Retail	\$162,626,117	100.00%	\$6,816,761	4.19%	\$6,816,761	4.19%

Customer Classes	Step 1 Rate Revenues		Step 1 Class COS		Compared to COS	
	Dollars	% Dist	Dollars	% Dist	Dollars	% Dif
Residential Service	\$78,476,218	46.31%	\$79,605,886	46.98%	\$1,129,668	1.44%
Small General Service	\$24,056,415	14.20%	\$23,236,311	13.71%	(\$820,104)	-3.41%
Large General Service	\$40,876,819	24.12%	\$39,319,100	23.20%	(\$1,557,720)	-3.81%
Large Power Service	\$19,142,179	11.30%	\$20,181,238	11.91%	\$1,039,059	5.43%
Special Contracts	\$3,773,868	2.23%	\$3,982,965	2.35%	\$209,097	5.54%
Lighting & Rate 70	\$3,117,378	1.84%	\$3,117,378	1.84%	\$0	0.00%
Total Missouri Retail	\$169,442,878	100.00%	\$169,442,878	100.00%	\$0	0.00%

TAKING INTO ACCOUNT IMPACT ON VARIOUS CLASSES

STEP 2: REDUCING THE C-O-S RATE GAP

Customer Classes	Step 1 Rate Revenues		Step 2 Rate Increase		Step 2 Rate Shifts	
	Dollars	% Dist	Dollars	% Inc	Dollars	% Chg
Residential Service	\$78,476,218	46.31%	\$3,837,136	4.89%	\$0	0.00%
Small General Service	\$24,056,415	14.20%	\$1,176,251	4.89%	(\$316,412)	-1.32%
Large General Service	\$40,876,819	24.12%	\$1,998,694	4.89%	(\$537,649)	-1.32%
Large Power Service	\$19,142,179	11.30%	\$935,967	4.89%	\$713,412	3.73%
Special Contracts	\$3,773,868	2.23%	\$184,525	4.89%	\$140,649	3.73%
Lighting & Rate 70	\$3,117,378	1.84%	\$152,426	4.89%	\$0	0.00%
Total Missouri Retail	\$169,442,878	100.00%	\$8,284,999	4.89%	\$0	0.00%

Customer Classes	Step 2 Rate Changes		Overall Rate Change		Proposed Rate Revenues	
	Dollars	% Inc	Dollars	% Inc	Dollars	% Dist
Residential Service	\$3,837,136	5.18%	\$8,183,412	11.04%	\$82,313,354	46.31%
Small General Service	\$859,840	3.57%	\$859,840	3.57%	\$24,916,255	14.02%
Large General Service	\$1,461,045	3.67%	\$2,536,949	6.37%	\$42,337,864	23.82%
Large Power Service	\$1,649,378	9.12%	\$2,709,537	14.98%	\$20,791,558	11.70%
Special Contracts	\$325,174	9.12%	\$534,183	14.98%	\$4,099,042	2.31%
Lighting & Rate 70	\$152,426	5.09%	\$277,839	9.29%	\$3,269,804	1.84%
Total Missouri Retail	\$8,284,999	5.09%	\$15,101,760	9.29%	\$177,727,877	100.00%

Customer Classes	Proposed Rate Revenues		Class COS		Compared to COS	
	Dollars	% Dist	Dollars	% Dist	Dollars	% Dif
Residential Service	\$82,313,354	46.31%	\$83,298,157	46.87%	\$984,803	1.20%
Small General Service	\$24,916,255	14.02%	\$24,354,276	13.70%	(\$561,979)	-2.26%
Large General Service	\$42,337,864	23.82%	\$41,363,793	23.27%	(\$974,072)	-2.30%
Large Power Service	\$20,791,558	11.70%	\$21,245,642	11.95%	\$454,085	2.18%
Special Contracts	\$4,099,042	2.31%	\$4,196,205	2.36%	\$97,162	2.37%
Lighting & Rate 70	\$3,269,804	1.84%	\$3,269,804	1.84%	\$0	0.00%
Total Missouri Retail	\$177,727,877	100.00%	\$177,727,877	100.00%	\$0	0.00%