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BEFORE THE ARIZONA CORPORATION

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ARIZONA CORPORATION COMMISSION  
DOCKET CONTROL

COMMISSIONERS

BOB STUMP - Chairman  
GARY PIERCE  
BRENDA BURNS  
BOB BURNS  
SUSAN BITTER SMITH

IN THE MATTER OF THE APPLICATION OF  
COLUMBUS ELECTRIC COOPERATIVE,  
INC. FOR AN INCREASE IN RATES AND  
FOR OTHER RELATED APPROVALS.

DOCKET NO. E-01851A-13-0252

**STAFF'S NOTICE OF FILING DIRECT  
TESTIMONY (RATE DESIGN AND COST  
OF SERVICE)**

Staff of the Arizona Corporation Commission ("Staff") herby files the Direct Testimony of  
Margaret "Toby" Little and Patrick Lowe n the above docket.

RESPECTFULLY SUBMITTED this 20<sup>th</sup> day of December 2013.

Brian E. Smith, Attorney  
Legal Division  
Arizona Corporation Commission  
1200 West Washington Street  
Phoenix, Arizona 85007  
(602) 542-3402

Original and thirteen (13) copies  
of the foregoing filed this  
20<sup>th</sup> day of December 2013 with:

Docket Control  
Arizona Corporation Commission  
1200 West Washington Street  
Phoenix, Arizona 85007

Copy of the foregoing mailed this  
20<sup>th</sup> day of December 2013 to:

Charles C. Kretek, General Counsel  
Columbus Electric Cooperative, Inc.  
Post Office Box 631  
Deming, New Mexico 88031-0631

Arizona Corporation Commission

**DOCKETED**

DEC 20 2013

DOCKETED BY nr

BEFORE THE ARIZONA CORPORATION COMMISSION

BOB STUMP  
Chairman  
GARY PIERCE  
Commissioner  
BRENDA BURNS  
Commissioner  
BOB BURNS  
Commissioner  
SUSAN BITTER SMITH  
Commissioner

IN THE MATTER OF THE APPLICATION OF )  
COLUMBUS ELECTRIC COOPERATIVE, INC. )  
FOR A HEARING TO DETERMINE THE FAIR )  
VALUE OF ITS PROPERTY FOR )  
RATEMAKING PURPOSES, TO FIX A JUST )  
AND REASONABLE RETURN THEREON, TO )  
APPROVE RATES DESIGNED TO DEVELOP )  
SUCH RETURN AND FOR RELATED )  
APPROVALS )  
\_\_\_\_\_ )

DOCKET NO. E-01851A-13-0252

DIRECT  
TESTIMONY  
OF  
MARGARET (TOBY) LITTLE  
ELECTRIC UTILITIES ENGINEER  
UTILITIES DIVISION  
ARIZONA CORPORATION COMMISSION

DECEMBER 20, 2013

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**EXHIBIT 1**

**(COST OF SERVICE SCHEDULES G-1 THRU G-7.1)**

Cost of Service Summary – Present Rates.....	Schedule G-1
Cost of Service Summary – Proposed Rates.....	Schedule G-2
Cost of Service Allocation – Rate Base .....	Schedule G-3
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Expense Allocation .....	Schedule G-4
Summary of Components of Expenses .....	Schedule G-4.1

**EXECUTIVE SUMMARY**  
**COLUMBUS ELECTRIC COOPERATIVE, INC.**  
**DOCKET NO. E-1851A-13-0252**

Margaret (Toby) Little's testimony makes recommendations regarding the Arizona Corporation Commission ("Commission" or "ACC") Utilities Division Staff's ("Staff") position in the case of Columbus Electric Cooperative, Inc.'s ("Columbus" or "Cooperative") application for a general rate increase. After reviewing Columbus' Cost of Service Study ("COSS"), Staff has the following conclusions and recommendations:

**CONCLUSIONS**

Based on Staff's evaluation and analysis of Columbus' COSS results, Staff concludes that:

1. Columbus has used its COSS model for the bundled rate filing appropriately. The model used by Columbus is consistent with what is generally accepted in the industry.
2. The results of the application of COSS model are reasonable.

**RECOMMENDATIONS**

1. Based on the aforementioned conclusions, Staff recommends that the Commission accept Columbus' COSS for use in this case.
2. Staff further recommends that Columbus use the same model for COSS in future rate cases.

1 **INTRODUCTION**

2 **Q. Please state your name and business address.**

3 A. My name is Margaret (Toby) Little. My business address is 1200 West Washington  
4 Street, Phoenix, Arizona 85007.

5  
6 **Q. By whom and in what capacity are you employed?**

7 A. I am employed by the Arizona Corporation Commission ("Commission") as a Utilities  
8 Consultant.

9  
10 **Q. Please describe your educational background.**

11 A. I received both my Bachelors and Masters Degrees in Electrical Engineering from New  
12 Mexico State University. I graduated with my Bachelors Degree in July 1972, and  
13 received my Masters Degree in January 1979. My Masters Program at New Mexico State  
14 University was in Electric Utility Management. I received my Professional Engineering  
15 ("P.E.") License in the state of California in 1980.

16  
17 **Q. Please describe your pertinent work experience.**

18 A. I worked at the Commission from September 2010 to February 2011 as a Utilities  
19 Consultant, was employed by the Commission from February 2011 to February 2012 as an  
20 Electric Utilities Engineer, and have been a Utilities Consultant since February 2012.  
21 During this time I have performed engineering analyses for financing and rate cases,  
22 coordinated the Seventh Biennial Transmission Assessment, reviewed utilities' load  
23 curtailment plans and summer preparedness plans, and conducted various other  
24 engineering analyses. From 1983 through 1987 I was the Supervisor of System Planning  
25 for Anchorage Municipal Light and Power, the second largest utility in Alaska. There, I  
26 had overall responsibility for distribution, transmission and resource planning for the

1 utility and supervised six electrical engineers. From 1979 through 1982 and 1987 through  
2 1988 I worked for R.W. Beck and Associates, a nationally recognized engineering firm.  
3 There, I performed many types of engineering analyses involving resource and  
4 transmission planning and worked on the engineer's reports for the financing of a major  
5 generation facility in northern California. Prior to that, I worked in the System Planning  
6 Sections of San Diego Gas and Electric Company and Hawaiian Electric Company where  
7 I had responsibility for short and long range distribution planning.

8  
9 **Q. As part of your assigned duties at the Commission did you perform an analysis of the**  
10 **application that is the subject of this proceeding?**

11 A. Yes, I did.

12  
13 **Q. Is your testimony herein based on that analysis?**

14 A. Yes, it is.

15  
16 **PURPOSE OF TESTIMONY**

17 **Q. What is the purpose of your prefiled testimony?**

18 A. The purpose of my testimony is to discuss Staff's engineering evaluation of Columbus  
19 Electric Cooperative, Inc.'s ("Columbus" or "Cooperative") Cost of Service Study  
20 ("COSS") for the bundled rate case, and present the results of this review. Staff analysis  
21 was performed by Mr. Prem Bahl.

1 **UTILITY OVERVIEW**

2 **Q. Please provide a Brief Overview of Columbus Electric.**

3 A. Columbus Electric's service area is located in southwestern New Mexico and includes a  
4 small portion of southeastern Arizona. Headquartered in Deming, New Mexico, the  
5 service area covers approximately 7,000 square miles and serves portions of Luna, Grant  
6 and Hidalgo counties in New Mexico, and Cochise County in Arizona.

7  
8 CEC's electric system includes over 130 miles of transmission line, 2,098 miles of  
9 energized overhead distribution line and 82 miles of underground distribution. The  
10 portion of the system within Arizona is comprised of approximately 110 miles of  
11 14.4/24.9 kV distribution line of which the majority is single phase overhead construction.  
12 There are no CEC substations or transmission lines located within Arizona.

13  
14 At year-end 2012, CEC had an average of 5,259 customers, with 4,840 (92%) located in  
15 New Mexico and 419 (8%) located in Arizona. The number of active accounts in Arizona  
16 decreased from 462 to 419 during the four year period from 2008 to 2012. Of the  
17 101,612,619 kWh sold in 2012, 6,690 kWh (6.6%) was sold to Arizona consumers. Of the  
18 \$13,403,460 in total revenue for 2012, \$854,079 (6.4%) was derived from Arizona  
19 customers.

20  
21 CEC is a member of Tri-State Generating and Transmission Cooperative, Inc. ("Tri-  
22 State") and purchases its full power and energy requirements from Tri-State pursuant to a  
23 Wholesale Electric Service Contract, generally described as an all-requirements contract.  
24 CEC is allowed to obtain up to five percent of its power requirements from sources other  
25 than Tri-State but does not generate its own power and energy.

1 **COST OF SERVICE STUDY**

2 **Q. What is the purpose of preparing a COSS?**

3 A. There are three steps to take in performing a COSS: 1) Functionalization, 2)  
4 Classification, and 3) Allocation. First, the COSS enables us to determine the system's  
5 cost of service by classifying the utility's revenue requirements (investments and  
6 expenses) by function, such as generation, transmission, distribution, or customers.  
7 Second, costs are then classified as customer-related, demand-related, or energy-related.  
8 Finally, the study breaks down costs by customer rate class to reflect, as closely as  
9 possible, the cost causation by respective customer rate class. The result of the COSS  
10 provides a benchmark for the revenues needed from each customer rate class.

11  
12 **Q. Is there a standard COSS model?**

13 A. There is no standard methodology for designing a COSS, but it is generally advisable to  
14 follow a range of alternatives to identify which allocations are more reasonable than  
15 others. For that reason, the COSS should be used as a general guide only and is only one  
16 of many considerations in designing rates.

17  
18 **Q. What process was used by Staff in reviewing the Columbus' COSS?**

19 A. Columbus' COSS was developed on a system-wide basis, with pertinent factors applicable  
20 to the Arizona portion of the system. First, I reviewed the model used by the Cooperative  
21 in developing various allocation factors in the bundled COSS. Second, I reviewed the  
22 Test Year rate base, revenues and expenses in the bundled rate case, as adjusted by the  
23 Cooperative, and matched them with the appropriate schedules contained in the  
24 application. Third, the changes in the revenue requirement made by Staff witness, Mary  
25 Rimback were incorporated into the COSS.

1 **Q. What did Staff determine from its review of the COSS?**

2 A. Columbus' COSS used appropriate procedures and methodology to functionalize, classify  
3 and allocate costs. The weighting factors Columbus used were reasonable. Columbus  
4 appropriately used the Average and Excess Method for allocating demand related costs.

5  
6 The COSS model appropriately calculated the components of the bundled case. Attached  
7 herewith as Exhibit 1 are the Cost of Service Study Schedules, showing Cost Allocation  
8 Summary - Staff Adjusted Rates (Schedule TL-G 1.0) and Summary of Components of  
9 Expenses (Schedule TL -G 4.0).

10

11 **Q. Did the methods used by Columbus comply with industry standards?**

12 A. Columbus used procedures and methodology that are generally accepted standards  
13 throughout the utility industry for its COSS. Invested capital and operating expenses were  
14 allocated to the respective customer classes on the basis of demand, energy and other  
15 customer related factors.

16

17 **CONCLUSIONS AND RECOMMENDATIONS**

18 **Q. Based upon your testimony, what are Staff's conclusions and recommendations**  
19 **regarding its evaluation of Columbus' COSS?**

20 A. Staff's conclusions and recommendations are as follows:

21

22 **CONCLUSIONS**

23 Based on Staff's evaluation and analysis of Columbus' COSS results, Staff concludes that:

24 1. Columbus used its COSS model for the bundled rate filing appropriately. The  
25 model used by Columbus is consistent with what is generally accepted in the  
26 industry.

1  
2  
3  
4  
5  
6  
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9  
10

2. The results of the application of COSS model are reasonable.

**RECOMMENDATIONS**

1. Based on the aforementioned conclusions, Staff recommends that the Commission accept Columbus' COSS for use in this case.
2. Staff further recommends that Columbus utilize the same COSS model in future rate cases.

**Q. Does this conclude your direct testimony?**

A. Yes, it does.

Case: CEC20122  
Solved: 06-17-2013 @ 11:09:34

COLUMBUS ELECTRIC COOPERATIVE, INC  
TEST YEAR ENDED SEPTEMBER 30, 2012  
PRESENT RATES  
SUMMARY REPORT

ACCOUNT	TOTAL DOLLARS	RESIDENTIAL	IRRIGATION	AG SERVICE	SH COMMERCIAL	LG COMMERCIAL	INDUSTRIAL	LIGHTING
RATE BASE	24,342,178	9,675,421	1,718,712	7,053,754	3,156,258	1,497,007	933,016	308,011
OPERATING REVENUES	13,332,233	3,951,745	936,889	4,840,826	1,451,916	1,386,836	656,081	107,945
OPERATING EXPENSES	12,329,916	3,583,861	873,952	4,550,908	1,369,932	1,293,739	684,749	102,776
RETURN	1,002,317	367,886	62,932	309,919	91,984	93,097	71,331	5,169
RATE OF RETURN	4.118%	3.802%	3.662%	4.394%	2.914%	6.219%	7.645%	1.678%
RELATIVE ROR	1.000	0.923	0.889	1.067	0.708	1.510	1.857	0.408
INTEREST	558,003	229,428	38,694	157,183	72,155	32,710	20,803	7,030
OPERATING MARGINS	444,314	138,467	24,238	152,736	19,829	60,387	50,528	-1,862
MARGINS % OF REVENUE	3.33%	3.504%	2.587%	3.155%	1.366%	4.364%	7.702%	-1.725%
OPERATING TIER	1.796	1.603	1.626	1.972	1.275	2.846	3.429	0.735
REVENUE DEFICIENCIES								
UNIFORM ROR	6.000000	212,640	40,191	113,307	97,391	-8,276	-15,360	13,312
REV DEF AS % REV	3.437%	5.381%	4.290%	2.341%	6.708%	-0.236%	-2.340%	12.332%
UNIFORM % MAR	6.544586	128,583	39,574	176,566	80,459	32,503	-8,122	9,551
REV DEF AS % REV	3.437%	3.254%	4.235%	3.627%	5.542%	2.344%	-1.238%	8.848%

Case: CEC2912P  
Solved: 06-20-2013 @ 09:42:25

COLUMBUS ELECTRIC COOPERATIVE, INC  
TEST YEAR ENDED SEPTEMBER 30, 2012  
PROPOSED RATES  
SUMMARY REPORT

ACCOUNT	TOTAL DOLLARS	RESIDENTIAL	IRRIGATION	AG SERVICE	SM COMMERCIAL	LG COMMERCIAL	INDUSTRIAL	LIGHTING
RATE-BASE	24,342,178	9,881,577	1,698,244	6,947,978	3,123,442	1,466,708	918,685	305,544
OPERATING REVENUES	13,447,233	4,011,740	936,877	4,840,884	1,501,907	1,386,845	656,056	112,924
OPERATING EXPENSES	12,829,916	3,683,861	873,952	4,530,908	1,359,932	1,293,739	594,749	102,776
RETURN	1,117,317	427,880	62,925	309,977	141,975	93,106	71,307	10,148
RATE OF RETURN	4.590%	4.330%	3.705%	4.461%	4.545%	6.348%	7.752%	3.321%
RELATIVE ROR	1.000	0.943	0.807	0.972	0.990	1.383	1.691	0.724
INTEREST	558,003	229,428	38,694	157,183	72,155	32,710	20,803	7,030
OPERATING MARGINS	559,314	198,451	24,232	152,794	69,819	60,395	50,504	3,118
MARGINS % OF REVENUE	4.159%	4.947%	2.586%	3.156%	4.649%	4.355%	7.698%	2.761%
OPERATING TIER	2.002	1.865	1.626	1.972	1.968	2.846	3.428	1.443
REVENUE DEFICIENCIES								
UNIFORM ROR	4.590045	25.689	15.025	8.939	1.393	-25.783	-29.139	3.876
REV DEF AS % REV	-0.000%	0.640%	1.604%	0.185%	0.093%	-1.859%	-4.442%	3.433%
UNIFORM % MAR	-0	-32.961	15.376	50.561	-7.669	-2.830	-24.224	1.647
REV DEF AS % REV	-0.000%	-0.822%	1.641%	1.047%	-0.511%	-0.204%	-3.692%	1.459%

Case: CEC2912P  
 SolVed: 05-20-2013 @ 09:42:26

COLUMBUS ELECTRIC COOPERATIVE, INC  
 TEST YEAR ENDED SEPTEMBER 30, 2012  
 PROPOSED RATES  
 COST OF SERVICE ALLOCATION - RATE BASE

ACCOUNTS	TOTAL DOLLARS	A.F.	RESIDENTIAL	IRRIGATION	AG SERVICE	SM COMMERCIAL	LG COMMERCIAL	INDUSTRIAL	LIGHTING
PLANT IN SERVICE	38,572,812	111	15,439,168	2,712,574	11,308,034	4,879,307	2,292,104	1,471,971	469,664
ACCUM DEPR TRANS	-1,173,622	102	-176,722	-108,898	-652,522	-72,804	-91,327	-68,489	-2,910
ACCUM DEPR DIST	-11,856,930	107	-4,876,090	-822,198	-3,339,961	-1,533,219	-696,052	-442,039	-149,386
ACCUM DEPR GEN PLT	-2,186,468	110	-876,156	-153,760	-640,987	-276,579	-129,926	-83,437	-26,622
Subtotal	23,355,792	125*	9,512,200	1,627,722	6,674,574	2,996,704	1,075,800	878,056	290,736
NET PLANT			40,727%	6,959%	28,578%	12,831%	5,891%	3,759%	1,245%
MATERIALS & SUPPLIES	475,194	109	190,201	38,417	139,308	60,110	28,237	18,134	5,786
PREPAYMENTS	145,211	121	54,461	10,448	33,896	19,764	17,503	6,819	2,841
CASH WK CAP PHR COST	260,736	122	62,737	18,413	112,829	26,405	27,909	13,142	7,807
CASH WK CAP DMH	399,046	119	149,632	28,711	93,146	54,284	40,098	17,366	7,807
CUST DEPS	-293,800	9	-87,644	-20,468	-105,776	-32,815	-30,299	-14,331	-2,467
TOTAL	24,342,178	126*	9,881,577	1,698,244	6,947,978	3,128,442	1,466,708	918,685	305,544
RATE BASE			40,594%	6,977%	28,543%	12,831%	6,025%	3,774%	1,255%

COLUMBUS ELECTRIC COOPERATIVE, INC  
 TEST YEAR ENDED SEPTEMBER 30, 2012  
 PROPOSED RATES  
 COMPONENTS OF RATE BASE

ACCOUNTS	TOTAL DOLLARS	A. F.	RESIDENTIAL	IRRIGATION	AG SERVICE	SH COMMERCIAL	LG COMMERCIAL	INDUSTRIAL	LIGHTING
<b>DEMAND COMPONENT</b>									
NONCOIN DEMAND	10,987,487	1	1,639,417	1,010,230	6,053,334	675,390	847,223	634,898	26,995
PMR COST SUM COIN DM	154,486	11	34,779	11,522	67,851	14,444	16,789	8,789	363
ACCT 368 TRANSF 30%	1,355,260	16	741,028	89,566	144,026	252,944	93,074	34,621	0
ACCT 369 OVHD SV 30%	229,820	17	196,203	3,832	3,301	24,869	1,393	222	0
ATT 369 UNDG SV 60%	620,920	18	186,276	62,092	62,092	185,230	77,615	77,615	0
ACCT 370 METERS 30%	413,028	19	223,511	27,095	38,055	101,761	18,362	5,063	0
TOTAL	13,661,800		3,021,214	1,204,337	6,968,659	1,224,628	1,054,407	761,199	27,357
DEMAND COMPONENT			22.114%	8.815%	46.617%	8.964%	7.718%	5.672%	0.200%
<b>CUSTOMER COMPONENT</b>									
AVG CONS	5,314,283	4	4,016,419	169,910	146,368	899,702	70,626	11,269	0
WTD CONS	54,216	6	20,703	4,379	6,036	9,275	10,921	2,902	0
WTD CONS	141,191	7	50,346	10,649	13,760	22,566	35,412	8,468	0
ACCT 368 TRANSF 70%	3,162,272	16	1,729,064	208,988	836,061	590,203	217,172	80,783	0
ACCT 369 OVHD SV 70%	536,246	17	457,807	8,940	7,702	58,027	3,251	519	0
ATT 369 UNDG SV 40%	413,947	18	124,184	41,395	41,395	103,487	51,743	51,743	0
ACCT 370 METERS 70%	965,698	19	521,526	63,223	88,795	237,418	42,846	11,790	0
ACCT 371 SECURITY LI	280,175	20	0	0	0	0	0	0	280,175
TOTAL	10,867,928		6,920,049	507,484	640,117	1,920,669	431,970	167,464	280,175
CUSTOMER COMPONENT			63.674%	4.670%	6.890%	17.673%	3.975%	1.541%	2.570%
<b>ENERGY COMPONENT</b>									
POWER COST KWH	106,260	12	27,958	6,892	44,978	10,961	10,630	4,353	479
TOTAL	106,260		27,958	6,892	44,978	10,961	10,630	4,353	479
ENERGY COMPONENT			26.313%	6.486%	42.333%	10.316%	10.005%	4.097%	0.460%
<b>REVENUE COMPONENT</b>									
BASE REVENUE PROPOS	-293,800	9	-87,644	-20,468	-105,776	-32,815	-30,299	-14,331	-2,467
TOTAL	-293,800		-87,644	-20,468	-105,776	-32,815	-30,299	-14,331	-2,467
REVENUE COMPONENT			29.831%	6.967%	36.003%	11.169%	10.313%	4.878%	0.840%
<b>TOTAL RATE BASE</b>									
TOTAL	24,942,170		9,881,577	1,698,244	6,947,970	3,123,442	1,466,708	918,685	305,544
RATE BASE			40.694%	6.977%	28.643%	12.831%	6.025%	3.774%	1.255%

COLUMBUS ELECTRIC COÖPERATIVE, INC  
TEST YEAR ENDED SEPTEMBER 30, 2012  
PROPOSED RATES  
COST OF SERVICE ALLOCATION - EXPENSES

ACCOUNTS	TOTAL DOLLARS	A.F.	RESIDENTIAL	IRRIGATION	AG SERVICE	SM COMMERCIAL	LG COMMERCIAL	INDUSTRIAL	LIGHTING
<b>TRANSMISSION EXPENSE</b>									
570 OPR & MAINT	17,902	102	2,696	1,661	9,953	1,111	1,393	1,044	44
Total	17,902	114*	2,696	1,661	9,953	1,111	1,393	1,044	44
TRANSMISSION EXPENSE			15.058%	9.279%	55.599%	6.203%	7.762%	5.831%	0.248%
<b>DIST OPR EXP</b>									
580 OPR SUPV ENGR	79,411	107	32,651	5,507	22,369	10,269	4,655	2,961	1,001
582 STATION EXP	61,566	1	9,270	5,713	34,230	3,819	4,791	3,590	153
583 OH LINE EXP	272,149	104	106,862	18,632	93,785	20,559	14,153	9,753	405
584 UG LINE EXP	52,814	105	16,198	4,072	22,164	4,738	3,231	2,314	97
586 METER EXPENSE	89,614	19	48,401	5,857	8,241	22,034	3,976	1,094	0
587 INST CONS PREM	32,824	20	0	0	0	0	0	0	32,824
588 MISC DIST EXP	354,613	107	145,761	24,583	99,862	45,842	20,782	13,217	4,467
Total	942,891	115*	359,143	64,373	280,652	115,261	61,588	32,928	38,946
DIST OPR EXP			38.090%	6.827%	29.765%	12.224%	5.471%	3.492%	4.130%
<b>DIST MAINT EXPENSE</b>									
592 MAINT STATION EQ	31,648	1	4,765	2,937	17,596	1,963	2,463	1,846	78
593 MAINT OH LINES	232,065	104	91,368	16,929	80,179	24,416	12,100	8,338	346
594 MAINT UG LINES	6,230	105	1,911	480	2,615	659	381	273	11
595 MAINT TRANSFORMR	29,007	16	16,860	1,917	3,083	5,414	1,992	741	0
596 MAINT SEC LITES	75	20	0	0	0	0	0	0	75
597 MAINT METERS	29,780	19	16,084	1,950	2,739	7,322	1,321	364	0
598 MISC MAINT DIST	6,747	107	2,774	468	1,901	872	396	252	85
Total	336,152	116*	132,783	23,680	108,111	40,546	18,659	11,812	596
DIST MAINT EXPENSE			39.492%	7.045%	32.161%	12.062%	5.549%	3.514%	0.177%
<b>CONS ACCTS EXP</b>									
902 METER READING	201,564	6	75,969	16,280	22,440	34,483	40,603	10,788	0
903 RECORDS & COLLEC	428,981	7	152,967	32,355	41,809	68,531	107,691	25,728	0
Total	630,545	117*	229,936	48,635	64,248	103,014	148,194	36,517	0
CONS ACCTS EXP			36.466%	7.713%	10.189%	16.337%	23.503%	5.791%	0.000%

COLUMBUS ELECTRIC COOPERATIVE, INC  
TEST YEAR ENDED SEPTEMBER 30, 2012  
PROPOSED RATES  
COST OF SERVICE ALLOCATION - EXPENSES

ACCOUNTS	TOTAL DOLLARS	A.F.	RESIDENTIAL	IRRIGATION	AG SERVICE	SM COMMERCIAL	LG COMMERCIAL	INDUSTRIAL	LIGHTING
<b>CUST SERVICE EXP</b>									
906 CUST SERVICE	96,936	7	34,209	7,236	9,360	15,326	24,061	6,764	0
Total	96,936	118*	34,209	7,236	9,360	15,326	24,061	6,764	0
908 CUST SERVICE EXP	36,668%		36,668%	7,542%	9,746%	16,975%	26,081%	6,998%	0.000%
<b>SUBTOTAL EXPENSES</b>	2,029,425	119*	758,736	145,586	472,314	275,258	243,889	88,066	39,686
<b>ADMIN GEN EXP</b>			37,498%	7.195%	23.342%	13.604%	12.053%	4.352%	1.956%
920 ADMIN GEN SALARY	508,298	119	190,600	36,572	118,649	69,147	61,267	22,120	9,944
921 AG OFC SUPPLY	46,228	119	17,334	3,326	10,791	6,289	5,572	2,012	904
923 OUTSIDE SVCS	77,660	119	29,121	5,588	18,128	10,566	9,361	3,380	1,619
928 REG COMM EXP	66,517	119	24,867	4,714	16,293	8,913	7,897	2,861	1,282
930 MISC GEN EXP	515,570	119	193,327	37,095	120,346	70,136	62,143	22,437	10,087
Total	1,213,273	120*	464,949	87,296	283,206	166,048	146,239	52,799	23,736
<b>ADMIN GEN EXP</b>			37.498%	7.195%	23.342%	13.604%	12.053%	4.352%	1.956%
<b>SUBTOTAL EXPENSES</b>	3,236,698	121*	1,213,685	232,882	785,620	440,306	390,128	140,864	63,823
<b>POWER COST</b>			37.498%	7.195%	23.342%	13.604%	12.053%	4.352%	1.956%
<b>DEMAND COST</b>	4,698,960	11	1,067,868	350,449	2,063,791	439,331	509,152	267,339	11,029
<b>ENERGY COST</b>	3,231,785	12	860,376	209,619	1,368,090	333,396	323,326	132,410	14,539
Total	7,930,705	122*	1,908,233	560,068	3,431,881	772,727	832,478	399,749	25,568
<b>DEPRECIATION</b>			24.061%	7.062%	43.273%	9.743%	10.497%	5.041%	0.322%
403.5 TRANSMISSION	23,956	102	3,607	2,223	13,319	1,486	1,864	1,397	59
403.6 DISTRIBUTION	984,511	107	404,791	68,269	277,325	127,307	57,712	36,704	12,404
403.7 GENERAL PLANT	94,876	110	37,976	6,672	27,814	12,001	6,688	3,621	1,156
407.3 REGULATORY DEB	59,171	12	15,670	3,838	26,049	6,104	5,920	2,424	266
Total	1,162,513	123*	461,943	81,002	343,506	146,899	71,134	44,145	19,866
<b>DEPRECIATION</b>			39.737%	6.968%	29.549%	12.636%	6.119%	3.797%	1.194%
<b>TOTAL EXPENSES</b>	12,329,916	124*	3,503,861	873,952	4,530,908	1,359,932	1,293,739	584,749	102,776
			29.066%	7.088%	36.747%	11.030%	10.493%	4.743%	0.834%

COLUMBUS ELECTRIC COOPERATIVE, INC  
 TEST YEAR ENDED SEPTEMBER 30, 2012  
 PROPOSED RATES  
 COST OF SERVICE ALLOCATION - INTEREST

ACCOUNTS	TOTAL DOLLARS	A.F.	RESIDENTIAL	IRRIGATION	AG SERVICE	SN COMMERCIAL	LS COMMERCIAL	INDUSTRIAL	LIGHTING
INTEREST LTD	558,003	107	229,420	38,694	157,183	72,155	32,710	20,803	7,030
TOTAL INTEREST	558,003	127*	229,428 41.116%	38,694 6.934%	157,183 28.169%	72,155 12.931%	32,710 5.862%	20,803 3.728%	7,030 1.260%



**BEFORE THE ARIZONA CORPORATION COMMISSION**

BOB STUMP  
Chairman  
GARY PIERCE  
Commissioner  
BRENDA BURNS  
Commissioner  
BOB BURNS  
Commissioner  
SUSAN BITTER SMITH  
Commissioner

IN THE MATTER OF THE APPLICATION OF )  
COLUMBUS ELECTRIC COOPERATIVE, INC. )  
FOR APPROVAL OF AN INCREASE IN RATES )  
AND FOR OTHER RELATED APPROVALS )  
\_\_\_\_\_)

DOCKET NO. E-01851A-13-0252

DIRECT  
RATE DESIGN  
TESTIMONY  
OF  
PATRICK LOWE  
PUBLIC UTILITIES ANALYST II  
UTILITIES DIVISION  
ARIZONA CORPORATION COMMISSION

DECEMBER 20, 2013

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Typical Bill Analysis .....	PML-2

**EXECUTIVE SUMMARY  
COLUMBUS ELECTRIC COOPERATIVE, INC.  
DOCKET NO. E-01851A-13-0252**

My testimony in this proceeding addresses the issue of rate design for Columbus Electric Cooperative, Inc.

1 **INTRODUCTION**

2 **Q. Please state your name, occupation, and business address.**

3 A. My name is Patrick Lowe. I am a Public Utilities Analyst II employed by the Arizona  
4 Corporation Commission (“Commission”) in the Utilities Division (“Staff”). My business  
5 address is 1200 West Washington Street, Phoenix, Arizona 85007.

6  
7 **Q. Briefly describe your responsibilities as a Public Utilities Analyst.**

8 A. In my capacity as a Public Utilities Analyst, I review and analyze utility applications filed  
9 with the Commission, and prepare memoranda and proposed orders for Open Meetings. I  
10 also assist in the management of rate cases.

11  
12 **Q. Please describe your educational background and professional experience.**

13 A. In 2011, I graduated magna cum laude from Arizona State University, receiving a  
14 Bachelor of Science degree in Finance. My course of studies included classes in corporate  
15 finance, accounting, economics and supply chain management.

16  
17 **Q. What is the scope of your testimony in this case?**

18 A. In this Direct Testimony, I will address rate design with respect to electric sales of  
19 Columbus Electric Cooperative, Inc. (“Columbus” or “Company”).

20  
21 **RATE DESIGN**

22 **Q. Has Staff prepared a schedule showing the existing rates and Staff’s recommended**  
23 **rates?**

24 A. Yes. Schedule PML-1 shows existing rates and Staff’s recommended rates, which are the  
25 same as those proposed by Columbus. Staff has also prepared Schedule PML-2, which  
26 shows the impact of the rate increase proposed by Columbus and Staff.

1 **Q. Are there any significant differences between the existing rate structure and the**  
2 **proposed rate structure?**

3 A. Yes. Columbus has included two additional rate schedules: Arizona Schedule IS  
4 Industrial Service and Arizona Schedule LP Large Power Service. These schedules are  
5 available to New Mexico customers and, as part of the effort to provide uniform rates and  
6 service for both jurisdictions, they have been included with this Application. Columbus is  
7 also recommending that the customer charge be increased for all customer classes and that  
8 time-of-use rates be sunset 90 days after new rates go in to effect.

9  
10 **Q. Does Staff concur with this proposal?**

11 A. Yes. Increasing customer charges and including the two additional rate schedules  
12 (Arizona Schedule IS Industrial Service and Arizona Schedule LP Large Power Service) is  
13 part of an effort to provide uniform rates and service for both jurisdictions in which  
14 Columbus services.

15  
16 Columbus currently has 21 residential and 2 irrigation time-of-use customers in Arizona.  
17 The Company has historically offered time-of-use pricing to provide members with an  
18 opportunity to save money by reducing use during times of peak demand. However,  
19 Columbus' supplier, Tri-State, has introduced new rates that have no peak demand period.  
20 Thus, Columbus has no opportunity to achieve savings in its wholesale energy costs via  
21 time-of-use rates. Columbus's time-of-use rates will sunset in New Mexico at the end of  
22 2013. Staff agrees that the Company's time-of-use rates should be eliminated to preserve  
23 uniform rates and services in both jurisdictions. However, Staff believes that the time of  
24 use rates should sunset as soon as new rates go in to effect. The impact of this proposed  
25 revision to Columbus is de minimis and does not require an adjustment to Columbus'  
26 revenue requirement.

1 **Q. Please describe Staff's proposed rate design and its effect on Columbus' customer**  
2 **classes.**

3 A. The proposed rate design results in an approximately 2 percent increase for the Residential  
4 and Agricultural Service classes which is approximately the same as the overall increase  
5 in revenues (2.82 percent). The Small Commercial, Lighting Service, and Irrigation  
6 classes ended up with larger increases (4.05 percent, 6.64 percent, and 13.50 percent,  
7 respectively). The rate design results from a Columbus policy to keep Arizona and New  
8 Mexico rates the same.

9  
10 **Q. Does Columbus have any other proposed changes?**

11 A. Yes. The Company has proposed several language changes to its tariffs to add clarity for  
12 customers. The clarifications include sections on accessibility, limitations of the rate, and  
13 interruption of service. Staff has reviewed these clarifications and recommends that they  
14 be adopted.

15

16 **SUMMARY OF TESTIMONY AND RECOMMENDATIONS**

17 **Q. Please summarize your testimony.**

18 A. Staff recommends:

- 19
- 20 • adoption of the rates described in PML-1,
  - 21 • that time-of-use rates sunset upon the effective date of the decision in this case,  
22 and
  - 23 • the language changes proposed by Columbus to tariffs be adopted.

23

24 **Q. Does this conclude your Direct Rate Design Testimony?**

25 A. Yes, it does.

**ELECTRIC RATE COMPONENTS - REVENUES AT PRESENT & PROPOSED RATES**

<b>CUSTOMER CLASS</b>	<b>TEST YEAR ENDED 12/31/11 PRESENT RATES</b>	<b>STAFF AND COMPANY PROPOSED RATES</b>	<b>% INCREASE</b>	<b>DOLLAR INCREASE</b>
<b>RESIDENTIAL:</b>				
Customer Charge	\$12.35	\$20.00		
Energy Charge	\$0.0864	\$0.11507		
FPPCA	\$0.041468	\$0.00000		
Total Revenue	\$341,372.94	\$379,047.00		
<b>RESIDENTIAL TOU:</b>				
Customer Charge	\$15.60	-		
Energy Charge On-Peak	\$0.0975	-		
Energy Charge Off-Peak	\$0.0600	-		
FPPCA	\$0.041468	-		
Total Revenue	\$30,455.76	-		
<i>Residential Total Revenue</i>	\$371,828.70	\$379,047.00	1.94%	\$7,218.30
<b>IRRIGATION:</b>				
Customer Charge	\$32.50	\$75.00		
Energy Charge	\$0.09200	\$0.12200		
FPPCA	\$0.033255	\$0.00000		
Total Revenue	\$30,144.35	\$52,257.00		
<b>IRRIGATION TOU:</b>				
Customer Charge	\$45.50	-		
Energy Charge On-Peak	\$0.1030	-		
Energy Charge Off-Peak	\$0.0600	-		
FPPCA	\$0.033255	-		
Total Revenue	\$15,896.92	-		
<i>Irrigation Total Revenue</i>	\$46,041.27	\$52,257.00	13.50%	\$6,215.73
<b>AG SERVICE:</b>				
Customer Charge	\$65.00	\$110.00		
Energy Charge	\$0.06950	\$0.10493		
FPPCA	\$0.03455	\$0.00000		
Total Revenue	\$364,319.00	\$372,155.44	2.15%	\$7,836.44
<b>COMMERCIAL UNDER 50 KVA:</b>				
Customer Charge	\$16.25	\$35.00		
Energy Charge	\$0.08220	\$0.10821		
FPPCA	\$0.04064	\$0.00000		
Total Revenue	\$53,130.94	\$55,284.76		

**COMMERCIAL UNDER 50 KVA TOU:**

Customer Charge	\$19.50	-
Energy Charge On-Peak	\$0.0922	-
Energy Charge Off-Peak	\$0.0590	-
FPPCA	\$0.04064	-
Total Revenue	\$0.00	-

<i>Commercial Total Revenue</i>	\$53,130.94	\$55,284.76	4.05%	\$2,153.82
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**COMMERCIAL 50 - 350 KVA:**

Customer Charge	-	\$360.00		
Demand Charge	-	\$16.50		
Energy Charge	-	\$0.05254		
Total Revenue	\$0.00	\$0.00	0.00%	\$0.00

**COMMERCIAL OVER 350 KVA:**

Customer Charge	-	\$600.00		
Demand Charge	-	\$17.00		
Energy Charge	-	\$0.05592		
Total Revenue	\$0.00	\$0.00	0.00%	\$0.00

**LIGHTING SERVICE:**

100 Watt High Pressure Sodium	\$13.50	\$16.25		
175 Watt Mercury Vapor	\$14.99	\$15.25		
400 Watt High Pressure Sodium	\$30.45	\$32.45		
FPPCA	\$0.04137	\$0.00000		
Total Revenue	\$2,438.00	\$2,600.00	6.64%	\$162.00

**TYPICAL BILL ANALYSIS**

PML-2

**RESIDENTIAL:**

KWH	PRESENT	PROPOSED	\$ INCREASE	% INCREASE
0	\$12.35	\$20.00	\$7.65	61.94%
100	\$25.14	\$31.51	\$6.37	25.34%
250	\$44.32	\$48.77	\$4.45	10.04%
500	\$76.28	\$77.54	\$1.25	1.64%
750	\$108.25	\$106.30	-\$1.95	-1.80%
1000	\$140.22	\$135.07	-\$5.15	-3.67%
1500	\$204.15	\$192.61	-\$11.55	-5.66%
2000	\$268.09	\$250.14	-\$17.95	-6.69%

**IRRIGATION:**

KWH	PRESENT	PROPOSED	\$ INCREASE	% INCREASE
1000	\$157.76	\$197.00	\$39.25	24.88%
1500	\$220.38	\$258.00	\$37.62	17.07%
2000	\$283.01	\$319.00	\$35.99	12.72%
2500	\$345.64	\$380.00	\$34.36	9.94%
3000	\$408.27	\$441.00	\$32.74	8.02%
4000	\$533.52	\$563.00	\$29.48	5.53%
5000	\$658.78	\$685.00	\$26.23	3.98%

**AG SERVICE:**

KWH	PRESENT	PROPOSED	\$ INCREASE	% INCREASE
5000	\$583.70	\$634.65	\$50.95	8.73%
7500	\$843.05	\$896.98	\$53.93	6.40%
10000	\$1,102.40	\$1,159.30	\$56.90	5.16%
12500	\$1,361.75	\$1,421.63	\$59.88	4.40%
15000	\$1,621.10	\$1,683.95	\$62.85	3.88%
20000	\$2,139.80	\$2,208.60	\$68.80	3.22%
25000	\$2,658.50	\$2,733.25	\$74.75	2.81%

**COMMERCIAL UNDER 50 KVA:**

KWH	PRESENT	PROPOSED	\$ INCREASE	% INCREASE
250	\$46.96	\$62.05	\$15.09	32.14%
500	\$77.67	\$89.11	\$11.44	14.72%
750	\$108.38	\$116.16	\$7.78	7.18%
1000	\$139.09	\$143.21	\$4.12	2.96%
1250	\$169.80	\$170.26	\$0.46	0.27%
1500	\$200.51	\$197.32	-\$3.20	-1.59%
2000	\$261.93	\$251.42	-\$10.51	-4.01%
3000	\$384.77	\$359.63	-\$25.14	-6.53%

**TYPICAL BILL ANALYSIS**

PML-2

**COMMERCIAL 50 KVA-350 KVA:**

KW	LD FCTR	KWH	PRESENT	PROPOSED	\$ INCREASE	% INCREASE
50	0.2	7300	\$1,301.48	\$1,568.54	\$267.06	20.52%
50	0.3	10950	\$1,629.47	\$1,760.31	\$130.85	8.03%
50	0.4	14600	\$1,957.46	\$1,952.08	-\$5.37	-0.27%
50	0.5	18250	\$2,285.45	\$2,143.86	-\$141.59	-6.20%
50	0.6	21900	\$2,613.43	\$2,335.63	-\$277.81	-10.63%

**COMMERCIAL OVER 350 KVA:**

KW	LD FCTR	KWH	PRESENT	PROPOSED	\$ INCREASE	% INCREASE
400	0.2	58400	\$9,797.16	\$10,665.73	\$868.57	8.87%
400	0.25	73000	\$10,985.07	\$11,482.16	\$497.09	4.53%
400	0.3	87600	\$12,172.99	\$12,298.59	\$125.61	1.03%
400	0.4	116800	\$14,548.82	\$13,931.46	-\$617.36	-4.24%
400	0.5	146000	\$16,924.64	\$15,564.32	-\$1,360.32	-8.04%

**LIGHTING:**

	PRESENT	PROPOSED	\$ INCREASE	% INCREASE
175 Watt Mercury Vapor	\$14.99	\$15.25	\$0.26	1.73%
100 Watt High Pressure Sodium	\$15.12	\$16.25	\$1.13	7.47%
400 Watt High Pressure Sodium	\$30.45	\$32.45	\$2.00	6.57%