

Exhibit No.:  
Issue: Class Cost-of-Service  
Witness: Anne E. Ross  
Type of Exhibit: Direct  
Sponsoring Party: MoPSC Staff  
Case No.: ER-97-81

**MISSOURI PUBLIC SERVICE COMMISSION**  
**POLICY & PLANNING DIVISION**

**DIRECT TESTIMONY**  
**OF**  
**ANNE E. ROSS**

**FILED**  
FEB 20 1997  
MISSOURI  
PUBLIC SERVICE COMMISSION

**THE EMPIRE DISTRICT ELECTRIC COMPANY**

**CASE NO. ER-97-81**

**Jefferson City, Missouri**

**February, 1997**

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DIRECT TESTIMONY

OF

ANNE E. ROSS

THE EMPIRE DISTRICT ELECTRIC COMPANY

CASE NO. ER-97-81

Q. Please state your name and business address.

A. My name is Anne E. Ross and my business address is Missouri Public Service Commission, P. O. Box 360, Jefferson City, Missouri, 65102.

Q. What is your present position with the Missouri Public Service Commission?

A. I am a Regulatory Analyst in the Economic Analysis Department of the Policy and Planning Division.

Q. Would you please review your educational background?

A. I have a Bachelor of Science in Business Administration and an M.B.A. from the University of Missouri - Columbia.

Q. Have you previously filed testimony before the Commission?

A. Yes. I joined the Staff of the Missouri Public Service Commission (MoPSC or Staff) in September, 1989. Since that time, I have filed class cost-of-service and rate design testimony in numerous gas and electric cases.

Direct Testimony of  
Anne E. Ross

1 Q. What is the purpose of your direct testimony?

2 A. Under the direct supervision of Mr. James C. Watkins, I was  
3 responsible for the preparation of the two Staff class cost-of-service studies for the  
4 Empire District Electric Company (EDE or Company). The first study was done using  
5 the Staff's recommended \$6.8 million dollar increase in revenue requirement; the second  
6 with the Staff's recommended \$15.1 million dollar increase in revenue requirement,  
7 which includes the anticipated costs associated with a true-up through March 31, 1997.

8 Q. What is the purpose of the Staff's class cost-of-service study?

9 A. The purpose of the Staff's class cost-of-service study is to provide the  
10 Commission with a measure of relative class cost responsibility for the overall revenue  
11 requirement of EDE. For individual items of cost, class cost responsibility can be either  
12 directly assigned or allocated to customer classes using reasonable methods for  
13 determining the class responsibility for that item of cost. The results are then  
14 summarized so that they can be compared to revenues being collected from each class on  
15 current rates.

16 Q. What were the sources of information used in Staff's class cost-of-  
17 service study?

18 A. Rate revenues were developed by Staff witness Janice Pyatte, and will  
19 be discussed in her direct testimony. Other revenue and accounting information was  
20 provided by the Accounting Department Staff of the MoPSC, and is based on a twelve  
21 month test year ending September 30, 1996, trued-up through March 31, 1997.

Direct Testimony of  
Anne E. Ross

1 Q. What customer classes are used in the Staff's class cost-of-  
2 service study?

3 A. The customer classes used in this study are as follows:

4 Residential  
5 Small General Service  
6 Large General Service  
7 Large Power Service  
8 Special Contract Service  
9

10 Q. Please describe how you categorized the individual items of cost in  
11 the Staff's class cost-of-service study.

12 A. Categorization of costs into functional categories that are to be  
13 allocated in the same way is called cost functionalization. Where possible, the rate base  
14 and expense accounts are assigned to one of seventeen functional categories. The  
15 functional categories used in this study are as follows:

16 Production - Capacity  
17 Production - Energy  
18 Transmission - Capacity  
19 Distribution Substations - Demand  
20 Poles and Conductors - Primary Feeder - Demand  
21 Poles and Conductors - Secondary Customer  
22 Poles and Conductors - Secondary Demand  
23 Transformers - Secondary Customer - 1 Phase  
24 Transformers - Secondary Customer - 3 Phase  
25 Transformers - Demand  
26 Distribution Services  
27 Distribution Meters  
28 Customer Deposits  
29 Meter Reading  
30 Customer Billing, Sales, Service  
31 Assigned - Residential and Small General Service  
32 Assigned - Large General Service, Large Power Service,  
33 Special Contract Service  
34

Direct Testimony of  
Anne E. Ross

1                   Q. How are costs functionalized which cannot directly be assigned to a  
2                   single functional category?

3                   A. Those costs which cannot directly be assigned to any specific  
4                   functional category are divided among several functional categories based upon some  
5                   related factor. For example, it is reasonable to assume that social security taxes are  
6                   directly related to payroll costs and can therefore be functionalized in the same manner  
7                   as payroll costs. Two major accounting categories of costs which are refunctionalized in  
8                   this manner are General and Intangible Plant accounts and Administrative and General  
9                   Expense accounts.

10                  Q. How were the General and Intangible Plant accounts functionalized?

11                  A. General and Intangible Plant accounts were functionalized using each  
12                  functional category's relative share of Production, Transmission, and Distribution gross  
13                  plant.

14                  Q. How were the Administrative and General Expense accounts  
15                  functionalized?

16                  A. These accounts were functionalized in one of three ways. Labor-  
17                  related accounts, such as Salaries and Employee Pensions and Benefits, were  
18                  functionalized using each functional category's relative share of payroll costs. I was  
19                  unable to obtain the labor costs for the test year in the detail needed, so the labor costs  
20                  used in the study are those from the previous case. Plant-related accounts, such as  
21                  Property Insurance, were functionalized using an aggregate gross plant factor. Finally,

Direct Testimony of  
Anne E. Ross

1 each cost-of-service class' allocated costs was used to functionize overhead costs such  
2 as Regulatory Commission Expense.

3 Q. How were Production and Transmission costs allocated?

4 A. Production and Transmission costs were allocated using Time of Use  
5 allocators. These allocators were developed by Staff witness James C. Watkins, and will  
6 be discussed in his direct testimony.

7 Q. How were Distribution costs allocated?

8 A. Costs associated with the Distribution functions were allocated using  
9 class demands and weighted customers. These allocators were developed by Staff  
10 witness Daniel I. Beck, and will be discussed in his testimony.

11 Q. How were costs associated with Customer Deposits allocated?

12 A. The inputs for this allocator were updated using the results of a  
13 Company study on Customer Deposits.

14 Q. How were Meter Reading costs allocated?

15 A. These costs were allocated using the results of a Company study on  
16 meter reading.

17 Q. How were costs functionalized to the Customer Billing, Sales, and  
18 Service category allocated?

19 A. These costs were allocated among the cost-of-service classes using  
20 unweighted customer numbers.

Direct Testimony of  
Anne E. Ross

1 Q. How were costs assigned to the Large General Service, Large Power  
2 Service, and Special Contract Service or to only the Residential and Small General  
3 Service cost-of-service classes allocated among these classes?

4 A. These costs were allocated among only the affected cost-of-service  
5 classes using customer numbers.

6 Q. How were the various Other Revenue accounts allocated to the cost-  
7 of-service classes?

8 A. In general, Other Revenue accounts were allocated using one of two  
9 procedures. Where the revenues could be directly associated with certain customers or  
10 groups of customers, these revenue accounts were directly assigned to the corresponding  
11 customer class or classes. Otherwise, revenue accounts were functionalized based on the  
12 nature of the revenues in these accounts, and then allocated to the customer classes.

13 Q. What are the results of Staff's class cost-of-service studies?

14 A. The results are shown on Schedules 1 and 2, and are presented in  
15 terms of class revenue requirements. Schedule 1 details the cost-of-service associated  
16 with the Staff's recommended \$6.8 million revenue requirement increase. Schedule 2  
17 details the cost-of-service associated with the Staff's projected \$15.1 million increase,  
18 which reflects the results of an anticipated true-up audit through March 31, 1997.

19 Q. What are the class cost-of-service study results for the various  
20 customer classes?

21 A. The class cost-of-service study associated with the \$6.8 million  
22 increase shows that revenues from Residential, Large Power Service and Special

Direct Testimony of  
Anne E. Ross

1 Contract Service cost-of-service classes are less than the cost of providing service to  
2 these classes, and that revenues from the Small General Service and Large General  
3 Service cost-of-service classes are greater than the costs of providing service to these  
4 classes. The class cost-of-service study associated with the \$15.1 million increase shows  
5 that revenues from all of the above classes are less than the cost of providing service to  
6 these classes.

7 Q. Does this conclude your direct testimony?

8 A. Yes, it does.  
9



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 ANNE E. ROSS

STATE OF MISSOURI )  
 ) ss  
COUNTY OF COLE )

Anne E. Ross, of lawful age, on her oath states: that she has participated in the preparation of the foregoing written testimony in question and answer form, consisting of 7 pages of testimony to be presented in the above case; that the answers in the attached written testimony were given by her; that she has knowledge of the matters set forth in such answers; and that such matters are true to the best of her knowledge and belief.

Anne E. Ross  
Anne E. Ross

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

Rosemarie Zell  
Notary Public

My commission expires June 1, 1997

# STAFF CLASS COST-OF-SERVICE RESULTS - REV REQ. W/O TRUE-UP \$

EMPIRE DISTRICT ELECTRIC

CASE NO. ER-97-81

FUNCTIONAL CATEGORY			RES	SGS	LGS	LPS	SC	TOTAL
PRODUCTION	CAPACITY		\$19,628,445	\$6,031,148	\$13,087,417	\$7,338,158	\$1,657,195	\$47,742,363
PRODUCTION	ENERGY		\$23,686,003	\$7,319,980	\$15,965,200	\$8,947,540	\$2,029,674	\$57,948,397
TRANSMISSION	CAPACITY		\$5,989,024	\$1,817,113	\$3,753,598	\$2,024,785	\$437,165	\$14,021,685
DISTRIBUTION	SUBSTATIONS	DEMAND	\$4,809,074	\$1,364,763	\$2,152,232	\$965,211	\$93,891	\$9,385,171
DISTRIBUTION	POLES AND CONDUCTORS	PRI. FEEDER - DEMAND	\$9,815,168	\$2,785,885	\$4,394,304	\$1,973,009	\$0	\$18,968,367
DISTRIBUTION	POLES AND CONDUCTORS	PRI. TAP - CUSTOMER	\$0	\$0	\$0	\$0	\$0	\$0
DISTRIBUTION	POLES AND CONDUCTORS	SEC. CUSTOMER	\$3,172,432	\$730,154	\$205,118	\$1,110	\$0	\$4,108,813
DISTRIBUTION	POLES AND CONDUCTORS	PRI. TAP - DEMAND	\$0	\$0	\$0	\$0	\$0	\$0
DISTRIBUTION	POLES AND CONDUCTORS	SEC. DEMAND	\$1,243,409	\$337,061	\$425,196	\$20,836	\$0	\$2,026,502
DISTRIBUTION	POLES AND CONDUCTORS	ASSIGNED LPS CUSTOMERS	\$0	\$0	\$0	\$0	0	\$0
DISTRIBUTION	TRANSFORMERS	SEC. CUSTOMER - 1 PHASE	\$2,274,276	\$553,661	\$5,710	\$0	\$0	\$2,833,648
DISTRIBUTION	TRANSFORMERS	SEC. CUSTOMER - 3 PHASE	\$28,154	\$578,556	\$347,484	\$1,484	\$0	\$955,677
DISTRIBUTION	TRANSFORMERS	DEMAND	\$1,146,720	\$310,851	\$392,132	\$19,215	\$0	\$1,868,918
DISTRIBUTION	SERVICES		\$3,508,245	\$878,510	\$228,775	\$7,436	\$0	\$4,622,966
DISTRIBUTION	METERS		\$1,961,040	\$771,455	\$448,890	\$40,169	\$2,517	\$3,224,071
	CUSTOMER DEPOSITS		(\$189,464)	(\$89,541)	(\$43,598)	\$0	\$0	(\$322,603)
	METER READING		\$1,018,875	\$237,921	\$39,869	\$3,036	\$202	\$1,299,904
	BILLING, SALES, SERVICE		\$2,129,943	\$369,978	\$33,382	\$651	\$43	\$2,533,997
	ASSIGNED LGS/LPS/SC		\$0	\$0	\$187,780	\$3,663	\$244	\$191,687
	ASSIGNED RES/SGS		\$3,469,907	\$602,733	\$0	\$0	\$0	\$4,072,640
TOTAL			\$83,691,251	\$24,600,228	\$41,623,488	\$21,346,301	\$4,220,933	\$175,482,203
RATE REVENUE			\$74,129,942	\$24,056,415	\$39,800,915	\$18,082,021	\$3,564,859	\$159,634,152
	LIGHTING & RATE 70 RATE REVENUE		\$1,523,807	\$447,908	\$757,859	\$388,663	\$76,853	\$3,195,090
	ADDITIONAL RATE REVENUES		\$0	\$0	\$0	\$0	\$0	\$0
	LIGHTING & RATE 70 ASSIGNED OTHER REVENUE		\$1,304	\$383	\$649	\$333	\$66	\$2,734
	OTHER REVENUE LESS LIGHTING & 70		\$2,265,697	\$680,856	\$1,363,199	\$730,755	\$156,215	\$5,196,721
	ASSIGNED OTHER REVENUE		\$261,151	\$181,310	\$161,965	\$30,500	\$1,818	\$636,744
	TOTAL REVENUE (RATE+LIGHTING & RATE 70+OTHER)		\$78,181,901	\$25,366,872	\$42,084,586	\$19,232,271	\$3,799,811	\$168,665,441
REVENUE DEFICIENCY			\$5,509,350	(\$766,644)	(\$461,098)	\$2,114,031	\$421,123	\$6,816,761
% CHANGE			7.43%	-3.19%	-1.16%	11.69%	11.81%	4.27%

ALL MISSOURI JURISDICTIONAL ALLOCATED COSTS ARE ALLOCATED TO STUDIED CLASSES

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# STAFF CLASS COST-OF-SERVICE RESULTS - REV. REQ. WITH TRUE-UP \$

EMPIRE DISTRICT ELECTRIC

CASE NO. ER-97-81

FUNCTIONAL CATEGORY			RES	SGS	LGS	LPS	SC	TOTAL
PRODUCTION	CAPACITY		\$21,723,243	\$6,674,808	\$14,484,140	\$8,121,305	\$1,834,055	\$52,837,551
PRODUCTION	ENERGY		\$23,318,548	\$7,206,420	\$15,717,522	\$8,808,731	\$1,998,187	\$57,049,409
TRANSMISSION	CAPACITY		\$6,898,954	\$2,093,192	\$4,323,893	\$2,332,417	\$503,585	\$16,152,040
DISTRIBUTION	SUBSTATIONS	DEMAND	\$5,081,519	\$1,442,081	\$2,274,161	\$1,019,892	\$99,211	\$9,916,863
DISTRIBUTION	POLES AND CONDUCTORS	PRI. FEEDER - DEMAND	\$10,186,644	\$2,891,323	\$4,560,616	\$2,047,682	\$0	\$19,686,266
DISTRIBUTION	POLES AND CONDUCTORS	PRI. TAP - CUSTOMER	\$0	\$0	\$0	\$0	\$0	\$0
DISTRIBUTION	POLES AND CONDUCTORS	SEC. CUSTOMER	\$3,291,690	\$757,602	\$212,829	\$1,151	\$0	\$4,263,272
DISTRIBUTION	POLES AND CONDUCTORS	PRI. TAP - DEMAND	\$0	\$0	\$0	\$0	\$0	\$0
DISTRIBUTION	POLES AND CONDUCTORS	SEC. DEMAND	\$1,290,151	\$349,732	\$441,180	\$21,619	\$0	\$2,102,682
DISTRIBUTION	POLES AND CONDUCTORS	ASSIGNED LPS CUSTOMERS	\$0	\$0	\$0	\$0	\$0	\$0
DISTRIBUTION	TRANSFORMERS	SEC. CUSTOMER - 1 PHASE	\$2,383,774	\$580,318	\$5,985	\$0	\$0	\$2,970,077
DISTRIBUTION	TRANSFORMERS	SEC. CUSTOMER - 3 PHASE	\$29,509	\$606,411	\$364,214	\$1,556	\$0	\$1,001,689
DISTRIBUTION	TRANSFORMERS	DEMAND	\$1,201,930	\$325,817	\$411,011	\$20,140	\$0	\$1,958,899
DISTRIBUTION	SERVICES		\$3,633,952	\$909,989	\$236,973	\$7,702	\$0	\$4,788,615
DISTRIBUTION	METERS		\$1,998,559	\$786,214	\$457,478	\$40,937	\$2,566	\$3,285,755
	CUSTOMER DEPOSITS		(\$193,843)	(\$91,610)	(\$44,606)	\$0	\$0	(\$330,059)
	METER READING		\$1,017,163	\$237,521	\$39,802	\$3,031	\$202	\$1,297,719
	BILLING, SALES, SERVICE		\$2,126,490	\$369,378	\$33,328	\$650	\$43	\$2,529,889
	ASSIGNED LGS/LPS/SC		\$0	\$0	\$187,467	\$3,657	\$244	\$191,368
	ASSIGNED RES/SGS		\$3,463,540	\$601,627	\$0	\$0	\$0	\$4,065,167
TOTAL			\$87,451,824	\$25,740,823	\$43,705,993	\$22,430,470	\$4,438,092	\$183,767,202
RATE REVENUE			\$74,129,942	\$24,056,415	\$39,800,915	\$18,082,021	\$3,564,859	\$159,634,152
	LIGHTING & RATE 70 RATE REVENUE		\$1,520,801	\$447,654	\$759,740	\$389,808	\$77,086	\$3,195,090
	ADDITIONAL RATE REVENUES		\$0	\$0	\$0	\$0	\$0	\$0
	LIGHTING & RATE 70 ASSIGNED OTHER REVENUE		\$1,282	\$377	\$640	\$329	\$65	\$2,693
	OTHER REVENUE LESS LIGHTING & 70		\$2,265,722	\$680,864	\$1,363,205	\$730,756	\$156,215	\$5,196,762
	ASSIGNED OTHER REVENUE		\$261,151	\$181,310	\$161,965	\$30,500	\$1,818	\$636,744
	TOTAL REVENUE (RATE+LIGHTING & RATE 70+OTHER)		\$78,178,897	\$25,366,621	\$42,086,466	\$19,233,413	\$3,800,044	\$168,665,441
REVENUE DEFICIENCY			\$9,272,926	\$374,201	\$1,619,527	\$3,197,057	\$638,049	\$15,101,760
% CHANGE			12.51%	1.56%	4.07%	17.68%	17.90%	9.46%