

Public Service Company of Colorado
Electric Department
Retail Stratified Class Cost Allocation Study
12 Months Ended December 31, 2013

Attachment DRB-4
Proceeding 16AL-XXXXE
Hearing Exhibit XXX
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Functional Cost of Service Revenue Requirements					
Line No.	Function	Total Revenue Requirement	Rev Req Factor Basis		Revenue Requirement Factor
		\$	Gross Plant In Service \$	Direct Expense \$	\$
1	Production				
2	Production Capacity				
3	Steam Production	343,794,855	2,719,047,938		0.12643942
4	Hydro Production	18,908,279	121,670,611		0.15540547
5	Comb Turbine Production	212,184,758	1,108,711,857		0.19137953
6	Purchased Capacity	(4,740,135)			
7	Transmission Interconnect	8,287,433	53,620,505		0.15455716
8	Total Production Capacity	578,435,190			
9					
10	Production Energy	129,429,170		106,060,448	1.22033399
11					
12	Total Production	707,864,360			
13					
14	Transmission				
15	Transmission System	181,768,818	1,319,828,105		0.13772158
16	Transmission by Others	6,449,672		6,516,021	0.98981760
17	Total Transmission	188,218,490			
18					
19	Distribution				
20	Distribution Substations	90,371,187	559,212,306		0.16160443
21	Primary Distribution System	264,443,948	2,115,202,097		0.12502065
22	Secondary Distribution System	79,785,800	639,660,921		0.12473140
23	Service Laterals	33,540,113	269,366,038		0.12451500
24	Metering	27,042,626	194,429,671		0.13908693
25	Lighting	31,853,546	164,190,979		0.19400302
26	Total Distribution	527,037,220			
27					
28	Customer Operations				
29	Meter Reading	8,487,307		4,682,026	1.81274245
30	Customer Accounting	36,777,127		21,079,110	1.74471915
31	Total Customer Operations	45,264,434			
32					
33	Demand Side Management	89,641,995			
34	Low Income Assistance	4,000,000			
35					
36	Total Retail Revenue Requirement	1,562,026,498			

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Line No.	Function	Total Revenue Requirement \$	Demand Related Rev. Requirement \$	Energy Related Rev. Requirement \$
1				
2	Stratification Classification Factors:		49.63%	50.37%
3				
4	<u>Production</u>			
5	Production Capacity			
6	Steam Production	343,794,855	\$ 170,625,387	\$ 173,169,469
7	Hydro Production	18,908,279	\$ 9,384,179	\$ 9,524,100
8	Comb Turbine Production	212,184,758	\$ 105,307,295	\$ 106,877,462
9	Purchased Capacity	(4,740,135)	\$ (2,352,529)	\$ (2,387,606)
10	Transmission Interconnect	8,287,433	\$ 4,113,053	\$ 4,174,380
11	Total Production Capacity	578,435,190	\$ 287,077,385	\$ 291,357,805
12				
13	Production Energy	129,429,170		129,429,170
14				
15	Total Production	707,864,360	\$ 287,077,385	\$ 420,786,975
				\$ 707,864,360

Production System Demand and Energy Data - kW & kWh at Load

Line No.	Rate Class	Sum of Individual Max Demand kW	Class Annual Maximum Demand kW	Production System Coincident Peak Demand				Annual Billed kWh	Class Annual Load Factor %	Delivery Level	Energy Loss Factor	Demand Loss Factor
				Summer kW	Winter kW	12 Mo Average kW	4 CP kW					
1	Residential General	8,538,315	2,648,065	2,027,091	1,633,471	1,544,776	1,822,180	8,846,398,501	38.14%	Secondary	1.0455	1.0667
2	Residential Demand	18,069	10,799	4,828	8,985	5,756	3,649	33,936,013	35.87%	Secondary	1.0455	1.0667
3	Total Residential	8,556,384	2,658,864	2,031,919	1,642,456	1,550,532	1,825,829	8,880,334,514	38.13%			
4												
5	Small Commerical	704,233	374,781	264,604	223,727	206,557	248,275	1,320,501,548	40.22%	Secondary	1.0455	1.0667
6												
7	C&I Secondary	3,241,346	2,685,419	2,175,754	1,929,530	1,668,069	2,057,738	11,797,929,988	50.15%	Secondary	1.0455	1.0667
8	C&I Primary	779,056	509,016	460,391	444,172	415,023	445,873	3,462,312,254	77.65%	Primary	1.0207	1.0375
9	C&I Transmission	458,572	471,849	322,825	322,228	311,630	317,857	2,612,222,396	63.20%	Transmission	1.0000	1.0000
10	Total C&I	4,478,974	3,666,284	2,958,970	2,695,930	2,394,722	2,821,468	17,872,464,638	55.65%			
11												
12	Street and Area Lighting	38,901	38,901	312	38,901	17,778	277	176,737,880	51.86%	Secondary	1.0455	1.0667
13	Traffic Signal Lighting	3,210	3,210	3,009	3,210	2,969	2,959	25,921,019	92.18%	Secondary	1.0455	1.0667
14	Total Lighting	42,111	42,111	3,321	42,111	20,747	3,236	202,658,899	54.94%			
15												
16												
17												
18	<i>Rounding</i>											
19	CPUC Total	13,781,702	6,742,040	5,258,814	4,604,224	4,172,558	4,898,808	28,275,959,599				

Transmission System Demand and Energy Data - kW & kWh at Load

Line No.	Rate Class	Sum of Individual Max Demand kW	Class Annual Maximum Demand kW	Transmission System Coincident Peak Demand				Annual Billed kWh	Class Annual Load Factor %	Delivery Level	Energy Loss Factor	Demand Loss Factor
				Summer kW	Winter kW	12 Mo Average kW	4 CP kW					
1	Residential General	8,538,315	2,648,065	2,027,091	1,633,471	1,544,776	1,822,180	8,846,398,501	38.14%	Secondary	1.0455	1.0667
2	Residential Demand	18,069	10,799	4,828	8,985	5,756	3,649	33,936,013	35.87%	Secondary	1.0455	1.0667
3	Total Residential	8,556,384	2,658,864	2,031,919	1,642,456	1,550,532	1,825,829	8,880,334,514	38.13%			
4												
5	Small Commerical	704,233	374,781	264,604	223,727	206,557	248,275	1,320,501,548	40.22%	Secondary	1.0455	1.0667
6												
7	C&I Secondary	3,241,346	2,685,419	2,175,754	1,929,530	1,668,069	2,057,738	11,797,929,988	50.15%	Secondary	1.0455	1.0667
8	C&I Primary	779,056	509,016	460,391	444,172	415,023	445,873	3,462,312,254	77.65%	Primary	1.0207	1.0375
9	C&I Transmission	458,572	471,849	322,825	322,228	311,630	317,857	2,612,222,396	63.20%	Transmission	1.0000	1.0000
10	Total C&I	4,478,974	3,666,284	2,958,970	2,695,930	2,394,722	2,821,468	17,872,464,638	55.65%			
11												
12	Street and Area Lighting	38,901	38,901	312	38,901	17,778	277	176,737,880	51.86%	Secondary	1.0455	1.0667
13	Traffic Signal Lighting	3,210	3,210	3,009	3,210	2,969	2,959	25,921,019	92.18%	Secondary	1.0455	1.0667
14	Total Lighting	42,111	42,111	3,321	42,111	20,747	3,236	202,658,899	54.94%			
15												
16												
17												
18	Rounding											
19	CPUC Total	13,781,702	6,742,040	5,258,814	4,604,224	4,172,558	4,898,808	28,275,959,599				

Distribution System Demand and Energy Data - kW & kWh at Load

Line No.	Rate Class	Sum of Individual Max Demand kW	Class Annual Maximum Demand kW	Production System Coincident Peak Demand				Annual Billed kWh	Class Annual Load Factor %	Delivery Level	Energy Loss Factor	Demand Loss Factor
				Summer kW	Winter kW	12 Mo Average kW	4 CP kW					
1	Residential General	8,538,315	2,648,065	2,027,091	1,633,471	1,544,776	1,822,180	8,846,398,501	38.14%	Secondary	1.0455	1.0667
2	Residential Demand	18,069	10,799	4,828	8,985	5,756	3,649	33,936,013	35.87%	Secondary	1.0455	1.0667
3	Total Residential	8,556,384	2,658,864	2,031,919	1,642,456	1,550,532	1,825,829	8,880,334,514	38.13%			
4												
5	Small Commerical	704,233	374,781	264,604	223,727	206,557	248,275	1,320,501,548	40.22%	Secondary	1.0455	1.0667
6												
7	C&I Secondary	3,241,346	2,685,419	2,175,754	1,929,530	1,668,069	2,057,738	11,797,929,988	50.15%	Secondary	1.0455	1.0667
8	C&I Primary	779,056	509,016	460,391	444,172	415,023	445,873	3,462,312,254	77.65%	Primary	1.0207	1.0375
9	C&I Transmission	0	0	0	0	0	0	0		Transmission	1.0000	1.0000
10	Total C&I	4,020,402	3,194,435	2,636,145	2,373,702	2,083,092	2,503,611	15,260,242,242	54.53%			
11												
12	Street and Area Lighting	38,901	38,901	312	38,901	17,778	277	176,737,880	51.86%	Secondary	1.0455	1.0667
13	Traffic Signal Lighting	3,210	3,210	3,009	3,210	2,969	2,959	25,921,019	92.18%	Secondary	1.0455	1.0667
14	Total Lighting	42,111	42,111	3,321	42,111	20,747	3,236	202,658,899	54.94%			
15												
16												
17												
18	Rounding											
19	CPUC Total	13,323,130	6,270,191	4,935,989	4,281,996	3,860,928	4,580,951	25,663,737,203				

Determination of Allocating Demands
4CP AED - Production

Line No.	Rate Class	4 CP Demand kW	Adjusted Annual Energy kWh	Adjusted Average Demand kW	Total Excess Demand kW	Allocated Excess Demand kW	Average and Excess Demand 4CP AED - kW	Allocation Ratio
1	Residential General	1,943,719	9,248,909,633	1,055,812	887,907	1,053,060	2,108,872	0.37940045
2	Residential Demand	3,892	35,480,102	4,050	0	0	4,050	0.00072862
3	Total Residential	1,947,611	9,284,389,735	1,059,862	887,907	1,053,060	2,112,922	0.38012908
4								
5	Small Commerical	264,835	1,380,584,368	157,601	107,234	127,180	284,781	0.05123404
6								
7	C&I Secondary	2,194,989	12,334,735,802	1,408,075	786,914	933,282	2,341,357	0.42122609
8	C&I Primary	462,593	3,533,982,118	403,423	59,170	70,176	473,599	0.08520369
9	C&I Transmission	317,857	2,612,222,396	298,199	19,658	23,314	321,513	0.05784238
10	Total C&I	2,975,439	18,480,940,316	2,109,697	865,742	1,026,772	3,136,469	0.56427216
11								
12	Street and Area Lighting	295	184,779,454	21,094	0	0	21,094	0.00379495
13	Traffic Signal Lighting	3,156	27,100,425	3,094	62	74	3,168	0.00056994
14	Total Lighting	3,451	211,879,879	24,188	62	74	24,262	0.00436490
15								
16								
17								
18	Rounding					(1)	(1)	
19	CPUC Total	5,191,336	29,357,794,298	3,351,348	1,860,945	2,207,085	5,558,433	1.00000018

Determination of Allocating Demands
4CP AED - Transmission

Line No.	Rate Class	4 CP Demand kW	Adjusted Annual Energy kWh	Adjusted Average Demand kW	Total Excess Demand kW	Allocated Excess Demand kW	Average and Excess Demand 4CP AED - kW	Allocation Ratio
1	Residential General	1,943,719	9,248,909,633	1,055,812	887,907	1,053,060	2,108,872	0.37940045
2	Residential Demand	3,892	35,480,102	4,050	0	0	4,050	0.00072862
3	Total Residential	1,947,611	9,284,389,735	1,059,862	887,907	1,053,060	2,112,922	0.38012908
4								
5	Small Commerical	264,835	1,380,584,368	157,601	107,234	127,180	284,781	0.05123404
6								
7	C&I Secondary	2,194,989	12,334,735,802	1,408,075	786,914	933,282	2,341,357	0.42122609
8	C&I Primary	462,593	3,533,982,118	403,423	59,170	70,176	473,599	0.08520369
9	C&I Transmission	317,857	2,612,222,396	298,199	19,658	23,314	321,513	0.05784238
10	Total C&I	2,975,439	18,480,940,316	2,109,697	865,742	1,026,772	3,136,469	0.56427216
11								
12	Street and Area Lighting	295	184,779,454	21,094	0	0	21,094	0.00379495
13	Traffic Signal Lighting	3,156	27,100,425	3,094	62	74	3,168	0.00056994
14	Total Lighting	3,451	211,879,879	24,188	62	74	24,262	0.00436490
15								
16								
17								
18	<i>Rounding</i>					(1)	(1)	
19	CPUC Total	5,191,336	29,357,794,298	3,351,348	1,860,945	2,207,085	5,558,433	1.00000018

Determination of Allocating Demands

4CP AED - Distribution Substations.

Line No.	Rate Class	4 CP Demand kW	Adjusted Annual Energy kWh	Adjusted Average Demand kW	Total Excess Demand kW	Allocated Excess Demand kW	Average and Excess Demand 4CP AED - kW	Allocation Ratio
1	Residential General	1,943,719	9,248,909,633	1,055,812	887,907	1,054,426	2,110,238	0.40273624
2	Residential Demand	3,892	35,480,102	4,050	0	0	4,050	0.00077294
3	Total Residential	1,947,611	9,284,389,735	1,059,862	887,907	1,054,426	2,114,288	0.40350917
4								
5	Small Commerical	264,835	1,380,584,368	157,601	107,234	127,345	284,946	0.05438158
6								
7	C&I Secondary	2,194,989	12,334,735,802	1,408,075	786,914	934,492	2,342,567	0.44707593
8	C&I Primary	462,593	3,533,982,118	403,423	59,170	70,267	473,690	0.09040313
9	C&I Transmission	0	0	0	0	0	0	0.00000000
10	Total C&I	2,657,582	15,868,717,920	1,811,498	846,084	1,004,759	2,816,257	0.53747906
11								
12	Street and Area Lighting	295	184,779,454	21,094	0	0	21,094	0.00402576
13	Traffic Signal Lighting	3,156	27,100,425	3,094	62	74	3,168	0.00060461
14	Total Lighting	3,451	211,879,879	24,188	62	74	24,262	0.00463037
15								
16								
17								
18	Rounding					(1)	(1)	
19	CPUC Total	4,873,479	26,745,571,902	3,053,149	1,841,287	2,186,603	5,239,752	1.00000019

Determination of Allocating Demands <i>NCP - Primary Distribution System - and - Secondary NCP - Secondary Distribution System</i>								
Line No.	Rate Class	NCP - Primary Distribution System		Secondary NCP - Secondary Distribution System				
		Adjusted Class Annual Max Demand NCP - kW	Allocation Ratio	Adjusted Class Annual Max Demand Demand kW	Allocation Ratio	Adjusted Sum of Individual Annual Max Demand Demand kW	Allocation Ratio	Average of Indiv & Class Max Demands Sec-NCP - kW
1	Residential General	2,824,691	0.42326669	2,824,691	0.45963978	9,107,821	0.68066524	0.57015251
2	Residential Demand	11,519	0.00172607	11,519	0.00187440	19,274	0.00144043	0.00165741
3	Total Residential	2,836,210	0.42499276	2,836,210	0.46151418	9,127,095	0.68210567	0.57180992
4								
5	Small Commerical	399,779	0.05990501	399,779	0.06505290	751,205	0.05614067	0.06059678
6								
7	C&I Secondary	2,864,536	0.42923728	2,864,536	0.46612345	3,457,544	0.25839661	0.36226003
8	C&I Primary	528,104	0.07913391	0	0.00000000	0	0.00000000	0.00000000
9	C&I Transmission	0	0.00000000	0	0.00000000	0	0.00000000	0.00000000
10	Total C&I	3,392,640	0.50837118	2,864,536	0.46612345	3,457,544	0.25839661	0.36226003
11								
12	Street and Area Lighting	41,496	0.00621798	41,496	0.00675232	41,496	0.00310117	0.00492674
13	Traffic Signal Lighting	3,424	0.00051307	3,424	0.00055716	3,424	0.00025589	0.00040653
14	Total Lighting	44,920	0.00673105	44,920	0.00730948	44,920	0.00335706	0.00533327
15								
16								
17								
18	<i>Rounding</i>							
19	CPUC Total	6,673,549	1.00000000	6,145,445	1.00000000	13,380,764	1.00000000	1.00000000

Summary of Allocating Demands and Energy

Line No.	Rate Class	Production Demand	Transmission Demand	Distribution Substation Demand	Primary Distribution Demand	Secondary Distribution		Adjusted Annual Energy
		4CP AED - kW	4CP AED - kW	4CP AED - kW	NCP - kW	Adjusted Class Annual Max - kW	Adjusted Sum of Indiv Annual Max - kW	kWh
1	Residential General	2,108,872	2,108,872	2,110,238	2,824,691	2,824,691	9,107,821	9,248,909,633
2	Residential Demand	4,050	4,050	4,050	11,519	11,519	19,274	35,480,102
3	Total Residential	2,112,922	2,112,922	2,114,288	2,836,210	2,836,210	9,127,095	9,284,389,735
4								
5	Small Commerical	284,781	284,781	284,946	399,779	399,779	751,205	1,380,584,368
6								
7	C&I Secondary	2,341,357	2,341,357	2,342,567	2,864,536	2,864,536	3,457,544	12,334,735,802
8	C&I Primary	473,599	473,599	473,690	528,104	0	0	3,533,982,118
9	C&I Transmission	321,513	321,513	0	0	0	0	2,612,222,396
10	Total C&I	3,136,469	3,136,469	2,816,257	3,392,640	2,864,536	3,457,544	18,480,940,316
11								
12	Street and Area Lighting	21,094	21,094	21,094	41,496	41,496	41,496	184,779,454
13	Traffic Signal Lighting	3,168	3,168	3,168	3,424	3,424	3,424	27,100,425
14	Total Lighting	24,262	24,262	24,262	44,920	44,920	44,920	211,879,879
15								
16								
17								
18	<i>Rounding</i>							
19	CPUC Total	5,558,434	5,558,434	5,239,753	6,673,549	6,145,445	13,380,764	29,357,794,298

Allocation of Production Capacity Revenue Requirement

Line No.	Rate Class	Interconnection Charge	Production Capacity Cost							Total
		Revenue Credit	Production Demand	Allocation	Steam Prod	Hydro Prod	CT Prod	Trans Inter & Pur Power	Alloc System	Allocated
		\$	4 CP AED - kW	Ratio	\$	\$	\$	\$	Rev Req	Rev Req
1	Residential General	0	2,108,872	0.37940039	64,735,338	3,560,361	39,953,628	471,900	108,721,227	108,721,227
2	Residential Demand	0	4,050	0.00072862	124,321	6,838	76,729	906	208,795	208,795
3	Total Residential	0	2,112,922	0.38012901	64,859,659	3,567,199	40,030,357	472,806	108,930,022	108,930,022
4										
5	Small Commerical	0	284,781	0.05123403	8,741,827	480,789	5,395,318	63,725	14,681,659	14,681,659
6										
7	C&I Secondary	0	2,341,357	0.42122601	71,871,852	3,952,860	44,358,172	523,923	120,706,807	120,706,807
8	C&I Primary	0	473,599	0.08520367	14,537,910	799,567	8,972,568	105,977	24,416,022	24,416,022
9	C&I Transmission	0	321,513	0.05784237	9,869,377	542,803	6,091,224	71,945	16,575,348	16,575,348
10	Total C&I	0	3,136,469	0.56427206	96,279,139	5,295,230	59,421,964	701,845	161,698,177	161,698,177
11										
12	Street and Area Lighting	0	21,094	0.00379495	647,515	35,613	399,636	4,720	1,087,484	1,087,484
13	Traffic Signal Lighting	0	3,168	0.00056994	97,247	5,348	60,019	709	163,324	163,324
14	Total Lighting	0	24,262	0.00436490	744,762	40,961	459,655	5,429	1,250,808	1,250,808
15										
16	Interconnection Charges	516,720	0	0.00000000	0	0	0	0	0	516,720
17										
18	Rounding								(1)	(1)
19	CPUC Total	516,720	5,558,434	1.00000000	170,625,387	9,384,179	105,307,295	1,243,804	286,560,665	287,077,385

Allocation of Production Base Energy Revenue Requirement

Line No.	Rate Class	Production Base Energy Cost			Production Demand Related Energy cost		Total Allocated Rev. Requirement \$
		Adjusted Annual Energy kWh	Allocation Ratio	Allocated Rev Req \$	Allocation Ratio E8760	Allocated Rev Req \$	
1	Residential General	9,248,909,633	0.31504103	40,775,498	0.32066259	93,427,549	134,203,047
2	Residential Demand	35,480,102	0.00120854	156,420	0.00118761	346,020	502,440
3	Total Residential	9,284,389,735	0.31624957	40,931,918	0.32185020	93,773,569	134,705,487
4							
5	Small Commerical	1,380,584,368	0.04702616	6,086,557	0.04678203	13,630,308	19,716,865
6							
7	C&I Secondary	12,334,735,802	0.42015199	54,379,924	0.41671859	121,414,214	175,794,138
8	C&I Primary	3,533,982,118	0.12037628	15,580,202	0.11933137	34,768,127	50,348,329
9	C&I Transmission	2,612,222,396	0.08897884	11,516,457	0.08912769	25,968,049	37,484,506
10	Total C&I	18,480,940,316	0.62950711	81,476,583	0.62517766	182,150,390	263,626,973
11							
12	Street and Area Lighting	184,779,454	0.00629405	814,634	0.00528196	1,538,941	2,353,575
13	Traffic Signal Lighting	27,100,425	0.00092311	119,477	0.00090815	264,596	384,073
14	Total Lighting	211,879,879	0.00721716	934,111	0.00619011	1,803,537	2,737,648
15							
16							
17							
18	Rounding			1		1	2
19	CPUC Total	29,357,794,298	1.00000000	129,429,170	1.00000000	291,357,805	420,786,975

Allocation of Transmission Revenue Requirement

Line No.	Rate Class	Transmission Capacity Cost		
		Transmission Demand 4CP AED - kW	Allocation Ratio	Allocated Rev Req \$
1	Residential General	2,108,872	0.37940039	71,410,168
2	Residential Demand	4,050	0.00072862	137,140
3	Total Residential	2,112,922	0.38012901	71,547,308
4				
5	Small Commerical	284,781	0.05123403	9,643,193
6				
7	C&I Secondary	2,341,357	0.42122601	79,282,524
8	C&I Primary	473,599	0.08520367	16,036,907
9	C&I Transmission	321,513	0.05784237	10,887,004
10	Total C&I	3,136,469	0.56427206	106,206,435
11				
12	Street and Area Lighting	21,094	0.00379495	714,280
13	Traffic Signal Lighting	3,168	0.00056994	107,274
14	Total Lighting	24,262	0.00436490	821,554
15				
16				
17				
18	Rounding			0
19	CPUC Total	5,558,434	1.00000000	188,218,490

Allocation of Distribution Substation Revenue Requirement

Line No.	Rate Class	Direct Assigned Distribution Substation Cost			Allocated Distribution Substation Cost			Total
		Specific Dist Substation Investment \$	Revenue Requirement Factor	Allocated Rev Req \$	Distribution Substation 4CP AED - kW	Allocation Ratio	Allocated Rev Req \$	Allocated Rev Req \$
1	Residential General	0	0.16160443	0	2,110,238	0.40273616	35,510,693	35,510,693
2	Residential Demand	0	0.16160443	0	4,050	0.00077294	68,153	68,153
3	Total Residential	0	0.16160443	0	2,114,288	0.40350910	35,578,846	35,578,846
4								
5	Small Commerical	0	0.16160443	0	284,946	0.05438157	4,795,018	4,795,018
6								
7	C&I Secondary	0	0.16160443	0	2,342,567	0.44707584	39,420,282	39,420,282
8	C&I Primary	0	0.16160443	0	473,690	0.09040312	7,971,167	7,971,167
9	C&I Transmission	13,598,616	0.16160443	2,197,597	0	0.00000000	0	2,197,597
10	Total C&I	13,598,616	0.16160443	2,197,597	2,816,257	0.53747896	47,391,450	49,589,047
11								
12	Street and Area Lighting	0	0.16160443	0	21,094	0.00402576	354,966	354,966
13	Traffic Signal Lighting	0	0.16160443	0	3,168	0.00060461	53,311	53,311
14	Total Lighting	0	0.16160443	0	24,262	0.00463037	408,277	408,277
15								
16								
17								
18	Rounding						(1)	(1)
19	CPUC Total	13,598,616	0.16160443	2,197,597	5,239,753	1.00000000	88,173,590	90,371,187

Allocation of Primary Distribution System Revenue Requirement

Line No.	Rate Class	Primary Distribution System Cost		
		Primary Distribution NCP - kW	Allocation Ratio	Allocated Rev Req \$
1	Residential General	2,824,691	0.42326669	111,930,315
2	Residential Demand	11,519	0.00172607	456,448
3	Total Residential	2,836,210	0.42499276	112,386,763
4				
5	Small Commerical	399,779	0.05990501	15,841,517
6				
7	C&I Secondary	2,864,536	0.42923728	113,509,200
8	C&I Primary	528,104	0.07913391	20,926,483
9	C&I Transmission	0	0.00000000	0
10	Total C&I	3,392,640	0.50837118	134,435,683
11				
12	Street and Area Lighting	41,496	0.00621798	1,644,307
13	Traffic Signal Lighting	3,424	0.00051307	135,678
14	Total Lighting	44,920	0.00673105	1,779,985
15				
16				
17				
18	Rounding			(0)
19	CPUC Total	6,673,549	1.00000000	264,443,948

Allocation of Secondary Distribution System Revenue Requirement

Line No.	Rate Class	Secondary Distribution System Cost			
		Adjusted Class Annual Max - kW	Adjusted Sum of Indiv Annual Max - kW	Secondary NCP Allocation Ratio	Allocated Rev Req \$
1	Residential General	2,824,691	9,107,821	0.57015251	45,490,075
2	Residential Demand	11,519	19,274	0.00165741	132,238
3	Total Residential	2,836,210	9,127,095	0.57180992	45,622,313
4					
5	Small Commerical	399,779	751,205	0.06059678	4,834,763
6					
7	C&I Secondary	2,864,536	3,457,544	0.36226003	28,903,206
8	C&I Primary	0	0	0.00000000	0
9	C&I Transmission	0	0	0.00000000	0
10	Total C&I	2,864,536	3,457,544	0.36226003	28,903,206
11					
12	Street and Area Lighting	41,496	41,496	0.00492674	393,084
13	Traffic Signal Lighting	3,424	3,424	0.00040653	32,435
14	Total Lighting	44,920	44,920	0.00533327	425,519
15					
16					
17					
18	Rounding				(1)
19	CPUC Total	6,145,445	13,380,764	1.00000000	79,785,800

Allocation of Service Lateral Revenue Requirement

Line No.	Service Lateral Type Rate Class	Replacement Investment			Allocated Investment		Allocated Revenue Requirement		
		Test Year Customers	Unit Cost \$/Lateral	Total Cost \$	Unit Cost \$/Lateral	Total Cost \$	Rev Req Factor	Unit Cost \$/Lateral	Rev Req \$
1	Allocation by Type								
2	1 Phase								
3	Residential General	1,176,576	600.46	706,486,825	191.29	225,066,666	0.12451500	23.82	28,024,176
4	Residential Demand	1,178	600.46	707,342	191.29	225,339	0.12451500	23.82	28,058
5	Small Commercial	74,290	600.46	44,608,173	191.29	14,210,899	0.12451500	23.82	1,769,470
6	C&I Secondary	2,335	600.46	1,402,074	191.29	446,661	0.12451500	23.82	55,616
7	Subtotal	1,254,379		753,204,414		239,949,565	0.12451500		29,877,320
8									
9	3 Phase Small								
10	Small Commercial	44,194	1,108.78	49,001,423	353.23	15,610,464	0.12451500	43.98	1,943,737
11	C&I Secondary	35,199	1,108.78	39,027,947	353.23	12,433,197	0.12451500	43.98	1,548,120
12	Subtotal	79,393		88,029,371		28,043,661	0.12451500		3,491,857
13									
14	3 Phase Large								
15	Small Commercial	351	1,814.43	636,865	578.03	202,887	0.12451500	71.97	25,262
16	C&I Secondary	2,024	1,814.43	3,672,406	578.03	1,169,925	0.12451500	71.97	145,673
17	Subtotal	2,375		4,309,271		1,372,812	0.12451500		170,935
18									
19									
20	<i>Rounding</i>			0					1
21	CPUC Total	1,336,147		845,543,056		269,366,038	0.12451500		33,540,113
22									
23									
24	Summary by Rate Class								
25	Residential General	1,176,576		706,486,825		225,066,666			28,024,176
26									
27	Residential Demand	1,178		707,342		225,339			28,058
28									
29	Small Commercial	118,835		94,246,462		30,024,250			3,738,469
30									
31	C&I Secondary	39,558		44,102,428		14,049,783			1,749,409
32									
33	<i>Rounding</i>			0		0			1
34	CPUC Total	1,336,147		845,543,056		269,366,038			33,540,113

Allocation of Metering Revenue Requirement

Line No.	Rate Class	Meter Description				Number of		New Meter Cost		Allocated Investment		Allocated Revenue Requirement		
		Type	Size	Phase	Voltage	Test Year Customers	Meters by Type	Unit Cost \$/Meter	Total Cost \$	Unit Cost \$/Meter	Total Cost \$	Rev Req Factor	Unit Cost \$/Meter	Rev Req \$
1	Residential	kWh	SC	1Ph	Sec	1,167,713	1,167,713	82.09	95,857,560	99.39	116,063,022	0.13908693	13.82	16,142,849
2		DI	SC	1Ph	Sec	4,298	4,298	261.46	1,123,755	316.57	1,360,627	0.13908693	44.03	189,245
3		DI	SC	3Ph	Sec	1,497	1,497	259.62	388,651	314.34	470,573	0.13908693	43.72	65,451
4		DI	TR	3Ph	Sec	2,578	2,578	898.42	2,316,127	1,087.79	2,804,335	0.13908693	151.30	390,046
5		IDR	SC	1Ph	Sec	469	469	315.48	147,960	381.98	179,148	0.13908693	53.13	24,917
6		IDR	SC	3Ph	Sec	21	21	315.48	6,625	381.95	8,021	0.13908693	53.14	1,116
7	Total Residential					1,176,576	1,176,576		99,840,678		120,885,726	0.13908693		16,813,624
8														
9	Residential Demand	DI	SC	1Ph	Sec	1,178	1,178	261.46	308,000	316.57	372,922	0.13908693	44.03	51,869
10	Total Residential Demand					1,178	1,178	261.46	308,000	316.57	372,922	0.13908693	44.03	51,869
11														
12	Small Commercial	kWh	SC	1Ph	Sec	66,682	66,682	82.09	5,473,925	99.39	6,627,753	0.13908693	13.82	921,834
13		DI	SC	1Ph	Sec	7,118	7,118	261.46	1,861,072	316.57	2,253,361	0.13908693	44.03	313,413
14		DI	SC	3Ph	Sec	40,108	40,108	259.62	10,412,839	314.34	12,607,723	0.13908693	43.72	1,753,569
15		DI	TR	3Ph	Sec	4,086	4,086	898.42	3,670,944	9,070.88	4,444,729	0.13908693	151.30	618,204
16		IDR	SC	1Ph	Sec	490	490	315.48	154,585	728.28	187,169	0.13908693	53.13	26,033
17		IDR	SC	3Ph	Sec	257	257	315.48	81,078	1,044.34	98,168	0.13908693	53.13	13,654
18		IDR	TR	3Ph	Sec	94	94	898.42	84,451	0.86	102,252	0.13908693	151.30	14,222
19	Total Small Commercial					118,835	118,835		21,738,894		26,321,155	0.13908693		3,660,929
20														
21														
22	C&I Secondary	kWh	SC	1Ph	Sec	18	18	82.09	1,478	99.44	1,790	0.13908693	13.83	249
23		DI	SC	1Ph	Sec	2,158	2,158	261.46	564,231	316.57	683,163	0.13908693	44.03	95,019
24		DI	SC	3Ph	Sec	12,118	12,118	259.62	3,146,075	314.34	3,809,225	0.13908693	43.72	529,813
25		DI	TR	3Ph	Sec	23,081	23,081	898.42	20,736,432	1,087.79	25,107,388	0.13908693	151.30	3,492,110
26		IDR	SC	1Ph	Sec	159	165	315.48	52,054	381.98	63,026	0.13908693	53.13	8,766
27		IDR	SC	3Ph	Sec	69	72	315.48	22,715	381.99	27,503	0.13908693	53.13	3,825
28		IDR	TR	3Ph	Sec	1,955	2,027	898.42	1,821,097	1,087.79	2,204,959	0.13908693	151.30	306,681
29	Subtotal					39,558	39,639		26,344,082		31,897,054	0.13908693		4,436,463
30														
31	C&I Primary	IDR	TR	3Ph	Pri	604	683	13,698.00	9,355,734	16,585.35	11,327,795	0.13908693	2,306.81	1,575,548
32	Subtotal					604	683		9,355,734		11,327,795	0.13908693		1,575,548
33														
34	C&I Transmission	IDR	TR	3Ph	Pri	5	14	13,698.00	191,772	16,585.36	232,195	0.13908693	2,306.79	32,295
35		IDR	TR	3Ph	44kV	1	1	79,293.00	79,293	96,007.00	96,007	0.13908693	13,353.00	13,353
36		IDR	TR	3Ph	69kV	2	3	91,956.00	275,868	111,339.00	334,017	0.13908693	15,485.67	46,457
37		IDR	TR	3Ph	115kV	14	8	112,764.00	902,112	136,533.13	1,092,265	0.13908693	18,990.00	151,920
38		IDR	TR	3Ph	230kV	8	6	257,482.00	1,544,892	311,755.67	1,870,534	0.13908693	43,361.17	260,167
39	Subtotal					30	32		2,993,937		3,625,018	0.13908693		504,192
40														
41	Total C&I					40,192	40,354		38,693,753		46,849,867			6,516,203
42														
43														
44	Rounding					(1)				1				1
45	CPUC Total					1,336,781	1,336,943		160,581,325		194,429,671	0.13908693		27,042,626

Allocation of Lighting Equipment Revenue Requirement

Line No.	Rate Class	Number of Installations		Direct Assigned Investment		Allocated Revenue Requirement		
		Street & Area Lights	Signalized Intersections	Unit Cost \$/Install	Total Cost \$	Rev Req Factor	Unit Cost \$/Install	Rev Req \$
1	Street and Area Lighting	210,684		770.65	162,363,920	0.19400302	149.51	31,499,091
2								
3	Traffic Signal Lighting		3,037	601.60	1,827,059	0.19400302	116.71	354,455
4								
5								
6	<i>Rounding</i>							(0)
7	CPUC Total	<u>210,684</u>	<u>3,037</u>		<u>164,190,979</u>	<u>0.19400302</u>		<u>31,853,546</u>

Allocation of Meter Reading Revenue Requirement

Line No.	Rate Class	Meter Type	Number of				Weight Factor	Weighted Meter Reads	Allocated Meter Reading Expense		Allocated Revenue Requirement		
			Test Year Customers	Meters by Type	Annual Bills	Meter Reads			\$/Read	\$	Rev Req Factor	Unit Cost \$/Read	Rev Req \$
1	Residential	kWh	1,167,713	1,167,713	14,012,556	14,012,556	1	14,012,556	0.18	2,584,588	1.81274245	0.33	4,685,192
2		DI	8,373	8,373	100,476	100,476	7	667,161	1.22	123,057	1.81274245	2.22	223,071
3		IDR	490	490	5,880	5,880	65	382,200	11.99	70,496	1.81274245	21.73	127,791
4	Total Residential		1,176,576	1,176,576	14,118,912	14,118,912		15,061,917		2,778,141	1.81274245		5,036,054
5													
6	Residential Demand												
7		DI	1,178	1,178	14,136	14,136	7	93,863	1.22	17,313	1.81274245	2.22	31,384
8	Total Residential Demand		1,178	1,178	14,136	14,136		93,863		17,313			31,384
9													
10	Small Commercial	kWh	66,682	66,682	800,184	800,184	1	800,184	0.18	147,592	1.81274245	0.33	267,546
11		DI	51,312	51,312	621,624	621,624	7	4,127,583	1.22	761,324	1.81274245	2.22	1,380,084
12		IDR	841	841	4,212	4,212	65	273,780	11.99	50,498	1.81274245	21.73	91,540
13	Total Small Commercial		118,835	118,835	1,426,020	1,426,020		4,927,767		908,916	1.81274245		1,647,630
14													
15													
16	C&I Secondary	kWh	18	18	216	216	1	216	0.19	40	1.81274245	0	73
17		DI	37,357	37,357	448,284	448,284	7	2,976,606	1.22	549,029	1.81274245	2.22	995,248
18		IDR	2,183	2,264	26,196	27,168	65	1,765,920	11.99	325,720	1.81274245	21.73	590,446
19	Subtotal		39,558	39,639	474,696	475,668		4,742,742		874,789	1.81274245		1,585,767
20													
21	C&I Primary	IDR	604	683	7,248	8,196	65	532,740	11.99	98,263	1.81274245	21.73	178,126
22	Subtotal		604	683	7,248	8,196		532,740		98,263			178,126
23													
24	C&I Transmission	IDR	30	32	360	384	65	24,960	11.99	4,604	1.81274245	21.73	8,346
25	Subtotal		30	32	360	384		24,960		4,604			8,346
26													
27	Total C&I		40,192	40,354	482,304	484,248		5,300,442		977,656			1,772,239
28													
29													
30	Rounding									(0)			0
31	CPUC Total		1,336,781	1,336,943	16,041,372	16,043,316		25,383,989		4,682,026	1.81274245		8,487,307

Allocation of Billing and Customer Accounting Revenue Requirement

Line No.	Rate Class	Meter Type	Number of		Annual Bills	Weight Factor	Weighted Annual Bills	Allocated Billing and Cust Acctg Expense		Allocated Revenue Requirement		
			Test Year Customers	Meters by Type				\$/Bill	\$	Rev Req Factor	Unit Cost \$/Bill	Rev Req \$
1	Residential	kWh	1,167,713	1,167,713	14,012,556	1	14,012,556	1.21	16,972,266	1.74471915	2.11	29,611,838
2		DI	8,373	8,373	100,476	2	200,952	2.42	243,397	1.74471915	4.23	424,659
3		IDR	490	490	5,880	4	23,520	4.84	28,488	1.74471915	8.45	49,704
4	Total Residential		1,176,576	1,176,576	14,118,912		14,237,028		17,244,151	1.74471915		30,086,201
5												
6	Residential Demand											
7		DI	1,178	1,178	14,136	2	28,272	2.42	34,244	1.74471915	4.23	59,746
8	Total Residential Demand		1,178	1,178	14,136		28,272		34,244			59,746
9												
10	Small Commercial	kWh	66,682	66,682	800,184	1	800,184	1.21	969,198	1.74471915	2.11	1,690,978
11		DI	51,802	51,802	621,624	2	1,243,248	2.42	1,505,845	1.74471915	4.23	2,627,277
12		IDR	351	351	4,212	4	16,848	4.84	20,407	1.74471915	8.45	35,604
13	Total Small Commercial		118,835	118,835	1,426,020		2,060,280		2,495,450	1.74471915		4,353,859
14												
15												
16	C&I Secondary	kWh	18	18	216	1	216	1.21	262	1.74471915	2.12	457
17		DI	37,357	37,357	448,284	2	896,568	2.42	1,085,940	1.74471915	4.23	1,894,660
18		IDR	2,183	2,264	26,196	4	104,784	4.84	126,916	1.74471915	8.45	221,433
19	Subtotal		39,558	39,639	474,696		1,001,568		1,213,118	1.74471915		2,116,550
20												
21	C&I Primary	IDR	604	683	7,248	10	72,480	12.11	87,789	1.74471915	21.13	153,167
22	Subtotal		604	683	7,248		72,480		87,789			153,167
23												
24	C&I Transmission	IDR	30	32	360	10	3,600	12.11	4,360	1.74471915	21.13	7,607
25	Subtotal		30	32	360		3,600		4,360			7,607
26												
27	Total C&I		40,192	40,354	482,304		1,077,648		1,305,267			2,277,324
28												
29												
30	Rounding								(2)			(3)
31	CPUC Total		1,336,781	1,336,943	16,041,372		17,403,228		21,079,110	1.74471915		36,777,127

Public Service Company of Colorado
Electric Department
Retail Stratified Class Cost Allocation Study
12 Months Ended December 31, 2013

Attachment DRB-4
Proceeding 16AL-XXXXE
Hearing Exhibit XXX
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Total Allocated Customer Related Revenue Requirement

Line No.	Rate Class	Customer Related Facilities					Customer Operations Expense			Total Customer Rev Req
		Direct Assignments	Service Laterals	Meters	Lighting Facilities	Total Facilities	Meter Reading	Billing & Cust Acctg	Total Cust Op Exp	
		\$	\$	\$	\$	\$	\$	\$	\$	\$
1	Residential General	0	28,024,176	16,813,624	0	44,837,800	5,036,054	30,086,201	35,122,255	79,960,055
2	Residential Demand	0	28,058	51,869	0	79,927	31,384	59,746	91,130	171,057
3	Total Residential	0	28,052,234	16,865,493	0	44,917,727	5,067,438	30,145,947	35,213,385	80,131,112
4										
5	Small Commerical	0	3,738,469	3,660,929	0	7,399,398	1,647,630	4,353,859	6,001,489	13,400,887
6										
7	C&I Secondary	0	1,749,409	4,436,463	0	6,185,872	1,585,767	2,116,550	3,702,317	9,888,189
8	C&I Primary	0	0	1,575,548	0	1,575,548	178,126	153,167	331,293	1,906,841
9	C&I Transmission	2,197,597	0	504,192	0	2,701,789	8,346	7,607	15,953	2,717,742
10	Total C&I	2,197,597	1,749,409	6,516,203	0	10,463,209	1,772,239	2,277,324	4,049,563	14,512,772
11										
12	Street and Area Lighting	0	0	0	31,499,091	31,499,091	0	0	0	31,499,091
13	Traffic Signal Lighting	0	0	0	354,455	354,455	0	0	0	354,455
14	Total Lighting	0	0	0	31,853,546	31,853,546	0	0	0	31,853,546
15										
16	Interconnection Charges	516,720	0	0	0	516,720	0	0	0	516,720
17										
18	Rounding	0	1	1	(0)	1	0	(3)	(3)	(2)
19	CPUC Total	2,714,317	33,540,113	27,042,626	31,853,546	95,150,601	8,487,307	36,777,127	45,264,434	140,415,035

Subtotal Allocated Base Rate Revenue Requirement

Line No.	Rate Class	Total Customer Cost \$	Total Fixed Cost					Variable Energy Cost \$	Subtotal Base Rate Revenue Requirement \$	
			Production Cost \$	Transmission Cost \$	Distribution Substations \$	Primary System \$	Secondary System \$			Total Capacity \$
1	Residential General	79,960,055	108,721,227	71,410,168	35,510,693	111,930,315	45,490,075	373,062,478	134,203,047	587,225,580
2	Residential Demand	171,057	208,795	137,140	68,153	456,448	132,238	1,002,774	502,440	1,676,271
3	Total Residential	80,131,112	108,930,022	71,547,308	35,578,846	112,386,763	45,622,313	374,065,252	134,705,487	588,901,851
4										
5	Small Commerical	13,400,887	14,681,659	9,643,193	4,795,018	15,841,517	4,834,763	49,796,150	19,716,865	82,913,902
6										
7	C&I Secondary	9,888,189	120,706,807	79,282,524	39,420,282	113,509,200	28,903,206	381,822,019	175,794,138	567,504,346
8	C&I Primary	1,906,841	24,416,022	16,036,907	7,971,167	20,926,483	0	69,350,579	50,348,329	121,605,749
9	C&I Transmission	2,717,742	16,575,348	10,887,004	0	0	0	27,462,352	37,484,506	67,664,600
10	Total C&I	14,512,772	161,698,177	106,206,435	47,391,449	134,435,683	28,903,206	478,634,950	263,626,973	756,774,695
11										
12	Street and Area Lighting	31,499,091	1,087,484	714,280	354,966	1,644,307	393,084	4,194,121	2,353,575	38,046,787
13	Traffic Signal Lighting	354,455	163,324	107,274	53,311	135,678	32,435	492,022	384,073	1,230,550
14	Total Lighting	31,853,546	1,250,808	821,554	408,277	1,779,985	425,519	4,686,143	2,737,648	39,277,337
15			0							
16	Interconnection Charges	516,720	0	0	0	0	0	0	0	516,720
17	Rounding - Functional Allocations									1
18	Rounding - Class Allocations	(2)	(1)	0	(1)	(0)	(1)	(2)	1	(3)
19	CPUC Total	140,415,035	286,560,665	188,218,490	88,173,589	264,443,948	79,785,800	907,182,493	420,786,974	1,468,384,502

Total Allocated Base Rate Revenue Requirement						
Line No.	Rate Class	Subtotal Base Rate Revenue Requirement \$	Revenue Allocation Factor	DSM Allocated Rev Req \$	Low Income Allocated Rev Req \$	Total Base Rate Revenue Requirement \$
1	Residential General	587,225,580	0.40005346	35,861,590	1,600,214	624,687,384
2	Residential Demand	1,676,271	0.00114198	102,369	4,568	1,783,208
3	Total Residential	588,901,851	0.40119544	35,963,959	1,604,782	626,470,592
4						
5	Small Commerical	82,913,902	0.05648595	5,063,513	225,944	88,203,359
6						
7	C&I Secondary	567,504,346	0.38661816	34,657,223	1,546,473	603,708,042
8	C&I Primary	121,605,749	0.08284517	7,426,406	331,381	129,363,536
9	C&I Transmission	67,664,600	0.04609720	4,132,245	184,389	71,981,234
10	Total C&I	756,774,695	0.51556053	46,215,874	2,062,243	805,052,812
11						
12	Street and Area Lighting	38,046,787	0.02591976	2,323,499	103,679	40,473,965
13	Traffic Signal Lighting	1,230,550	0.00083832	75,149	3,353	1,309,052
14	Total Lighting	39,277,337	0.02675808	2,398,648	107,032	41,783,017
15						
16	Interconnection Charges	516,720		0	0	516,720
17	Rounding - Functional Allocations	1				1
18	Rounding - Class Allocations	(3)		0	0	(3)
19	CPUC Total	1,468,384,502	1.00000000	89,641,995	4,000,000	1,562,026,498