

KY PSC Case No. 2016-00162
Response to Attorney General's Data Request Set One No. 1
Respondents: Jana Croom, Melissa Bell, Chad Notestone, Mark Balmert, Mark Katko,
John Spanos, and Paul Moul

**COLUMBIA GAS OF KENTUCKY, INC.
RESPONSE TO ATTORNEY GENERAL'S INITIAL
REQUEST FOR INFORMATION
DATED JULY 8, 2016**

1. Provide all schedules and workpapers, including all electronic spreadsheets in live format with all formulas intact. This includes, but is not limited to, all schedules and workpapers in support of Mr. Moul's testimony and exhibits and Mr. Spanos' testimony, exhibits, and depreciation study.

Response:

Please see the following attachments to this response:

- AG 1-1 Attachment A - Schedules A through K, filed in this docket as CKY_R_AGDR1_NUM1_Attachment_A_072216.
- AG 1-1 Attachment B – Workpapers supporting the ratemaking adjustments for Schedule D-2.4, filed in this docket as CKY_R_AGDR1_NUM1_Attachment_B_072216.
- AG 1-1 Attachment C – Depreciation Study - Depreciation Rates, filed in this docket as CKY_R_AGDR1_NUM1_Attachment_C_072216.
- AG 1-1 Attachment D – Depreciation Study - Life Analysis.

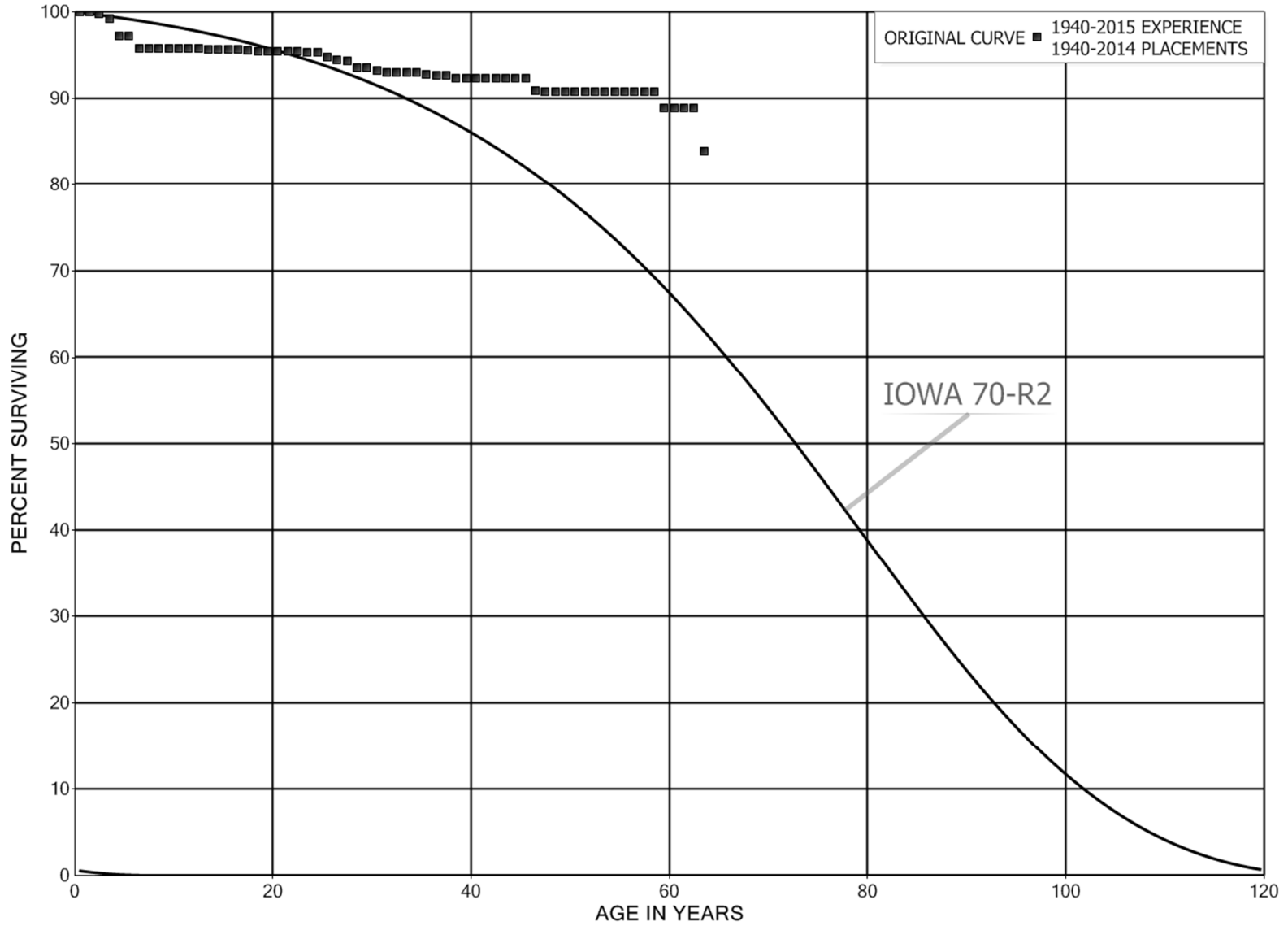
- AG 1-1 Attachment E – Depreciation Study – Salvage Analysis.
- AG 1-1 Attachment F – Depreciation Study – Depreciation Calculations.

Please refer to Columbia's response to Staff 1-29 for the allocated cost of service studies.

Please refer to Columbia's response to Staff 2-65 for Schedule M including rate design.

Please refer to Columbia's response to Staff 2-44 for support and workpapers related to Mr Moul's testimony and exhibits.

COLUMBIA GAS OF KENTUCKY, INC.
ACCOUNT 374.4 LAND AND LAND RIGHTS - LAND RIGHTS
ORIGINAL AND SMOOTH SURVIVOR CURVES



COLUMBIA GAS OF KENTUCKY, INC.

ACCOUNT 374.4 LAND AND LAND RIGHTS - LAND RIGHTS

ORIGINAL LIFE TABLE

PLACEMENT BAND 1940-2014			EXPERIENCE BAND 1940-2015		
AGE AT BEGIN OF INTERVAL	EXPOSURES AT BEGINNING OF AGE INTERVAL	RETIREMENTS DURING AGE INTERVAL	RETMT RATIO	SURV RATIO	PCT SURV BEGIN OF INTERVAL
0.0	698,458		0.0000	1.0000	100.00
0.5	698,384		0.0000	1.0000	100.00
1.5	681,725	2,211	0.0032	0.9968	100.00
2.5	657,298	3,071	0.0047	0.9953	99.68
3.5	632,187	13,066	0.0207	0.9793	99.21
4.5	604,194	0	0.0000	1.0000	97.16
5.5	551,384	8,244	0.0150	0.9850	97.16
6.5	493,938		0.0000	1.0000	95.71
7.5	467,544		0.0000	1.0000	95.71
8.5	465,557	84	0.0002	0.9998	95.71
9.5	465,532	36	0.0001	0.9999	95.69
10.5	463,053		0.0000	1.0000	95.68
11.5	446,180		0.0000	1.0000	95.68
12.5	446,180	435	0.0010	0.9990	95.68
13.5	429,855	32	0.0001	0.9999	95.59
14.5	423,106		0.0000	1.0000	95.58
15.5	411,034		0.0000	1.0000	95.58
16.5	410,974	161	0.0004	0.9996	95.58
17.5	403,275	572	0.0014	0.9986	95.54
18.5	379,762		0.0000	1.0000	95.41
19.5	379,762		0.0000	1.0000	95.41
20.5	363,530		0.0000	1.0000	95.41
21.5	312,950		0.0000	1.0000	95.41
22.5	311,309	339	0.0011	0.9989	95.41
23.5	303,673		0.0000	1.0000	95.31
24.5	293,722	1,887	0.0064	0.9936	95.31
25.5	276,234	931	0.0034	0.9966	94.69
26.5	237,184	199	0.0008	0.9992	94.37
27.5	213,781	1,683	0.0079	0.9921	94.29
28.5	150,625		0.0000	1.0000	93.55
29.5	125,792	518	0.0041	0.9959	93.55
30.5	104,297	227	0.0022	0.9978	93.17
31.5	70,440		0.0000	1.0000	92.96
32.5	53,044		0.0000	1.0000	92.96
33.5	43,282		0.0000	1.0000	92.96
34.5	37,069	112	0.0030	0.9970	92.96
35.5	33,918	8	0.0002	0.9998	92.68
36.5	33,910		0.0000	1.0000	92.66
37.5	30,988	114	0.0037	0.9963	92.66
38.5	30,314		0.0000	1.0000	92.32

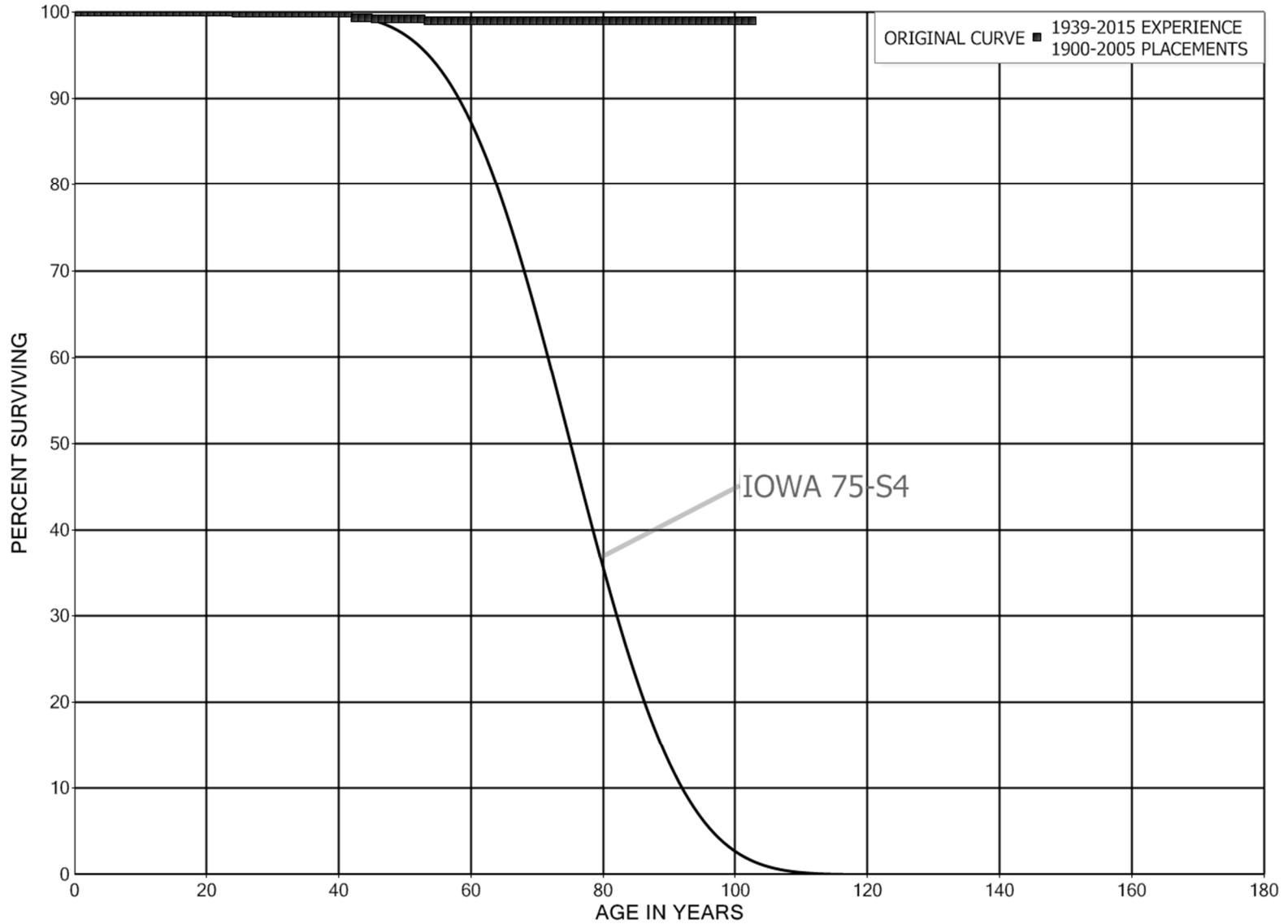
COLUMBIA GAS OF KENTUCKY, INC.

ACCOUNT 374.4 LAND AND LAND RIGHTS - LAND RIGHTS

ORIGINAL LIFE TABLE, CONT.

PLACEMENT BAND 1940-2014			EXPERIENCE BAND 1940-2015		
AGE AT BEGIN OF INTERVAL	EXPOSURES AT BEGINNING OF AGE INTERVAL	RETIREMENTS DURING AGE INTERVAL	RETMT RATIO	SURV RATIO	PCT SURV BEGIN OF INTERVAL
39.5	29,980		0.0000	1.0000	92.32
40.5	29,980		0.0000	1.0000	92.32
41.5	27,160		0.0000	1.0000	92.32
42.5	27,160		0.0000	1.0000	92.32
43.5	22,430	11	0.0005	0.9995	92.32
44.5	21,454		0.0000	1.0000	92.27
45.5	19,842	318	0.0160	0.9840	92.27
46.5	18,998	3	0.0002	0.9998	90.79
47.5	18,464		0.0000	1.0000	90.78
48.5	17,976		0.0000	1.0000	90.78
49.5	17,128		0.0000	1.0000	90.78
50.5	16,421		0.0000	1.0000	90.78
51.5	12,997		0.0000	1.0000	90.78
52.5	9,824		0.0000	1.0000	90.78
53.5	8,070		0.0000	1.0000	90.78
54.5	7,434		0.0000	1.0000	90.78
55.5	7,172		0.0000	1.0000	90.78
56.5	5,703		0.0000	1.0000	90.78
57.5	4,209		0.0000	1.0000	90.78
58.5	3,902	83	0.0214	0.9786	90.78
59.5	3,099		0.0000	1.0000	88.84
60.5	2,453		0.0000	1.0000	88.84
61.5	1,036		0.0000	1.0000	88.84
62.5	1,036	59	0.0566	0.9434	88.84
63.5	977		0.0000	1.0000	83.81
64.5	977		0.0000	1.0000	83.81
65.5	977		0.0000	1.0000	83.81
66.5	659		0.0000	1.0000	83.81
67.5	659		0.0000	1.0000	83.81
68.5	659		0.0000	1.0000	83.81
69.5	632		0.0000	1.0000	83.81
70.5	632		0.0000	1.0000	83.81
71.5	632		0.0000	1.0000	83.81
72.5	632		0.0000	1.0000	83.81
73.5	632		0.0000	1.0000	83.81
74.5	632		0.0000	1.0000	83.81
75.5					83.81

COLUMBIA GAS OF KENTUCKY, INC.
ACCOUNT 374.5 LAND AND LAND RIGHTS - RIGHTS-OF-WAY
ORIGINAL AND SMOOTH SURVIVOR CURVES



COLUMBIA GAS OF KENTUCKY, INC.

ACCOUNT 374.5 LAND AND LAND RIGHTS - RIGHTS-OF-WAY

ORIGINAL LIFE TABLE

PLACEMENT BAND 1900-2005			EXPERIENCE BAND 1939-2015			
AGE AT BEGIN OF INTERVAL	EXPOSURES AT BEGINNING OF AGE INTERVAL	RETIREMENTS DURING AGE INTERVAL	RETMT RATIO	SURV RATIO	PCT SURV BEGIN OF INTERVAL	
0.0	2,492,680		0.0000	1.0000	100.00	
0.5	2,493,453	2,533	0.0010	0.9990	100.00	
1.5	2,507,330		0.0000	1.0000	99.90	
2.5	2,515,350		0.0000	1.0000	99.90	
3.5	2,517,176		0.0000	1.0000	99.90	
4.5	2,519,457		0.0000	1.0000	99.90	
5.5	2,525,235		0.0000	1.0000	99.90	
6.5	2,526,437		0.0000	1.0000	99.90	
7.5	2,532,761		0.0000	1.0000	99.90	
8.5	2,537,593		0.0000	1.0000	99.90	
9.5	2,537,977		0.0000	1.0000	99.90	
10.5	2,542,995		0.0000	1.0000	99.90	
11.5	2,554,239		0.0000	1.0000	99.90	
12.5	2,554,687		0.0000	1.0000	99.90	
13.5	1,429,440		0.0000	1.0000	99.90	
14.5	1,283,815		0.0000	1.0000	99.90	
15.5	1,273,665		0.0000	1.0000	99.90	
16.5	1,279,688		0.0000	1.0000	99.90	
17.5	1,271,775		0.0000	1.0000	99.90	
18.5	1,272,109		0.0000	1.0000	99.90	
19.5	1,260,667		0.0000	1.0000	99.90	
20.5	1,085,997		0.0000	1.0000	99.90	
21.5	878,181		0.0000	1.0000	99.90	
22.5	827,246		0.0000	1.0000	99.90	
23.5	765,896	390	0.0005	0.9995	99.90	
24.5	713,377		0.0000	1.0000	99.85	
25.5	629,342		0.0000	1.0000	99.85	
26.5	553,075		0.0000	1.0000	99.85	
27.5	466,331		0.0000	1.0000	99.85	
28.5	443,533		0.0000	1.0000	99.85	
29.5	410,788		0.0000	1.0000	99.85	
30.5	398,729		0.0000	1.0000	99.85	
31.5	329,996		0.0000	1.0000	99.85	
32.5	322,991		0.0000	1.0000	99.85	
33.5	322,007		0.0000	1.0000	99.85	
34.5	311,989		0.0000	1.0000	99.85	
35.5	299,318		0.0000	1.0000	99.85	
36.5	286,041		0.0000	1.0000	99.85	
37.5	283,165		0.0000	1.0000	99.85	
38.5	279,109		0.0000	1.0000	99.85	

COLUMBIA GAS OF KENTUCKY, INC.

ACCOUNT 374.5 LAND AND LAND RIGHTS - RIGHTS-OF-WAY

ORIGINAL LIFE TABLE, CONT.

PLACEMENT BAND 1900-2005			EXPERIENCE BAND 1939-2015			
AGE AT BEGIN OF INTERVAL	EXPOSURES AT BEGINNING OF AGE INTERVAL	RETIREMENTS DURING AGE INTERVAL	RETMT RATIO	SURV RATIO	PCT SURV BEGIN OF INTERVAL	
39.5	273,950	21	0.0001	0.9999	99.85	
40.5	273,406		0.0000	1.0000	99.84	
41.5	272,114	1,378	0.0051	0.9949	99.84	
42.5	265,985		0.0000	1.0000	99.33	
43.5	237,962		0.0000	1.0000	99.33	
44.5	221,767	236	0.0011	0.9989	99.33	
45.5	193,016		0.0000	1.0000	99.23	
46.5	150,153		0.0000	1.0000	99.23	
47.5	145,270		0.0000	1.0000	99.23	
48.5	167,768	106	0.0006	0.9994	99.23	
49.5	140,046		0.0000	1.0000	99.17	
50.5	140,219		0.0000	1.0000	99.17	
51.5	137,064		0.0000	1.0000	99.17	
52.5	131,298	313	0.0024	0.9976	99.17	
53.5	127,524		0.0000	1.0000	98.93	
54.5	127,684		0.0000	1.0000	98.93	
55.5	121,751		0.0000	1.0000	98.93	
56.5	116,496		0.0000	1.0000	98.93	
57.5	96,001		0.0000	1.0000	98.93	
58.5	94,946		0.0000	1.0000	98.93	
59.5	93,038		0.0000	1.0000	98.93	
60.5	93,628		0.0000	1.0000	98.93	
61.5	88,264		0.0000	1.0000	98.93	
62.5	84,164		0.0000	1.0000	98.93	
63.5	87,920		0.0000	1.0000	98.93	
64.5	80,027		0.0000	1.0000	98.93	
65.5	76,838		0.0000	1.0000	98.93	
66.5	74,047		0.0000	1.0000	98.93	
67.5	72,816		0.0000	1.0000	98.93	
68.5	72,427		0.0000	1.0000	98.93	
69.5	72,372		0.0000	1.0000	98.93	
70.5	72,337		0.0000	1.0000	98.93	
71.5	72,281		0.0000	1.0000	98.93	
72.5	72,102		0.0000	1.0000	98.93	
73.5	72,020		0.0000	1.0000	98.93	
74.5	68,936		0.0000	1.0000	98.93	
75.5	67,530		0.0000	1.0000	98.93	
76.5	67,476		0.0000	1.0000	98.93	
77.5	67,184		0.0000	1.0000	98.93	
78.5	68,596		0.0000	1.0000	98.93	

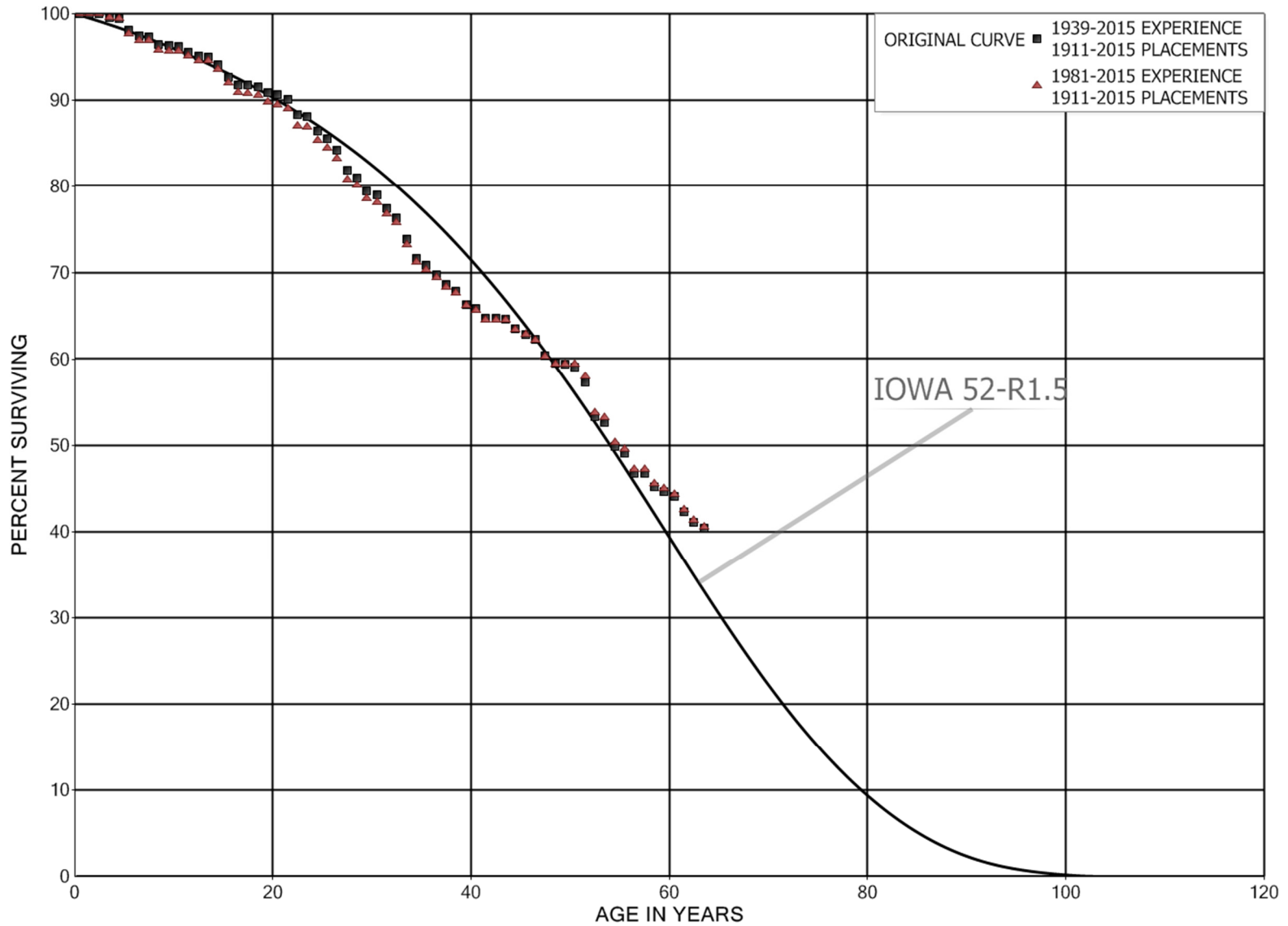
COLUMBIA GAS OF KENTUCKY, INC.

ACCOUNT 374.5 LAND AND LAND RIGHTS - RIGHTS-OF-WAY

ORIGINAL LIFE TABLE, CONT.

PLACEMENT BAND 1900-2005			EXPERIENCE BAND 1939-2015		
AGE AT BEGIN OF INTERVAL	EXPOSURES AT BEGINNING OF AGE INTERVAL	RETIREMENTS DURING AGE INTERVAL	RETMT RATIO	SURV RATIO	PCT SURV BEGIN OF INTERVAL
79.5	68,553		0.0000	1.0000	98.93
80.5	68,553		0.0000	1.0000	98.93
81.5	68,515		0.0000	1.0000	98.93
82.5	68,393		0.0000	1.0000	98.93
83.5	68,382		0.0000	1.0000	98.93
84.5	68,306		0.0000	1.0000	98.93
85.5	68,012		0.0000	1.0000	98.93
86.5	58,647		0.0000	1.0000	98.93
87.5	51,031		0.0000	1.0000	98.93
88.5	50,457		0.0000	1.0000	98.93
89.5	50,457		0.0000	1.0000	98.93
90.5	50,457		0.0000	1.0000	98.93
91.5	50,457		0.0000	1.0000	98.93
92.5	50,457		0.0000	1.0000	98.93
93.5	49,906		0.0000	1.0000	98.93
94.5	49,902		0.0000	1.0000	98.93
95.5	49,894		0.0000	1.0000	98.93
96.5	49,894		0.0000	1.0000	98.93
97.5	49,672		0.0000	1.0000	98.93
98.5	49,669		0.0000	1.0000	98.93
99.5	45,955		0.0000	1.0000	98.93
100.5	45,937		0.0000	1.0000	98.93
101.5	45,496		0.0000	1.0000	98.93
102.5	5,849		0.0000	1.0000	98.93
103.5	5,682		0.0000	1.0000	98.93
104.5	5,643		0.0000	1.0000	98.93
105.5	5,610		0.0000	1.0000	98.93
106.5	5,610		0.0000	1.0000	98.93
107.5	5,101		0.0000	1.0000	98.93
108.5	5,101		0.0000	1.0000	98.93
109.5	4,647		0.0000	1.0000	98.93
110.5	8		0.0000	1.0000	98.93
111.5	8		0.0000	1.0000	98.93
112.5	8		0.0000	1.0000	98.93
113.5	8		0.0000	1.0000	98.93
114.5	8		0.0000	1.0000	98.93
115.5					98.93

COLUMBIA GAS OF KENTUCKY, INC.
ACCOUNT 375.34 STRUCTURES AND IMPROVEMENTS – MEASURING AND REGULATING
ORIGINAL AND SMOOTH SURVIVOR CURVES



COLUMBIA GAS OF KENTUCKY, INC.

ACCOUNT 375.34 STRUCTURES AND IMPROVEMENTS - MEASURING AND REGULATING

ORIGINAL LIFE TABLE

PLACEMENT BAND 1911-2015			EXPERIENCE BAND 1939-2015			
AGE AT BEGIN OF INTERVAL	EXPOSURES AT BEGINNING OF AGE INTERVAL	RETIREMENTS DURING AGE INTERVAL	RETMT RATIO	SURV RATIO	PCT SURV BEGIN OF INTERVAL	
0.0	2,003,285	94	0.0000	1.0000	100.00	
0.5	1,607,776	43	0.0000	1.0000	100.00	
1.5	1,493,748	101	0.0001	0.9999	99.99	
2.5	1,325,169	6,592	0.0050	0.9950	99.99	
3.5	1,137,892	445	0.0004	0.9996	99.49	
4.5	1,025,435	14,514	0.0142	0.9858	99.45	
5.5	877,376	5,453	0.0062	0.9938	98.04	
6.5	857,776	1,597	0.0019	0.9981	97.43	
7.5	818,211	6,924	0.0085	0.9915	97.25	
8.5	785,611	1,328	0.0017	0.9983	96.43	
9.5	770,789	422	0.0005	0.9995	96.27	
10.5	769,184	5,354	0.0070	0.9930	96.21	
11.5	756,806	4,105	0.0054	0.9946	95.54	
12.5	764,154	587	0.0008	0.9992	95.02	
13.5	739,069	7,300	0.0099	0.9901	94.95	
14.5	696,263	9,990	0.0143	0.9857	94.01	
15.5	688,247	6,945	0.0101	0.9899	92.66	
16.5	678,014	360	0.0005	0.9995	91.73	
17.5	677,960	1,630	0.0024	0.9976	91.68	
18.5	681,106	4,850	0.0071	0.9929	91.46	
19.5	648,842	1,678	0.0026	0.9974	90.81	
20.5	639,485	3,229	0.0050	0.9950	90.57	
21.5	634,030	12,527	0.0198	0.9802	90.12	
22.5	625,168	2,282	0.0037	0.9963	88.34	
23.5	631,053	11,373	0.0180	0.9820	88.01	
24.5	619,237	6,999	0.0113	0.9887	86.43	
25.5	585,710	8,557	0.0146	0.9854	85.45	
26.5	574,959	16,368	0.0285	0.9715	84.20	
27.5	547,732	5,468	0.0100	0.9900	81.81	
28.5	445,091	8,488	0.0191	0.9809	80.99	
29.5	405,032	2,485	0.0061	0.9939	79.44	
30.5	338,218	6,706	0.0198	0.9802	78.96	
31.5	294,761	4,017	0.0136	0.9864	77.39	
32.5	278,204	9,145	0.0329	0.9671	76.34	
33.5	225,311	6,633	0.0294	0.9706	73.83	
34.5	216,621	2,401	0.0111	0.9889	71.65	
35.5	194,474	2,975	0.0153	0.9847	70.86	
36.5	188,496	3,132	0.0166	0.9834	69.78	
37.5	182,103	2,002	0.0110	0.9890	68.62	
38.5	176,749	3,995	0.0226	0.9774	67.86	

COLUMBIA GAS OF KENTUCKY, INC.

ACCOUNT 375.34 STRUCTURES AND IMPROVEMENTS - MEASURING AND REGULATING

ORIGINAL LIFE TABLE, CONT.

PLACEMENT BAND 1911-2015			EXPERIENCE BAND 1939-2015			
AGE AT BEGIN OF INTERVAL	EXPOSURES AT BEGINNING OF AGE INTERVAL	RETIREMENTS DURING AGE INTERVAL	RETMT RATIO	SURV RATIO	PCT SURV BEGIN OF INTERVAL	
39.5	173,500	1,390	0.0080	0.9920	66.33	
40.5	172,111	2,841	0.0165	0.9835	65.80	
41.5	168,179	32	0.0002	0.9998	64.71	
42.5	161,141	297	0.0018	0.9982	64.70	
43.5	153,507	2,603	0.0170	0.9830	64.58	
44.5	137,824	1,304	0.0095	0.9905	63.48	
45.5	122,722	1,260	0.0103	0.9897	62.88	
46.5	121,462	3,606	0.0297	0.9703	62.24	
47.5	115,105	1,693	0.0147	0.9853	60.39	
48.5	110,863	240	0.0022	0.9978	59.50	
49.5	104,441	517	0.0050	0.9950	59.37	
50.5	97,840	2,933	0.0300	0.9700	59.08	
51.5	84,839	6,032	0.0711	0.9289	57.31	
52.5	76,629	868	0.0113	0.9887	53.23	
53.5	73,071	3,886	0.0532	0.9468	52.63	
54.5	68,786	1,087	0.0158	0.9842	49.83	
55.5	61,156	2,833	0.0463	0.9537	49.04	
56.5	52,737		0.0000	1.0000	46.77	
57.5	46,576	1,585	0.0340	0.9660	46.77	
58.5	39,737	472	0.0119	0.9881	45.18	
59.5	32,135	442	0.0138	0.9862	44.64	
60.5	28,234	1,125	0.0399	0.9601	44.03	
61.5	21,971	602	0.0274	0.9726	42.27	
62.5	18,418	310	0.0168	0.9832	41.12	
63.5	15,787	461	0.0292	0.9708	40.43	
64.5	10,116	0	0.0000	1.0000	39.25	
65.5	7,644	396	0.0518	0.9482	39.25	
66.5	6,916	200	0.0289	0.9711	37.21	
67.5	6,652		0.0000	1.0000	36.14	
68.5	6,437	205	0.0318	0.9682	36.14	
69.5	6,233	339	0.0544	0.9456	34.99	
70.5	5,894	675	0.1145	0.8855	33.08	
71.5	5,219	1	0.0002	0.9998	29.29	
72.5	5,179	2	0.0004	0.9996	29.29	
73.5	5,177	6	0.0011	0.9989	29.28	
74.5	4,238	205	0.0483	0.9517	29.24	
75.5	3,494	25	0.0072	0.9928	27.83	
76.5	3,151	148	0.0470	0.9530	27.63	
77.5	3,003		0.0000	1.0000	26.33	
78.5	2,978		0.0000	1.0000	26.33	

COLUMBIA GAS OF KENTUCKY, INC.

ACCOUNT 375.34 STRUCTURES AND IMPROVEMENTS - MEASURING AND REGULATING

ORIGINAL LIFE TABLE, CONT.

PLACEMENT BAND 1911-2015			EXPERIENCE BAND 1939-2015			
AGE AT BEGIN OF INTERVAL	EXPOSURES AT BEGINNING OF AGE INTERVAL	RETIREMENTS DURING AGE INTERVAL	RETMT RATIO	SURV RATIO	PCT SURV BEGIN OF INTERVAL	
79.5	2,754	117	0.0425	0.9575	26.33	
80.5	2,637		0.0000	1.0000	25.22	
81.5	2,637		0.0000	1.0000	25.22	
82.5	2,637		0.0000	1.0000	25.22	
83.5	2,573	205	0.0796	0.9204	25.22	
84.5	2,368		0.0000	1.0000	23.21	
85.5	2,192		0.0000	1.0000	23.21	
86.5	1,794	3	0.0016	0.9984	23.21	
87.5	1,097		0.0000	1.0000	23.17	
88.5	1,097		0.0000	1.0000	23.17	
89.5	1,097		0.0000	1.0000	23.17	
90.5	1,097	6	0.0057	0.9943	23.17	
91.5	1,091		0.0000	1.0000	23.04	
92.5	1,091		0.0000	1.0000	23.04	
93.5	1,091		0.0000	1.0000	23.04	
94.5	1,091		0.0000	1.0000	23.04	
95.5	1,091		0.0000	1.0000	23.04	
96.5	1,091		0.0000	1.0000	23.04	
97.5	1,091		0.0000	1.0000	23.04	
98.5	1,091		0.0000	1.0000	23.04	
99.5	1,091		0.0000	1.0000	23.04	
100.5	894		0.0000	1.0000	23.04	
101.5	894		0.0000	1.0000	23.04	
102.5	894		0.0000	1.0000	23.04	
103.5	894		0.0000	1.0000	23.04	
104.5					23.04	

COLUMBIA GAS OF KENTUCKY, INC.

ACCOUNT 375.34 STRUCTURES AND IMPROVEMENTS - MEASURING AND REGULATING

ORIGINAL LIFE TABLE

PLACEMENT BAND 1911-2015			EXPERIENCE BAND 1981-2015		
AGE AT BEGIN OF INTERVAL	EXPOSURES AT BEGINNING OF AGE INTERVAL	RETIREMENTS DURING AGE INTERVAL	RETMT RATIO	SURV RATIO	PCT SURV BEGIN OF INTERVAL
0.0	1,716,937		0.0000	1.0000	100.00
0.5	1,342,585		0.0000	1.0000	100.00
1.5	1,232,726	1	0.0000	1.0000	100.00
2.5	1,067,421	5,534	0.0052	0.9948	100.00
3.5	894,570	445	0.0005	0.9995	99.48
4.5	779,099	14,514	0.0186	0.9814	99.43
5.5	628,425	5,077	0.0081	0.9919	97.58
6.5	608,094	1	0.0000	1.0000	96.79
7.5	581,249	6,578	0.0113	0.9887	96.79
8.5	554,397	373	0.0007	0.9993	95.70
9.5	550,546		0.0000	1.0000	95.63
10.5	560,834	3,376	0.0060	0.9940	95.63
11.5	551,469	3,446	0.0062	0.9938	95.06
12.5	567,933	6	0.0000	1.0000	94.46
13.5	547,892	5,265	0.0096	0.9904	94.46
14.5	516,276	8,790	0.0170	0.9830	93.55
15.5	518,711	6,642	0.0128	0.9872	91.96
16.5	523,803	69	0.0001	0.9999	90.78
17.5	531,566	1,326	0.0025	0.9975	90.77
18.5	537,429	4,850	0.0090	0.9910	90.54
19.5	513,718	1,678	0.0033	0.9967	89.73
20.5	524,523	2,537	0.0048	0.9952	89.43
21.5	531,583	11,899	0.0224	0.9776	89.00
22.5	532,523	1,076	0.0020	0.9980	87.01
23.5	549,987	9,841	0.0179	0.9821	86.83
24.5	565,732	5,761	0.0102	0.9898	85.28
25.5	537,822	7,602	0.0141	0.9859	84.41
26.5	536,022	16,319	0.0304	0.9696	83.22
27.5	512,387	4,099	0.0080	0.9920	80.68
28.5	414,515	8,154	0.0197	0.9803	80.04
29.5	385,327	1,837	0.0048	0.9952	78.46
30.5	322,433	5,641	0.0175	0.9825	78.09
31.5	282,672	3,741	0.0132	0.9868	76.72
32.5	266,714	8,984	0.0337	0.9663	75.71
33.5	214,897	5,890	0.0274	0.9726	73.16
34.5	208,000	2,401	0.0115	0.9885	71.15
35.5	185,803	2,351	0.0127	0.9873	70.33
36.5	180,576	2,901	0.0161	0.9839	69.44
37.5	174,413	1,869	0.0107	0.9893	68.33
38.5	169,024	3,601	0.0213	0.9787	67.59

COLUMBIA GAS OF KENTUCKY, INC.

ACCOUNT 375.34 STRUCTURES AND IMPROVEMENTS - MEASURING AND REGULATING

ORIGINAL LIFE TABLE, CONT.

PLACEMENT BAND 1911-2015			EXPERIENCE BAND 1981-2015			
AGE AT BEGIN OF INTERVAL	EXPOSURES AT BEGINNING OF AGE INTERVAL	RETIREMENTS DURING AGE INTERVAL	RETMT RATIO	SURV RATIO	PCT SURV BEGIN OF INTERVAL	
39.5	167,418	1,307	0.0078	0.9922	66.15	
40.5	166,932	2,752	0.0165	0.9835	65.64	
41.5	163,317	32	0.0002	0.9998	64.56	
42.5	156,247	23	0.0001	0.9999	64.54	
43.5	149,180	2,545	0.0171	0.9829	64.53	
44.5	133,305	1,261	0.0095	0.9905	63.43	
45.5	118,245	1,260	0.0107	0.9893	62.83	
46.5	116,985	3,606	0.0308	0.9692	62.16	
47.5	110,628	1,610	0.0146	0.9854	60.25	
48.5	106,535	10	0.0001	0.9999	59.37	
49.5	100,342	13	0.0001	0.9999	59.37	
50.5	94,423	2,289	0.0242	0.9758	59.36	
51.5	83,028	6,032	0.0726	0.9274	57.92	
52.5	76,133	837	0.0110	0.9890	53.71	
53.5	72,754	3,886	0.0534	0.9466	53.12	
54.5	68,469	1,087	0.0159	0.9841	50.28	
55.5	59,939	2,833	0.0473	0.9527	49.49	
56.5	51,520		0.0000	1.0000	47.15	
57.5	45,476	1,585	0.0349	0.9651	47.15	
58.5	38,637	472	0.0122	0.9878	45.50	
59.5	31,035	442	0.0142	0.9858	44.95	
60.5	27,134	1,125	0.0415	0.9585	44.31	
61.5	20,871	602	0.0288	0.9712	42.47	
62.5	17,318	310	0.0179	0.9821	41.24	
63.5	14,687	461	0.0314	0.9686	40.51	
64.5	9,016	0	0.0000	1.0000	39.24	
65.5	6,744	396	0.0587	0.9413	39.24	
66.5	6,016	200	0.0332	0.9668	36.93	
67.5	5,752		0.0000	1.0000	35.70	
68.5	5,537	205	0.0370	0.9630	35.70	
69.5	6,233	339	0.0544	0.9456	34.38	
70.5	5,894	675	0.1145	0.8855	32.51	
71.5	5,219	1	0.0002	0.9998	28.79	
72.5	5,179	2	0.0004	0.9996	28.78	
73.5	5,177	6	0.0011	0.9989	28.77	
74.5	4,238	205	0.0483	0.9517	28.74	
75.5	3,494	25	0.0072	0.9928	27.35	
76.5	3,151	148	0.0470	0.9530	27.16	
77.5	3,003		0.0000	1.0000	25.88	
78.5	2,978		0.0000	1.0000	25.88	

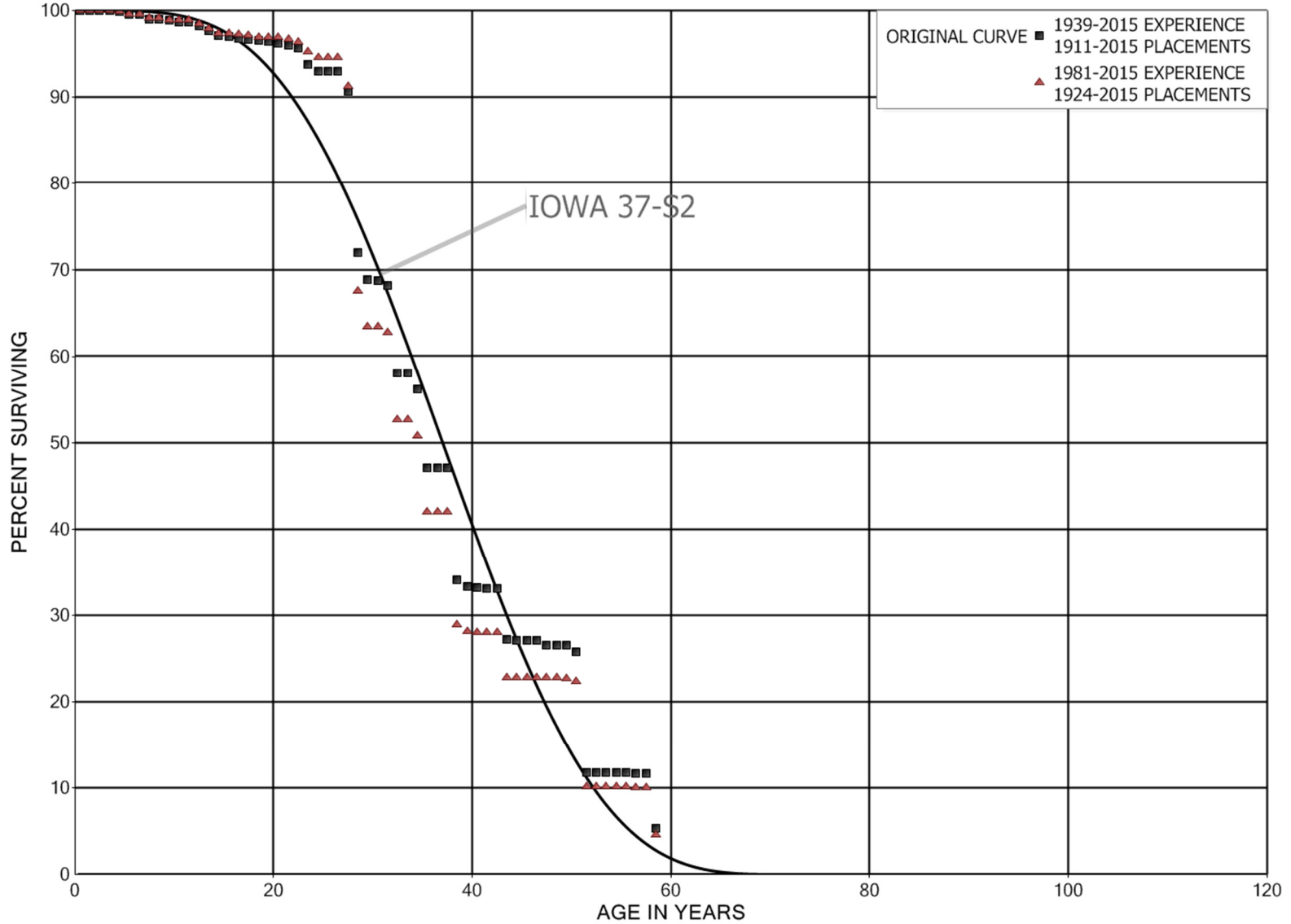
COLUMBIA GAS OF KENTUCKY, INC.

ACCOUNT 375.34 STRUCTURES AND IMPROVEMENTS - MEASURING AND REGULATING

ORIGINAL LIFE TABLE, CONT.

PLACEMENT BAND 1911-2015			EXPERIENCE BAND 1981-2015			
AGE AT BEGIN OF INTERVAL	EXPOSURES AT BEGINNING OF AGE INTERVAL	RETIREMENTS DURING AGE INTERVAL	RETMT RATIO	SURV RATIO	PCT SURV BEGIN OF INTERVAL	
79.5	2,754	117	0.0425	0.9575	25.88	
80.5	2,637		0.0000	1.0000	24.78	
81.5	2,637		0.0000	1.0000	24.78	
82.5	2,637		0.0000	1.0000	24.78	
83.5	2,573	205	0.0796	0.9204	24.78	
84.5	2,368		0.0000	1.0000	22.81	
85.5	2,192		0.0000	1.0000	22.81	
86.5	1,794	3	0.0016	0.9984	22.81	
87.5	1,097		0.0000	1.0000	22.77	
88.5	1,097		0.0000	1.0000	22.77	
89.5	1,097		0.0000	1.0000	22.77	
90.5	1,097	6	0.0057	0.9943	22.77	
91.5	1,091		0.0000	1.0000	22.64	
92.5	1,091		0.0000	1.0000	22.64	
93.5	1,091		0.0000	1.0000	22.64	
94.5	1,091		0.0000	1.0000	22.64	
95.5	1,091		0.0000	1.0000	22.64	
96.5	1,091		0.0000	1.0000	22.64	
97.5	1,091		0.0000	1.0000	22.64	
98.5	1,091		0.0000	1.0000	22.64	
99.5	1,091		0.0000	1.0000	22.64	
100.5	894		0.0000	1.0000	22.64	
101.5	894		0.0000	1.0000	22.64	
102.5	894		0.0000	1.0000	22.64	
103.5	894		0.0000	1.0000	22.64	
104.5					22.64	

COLUMBIA GAS OF KENTUCKY, INC.
ACCOUNT 375.7 STRUCTURES AND IMPROVEMENTS - OTHER DISTRIBUTION SYSTEM STRUCTURES
ORIGINAL AND SMOOTH SURVIVOR CURVES



COLUMBIA GAS OF KENTUCKY, INC.

ACCOUNT 375.7 STRUCTURES AND IMPROVEMENTS - OTHER DISTRIBUTION SYSTEM
STRUCTURES

ORIGINAL LIFE TABLE

PLACEMENT BAND 1911-2015			EXPERIENCE BAND 1939-2015		
AGE AT BEGIN OF INTERVAL	EXPOSURES AT BEGINNING OF AGE INTERVAL	RETIREMENTS DURING AGE INTERVAL	RETMT RATIO	SURV RATIO	PCT SURV BEGIN OF INTERVAL
0.0	8,698,597		0.0000	1.0000	100.00
0.5	8,161,913		0.0000	1.0000	100.00
1.5	7,914,794	1,939	0.0002	0.9998	100.00
2.5	7,717,359	875	0.0001	0.9999	99.98
3.5	7,708,478	10,759	0.0014	0.9986	99.96
4.5	7,708,483	23,710	0.0031	0.9969	99.82
5.5	7,723,731	1,476	0.0002	0.9998	99.52
6.5	7,689,865	42,406	0.0055	0.9945	99.50
7.5	7,654,223	647	0.0001	0.9999	98.95
8.5	7,651,858	11,989	0.0016	0.9984	98.94
9.5	7,623,703	13,858	0.0018	0.9982	98.79
10.5	7,612,067	2,144	0.0003	0.9997	98.61
11.5	7,610,726	34,458	0.0045	0.9955	98.58
12.5	7,527,709	41,969	0.0056	0.9944	98.13
13.5	7,330,880	40,287	0.0055	0.9945	97.59
14.5	7,305,911	8,092	0.0011	0.9989	97.05
15.5	7,279,623	17,595	0.0024	0.9976	96.94
16.5	7,266,544	5,409	0.0007	0.9993	96.71
17.5	7,237,935	13,378	0.0018	0.9982	96.64
18.5	7,225,633	1,393	0.0002	0.9998	96.46
19.5	7,194,622	19,538	0.0027	0.9973	96.44
20.5	7,175,083	20,090	0.0028	0.9972	96.18
21.5	973,960	3,292	0.0034	0.9966	95.91
22.5	970,669	19,193	0.0198	0.9802	95.58
23.5	385,781	3,033	0.0079	0.9921	93.69
24.5	386,113	116	0.0003	0.9997	92.96
25.5	386,259	146	0.0004	0.9996	92.93
26.5	386,113	9,507	0.0246	0.9754	92.89
27.5	376,753	77,814	0.2065	0.7935	90.61
28.5	298,994	12,910	0.0432	0.9568	71.89
29.5	286,084	317	0.0011	0.9989	68.79
30.5	284,161	2,141	0.0075	0.9925	68.71
31.5	282,020	41,812	0.1483	0.8517	68.19
32.5	240,365		0.0000	1.0000	58.08
33.5	240,365	8,081	0.0336	0.9664	58.08
34.5	232,284	37,321	0.1607	0.8393	56.13
35.5	194,963	189	0.0010	0.9990	47.11
36.5	195,683	63	0.0003	0.9997	47.07
37.5	196,170	54,287	0.2767	0.7233	47.05
38.5	141,350	3,029	0.0214	0.9786	34.03

COLUMBIA GAS OF KENTUCKY, INC.

ACCOUNT 375.7 STRUCTURES AND IMPROVEMENTS - OTHER DISTRIBUTION SYSTEM
STRUCTURES

ORIGINAL LIFE TABLE, CONT.

PLACEMENT BAND 1911-2015			EXPERIENCE BAND 1939-2015			
AGE AT BEGIN OF INTERVAL	EXPOSURES AT BEGINNING OF AGE INTERVAL	RETIREMENTS DURING AGE INTERVAL	RETMT RATIO	SURV RATIO	PCT SURV BEGIN OF INTERVAL	
39.5	137,882	543	0.0039	0.9961	33.30	
40.5	136,871	226	0.0017	0.9983	33.17	
41.5	135,223	417	0.0031	0.9969	33.12	
42.5	135,694	24,152	0.1780	0.8220	33.01	
43.5	111,064	294	0.0026	0.9974	27.14	
44.5	110,771		0.0000	1.0000	27.07	
45.5	110,533		0.0000	1.0000	27.07	
46.5	110,533	2,093	0.0189	0.9811	27.07	
47.5	103,129		0.0000	1.0000	26.55	
48.5	102,166	392	0.0038	0.9962	26.55	
49.5	101,775	2,818	0.0277	0.9723	26.45	
50.5	96,344	52,458	0.5445	0.4555	25.72	
51.5	43,886	148	0.0034	0.9966	11.72	
52.5	43,739		0.0000	1.0000	11.68	
53.5	43,739		0.0000	1.0000	11.68	
54.5	39,948		0.0000	1.0000	11.68	
55.5	39,948	361	0.0090	0.9910	11.68	
56.5	36,001		0.0000	1.0000	11.57	
57.5	32,863	17,906	0.5449	0.4551	11.57	
58.5	9,793		0.0000	1.0000	5.27	
59.5	9,793		0.0000	1.0000	5.27	
60.5	8,884		0.0000	1.0000	5.27	
61.5	8,081		0.0000	1.0000	5.27	
62.5	7,454		0.0000	1.0000	5.27	
63.5	6,179		0.0000	1.0000	5.27	
64.5	4,994		0.0000	1.0000	5.27	
65.5	1,419		0.0000	1.0000	5.27	
66.5	671		0.0000	1.0000	5.27	
67.5	671		0.0000	1.0000	5.27	
68.5	671		0.0000	1.0000	5.27	
69.5	671		0.0000	1.0000	5.27	
70.5	671		0.0000	1.0000	5.27	
71.5	671		0.0000	1.0000	5.27	
72.5	671		0.0000	1.0000	5.27	
73.5	671		0.0000	1.0000	5.27	
74.5	671		0.0000	1.0000	5.27	
75.5	671		0.0000	1.0000	5.27	
76.5	671		0.0000	1.0000	5.27	
77.5	671		0.0000	1.0000	5.27	
78.5	671		0.0000	1.0000	5.27	

COLUMBIA GAS OF KENTUCKY, INC.

ACCOUNT 375.7 STRUCTURES AND IMPROVEMENTS - OTHER DISTRIBUTION SYSTEM
STRUCTURES

ORIGINAL LIFE TABLE, CONT.

PLACEMENT BAND 1911-2015			EXPERIENCE BAND 1939-2015		
AGE AT BEGIN OF INTERVAL	EXPOSURES AT BEGINNING OF AGE INTERVAL	RETIREMENTS DURING AGE INTERVAL	RETMT RATIO	SURV RATIO	PCT SURV BEGIN OF INTERVAL
79.5	240		0.0000	1.0000	5.27
80.5	240		0.0000	1.0000	5.27
81.5	240		0.0000	1.0000	5.27
82.5	240		0.0000	1.0000	5.27
83.5	240		0.0000	1.0000	5.27
84.5	240		0.0000	1.0000	5.27
85.5	240		0.0000	1.0000	5.27
86.5	240		0.0000	1.0000	5.27
87.5	240		0.0000	1.0000	5.27
88.5	240		0.0000	1.0000	5.27
89.5	240		0.0000	1.0000	5.27
90.5	240		0.0000	1.0000	5.27
91.5					5.27

COLUMBIA GAS OF KENTUCKY, INC.

ACCOUNT 375.7 STRUCTURES AND IMPROVEMENTS - OTHER DISTRIBUTION SYSTEM
STRUCTURES

ORIGINAL LIFE TABLE

PLACEMENT BAND 1924-2015

EXPERIENCE BAND 1981-2015

AGE AT BEGIN OF INTERVAL	EXPOSURES AT BEGINNING OF AGE INTERVAL	RETIREMENTS DURING AGE INTERVAL	RETMT RATIO	SURV RATIO	PCT SURV BEGIN OF INTERVAL
0.0	8,288,467		0.0000	1.0000	100.00
0.5	7,800,906		0.0000	1.0000	100.00
1.5	7,577,340		0.0000	1.0000	100.00
2.5	7,411,430		0.0000	1.0000	100.00
3.5	7,405,851	10,072	0.0014	0.9986	100.00
4.5	7,395,779	23,263	0.0031	0.9969	99.86
5.5	7,361,596		0.0000	1.0000	99.55
6.5	7,333,941	38,507	0.0053	0.9947	99.55
7.5	7,295,435		0.0000	1.0000	99.03
8.5	7,295,435	10,134	0.0014	0.9986	99.03
9.5	7,281,977	2,626	0.0004	0.9996	98.89
10.5	7,284,728		0.0000	1.0000	98.85
11.5	7,284,728	33,637	0.0046	0.9954	98.85
12.5	7,206,254	40,342	0.0056	0.9944	98.40
13.5	7,008,364	38,520	0.0055	0.9945	97.85
14.5	7,007,869	5,262	0.0008	0.9992	97.31
15.5	6,987,460	7,511	0.0011	0.9989	97.24
16.5	6,991,206	4,734	0.0007	0.9993	97.13
17.5	7,003,160	12,905	0.0018	0.9982	97.07
18.5	6,990,685	1,164	0.0002	0.9998	96.89
19.5	6,969,753		0.0000	1.0000	96.87
20.5	7,041,069	18,590	0.0026	0.9974	96.87
21.5	843,531	3,292	0.0039	0.9961	96.61
22.5	840,239	9,739	0.0116	0.9884	96.24
23.5	268,967	1,697	0.0063	0.9937	95.12
24.5	270,843		0.0000	1.0000	94.52
25.5	270,843		0.0000	1.0000	94.52
26.5	271,880	9,507	0.0350	0.9650	94.52
27.5	289,933	75,533	0.2605	0.7395	91.22
28.5	215,675	12,910	0.0599	0.9401	67.45
29.5	204,230		0.0000	1.0000	63.42
30.5	207,577	2,141	0.0103	0.9897	63.42
31.5	258,643	41,713	0.1613	0.8387	62.76
32.5	216,930		0.0000	1.0000	52.64
33.5	217,112	8,024	0.0370	0.9630	52.64
34.5	209,088	36,110	0.1727	0.8273	50.69
35.5	172,978		0.0000	1.0000	41.94
36.5	173,886		0.0000	1.0000	41.94
37.5	173,886	54,287	0.3122	0.6878	41.94
38.5	117,769	3,029	0.0257	0.9743	28.85

COLUMBIA GAS OF KENTUCKY, INC.

ACCOUNT 375.7 STRUCTURES AND IMPROVEMENTS - OTHER DISTRIBUTION SYSTEM
STRUCTURES

ORIGINAL LIFE TABLE, CONT.

PLACEMENT BAND 1924-2015			EXPERIENCE BAND 1981-2015			
AGE AT BEGIN OF INTERVAL	EXPOSURES AT BEGINNING OF AGE INTERVAL	RETIREMENTS DURING AGE INTERVAL	RETMT RATIO	SURV RATIO	PCT SURV BEGIN OF INTERVAL	
39.5	115,660	543	0.0047	0.9953	28.10	
40.5	131,635		0.0000	1.0000	27.97	
41.5	130,214	234	0.0018	0.9982	27.97	
42.5	130,899	24,132	0.1844	0.8156	27.92	
43.5	106,289	294	0.0028	0.9972	22.77	
44.5	106,426		0.0000	1.0000	22.71	
45.5	106,188		0.0000	1.0000	22.71	
46.5	106,188		0.0000	1.0000	22.71	
47.5	100,877		0.0000	1.0000	22.71	
48.5	99,915	281	0.0028	0.9972	22.71	
49.5	99,634	1,426	0.0143	0.9857	22.65	
50.5	95,595	52,458	0.5488	0.4512	22.32	
51.5	43,489		0.0000	1.0000	10.07	
52.5	43,489		0.0000	1.0000	10.07	
53.5	43,489		0.0000	1.0000	10.07	
54.5	39,698		0.0000	1.0000	10.07	
55.5	39,698	351	0.0089	0.9911	10.07	
56.5	36,001		0.0000	1.0000	9.98	
57.5	32,863	17,906	0.5449	0.4551	9.98	
58.5	9,793		0.0000	1.0000	4.54	
59.5	9,793		0.0000	1.0000	4.54	
60.5	8,884		0.0000	1.0000	4.54	
61.5	8,081		0.0000	1.0000	4.54	
62.5	7,454		0.0000	1.0000	4.54	
63.5	6,179		0.0000	1.0000	4.54	
64.5	4,994		0.0000	1.0000	4.54	
65.5	1,419		0.0000	1.0000	4.54	
66.5	671		0.0000	1.0000	4.54	
67.5	671		0.0000	1.0000	4.54	
68.5	671		0.0000	1.0000	4.54	
69.5	671		0.0000	1.0000	4.54	
70.5	671		0.0000	1.0000	4.54	
71.5	671		0.0000	1.0000	4.54	
72.5	671		0.0000	1.0000	4.54	
73.5	671		0.0000	1.0000	4.54	
74.5	671		0.0000	1.0000	4.54	
75.5	671		0.0000	1.0000	4.54	
76.5	671		0.0000	1.0000	4.54	
77.5	671		0.0000	1.0000	4.54	
78.5	671		0.0000	1.0000	4.54	

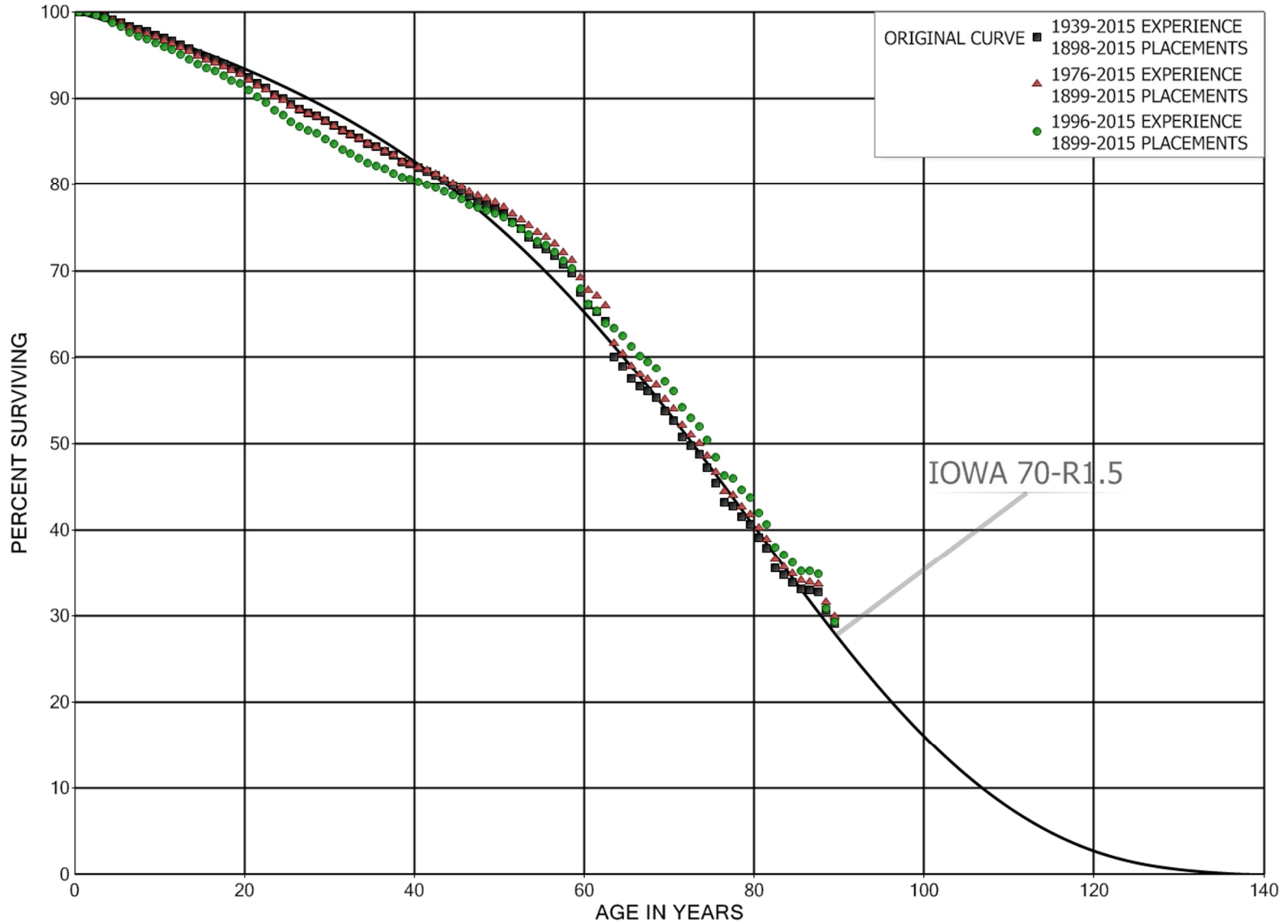
COLUMBIA GAS OF KENTUCKY, INC.

ACCOUNT 375.7 STRUCTURES AND IMPROVEMENTS - OTHER DISTRIBUTION SYSTEM
STRUCTURES

ORIGINAL LIFE TABLE, CONT.

PLACEMENT BAND 1924-2015			EXPERIENCE BAND 1981-2015		
AGE AT BEGIN OF INTERVAL	EXPOSURES AT BEGINNING OF AGE INTERVAL	RETIREMENTS DURING AGE INTERVAL	RETMT RATIO	SURV RATIO	PCT SURV BEGIN OF INTERVAL
79.5	240		0.0000	1.0000	4.54
80.5	240		0.0000	1.0000	4.54
81.5	240		0.0000	1.0000	4.54
82.5	240		0.0000	1.0000	4.54
83.5	240		0.0000	1.0000	4.54
84.5	240		0.0000	1.0000	4.54
85.5	240		0.0000	1.0000	4.54
86.5	240		0.0000	1.0000	4.54
87.5	240		0.0000	1.0000	4.54
88.5	240		0.0000	1.0000	4.54
89.5	240		0.0000	1.0000	4.54
90.5	240		0.0000	1.0000	4.54
91.5					4.54

COLUMBIA GAS OF KENTUCKY, INC.
ACCOUNT 376 MAINS
ORIGINAL AND SMOOTH SURVIVOR CURVES



COLUMBIA GAS OF KENTUCKY, INC.

ACCOUNT 376 MAINS

ORIGINAL LIFE TABLE

PLACEMENT BAND 1898-2015			EXPERIENCE BAND 1939-2015		
AGE AT BEGIN OF INTERVAL	EXPOSURES AT BEGINNING OF AGE INTERVAL	RETIREMENTS DURING AGE INTERVAL	RETMT RATIO	SURV RATIO	PCT SURV BEGIN OF INTERVAL
0.0	207,306,094	37,492	0.0002	0.9998	100.00
0.5	193,555,151	132,146	0.0007	0.9993	99.98
1.5	181,435,968	407,083	0.0022	0.9978	99.91
2.5	169,315,381	466,216	0.0028	0.9972	99.69
3.5	158,528,301	493,558	0.0031	0.9969	99.41
4.5	151,396,526	581,123	0.0038	0.9962	99.11
5.5	146,884,558	694,063	0.0047	0.9953	98.73
6.5	140,254,649	433,077	0.0031	0.9969	98.26
7.5	132,859,289	372,339	0.0028	0.9972	97.96
8.5	128,644,936	503,466	0.0039	0.9961	97.68
9.5	121,489,133	459,372	0.0038	0.9962	97.30
10.5	119,558,603	444,128	0.0037	0.9963	96.93
11.5	117,456,477	546,341	0.0047	0.9953	96.57
12.5	116,375,327	541,966	0.0047	0.9953	96.12
13.5	110,292,029	597,085	0.0054	0.9946	95.67
14.5	105,170,877	452,996	0.0043	0.9957	95.16
15.5	102,251,903	374,357	0.0037	0.9963	94.75
16.5	94,825,521	455,610	0.0048	0.9952	94.40
17.5	90,510,220	482,153	0.0053	0.9947	93.95
18.5	90,286,637	396,047	0.0044	0.9956	93.44
19.5	86,909,486	635,636	0.0073	0.9927	93.03
20.5	82,935,709	593,963	0.0072	0.9928	92.35
21.5	78,588,248	468,628	0.0060	0.9940	91.69
22.5	74,710,820	621,815	0.0083	0.9917	91.15
23.5	71,321,296	392,146	0.0055	0.9945	90.39
24.5	68,748,823	468,795	0.0068	0.9932	89.89
25.5	65,342,609	388,718	0.0059	0.9941	89.28
26.5	61,747,637	304,325	0.0049	0.9951	88.75
27.5	57,701,613	208,919	0.0036	0.9964	88.31
28.5	47,086,002	316,837	0.0067	0.9933	87.99
29.5	43,407,484	272,568	0.0063	0.9937	87.40
30.5	41,520,626	256,692	0.0062	0.9938	86.85
31.5	38,333,425	213,966	0.0056	0.9944	86.31
32.5	36,426,396	207,189	0.0057	0.9943	85.83
33.5	33,860,108	247,584	0.0073	0.9927	85.34
34.5	31,377,483	136,219	0.0043	0.9957	84.72
35.5	29,341,640	162,190	0.0055	0.9945	84.35
36.5	27,493,517	161,803	0.0059	0.9941	83.88
37.5	26,014,981	232,179	0.0089	0.9911	83.39
38.5	25,099,031	83,943	0.0033	0.9967	82.65

COLUMBIA GAS OF KENTUCKY, INC.

ACCOUNT 376 MAINS

ORIGINAL LIFE TABLE, CONT.

PLACEMENT BAND 1898-2015			EXPERIENCE BAND 1939-2015			
AGE AT BEGIN OF INTERVAL	EXPOSURES AT BEGINNING OF AGE INTERVAL	RETIREMENTS DURING AGE INTERVAL	RETMT RATIO	SURV RATIO	PCT SURV BEGIN OF INTERVAL	
39.5	24,378,933	120,607	0.0049	0.9951	82.37	
40.5	24,051,943	138,607	0.0058	0.9942	81.96	
41.5	23,400,903	109,747	0.0047	0.9953	81.49	
42.5	22,659,266	187,955	0.0083	0.9917	81.11	
43.5	21,044,019	152,665	0.0073	0.9927	80.43	
44.5	19,622,660	125,966	0.0064	0.9936	79.85	
45.5	18,563,980	167,271	0.0090	0.9910	79.34	
46.5	16,806,827	112,865	0.0067	0.9933	78.62	
47.5	15,698,936	91,995	0.0059	0.9941	78.10	
48.5	14,969,992	116,913	0.0078	0.9922	77.64	
49.5	13,499,121	95,448	0.0071	0.9929	77.03	
50.5	12,545,846	150,360	0.0120	0.9880	76.49	
51.5	11,391,927	115,067	0.0101	0.9899	75.57	
52.5	10,417,944	133,086	0.0128	0.9872	74.81	
53.5	9,630,249	103,531	0.0108	0.9892	73.85	
54.5	8,731,187	71,773	0.0082	0.9918	73.06	
55.5	7,841,444	77,291	0.0099	0.9901	72.46	
56.5	6,940,502	99,200	0.0143	0.9857	71.74	
57.5	5,793,580	82,398	0.0142	0.9858	70.72	
58.5	4,560,661	145,230	0.0318	0.9682	69.71	
59.5	3,780,125	78,714	0.0208	0.9792	67.49	
60.5	3,329,479	37,999	0.0114	0.9886	66.09	
61.5	2,942,899	51,451	0.0175	0.9825	65.33	
62.5	2,777,932	179,114	0.0645	0.9355	64.19	
63.5	2,558,864	48,990	0.0191	0.9809	60.05	
64.5	2,127,832	50,455	0.0237	0.9763	58.90	
65.5	1,827,855	29,495	0.0161	0.9839	57.50	
66.5	1,706,816	15,905	0.0093	0.9907	56.58	
67.5	1,623,211	22,752	0.0140	0.9860	56.05	
68.5	1,570,705	43,936	0.0280	0.9720	55.26	
69.5	1,494,012	30,364	0.0203	0.9797	53.72	
70.5	1,452,268	50,990	0.0351	0.9649	52.63	
71.5	1,398,424	29,497	0.0211	0.9789	50.78	
72.5	1,364,567	26,925	0.0197	0.9803	49.71	
73.5	1,331,866	42,798	0.0321	0.9679	48.73	
74.5	1,249,486	47,540	0.0380	0.9620	47.16	
75.5	1,067,026	51,586	0.0483	0.9517	45.37	
76.5	994,464	9,630	0.0097	0.9903	43.17	
77.5	972,115	28,732	0.0296	0.9704	42.76	
78.5	915,045	18,589	0.0203	0.9797	41.49	

COLUMBIA GAS OF KENTUCKY, INC.

ACCOUNT 376 MAINS

ORIGINAL LIFE TABLE, CONT.

PLACEMENT BAND 1898-2015			EXPERIENCE BAND 1939-2015			
AGE AT BEGIN OF INTERVAL	EXPOSURES AT BEGINNING OF AGE INTERVAL	RETIREMENTS DURING AGE INTERVAL	RETMT RATIO	SURV RATIO	PCT SURV BEGIN OF INTERVAL	
79.5	886,772	34,278	0.0387	0.9613	40.65	
80.5	822,835	26,232	0.0319	0.9681	39.08	
81.5	794,744	48,943	0.0616	0.9384	37.83	
82.5	406,377	9,201	0.0226	0.9774	35.50	
83.5	389,181	9,262	0.0238	0.9762	34.70	
84.5	368,934	8,256	0.0224	0.9776	33.87	
85.5	351,302	1,561	0.0044	0.9956	33.11	
86.5	288,544	2,137	0.0074	0.9926	32.97	
87.5	87,380	5,583	0.0639	0.9361	32.72	
88.5	73,248	3,692	0.0504	0.9496	30.63	
89.5	55,006	608	0.0111	0.9889	29.09	
90.5	50,202	1,516	0.0302	0.9698	28.77	
91.5	48,392	8	0.0002	0.9998	27.90	
92.5	47,236	51	0.0011	0.9989	27.89	
93.5	47,095	2,273	0.0483	0.9517	27.86	
94.5	44,745	54	0.0012	0.9988	26.52	
95.5	42,752	607	0.0142	0.9858	26.49	
96.5	42,145	8,057	0.1912	0.8088	26.11	
97.5	33,964	843	0.0248	0.9752	21.12	
98.5	33,121	2	0.0001	0.9999	20.59	
99.5	33,065	615	0.0186	0.9814	20.59	
100.5	24,982		0.0000	1.0000	20.21	
101.5	24,780	8,829	0.3563	0.6437	20.21	
102.5	13,268	79	0.0059	0.9941	13.01	
103.5	13,189	799	0.0606	0.9394	12.93	
104.5	12,390	1,566	0.1264	0.8736	12.15	
105.5	10,802		0.0000	1.0000	10.61	
106.5	10,802	3,212	0.2974	0.7026	10.61	
107.5	7,513		0.0000	1.0000	7.46	
108.5	7,513		0.0000	1.0000	7.46	
109.5	7,197	12	0.0017	0.9983	7.46	
110.5	1,459		0.0000	1.0000	7.44	
111.5	1,459	584	0.4000	0.6000	7.44	
112.5	875		0.0000	1.0000	4.47	
113.5	875		0.0000	1.0000	4.47	
114.5	875		0.0000	1.0000	4.47	
115.5	875		0.0000	1.0000	4.47	
116.5					4.47	

COLUMBIA GAS OF KENTUCKY, INC.

ACCOUNT 376 MAINS

ORIGINAL LIFE TABLE

PLACEMENT BAND 1899-2015			EXPERIENCE BAND 1976-2015		
AGE AT BEGIN OF INTERVAL	EXPOSURES AT BEGINNING OF AGE INTERVAL	RETIREMENTS DURING AGE INTERVAL	RETMT RATIO	SURV RATIO	PCT SURV BEGIN OF INTERVAL
0.0	185,357,533	35,380	0.0002	0.9998	100.00
0.5	171,917,940	129,835	0.0008	0.9992	99.98
1.5	160,212,401	399,526	0.0025	0.9975	99.91
2.5	148,533,601	449,307	0.0030	0.9970	99.66
3.5	138,540,274	488,029	0.0035	0.9965	99.35
4.5	132,466,996	566,864	0.0043	0.9957	99.00
5.5	128,673,379	669,626	0.0052	0.9948	98.58
6.5	123,652,914	407,877	0.0033	0.9967	98.07
7.5	117,172,601	355,796	0.0030	0.9970	97.74
8.5	113,538,981	480,140	0.0042	0.9958	97.45
9.5	107,589,503	438,648	0.0041	0.9959	97.04
10.5	106,565,585	404,114	0.0038	0.9962	96.64
11.5	105,518,189	506,139	0.0048	0.9952	96.27
12.5	105,233,051	505,636	0.0048	0.9952	95.81
13.5	99,802,597	545,430	0.0055	0.9945	95.35
14.5	95,347,586	420,626	0.0044	0.9956	94.83
15.5	93,170,682	304,462	0.0033	0.9967	94.41
16.5	86,738,309	409,771	0.0047	0.9953	94.10
17.5	83,604,846	450,675	0.0054	0.9946	93.66
18.5	84,693,411	361,332	0.0043	0.9957	93.15
19.5	82,101,122	596,979	0.0073	0.9927	92.76
20.5	78,750,899	552,925	0.0070	0.9930	92.08
21.5	74,861,869	421,433	0.0056	0.9944	91.44
22.5	71,714,500	588,959	0.0082	0.9918	90.92
23.5	68,689,300	361,976	0.0053	0.9947	90.17
24.5	66,534,847	446,760	0.0067	0.9933	89.70
25.5	63,496,767	365,373	0.0058	0.9942	89.10
26.5	60,077,354	285,058	0.0047	0.9953	88.58
27.5	55,854,811	192,735	0.0035	0.9965	88.16
28.5	45,017,307	296,898	0.0066	0.9934	87.86
29.5	41,397,216	259,189	0.0063	0.9937	87.28
30.5	39,539,116	241,425	0.0061	0.9939	86.73
31.5	36,368,861	197,589	0.0054	0.9946	86.20
32.5	34,425,111	194,835	0.0057	0.9943	85.74
33.5	31,833,087	215,932	0.0068	0.9932	85.25
34.5	29,482,516	123,567	0.0042	0.9958	84.67
35.5	27,823,497	148,298	0.0053	0.9947	84.32
36.5	26,020,691	153,071	0.0059	0.9941	83.87
37.5	24,580,107	225,668	0.0092	0.9908	83.37
38.5	23,722,416	70,131	0.0030	0.9970	82.61

COLUMBIA GAS OF KENTUCKY, INC.

ACCOUNT 376 MAINS

ORIGINAL LIFE TABLE, CONT.

PLACEMENT BAND 1899-2015			EXPERIENCE BAND 1976-2015			
AGE AT BEGIN OF INTERVAL	EXPOSURES AT BEGINNING OF AGE INTERVAL	RETIREMENTS DURING AGE INTERVAL	RETMT RATIO	SURV RATIO	PCT SURV BEGIN OF INTERVAL	
39.5	23,018,097	109,759	0.0048	0.9952	82.36	
40.5	22,754,216	113,134	0.0050	0.9950	81.97	
41.5	22,073,437	95,778	0.0043	0.9957	81.56	
42.5	21,891,539	149,157	0.0068	0.9932	81.21	
43.5	20,329,616	141,822	0.0070	0.9930	80.66	
44.5	18,938,439	101,428	0.0054	0.9946	80.09	
45.5	17,935,398	140,114	0.0078	0.9922	79.67	
46.5	16,417,223	81,367	0.0050	0.9950	79.04	
47.5	15,411,310	73,655	0.0048	0.9952	78.65	
48.5	14,714,745	89,615	0.0061	0.9939	78.28	
49.5	13,297,873	87,681	0.0066	0.9934	77.80	
50.5	12,337,699	127,099	0.0103	0.9897	77.29	
51.5	11,240,507	93,568	0.0083	0.9917	76.49	
52.5	10,289,937	94,425	0.0092	0.9908	75.85	
53.5	9,512,515	96,745	0.0102	0.9898	75.16	
54.5	8,622,247	70,110	0.0081	0.9919	74.39	
55.5	7,738,140	76,361	0.0099	0.9901	73.79	
56.5	6,826,814	91,762	0.0134	0.9866	73.06	
57.5	5,687,884	69,631	0.0122	0.9878	72.08	
58.5	4,469,549	126,144	0.0282	0.9718	71.20	
59.5	3,708,660	76,556	0.0206	0.9794	69.19	
60.5	3,230,335	32,422	0.0100	0.9900	67.76	
61.5	2,855,499	50,524	0.0177	0.9823	67.08	
62.5	2,697,606	175,916	0.0652	0.9348	65.89	
63.5	2,481,958	48,964	0.0197	0.9803	61.59	
64.5	2,050,978	50,222	0.0245	0.9755	60.38	
65.5	1,751,330	28,020	0.0160	0.9840	58.90	
66.5	1,640,799	15,820	0.0096	0.9904	57.96	
67.5	1,557,693	19,203	0.0123	0.9877	57.40	
68.5	1,508,913	43,064	0.0285	0.9715	56.69	
69.5	1,459,729	30,364	0.0208	0.9792	55.07	
70.5	1,444,961	50,990	0.0353	0.9647	53.93	
71.5	1,391,117	29,497	0.0212	0.9788	52.02	
72.5	1,357,260	25,832	0.0190	0.9810	50.92	
73.5	1,325,652	39,512	0.0298	0.9702	49.95	
74.5	1,246,559	47,540	0.0381	0.9619	48.46	
75.5	1,064,099	51,586	0.0485	0.9515	46.62	
76.5	994,464	9,630	0.0097	0.9903	44.36	
77.5	972,115	28,732	0.0296	0.9704	43.93	
78.5	915,045	18,589	0.0203	0.9797	42.63	

COLUMBIA GAS OF KENTUCKY, INC.

ACCOUNT 376 MAINS

ORIGINAL LIFE TABLE, CONT.

PLACEMENT BAND 1899-2015			EXPERIENCE BAND 1976-2015			
AGE AT BEGIN OF INTERVAL	EXPOSURES AT BEGINNING OF AGE INTERVAL	RETIREMENTS DURING AGE INTERVAL	RETMT RATIO	SURV RATIO	PCT SURV BEGIN OF INTERVAL	
79.5	886,772	34,278	0.0387	0.9613	41.76	
80.5	822,835	26,232	0.0319	0.9681	40.15	
81.5	794,744	48,943	0.0616	0.9384	38.87	
82.5	406,377	9,201	0.0226	0.9774	36.47	
83.5	389,181	9,262	0.0238	0.9762	35.65	
84.5	368,934	8,256	0.0224	0.9776	34.80	
85.5	351,302	1,561	0.0044	0.9956	34.02	
86.5	288,544	2,137	0.0074	0.9926	33.87	
87.5	87,380	5,583	0.0639	0.9361	33.62	
88.5	73,248	3,692	0.0504	0.9496	31.47	
89.5	55,006	608	0.0111	0.9889	29.88	
90.5	50,202	1,516	0.0302	0.9698	29.55	
91.5	48,392	8	0.0002	0.9998	28.66	
92.5	47,236	51	0.0011	0.9989	28.66	
93.5	47,095	2,273	0.0483	0.9517	28.63	
94.5	44,745	54	0.0012	0.9988	27.24	
95.5	42,752	607	0.0142	0.9858	27.21	
96.5	42,145	8,057	0.1912	0.8088	26.83	
97.5	33,964	843	0.0248	0.9752	21.70	
98.5	33,121	2	0.0001	0.9999	21.16	
99.5	33,065	615	0.0186	0.9814	21.16	
100.5	24,982		0.0000	1.0000	20.76	
101.5	24,780	8,829	0.3563	0.6437	20.76	
102.5	13,268	79	0.0059	0.9941	13.37	
103.5	13,189	799	0.0606	0.9394	13.29	
104.5	12,390	1,566	0.1264	0.8736	12.48	
105.5	10,802		0.0000	1.0000	10.90	
106.5	10,802	3,212	0.2974	0.7026	10.90	
107.5	7,513		0.0000	1.0000	7.66	
108.5	7,513		0.0000	1.0000	7.66	
109.5	7,197	12	0.0017	0.9983	7.66	
110.5	1,459		0.0000	1.0000	7.65	
111.5	1,459	584	0.4000	0.6000	7.65	
112.5	875		0.0000	1.0000	4.59	
113.5	875		0.0000	1.0000	4.59	
114.5	875		0.0000	1.0000	4.59	
115.5	875		0.0000	1.0000	4.59	
116.5					4.59	

COLUMBIA GAS OF KENTUCKY, INC.

ACCOUNT 376 MAINS

ORIGINAL LIFE TABLE

PLACEMENT BAND 1899-2015			EXPERIENCE BAND 1996-2015		
AGE AT BEGIN OF INTERVAL	EXPOSURES AT BEGINNING OF AGE INTERVAL	RETIREMENTS DURING AGE INTERVAL	RETMT RATIO	SURV RATIO	PCT SURV BEGIN OF INTERVAL
0.0	122,540,835	34,914	0.0003	0.9997	100.00
0.5	112,298,211	87,737	0.0008	0.9992	99.97
1.5	104,016,901	310,547	0.0030	0.9970	99.89
2.5	95,249,938	334,153	0.0035	0.9965	99.60
3.5	87,378,939	413,220	0.0047	0.9953	99.25
4.5	82,646,509	399,192	0.0048	0.9952	98.78
5.5	81,220,905	585,126	0.0072	0.9928	98.30
6.5	78,073,453	325,280	0.0042	0.9958	97.59
7.5	75,200,682	282,088	0.0038	0.9962	97.18
8.5	82,005,161	354,890	0.0043	0.9957	96.82
9.5	78,416,876	333,928	0.0043	0.9957	96.40
10.5	77,980,206	340,046	0.0044	0.9956	95.99
11.5	79,143,185	454,496	0.0057	0.9943	95.57
12.5	79,666,393	408,112	0.0051	0.9949	95.02
13.5	75,985,095	476,987	0.0063	0.9937	94.54
14.5	73,362,227	380,484	0.0052	0.9948	93.94
15.5	72,435,079	259,515	0.0036	0.9964	93.46
16.5	66,944,882	356,815	0.0053	0.9947	93.12
17.5	64,026,992	370,779	0.0058	0.9942	92.62
18.5	64,627,361	265,041	0.0041	0.9959	92.09
19.5	61,803,683	547,507	0.0089	0.9911	91.71
20.5	58,233,491	485,997	0.0083	0.9917	90.90
21.5	54,471,893	389,066	0.0071	0.9929	90.14
22.5	51,396,658	502,753	0.0098	0.9902	89.50
23.5	49,639,439	305,089	0.0061	0.9939	88.62
24.5	48,475,333	406,775	0.0084	0.9916	88.08
25.5	46,089,273	322,607	0.0070	0.9930	87.34
26.5	44,301,134	206,737	0.0047	0.9953	86.73
27.5	41,107,641	163,556	0.0040	0.9960	86.32
28.5	30,918,444	238,729	0.0077	0.9923	85.98
29.5	28,610,174	212,540	0.0074	0.9926	85.31
30.5	27,708,419	189,636	0.0068	0.9932	84.68
31.5	25,648,359	151,068	0.0059	0.9941	84.10
32.5	24,656,201	147,297	0.0060	0.9940	83.60
33.5	22,835,052	164,080	0.0072	0.9928	83.10
34.5	21,304,077	85,629	0.0040	0.9960	82.51
35.5	20,157,888	88,622	0.0044	0.9956	82.18
36.5	19,302,221	119,939	0.0062	0.9938	81.81
37.5	18,995,310	106,057	0.0056	0.9944	81.31
38.5	19,489,201	44,067	0.0023	0.9977	80.85

COLUMBIA GAS OF KENTUCKY, INC.

ACCOUNT 376 MAINS

ORIGINAL LIFE TABLE, CONT.

PLACEMENT BAND 1899-2015			EXPERIENCE BAND 1996-2015		
AGE AT BEGIN OF INTERVAL	EXPOSURES AT BEGINNING OF AGE INTERVAL	RETIREMENTS DURING AGE INTERVAL	RETMT RATIO	SURV RATIO	PCT SURV BEGIN OF INTERVAL
39.5	19,516,055	83,106	0.0043	0.9957	80.67
40.5	19,540,833	82,067	0.0042	0.9958	80.33
41.5	19,305,002	77,920	0.0040	0.9960	79.99
42.5	19,087,507	113,394	0.0059	0.9941	79.67
43.5	17,843,603	117,503	0.0066	0.9934	79.19
44.5	17,023,307	86,469	0.0051	0.9949	78.67
45.5	16,366,887	130,326	0.0080	0.9920	78.27
46.5	14,769,065	64,676	0.0044	0.9956	77.65
47.5	13,770,727	65,626	0.0048	0.9952	77.31
48.5	13,119,198	58,286	0.0044	0.9956	76.94
49.5	11,751,230	65,340	0.0056	0.9944	76.60
50.5	10,800,046	100,528	0.0093	0.9907	76.17
51.5	9,699,870	78,032	0.0080	0.9920	75.46
52.5	8,763,218	82,455	0.0094	0.9906	74.86
53.5	8,027,072	76,489	0.0095	0.9905	74.15
54.5	7,236,673	54,432	0.0075	0.9925	73.45
55.5	6,659,279	61,280	0.0092	0.9908	72.89
56.5	5,787,150	80,938	0.0140	0.9860	72.22
57.5	4,676,102	61,701	0.0132	0.9868	71.21
58.5	3,503,523	117,297	0.0335	0.9665	70.27
59.5	2,762,522	69,267	0.0251	0.9749	67.92
60.5	2,315,026	26,825	0.0116	0.9884	66.22
61.5	1,941,931	43,198	0.0222	0.9778	65.45
62.5	2,079,250	19,030	0.0092	0.9908	63.99
63.5	1,907,755	28,688	0.0150	0.9850	63.41
64.5	1,513,931	27,969	0.0185	0.9815	62.45
65.5	1,261,763	23,787	0.0189	0.9811	61.30
66.5	1,292,637	14,160	0.0110	0.9890	60.14
67.5	1,442,361	17,370	0.0120	0.9880	59.49
68.5	1,406,778	36,954	0.0263	0.9737	58.77
69.5	1,357,216	27,381	0.0202	0.9798	57.23
70.5	1,339,750	44,343	0.0331	0.9669	56.07
71.5	1,307,891	29,439	0.0225	0.9775	54.22
72.5	1,276,674	25,707	0.0201	0.9799	53.00
73.5	1,246,250	37,038	0.0297	0.9703	51.93
74.5	1,170,266	46,951	0.0401	0.9599	50.38
75.5	991,250	41,470	0.0418	0.9582	48.36
76.5	928,803	8,601	0.0093	0.9907	46.34
77.5	907,611	24,868	0.0274	0.9726	45.91
78.5	854,406	18,401	0.0215	0.9785	44.65

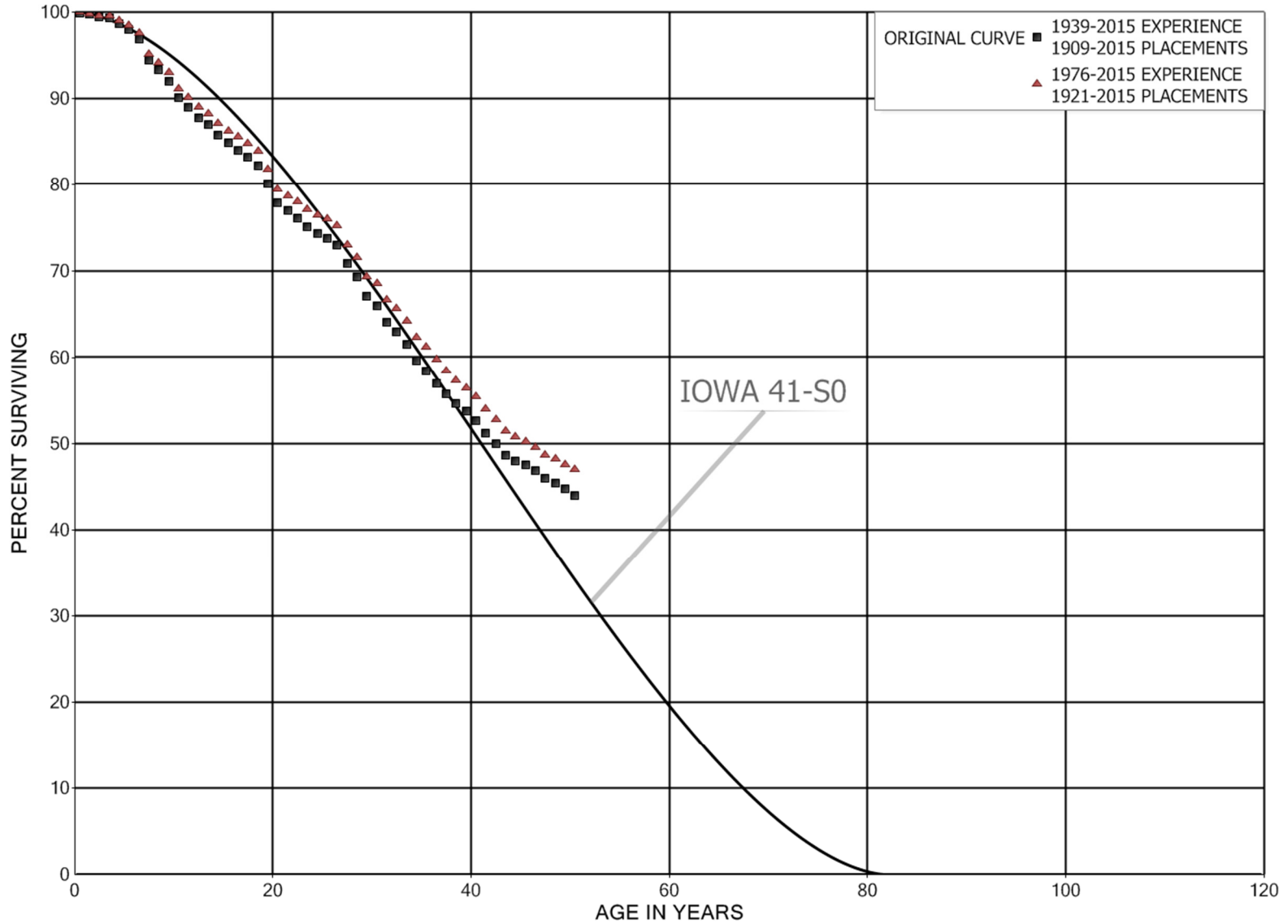
COLUMBIA GAS OF KENTUCKY, INC.

ACCOUNT 376 MAINS

ORIGINAL LIFE TABLE, CONT.

PLACEMENT BAND 1899-2015			EXPERIENCE BAND 1996-2015			
AGE AT BEGIN OF INTERVAL	EXPOSURES AT BEGINNING OF AGE INTERVAL	RETIREMENTS DURING AGE INTERVAL	RETMT RATIO	SURV RATIO	PCT SURV BEGIN OF INTERVAL	
79.5	826,398	31,937	0.0386	0.9614	43.69	
80.5	773,906	26,232	0.0339	0.9661	42.00	
81.5	746,595	48,161	0.0645	0.9355	40.58	
82.5	361,983	9,066	0.0250	0.9750	37.96	
83.5	344,969	8,080	0.0234	0.9766	37.01	
84.5	325,862	8,256	0.0253	0.9747	36.14	
85.5	308,253	931	0.0030	0.9970	35.23	
86.5	246,125	2,137	0.0087	0.9913	35.12	
87.5	45,106	5,101	0.1131	0.8869	34.82	
88.5	31,456	1,573	0.0500	0.9500	30.88	
89.5	40,854	608	0.0149	0.9851	29.33	
90.5	48,243	1,516	0.0314	0.9686	28.90	
91.5	46,433	8	0.0002	0.9998	27.99	
92.5	45,276	51	0.0011	0.9989	27.99	
93.5	45,136	2,273	0.0504	0.9496	27.95	
94.5	42,786	54	0.0013	0.9987	26.55	
95.5	40,792	607	0.0149	0.9851	26.51	
96.5	42,145	8,057	0.1912	0.8088	26.12	
97.5	33,964	843	0.0248	0.9752	21.13	
98.5	33,121	2	0.0001	0.9999	20.60	
99.5	33,065	615	0.0186	0.9814	20.60	
100.5	24,982		0.0000	1.0000	20.22	
101.5	24,780	8,829	0.3563	0.6437	20.22	
102.5	13,268	79	0.0059	0.9941	13.01	
103.5	13,189	799	0.0606	0.9394	12.94	
104.5	12,390	1,566	0.1264	0.8736	12.15	
105.5	10,802		0.0000	1.0000	10.62	
106.5	10,802	3,212	0.2974	0.7026	10.62	
107.5	7,513		0.0000	1.0000	7.46	
108.5	7,513		0.0000	1.0000	7.46	
109.5	7,197	12	0.0017	0.9983	7.46	
110.5	1,459		0.0000	1.0000	7.45	
111.5	1,459	584	0.4000	0.6000	7.45	
112.5	875		0.0000	1.0000	4.47	
113.5	875		0.0000	1.0000	4.47	
114.5	875		0.0000	1.0000	4.47	
115.5	875		0.0000	1.0000	4.47	
116.5					4.47	

COLUMBIA GAS OF KENTUCKY, INC.
ACCOUNT 378 MEASURING AND REGULATING STATION EQUIPMENT - GENERAL
ORIGINAL AND SMOOTH SURVIVOR CURVES



COLUMBIA GAS OF KENTUCKY, INC.

ACCOUNT 378 MEASURING AND REGULATING STATION EQUIPMENT - GENERAL

ORIGINAL LIFE TABLE

PLACEMENT BAND 1909-2015			EXPERIENCE BAND 1939-2015			
AGE AT BEGIN OF INTERVAL	EXPOSURES AT BEGINNING OF AGE INTERVAL	RETIREMENTS DURING AGE INTERVAL	RETMT RATIO	SURV RATIO	PCT SURV BEGIN OF INTERVAL	
0.0	11,462,946	14,559	0.0013	0.9987	100.00	
0.5	7,540,618	12,752	0.0017	0.9983	99.87	
1.5	7,100,436	20,325	0.0029	0.9971	99.70	
2.5	6,815,720	12,513	0.0018	0.9982	99.42	
3.5	6,126,365	36,463	0.0060	0.9940	99.24	
4.5	5,949,130	45,515	0.0077	0.9923	98.65	
5.5	5,862,397	63,164	0.0108	0.9892	97.89	
6.5	5,697,564	146,679	0.0257	0.9743	96.84	
7.5	5,403,567	60,579	0.0112	0.9888	94.34	
8.5	5,288,303	73,246	0.0139	0.9861	93.29	
9.5	5,188,064	111,156	0.0214	0.9786	91.99	
10.5	5,033,123	61,618	0.0122	0.9878	90.02	
11.5	4,855,500	63,555	0.0131	0.9869	88.92	
12.5	4,798,751	44,606	0.0093	0.9907	87.76	
13.5	4,507,550	64,309	0.0143	0.9857	86.94	
14.5	4,228,304	45,047	0.0107	0.9893	85.70	
15.5	4,135,399	38,277	0.0093	0.9907	84.79	
16.5	4,041,272	40,509	0.0100	0.9900	84.00	
17.5	3,923,769	47,979	0.0122	0.9878	83.16	
18.5	3,702,351	93,155	0.0252	0.9748	82.14	
19.5	3,542,387	101,468	0.0286	0.9714	80.08	
20.5	3,194,859	35,627	0.0112	0.9888	77.78	
21.5	3,031,425	32,369	0.0107	0.9893	76.92	
22.5	2,764,530	37,098	0.0134	0.9866	76.09	
23.5	2,597,348	26,498	0.0102	0.9898	75.07	
24.5	2,466,837	17,699	0.0072	0.9928	74.31	
25.5	2,361,692	26,545	0.0112	0.9888	73.77	
26.5	2,105,949	60,532	0.0287	0.9713	72.95	
27.5	1,786,578	38,500	0.0215	0.9785	70.85	
28.5	1,302,343	42,421	0.0326	0.9674	69.32	
29.5	1,118,070	18,676	0.0167	0.9833	67.06	
30.5	947,059	27,465	0.0290	0.9710	65.94	
31.5	829,572	14,227	0.0172	0.9828	64.03	
32.5	763,581	17,585	0.0230	0.9770	62.93	
33.5	664,198	20,415	0.0307	0.9693	61.48	
34.5	584,230	11,960	0.0205	0.9795	59.59	
35.5	556,043	13,874	0.0250	0.9750	58.37	
36.5	533,874	11,624	0.0218	0.9782	56.92	
37.5	519,361	10,121	0.0195	0.9805	55.68	
38.5	506,263	8,250	0.0163	0.9837	54.59	

COLUMBIA GAS OF KENTUCKY, INC.

ACCOUNT 378 MEASURING AND REGULATING STATION EQUIPMENT - GENERAL

ORIGINAL LIFE TABLE, CONT.

PLACEMENT BAND 1909-2015			EXPERIENCE BAND 1939-2015			
AGE AT BEGIN OF INTERVAL	EXPOSURES AT BEGINNING OF AGE INTERVAL	RETIREMENTS DURING AGE INTERVAL	RETMT RATIO	SURV RATIO	PCT SURV BEGIN OF INTERVAL	
39.5	496,427	9,715	0.0196	0.9804	53.70	
40.5	473,531	13,475	0.0285	0.9715	52.65	
41.5	447,372	10,740	0.0240	0.9760	51.15	
42.5	398,038	10,320	0.0259	0.9741	49.93	
43.5	226,084	3,014	0.0133	0.9867	48.63	
44.5	165,283	1,806	0.0109	0.9891	47.98	
45.5	151,174	2,001	0.0132	0.9868	47.46	
46.5	135,310	2,463	0.0182	0.9818	46.83	
47.5	120,311	1,639	0.0136	0.9864	45.98	
48.5	113,273	1,650	0.0146	0.9854	45.35	
49.5	104,887	1,797	0.0171	0.9829	44.69	
50.5	95,551	1,507	0.0158	0.9842	43.93	
51.5	85,941	412	0.0048	0.9952	43.23	
52.5	79,586	847	0.0106	0.9894	43.03	
53.5	71,791	1,118	0.0156	0.9844	42.57	
54.5	64,137	1,718	0.0268	0.9732	41.90	
55.5	56,354	95	0.0017	0.9983	40.78	
56.5	51,222	413	0.0081	0.9919	40.71	
57.5	47,958	1,592	0.0332	0.9668	40.38	
58.5	43,152	333	0.0077	0.9923	39.04	
59.5	34,965	4,365	0.1248	0.8752	38.74	
60.5	23,070	212	0.0092	0.9908	33.91	
61.5	17,010	690	0.0405	0.9595	33.60	
62.5	14,016	158	0.0112	0.9888	32.23	
63.5	11,950	49	0.0041	0.9959	31.87	
64.5	9,828	67	0.0068	0.9932	31.74	
65.5	6,286	37	0.0059	0.9941	31.52	
66.5	5,383	179	0.0332	0.9668	31.34	
67.5	5,168	37	0.0071	0.9929	30.29	
68.5	5,096	142	0.0278	0.9722	30.08	
69.5	4,658	145	0.0311	0.9689	29.24	
70.5	4,513		0.0000	1.0000	28.33	
71.5	4,485	51	0.0114	0.9886	28.33	
72.5	4,433	12	0.0026	0.9974	28.01	
73.5	4,422	176	0.0398	0.9602	27.94	
74.5	2,985	20	0.0068	0.9932	26.82	
75.5	2,519	9	0.0037	0.9963	26.64	
76.5	2,300		0.0000	1.0000	26.54	
77.5	2,100		0.0000	1.0000	26.54	
78.5	2,062	48	0.0233	0.9767	26.54	

COLUMBIA GAS OF KENTUCKY, INC.

ACCOUNT 378 MEASURING AND REGULATING STATION EQUIPMENT - GENERAL

ORIGINAL LIFE TABLE, CONT.

PLACEMENT BAND 1909-2015			EXPERIENCE BAND 1939-2015		
AGE AT BEGIN OF INTERVAL	EXPOSURES AT BEGINNING OF AGE INTERVAL	RETIREMENTS DURING AGE INTERVAL	RETMT RATIO	SURV RATIO	PCT SURV BEGIN OF INTERVAL
79.5	2,014		0.0000	1.0000	25.92
80.5	2,014		0.0000	1.0000	25.92
81.5	2,014		0.0000	1.0000	25.92
82.5	1,440	74	0.0513	0.9487	25.92
83.5	1,366		0.0000	1.0000	24.59
84.5	1,366		0.0000	1.0000	24.59
85.5	1,366	92	0.0671	0.9329	24.59
86.5	985		0.0000	1.0000	22.94
87.5	310		0.0000	1.0000	22.94
88.5	310	228	0.7359	0.2641	22.94
89.5	82		0.0000	1.0000	6.06
90.5	82		0.0000	1.0000	6.06
91.5	82		0.0000	1.0000	6.06
92.5					6.06

COLUMBIA GAS OF KENTUCKY, INC.

ACCOUNT 378 MEASURING AND REGULATING STATION EQUIPMENT - GENERAL

ORIGINAL LIFE TABLE

PLACEMENT BAND 1921-2015			EXPERIENCE BAND 1976-2015			
AGE AT BEGIN OF INTERVAL	EXPOSURES AT BEGINNING OF AGE INTERVAL	RETIREMENTS DURING AGE INTERVAL	RETMT RATIO	SURV RATIO	PCT SURV BEGIN OF INTERVAL	
0.0	10,566,182	11,612	0.0011	0.9989	100.00	
0.5	6,651,385	7,987	0.0012	0.9988	99.89	
1.5	6,227,854	14,219	0.0023	0.9977	99.77	
2.5	6,050,249	3,390	0.0006	0.9994	99.54	
3.5	5,505,945	27,067	0.0049	0.9951	99.49	
4.5	5,436,049	32,709	0.0060	0.9940	99.00	
5.5	5,385,639	50,759	0.0094	0.9906	98.40	
6.5	5,276,237	133,316	0.0253	0.9747	97.47	
7.5	5,010,063	50,570	0.0101	0.9899	95.01	
8.5	4,901,016	60,545	0.0124	0.9876	94.05	
9.5	4,822,618	94,336	0.0196	0.9804	92.89	
10.5	4,687,057	52,630	0.0112	0.9888	91.07	
11.5	4,545,892	57,630	0.0127	0.9873	90.05	
12.5	4,510,881	39,498	0.0088	0.9912	88.91	
13.5	4,255,087	52,457	0.0123	0.9877	88.13	
14.5	4,005,780	40,760	0.0102	0.9898	87.04	
15.5	3,934,229	29,679	0.0075	0.9925	86.16	
16.5	3,861,822	35,626	0.0092	0.9908	85.51	
17.5	3,769,856	41,306	0.0110	0.9890	84.72	
18.5	3,562,237	87,896	0.0247	0.9753	83.79	
19.5	3,429,880	95,992	0.0280	0.9720	81.72	
20.5	3,102,804	31,651	0.0102	0.9898	79.44	
21.5	2,950,378	24,273	0.0082	0.9918	78.63	
22.5	2,708,587	33,507	0.0124	0.9876	77.98	
23.5	2,548,720	22,227	0.0087	0.9913	77.02	
24.5	2,424,283	12,968	0.0053	0.9947	76.34	
25.5	2,322,045	24,397	0.0105	0.9895	75.93	
26.5	2,069,103	59,072	0.0285	0.9715	75.14	
27.5	1,752,188	34,607	0.0198	0.9802	72.99	
28.5	1,272,922	40,167	0.0316	0.9684	71.55	
29.5	1,091,215	12,132	0.0111	0.9889	69.29	
30.5	926,575	25,151	0.0271	0.9729	68.52	
31.5	810,929	12,180	0.0150	0.9850	66.66	
32.5	746,154	16,398	0.0220	0.9780	65.66	
33.5	648,013	19,347	0.0299	0.9701	64.22	
34.5	571,651	10,329	0.0181	0.9819	62.30	
35.5	545,579	13,232	0.0243	0.9757	61.18	
36.5	524,357	11,283	0.0215	0.9785	59.69	
37.5	510,356	9,858	0.0193	0.9807	58.41	
38.5	497,555	7,990	0.0161	0.9839	57.28	

COLUMBIA GAS OF KENTUCKY, INC.

ACCOUNT 378 MEASURING AND REGULATING STATION EQUIPMENT - GENERAL

ORIGINAL LIFE TABLE, CONT.

PLACEMENT BAND 1921-2015			EXPERIENCE BAND 1976-2015			
AGE AT BEGIN OF INTERVAL	EXPOSURES AT BEGINNING OF AGE INTERVAL	RETIREMENTS DURING AGE INTERVAL	RETMT RATIO	SURV RATIO	PCT SURV BEGIN OF INTERVAL	
39.5	487,167	8,639	0.0177	0.9823	56.36	
40.5	465,251	11,861	0.0255	0.9745	55.36	
41.5	440,706	9,935	0.0225	0.9775	53.95	
42.5	393,033	9,795	0.0249	0.9751	52.73	
43.5	221,722	2,801	0.0126	0.9874	51.42	
44.5	161,135	1,728	0.0107	0.9893	50.77	
45.5	147,141	1,979	0.0134	0.9866	50.22	
46.5	132,342	2,377	0.0180	0.9820	49.55	
47.5	118,265	1,309	0.0111	0.9889	48.66	
48.5	111,554	1,481	0.0133	0.9867	48.12	
49.5	103,336	1,236	0.0120	0.9880	47.48	
50.5	94,561	980	0.0104	0.9896	46.91	
51.5	85,478	412	0.0048	0.9952	46.43	
52.5	79,442	847	0.0107	0.9893	46.20	
53.5	71,647	1,118	0.0156	0.9844	45.71	
54.5	64,059	1,718	0.0268	0.9732	45.00	
55.5	56,276	95	0.0017	0.9983	43.79	
56.5	51,144	413	0.0081	0.9919	43.72	
57.5	47,881	1,592	0.0332	0.9668	43.36	
58.5	43,074	333	0.0077	0.9923	41.92	
59.5	34,888	4,287	0.1229	0.8771	41.60	
60.5	23,070	212	0.0092	0.9908	36.49	
61.5	17,010	690	0.0405	0.9595	36.15	
62.5	14,016	158	0.0112	0.9888	34.68	
63.5	11,950	49	0.0041	0.9959	34.29	
64.5	9,828	67	0.0068	0.9932	34.15	
65.5	6,286	37	0.0059	0.9941	33.92	
66.5	5,383	179	0.0332	0.9668	33.72	
67.5	5,168	37	0.0071	0.9929	32.60	
68.5	5,096	142	0.0278	0.9722	32.37	
69.5	4,658	145	0.0311	0.9689	31.47	
70.5	4,513		0.0000	1.0000	30.49	
71.5	4,485	51	0.0114	0.9886	30.49	
72.5	4,433	12	0.0026	0.9974	30.14	
73.5	4,422	176	0.0398	0.9602	30.06	
74.5	2,985	20	0.0068	0.9932	28.86	
75.5	2,519	9	0.0037	0.9963	28.67	
76.5	2,300		0.0000	1.0000	28.56	
77.5	2,100		0.0000	1.0000	28.56	
78.5	2,062	48	0.0233	0.9767	28.56	

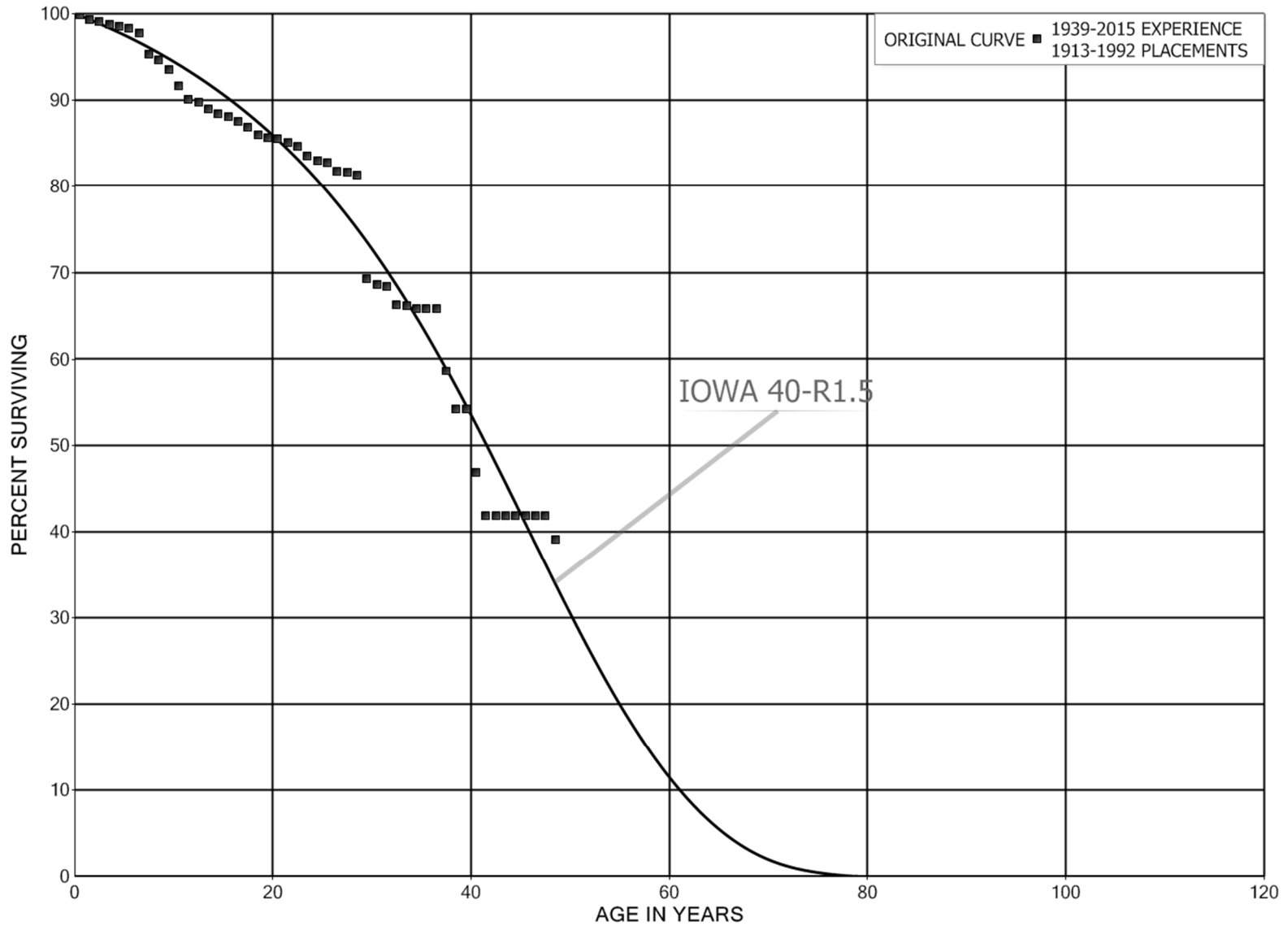
COLUMBIA GAS OF KENTUCKY, INC.

ACCOUNT 378 MEASURING AND REGULATING STATION EQUIPMENT - GENERAL

ORIGINAL LIFE TABLE, CONT.

PLACEMENT BAND 1921-2015			EXPERIENCE BAND 1976-2015		
AGE AT BEGIN OF INTERVAL	EXPOSURES AT BEGINNING OF AGE INTERVAL	RETIREMENTS DURING AGE INTERVAL	RETMT RATIO	SURV RATIO	PCT SURV BEGIN OF INTERVAL
79.5	2,014		0.0000	1.0000	27.90
80.5	2,014		0.0000	1.0000	27.90
81.5	2,014		0.0000	1.0000	27.90
82.5	1,440	74	0.0513	0.9487	27.90
83.5	1,366		0.0000	1.0000	26.47
84.5	1,366		0.0000	1.0000	26.47
85.5	1,366	92	0.0671	0.9329	26.47
86.5	985		0.0000	1.0000	24.69
87.5	310		0.0000	1.0000	24.69
88.5	310	228	0.7359	0.2641	24.69
89.5	82		0.0000	1.0000	6.52
90.5	82		0.0000	1.0000	6.52
91.5	82		0.0000	1.0000	6.52
92.5					6.52

COLUMBIA GAS OF KENTUCKY, INC.
ACCOUNT 379.1 MEASURING AND REGULATING STATION EQUIPMENT - CITY GATE
ORIGINAL AND SMOOTH SURVIVOR CURVES



COLUMBIA GAS OF KENTUCKY, INC.

ACCOUNT 379.1 MEASURING AND REGULATING STATION EQUIPMENT - CITY GATE

ORIGINAL LIFE TABLE

PLACEMENT BAND 1913-1992			EXPERIENCE BAND 1939-2015			
AGE AT BEGIN OF INTERVAL	EXPOSURES AT BEGINNING OF AGE INTERVAL	RETIREMENTS DURING AGE INTERVAL	RETMT RATIO	SURV RATIO	PCT SURV BEGIN OF INTERVAL	
0.0	374,646	564	0.0015	0.9985	100.00	
0.5	368,284	2,001	0.0054	0.9946	99.85	
1.5	362,492	691	0.0019	0.9981	99.31	
2.5	361,316	1,372	0.0038	0.9962	99.12	
3.5	328,969	918	0.0028	0.9972	98.74	
4.5	335,580	777	0.0023	0.9977	98.47	
5.5	335,645	1,748	0.0052	0.9948	98.24	
6.5	329,100	8,290	0.0252	0.9748	97.73	
7.5	309,365	1,993	0.0064	0.9936	95.26	
8.5	306,085	3,716	0.0121	0.9879	94.65	
9.5	305,336	6,195	0.0203	0.9797	93.50	
10.5	292,153	4,903	0.0168	0.9832	91.60	
11.5	287,243	1,063	0.0037	0.9963	90.07	
12.5	286,786	2,468	0.0086	0.9914	89.73	
13.5	284,442	1,920	0.0067	0.9933	88.96	
14.5	279,119	1,101	0.0039	0.9961	88.36	
15.5	278,580	1,454	0.0052	0.9948	88.01	
16.5	277,081	2,294	0.0083	0.9917	87.55	
17.5	274,997	2,811	0.0102	0.9898	86.83	
18.5	274,790	971	0.0035	0.9965	85.94	
19.5	274,154	336	0.0012	0.9988	85.64	
20.5	274,129	1,510	0.0055	0.9945	85.53	
21.5	272,949	1,294	0.0047	0.9953	85.06	
22.5	272,847	3,572	0.0131	0.9869	84.66	
23.5	267,105	1,967	0.0074	0.9926	83.55	
24.5	260,658	515	0.0020	0.9980	82.93	
25.5	259,765	3,338	0.0129	0.9871	82.77	
26.5	256,426	428	0.0017	0.9983	81.71	
27.5	256,047	878	0.0034	0.9966	81.57	
28.5	11,653	1,721	0.1477	0.8523	81.29	
29.5	9,918	99	0.0100	0.9900	69.29	
30.5	9,819	36	0.0036	0.9964	68.60	
31.5	9,784	298	0.0305	0.9695	68.35	
32.5	7,891	14	0.0017	0.9983	66.26	
33.5	1,585	8	0.0051	0.9949	66.15	
34.5	1,577		0.0000	1.0000	65.81	
35.5	1,577		0.0000	1.0000	65.81	
36.5	1,577	173	0.1097	0.8903	65.81	
37.5	1,404	105	0.0748	0.9252	58.59	
38.5	1,299		0.0000	1.0000	54.21	

COLUMBIA GAS OF KENTUCKY, INC.

ACCOUNT 379.1 MEASURING AND REGULATING STATION EQUIPMENT - CITY GATE

ORIGINAL LIFE TABLE, CONT.

PLACEMENT BAND 1913-1992			EXPERIENCE BAND 1939-2015			
AGE AT BEGIN OF INTERVAL	EXPOSURES AT BEGINNING OF AGE INTERVAL	RETIREMENTS DURING AGE INTERVAL	RETMT RATIO	SURV RATIO	PCT SURV BEGIN OF INTERVAL	
39.5	1,299	176	0.1351	0.8649	54.21	
40.5	1,124	120	0.1067	0.8933	46.88	
41.5	1,004		0.0000	1.0000	41.88	
42.5	1,004		0.0000	1.0000	41.88	
43.5	1,004		0.0000	1.0000	41.88	
44.5	1,004		0.0000	1.0000	41.88	
45.5	1,004		0.0000	1.0000	41.88	
46.5	1,004		0.0000	1.0000	41.88	
47.5	1,004	67	0.0672	0.9328	41.88	
48.5	936		0.0000	1.0000	39.07	
49.5	936	1	0.0007	0.9993	39.07	
50.5	413		0.0000	1.0000	39.04	
51.5	413		0.0000	1.0000	39.04	
52.5	413		0.0000	1.0000	39.04	
53.5	413		0.0000	1.0000	39.04	
54.5	413	6	0.0143	0.9857	39.04	
55.5	407		0.0000	1.0000	38.48	
56.5	407	30	0.0749	0.9251	38.48	
57.5	377		0.0000	1.0000	35.60	
58.5	377		0.0000	1.0000	35.60	
59.5	377		0.0000	1.0000	35.60	
60.5	377		0.0000	1.0000	35.60	
61.5	377		0.0000	1.0000	35.60	
62.5	377		0.0000	1.0000	35.60	
63.5	377		0.0000	1.0000	35.60	
64.5	377	92	0.2430	0.7570	35.60	
65.5	285		0.0000	1.0000	26.95	
66.5	285		0.0000	1.0000	26.95	
67.5	285		0.0000	1.0000	26.95	
68.5	285		0.0000	1.0000	26.95	
69.5	285		0.0000	1.0000	26.95	
70.5	285		0.0000	1.0000	26.95	
71.5	285		0.0000	1.0000	26.95	
72.5	285		0.0000	1.0000	26.95	
73.5	285		0.0000	1.0000	26.95	
74.5	285		0.0000	1.0000	26.95	
75.5	285		0.0000	1.0000	26.95	
76.5	285		0.0000	1.0000	26.95	
77.5	285		0.0000	1.0000	26.95	
78.5	285		0.0000	1.0000	26.95	

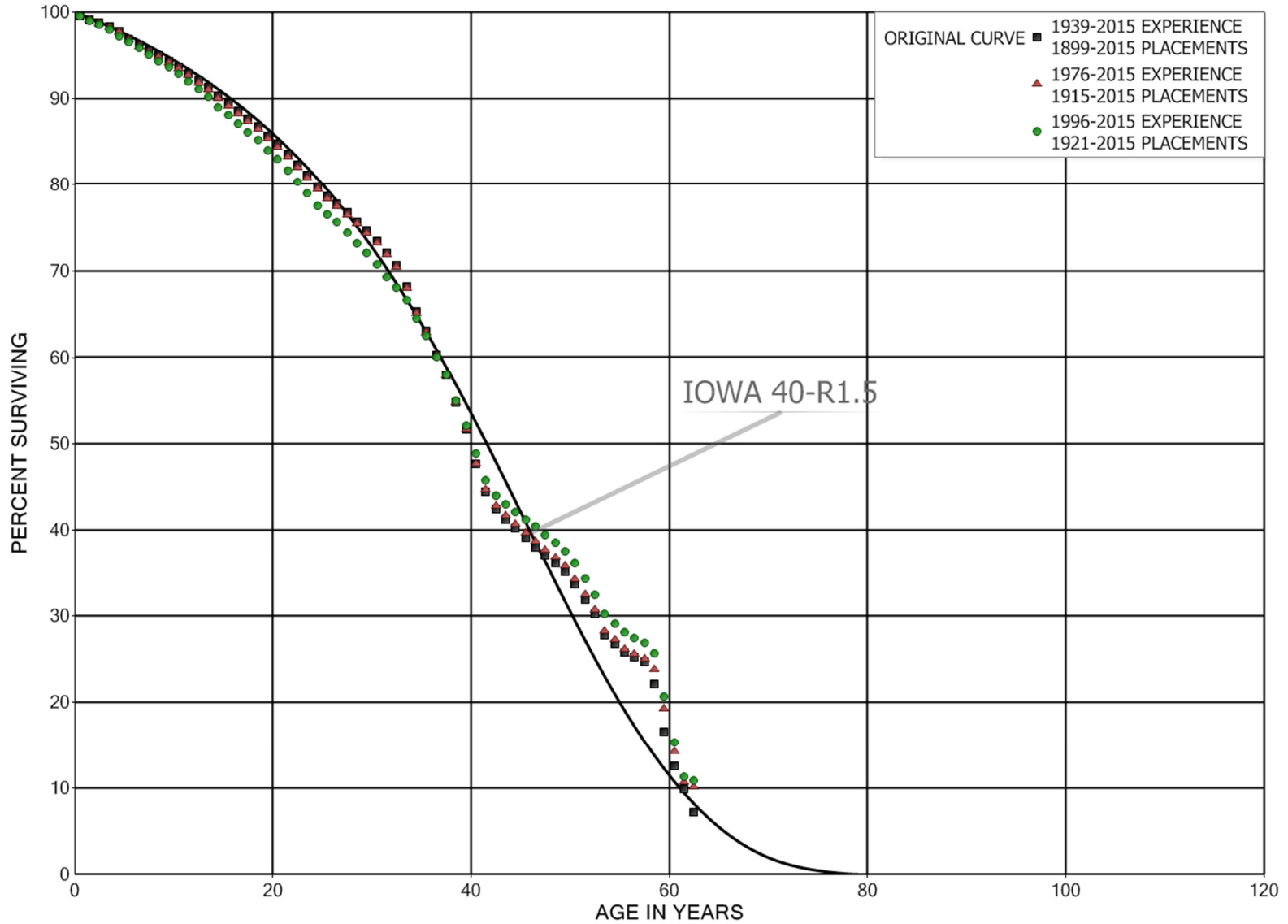
COLUMBIA GAS OF KENTUCKY, INC.

ACCOUNT 379.1 MEASURING AND REGULATING STATION EQUIPMENT - CITY GATE

ORIGINAL LIFE TABLE, CONT.

PLACEMENT BAND 1913-1992			EXPERIENCE BAND 1939-2015		
AGE AT BEGIN OF INTERVAL	EXPOSURES AT BEGINNING OF AGE INTERVAL	RETIREMENTS DURING AGE INTERVAL	RETMT RATIO	SURV RATIO	PCT SURV BEGIN OF INTERVAL
79.5	190		0.0000	1.0000	26.95
80.5	21		0.0000	1.0000	26.95
81.5	21		0.0000	1.0000	26.95
82.5	21		0.0000	1.0000	26.95
83.5	21		0.0000	1.0000	26.95
84.5	21		0.0000	1.0000	26.95
85.5	21		0.0000	1.0000	26.95
86.5					26.95

COLUMBIA GAS OF KENTUCKY, INC.
ACCOUNT 380 SERVICES
ORIGINAL AND SMOOTH SURVIVOR CURVES



COLUMBIA GAS OF KENTUCKY, INC.

ACCOUNT 380 SERVICES

ORIGINAL LIFE TABLE

PLACEMENT BAND 1899-2015			EXPERIENCE BAND 1939-2015			
AGE AT BEGIN OF INTERVAL	EXPOSURES AT BEGINNING OF AGE INTERVAL	RETIREMENTS DURING AGE INTERVAL	RETMT RATIO	SURV RATIO	PCT SURV BEGIN OF INTERVAL	
0.0	133,533,079	659,873	0.0049	0.9951	100.00	
0.5	124,578,714	506,786	0.0041	0.9959	99.51	
1.5	116,168,433	449,448	0.0039	0.9961	99.10	
2.5	109,306,006	471,765	0.0043	0.9957	98.72	
3.5	103,101,169	650,054	0.0063	0.9937	98.29	
4.5	97,754,022	868,549	0.0089	0.9911	97.67	
5.5	93,195,265	624,069	0.0067	0.9933	96.80	
6.5	88,157,379	592,329	0.0067	0.9933	96.16	
7.5	84,033,207	538,873	0.0064	0.9936	95.51	
8.5	80,533,846	524,015	0.0065	0.9935	94.90	
9.5	77,392,270	557,749	0.0072	0.9928	94.28	
10.5	74,243,845	581,774	0.0078	0.9922	93.60	
11.5	70,312,744	615,396	0.0088	0.9912	92.87	
12.5	66,758,525	580,520	0.0087	0.9913	92.05	
13.5	63,356,401	700,874	0.0111	0.9889	91.25	
14.5	59,725,770	583,202	0.0098	0.9902	90.24	
15.5	55,627,755	550,424	0.0099	0.9901	89.36	
16.5	51,925,926	513,400	0.0099	0.9901	88.48	
17.5	47,763,633	477,586	0.0100	0.9900	87.60	
18.5	43,543,971	543,223	0.0125	0.9875	86.73	
19.5	39,203,083	444,947	0.0113	0.9887	85.65	
20.5	35,123,134	485,898	0.0138	0.9862	84.67	
21.5	31,008,698	450,971	0.0145	0.9855	83.50	
22.5	27,395,804	399,617	0.0146	0.9854	82.29	
23.5	24,256,239	408,583	0.0168	0.9832	81.09	
24.5	21,832,959	291,912	0.0134	0.9866	79.72	
25.5	19,286,612	226,289	0.0117	0.9883	78.66	
26.5	16,557,458	222,037	0.0134	0.9866	77.73	
27.5	14,994,082	207,830	0.0139	0.9861	76.69	
28.5	13,462,337	179,625	0.0133	0.9867	75.63	
29.5	12,201,551	202,390	0.0166	0.9834	74.62	
30.5	10,967,471	203,656	0.0186	0.9814	73.38	
31.5	9,960,388	197,304	0.0198	0.9802	72.02	
32.5	9,148,690	318,319	0.0348	0.9652	70.59	
33.5	8,107,269	335,528	0.0414	0.9586	68.14	
34.5	7,078,310	249,722	0.0353	0.9647	65.32	
35.5	6,215,603	269,199	0.0433	0.9567	63.01	
36.5	5,272,736	204,843	0.0388	0.9612	60.28	
37.5	4,645,068	253,456	0.0546	0.9454	57.94	
38.5	4,088,545	237,510	0.0581	0.9419	54.78	

COLUMBIA GAS OF KENTUCKY, INC.

ACCOUNT 380 SERVICES

ORIGINAL LIFE TABLE, CONT.

PLACEMENT BAND 1899-2015			EXPERIENCE BAND 1939-2015			
AGE AT BEGIN OF INTERVAL	EXPOSURES AT BEGINNING OF AGE INTERVAL	RETIREMENTS DURING AGE INTERVAL	RETMT RATIO	SURV RATIO	PCT SURV BEGIN OF INTERVAL	
39.5	3,703,338	284,661	0.0769	0.9231	51.60	
40.5	3,344,048	230,924	0.0691	0.9309	47.63	
41.5	3,022,965	136,054	0.0450	0.9550	44.34	
42.5	2,797,195	75,816	0.0271	0.9729	42.35	
43.5	2,485,451	64,284	0.0259	0.9741	41.20	
44.5	2,264,001	62,004	0.0274	0.9726	40.13	
45.5	2,049,692	55,190	0.0269	0.9731	39.03	
46.5	1,851,902	49,571	0.0268	0.9732	37.98	
47.5	1,602,149	39,338	0.0246	0.9754	36.97	
48.5	1,427,213	37,503	0.0263	0.9737	36.06	
49.5	1,279,970	54,933	0.0429	0.9571	35.11	
50.5	1,066,405	55,794	0.0523	0.9477	33.60	
51.5	868,840	46,942	0.0540	0.9460	31.85	
52.5	722,389	56,268	0.0779	0.9221	30.13	
53.5	585,825	22,134	0.0378	0.9622	27.78	
54.5	482,755	18,784	0.0389	0.9611	26.73	
55.5	395,036	7,764	0.0197	0.9803	25.69	
56.5	306,930	6,586	0.0215	0.9785	25.18	
57.5	242,246	24,988	0.1032	0.8968	24.64	
58.5	159,311	40,121	0.2518	0.7482	22.10	
59.5	71,585	17,224	0.2406	0.7594	16.54	
60.5	35,899	7,855	0.2188	0.7812	12.56	
61.5	21,258	5,728	0.2695	0.7305	9.81	
62.5	15,379	12,804	0.8325	0.1675	7.17	
63.5	2,576	672	0.2607	0.7393	1.20	
64.5	1,904	919	0.4824	0.5176	0.89	
65.5	986	34	0.0341	0.9659	0.46	
66.5	806	210	0.2610	0.7390	0.44	
67.5	411	33	0.0800	0.9200	0.33	
68.5	378	33	0.0870	0.9130	0.30	
69.5	232	58	0.2488	0.7512	0.28	
70.5	111	25	0.2217	0.7783	0.21	
71.5	87	33	0.3798	0.6202	0.16	
72.5	54	16	0.3062	0.6938	0.10	
73.5	37	8	0.2205	0.7795	0.07	
74.5	29		0.0000	1.0000	0.05	
75.5	29	8	0.2829	0.7171	0.05	
76.5	21	8	0.3945	0.6055	0.04	
77.5	13	13	1.0000		0.02	
78.5						

COLUMBIA GAS OF KENTUCKY, INC.

ACCOUNT 380 SERVICES

ORIGINAL LIFE TABLE

PLACEMENT BAND 1915-2015			EXPERIENCE BAND 1976-2015			
AGE AT BEGIN OF INTERVAL	EXPOSURES AT BEGINNING OF AGE INTERVAL	RETIREMENTS DURING AGE INTERVAL	RETMT RATIO	SURV RATIO	PCT SURV BEGIN OF INTERVAL	
0.0	127,430,682	658,358	0.0052	0.9948	100.00	
0.5	118,581,351	500,568	0.0042	0.9958	99.48	
1.5	110,321,786	442,978	0.0040	0.9960	99.06	
2.5	103,629,508	464,219	0.0045	0.9955	98.67	
3.5	97,876,445	642,578	0.0066	0.9934	98.22	
4.5	92,938,362	862,576	0.0093	0.9907	97.58	
5.5	88,733,503	617,558	0.0070	0.9930	96.67	
6.5	84,056,341	589,473	0.0070	0.9930	96.00	
7.5	80,282,391	530,266	0.0066	0.9934	95.33	
8.5	77,090,113	516,198	0.0067	0.9933	94.70	
9.5	74,150,204	553,423	0.0075	0.9925	94.06	
10.5	71,322,873	578,732	0.0081	0.9919	93.36	
11.5	67,683,870	607,731	0.0090	0.9910	92.60	
12.5	64,339,472	569,655	0.0089	0.9911	91.77	
13.5	61,152,989	690,960	0.0113	0.9887	90.96	
14.5	57,724,674	572,522	0.0099	0.9901	89.93	
15.5	53,828,081	540,229	0.0100	0.9900	89.04	
16.5	50,344,805	501,375	0.0100	0.9900	88.15	
17.5	46,343,999	469,457	0.0101	0.9899	87.27	
18.5	42,256,644	528,805	0.0125	0.9875	86.38	
19.5	38,103,075	434,011	0.0114	0.9886	85.30	
20.5	34,165,133	477,892	0.0140	0.9860	84.33	
21.5	30,151,042	440,219	0.0146	0.9854	83.15	
22.5	26,634,468	390,834	0.0147	0.9853	81.94	
23.5	23,579,172	401,023	0.0170	0.9830	80.74	
24.5	21,234,988	280,040	0.0132	0.9868	79.36	
25.5	18,770,138	216,990	0.0116	0.9884	78.32	
26.5	16,107,894	215,106	0.0134	0.9866	77.41	
27.5	14,597,151	197,127	0.0135	0.9865	76.38	
28.5	13,108,614	174,968	0.0133	0.9867	75.35	
29.5	11,876,718	191,696	0.0161	0.9839	74.34	
30.5	10,660,930	196,806	0.0185	0.9815	73.14	
31.5	9,666,077	186,714	0.0193	0.9807	71.79	
32.5	8,860,691	314,058	0.0354	0.9646	70.40	
33.5	7,830,509	323,245	0.0413	0.9587	67.91	
34.5	6,845,212	233,427	0.0341	0.9659	65.10	
35.5	6,020,712	259,010	0.0430	0.9570	62.88	
36.5	5,148,981	199,851	0.0388	0.9612	60.18	
37.5	4,525,745	244,979	0.0541	0.9459	57.84	
38.5	3,978,154	224,804	0.0565	0.9435	54.71	

COLUMBIA GAS OF KENTUCKY, INC.

ACCOUNT 380 SERVICES

ORIGINAL LIFE TABLE, CONT.

PLACEMENT BAND 1915-2015			EXPERIENCE BAND 1976-2015			
AGE AT BEGIN OF INTERVAL	EXPOSURES AT BEGINNING OF AGE INTERVAL	RETIREMENTS DURING AGE INTERVAL	RETMT RATIO	SURV RATIO	PCT SURV BEGIN OF INTERVAL	
39.5	3,605,091	277,256	0.0769	0.9231	51.62	
40.5	3,252,380	208,173	0.0640	0.9360	47.65	
41.5	2,954,233	123,831	0.0419	0.9581	44.60	
42.5	2,740,869	70,555	0.0257	0.9743	42.73	
43.5	2,434,630	58,860	0.0242	0.9758	41.63	
44.5	2,218,863	53,170	0.0240	0.9760	40.62	
45.5	2,013,822	52,259	0.0260	0.9740	39.65	
46.5	1,819,070	48,663	0.0268	0.9732	38.62	
47.5	1,570,225	36,979	0.0236	0.9764	37.59	
48.5	1,378,017	36,513	0.0265	0.9735	36.70	
49.5	1,246,874	54,672	0.0438	0.9562	35.73	
50.5	1,037,035	53,637	0.0517	0.9483	34.16	
51.5	841,734	46,395	0.0551	0.9449	32.40	
52.5	695,938	54,419	0.0782	0.9218	30.61	
53.5	550,454	20,853	0.0379	0.9621	28.22	
54.5	448,739	18,060	0.0402	0.9598	27.15	
55.5	361,975	7,681	0.0212	0.9788	26.06	
56.5	274,018	6,547	0.0239	0.9761	25.50	
57.5	209,405	9,744	0.0465	0.9535	24.89	
58.5	141,714	27,543	0.1944	0.8056	23.74	
59.5	66,579	17,224	0.2587	0.7413	19.12	
60.5	30,942	7,833	0.2532	0.7468	14.18	
61.5	16,322	793	0.0486	0.9514	10.59	
62.5	15,379	12,804	0.8325	0.1675	10.07	
63.5	2,576	672	0.2607	0.7393	1.69	
64.5	1,904	919	0.4824	0.5176	1.25	
65.5	986	34	0.0341	0.9659	0.65	
66.5	806	210	0.2610	0.7390	0.62	
67.5	411	33	0.0800	0.9200	0.46	
68.5	378	33	0.0870	0.9130	0.42	
69.5	232	58	0.2488	0.7512	0.39	
70.5	111	25	0.2217	0.7783	0.29	
71.5	87	33	0.3798	0.6202	0.23	
72.5	54	16	0.3062	0.6938	0.14	
73.5	37	8	0.2205	0.7795	0.10	
74.5	29		0.0000	1.0000	0.08	
75.5	29	8	0.2829	0.7171	0.08	
76.5	21	8	0.3945	0.6055	0.05	
77.5	13	13	1.0000		0.03	
78.5						

COLUMBIA GAS OF KENTUCKY, INC.

ACCOUNT 380 SERVICES

ORIGINAL LIFE TABLE

PLACEMENT BAND 1921-2015			EXPERIENCE BAND 1996-2015		
AGE AT BEGIN OF INTERVAL	EXPOSURES AT BEGINNING OF AGE INTERVAL	RETIREMENTS DURING AGE INTERVAL	RETMT RATIO	SURV RATIO	PCT SURV BEGIN OF INTERVAL
0.0	88,284,746	466,853	0.0053	0.9947	100.00
0.5	83,768,310	451,111	0.0054	0.9946	99.47
1.5	79,676,014	375,680	0.0047	0.9953	98.94
2.5	76,659,450	423,555	0.0055	0.9945	98.47
3.5	73,841,496	536,066	0.0073	0.9927	97.92
4.5	71,652,674	504,363	0.0070	0.9930	97.21
5.5	70,816,832	544,430	0.0077	0.9923	96.53
6.5	69,266,815	552,766	0.0080	0.9920	95.79
7.5	66,809,274	506,393	0.0076	0.9924	95.02
8.5	64,936,687	488,406	0.0075	0.9925	94.30
9.5	63,116,263	522,783	0.0083	0.9917	93.59
10.5	61,285,483	552,734	0.0090	0.9910	92.82
11.5	58,385,962	597,658	0.0102	0.9898	91.98
12.5	55,612,654	547,831	0.0099	0.9901	91.04
13.5	53,147,315	675,717	0.0127	0.9873	90.14
14.5	50,496,095	550,718	0.0109	0.9891	89.00
15.5	47,254,868	520,743	0.0110	0.9890	88.03
16.5	44,456,502	485,984	0.0109	0.9891	87.06
17.5	40,861,164	456,245	0.0112	0.9888	86.10
18.5	37,062,985	512,394	0.0138	0.9862	85.14
19.5	32,966,503	413,417	0.0125	0.9875	83.97
20.5	29,040,897	461,481	0.0159	0.9841	82.91
21.5	25,110,833	414,764	0.0165	0.9835	81.60
22.5	21,719,118	353,638	0.0163	0.9837	80.25
23.5	19,074,202	342,613	0.0180	0.9820	78.94
24.5	17,087,068	213,603	0.0125	0.9875	77.52
25.5	14,914,501	186,844	0.0125	0.9875	76.55
26.5	12,469,643	197,031	0.0158	0.9842	75.60
27.5	11,289,560	178,211	0.0158	0.9842	74.40
28.5	10,083,660	156,025	0.0155	0.9845	73.23
29.5	9,085,189	171,313	0.0189	0.9811	72.09
30.5	8,208,270	164,984	0.0201	0.9799	70.73
31.5	7,531,214	133,132	0.0177	0.9823	69.31
32.5	6,989,642	154,921	0.0222	0.9778	68.09
33.5	6,304,475	200,810	0.0319	0.9681	66.58
34.5	5,551,116	168,204	0.0303	0.9697	64.46
35.5	4,894,973	192,103	0.0392	0.9608	62.50
36.5	4,176,316	146,583	0.0351	0.9649	60.05
37.5	3,708,742	188,440	0.0508	0.9492	57.94
38.5	3,315,643	174,765	0.0527	0.9473	55.00

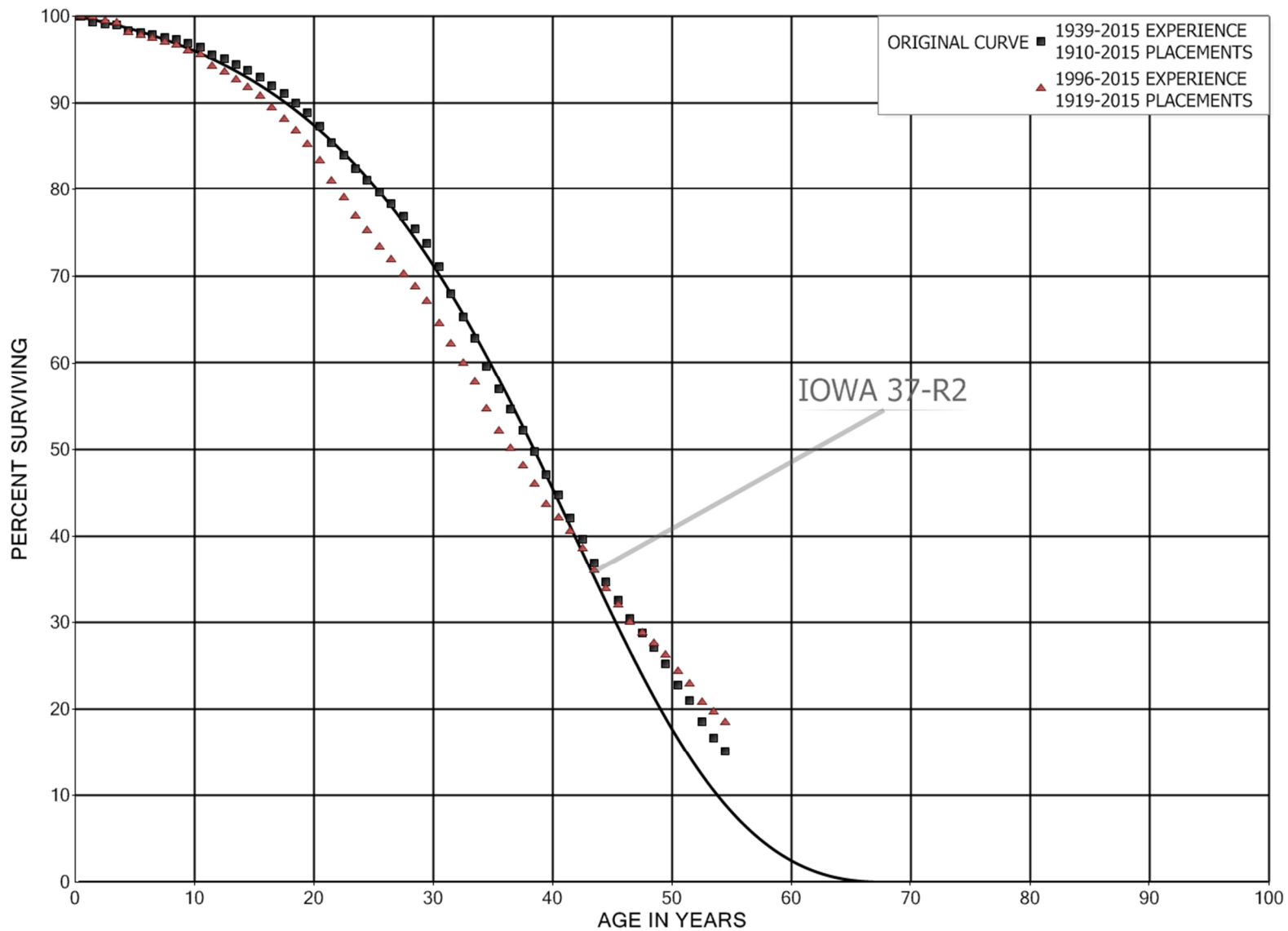
COLUMBIA GAS OF KENTUCKY, INC.

ACCOUNT 380 SERVICES

ORIGINAL LIFE TABLE, CONT.

PLACEMENT BAND 1921-2015			EXPERIENCE BAND 1996-2015			
AGE AT BEGIN OF INTERVAL	EXPOSURES AT BEGINNING OF AGE INTERVAL	RETIREMENTS DURING AGE INTERVAL	RETMT RATIO	SURV RATIO	PCT SURV BEGIN OF INTERVAL	
39.5	3,108,834	196,500	0.0632	0.9368	52.10	
40.5	2,913,105	181,778	0.0624	0.9376	48.81	
41.5	2,691,186	103,864	0.0386	0.9614	45.76	
42.5	2,537,085	58,158	0.0229	0.9771	44.00	
43.5	2,276,968	48,710	0.0214	0.9786	42.99	
44.5	2,106,381	44,903	0.0213	0.9787	42.07	
45.5	1,945,813	37,084	0.0191	0.9809	41.17	
46.5	1,787,846	43,279	0.0242	0.9758	40.39	
47.5	1,552,053	35,503	0.0229	0.9771	39.41	
48.5	1,363,404	35,797	0.0263	0.9737	38.51	
49.5	1,220,684	47,339	0.0388	0.9612	37.50	
50.5	1,015,236	49,805	0.0491	0.9509	36.04	
51.5	824,372	45,514	0.0552	0.9448	34.27	
52.5	679,440	45,398	0.0668	0.9332	32.38	
53.5	543,072	19,813	0.0365	0.9635	30.22	
54.5	443,329	16,789	0.0379	0.9621	29.12	
55.5	358,422	7,222	0.0201	0.9799	28.01	
56.5	272,994	6,440	0.0236	0.9764	27.45	
57.5	208,491	9,588	0.0460	0.9540	26.80	
58.5	140,957	27,461	0.1948	0.8052	25.57	
59.5	65,908	17,150	0.2602	0.7398	20.59	
60.5	30,295	7,792	0.2572	0.7428	15.23	
61.5	15,717	628	0.0400	0.9600	11.31	
62.5	14,939	12,730	0.8521	0.1479	10.86	
63.5	2,209	565	0.2556	0.7444	1.61	
64.5	1,645	919	0.5586	0.4414	1.20	
65.5	726	25	0.0350	0.9650	0.53	
66.5	579	194	0.3348	0.6652	0.51	
67.5	201	16	0.0818	0.9182	0.34	
68.5	193	8	0.0427	0.9573	0.31	
69.5	71	8	0.1164	0.8836	0.30	
70.5					0.26	
71.5						
72.5						
73.5						
74.5	16		0.0000			
75.5	16	8	0.5000			
76.5	8	8	1.0000			
77.5						

COLUMBIA GAS OF KENTUCKY, INC.
ACCOUNT 381 METERS
ORIGINAL AND SMOOTH SURVIVOR CURVES



COLUMBIA GAS OF KENTUCKY, INC.

ACCOUNT 381 METERS

ORIGINAL LIFE TABLE

PLACEMENT BAND 1910-2015			EXPERIENCE BAND 1939-2015		
AGE AT BEGIN OF INTERVAL	EXPOSURES AT BEGINNING OF AGE INTERVAL	RETIREMENTS DURING AGE INTERVAL	RETMT RATIO	SURV RATIO	PCT SURV BEGIN OF INTERVAL
0.0	18,112,832	13,669	0.0008	0.9992	100.00
0.5	17,388,989	102,394	0.0059	0.9941	99.92
1.5	16,863,603	42,818	0.0025	0.9975	99.34
2.5	16,462,971	31,860	0.0019	0.9981	99.08
3.5	15,995,455	92,207	0.0058	0.9942	98.89
4.5	15,628,540	37,555	0.0024	0.9976	98.32
5.5	15,305,026	44,378	0.0029	0.9971	98.09
6.5	14,688,843	43,818	0.0030	0.9970	97.80
7.5	14,297,923	37,322	0.0026	0.9974	97.51
8.5	13,828,241	66,267	0.0048	0.9952	97.26
9.5	13,469,545	54,520	0.0040	0.9960	96.79
10.5	12,846,068	116,611	0.0091	0.9909	96.40
11.5	11,948,872	55,202	0.0046	0.9954	95.52
12.5	11,471,888	88,461	0.0077	0.9923	95.08
13.5	11,239,440	78,506	0.0070	0.9930	94.35
14.5	10,963,199	80,330	0.0073	0.9927	93.69
15.5	10,883,697	118,271	0.0109	0.9891	93.00
16.5	10,496,588	109,145	0.0104	0.9896	91.99
17.5	9,832,137	115,313	0.0117	0.9883	91.04
18.5	9,713,225	126,840	0.0131	0.9869	89.97
19.5	9,062,338	153,774	0.0170	0.9830	88.79
20.5	8,888,727	187,790	0.0211	0.9789	87.29
21.5	8,296,658	149,204	0.0180	0.9820	85.44
22.5	7,989,944	143,137	0.0179	0.9821	83.91
23.5	7,632,360	126,198	0.0165	0.9835	82.40
24.5	7,241,171	126,125	0.0174	0.9826	81.04
25.5	6,881,287	117,809	0.0171	0.9829	79.63
26.5	6,503,564	118,999	0.0183	0.9817	78.26
27.5	6,122,636	112,124	0.0183	0.9817	76.83
28.5	5,838,153	135,386	0.0232	0.9768	75.43
29.5	5,435,404	195,440	0.0360	0.9640	73.68
30.5	4,983,648	212,338	0.0426	0.9574	71.03
31.5	4,646,141	183,108	0.0394	0.9606	68.00
32.5	4,348,171	168,982	0.0389	0.9611	65.32
33.5	3,954,595	199,580	0.0505	0.9495	62.78
34.5	3,549,997	160,378	0.0452	0.9548	59.61
35.5	3,170,454	129,120	0.0407	0.9593	56.92
36.5	2,882,585	130,508	0.0453	0.9547	54.60
37.5	2,781,158	125,845	0.0452	0.9548	52.13
38.5	2,640,746	141,037	0.0534	0.9466	49.77

COLUMBIA GAS OF KENTUCKY, INC.

ACCOUNT 381 METERS

ORIGINAL LIFE TABLE, CONT.

PLACEMENT BAND 1910-2015			EXPERIENCE BAND 1939-2015			
AGE AT BEGIN OF INTERVAL	EXPOSURES AT BEGINNING OF AGE INTERVAL	RETIREMENTS DURING AGE INTERVAL	RETMT RATIO	SURV RATIO	PCT SURV BEGIN OF INTERVAL	
39.5	2,490,477	123,498	0.0496	0.9504	47.11	
40.5	2,329,408	138,522	0.0595	0.9405	44.78	
41.5	2,154,986	127,135	0.0590	0.9410	42.11	
42.5	1,974,263	138,990	0.0704	0.9296	39.63	
43.5	1,731,882	103,853	0.0600	0.9400	36.84	
44.5	1,518,152	92,003	0.0606	0.9394	34.63	
45.5	1,313,664	84,967	0.0647	0.9353	32.53	
46.5	1,173,730	65,904	0.0561	0.9439	30.43	
47.5	1,042,587	59,988	0.0575	0.9425	28.72	
48.5	895,406	61,882	0.0691	0.9309	27.07	
49.5	770,698	74,291	0.0964	0.9036	25.20	
50.5	613,090	49,499	0.0807	0.9193	22.77	
51.5	523,860	59,613	0.1138	0.8862	20.93	
52.5	444,371	45,345	0.1020	0.8980	18.55	
53.5	367,728	35,955	0.0978	0.9022	16.66	
54.5	309,189	25,640	0.0829	0.9171	15.03	
55.5	235,901	14,484	0.0614	0.9386	13.78	
56.5	164,099	14,448	0.0880	0.9120	12.93	
57.5	137,472	20,581	0.1497	0.8503	11.80	
58.5	104,084	8,988	0.0864	0.9136	10.03	
59.5	81,685	5,213	0.0638	0.9362	9.16	
60.5	73,632	3,846	0.0522	0.9478	8.58	
61.5	54,057	9,368	0.1733	0.8267	8.13	
62.5	40,441	3,857	0.0954	0.9046	6.72	
63.5	33,066	1,242	0.0376	0.9624	6.08	
64.5	28,398	1,918	0.0675	0.9325	5.85	
65.5	20,870	273	0.0131	0.9869	5.46	
66.5	17,762	684	0.0385	0.9615	5.39	
67.5	12,532	66	0.0053	0.9947	5.18	
68.5	8,185		0.0000	1.0000	5.15	
69.5	7,448		0.0000	1.0000	5.15	
70.5	7,110	427	0.0601	0.9399	5.15	
71.5	6,648		0.0000	1.0000	4.84	
72.5	6,579	483	0.0734	0.9266	4.84	
73.5	5,832	801	0.1373	0.8627	4.49	
74.5	3,973		0.0000	1.0000	3.87	
75.5	3,959		0.0000	1.0000	3.87	
76.5	3,795		0.0000	1.0000	3.87	
77.5	3,795	1,405	0.3702	0.6298	3.87	
78.5	2,390	174	0.0729	0.9271	2.44	

COLUMBIA GAS OF KENTUCKY, INC.

ACCOUNT 381 METERS

ORIGINAL LIFE TABLE, CONT.

PLACEMENT BAND 1910-2015			EXPERIENCE BAND 1939-2015		
AGE AT BEGIN OF INTERVAL	EXPOSURES AT BEGINNING OF AGE INTERVAL	RETIREMENTS DURING AGE INTERVAL	RETMT RATIO	SURV RATIO	PCT SURV BEGIN OF INTERVAL
79.5	2,216		0.0000	1.0000	2.26
80.5	2,216		0.0000	1.0000	2.26
81.5	2,216	405	0.1829	0.8171	2.26
82.5	1,810	1,789	0.9881	0.0119	1.85
83.5	22		0.0000	1.0000	0.02
84.5	22		0.0000	1.0000	0.02
85.5					0.02

COLUMBIA GAS OF KENTUCKY, INC.

ACCOUNT 381 METERS

ORIGINAL LIFE TABLE

PLACEMENT BAND 1919-2015			EXPERIENCE BAND 1996-2015			
AGE AT BEGIN OF INTERVAL	EXPOSURES AT BEGINNING OF AGE INTERVAL	RETIREMENTS DURING AGE INTERVAL	RETMT RATIO	SURV RATIO	PCT SURV BEGIN OF INTERVAL	
0.0	8,792,398	7,105	0.0008	0.9992	100.00	
0.5	7,939,097	8,701	0.0011	0.9989	99.92	
1.5	7,984,494	31,653	0.0040	0.9960	99.81	
2.5	7,833,704	19,297	0.0025	0.9975	99.41	
3.5	7,685,111	85,445	0.0111	0.9889	99.17	
4.5	7,690,696	24,787	0.0032	0.9968	98.07	
5.5	7,760,596	30,654	0.0040	0.9960	97.75	
6.5	7,534,135	27,933	0.0037	0.9963	97.36	
7.5	7,535,844	28,008	0.0037	0.9963	97.00	
8.5	7,394,751	49,546	0.0067	0.9933	96.64	
9.5	7,390,601	39,889	0.0054	0.9946	96.00	
10.5	7,061,921	97,911	0.0139	0.9861	95.48	
11.5	6,354,535	40,165	0.0063	0.9937	94.15	
12.5	6,055,984	58,603	0.0097	0.9903	93.56	
13.5	6,145,114	58,883	0.0096	0.9904	92.65	
14.5	6,123,291	68,036	0.0111	0.9889	91.77	
15.5	6,387,073	96,802	0.0152	0.9848	90.75	
16.5	6,243,088	88,994	0.0143	0.9857	89.37	
17.5	5,645,270	90,590	0.0160	0.9840	88.10	
18.5	5,567,223	100,068	0.0180	0.9820	86.68	
19.5	4,940,274	105,868	0.0214	0.9786	85.12	
20.5	4,857,171	135,953	0.0280	0.9720	83.30	
21.5	4,353,531	106,968	0.0246	0.9754	80.97	
22.5	4,151,340	111,752	0.0269	0.9731	78.98	
23.5	4,009,573	89,827	0.0224	0.9776	76.85	
24.5	3,835,368	94,245	0.0246	0.9754	75.13	
25.5	3,726,489	71,577	0.0192	0.9808	73.29	
26.5	3,601,257	82,628	0.0229	0.9771	71.88	
27.5	3,448,530	72,360	0.0210	0.9790	70.23	
28.5	3,333,119	83,855	0.0252	0.9748	68.75	
29.5	3,129,837	115,934	0.0370	0.9630	67.03	
30.5	2,936,773	109,676	0.0373	0.9627	64.54	
31.5	2,845,309	99,746	0.0351	0.9649	62.13	
32.5	2,727,506	99,768	0.0366	0.9634	59.95	
33.5	2,492,852	133,861	0.0537	0.9463	57.76	
34.5	2,202,222	105,179	0.0478	0.9522	54.66	
35.5	1,969,564	75,346	0.0383	0.9617	52.05	
36.5	1,888,393	77,212	0.0409	0.9591	50.06	
37.5	1,902,022	79,976	0.0420	0.9580	48.01	
38.5	1,869,105	95,477	0.0511	0.9489	45.99	

COLUMBIA GAS OF KENTUCKY, INC.

ACCOUNT 381 METERS

ORIGINAL LIFE TABLE, CONT.

PLACEMENT BAND 1919-2015			EXPERIENCE BAND 1996-2015			
AGE AT BEGIN OF INTERVAL	EXPOSURES AT BEGINNING OF AGE INTERVAL	RETIREMENTS DURING AGE INTERVAL	RETMT RATIO	SURV RATIO	PCT SURV BEGIN OF INTERVAL	
39.5	1,781,928	64,370	0.0361	0.9639	43.64	
40.5	1,691,337	63,401	0.0375	0.9625	42.07	
41.5	1,611,743	77,375	0.0480	0.9520	40.49	
42.5	1,486,637	100,351	0.0675	0.9325	38.55	
43.5	1,288,857	74,723	0.0580	0.9420	35.94	
44.5	1,110,932	64,310	0.0579	0.9421	33.86	
45.5	946,387	56,356	0.0595	0.9405	31.90	
46.5	840,779	37,032	0.0440	0.9560	30.00	
47.5	746,221	29,839	0.0400	0.9600	28.68	
48.5	636,219	30,311	0.0476	0.9524	27.53	
49.5	543,978	40,297	0.0741	0.9259	26.22	
50.5	420,829	24,318	0.0578	0.9422	24.28	
51.5	356,354	33,675	0.0945	0.9055	22.88	
52.5	302,905	15,660	0.0517	0.9483	20.71	
53.5	256,410	16,761	0.0654	0.9346	19.64	
54.5	219,034	9,797	0.0447	0.9553	18.36	
55.5	161,639	5,650	0.0350	0.9650	17.54	
56.5	100,578	1,925	0.0191	0.9809	16.92	
57.5	86,649	1,856	0.0214	0.9786	16.60	
58.5	73,527	1,176	0.0160	0.9840	16.24	
59.5	59,185	164	0.0028	0.9972	15.99	
60.5	56,265	1,158	0.0206	0.9794	15.94	
61.5	39,377	2,223	0.0565	0.9435	15.61	
62.5	32,906	3,348	0.1018	0.8982	14.73	
63.5	26,040	718	0.0276	0.9724	13.23	
64.5	21,943	1,541	0.0702	0.9298	12.87	
65.5	15,357	245	0.0159	0.9841	11.96	
66.5	12,423	94	0.0076	0.9924	11.77	
67.5	8,584	66	0.0077	0.9923	11.68	
68.5	4,238		0.0000	1.0000	11.59	
69.5	3,501		0.0000	1.0000	11.59	
70.5	3,162	427	0.1351	0.8649	11.59	
71.5	4,105		0.0000	1.0000	10.03	
72.5	4,036	309	0.0765	0.9235	10.03	
73.5	3,464	801	0.2313	0.7687	9.26	
74.5	1,835		0.0000	1.0000	7.12	
75.5	1,822		0.0000	1.0000	7.12	
76.5	3,795		0.0000	1.0000	7.12	
77.5	3,795	1,405	0.3702	0.6298	7.12	
78.5	2,390	174	0.0729	0.9271	4.48	

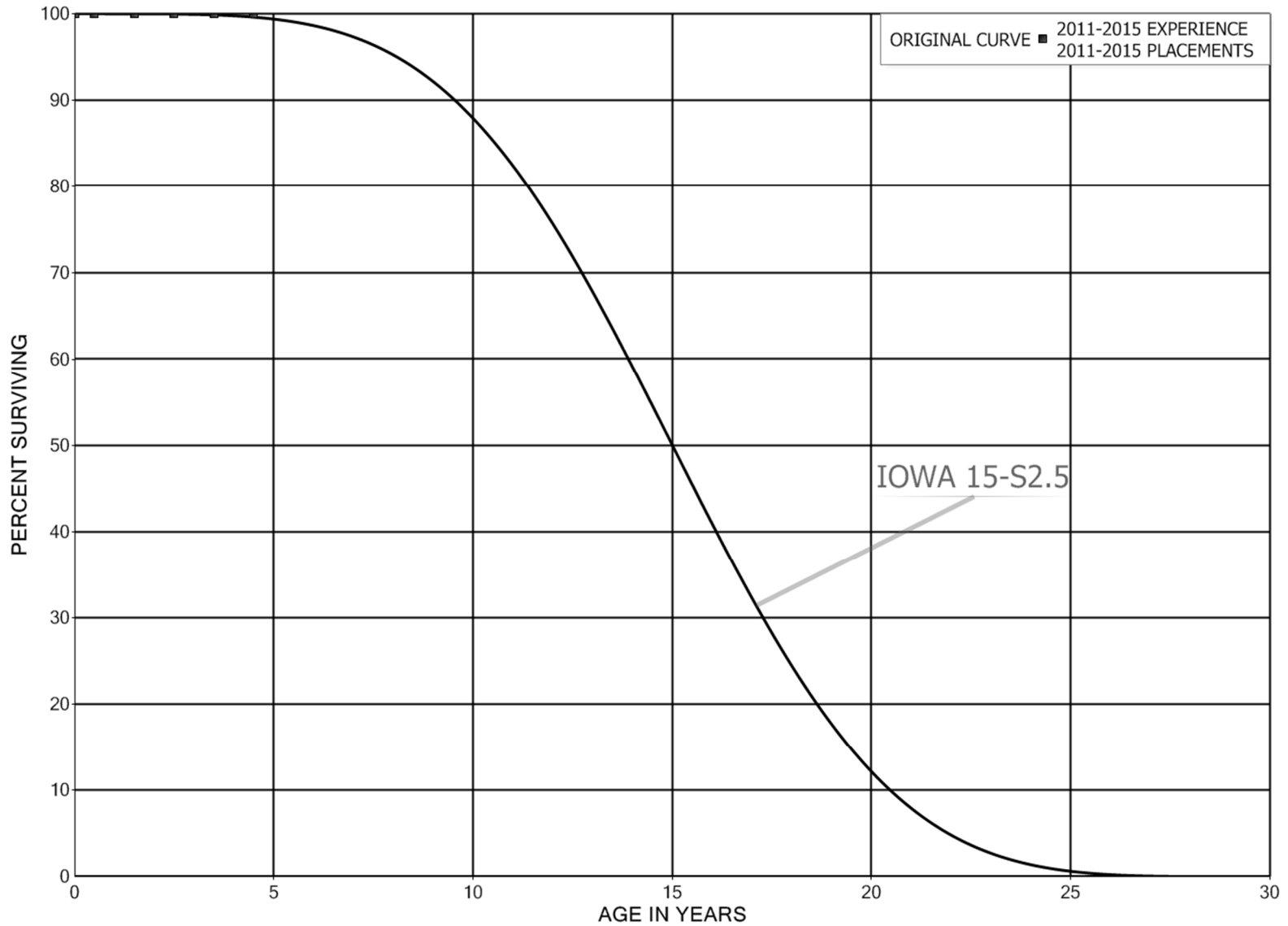
COLUMBIA GAS OF KENTUCKY, INC.

ACCOUNT 381 METERS

ORIGINAL LIFE TABLE, CONT.

PLACEMENT BAND 1919-2015			EXPERIENCE BAND 1996-2015		
AGE AT BEGIN OF INTERVAL	EXPOSURES AT BEGINNING OF AGE INTERVAL	RETIREMENTS DURING AGE INTERVAL	RETMT RATIO	SURV RATIO	PCT SURV BEGIN OF INTERVAL
79.5	2,216		0.0000	1.0000	4.16
80.5	2,216		0.0000	1.0000	4.16
81.5	2,216	405	0.1829	0.8171	4.16
82.5	1,810	1,789	0.9881	0.0119	3.40
83.5	22		0.0000	1.0000	0.04
84.5	22		0.0000	1.0000	0.04
85.5					0.04

COLUMBIA GAS OF KENTUCKY, INC.
ACCOUNT 381.1 METERS - AMI
ORIGINAL AND SMOOTH SURVIVOR CURVES



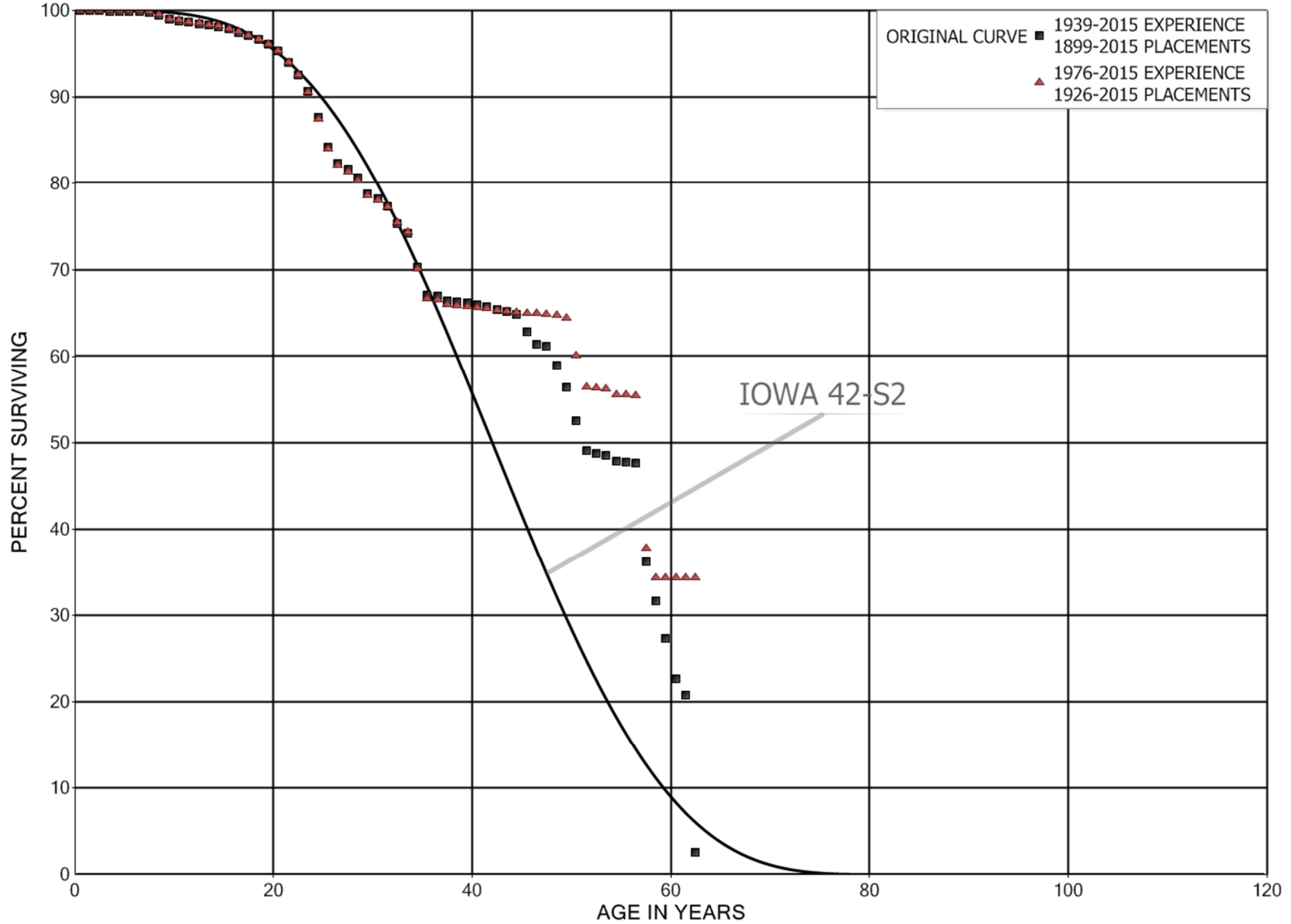
COLUMBIA GAS OF KENTUCKY, INC.

ACCOUNT 381.1 METERS - AMI

ORIGINAL LIFE TABLE

PLACEMENT BAND 2011-2015			EXPERIENCE BAND 2011-2015		
AGE AT BEGIN OF INTERVAL	EXPOSURES AT BEGINNING OF AGE INTERVAL	RETIREMENTS DURING AGE INTERVAL	RETMT RATIO	SURV RATIO	PCT SURV BEGIN OF INTERVAL
0.0	8,705,079		0.0000	1.0000	100.00
0.5	7,850,368		0.0000	1.0000	100.00
1.5	1,057,236		0.0000	1.0000	100.00
2.5	682,384		0.0000	1.0000	100.00
3.5	319,312		0.0000	1.0000	100.00
4.5					100.00

COLUMBIA GAS OF KENTUCKY, INC.
ACCOUNT 382 METER INSTALLATIONS
ORIGINAL AND SMOOTH SURVIVOR CURVES



COLUMBIA GAS OF KENTUCKY, INC.

ACCOUNT 382 METER INSTALLATIONS

ORIGINAL LIFE TABLE

PLACEMENT BAND 1899-2015			EXPERIENCE BAND 1939-2015			
AGE AT BEGIN OF INTERVAL	EXPOSURES AT BEGINNING OF AGE INTERVAL	RETIREMENTS DURING AGE INTERVAL	RETMT RATIO	SURV RATIO	PCT SURV BEGIN OF INTERVAL	
0.0	9,977,228	116	0.0000	1.0000	100.00	
0.5	9,471,215	76	0.0000	1.0000	100.00	
1.5	9,303,946	5,067	0.0005	0.9995	100.00	
2.5	9,139,178	5,567	0.0006	0.9994	99.94	
3.5	8,955,221	1,402	0.0002	0.9998	99.88	
4.5	8,830,436	426	0.0000	1.0000	99.87	
5.5	8,677,235	1,052	0.0001	0.9999	99.86	
6.5	8,531,138	6,583	0.0008	0.9992	99.85	
7.5	8,376,945	31,963	0.0038	0.9962	99.77	
8.5	8,113,801	39,812	0.0049	0.9951	99.39	
9.5	7,801,556	13,705	0.0018	0.9982	98.90	
10.5	7,662,728	10,191	0.0013	0.9987	98.73	
11.5	7,403,305	14,913	0.0020	0.9980	98.60	
12.5	7,120,004	10,620	0.0015	0.9985	98.40	
13.5	6,876,224	11,756	0.0017	0.9983	98.25	
14.5	6,638,664	20,155	0.0030	0.9970	98.09	
15.5	6,306,766	24,648	0.0039	0.9961	97.79	
16.5	6,020,805	22,647	0.0038	0.9962	97.41	
17.5	5,621,425	25,300	0.0045	0.9955	97.04	
18.5	5,365,709	31,975	0.0060	0.9940	96.60	
19.5	4,882,598	37,561	0.0077	0.9923	96.03	
20.5	4,461,361	60,898	0.0137	0.9863	95.29	
21.5	4,043,916	63,420	0.0157	0.9843	93.99	
22.5	3,623,626	73,789	0.0204	0.9796	92.51	
23.5	3,179,092	107,358	0.0338	0.9662	90.63	
24.5	2,750,685	107,123	0.0389	0.9611	87.57	
25.5	2,314,835	50,746	0.0219	0.9781	84.16	
26.5	1,952,212	17,262	0.0088	0.9912	82.31	
27.5	1,690,727	20,219	0.0120	0.9880	81.59	
28.5	1,422,661	33,643	0.0236	0.9764	80.61	
29.5	1,257,393	8,975	0.0071	0.9929	78.70	
30.5	1,160,175	11,921	0.0103	0.9897	78.14	
31.5	1,077,033	28,841	0.0268	0.9732	77.34	
32.5	986,334	14,211	0.0144	0.9856	75.27	
33.5	897,149	47,522	0.0530	0.9470	74.18	
34.5	785,426	35,826	0.0456	0.9544	70.25	
35.5	712,411	1,673	0.0023	0.9977	67.05	
36.5	679,651	5,571	0.0082	0.9918	66.89	
37.5	653,324	762	0.0012	0.9988	66.34	
38.5	633,609	1,138	0.0018	0.9982	66.27	

COLUMBIA GAS OF KENTUCKY, INC.

ACCOUNT 382 METER INSTALLATIONS

ORIGINAL LIFE TABLE, CONT.

PLACEMENT BAND 1899-2015			EXPERIENCE BAND 1939-2015			
AGE AT BEGIN OF INTERVAL	EXPOSURES AT BEGINNING OF AGE INTERVAL	RETIREMENTS DURING AGE INTERVAL	RETMT RATIO	SURV RATIO	PCT SURV BEGIN OF INTERVAL	
39.5	619,237	1,710	0.0028	0.9972	66.15	
40.5	608,584	2,379	0.0039	0.9961	65.97	
41.5	601,997	2,691	0.0045	0.9955	65.71	
42.5	557,256	1,973	0.0035	0.9965	65.41	
43.5	456,404	2,734	0.0060	0.9940	65.18	
44.5	385,132	11,839	0.0307	0.9693	64.79	
45.5	313,240	6,934	0.0221	0.9779	62.80	
46.5	242,123	1,045	0.0043	0.9957	61.41	
47.5	187,334	6,853	0.0366	0.9634	61.14	
48.5	150,395	6,556	0.0436	0.9564	58.91	
49.5	118,068	7,988	0.0677	0.9323	56.34	
50.5	79,913	5,288	0.0662	0.9338	52.53	
51.5	53,060	316	0.0059	0.9941	49.05	
52.5	39,972	169	0.0042	0.9958	48.76	
53.5	28,821	439	0.0152	0.9848	48.55	
54.5	18,445	23	0.0012	0.9988	47.82	
55.5	5,780	16	0.0028	0.9972	47.76	
56.5	1,071	256	0.2393	0.7607	47.62	
57.5	815	104	0.1276	0.8724	36.22	
58.5	649	88	0.1356	0.8644	31.60	
59.5	560	96	0.1715	0.8285	27.32	
60.5	453	39	0.0861	0.9139	22.63	
61.5	414	365	0.8813	0.1187	20.68	
62.5	49		0.0000	1.0000	2.45	
63.5	43		0.0000	1.0000	2.45	
64.5	43		0.0000	1.0000	2.45	
65.5	43		0.0000	1.0000	2.45	
66.5	43		0.0000	1.0000	2.45	
67.5	43	43	1.0000		2.45	
68.5						

COLUMBIA GAS OF KENTUCKY, INC.

ACCOUNT 382 METER INSTALLATIONS

ORIGINAL LIFE TABLE

PLACEMENT BAND 1926-2015			EXPERIENCE BAND 1976-2015			
AGE AT BEGIN OF INTERVAL	EXPOSURES AT BEGINNING OF AGE INTERVAL	RETIREMENTS DURING AGE INTERVAL	RETMT RATIO	SURV RATIO	PCT SURV BEGIN OF INTERVAL	
0.0	9,248,701	116	0.0000	1.0000	100.00	
0.5	8,774,566	76	0.0000	1.0000	100.00	
1.5	8,638,220	414	0.0000	1.0000	100.00	
2.5	8,518,937	91	0.0000	1.0000	99.99	
3.5	8,439,601	1,402	0.0002	0.9998	99.99	
4.5	8,384,040	426	0.0001	0.9999	99.98	
5.5	8,292,126	1,052	0.0001	0.9999	99.97	
6.5	8,221,588	6,575	0.0008	0.9992	99.96	
7.5	8,120,686	31,963	0.0039	0.9961	99.88	
8.5	7,887,806	39,804	0.0050	0.9950	99.48	
9.5	7,601,137	13,697	0.0018	0.9982	98.98	
10.5	7,492,607	10,177	0.0014	0.9986	98.80	
11.5	7,254,741	14,904	0.0021	0.9979	98.67	
12.5	6,983,600	10,610	0.0015	0.9985	98.47	
13.5	6,749,619	11,754	0.0017	0.9983	98.32	
14.5	6,521,098	20,144	0.0031	0.9969	98.15	
15.5	6,201,265	24,648	0.0040	0.9960	97.84	
16.5	5,927,874	22,623	0.0038	0.9962	97.45	
17.5	5,538,651	25,291	0.0046	0.9954	97.08	
18.5	5,295,528	31,941	0.0060	0.9940	96.64	
19.5	4,819,100	37,557	0.0078	0.9922	96.06	
20.5	4,406,758	60,893	0.0138	0.9862	95.31	
21.5	3,953,906	63,407	0.0160	0.9840	93.99	
22.5	3,539,842	73,772	0.0208	0.9792	92.48	
23.5	3,101,260	107,322	0.0346	0.9654	90.56	
24.5	2,678,554	107,067	0.0400	0.9600	87.42	
25.5	2,233,544	50,655	0.0227	0.9773	83.93	
26.5	1,879,920	17,034	0.0091	0.9909	82.02	
27.5	1,620,781	20,137	0.0124	0.9876	81.28	
28.5	1,354,539	29,043	0.0214	0.9786	80.27	
29.5	1,194,872	8,306	0.0070	0.9930	78.55	
30.5	1,098,843	11,723	0.0107	0.9893	78.00	
31.5	1,016,163	23,866	0.0235	0.9765	77.17	
32.5	929,801	13,820	0.0149	0.9851	75.36	
33.5	841,393	47,390	0.0563	0.9437	74.24	
34.5	733,922	35,794	0.0488	0.9512	70.06	
35.5	660,720	1,658	0.0025	0.9975	66.64	
36.5	627,758	5,260	0.0084	0.9916	66.47	
37.5	601,449	673	0.0011	0.9989	65.92	
38.5	581,533	644	0.0011	0.9989	65.84	

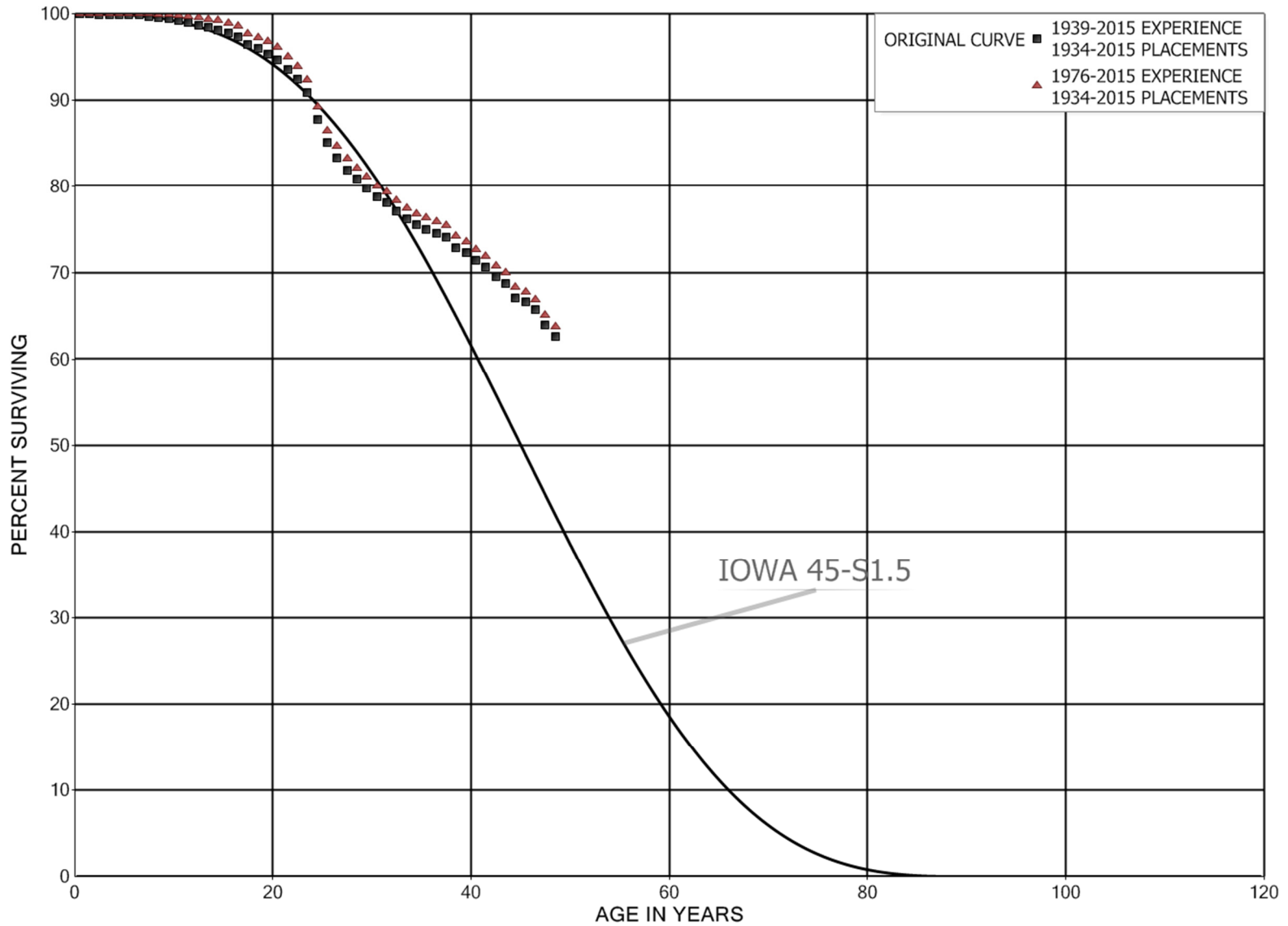
COLUMBIA GAS OF KENTUCKY, INC.

ACCOUNT 382 METER INSTALLATIONS

ORIGINAL LIFE TABLE, CONT.

PLACEMENT BAND 1926-2015			EXPERIENCE BAND 1976-2015			
AGE AT BEGIN OF INTERVAL	EXPOSURES AT BEGINNING OF AGE INTERVAL	RETIREMENTS DURING AGE INTERVAL	RETMT RATIO	SURV RATIO	PCT SURV BEGIN OF INTERVAL	
39.5	567,276	1,021	0.0018	0.9982	65.77	
40.5	557,425	1,137	0.0020	0.9980	65.65	
41.5	552,004	1,610	0.0029	0.9971	65.52	
42.5	508,374	1,176	0.0023	0.9977	65.33	
43.5	408,499	879	0.0022	0.9978	65.18	
44.5	339,143	273	0.0008	0.9992	65.04	
45.5	278,819	383	0.0014	0.9986	64.98	
46.5	214,254	211	0.0010	0.9990	64.89	
47.5	160,302	375	0.0023	0.9977	64.83	
48.5	129,840	463	0.0036	0.9964	64.68	
49.5	116,033	7,802	0.0672	0.9328	64.45	
50.5	78,064	4,871	0.0624	0.9376	60.11	
51.5	51,616	49	0.0009	0.9991	56.36	
52.5	38,795	62	0.0016	0.9984	56.31	
53.5	27,751	327	0.0118	0.9882	56.22	
54.5	17,486	15	0.0009	0.9991	55.56	
55.5	4,829	7	0.0015	0.9985	55.51	
56.5	129	41	0.3199	0.6801	55.42	
57.5	88	8	0.0905	0.9095	37.69	
58.5	18		0.0000	1.0000	34.28	
59.5	17		0.0000	1.0000	34.28	
60.5	6		0.0000	1.0000	34.28	
61.5	6		0.0000	1.0000	34.28	
62.5	6		0.0000	1.0000	34.28	
63.5					34.28	

COLUMBIA GAS OF KENTUCKY, INC.
ACCOUNTS 383 AND 384 HOUSE REGULATORS AND HOUSE REGULATOR INSTALLATIONS
ORIGINAL AND SMOOTH SURVIVOR CURVES



COLUMBIA GAS OF KENTUCKY, INC.

ACCOUNTS 383 AND 384 HOUSE REGULATORS AND HOUSE REGULATOR INSTALLATIONS

ORIGINAL LIFE TABLE

PLACEMENT BAND 1934-2015			EXPERIENCE BAND 1939-2015			
AGE AT BEGIN OF INTERVAL	EXPOSURES AT BEGINNING OF AGE INTERVAL	RETIREMENTS DURING AGE INTERVAL	RETMT RATIO	SURV RATIO	PCT SURV BEGIN OF INTERVAL	
0.0	8,376,581	3,549	0.0004	0.9996	100.00	
0.5	8,178,252	4,811	0.0006	0.9994	99.96	
1.5	7,982,628	1,746	0.0002	0.9998	99.90	
2.5	7,741,319	696	0.0001	0.9999	99.88	
3.5	7,404,134	1,169	0.0002	0.9998	99.87	
4.5	7,224,463	1,958	0.0003	0.9997	99.85	
5.5	6,718,759	2,601	0.0004	0.9996	99.83	
6.5	6,413,656	9,431	0.0015	0.9985	99.79	
7.5	6,043,645	7,108	0.0012	0.9988	99.64	
8.5	5,709,509	10,354	0.0018	0.9982	99.52	
9.5	5,299,456	9,731	0.0018	0.9982	99.34	
10.5	4,927,181	12,605	0.0026	0.9974	99.16	
11.5	4,213,445	13,311	0.0032	0.9968	98.91	
12.5	3,786,141	9,446	0.0025	0.9975	98.59	
13.5	3,647,179	8,830	0.0024	0.9976	98.35	
14.5	3,601,735	13,920	0.0039	0.9961	98.11	
15.5	3,533,679	15,684	0.0044	0.9956	97.73	
16.5	3,388,942	30,019	0.0089	0.9911	97.30	
17.5	3,222,711	17,531	0.0054	0.9946	96.43	
18.5	3,067,271	19,677	0.0064	0.9936	95.91	
19.5	2,828,707	19,243	0.0068	0.9932	95.29	
20.5	2,675,976	31,860	0.0119	0.9881	94.65	
21.5	2,476,696	30,032	0.0121	0.9879	93.52	
22.5	2,310,477	38,742	0.0168	0.9832	92.39	
23.5	2,128,848	72,786	0.0342	0.9658	90.84	
24.5	1,948,141	59,593	0.0306	0.9694	87.73	
25.5	1,773,109	37,098	0.0209	0.9791	85.05	
26.5	1,623,171	27,824	0.0171	0.9829	83.27	
27.5	1,488,052	18,809	0.0126	0.9874	81.84	
28.5	1,336,421	17,093	0.0128	0.9872	80.81	
29.5	1,190,899	15,894	0.0133	0.9867	79.77	
30.5	1,028,191	8,585	0.0083	0.9917	78.71	
31.5	916,678	11,908	0.0130	0.9870	78.05	
32.5	810,450	9,293	0.0115	0.9885	77.04	
33.5	683,309	5,818	0.0085	0.9915	76.15	
34.5	568,743	4,295	0.0076	0.9924	75.50	
35.5	512,803	3,203	0.0062	0.9938	74.93	
36.5	454,341	2,583	0.0057	0.9943	74.47	
37.5	404,495	6,412	0.0159	0.9841	74.04	
38.5	361,073	3,146	0.0087	0.9913	72.87	

COLUMBIA GAS OF KENTUCKY, INC.

ACCOUNTS 383 AND 384 HOUSE REGULATORS AND HOUSE REGULATOR INSTALLATIONS

ORIGINAL LIFE TABLE, CONT.

PLACEMENT BAND 1934-2015			EXPERIENCE BAND 1939-2015			
AGE AT BEGIN OF INTERVAL	EXPOSURES AT BEGINNING OF AGE INTERVAL	RETIREMENTS DURING AGE INTERVAL	RETMT RATIO	SURV RATIO	PCT SURV BEGIN OF INTERVAL	
39.5	329,773	3,808	0.0115	0.9885	72.23	
40.5	322,149	3,720	0.0115	0.9885	71.40	
41.5	314,037	4,755	0.0151	0.9849	70.58	
42.5	284,796	3,189	0.0112	0.9888	69.51	
43.5	219,110	5,254	0.0240	0.9760	68.73	
44.5	164,101	1,237	0.0075	0.9925	67.08	
45.5	108,858	1,396	0.0128	0.9872	66.58	
46.5	56,085	1,482	0.0264	0.9736	65.72	
47.5	14,306	313	0.0219	0.9781	63.98	
48.5	4,944	19	0.0038	0.9962	62.58	
49.5	3,664	10	0.0027	0.9973	62.34	
50.5	3,311		0.0000	1.0000	62.17	
51.5	3,138	22	0.0070	0.9930	62.17	
52.5	834		0.0000	1.0000	61.74	
53.5	546		0.0000	1.0000	61.74	
54.5	417		0.0000	1.0000	61.74	
55.5	351		0.0000	1.0000	61.74	
56.5	351		0.0000	1.0000	61.74	
57.5	351		0.0000	1.0000	61.74	
58.5	351		0.0000	1.0000	61.74	
59.5	351		0.0000	1.0000	61.74	
60.5	235		0.0000	1.0000	61.74	
61.5	235		0.0000	1.0000	61.74	
62.5	235		0.0000	1.0000	61.74	
63.5	235		0.0000	1.0000	61.74	
64.5	235		0.0000	1.0000	61.74	
65.5					61.74	

COLUMBIA GAS OF KENTUCKY, INC.

ACCOUNTS 383 AND 384 HOUSE REGULATORS AND HOUSE REGULATOR INSTALLATIONS

ORIGINAL LIFE TABLE

PLACEMENT BAND 1934-2015			EXPERIENCE BAND 1976-2015		
AGE AT BEGIN OF INTERVAL	EXPOSURES AT BEGINNING OF AGE INTERVAL	RETIREMENTS DURING AGE INTERVAL	RETMT RATIO	SURV RATIO	PCT SURV BEGIN OF INTERVAL
0.0	7,724,487		0.0000	1.0000	100.00
0.5	7,564,798	169	0.0000	1.0000	100.00
1.5	7,392,731	0	0.0000	1.0000	100.00
2.5	7,178,700	1	0.0000	1.0000	100.00
3.5	6,902,098	74	0.0000	1.0000	100.00
4.5	6,773,344	7	0.0000	1.0000	100.00
5.5	6,323,659	223	0.0000	1.0000	100.00
6.5	6,074,622	4,494	0.0007	0.9993	99.99
7.5	5,754,097	1,688	0.0003	0.9997	99.92
8.5	5,458,203	4,436	0.0008	0.9992	99.89
9.5	5,070,304	4,374	0.0009	0.9991	99.81
10.5	4,732,144	3,018	0.0006	0.9994	99.72
11.5	4,051,626	6,490	0.0016	0.9984	99.66
12.5	3,659,315	7,522	0.0021	0.9979	99.50
13.5	3,539,120	6,216	0.0018	0.9982	99.29
14.5	3,515,144	10,199	0.0029	0.9971	99.12
15.5	3,467,013	12,650	0.0036	0.9964	98.83
16.5	3,348,356	28,325	0.0085	0.9915	98.47
17.5	3,194,196	14,970	0.0047	0.9953	97.64
18.5	3,055,646	15,408	0.0050	0.9950	97.18
19.5	2,822,223	18,253	0.0065	0.9935	96.69
20.5	2,670,830	30,091	0.0113	0.9887	96.07
21.5	2,474,431	29,507	0.0119	0.9881	94.98
22.5	2,308,824	38,552	0.0167	0.9833	93.85
23.5	2,127,707	72,612	0.0341	0.9659	92.28
24.5	1,947,074	59,538	0.0306	0.9694	89.13
25.5	1,772,341	36,969	0.0209	0.9791	86.41
26.5	1,622,473	27,801	0.0171	0.9829	84.61
27.5	1,486,699	18,642	0.0125	0.9875	83.16
28.5	1,335,235	17,084	0.0128	0.9872	82.11
29.5	1,189,721	15,854	0.0133	0.9867	81.06
30.5	1,027,053	8,523	0.0083	0.9917	79.98
31.5	915,603	11,773	0.0129	0.9871	79.32
32.5	809,509	9,214	0.0114	0.9886	78.30
33.5	682,447	5,709	0.0084	0.9916	77.41
34.5	568,041	3,750	0.0066	0.9934	76.76
35.5	512,704	3,163	0.0062	0.9938	76.25
36.5	454,283	2,583	0.0057	0.9943	75.78
37.5	404,437	6,412	0.0159	0.9841	75.35
38.5	361,015	3,142	0.0087	0.9913	74.16

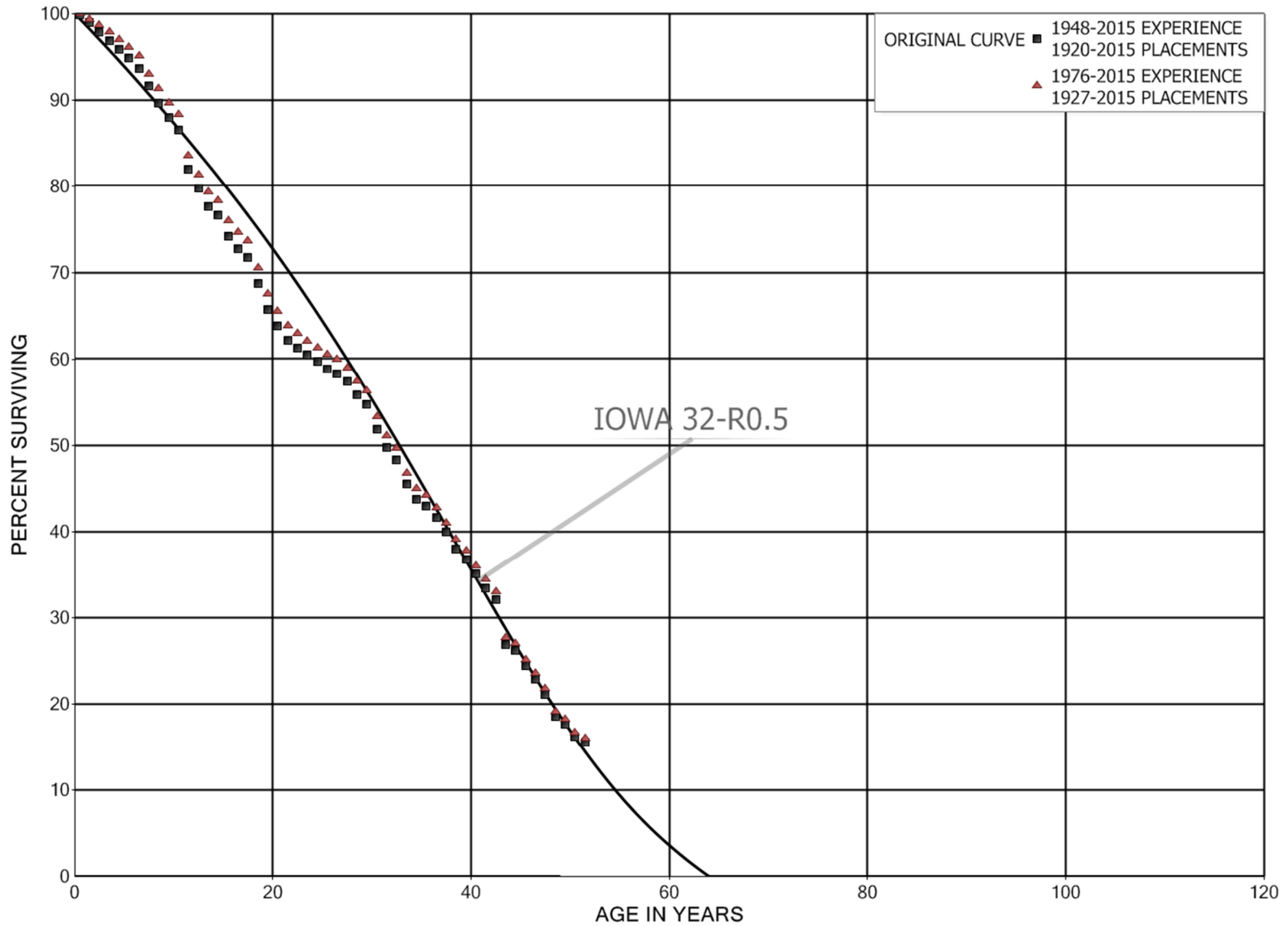
COLUMBIA GAS OF KENTUCKY, INC.

ACCOUNTS 383 AND 384 HOUSE REGULATORS AND HOUSE REGULATOR INSTALLATIONS

ORIGINAL LIFE TABLE, CONT.

PLACEMENT BAND 1934-2015			EXPERIENCE BAND 1976-2015			
AGE AT BEGIN OF INTERVAL	EXPOSURES AT BEGINNING OF AGE INTERVAL	RETIREMENTS DURING AGE INTERVAL	RETMT RATIO	SURV RATIO	PCT SURV BEGIN OF INTERVAL	
39.5	329,718	3,808	0.0115	0.9885	73.51	
40.5	322,108	3,720	0.0115	0.9885	72.66	
41.5	314,037	4,755	0.0151	0.9849	71.82	
42.5	284,796	3,189	0.0112	0.9888	70.74	
43.5	219,110	5,254	0.0240	0.9760	69.94	
44.5	164,101	1,237	0.0075	0.9925	68.27	
45.5	108,858	1,396	0.0128	0.9872	67.75	
46.5	56,085	1,482	0.0264	0.9736	66.88	
47.5	14,306	313	0.0219	0.9781	65.12	
48.5	4,944	19	0.0038	0.9962	63.69	
49.5	3,664	10	0.0027	0.9973	63.45	
50.5	3,311		0.0000	1.0000	63.27	
51.5	3,138	22	0.0070	0.9930	63.27	
52.5	834		0.0000	1.0000	62.83	
53.5	546		0.0000	1.0000	62.83	
54.5	417		0.0000	1.0000	62.83	
55.5	351		0.0000	1.0000	62.83	
56.5	351		0.0000	1.0000	62.83	
57.5	351		0.0000	1.0000	62.83	
58.5	351		0.0000	1.0000	62.83	
59.5	351		0.0000	1.0000	62.83	
60.5	235		0.0000	1.0000	62.83	
61.5	235		0.0000	1.0000	62.83	
62.5	235		0.0000	1.0000	62.83	
63.5	235		0.0000	1.0000	62.83	
64.5	235		0.0000	1.0000	62.83	
65.5					62.83	

COLUMBIA GAS OF KENTUCKY, INC.
ACCOUNT 385 INDUSTRIAL MEASURING AND REGULATING STATION EQUIPMENT
ORIGINAL AND SMOOTH SURVIVOR CURVES



COLUMBIA GAS OF KENTUCKY, INC.

ACCOUNT 385 INDUSTRIAL MEASURING AND REGULATING STATION EQUIPMENT

ORIGINAL LIFE TABLE

PLACEMENT BAND 1920-2015			EXPERIENCE BAND 1948-2015			
AGE AT BEGIN OF INTERVAL	EXPOSURES AT BEGINNING OF AGE INTERVAL	RETIREMENTS DURING AGE INTERVAL	RETMT RATIO	SURV RATIO	PCT SURV BEGIN OF INTERVAL	
0.0	4,474,596	6,634	0.0015	0.9985	100.00	
0.5	4,377,766	39,808	0.0091	0.9909	99.85	
1.5	4,266,317	47,708	0.0112	0.9888	98.94	
2.5	4,156,136	41,092	0.0099	0.9901	97.84	
3.5	3,982,397	41,466	0.0104	0.9896	96.87	
4.5	3,744,978	42,166	0.0113	0.9887	95.86	
5.5	3,678,913	44,678	0.0121	0.9879	94.78	
6.5	3,567,598	78,779	0.0221	0.9779	93.63	
7.5	3,439,127	72,523	0.0211	0.9789	91.56	
8.5	3,322,336	61,950	0.0186	0.9814	89.63	
9.5	3,257,638	52,166	0.0160	0.9840	87.96	
10.5	2,543,685	135,430	0.0532	0.9468	86.55	
11.5	2,274,178	61,663	0.0271	0.9729	81.94	
12.5	2,160,608	56,523	0.0262	0.9738	79.72	
13.5	1,998,399	26,075	0.0130	0.9870	77.64	
14.5	1,929,011	60,363	0.0313	0.9687	76.62	
15.5	1,803,663	37,392	0.0207	0.9793	74.23	
16.5	1,737,609	23,849	0.0137	0.9863	72.69	
17.5	1,698,921	71,329	0.0420	0.9580	71.69	
18.5	1,531,585	65,621	0.0428	0.9572	68.68	
19.5	1,339,048	38,912	0.0291	0.9709	65.74	
20.5	1,249,253	32,531	0.0260	0.9740	63.83	
21.5	1,161,765	16,477	0.0142	0.9858	62.16	
22.5	1,110,430	13,874	0.0125	0.9875	61.28	
23.5	1,059,301	14,239	0.0134	0.9866	60.52	
24.5	1,018,877	14,316	0.0141	0.9859	59.70	
25.5	975,712	9,286	0.0095	0.9905	58.87	
26.5	924,975	14,630	0.0158	0.9842	58.30	
27.5	907,813	24,693	0.0272	0.9728	57.38	
28.5	662,340	12,530	0.0189	0.9811	55.82	
29.5	618,498	32,975	0.0533	0.9467	54.77	
30.5	565,329	22,966	0.0406	0.9594	51.85	
31.5	491,997	14,024	0.0285	0.9715	49.74	
32.5	452,996	26,878	0.0593	0.9407	48.32	
33.5	411,467	15,991	0.0389	0.9611	45.46	
34.5	356,833	5,986	0.0168	0.9832	43.69	
35.5	338,936	10,831	0.0320	0.9680	42.96	
36.5	328,114	13,359	0.0407	0.9593	41.58	
37.5	312,713	15,215	0.0487	0.9513	39.89	
38.5	290,612	9,519	0.0328	0.9672	37.95	

COLUMBIA GAS OF KENTUCKY, INC.

ACCOUNT 385 INDUSTRIAL MEASURING AND REGULATING STATION EQUIPMENT

ORIGINAL LIFE TABLE, CONT.

PLACEMENT BAND 1920-2015			EXPERIENCE BAND 1948-2015			
AGE AT BEGIN OF INTERVAL	EXPOSURES AT BEGINNING OF AGE INTERVAL	RETIREMENTS DURING AGE INTERVAL	RETMT RATIO	SURV RATIO	PCT SURV BEGIN OF INTERVAL	
39.5	279,813	12,912	0.0461	0.9539	36.71	
40.5	261,182	11,833	0.0453	0.9547	35.01	
41.5	241,293	9,900	0.0410	0.9590	33.43	
42.5	214,021	34,579	0.1616	0.8384	32.05	
43.5	173,344	4,606	0.0266	0.9734	26.88	
44.5	115,623	7,721	0.0668	0.9332	26.16	
45.5	85,113	5,460	0.0641	0.9359	24.41	
46.5	69,373	5,285	0.0762	0.9238	22.85	
47.5	55,405	6,861	0.1238	0.8762	21.11	
48.5	41,137	1,837	0.0447	0.9553	18.49	
49.5	33,919	2,841	0.0837	0.9163	17.67	
50.5	24,530	1,086	0.0443	0.9557	16.19	
51.5	17,636	673	0.0382	0.9618	15.47	
52.5	15,843	199	0.0126	0.9874	14.88	
53.5	11,579	1,210	0.1045	0.8955	14.69	
54.5	9,091	1,189	0.1308	0.8692	13.16	
55.5	7,341	609	0.0830	0.9170	11.44	
56.5	2,973	177	0.0596	0.9404	10.49	
57.5	2,743	204	0.0743	0.9257	9.86	
58.5	886		0.0000	1.0000	9.13	
59.5	874		0.0000	1.0000	9.13	
60.5	721	128	0.1776	0.8224	9.13	
61.5	593		0.0000	1.0000	7.51	
62.5	593	198	0.3341	0.6659	7.51	
63.5	279		0.0000	1.0000	5.00	
64.5	238		0.0000	1.0000	5.00	
65.5	98		0.0000	1.0000	5.00	
66.5					5.00	

COLUMBIA GAS OF KENTUCKY, INC.

ACCOUNT 385 INDUSTRIAL MEASURING AND REGULATING STATION EQUIPMENT

ORIGINAL LIFE TABLE

PLACEMENT BAND 1927-2015			EXPERIENCE BAND 1976-2015			
AGE AT BEGIN OF INTERVAL	EXPOSURES AT BEGINNING OF AGE INTERVAL	RETIREMENTS DURING AGE INTERVAL	RETMT RATIO	SURV RATIO	PCT SURV BEGIN OF INTERVAL	
0.0	3,864,719	1,465	0.0004	0.9996	100.00	
0.5	3,724,581	25,508	0.0068	0.9932	99.96	
1.5	3,623,902	25,621	0.0071	0.9929	99.28	
2.5	3,566,618	27,327	0.0077	0.9923	98.58	
3.5	3,415,361	30,994	0.0091	0.9909	97.82	
4.5	3,289,627	27,865	0.0085	0.9915	96.93	
5.5	3,313,200	37,887	0.0114	0.9886	96.11	
6.5	3,252,451	69,479	0.0214	0.9786	95.01	
7.5	3,170,673	58,909	0.0186	0.9814	92.98	
8.5	3,085,027	56,792	0.0184	0.9816	91.26	
9.5	3,065,142	43,261	0.0141	0.9859	89.58	
10.5	2,384,471	130,212	0.0546	0.9454	88.31	
11.5	2,151,147	56,000	0.0260	0.9740	83.49	
12.5	2,057,217	52,160	0.0254	0.9746	81.32	
13.5	1,908,048	24,090	0.0126	0.9874	79.25	
14.5	1,854,901	53,696	0.0289	0.9711	78.25	
15.5	1,744,301	31,810	0.0182	0.9818	75.99	
16.5	1,695,673	23,119	0.0136	0.9864	74.60	
17.5	1,679,567	70,737	0.0421	0.9579	73.58	
18.5	1,517,039	64,855	0.0428	0.9572	70.49	
19.5	1,331,241	38,646	0.0290	0.9710	67.47	
20.5	1,243,047	32,531	0.0262	0.9738	65.51	
21.5	1,157,075	16,477	0.0142	0.9858	63.80	
22.5	1,105,867	13,754	0.0124	0.9876	62.89	
23.5	1,055,014	13,977	0.0132	0.9868	62.11	
24.5	1,016,119	13,363	0.0132	0.9868	61.29	
25.5	975,019	9,046	0.0093	0.9907	60.48	
26.5	924,849	14,551	0.0157	0.9843	59.92	
27.5	907,608	24,693	0.0272	0.9728	58.98	
28.5	662,261	12,530	0.0189	0.9811	57.37	
29.5	618,097	32,975	0.0533	0.9467	56.29	
30.5	564,976	22,966	0.0406	0.9594	53.28	
31.5	491,935	14,024	0.0285	0.9715	51.12	
32.5	452,902	26,878	0.0593	0.9407	49.66	
33.5	411,342	15,982	0.0389	0.9611	46.71	
34.5	356,708	5,977	0.0168	0.9832	44.90	
35.5	338,811	10,791	0.0319	0.9681	44.15	
36.5	328,020	13,319	0.0406	0.9594	42.74	
37.5	312,650	15,175	0.0485	0.9515	41.00	
38.5	290,580	9,488	0.0327	0.9673	39.01	

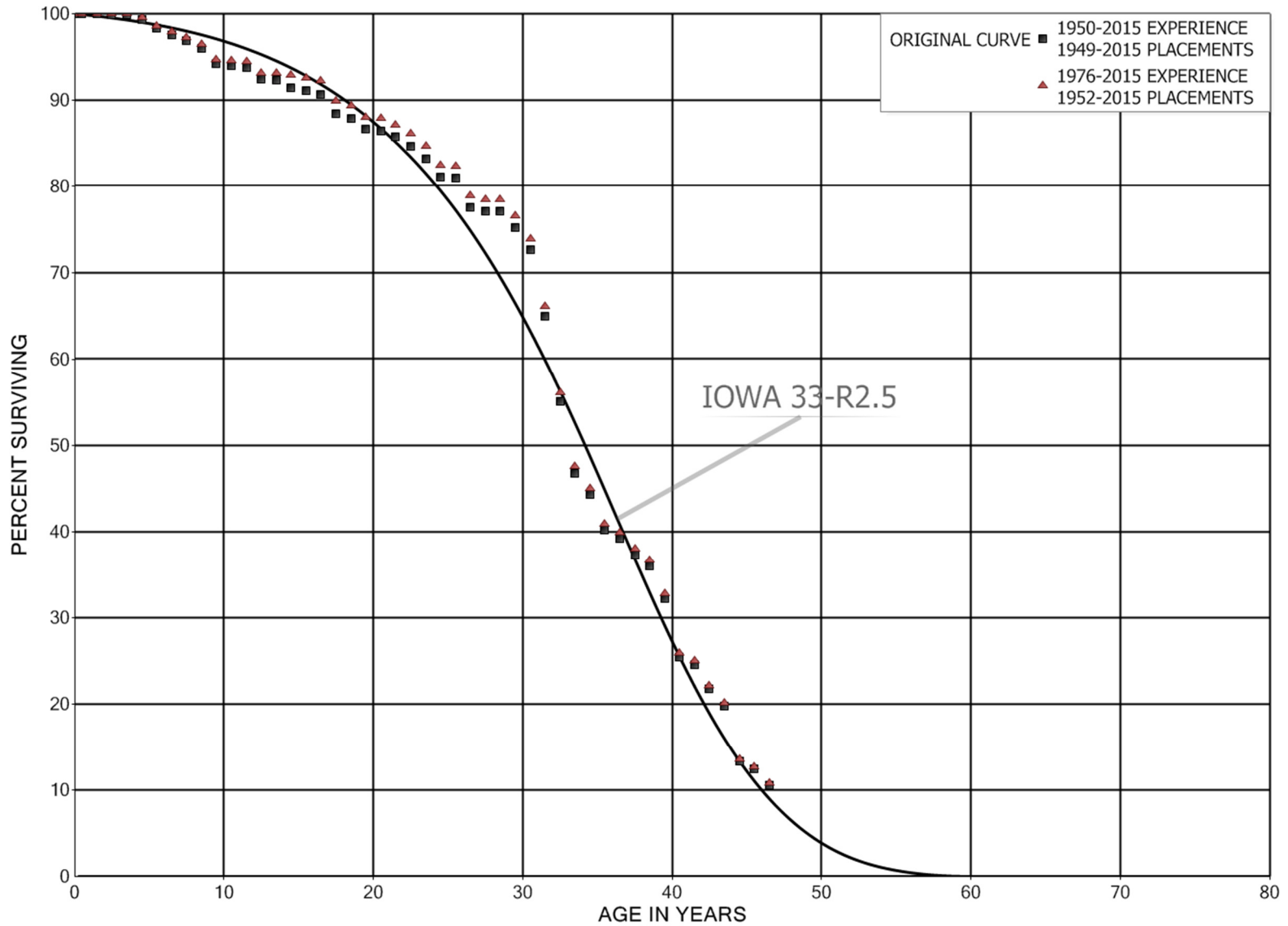
COLUMBIA GAS OF KENTUCKY, INC.

ACCOUNT 385 INDUSTRIAL MEASURING AND REGULATING STATION EQUIPMENT

ORIGINAL LIFE TABLE, CONT.

PLACEMENT BAND 1927-2015			EXPERIENCE BAND 1976-2015			
AGE AT BEGIN OF INTERVAL	EXPOSURES AT BEGINNING OF AGE INTERVAL	RETIREMENTS DURING AGE INTERVAL	RETMT RATIO	SURV RATIO	PCT SURV BEGIN OF INTERVAL	
39.5	279,760	12,912	0.0462	0.9538	37.74	
40.5	261,129	11,833	0.0453	0.9547	36.00	
41.5	241,240	9,900	0.0410	0.9590	34.37	
42.5	214,018	34,579	0.1616	0.8384	32.96	
43.5	173,341	4,606	0.0266	0.9734	27.63	
44.5	115,619	7,721	0.0668	0.9332	26.90	
45.5	85,110	5,460	0.0642	0.9358	25.10	
46.5	69,370	5,285	0.0762	0.9238	23.49	
47.5	55,402	6,861	0.1238	0.8762	21.70	
48.5	41,137	1,837	0.0447	0.9553	19.01	
49.5	33,919	2,841	0.0837	0.9163	18.16	
50.5	24,530	1,086	0.0443	0.9557	16.64	
51.5	17,636	673	0.0382	0.9618	15.91	
52.5	15,843	199	0.0126	0.9874	15.30	
53.5	11,579	1,210	0.1045	0.8955	15.11	
54.5	9,091	1,189	0.1308	0.8692	13.53	
55.5	7,341	609	0.0830	0.9170	11.76	
56.5	2,973	177	0.0596	0.9404	10.78	
57.5	2,743	204	0.0743	0.9257	10.14	
58.5	886		0.0000	1.0000	9.39	
59.5	874		0.0000	1.0000	9.39	
60.5	721	128	0.1776	0.8224	9.39	
61.5	593		0.0000	1.0000	7.72	
62.5	593	198	0.3341	0.6659	7.72	
63.5	279		0.0000	1.0000	5.14	
64.5	238		0.0000	1.0000	5.14	
65.5	98		0.0000	1.0000	5.14	
66.5					5.14	

COLUMBIA GAS OF KENTUCKY, INC.
ACCOUNT 387.4 OTHER EQUIPMENT – CUSTOMER INFORMATION SERVICES
ORIGINAL AND SMOOTH SURVIVOR CURVES



COLUMBIA GAS OF KENTUCKY, INC.

ACCOUNT 387.4 OTHER EQUIPMENT - CUSTOMER INFORMATION SERVICES

ORIGINAL LIFE TABLE

PLACEMENT BAND 1949-2015			EXPERIENCE BAND 1950-2015			
AGE AT BEGIN OF INTERVAL	EXPOSURES AT BEGINNING OF AGE INTERVAL	RETIREMENTS DURING AGE INTERVAL	RETMT RATIO	SURV RATIO	PCT SURV BEGIN OF INTERVAL	
0.0	5,036,247	1,651	0.0003	0.9997	100.00	
0.5	4,537,536	651	0.0001	0.9999	99.97	
1.5	4,321,401	3,282	0.0008	0.9992	99.95	
2.5	3,922,121	2,517	0.0006	0.9994	99.88	
3.5	3,749,916	19,460	0.0052	0.9948	99.81	
4.5	3,574,714	35,162	0.0098	0.9902	99.29	
5.5	3,526,895	30,795	0.0087	0.9913	98.32	
6.5	3,457,929	22,172	0.0064	0.9936	97.46	
7.5	3,409,719	30,753	0.0090	0.9910	96.83	
8.5	3,348,561	63,692	0.0190	0.9810	95.96	
9.5	3,292,418	8,022	0.0024	0.9976	94.14	
10.5	3,252,626	5,071	0.0016	0.9984	93.91	
11.5	2,958,514	43,322	0.0146	0.9854	93.76	
12.5	2,570,622	1,683	0.0007	0.9993	92.39	
13.5	1,964,812	20,840	0.0106	0.9894	92.33	
14.5	1,942,037	6,837	0.0035	0.9965	91.35	
15.5	1,841,686	7,502	0.0041	0.9959	91.03	
16.5	1,533,352	37,817	0.0247	0.9753	90.66	
17.5	1,349,418	8,787	0.0065	0.9935	88.42	
18.5	1,352,656	19,620	0.0145	0.9855	87.84	
19.5	1,234,596	1,910	0.0015	0.9985	86.57	
20.5	1,208,316	10,424	0.0086	0.9914	86.44	
21.5	937,244	11,235	0.0120	0.9880	85.69	
22.5	856,889	14,533	0.0170	0.9830	84.66	
23.5	713,255	18,746	0.0263	0.9737	83.23	
24.5	641,705	667	0.0010	0.9990	81.04	
25.5	554,188	23,281	0.0420	0.9580	80.96	
26.5	431,348	2,506	0.0058	0.9942	77.55	
27.5	350,330		0.0000	1.0000	77.10	
28.5	303,507	7,396	0.0244	0.9756	77.10	
29.5	256,297	8,919	0.0348	0.9652	75.22	
30.5	189,193	19,926	0.1053	0.8947	72.61	
31.5	165,490	25,113	0.1518	0.8482	64.96	
32.5	140,377	21,305	0.1518	0.8482	55.10	
33.5	121,675	6,429	0.0528	0.9472	46.74	
34.5	115,246	10,547	0.0915	0.9085	44.27	
35.5	106,276	2,777	0.0261	0.9739	40.22	
36.5	103,499	4,877	0.0471	0.9529	39.17	
37.5	101,001	3,593	0.0356	0.9644	37.32	
38.5	97,590	10,221	0.1047	0.8953	35.99	

COLUMBIA GAS OF KENTUCKY, INC.

ACCOUNT 387.4 OTHER EQUIPMENT - CUSTOMER INFORMATION SERVICES

ORIGINAL LIFE TABLE, CONT.

PLACEMENT BAND 1949-2015			EXPERIENCE BAND 1950-2015			
AGE AT BEGIN OF INTERVAL	EXPOSURES AT BEGINNING OF AGE INTERVAL	RETIREMENTS DURING AGE INTERVAL	RETMT RATIO	SURV RATIO	PCT SURV BEGIN OF INTERVAL	
39.5	89,916	18,955	0.2108	0.7892	32.22	
40.5	70,960	2,479	0.0349	0.9651	25.43	
41.5	68,481	7,881	0.1151	0.8849	24.54	
42.5	60,601	5,668	0.0935	0.9065	21.72	
43.5	54,933	17,844	0.3248	0.6752	19.69	
44.5	37,088	2,529	0.0682	0.9318	13.29	
45.5	34,559	5,185	0.1500	0.8500	12.39	
46.5	29,374		0.0000	1.0000	10.53	
47.5	29,374	3,942	0.1342	0.8658	10.53	
48.5	25,432		0.0000	1.0000	9.11	
49.5	25,432	789	0.0310	0.9690	9.11	
50.5	24,644	5,834	0.2368	0.7632	8.83	
51.5	18,809	6,858	0.3646	0.6354	6.74	
52.5	11,951	2,366	0.1980	0.8020	4.28	
53.5	9,585	69	0.0072	0.9928	3.44	
54.5	9,516	2,603	0.2735	0.7265	3.41	
55.5	6,913		0.0000	1.0000	2.48	
56.5	6,913	1,577	0.2281	0.7719	2.48	
57.5	5,337	229	0.0429	0.9571	1.91	
58.5	5,107	2,379	0.4659	0.5341	1.83	
59.5	2,728	181	0.0663	0.9337	0.98	
60.5	2,547	2,547	1.0000		0.91	
61.5						

COLUMBIA GAS OF KENTUCKY, INC.

ACCOUNT 387.4 OTHER EQUIPMENT - CUSTOMER INFORMATION SERVICES

ORIGINAL LIFE TABLE

PLACEMENT BAND 1952-2015			EXPERIENCE BAND 1976-2015		
AGE AT BEGIN OF INTERVAL	EXPOSURES AT BEGINNING OF AGE INTERVAL	RETIREMENTS DURING AGE INTERVAL	RETMT RATIO	SURV RATIO	PCT SURV BEGIN OF INTERVAL
0.0	4,777,240		0.0000	1.0000	100.00
0.5	4,277,449	478	0.0001	0.9999	100.00
1.5	4,072,534	267	0.0001	0.9999	99.99
2.5	3,704,803	1,020	0.0003	0.9997	99.98
3.5	3,537,356	17,426	0.0049	0.9951	99.95
4.5	3,368,043	31,012	0.0092	0.9908	99.46
5.5	3,338,495	24,397	0.0073	0.9927	98.55
6.5	3,311,626	20,274	0.0061	0.9939	97.83
7.5	3,314,719	28,056	0.0085	0.9915	97.23
8.5	3,268,297	60,997	0.0187	0.9813	96.40
9.5	3,214,966	3,033	0.0009	0.9991	94.61
10.5	3,185,749	3,075	0.0010	0.9990	94.52
11.5	2,893,633	41,627	0.0144	0.9856	94.42
12.5	2,511,450	46	0.0000	1.0000	93.07
13.5	1,930,840	5,325	0.0028	0.9972	93.06
14.5	1,931,083	6,074	0.0031	0.9969	92.81
15.5	1,839,383	7,272	0.0040	0.9960	92.52
16.5	1,533,123	37,817	0.0247	0.9753	92.15
17.5	1,349,189	8,787	0.0065	0.9935	89.88
18.5	1,352,427	19,620	0.0145	0.9855	89.29
19.5	1,234,367	1,910	0.0015	0.9985	88.00
20.5	1,208,316	10,424	0.0086	0.9914	87.86
21.5	937,244	11,235	0.0120	0.9880	87.10
22.5	856,889	14,533	0.0170	0.9830	86.06
23.5	713,255	18,746	0.0263	0.9737	84.60
24.5	641,705	667	0.0010	0.9990	82.38
25.5	554,188	23,281	0.0420	0.9580	82.29
26.5	431,348	2,506	0.0058	0.9942	78.83
27.5	350,330		0.0000	1.0000	78.37
28.5	303,507	7,396	0.0244	0.9756	78.37
29.5	256,297	8,919	0.0348	0.9652	76.46
30.5	189,193	19,926	0.1053	0.8947	73.80
31.5	165,490	25,113	0.1518	0.8482	66.03
32.5	140,377	21,305	0.1518	0.8482	56.01
33.5	121,675	6,429	0.0528	0.9472	47.51
34.5	115,246	10,547	0.0915	0.9085	45.00
35.5	106,276	2,777	0.0261	0.9739	40.88
36.5	103,499	4,877	0.0471	0.9529	39.81
37.5	101,001	3,593	0.0356	0.9644	37.94
38.5	97,590	10,221	0.1047	0.8953	36.59

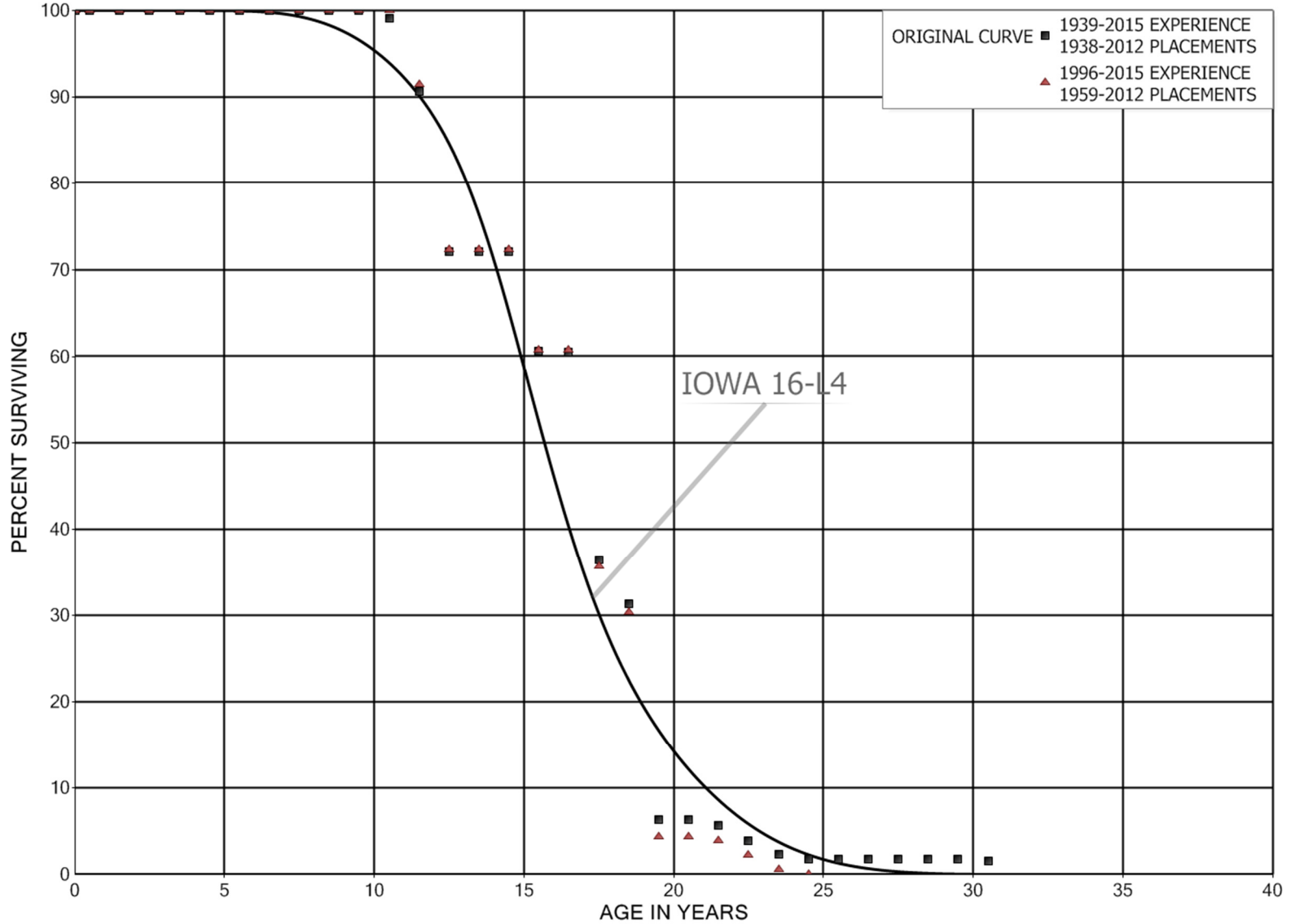
COLUMBIA GAS OF KENTUCKY, INC.

ACCOUNT 387.4 OTHER EQUIPMENT - CUSTOMER INFORMATION SERVICES

ORIGINAL LIFE TABLE, CONT.

PLACEMENT BAND 1952-2015			EXPERIENCE BAND 1976-2015			
AGE AT BEGIN OF INTERVAL	EXPOSURES AT BEGINNING OF AGE INTERVAL	RETIREMENTS DURING AGE INTERVAL	RETMT RATIO	SURV RATIO	PCT SURV BEGIN OF INTERVAL	
39.5	89,916	18,955	0.2108	0.7892	32.76	
40.5	70,960	2,479	0.0349	0.9651	25.85	
41.5	68,481	7,881	0.1151	0.8849	24.95	
42.5	60,601	5,668	0.0935	0.9065	22.08	
43.5	54,933	17,844	0.3248	0.6752	20.01	
44.5	37,088	2,529	0.0682	0.9318	13.51	
45.5	34,559	5,185	0.1500	0.8500	12.59	
46.5	29,374		0.0000	1.0000	10.70	
47.5	29,374	3,942	0.1342	0.8658	10.70	
48.5	25,432		0.0000	1.0000	9.26	
49.5	25,432	789	0.0310	0.9690	9.26	
50.5	24,644	5,834	0.2368	0.7632	8.98	
51.5	18,809	6,858	0.3646	0.6354	6.85	
52.5	11,951	2,366	0.1980	0.8020	4.35	
53.5	9,585	69	0.0072	0.9928	3.49	
54.5	9,516	2,603	0.2735	0.7265	3.47	
55.5	6,913		0.0000	1.0000	2.52	
56.5	6,913	1,577	0.2281	0.7719	2.52	
57.5	5,337	229	0.0429	0.9571	1.94	
58.5	5,107	2,379	0.4659	0.5341	1.86	
59.5	2,728	181	0.0663	0.9337	0.99	
60.5	2,547	2,547	1.0000		0.93	
61.5						

COLUMBIA GAS OF KENTUCKY, INC.
ACCOUNT 392.2 TRANSPORTATION EQUIPMENT - TRAILERS
ORIGINAL AND SMOOTH SURVIVOR CURVES



COLUMBIA GAS OF KENTUCKY, INC.

ACCOUNT 392.2 TRANSPORTATION EQUIPMENT - TRAILERS

ORIGINAL LIFE TABLE

PLACEMENT BAND 1938-2012			EXPERIENCE BAND 1939-2015		
AGE AT BEGIN OF INTERVAL	EXPOSURES AT BEGINNING OF AGE INTERVAL	RETIREMENTS DURING AGE INTERVAL	RETMT RATIO	SURV RATIO	PCT SURV BEGIN OF INTERVAL
0.0	191,083		0.0000	1.0000	100.00
0.5	191,233		0.0000	1.0000	100.00
1.5	189,470		0.0000	1.0000	100.00
2.5	200,566		0.0000	1.0000	100.00
3.5	155,327		0.0000	1.0000	100.00
4.5	131,618		0.0000	1.0000	100.00
5.5	131,618		0.0000	1.0000	100.00
6.5	139,449		0.0000	1.0000	100.00
7.5	139,449		0.0000	1.0000	100.00
8.5	135,182		0.0000	1.0000	100.00
9.5	135,182	1,246	0.0092	0.9908	100.00
10.5	133,936	11,392	0.0851	0.9149	99.08
11.5	77,185	15,840	0.2052	0.7948	90.65
12.5	61,345		0.0000	1.0000	72.05
13.5	61,345		0.0000	1.0000	72.05
14.5	61,345	9,702	0.1582	0.8418	72.05
15.5	51,849	100	0.0019	0.9981	60.65
16.5	51,961	20,764	0.3996	0.6004	60.54
17.5	29,703	4,168	0.1403	0.8597	36.35
18.5	25,535	20,440	0.8005	0.1995	31.25
19.5	5,095		0.0000	1.0000	6.23
20.5	5,095	475	0.0932	0.9068	6.23
21.5	4,620	1,450	0.3138	0.6862	5.65
22.5	3,508	1,450	0.4134	0.5866	3.88
23.5	2,058	499	0.2424	0.7576	2.28
24.5	1,346		0.0000	1.0000	1.72
25.5	1,346		0.0000	1.0000	1.72
26.5	1,346		0.0000	1.0000	1.72
27.5	1,346		0.0000	1.0000	1.72
28.5	1,346		0.0000	1.0000	1.72
29.5	1,346	206	0.1527	0.8473	1.72
30.5	1,141	387	0.3396	0.6604	1.46
31.5	753		0.0000	1.0000	0.96
32.5	753		0.0000	1.0000	0.96
33.5	753		0.0000	1.0000	0.96
34.5	753		0.0000	1.0000	0.96
35.5	753		0.0000	1.0000	0.96
36.5	753		0.0000	1.0000	0.96
37.5	753	753	1.0000		0.96
38.5					

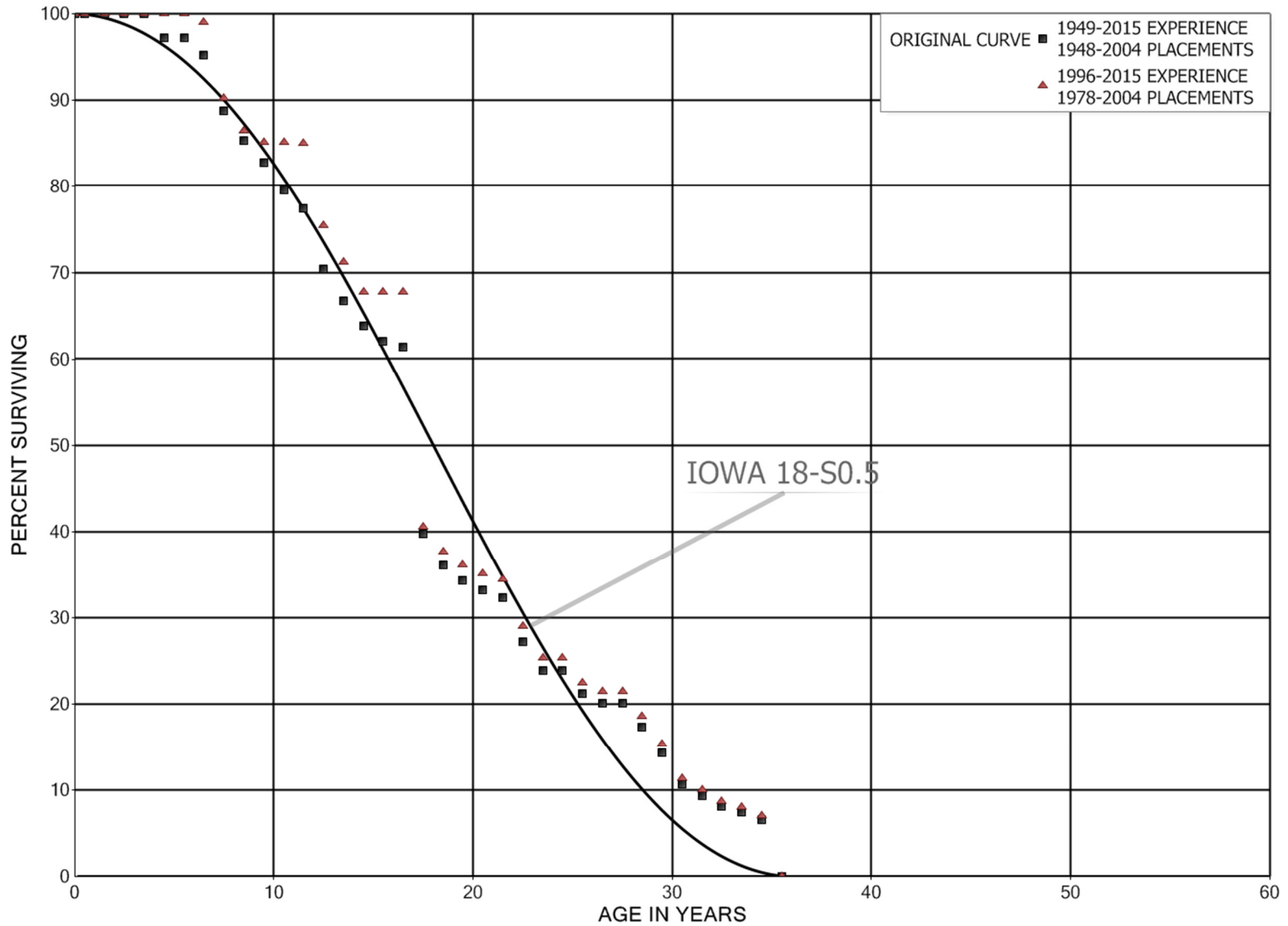
COLUMBIA GAS OF KENTUCKY, INC.

ACCOUNT 392.2 TRANSPORTATION EQUIPMENT - TRAILERS

ORIGINAL LIFE TABLE

PLACEMENT BAND 1959-2012			EXPERIENCE BAND 1996-2015		
AGE AT BEGIN OF INTERVAL	EXPOSURES AT BEGINNING OF AGE INTERVAL	RETIREMENTS DURING AGE INTERVAL	RETMT RATIO	SURV RATIO	PCT SURV BEGIN OF INTERVAL
0.0	155,350		0.0000	1.0000	100.00
0.5	163,686		0.0000	1.0000	100.00
1.5	172,127		0.0000	1.0000	100.00
2.5	183,223		0.0000	1.0000	100.00
3.5	145,690		0.0000	1.0000	100.00
4.5	122,678		0.0000	1.0000	100.00
5.5	124,128		0.0000	1.0000	100.00
6.5	132,458		0.0000	1.0000	100.00
7.5	132,458		0.0000	1.0000	100.00
8.5	132,458		0.0000	1.0000	100.00
9.5	132,458		0.0000	1.0000	100.00
10.5	132,458	11,392	0.0860	0.9140	100.00
11.5	75,707	15,840	0.2092	0.7908	91.40
12.5	59,867		0.0000	1.0000	72.28
13.5	59,867		0.0000	1.0000	72.28
14.5	59,867	9,602	0.1604	0.8396	72.28
15.5	50,265		0.0000	1.0000	60.68
16.5	50,265	20,764	0.4131	0.5869	60.68
17.5	28,007	4,168	0.1488	0.8512	35.62
18.5	23,839	20,440	0.8574	0.1426	30.32
19.5	3,874		0.0000	1.0000	4.32
20.5	3,874	475	0.1226	0.8774	4.32
21.5	3,399	1,450	0.4266	0.5734	3.79
22.5	1,949	1,450	0.7441	0.2559	2.17
23.5	499	499	1.0000		0.56
24.5					
25.5					
26.5					
27.5					
28.5					
29.5	387		0.0000		
30.5	387	387	1.0000		
31.5					
32.5					
33.5					
34.5					
35.5					
36.5	753		0.0000		
37.5	753	753	1.0000		
38.5					

COLUMBIA GAS OF KENTUCKY, INC.
ACCOUNT 396 POWER OPERATED EQUIPMENT
ORIGINAL AND SMOOTH SURVIVOR CURVES



COLUMBIA GAS OF KENTUCKY, INC.

ACCOUNT 396 POWER OPERATED EQUIPMENT

ORIGINAL LIFE TABLE

PLACEMENT BAND 1948-2004			EXPERIENCE BAND 1949-2015		
AGE AT BEGIN OF INTERVAL	EXPOSURES AT BEGINNING OF AGE INTERVAL	RETIREMENTS DURING AGE INTERVAL	RETMT RATIO	SURV RATIO	PCT SURV BEGIN OF INTERVAL
0.0	819,375		0.0000	1.0000	100.00
0.5	844,946		0.0000	1.0000	100.00
1.5	853,647		0.0000	1.0000	100.00
2.5	853,647		0.0000	1.0000	100.00
3.5	878,247	25,062	0.0285	0.9715	100.00
4.5	950,506		0.0000	1.0000	97.15
5.5	962,286	19,298	0.0201	0.9799	97.15
6.5	960,676	65,338	0.0680	0.9320	95.20
7.5	922,649	35,779	0.0388	0.9612	88.72
8.5	895,347	27,327	0.0305	0.9695	85.28
9.5	901,356	34,709	0.0385	0.9615	82.68
10.5	923,431	24,996	0.0271	0.9729	79.50
11.5	812,039	72,957	0.0898	0.9102	77.34
12.5	739,155	38,178	0.0517	0.9483	70.40
13.5	625,111	27,007	0.0432	0.9568	66.76
14.5	598,104	17,408	0.0291	0.9709	63.88
15.5	582,318	6,265	0.0108	0.9892	62.02
16.5	576,054	203,274	0.3529	0.6471	61.35
17.5	372,780	34,127	0.0915	0.9085	39.70
18.5	338,653	16,540	0.0488	0.9512	36.07
19.5	322,113	10,730	0.0333	0.9667	34.30
20.5	311,383	8,485	0.0272	0.9728	33.16
21.5	245,235	38,669	0.1577	0.8423	32.26
22.5	206,567	25,293	0.1224	0.8776	27.17
23.5	181,274	128	0.0007	0.9993	23.84
24.5	174,571	19,353	0.1109	0.8891	23.83
25.5	153,464	8,472	0.0552	0.9448	21.19
26.5	140,501		0.0000	1.0000	20.02
27.5	140,501	19,256	0.1370	0.8630	20.02
28.5	121,245	21,133	0.1743	0.8257	17.27
29.5	100,112	25,842	0.2581	0.7419	14.26
30.5	70,290	8,346	0.1187	0.8813	10.58
31.5	61,944	8,278	0.1336	0.8664	9.32
32.5	53,666	4,259	0.0794	0.9206	8.08
33.5	49,407	6,225	0.1260	0.8740	7.44
34.5	43,182	43,182	1.0000		6.50
35.5					

COLUMBIA GAS OF KENTUCKY, INC.

ACCOUNT 396 POWER OPERATED EQUIPMENT

ORIGINAL LIFE TABLE

PLACEMENT BAND 1978-2004			EXPERIENCE BAND 1996-2015		
AGE AT BEGIN OF INTERVAL	EXPOSURES AT BEGINNING OF AGE INTERVAL	RETIREMENTS DURING AGE INTERVAL	RETMT RATIO	SURV RATIO	PCT SURV BEGIN OF INTERVAL
0.0	402,174		0.0000	1.0000	100.00
0.5	405,370		0.0000	1.0000	100.00
1.5	490,987		0.0000	1.0000	100.00
2.5	511,751		0.0000	1.0000	100.00
3.5	500,359		0.0000	1.0000	100.00
4.5	516,135		0.0000	1.0000	100.00
5.5	571,623	6,271	0.0110	0.9890	100.00
6.5	616,600	54,083	0.0877	0.9123	98.90
7.5	606,027	25,408	0.0419	0.9581	90.23
8.5	580,619	9,065	0.0156	0.9844	86.45
9.5	571,554		0.0000	1.0000	85.10
10.5	599,100	1,191	0.0020	0.9980	85.10
11.5	583,205	65,552	0.1124	0.8876	84.93
12.5	549,875	30,477	0.0554	0.9446	75.38
13.5	475,266	23,167	0.0487	0.9513	71.20
14.5	472,399		0.0000	1.0000	67.73
15.5	478,416		0.0000	1.0000	67.73
16.5	505,328	203,274	0.4023	0.5977	67.73
17.5	352,274	25,080	0.0712	0.9288	40.49
18.5	327,194	13,785	0.0421	0.9579	37.60
19.5	313,409	8,717	0.0278	0.9722	36.02
20.5	304,693	5,172	0.0170	0.9830	35.02
21.5	241,858	38,669	0.1599	0.8401	34.42
22.5	203,190	25,293	0.1245	0.8755	28.92
23.5	177,897	128	0.0007	0.9993	25.32
24.5	171,194	19,353	0.1130	0.8870	25.30
25.5	151,841	6,850	0.0451	0.9549	22.44
26.5	140,501		0.0000	1.0000	21.43
27.5	140,501	19,256	0.1370	0.8630	21.43
28.5	121,245	21,133	0.1743	0.8257	18.49
29.5	100,112	25,842	0.2581	0.7419	15.27
30.5	70,290	8,346	0.1187	0.8813	11.33
31.5	61,944	8,278	0.1336	0.8664	9.98
32.5	53,666	4,259	0.0794	0.9206	8.65
33.5	49,407	6,225	0.1260	0.8740	7.96
34.5	43,182	43,182	1.0000		6.96
35.5					

COLUMBIA GAS OF KENTUCKY, INC.

ACCOUNT 374.4 LAND AND LAND RIGHTS - LAND RIGHTS

SUMMARY OF BOOK SALVAGE

YEAR	REGULAR RETIREMENTS	COST OF REMOVAL		GROSS SALVAGE		NET SALVAGE	
		AMOUNT	PCT	AMOUNT	PCT	AMOUNT	PCT
3.1978	109		0		0		0
1979							
1980							
1981							
1982	295		0		0		0
1983		1				1-	
1984							
1985	376		0		0		0
1986	2,662		0		0		0
1987	518		0		0		0
1988	114		0		0		0
1989	3,071		0		0		0
1990	147		0		0		0
1991		8				8-	
1992							
1993	417	6	1		0	6-	1-
1994	112	8	8		0	8-	8-
1995							
1996				1		1	
1997							
1998							
1999							
2000	174	15	9		0	15-	9-
2001							
2002							
2003	8,195		0		0		0
2004							
2005		919				919-	
2006	107		0		0		0
2007	96-		0		0		0
2008							
2009	13,384	1,706	13		0	1,706-	13-
2010							
2011	1,742		0		0		0
2012	1,887	286	15		0	286-	15-
2013	38		0		0		0
2014	279	14	5		0	14-	5-
2015	83	576	691		0	576-	691-
TOTAL	33,615	3,540	11	1	0	3,539-	11-

COLUMBIA GAS OF KENTUCKY, INC.

ACCOUNT 374.4 LAND AND LAND RIGHTS - LAND RIGHTS

SUMMARY OF BOOK SALVAGE

YEAR	REGULAR RETIREMENTS	COST OF REMOVAL		GROSS SALVAGE		NET SALVAGE	
		AMOUNT	PCT	AMOUNT	PCT	AMOUNT	PCT
THREE-YEAR MOVING AVERAGES							
78-80	36		0		0		0
79-81							
80-82	98		0		0		0
81-83	98		0		0		0
82-84	98		0		0		0
83-85	125		0		0		0
84-86	1,013		0		0		0
85-87	1,185		0		0		0
86-88	1,098		0		0		0
87-89	1,235		0		0		0
88-90	1,111		0		0		0
89-91	1,073	3	0		0	3-	0
90-92	49	3	6		0	3-	6-
91-93	139	5	3		0	5-	3-
92-94	176	5	3		0	5-	3-
93-95	176	5	3		0	5-	3-
94-96	37	3	8		1	2-	7-
95-97							
96-98							
97-99							
98-00	58	5	9		0	5-	9-
99-01	58	5	9		0	5-	9-
00-02	58	5	9		0	5-	9-
01-03	2,732		0		0		0
02-04	2,732		0		0		0
03-05	2,732	306	11		0	306-	11-
04-06	36	306	859		0	306-	859-
05-07	4	306			0	306-	
06-08	4		0		0		0
07-09	4,429	569	13		0	569-	13-
08-10	4,461	569	13		0	569-	13-
09-11	5,042	569	11		0	569-	11-
10-12	1,210	95	8		0	95-	8-
11-13	1,222	95	8		0	95-	8-
12-14	735	100	14		0	100-	14-
13-15	134	197	147		0	197-	147-
FIVE-YEAR AVERAGE							
11-15	806	175	22		0	175-	22-

COLUMBIA GAS OF KENTUCKY, INC.

ACCOUNT 375.34 STRUCTURES AND IMPROVEMENTS - MEASURING AND REGULATING

SUMMARY OF BOOK SALVAGE

YEAR	REGULAR RETIREMENTS	COST OF REMOVAL		GROSS SALVAGE		NET SALVAGE	
		AMOUNT	PCT	AMOUNT	PCT	AMOUNT	PCT
1969	730	119	16		0	119-	16-
1970	59	37	63		0	37-	63-
1971	1,813	495	27		0	495-	27-
1972	811	344	42		0	344-	42-
1973	2,691	343	13	2,448	91	2,105	78
1974							
1975							
1976							
1977	205		0		0		0
1978	374	104	28		0	104-	28-
1979							
1980							
1981	5,768	754	13		0	754-	13-
1982	8,962	988	11	1,661	19	673	8
1983	2,245	522	23		0	522-	23-
1984	6,670	291	4		0	291-	4-
1985	10,023	220	2		0	220-	2-
1986	1,933	695	36		0	695-	36-
1987	10,363	163	2		0	163-	2-
1988	2,963		0		0		0
1989	735	215	29		0	215-	29-
1990	12,306	1,032	8		0	1,032-	8-
1991	1,372	243	18		0	243-	18-
1992	734		0	1	0	1	0
1993	3,701	1,342	36		0	1,342-	36-
1994	5,460	778	14	550	10	228-	4-
1995	939	22,938-			0	22,938	
1996	7,801	3,332	43		0	3,332-	43-
1997	1,627	6,242	384		0	6,242-	384-
1998	8,351	2,536	30		0	2,536-	30-
1999	860	531	62		0	531-	62-
2000	21,343	1,811	8		0	1,811-	8-
2001	2,689	884	33		0	884-	33-
2002	936	68	7		0	68-	7-
2003	1,263	2,703	214		0	2,703-	214-
2004	14,257	3,167	22		0	3,167-	22-
2005	4,765	14,911	313		0	14,911-	313-
2006	1,696	5,142-	303-		0	5,142	303
2007		3,197				3,197-	
2008	1,434	2,534	177		0	2,534-	177-
2009	4,152	6,582	159		0	6,582-	159-
2010		308				308-	

COLUMBIA GAS OF KENTUCKY, INC.

ACCOUNT 375.34 STRUCTURES AND IMPROVEMENTS - MEASURING AND REGULATING

SUMMARY OF BOOK SALVAGE

YEAR	REGULAR RETIREMENTS	COST OF REMOVAL		GROSS SALVAGE		NET SALVAGE	
		AMOUNT	PCT	AMOUNT	PCT	AMOUNT	PCT
2011	13,149		0		0		0
2012	21,758	15,934	73		0	15,934-	73-
2013	5,433	6,061	112		0	6,061-	112-
2014	9,930	1,757	18		0	1,757-	18-
2015	64,461	53,896	84		0	53,896-	84-
TOTAL	266,763	107,061	40	4,660	2	102,401-	38-

THREE-YEAR MOVING AVERAGES

69-71	867	217	25		0	217-	25-
70-72	894	292	33		0	292-	33-
71-73	1,772	394	22	816	46	422	24
72-74	1,167	229	20	816	70	587	50
73-75	897	114	13	816	91	702	78
74-76							
75-77	68		0		0		0
76-78	193	35	18		0	35-	18-
77-79	193	35	18		0	35-	18-
78-80	125	35	28		0	35-	28-
79-81	1,923	251	13		0	251-	13-
80-82	4,910	581	12	554	11	27-	1-
81-83	5,658	755	13	554	10	201-	4-
82-84	5,959	600	10	554	9	47-	1-
83-85	6,313	344	5		0	344-	5-
84-86	6,209	402	6		0	402-	6-
85-87	7,440	359	5		0	359-	5-
86-88	5,086	286	6		0	286-	6-
87-89	4,687	126	3		0	126-	3-
88-90	5,335	416	8		0	416-	8-
89-91	4,804	497	10		0	497-	10-
90-92	4,804	425	9		0	424-	9-
91-93	1,936	528	27		0	528-	27-
92-94	3,298	706	21	184	6	523-	16-
93-95	3,367	6,940-	206-	183	5	7,123	212
94-96	4,733	6,276-	133-	183	4	6,459	136
95-97	3,456	4,455-	129-		0	4,455	129
96-98	5,926	4,037	68		0	4,037-	68-
97-99	3,613	3,103	86		0	3,103-	86-
98-00	10,185	1,626	16		0	1,626-	16-
99-01	8,298	1,075	13		0	1,075-	13-
00-02	8,323	921	11		0	921-	11-

COLUMBIA GAS OF KENTUCKY, INC.

ACCOUNT 375.34 STRUCTURES AND IMPROVEMENTS - MEASURING AND REGULATING

SUMMARY OF BOOK SALVAGE

YEAR	REGULAR RETIREMENTS	COST OF REMOVAL		GROSS SALVAGE		NET SALVAGE	
		AMOUNT	PCT	AMOUNT	PCT	AMOUNT	PCT
THREE-YEAR MOVING AVERAGES							
01-03	1,629	1,218	75		0	1,218-	75-
02-04	5,485	1,979	36		0	1,979-	36-
03-05	6,762	6,927	102		0	6,927-	102-
04-06	6,906	4,312	62		0	4,312-	62-
05-07	2,154	4,322	201		0	4,322-	201-
06-08	1,043	197	19		0	197-	19-
07-09	1,862	4,105	220		0	4,105-	220-
08-10	1,862	3,142	169		0	3,142-	169-
09-11	5,767	2,297	40		0	2,297-	40-
10-12	11,636	5,414	47		0	5,414-	47-
11-13	13,446	7,332	55		0	7,332-	55-
12-14	12,373	7,918	64		0	7,918-	64-
13-15	26,608	20,572	77		0	20,572-	77-
FIVE-YEAR AVERAGE							
11-15	22,946	15,530	68		0	15,530-	68-

COLUMBIA GAS OF KENTUCKY, INC.

ACCOUNT 375.7 STRUCTURES AND IMPROVEMENTS - OTHER DISTRIBUTION SYSTEM
STRUCTURES

SUMMARY OF BOOK SALVAGE

YEAR	REGULAR RETIREMENTS	COST OF REMOVAL		GROSS SALVAGE		NET SALVAGE	
		AMOUNT	PCT	AMOUNT	PCT	AMOUNT	PCT
1969	10		0		0		0
1970	8,034	439	5	32	0	406-	5-
1971	608		0		0		0
1972							
1973				55		55	
1974							
1975							
1976							
1977							
1978	1,940		0		0		0
1979							
1980	3,198		0		0		0
1981							
1982	4,676		0		0		0
1983	4,069		0		0		0
1984	1,847		0		0		0
1985	5,972	136	2		0	136-	2-
1986	2,718		0		0		0
1987	4,176	2,400	57		0	2,400-	57-
1988	1,101		0		0		0
1989	290		0		0		0
1990	182		0		0		0
1991							
1992	10,901	200	2		0	200-	2-
1993	6,187		0		0		0
1994	423	98	23		0	98-	23-
1995	15,166	2,600	17		0	2,600-	17-
1996	37,916	7,129	19	23,558	62	16,429	43
1997		30				30-	
1998	292,458	2,892	1	214,000	73	211,108	72
1999							
2000	114,701	380	0	105,301	92	104,922	91
2001							
2002							
2003							
2004							
2005							
2006	53,682		0		0		0
2007		8,299		31,983		23,684	
2008							
2009							

COLUMBIA GAS OF KENTUCKY, INC.

ACCOUNT 375.7 STRUCTURES AND IMPROVEMENTS - OTHER DISTRIBUTION SYSTEM
STRUCTURES

SUMMARY OF BOOK SALVAGE

YEAR	REGULAR RETIREMENTS	COST OF REMOVAL		GROSS SALVAGE		NET SALVAGE	
		AMOUNT	PCT	AMOUNT	PCT	AMOUNT	PCT
2010							
2011							
2012							
2013							
2014							
2015							
TOTAL	570,256	24,602	4	374,930	66	350,328	61

THREE-YEAR MOVING AVERAGES

69-71	2,884	146	5	11	0	135-	5-
70-72	2,880	146	5	11	0	135-	5-
71-73	203		0	18	9	18	9
72-74				18		18	
73-75				18		18	
74-76							
75-77							
76-78	647		0		0		0
77-79	647		0		0		0
78-80	1,713		0		0		0
79-81	1,066		0		0		0
80-82	2,625		0		0		0
81-83	2,915		0		0		0
82-84	3,530		0		0		0
83-85	3,963	45	1		0	45-	1-
84-86	3,512	45	1		0	45-	1-
85-87	4,289	845	20		0	845-	20-
86-88	2,665	800	30		0	800-	30-
87-89	1,856	800	43		0	800-	43-
88-90	525		0		0		0
89-91	157		0		0		0
90-92	3,694	67	2		0	67-	2-
91-93	5,696	67	1		0	67-	1-
92-94	5,837	99	2		0	99-	2-
93-95	7,259	899	12		0	899-	12-
94-96	17,835	3,276	18	7,853	44	4,577	26
95-97	17,694	3,253	18	7,853	44	4,600	26
96-98	110,125	3,350	3	79,186	72	75,836	69
97-99	97,486	974	1	71,333	73	70,359	72
98-00	135,720	1,091	1	106,434	78	105,343	78

COLUMBIA GAS OF KENTUCKY, INC.

ACCOUNT 375.7 STRUCTURES AND IMPROVEMENTS - OTHER DISTRIBUTION SYSTEM
STRUCTURES

SUMMARY OF BOOK SALVAGE

YEAR	REGULAR RETIREMENTS	COST OF REMOVAL		GROSS SALVAGE		NET SALVAGE		
		AMOUNT	PCT	AMOUNT	PCT	AMOUNT	PCT	
THREE-YEAR MOVING AVERAGES								
99-01	38,234	127	0	35,100	92	34,974	91	
00-02	38,234	127	0	35,100	92	34,974	91	
01-03								
02-04								
03-05								
04-06	17,894		0		0		0	
05-07	17,894	2,766	15	10,661	60	7,895	44	
06-08	17,894	2,766	15	10,661	60	7,895	44	
07-09		2,766		10,661		7,895		
08-10								
09-11								
10-12								
11-13								
12-14								
13-15								
FIVE-YEAR AVERAGE								
	11-15							

COLUMBIA GAS OF KENTUCKY, INC.

ACCOUNT 376 MAINS

SUMMARY OF BOOK SALVAGE

YEAR	REGULAR RETIREMENTS	COST OF REMOVAL		GROSS SALVAGE		NET SALVAGE	
		AMOUNT	PCT	AMOUNT	PCT	AMOUNT	PCT
1969	62,390	7,535	12	3,779	6	3,755-	6-
1970	78,867	12,711	16	1,714	2	10,998-	14-
1971	66,071	10,507	16	2,620	4	7,887-	12-
1972	156,266	13,540	9	75-	0	13,615-	9-
1973	123,505	11,351	9	1,180-	1-	12,531-	10-
1974	37,316	2,683	7	5,361	14	2,678	7
1975	58,110	2,751-	5-	415-	1-	2,336	4
1976	74,384	8,749	12	3,372	5	5,377-	7-
1977	78,698	8,355	11	882	1	7,473-	9-
1978	72,156	7,475	10	2,715-	4-	10,191-	14-
1979	99,728	9,551	10	4,606	5	4,945-	5-
1980	92,048	10,910	12	959	1	9,951-	11-
1981	91,288	12,759	14	658	1	12,101-	13-
1982	116,865	14,812	13	1,180	1	13,632-	12-
1983	106,092	19,234	18	2,479	2	16,755-	16-
1984	188,954	23,594	12	547	0	23,048-	12-
1985	171,466	21,909	13	4,010	2	17,900-	10-
1986	127,878	13,126	10	13,023-	10-	26,149-	20-
1987	185,129	21,791	12	7,048	4	14,743-	8-
1988	158,653	21,360	13	1,867-	1-	23,227-	15-
1989	164,717	15,103	9	1,967	1	13,136-	8-
1990	271,340	33,286	12	1,861	1	31,425-	12-
1991	290,524	29,232	10	4,542-	2-	33,774-	12-
1992	169,542	16,542	10	5,708-	3-	22,249-	13-
1993	242,200	26,742	11	6,940-	3-	33,682-	14-
1994	259,776	29,876	12	291	0	29,585-	11-
1995	169,669	29,182	17	3,189-	2-	32,371-	19-
1996	421,839	49,575	12	13,827-	3-	63,402-	15-
1997	375,842	55,823	15	997-	0	56,820-	15-
1998	652,014	63,122	10	3	0	63,119-	10-
1999	250,956	42,002	17		0	42,002-	17-
2000	466,046	54,335	12		0	54,335-	12-
2001	315,695	66,343	21	4,064-	1-	70,407-	22-
2002	260,394	32,872	13	6,276	2	26,595-	10-
2003	807,118	37,373	5		0	37,373-	5-
2004	2,023,544	218,273	11	3,000	0	215,273-	11-
2005	294,801	167,583	57		0	167,583-	57-
2006	168,669	16,575	10		0	16,575-	10-
2007	936,665	88,774	9		0	88,774-	9-
2008	896,714	87,460	10	1,125	0	86,335-	10-
2009	1,203,367	77,613	6	2,738	0	74,875-	6-
2010	274,330	66,694	24	1,700-	1-	68,394-	25-

COLUMBIA GAS OF KENTUCKY, INC.

ACCOUNT 376 MAINS

SUMMARY OF BOOK SALVAGE

YEAR	REGULAR RETIREMENTS	COST OF REMOVAL		GROSS SALVAGE		NET SALVAGE	
		AMOUNT	PCT	AMOUNT	PCT	AMOUNT	PCT
2011	369,511	220,128	60		0	220,128-	60-
2012	1,122,598	114,031	10		0	114,031-	10-
2013	641,621	228,885	36		0	228,885-	36-
2014	682,216	136,283	20		0	136,283-	20-
2015	254,796	128,915	51		0	128,915-	51-
TOTAL	16,132,367	2,381,823	15	3,767-	0	2,385,590-	15-

THREE-YEAR MOVING AVERAGES

69-71	69,109	10,251	15	2,704	4	7,547-	11-
70-72	100,401	12,253	12	1,419	1	10,833-	11-
71-73	115,281	11,799	10	455	0	11,345-	10-
72-74	105,696	9,191	9	1,369	1	7,823-	7-
73-75	72,977	3,761	5	1,255	2	2,506-	3-
74-76	56,603	2,894	5	2,773	5	121-	0
75-77	70,397	4,784	7	1,280	2	3,505-	5-
76-78	75,079	8,193	11	513	1	7,680-	10-
77-79	83,527	8,461	10	924	1	7,536-	9-
78-80	87,977	9,312	11	950	1	8,362-	10-
79-81	94,355	11,073	12	2,074	2	8,999-	10-
80-82	100,067	12,827	13	932	1	11,895-	12-
81-83	104,749	15,602	15	1,439	1	14,163-	14-
82-84	137,304	19,213	14	1,402	1	17,812-	13-
83-85	155,504	21,579	14	2,345	2	19,234-	12-
84-86	162,766	19,543	12	2,822-	2-	22,365-	14-
85-87	161,491	18,942	12	655-	0	19,597-	12-
86-88	157,220	18,759	12	2,614-	2-	21,373-	14-
87-89	169,500	19,418	11	2,382	1	17,036-	10-
88-90	198,237	23,250	12	654	0	22,596-	11-
89-91	242,194	25,874	11	238-	0	26,112-	11-
90-92	243,802	26,353	11	2,796-	1-	29,149-	12-
91-93	234,089	24,172	10	5,730-	2-	29,902-	13-
92-94	223,839	24,387	11	4,119-	2-	28,505-	13-
93-95	223,882	28,600	13	3,279-	1-	31,879-	14-
94-96	283,761	36,211	13	5,575-	2-	41,786-	15-
95-97	322,450	44,860	14	6,004-	2-	50,864-	16-
96-98	483,232	56,173	12	4,940-	1-	61,114-	13-
97-99	426,271	53,649	13	331-	0	53,981-	13-
98-00	456,339	53,153	12	1	0	53,152-	12-
99-01	344,233	54,227	16	1,355-	0	55,581-	16-
00-02	347,378	51,183	15	737	0	50,446-	15-

COLUMBIA GAS OF KENTUCKY, INC.

ACCOUNT 376 MAINS

SUMMARY OF BOOK SALVAGE

YEAR	REGULAR RETIREMENTS	COST OF REMOVAL		GROSS SALVAGE		NET SALVAGE	
		AMOUNT	PCT	AMOUNT	PCT	AMOUNT	PCT
THREE-YEAR MOVING AVERAGES							
01-03	461,069	45,529	10	737	0	44,792-	10-
02-04	1,030,352	96,173	9	3,092	0	93,081-	9-
03-05	1,041,821	141,076	14	1,000	0	140,076-	13-
04-06	829,004	134,144	16	1,000	0	133,144-	16-
05-07	466,711	90,977	19		0	90,977-	19-
06-08	667,349	64,270	10	375	0	63,895-	10-
07-09	1,012,249	84,616	8	1,288	0	83,328-	8-
08-10	791,470	77,256	10	721	0	76,535-	10-
09-11	615,736	121,478	20	346	0	121,132-	20-
10-12	588,813	133,617	23	567-	0	134,184-	23-
11-13	711,243	187,681	26		0	187,681-	26-
12-14	815,478	159,733	20		0	159,733-	20-
13-15	526,211	164,694	31		0	164,694-	31-
FIVE-YEAR AVERAGE							
11-15	614,148	165,648	27		0	165,648-	27-

COLUMBIA GAS OF KENTUCKY, INC.

ACCOUNTS 378 AND 379.1 MEASURING AND REGULATING STATION EQUIPMENT

SUMMARY OF BOOK SALVAGE

YEAR	REGULAR RETIREMENTS	COST OF REMOVAL		GROSS SALVAGE		NET SALVAGE	
		AMOUNT	PCT	AMOUNT	PCT	AMOUNT	PCT
1969	8,290	1,434	17	2,438	29	1,005	12
1970	9,415	2,243	24	3,056	32	814	9
1971	19,169	3,999	21	3,675	19	324-	2-
1972	29,376	5,503	19	8,718	30	3,215	11
1973	21,265	4,367	21	7,090	33	2,723	13
1974	6,400	1,242	19	1,147	18	95-	1-
1975	12,592	1,064	8	725-	6-	1,789-	14-
1976	4,154	353	8	505	12	152	4
1977	2,254	644	29	301	13	343-	15-
1978	94		0		0		0
1979	27,307	657	2	1,553	6	897	3
1980	2,080	164	8	160	8	4-	0
1981	11,208	30	0	599	5	569	5
1982	21,965	3,959	18	2,077	9	1,882-	9-
1983	12,012	692	6	15	0	677-	6-
1984	18,116	2,792	15	456-	3-	3,247-	18-
1985	14,741	1,348	9	836-	6-	2,185-	15-
1986	16,510	1,632	10	257	2	1,375-	8-
1987	33,303	1,291	4	1,232	4	59-	0
1988	30,329	2,632	9	19,534	64	16,902	56
1989	12,217	2,315	19	1,014-	8-	3,329-	27-
1990	36,083	10,128	28	4,211	12	5,917-	16-
1991	51,285	4,505	9	4,182	8	323-	1-
1992	35,265	11,696	33	173	0	11,523-	33-
1993	32,473	5,451	17	944	3	4,508-	14-
1994	30,459	2,281	7	15	0	2,266-	7-
1995	4,979	1,224	25	34	1	1,190-	24-
1996	31,143	2,125	7	3	0	2,122-	7-
1997	2,254	286	13		0	286-	13-
1998	36,185	1,681	5	823	2	858-	2-
1999	105,463	4,373	4	40,872	39	36,499	35
2000	105,619	11,303	11	512	0	10,791-	10-
2001	7,899	411	5		0	411-	5-
2002	19,909	1,916	10		0	1,916-	10-
2003	6,450	1,427	22		0	1,427-	22-
2004	170,929	5,874	3	3,000	2	2,874-	2-
2005	3,767-	17,430	463-		0	17,430-	463
2006	14,416	10,062	70		0	10,062-	70-
2007	5,736	3,124	54		0	3,124-	54-
2008	36,738	7,675	21		0	7,675-	21-
2009	52,538	12,695	24		0	12,695-	24-
2010	28,842	9,406	33		0	9,406-	33-

COLUMBIA GAS OF KENTUCKY, INC.

ACCOUNTS 378 AND 379.1 MEASURING AND REGULATING STATION EQUIPMENT

SUMMARY OF BOOK SALVAGE

YEAR	REGULAR RETIREMENTS	COST OF REMOVAL		GROSS SALVAGE		NET SALVAGE	
		AMOUNT	PCT	AMOUNT	PCT	AMOUNT	PCT
2011	29,532	1,599	5		0	1,599-	5-
2012	59,882	12,677	21		0	12,677-	21-
2013	158,748	8,699	5		0	8,699-	5-
2014	92,659	36,168	39		0	36,168-	39-
2015	121,716	50,058	41		0	50,058-	41-
TOTAL	1,586,232	272,632	17	104,095	7	168,536-	11-

THREE-YEAR MOVING AVERAGES

69-71	12,291	2,558	21	3,056	25	498	4
70-72	19,320	3,915	20	5,150	27	1,235	6
71-73	23,270	4,623	20	6,494	28	1,871	8
72-74	19,014	3,704	19	5,652	30	1,948	10
73-75	13,419	2,224	17	2,504	19	280	2
74-76	7,716	886	11	309	4	577-	7-
75-77	6,334	687	11	27	0	660-	10-
76-78	2,168	332	15	269	12	64-	3-
77-79	9,885	434	4	618	6	185	2
78-80	9,827	274	3	571	6	298	3
79-81	13,532	283	2	771	6	487	4
80-82	11,751	1,384	12	945	8	439-	4-
81-83	15,062	1,560	10	897	6	664-	4-
82-84	17,364	2,481	14	545	3	1,936-	11-
83-85	14,956	1,611	11	426-	3-	2,036-	14-
84-86	16,456	1,924	12	345-	2-	2,269-	14-
85-87	21,518	1,424	7	217	1	1,206-	6-
86-88	26,714	1,852	7	7,008	26	5,156	19
87-89	25,283	2,079	8	6,584	26	4,505	18
88-90	26,209	5,025	19	7,577	29	2,552	10
89-91	33,195	5,649	17	2,460	7	3,189-	10-
90-92	40,877	8,776	21	2,855	7	5,921-	14-
91-93	39,674	7,217	18	1,766	4	5,451-	14-
92-94	32,732	6,476	20	377	1	6,099-	19-
93-95	22,637	2,986	13	331	1	2,655-	12-
94-96	22,194	1,877	8	17	0	1,859-	8-
95-97	12,792	1,212	9	12	0	1,199-	9-
96-98	23,194	1,364	6	275	1	1,088-	5-
97-99	47,967	2,113	4	13,898	29	11,785	25
98-00	82,423	5,786	7	14,069	17	8,284	10
99-01	72,994	5,362	7	13,795	19	8,433	12
00-02	44,476	4,543	10	171	0	4,373-	10-

COLUMBIA GAS OF KENTUCKY, INC.

ACCOUNTS 378 AND 379.1 MEASURING AND REGULATING STATION EQUIPMENT

SUMMARY OF BOOK SALVAGE

YEAR	REGULAR RETIREMENTS	COST OF REMOVAL AMOUNT	PCT	GROSS SALVAGE AMOUNT	PCT	NET SALVAGE AMOUNT	PCT
THREE-YEAR MOVING AVERAGES							
01-03	11,419	1,251	11		0	1,251-	11-
02-04	65,762	3,072	5	1,000	2	2,072-	3-
03-05	57,871	8,244	14	1,000	2	7,244-	13-
04-06	60,526	11,122	18	1,000	2	10,122-	17-
05-07	5,462	10,206	187		0	10,206-	187-
06-08	18,963	6,954	37		0	6,954-	37-
07-09	31,670	7,831	25		0	7,831-	25-
08-10	39,373	9,925	25		0	9,925-	25-
09-11	36,971	7,900	21		0	7,900-	21-
10-12	39,419	7,894	20		0	7,894-	20-
11-13	82,721	7,658	9		0	7,658-	9-
12-14	103,763	19,181	18		0	19,181-	18-
13-15	124,374	31,642	25		0	31,642-	25-
FIVE-YEAR AVERAGE							
11-15	92,508	21,840	24		0	21,840-	24-

COLUMBIA GAS OF KENTUCKY, INC.

ACCOUNT 380 SERVICES

SUMMARY OF BOOK SALVAGE

YEAR	REGULAR RETIREMENTS	COST OF REMOVAL		GROSS SALVAGE		NET SALVAGE	
		AMOUNT	PCT	AMOUNT	PCT	AMOUNT	PCT
1969	24,095	22,698	94	5,202	22	17,496-	73-
1970	31,599	14,438	46	8,510	27	5,928-	19-
1971	28,678	21,167	74	7,593	26	13,574-	47-
1972	35,178	23,523	67	4,027	11	19,496-	55-
1973	39,618	30,730	78	7,605	19	23,125-	58-
1974	19,530	31,786	163	7,291	37	24,495-	125-
1975	23,869	32,640	137	2,663	11	29,977-	126-
1976	27,900	39,419	141	5,841	21	33,577-	120-
1977	33,288	19,738	59	6,660	20	13,078-	39-
1978	40,500	20,358	50	379	1	19,979-	49-
1979	38,199	28,872	76	25-	0	28,897-	76-
1980	46,393	95,188	205	1,511-	3-	96,699-	208-
1981	45,798	109,023	238	153	0	108,870-	238-
1982	53,349	109,400	205	569	1	108,832-	204-
1983	35,692	91,355	256	1,166	3	90,188-	253-
1984	36,775	116,650	317	179	0	116,471-	317-
1985	39,852	121,120	304	15,030	38	106,090-	266-
1986	104,405	167,418	160	827-	1-	168,245-	161-
1987	35,726	162,863	456	589	2	162,274-	454-
1988	45,283	144,170	318	292-	1-	144,462-	319-
1989	81,605	154,861	190	2,106-	3-	156,968-	192-
1990	79,282	299,891	378	13,094-	17-	312,985-	395-
1991	121,326	329,214	271	24-	0	329,238-	271-
1992	43,696	80,303	184	222	1	80,081-	183-
1993	208,541	404,466	194		0	404,466-	194-
1994	492,973	241,788	49	1,321	0	240,467-	49-
1995	749,852	272,292	36	1	0	272,291-	36-
1996	474,713	237,272	50	1,607	0	235,665-	50-
1997	634,392	271,629	43	2,561	0	269,068-	42-
1998	604,594	251,589	42	2,235	0	249,353-	41-
1999	577,281	280,444	49	1,363	0	279,081-	48-
2000	769,118	360,891	47	2,695	0	358,196-	47-
2001	758,487	590,727	78	2,429	0	588,299-	78-
2002	761,027	690,300	91	1,322	0	688,978-	91-
2003	875,521	378,740	43	1,763	0	376,977-	43-
2004	995,384	721,384-	72-		0	721,384	72
2005	560,561	1,079,726	193		0	1,079,726-	193-
2006	647,852	537,539	83		0	537,539-	83-
2007	637,998	351,280	55		0	351,280-	55-
2008	515,199	278,141	54		0	278,141-	54-
2009	1,102,820	469,567	43		0	469,567-	43-
2010	458,268	239,572	52		0	239,572-	52-

COLUMBIA GAS OF KENTUCKY, INC.

ACCOUNT 380 SERVICES

SUMMARY OF BOOK SALVAGE

YEAR	REGULAR RETIREMENTS	COST OF REMOVAL		GROSS SALVAGE		NET SALVAGE	
		AMOUNT	PCT	AMOUNT	PCT	AMOUNT	PCT
2011	953,208	495,262	52		0	495,262-	52-
2012	1,080,801	559,308	52		0	559,308-	52-
2013	850,820	661,643	78		0	661,643-	78-
2014	793,609	634,337	80		0	634,337-	80-
2015	748,951	744,450	99		0	744,450-	99-
TOTAL	17,363,608	11,576,403	67	73,097	0	11,503,306-	66-

THREE-YEAR MOVING AVERAGES

69-71	28,124	19,435	69	7,102	25	12,333-	44-
70-72	31,819	19,709	62	6,710	21	12,999-	41-
71-73	34,491	25,140	73	6,408	19	18,732-	54-
72-74	31,442	28,679	91	6,307	20	22,372-	71-
73-75	27,672	31,718	115	5,853	21	25,865-	93-
74-76	23,766	34,615	146	5,265	22	29,350-	123-
75-77	28,352	30,599	108	5,055	18	25,544-	90-
76-78	33,896	26,505	78	4,293	13	22,212-	66-
77-79	37,329	22,989	62	2,338	6	20,651-	55-
78-80	41,697	48,139	115	386-	1-	48,525-	116-
79-81	43,463	77,694	179	461-	1-	78,155-	180-
80-82	48,513	104,537	215	263-	1-	104,800-	216-
81-83	44,946	103,259	230	629	1	102,630-	228-
82-84	41,939	105,801	252	638	2	105,163-	251-
83-85	37,440	109,708	293	5,459	15	104,250-	278-
84-86	60,344	135,063	224	4,794	8	130,269-	216-
85-87	59,994	150,467	251	4,931	8	145,536-	243-
86-88	61,805	158,151	256	177-	0	158,327-	256-
87-89	54,205	153,965	284	603-	1-	154,568-	285-
88-90	68,724	199,641	290	5,164-	8-	204,805-	298-
89-91	94,071	261,322	278	5,075-	5-	266,397-	283-
90-92	81,435	236,469	290	4,298-	5-	240,768-	296-
91-93	124,521	271,328	218	66	0	271,261-	218-
92-94	248,403	242,186	97	514	0	241,671-	97-
93-95	483,789	306,182	63	441	0	305,741-	63-
94-96	572,513	250,451	44	976	0	249,475-	44-
95-97	619,653	260,398	42	1,390	0	259,008-	42-
96-98	571,233	253,497	44	2,135	0	251,362-	44-
97-99	605,422	267,887	44	2,053	0	265,834-	44-
98-00	650,331	297,641	46	2,098	0	295,543-	45-
99-01	701,629	410,687	59	2,162	0	408,525-	58-
00-02	762,877	547,306	72	2,148	0	545,157-	71-

COLUMBIA GAS OF KENTUCKY, INC.

ACCOUNT 380 SERVICES

SUMMARY OF BOOK SALVAGE

YEAR	REGULAR RETIREMENTS	COST OF REMOVAL		GROSS SALVAGE		NET SALVAGE	
		AMOUNT	PCT	AMOUNT	PCT	AMOUNT	PCT
THREE-YEAR MOVING AVERAGES							
01-03	798,345	553,256	69	1,838	0	551,418-	69-
02-04	877,311	115,885	13	1,028	0	114,857-	13-
03-05	810,489	245,694	30	588	0	245,106-	30-
04-06	734,599	298,627	41		0	298,627-	41-
05-07	615,470	656,182	107		0	656,182-	107-
06-08	600,350	388,987	65		0	388,987-	65-
07-09	752,006	366,329	49		0	366,329-	49-
08-10	692,096	329,093	48		0	329,093-	48-
09-11	838,099	401,467	48		0	401,467-	48-
10-12	830,759	431,381	52		0	431,381-	52-
11-13	961,610	572,071	59		0	572,071-	59-
12-14	908,410	618,430	68		0	618,430-	68-
13-15	797,793	680,143	85		0	680,143-	85-
FIVE-YEAR AVERAGE							
11-15	885,478	619,000	70		0	619,000-	70-

COLUMBIA GAS OF KENTUCKY, INC.

ACCOUNT 381 METERS

SUMMARY OF BOOK SALVAGE

YEAR	REGULAR RETIREMENTS	COST OF REMOVAL		GROSS SALVAGE		NET SALVAGE	
		AMOUNT	PCT	AMOUNT	PCT	AMOUNT	PCT
1969	62,143	5,712	9	10,143	16	4,431	7
1970	57,467	4,901	9	6,048	11	1,148	2
1971	49,004	5,047	10	6,781	14	1,734	4
1972	32,254	4,435	14	525-	2-	4,960-	15-
1973	21,448	3,180	15	10,060	47	6,879	32
1974				405-		405-	
1975	19,011	2,308	12	4,613	24	2,305	12
1976	12,838	3,873	30	12,619	98	8,746	68
1977	77,400	4,069	5		0	4,069-	5-
1978	36,556	4,285	12	29	0	4,256-	12-
1979	47,730	9,819	21	26	0	9,793-	21-
1980	53,094	10,505	20		0	10,505-	20-
1981	35,140	7,767	22		0	7,767-	22-
1982	65,354	1,859	3	138	0	1,721-	3-
1983	53,304	1,056	2	1,814	3	759	1
1984	53,698	371-	1-		0	371	1
1985	63,264	1,850-	3-	899	1	2,749	4
1986	92,274	56	0	9,246	10	9,190	10
1987	73,194		0	9,932	14	9,932	14
1988	69,492		0	5,903	8	5,903	8
1989	52,234	781	1	6,493	12	5,712	11
1990	63,650	4,237	7	7,546	12	3,309	5
1991	80,921	4,292	5	10,005	12	5,713	7
1992	95,093	3,730	4	9,168	10	5,438	6
1993	80,301	3,298	4		0	3,298-	4-
1994	133,315	6,187	5	2,758	2	3,429-	3-
1995	103,961	5,828	6	4,017	4	1,811-	2-
1996	83,689	7,137	9	653	1	6,484-	8-
1997	91,624	523	1	254	0	268-	0
1998	103,204		0	433	0	433	0
1999	125,820		0	350	0	350	0
2000				157		157	
2001	211,021		0	966	0	966	0
2002	220,188		0	525	0	525	0
2003	335,975		0	192	0	192	0
2004	281,724		0	13,445	5	13,445	5
2005	44,057		0	920-	2-	920-	2-
2006	20,532		0		0		0
2007	177,744		0		0		0
2008	156,470		0	9,930	6	9,930	6
2009	485,480	10,018-	2-	84,022	17	94,040	19
2010	242,092	1	0	7,582	3	7,581	3

COLUMBIA GAS OF KENTUCKY, INC.

ACCOUNT 381 METERS

SUMMARY OF BOOK SALVAGE

YEAR	REGULAR RETIREMENTS	COST OF REMOVAL		GROSS SALVAGE		NET SALVAGE	
		AMOUNT	PCT	AMOUNT	PCT	AMOUNT	PCT
2011	285,685	1,818	1		0	1,818-	1-
2012	232,999	877	0	10,951	5	10,074	4
2013	160,707	2,610-	2-	29,666	18	32,276	20
2014	162,431	1,413	1	3,303	2	1,890	1
2015	171,758	31	0		0	31-	0
TOTAL	5,177,339	94,177	2	278,820	5	184,643	4

THREE-YEAR MOVING AVERAGES

69-71	56,205	5,220	9	7,657	14	2,437	4
70-72	46,242	4,794	10	4,101	9	693-	1-
71-73	34,236	4,221	12	5,438	16	1,218	4
72-74	17,901	2,538	14	3,043	17	505	3
73-75	13,487	1,829	14	4,756	35	2,926	22
74-76	10,617	2,060	19	5,609	53	3,549	33
75-77	36,416	3,417	9	5,744	16	2,328	6
76-78	42,265	4,076	10	4,216	10	140	0
77-79	53,895	6,058	11	18	0	6,039-	11-
78-80	45,794	8,203	18	18	0	8,185-	18-
79-81	45,321	9,364	21	9	0	9,355-	21-
80-82	51,196	6,711	13	46	0	6,665-	13-
81-83	51,266	3,561	7	651	1	2,910-	6-
82-84	57,452	848	1	651	1	197-	0
83-85	56,755	388-	1-	904	2	1,293	2
84-86	69,745	721-	1-	3,382	5	4,103	6
85-87	76,244	598-	1-	6,692	9	7,290	10
86-88	78,320	19	0	8,361	11	8,342	11
87-89	64,973	260	0	7,443	11	7,182	11
88-90	61,792	1,673	3	6,648	11	4,975	8
89-91	65,602	3,104	5	8,015	12	4,911	7
90-92	79,888	4,086	5	8,907	11	4,820	6
91-93	85,438	3,773	4	6,391	7	2,618	3
92-94	102,903	4,405	4	3,975	4	430-	0
93-95	105,859	5,104	5	2,258	2	2,846-	3-
94-96	106,988	6,384	6	2,476	2	3,908-	4-
95-97	93,091	4,496	5	1,642	2	2,854-	3-
96-98	92,839	2,553	3	447	0	2,106-	2-
97-99	106,882	174	0	346	0	172	0
98-00	76,341		0	313	0	313	0
99-01	112,280		0	491	0	491	0
00-02	143,736		0	549	0	549	0

COLUMBIA GAS OF KENTUCKY, INC.

ACCOUNT 381 METERS

SUMMARY OF BOOK SALVAGE

YEAR	REGULAR RETIREMENTS	COST OF REMOVAL		GROSS SALVAGE		NET SALVAGE	
		AMOUNT	PCT	AMOUNT	PCT	AMOUNT	PCT
THREE-YEAR MOVING AVERAGES							
01-03	255,728		0	561	0	561	0
02-04	279,295		0	4,721	2	4,721	2
03-05	220,585		0	4,239	2	4,239	2
04-06	115,438		0	4,175	4	4,175	4
05-07	80,778		0	307-	0	307-	0
06-08	118,248		0	3,310	3	3,310	3
07-09	273,231	3,339-	1-	31,317	11	34,657	13
08-10	294,680	3,339-	1-	33,845	11	37,184	13
09-11	337,752	2,733-	1-	30,535	9	33,268	10
10-12	253,592	898	0	6,178	2	5,279	2
11-13	226,464	28	0	13,539	6	13,511	6
12-14	185,379	107-	0	14,640	8	14,747	8
13-15	164,966	388-	0	10,990	7	11,378	7
FIVE-YEAR AVERAGE							
11-15	202,716	306	0	8,784	4	8,478	4

COLUMBIA GAS OF KENTUCKY, INC.

ACCOUNT 382 METER INSTALLATIONS

SUMMARY OF BOOK SALVAGE

YEAR	REGULAR RETIREMENTS	COST OF REMOVAL		GROSS SALVAGE		NET SALVAGE	
		AMOUNT	PCT	AMOUNT	PCT	AMOUNT	PCT
1969	3,097	1,349	44	96	3	1,253-	40-
1970	7,525	1,287	17	501	7	786-	10-
1971	16,814	1,485	9	218	1	1,267-	8-
1972	11,241	820	7	144	1	676-	6-
1973	4,754	652	14	14	0	639-	13-
1974	5,802	330	6	16	0	314-	5-
1975	5,554	705	13	694	12	11-	0
1976	7,602	571	8	137	2	434-	6-
1977	5,467	259	5	21	0	237-	4-
1978	5,648	470	8	150	3	320-	6-
1979	1,764	1,937	110	802	45	1,135-	64-
1980	1,784	740	41		0	740-	41-
1981	2,082	1,601	77	1	0	1,600-	77-
1982	2,253	2,617	116	580	26	2,037-	90-
1983	4,631	2,373	51	172	4	2,202-	48-
1984	6,942	2,431	35	118	2	2,313-	33-
1985	6,237	2,094	34	600	10	1,494-	24-
1986	10,763	2,842	26	417	4	2,425-	23-
1987	7,427	1,877	25	273	4	1,604-	22-
1988	6,043	697	12	373	6	324-	5-
1989	6,886	865	13	603	9	263-	4-
1990	7,122	631	9	55	1	575-	8-
1991	12,358	562	5	62	1	500-	4-
1992	2,548		0	277	11	277	11
1993	16,750	739	4	58	0	681-	4-
1994	4,375	1,714	39	58	1	1,656-	38-
1995	16,762	195	1	3	0	192-	1-
1996	46,091	521	1	33	0	488-	1-
1997	54,364	328	1	266	0	62-	0
1998	76,370	1,324	2	27	0	1,297-	2-
1999	40,447	1,044	3	178	0	867-	2-
2000	30,913	379	1	52	0	327-	1-
2001	26,401	4	0	295	1	291	1
2002	21,759	1	0	93	0	92	0
2003	62,815	472	1	117	0	355-	1-
2004	48,981	181	0	170	0	12-	0
2005	29,225	25,516	87		0	25,516-	87-
2006	33,948	107	0		0	107-	0
2007	46,912	16	0		0	16-	0
2008	75,055	25	0		0	25-	0
2009	83,716		0		0		0
2010	41,856	9	0		0	9-	0

COLUMBIA GAS OF KENTUCKY, INC.

ACCOUNT 382 METER INSTALLATIONS

SUMMARY OF BOOK SALVAGE

YEAR	REGULAR RETIREMENTS	COST OF REMOVAL		GROSS SALVAGE		NET SALVAGE	
		AMOUNT	PCT	AMOUNT	PCT	AMOUNT	PCT
2011	43,793		0		0		0
2012	24,517		0		0		0
2013	1,181		0		0		0
2014							
2015							
TOTAL	978,574	61,773	6	7,671	1	54,101-	6-

THREE-YEAR MOVING AVERAGES

69-71	9,145	1,374	15	272	3	1,102-	12-
70-72	11,860	1,197	10	288	2	910-	8-
71-73	10,936	986	9	125	1	861-	8-
72-74	7,266	601	8	58	1	543-	7-
73-75	5,370	562	10	241	4	321-	6-
74-76	6,320	535	8	282	4	253-	4-
75-77	6,208	512	8	284	5	228-	4-
76-78	6,239	433	7	103	2	331-	5-
77-79	4,293	889	21	324	8	564-	13-
78-80	3,066	1,049	34	317	10	732-	24-
79-81	1,877	1,426	76	268	14	1,159-	62-
80-82	2,040	1,653	81	194	9	1,459-	72-
81-83	2,989	2,197	74	251	8	1,946-	65-
82-84	4,608	2,474	54	290	6	2,184-	47-
83-85	5,937	2,300	39	297	5	2,003-	34-
84-86	7,981	2,456	31	378	5	2,078-	26-
85-87	8,142	2,271	28	430	5	1,841-	23-
86-88	8,078	1,805	22	354	4	1,451-	18-
87-89	6,786	1,146	17	416	6	730-	11-
88-90	6,684	731	11	343	5	388-	6-
89-91	8,789	686	8	240	3	446-	5-
90-92	7,342	397	5	131	2	266-	4-
91-93	10,552	433	4	132	1	301-	3-
92-94	7,891	817	10	131	2	687-	9-
93-95	12,629	882	7	40	0	843-	7-
94-96	22,409	810	4	32	0	778-	3-
95-97	39,072	348	1	101	0	247-	1-
96-98	58,941	724	1	109	0	616-	1-
97-99	57,060	899	2	157	0	742-	1-
98-00	49,243	916	2	86	0	830-	2-
99-01	32,587	476	1	175	1	301-	1-
00-02	26,358	128	0	147	1	19	0

COLUMBIA GAS OF KENTUCKY, INC.

ACCOUNT 382 METER INSTALLATIONS

SUMMARY OF BOOK SALVAGE

YEAR	REGULAR RETIREMENTS	COST OF REMOVAL		GROSS SALVAGE		NET SALVAGE	
		AMOUNT	PCT	AMOUNT	PCT	AMOUNT	PCT
THREE-YEAR MOVING AVERAGES							
01-03	36,992	159	0	168	0	9	0
02-04	44,518	218	0	127	0	91-	0
03-05	47,007	8,723	19	96	0	8,627-	18-
04-06	37,385	8,601	23	57	0	8,545-	23-
05-07	36,695	8,546	23		0	8,546-	23-
06-08	51,972	49	0		0	49-	0
07-09	68,561	14	0		0	14-	0
08-10	66,876	11	0		0	11-	0
09-11	56,455	3	0		0	3-	0
10-12	36,722	3	0		0	3-	0
11-13	23,164		0		0		0
12-14	8,566		0		0		0
13-15	394		0		0		0
FIVE-YEAR AVERAGE							
11-15	13,898		0		0		0

COLUMBIA GAS OF KENTUCKY, INC.

ACCOUNT 383 HOUSE REGULATORS

SUMMARY OF BOOK SALVAGE

YEAR	REGULAR RETIREMENTS	COST OF REMOVAL		GROSS SALVAGE		NET SALVAGE	
		AMOUNT	PCT	AMOUNT	PCT	AMOUNT	PCT
1969	2,388	55	2	1,151	48	1,095	46
1970	2,528	43	2	1,902	75	1,858	74
1971	1,499		0	718	48	718	48
1972	1,647		0	1,006	61	1,006	61
1973	1,223		0	304	25	304	25
1974	1,460	256	18	115	8	140-	10-
1975	1,161	232	20	83	7	149-	13-
1976	2,145	590	27	334	16	255-	12-
1977	1,724	372	22	446	26	74	4
1978	2,370	230	10	346-	15-	577-	24-
1979	2,712	308	11	147	5	161-	6-
1980	2,975	230	8	227	8	3-	0
1981	4,175	690	17	640	15	49-	1-
1982	9,307	3,928	42	1,309	14	2,619-	28-
1983	7,595	2,809	37	775	10	2,034-	27-
1984	9,540	4,037	42	1,005	11	3,032-	32-
1985	10,709	2,049	19	264	2	1,785-	17-
1986	20,809	2,135	10	324-	2-	2,459-	12-
1987	7,894	2,077	26	23	0	2,054-	26-
1988	7,942	1,640	21	1,160	15	479-	6-
1989	7,806	1,036	13	601	8	435-	6-
1990	6,760	377	6	822-	12-	1,199-	18-
1991	8,381	877	10	215	3	662-	8-
1992	2,313	74	3	78	3	5	0
1993	13,067	983	8	59	0	923-	7-
1994	4,484	624	14	794	18	171	4
1995	3,921	49	1	7	0	42-	1-
1996	8,733	198	2	310	4	112	1
1997	8,699	33	0		0	33-	0
1998	13,835	91	1	1-	0	91-	1-
1999	5,000	67	1	156	3	89	2
2000	3,975	208	5	13	0	194-	5-
2001	2,607	49	2	544	21	495	19
2002	5,363		0	18	0	18	0
2003	6,449		0	615	10	615	10
2004	3,346	81-	2-	26	1	107	3
2005	3,551	13	0		0	13-	0
2006	3,783	25	1		0	25-	1-
2007	5,604		0		0		0
2008	7,981		0		0		0
2009	11,528		0		0		0
2010	4,245	9	0		0	9-	0

COLUMBIA GAS OF KENTUCKY, INC.

ACCOUNT 383 HOUSE REGULATORS

SUMMARY OF BOOK SALVAGE

YEAR	REGULAR RETIREMENTS	COST OF REMOVAL		GROSS SALVAGE		NET SALVAGE	
		AMOUNT	PCT	AMOUNT	PCT	AMOUNT	PCT
2011	4,306		0		0		0
2012	3,520		0		0		0
2013							
2014							
2015							
TOTAL	251,057	26,312	10	13,558	5	12,754-	5-

THREE-YEAR MOVING AVERAGES

69-71	2,138	33	2	1,257	59	1,224	57
70-72	1,891	14	1	1,209	64	1,194	63
71-73	1,456		0	676	46	676	46
72-74	1,443	85	6	475	33	390	27
73-75	1,281	163	13	167	13	5	0
74-76	1,589	359	23	178	11	182-	11-
75-77	1,677	398	24	288	17	110-	7-
76-78	2,080	397	19	145	7	253-	12-
77-79	2,268	303	13	82	4	221-	10-
78-80	2,685	256	10	9	0	247-	9-
79-81	3,287	409	12	338	10	71-	2-
80-82	5,486	1,616	29	725	13	890-	16-
81-83	7,026	2,476	35	908	13	1,567-	22-
82-84	8,814	3,591	41	1,030	12	2,561-	29-
83-85	9,281	2,965	32	682	7	2,283-	25-
84-86	13,686	2,740	20	315	2	2,425-	18-
85-87	13,137	2,087	16	12-	0	2,099-	16-
86-88	12,215	1,951	16	287	2	1,664-	14-
87-89	7,880	1,584	20	595	8	990-	13-
88-90	7,502	1,018	14	313	4	704-	9-
89-91	7,649	764	10	2-	0	765-	10-
90-92	5,818	443	8	176-	3-	619-	11-
91-93	7,920	645	8	118	1	527-	7-
92-94	6,622	560	8	311	5	249-	4-
93-95	7,158	552	8	287	4	265-	4-
94-96	5,713	290	5	371	6	80	1
95-97	7,118	93	1	106	1	12	0
96-98	10,422	107	1	103	1	4-	0
97-99	9,178	63	1	52	1	12-	0
98-00	7,603	122	2	56	1	65-	1-
99-01	3,861	108	3	238	6	130	3
00-02	3,982	86	2	192	5	106	3

COLUMBIA GAS OF KENTUCKY, INC.

ACCOUNT 383 HOUSE REGULATORS

SUMMARY OF BOOK SALVAGE

YEAR	REGULAR RETIREMENTS	COST OF REMOVAL		GROSS SALVAGE		NET SALVAGE	
		AMOUNT	PCT	AMOUNT	PCT	AMOUNT	PCT
THREE-YEAR MOVING AVERAGES							
01-03	4,806	17	0	393	8	376	8
02-04	5,053	27-	1-	220	4	247	5
03-05	4,448	23-	1-	214	5	237	5
04-06	3,560	14-	0	9	0	23	1
05-07	4,313	13	0		0	13-	0
06-08	5,789	8	0		0	8-	0
07-09	8,371		0		0		0
08-10	7,918	3	0		0	3-	0
09-11	6,693	3	0		0	3-	0
10-12	4,024	3	0		0	3-	0
11-13	2,609		0		0		0
12-14	1,173		0		0		0
13-15							
FIVE-YEAR AVERAGE							
11-15	1,565		0		0		0

COLUMBIA GAS OF KENTUCKY, INC.

ACCOUNT 384 HOUSE REGULATOR INSTALLATIONS

SUMMARY OF BOOK SALVAGE

YEAR	REGULAR RETIREMENTS	COST OF REMOVAL		GROSS SALVAGE		NET SALVAGE	
		AMOUNT	PCT	AMOUNT	PCT	AMOUNT	PCT
1969	1,178	292	25	415	35	123	10
1970	689	543	79	241	35	302-	44-
1971	2,226	230	10	652	29	422	19
1972	1,246	71	6	21-	2-	93-	7-
1973	806	673	83		0	673-	83-
1974	532	104	20	69	13	35-	7-
1975	530	100	19	40	7	60-	11-
1976	1,000		0		0		0
1977	1,302		0		0		0
1978	1,613		0		0		0
1979	1,897		0		0		0
1980	1,648	50	3		0	50-	3-
1981	2,502		0		0		0
1982	5,669		0		0		0
1983	2,649		0		0		0
1984	3,147		0		0		0
1985	4,208		0		0		0
1986	8,429		0		0		0
1987	5,345		0		0		0
1988	5,245		0	50-	1-	50-	1-
1989	4,891		0		0		0
1990	4,139		0		0		0
1991	4,555		0		0		0
1992	1,022		0		0		0
1993	8,983	46	1		0	46-	1-
1994	2,017		0		0		0
1995	5,501	97	2	8	0	89-	2-
1996	14,880	225	2		0	224-	2-
1997	18,337	71	0		0	71-	0
1998	29,430	250	1		0	250-	1-
1999	13,904	88	1		0	88-	1-
2000	7,778	800	10		0	800-	10-
2001	6,389	222	3		0	222-	3-
2002	7,251		0		0		0
2003	3,031		0		0		0
2004	65	70	107		0	70-	107-
2005	22,964		0		0		0
2006	133,085		0		0		0
2007	31,296		0		0		0
2008	123,201-	24	0		0	24-	0
2009	30,520		0		0		0
2010	7,981	1	0		0	1-	0

COLUMBIA GAS OF KENTUCKY, INC.

ACCOUNT 384 HOUSE REGULATOR INSTALLATIONS

SUMMARY OF BOOK SALVAGE

YEAR	REGULAR RETIREMENTS	COST OF REMOVAL		GROSS SALVAGE		NET SALVAGE	
		AMOUNT	PCT	AMOUNT	PCT	AMOUNT	PCT
2011	7,223		0		0		0
2012							
2013							
2014							
2015							
TOTAL	293,904	3,958	1	1,353	0	2,605-	1-

THREE-YEAR MOVING AVERAGES

69-71	1,364	355	26	436	32	81	6
70-72	1,387	282	20	290	21	9	1
71-73	1,426	325	23	210	15	115-	8-
72-74	861	283	33	16	2	267-	31-
73-75	623	292	47	36	6	256-	41-
74-76	687	68	10	36	5	32-	5-
75-77	944	33	4	13	1	20-	2-
76-78	1,305		0		0		0
77-79	1,604		0		0		0
78-80	1,720	17	1		0	17-	1-
79-81	2,016	17	1		0	17-	1-
80-82	3,273	17	1		0	17-	1-
81-83	3,607		0		0		0
82-84	3,822		0		0		0
83-85	3,335		0		0		0
84-86	5,261		0		0		0
85-87	5,994		0		0		0
86-88	6,340		0	17-	0	17-	0
87-89	5,160		0	17-	0	17-	0
88-90	4,758		0	17-	0	17-	0
89-91	4,528		0		0		0
90-92	3,239		0		0		0
91-93	4,853	15	0		0	15-	0
92-94	4,007	15	0		0	15-	0
93-95	5,500	48	1	3	0	45-	1-
94-96	7,466	107	1	3	0	105-	1-
95-97	12,906	131	1	3	0	128-	1-
96-98	20,882	182	1		0	182-	1-
97-99	20,557	136	1		0	136-	1-
98-00	17,037	379	2		0	379-	2-
99-01	9,357	370	4		0	370-	4-
00-02	7,140	341	5		0	341-	5-

COLUMBIA GAS OF KENTUCKY, INC.

ACCOUNT 384 HOUSE REGULATOR INSTALLATIONS

SUMMARY OF BOOK SALVAGE

YEAR	REGULAR RETIREMENTS	COST OF REMOVAL		GROSS SALVAGE		NET SALVAGE	
		AMOUNT	PCT	AMOUNT	PCT	AMOUNT	PCT
THREE-YEAR MOVING AVERAGES							
01-03	5,557	74	1		0	74-	1-
02-04	3,449	23	1		0	23-	1-
03-05	8,687	23	0		0	23-	0
04-06	52,038	23	0		0	23-	0
05-07	62,448		0		0		0
06-08	13,727	8	0		0	8-	0
07-09	20,462-	8	0		0	8-	0
08-10	28,233-	8	0		0	8-	0
09-11	15,241		0		0		0
10-12	5,068		0		0		0
11-13	2,408		0		0		0
12-14							
13-15							
FIVE-YEAR AVERAGE							
11-15	1,445		0		0		0

COLUMBIA GAS OF KENTUCKY, INC.

ACCOUNT 385 INDUSTRIAL MEASURING AND REGULATING STATION EQUIPMENT

SUMMARY OF BOOK SALVAGE

YEAR	REGULAR RETIREMENTS	COST OF REMOVAL		GROSS SALVAGE		NET SALVAGE	
		AMOUNT	PCT	AMOUNT	PCT	AMOUNT	PCT
1969	4,399	672	15	1,256	29	584	13
1970	22,773	4,342	19	9,780	43	5,438	24
1971	25,135	4,197	17	13,522	54	9,325	37
1972	9,083	968	11	3,856	42	2,888	32
1973	7,805	1,164	15	3,601	46	2,436	31
1974	6,409	48	1	1,998-	31-	2,046-	32-
1975	8,153	705	9	2,035	25	1,329	16
1976	7,629	2,502	33	1,703	22	798-	10-
1977	2,651	159	6	2	0	157-	6-
1978	10,509	379	4	256	2	123-	1-
1979	5,697	485	9	114	2	371-	7-
1980	8,037	811-	10-	2,151	27	2,962	37
1981	10,187	551	5	481	5	70-	1-
1982	4,975	90-	2-	3,187	64	3,277	66
1983	11,659	2,508	22	2,786	24	278	2
1984	12,619	1,048	8	199	2	850-	7-
1985	6,964	671	10	155-	2-	826-	12-
1986	29,018	2,240	8	2,249	8	9	0
1987	17,825	1,749	10	691	4	1,058-	6-
1988	15,948	6,558	41	337	2	6,222-	39-
1989	5,159	1,737	34	10	0	1,726-	33-
1990	5,753	2,039	35	1,130	20	909-	16-
1991	4,856	948	20	5	0	943-	19-
1992	3,096	772	25	5	0	767-	25-
1993	39,438	231-	1-	10,477	27	10,708	27
1994	14,773	3,344	23	6	0	3,338-	23-
1995	37,665	2,521	7		0	2,521-	7-
1996	33,120	4,632	14		0	4,632-	14-
1997	23,607	1,083	5		0	1,083-	5-
1998	28,392	624	2	1,696	6	1,072	4
1999	23,983	2,516	10	1	0	2,516-	10-
2000	121,588	12,513	10		0	12,513-	10-
2001	27,180	2,012	7		0	2,012-	7-
2002	3,521	236	7		0	236-	7-
2003	57,867	2,202	4		0	2,202-	4-
2004	130,180	7,110	5		0	7,110-	5-
2005	107,077	4,407	4		0	4,407-	4-
2006	14,751	2,384	16		0	2,384-	16-
2007	43,360	3,682	8	1,475	3	2,207-	5-
2008	73,551	9,658	13		0	9,658-	13-
2009	38,322	12,147	32		0	12,147-	32-
2010	22,088	539	2		0	539-	2-

COLUMBIA GAS OF KENTUCKY, INC.

ACCOUNT 385 INDUSTRIAL MEASURING AND REGULATING STATION EQUIPMENT

SUMMARY OF BOOK SALVAGE

YEAR	REGULAR RETIREMENTS	COST OF REMOVAL		GROSS SALVAGE		NET SALVAGE	
		AMOUNT	PCT	AMOUNT	PCT	AMOUNT	PCT
2011	63,482	3,479	5		0	3,479-	5-
2012	74,082	4,195	6		0	4,195-	6-
2013	88,829	8,025	9		0	8,025-	9-
2014	80,445	10,530	13		0	10,530-	13-
2015	69,338	10,173	15		0	10,173-	15-
TOTAL	1,462,980	143,322	10	60,855	4	82,467-	6-

THREE-YEAR MOVING AVERAGES

69-71	17,436	3,070	18	8,186	47	5,116	29
70-72	18,997	3,169	17	9,052	48	5,884	31
71-73	14,008	2,110	15	6,993	50	4,883	35
72-74	7,766	727	9	1,819	23	1,093	14
73-75	7,456	639	9	1,212	16	573	8
74-76	7,397	1,085	15	580	8	505-	7-
75-77	6,145	1,122	18	1,247	20	125	2
76-78	6,930	1,013	15	654	9	360-	5-
77-79	6,286	341	5	124	2	217-	3-
78-80	8,081	18	0	840	10	823	10
79-81	7,974	75	1	915	11	840	11
80-82	7,733	117-	2-	1,940	25	2,056	27
81-83	8,941	990	11	2,151	24	1,162	13
82-84	9,751	1,155	12	2,057	21	902	9
83-85	10,414	1,409	14	943	9	466-	4-
84-86	16,200	1,319	8	764	5	556-	3-
85-87	17,936	1,553	9	928	5	625-	3-
86-88	20,930	3,516	17	1,092	5	2,424-	12-
87-89	12,977	3,348	26	346	3	3,002-	23-
88-90	8,953	3,445	38	492	5	2,952-	33-
89-91	5,256	1,575	30	382	7	1,193-	23-
90-92	4,568	1,253	27	380	8	873-	19-
91-93	15,797	496	3	3,496	22	2,999	19
92-94	19,102	1,295	7	3,496	18	2,201	12
93-95	30,626	1,878	6	3,494	11	1,616	5
94-96	28,520	3,499	12	2	0	3,497-	12-
95-97	31,464	2,746	9		0	2,746-	9-
96-98	28,373	2,113	7	565	2	1,548-	5-
97-99	25,328	1,408	6	566	2	842-	3-
98-00	57,988	5,218	9	566	1	4,652-	8-
99-01	57,584	5,680	10		0	5,680-	10-
00-02	50,763	4,920	10		0	4,920-	10-

COLUMBIA GAS OF KENTUCKY, INC.

ACCOUNT 385 INDUSTRIAL MEASURING AND REGULATING STATION EQUIPMENT

SUMMARY OF BOOK SALVAGE

YEAR	REGULAR RETIREMENTS	COST OF REMOVAL		GROSS SALVAGE		NET SALVAGE	
		AMOUNT	PCT	AMOUNT	PCT	AMOUNT	PCT
THREE-YEAR MOVING AVERAGES							
01-03	29,523	1,483	5		0	1,483-	5-
02-04	63,856	3,183	5		0	3,183-	5-
03-05	98,375	4,573	5		0	4,573-	5-
04-06	84,003	4,634	6		0	4,634-	6-
05-07	55,063	3,491	6	492	1	2,999-	5-
06-08	43,887	5,241	12	492	1	4,750-	11-
07-09	51,745	8,496	16	492	1	8,004-	15-
08-10	44,654	7,448	17		0	7,448-	17-
09-11	41,297	5,388	13		0	5,388-	13-
10-12	53,217	2,737	5		0	2,737-	5-
11-13	75,464	5,233	7		0	5,233-	7-
12-14	81,118	7,584	9		0	7,584-	9-
13-15	79,537	9,576	12		0	9,576-	12-
FIVE-YEAR AVERAGE							
11-15	75,235	7,281	10		0	7,281-	10-

COLUMBIA GAS OF KENTUCKY, INC.

ACCOUNT 387.4 OTHER EQUIPMENT - CUSTOMER INFORMATION SERVICES

SUMMARY OF BOOK SALVAGE

YEAR	REGULAR RETIREMENTS	COST OF REMOVAL		GROSS SALVAGE		NET SALVAGE	
		AMOUNT	PCT	AMOUNT	PCT	AMOUNT	PCT
1969	2,119	54	3		0	54-	3-
1970	1,567	30	2	300	19	270	17
1971	2,710	32	1	498	18	466	17
1972							
1973	519	17	3	372	72	355	68
1974	1,444	88	6	90	6	2	0
1975	12,219	687	6	33	0	654-	5-
1976							
1977	4,258	339	8	200	5	139-	3-
1978	3,169	97	3	320	10	223	7
1979							
1980	13,211	1,239	9	75	1	1,165-	9-
1981	4,438	71	2		0	71-	2-
1982	760	154	20		0	154-	20-
1983							
1984	840	371	44		0	371-	44-
1985	333		0		0		0
1986	601	130	22		0	130-	22-
1987	45,879	79	0		0	79-	0
1988	136		0		0		0
1989	9,676	624	6		0	624-	6-
1990	2,368	337	14		0	337-	14-
1991	49,708	628	1	4,040	8	3,412	7
1992	23,997	669	3		0	669-	3-
1993	730	844	116		0	844-	116-
1994							
1995							
1996	1,185		0		0		0
1997							
1998	12,557	2,992	24	123,716	985	120,723	961
1999	5,650	127	2		0	127-	2-
2000	9,936	1,230	12		0	1,230-	12-
2001							
2002							
2003							
2004	30,370	7,026	23		0	7,026-	23-
2005	49,606	2,722	5		0	2,722-	5-
2006							
2007							
2008	1,015-		0		0		0
2009							
2010							

COLUMBIA GAS OF KENTUCKY, INC.

ACCOUNT 387.4 OTHER EQUIPMENT - CUSTOMER INFORMATION SERVICES

SUMMARY OF BOOK SALVAGE

YEAR	REGULAR RETIREMENTS	COST OF REMOVAL		GROSS SALVAGE		NET SALVAGE	
		AMOUNT	PCT	AMOUNT	PCT	AMOUNT	PCT
2011	7,471		0		0		0
2012	12,213	727	6		0	727-	6-
2013	214,158		0		0		0
2014	47,886	9,383	20		0	9,383-	20-
2015	48,376		0		0		0
TOTAL	619,072	30,699	5	129,643	21	98,944	16

THREE-YEAR MOVING AVERAGES

69-71	2,132	39	2	266	12	227	11
70-72	1,426	21	1	266	19	245	17
71-73	1,076	17	2	290	27	274	25
72-74	654	35	5	154	24	119	18
73-75	4,727	264	6	165	3	99-	2-
74-76	4,554	258	6	41	1	217-	5-
75-77	5,492	342	6	78	1	264-	5-
76-78	2,476	145	6	173	7	28	1
77-79	2,476	145	6	173	7	28	1
78-80	5,460	445	8	131	2	314-	6-
79-81	5,883	437	7	25	0	412-	7-
80-82	6,136	488	8	25	0	463-	8-
81-83	1,733	75	4		0	75-	4-
82-84	533	175	33		0	175-	33-
83-85	391	124	32		0	124-	32-
84-86	591	167	28		0	167-	28-
85-87	15,604	70	0		0	70-	0
86-88	15,539	70	0		0	70-	0
87-89	18,564	234	1		0	234-	1-
88-90	4,060	320	8		0	320-	8-
89-91	20,584	530	3	1,347	7	817	4
90-92	25,358	545	2	1,347	5	802	3
91-93	24,812	714	3	1,347	5	633	3
92-94	8,242	504	6		0	504-	6-
93-95	243	281	116		0	281-	116-
94-96	395		0		0		0
95-97	395		0		0		0
96-98	4,580	997	22	41,239	900	40,241	879
97-99	6,069	1,040	17	41,239	680	40,199	662
98-00	9,381	1,450	15	41,239	440	39,789	424
99-01	5,195	453	9		0	453-	9-
00-02	3,312	410	12		0	410-	12-

COLUMBIA GAS OF KENTUCKY, INC.

ACCOUNT 387.4 OTHER EQUIPMENT - CUSTOMER INFORMATION SERVICES

SUMMARY OF BOOK SALVAGE

YEAR	REGULAR RETIREMENTS	COST OF REMOVAL AMOUNT	PCT	GROSS SALVAGE AMOUNT	PCT	NET SALVAGE AMOUNT	PCT
THREE-YEAR MOVING AVERAGES							
01-03							
02-04	10,123	2,342	23		0	2,342-	23-
03-05	26,659	3,249	12		0	3,249-	12-
04-06	26,659	3,249	12		0	3,249-	12-
05-07	16,535	907	5		0	907-	5-
06-08	338-		0		0		0
07-09	338-		0		0		0
08-10	338-		0		0		0
09-11	2,490		0		0		0
10-12	6,561	242	4		0	242-	4-
11-13	77,947	242	0		0	242-	0
12-14	91,419	3,370	4		0	3,370-	4-
13-15	103,473	3,128	3		0	3,128-	3-
FIVE-YEAR AVERAGE							
11-15	66,021	2,022	3		0	2,022-	3-

COLUMBIA GAS OF KENTUCKY, INC.

ACCOUNT 392.2 TRANSPORTATION EQUIPMENT - TRAILERS

SUMMARY OF BOOK SALVAGE

YEAR	REGULAR RETIREMENTS	COST OF REMOVAL		GROSS SALVAGE		NET SALVAGE	
		AMOUNT	PCT	AMOUNT	PCT	AMOUNT	PCT
1975	212		0	71	33	71	33
1976							
1977							
1978							
1979							
1980							
1981	206		0		0		0
1982							
1983				50		50	
1984							
1985							
1986							
1987							
1988							
1989							
1990							
1991							
1992							
1993							
1994							
1995							
1996							
1997	1,616		0		0		0
1998							
1999							
2000							
2001							
2002							
2003							
2004							
2005							
2006							
2007							
2008	15,840		0		0		0
2009							
2010							
2011				17,226		17,226	
2012							
2013	65,597		0	4,093	6	4,093	6

COLUMBIA GAS OF KENTUCKY, INC.

ACCOUNT 392.2 TRANSPORTATION EQUIPMENT - TRAILERS

SUMMARY OF BOOK SALVAGE

YEAR	REGULAR RETIREMENTS	COST OF REMOVAL		GROSS SALVAGE		NET SALVAGE	
		AMOUNT	PCT	AMOUNT	PCT	AMOUNT	PCT
2014	4,168		0	2,000	48	2,000	48
2015							
TOTAL	87,639		0	23,440	27	23,440	27

THREE-YEAR MOVING AVERAGES

75-77	71		0	24	33	24	33
76-78							
77-79							
78-80							
79-81	69		0		0		0
80-82	69		0		0		0
81-83	69		0	17	24	17	24
82-84				17		17	
83-85				17		17	
84-86							
85-87							
86-88							
87-89							
88-90							
89-91							
90-92							
91-93							
92-94							
93-95							
94-96							
95-97	539		0		0		0
96-98	539		0		0		0
97-99	539		0		0		0
98-00							
99-01							
00-02							
01-03							
02-04							
03-05							
04-06							
05-07							
06-08	5,280		0		0		0
07-09	5,280		0		0		0
08-10	5,280		0		0		0
09-11				5,742		5,742	

COLUMBIA GAS OF KENTUCKY, INC.

ACCOUNT 392.2 TRANSPORTATION EQUIPMENT - TRAILERS

SUMMARY OF BOOK SALVAGE

YEAR	REGULAR RETIREMENTS	COST OF REMOVAL AMOUNT	PCT	GROSS SALVAGE AMOUNT	PCT	NET SALVAGE AMOUNT	PCT
THREE-YEAR MOVING AVERAGES							
10-12				5,742		5,742	
11-13	21,866		0	7,106	33	7,106	33
12-14	23,255		0	2,031	9	2,031	9
13-15	23,255		0	2,031	9	2,031	9
FIVE-YEAR AVERAGE							
11-15	13,953		0	4,664	33	4,664	33

COLUMBIA GAS OF KENTUCKY, INC.

ACCOUNT 396 POWER OPERATED EQUIPMENT

SUMMARY OF BOOK SALVAGE

YEAR	REGULAR RETIREMENTS	COST OF REMOVAL		GROSS SALVAGE		NET SALVAGE	
		AMOUNT	PCT	AMOUNT	PCT	AMOUNT	PCT
1969	4,120		0	1,031	25	1,031	25
1970	15,876		0	2,400	15	2,400	15
1971	21,697		0	5,734	26	5,734	26
1972	10,427		0	1,635	16	1,635	16
1973	26,260		0	1,428	5	1,428	5
1974							
1975	27,454		0	9,131	33	9,131	33
1976	4,600		0	850	18	850	18
1977	2,603		0	400	15	400	15
1978							
1979	4,692		0	900	19	900	19
1980							
1981							
1982							
1983	2,825		0	1,050	37	1,050	37
1984							
1985							
1986							
1987							
1988							
1989							
1990	44,237		0	24,845	56	24,845	56
1991							
1992	6,606		0	2,002	30	2,002	30
1993	6-		0		0		0
1994	18,150		0	2,028	11	2,028	11
1995	2,013		0		0		0
1996	115,296		0	36,333	32	36,333	32
1997	40,065		0		0		0
1998							
1999							
2000	7,831		0		0		0
2001							
2002	74,143		0	33,178	45	33,178	45
2003	16,476		0	3,730	23	3,730	23
2004	28,900		0	45,941	159	45,941	159
2005				5,465		5,465	
2006							
2007	27,614		0		0		0
2008				4,725		4,725	
2009	7,038		0	10,785	153	10,785	153
2010							

COLUMBIA GAS OF KENTUCKY, INC.

ACCOUNT 396 POWER OPERATED EQUIPMENT

SUMMARY OF BOOK SALVAGE

YEAR	REGULAR RETIREMENTS	COST OF REMOVAL		GROSS SALVAGE		NET SALVAGE	
		AMOUNT	PCT	AMOUNT	PCT	AMOUNT	PCT
2011							
2012							
2013	388,522		0		0		0
2014				14,900		14,900	
2015							
TOTAL	897,441		0	208,489	23	208,489	23

THREE-YEAR MOVING AVERAGES

69-71	13,898		0	3,055	22	3,055	22
70-72	16,000		0	3,256	20	3,256	20
71-73	19,461		0	2,932	15	2,932	15
72-74	12,229		0	1,021	8	1,021	8
73-75	17,905		0	3,520	20	3,520	20
74-76	10,685		0	3,327	31	3,327	31
75-77	11,553		0	3,460	30	3,460	30
76-78	2,401		0	417	17	417	17
77-79	2,432		0	433	18	433	18
78-80	1,564		0	300	19	300	19
79-81	1,564		0	300	19	300	19
80-82							
81-83	942		0	350	37	350	37
82-84	942		0	350	37	350	37
83-85	942		0	350	37	350	37
84-86							
85-87							
86-88							
87-89							
88-90	14,746		0	8,282	56	8,282	56
89-91	14,746		0	8,282	56	8,282	56
90-92	16,948		0	8,949	53	8,949	53
91-93	2,200		0	667	30	667	30
92-94	8,250		0	1,343	16	1,343	16
93-95	6,719		0	676	10	676	10
94-96	45,153		0	12,787	28	12,787	28
95-97	52,458		0	12,111	23	12,111	23
96-98	51,787		0	12,111	23	12,111	23
97-99	13,355		0		0		0
98-00	2,610		0		0		0
99-01	2,610		0		0		0
00-02	27,325		0	11,059	40	11,059	40

COLUMBIA GAS OF KENTUCKY, INC.

ACCOUNT 396 POWER OPERATED EQUIPMENT

SUMMARY OF BOOK SALVAGE

YEAR	REGULAR RETIREMENTS	COST OF REMOVAL		GROSS SALVAGE		NET SALVAGE	
		AMOUNT	PCT	AMOUNT	PCT	AMOUNT	PCT
THREE-YEAR MOVING AVERAGES							
01-03	30,206		0	12,302	41	12,302	41
02-04	39,840		0	27,616	69	27,616	69
03-05	15,125		0	18,379	122	18,379	122
04-06	9,633		0	17,135	178	17,135	178
05-07	9,205		0	1,822	20	1,822	20
06-08	9,205		0	1,575	17	1,575	17
07-09	11,551		0	5,170	45	5,170	45
08-10	2,346		0	5,170	220	5,170	220
09-11	2,346		0	3,595	153	3,595	153
10-12							
11-13	129,507		0		0		0
12-14	129,507		0	4,967	4	4,967	4
13-15	129,507		0	4,967	4	4,967	4
FIVE-YEAR AVERAGE							
11-15	77,704		0	2,980	4	2,980	4

COLUMBIA GAS OF KENTUCKY, INC.

ACCOUNT 374.4 LAND AND LAND RIGHTS - LAND RIGHTS

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AS OF DECEMBER 31, 2015

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
SURVIVOR CURVE.. IOWA 70-R2						
NET SALVAGE PERCENT.. 0						
1940	631.74	525	442	190	15.41	12
1946	27.50	22	19	8	17.46	
1949	318.25	248	209	109	18.97	6
1954	1,417.34	1,055	889	528	21.14	25
1955	645.29	476	401	244	21.47	11
1956	719.59	522	440	280	22.47	12
1957	307.00	221	186	121	22.80	5
1958	1,494.06	1,065	897	597	23.15	26
1959	1,468.93	1,037	873	596	23.50	25
1960	262.71	184	155	108	23.87	5
1961	636.06	437	368	268	24.87	11
1962	1,753.87	1,192	1,004	750	25.24	30
1963	3,172.75	2,132	1,796	1,377	25.62	54
1964	3,424.35	2,275	1,916	1,508	26.02	58
1965	706.66	464	391	316	26.42	12
1966	848.01	550	463	385	26.84	14
1967	488.18	310	261	227	27.83	8
1968	530.52	333	280	251	28.26	9
1969	525.72	325	274	252	28.69	9
1970	1,612.58	983	828	785	29.13	27
1971	964.42	579	488	476	29.57	16
1972	4,729.85	2,798	2,357	2,373	30.03	79
1974	2,820.09	1,604	1,351	1,469	31.49	47
1976	334.72	184	155	180	32.45	6
1977	558.79	301	254	305	32.93	9
1978	2,922.50	1,545	1,301	1,622	33.42	49
1980	3,039.01	1,543	1,300	1,739	34.43	51
1981	6,212.73	3,065	2,582	3,631	35.43	102
1982	9,762.89	4,710	3,967	5,796	35.94	161
1983	17,318.14	8,160	6,873	10,445	36.47	286
1984	33,629.96	15,466	13,027	20,603	36.99	557
1985	20,976.82	9,406	7,923	13,054	37.52	348
1986	24,833.25	10,842	9,132	15,701	38.07	412
1987	61,472.42	26,101	21,985	39,487	38.62	1,022
1988	23,203.80	9,572	8,062	15,142	39.17	387
1989	38,118.77	15,255	12,849	25,270	39.72	636
1990	15,601.41	6,047	5,093	10,508	40.29	261
1991	9,950.28	3,729	3,141	6,809	40.86	167
1992	7,297.89	2,641	2,224	5,074	41.44	122
1993	1,640.72	572	482	1,159	42.01	28
1994	50,580.17	16,965	14,290	36,290	42.60	852
1995	16,231.43	5,257	4,428	11,803	42.79	276
1997	22,942.04	6,791	5,720	17,222	44.00	391

COLUMBIA GAS OF KENTUCKY, INC.

ACCOUNT 374.4 LAND AND LAND RIGHTS - LAND RIGHTS

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AS OF DECEMBER 31, 2015

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
SURVIVOR CURVE.. IOWA 70-R2						
NET SALVAGE PERCENT.. 0						
1998	7,537.57	2,124	1,789	5,749	44.61	129
1999	60.02	16	13	47	45.23	1
2000	11,645.10	2,960	2,493	9,152	45.48	201
2001	6,716.70	1,607	1,354	5,363	46.11	116
2002	15,890.64	3,561	2,999	12,892	46.74	276
2004	16,873.25	3,280	2,763	14,110	47.67	296
2005	2,445.73	439	370	2,076	47.98	43
2007	1,986.50	296	249	1,738	48.64	36
2008	25,783.52	3,424	2,884	22,900	48.99	467
2009	48,492.88	5,645	4,755	43,738	49.36	886
2010	52,809.89	5,286	4,452	48,358	49.45	978
2011	14,602.00	1,215	1,023	13,579	49.56	274
2012	22,039.05	1,459	1,229	20,810	49.41	421
2013	22,242.14	1,079	909	21,333	49.05	435
2014	16,047.46	485	409	15,638	48.25	324
	661,305.66	200,365	168,767	492,539		11,507

COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PERCENT .. 42.8 1.74

COLUMBIA GAS OF KENTUCKY, INC.

ACCOUNT 374.5 LAND AND LAND RIGHTS - RIGHTS-OF-WAY

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AS OF DECEMBER 31, 2015

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
SURVIVOR CURVE.. IOWA 75-S4						
NET SALVAGE PERCENT.. 0						
1900	7.64	8	8			
1905	4,639.41	4,511	4,639			
1906	453.46	442	453			
1908	509.81	493	510			
1910	32.76	32	33			
1911	39.25	38	39			
1912	166.79	161	167			
1913	39,647.24	38,200	39,647			
1914	440.81	425	441			
1915	17.37	17	17			
1916	3,714.53	3,548	3,715			
1917	2.52	2	2	1	4.60	
1918	222.02	212	222			
1920	8.85	8	9			
1921	4.00	4	4			
1922	550.17	520	550			
1927	574.78	539	575			
1928	7,615.83	7,064	7,551	65	6.84	10
1929	9,365.20	8,668	9,265	100	6.95	14
1930	293.53	271	290	4	7.09	1
1931	75.68	70	75	1	7.25	
1932	11.42	10	11			
1933	121.75	111	119	3	7.59	
1934	38.48	35	37	1	7.79	
1936	42.73	39	42	1	8.22	
1937	147.11	133	142	5	8.45	1
1938	291.95	262	280	12	8.71	1
1939	54.17	48	51	3	8.97	
1940	1,406.23	1,242	1,328	78	9.97	8
1941	3,083.74	2,711	2,898	186	10.25	18
1942	82.48	72	77	5	10.54	
1943	178.77	156	167	12	10.83	1
1944	55.72	48	51	5	11.14	
1945	35.21	30	32	3	11.47	
1946	55.44	47	50	5	11.80	
1947	388.45	330	353	35	12.15	3
1948	1,231.01	1,039	1,111	120	12.50	10
1949	2,790.90	2,320	2,480	311	13.50	23
1950	3,189.10	2,632	2,813	376	13.87	27
1951	7,892.84	6,466	6,911	982	14.24	69
1952	1,366.64	1,111	1,188	179	14.62	12
1953	4,099.22	3,305	3,533	566	15.02	38

COLUMBIA GAS OF KENTUCKY, INC.

ACCOUNT 374.5 LAND AND LAND RIGHTS - RIGHTS-OF-WAY

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AS OF DECEMBER 31, 2015

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
SURVIVOR CURVE.. IOWA 75-S4						
NET SALVAGE PERCENT.. 0						
1954	5,721.14	4,539	4,852	869	16.02	54
1955	314.60	247	264	51	16.42	3
1956	1,907.97	1,487	1,589	319	16.84	19
1957	1,176.95	902	964	213	17.83	12
1958	21,005.37	15,943	17,041	3,964	18.26	217
1959	5,254.98	3,949	4,221	1,034	18.69	55
1960	6,002.69	4,431	4,736	1,267	19.68	64
1961	11,709.76	8,552	9,141	2,569	20.13	128
1962	3,663.44	2,626	2,807	856	21.13	41
1963	5,765.71	4,087	4,369	1,397	21.57	65
1964	3,606.15	2,507	2,680	926	22.58	41
1965	2,918.74	1,990	2,127	792	23.57	34
1966	27,810.21	18,722	20,012	7,798	24.03	325
1967	4,679.09	3,086	3,299	1,380	25.03	55
1968	5,001.45	3,231	3,454	1,547	26.03	59
1969	42,871.21	27,112	28,980	13,891	27.03	514
1970	28,515.31	17,776	19,000	9,515	27.49	346
1971	16,220.35	9,888	10,569	5,651	28.50	198
1972	27,985.97	16,680	17,829	10,157	29.49	344
1973	5,481.78	3,191	3,411	2,071	30.50	68
1974	1,658.65	943	1,008	651	31.49	21
1975	9,583.32	5,317	5,683	3,900	32.50	120
1976	5,163.94	2,795	2,988	2,176	33.49	65
1977	4,195.28	2,229	2,383	1,812	33.96	53
1978	2,876.24	1,488	1,590	1,286	34.96	37
1979	13,433.90	6,767	7,233	6,201	35.96	172
1980	12,768.07	6,255	6,686	6,082	36.96	165
1981	10,564.93	5,030	5,376	5,189	37.96	137
1982	1,162.68	538	575	588	38.96	15
1983	9,009.79	4,041	4,319	4,691	39.96	117
1984	68,733.35	29,878	31,936	36,797	40.96	898
1985	12,854.49	5,410	5,783	7,071	41.96	169
1986	32,815.46	13,359	14,279	18,536	42.96	431
1987	21,389.93	8,413	8,993	12,397	43.96	282
1988	97,331.04	36,937	39,481	57,850	44.96	1,287
1989	76,248.28	27,884	29,805	46,443	45.96	1,011
1990	86,482.89	30,433	32,529	53,954	46.96	1,149
1991	52,430.84	17,727	18,948	33,483	47.96	698
1992	60,042.13	19,472	20,813	39,229	48.96	801
1993	50,939.96	15,817	16,907	34,033	49.96	681
1994	214,025.02	63,501	67,875	146,150	50.96	2,868
1995	177,926.39	50,335	53,803	124,123	51.96	2,389

COLUMBIA GAS OF KENTUCKY, INC.

ACCOUNT 374.5 LAND AND LAND RIGHTS - RIGHTS-OF-WAY

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AS OF DECEMBER 31, 2015

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
SURVIVOR CURVE.. IOWA 75-S4						
NET SALVAGE PERCENT.. 0						
1996	30,598.73	8,234	8,801	21,798	52.96	412
1998	8,061.70	1,947	2,081	5,981	54.96	109
2000	10,513.30	2,249	2,404	8,109	56.96	142
2001	145,613.01	29,137	31,144	114,469	57.96	1,975
2002	1,125,585.22	209,697	224,143	901,442	58.96	15,289
2005	2,009.13	291	311	1,698	61.96	27
	2,666,575.55	844,450	901,108	1,765,468		34,398
COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PERCENT ..						51.3 1.29

COLUMBIA GAS OF KENTUCKY, INC.

ACCOUNT 375.34 STRUCTURES AND IMPROVEMENTS - MEASURING AND REGULATING

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AS OF DECEMBER 31, 2015

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
SURVIVOR CURVE.. IOWA 52-R1.5						
NET SALVAGE PERCENT.. -20						
1911	893.77	1,073	1,073			
1915	197.21	233	206	31	1.54	20
1928	694.05	787	695	138	5.09	27
1929	397.89	450	397	80	5.25	15
1930	176.23	199	176	35	5.41	6
1932	64.48	72	64	13	5.79	2
1936	223.19	247	218	50	6.71	7
1937	24.89	27	24	6	6.97	1
1939	318.36	348	307	75	7.53	10
1940	539.34	586	518	129	7.83	16
1941	932.83	1,009	891	228	8.15	28
1943	38.93	42	37	10	8.15	1
1947	214.44	226	200	57	9.62	6
1948	64.09	67	59	18	10.02	2
1949	331.79	344	304	94	10.42	9
1950	2,472.19	2,565	2,266	701	10.26	68
1951	5,210.30	5,363	4,737	1,515	10.69	142
1952	2,321.06	2,370	2,093	692	11.13	62
1953	2,951.41	2,988	2,639	903	11.57	78
1954	5,137.26	5,194	4,588	1,577	11.49	137
1955	3,459.47	3,466	3,062	1,089	11.96	91
1956	7,129.69	7,076	6,250	2,306	12.45	185
1957	5,254.06	5,200	4,593	1,712	12.43	138
1958	6,160.93	6,036	5,332	2,061	12.92	160
1959	5,585.68	5,416	4,784	1,919	13.43	143
1960	7,443.17	7,138	6,305	2,627	13.94	188
1961	398.15	380	336	142	13.99	10
1962	2,689.57	2,538	2,242	985	14.53	68
1963	2,587.90	2,429	2,146	959	14.62	66
1964	10,641.33	9,865	8,714	4,056	15.17	267
1965	6,083.01	5,567	4,917	2,383	15.72	152
1966	6,431.85	5,846	5,164	2,554	15.86	161
1967	2,588.14	2,320	2,049	1,057	16.44	64
1968	2,750.91	2,430	2,146	1,155	17.02	68
1970	13,799.07	11,904	10,515	6,044	17.79	340
1971	13,862.47	11,844	10,462	6,173	18.00	343
1972	7,169.41	6,026	5,323	3,280	18.61	176
1973	7,037.63	5,851	5,168	3,277	18.85	174
1974	2,226.85	1,819	1,607	1,065	19.48	55
1976	71.18	56	49	36	20.38	2
1977	3,520.86	2,749	2,428	1,797	20.67	87
1978	3,260.89	2,495	2,204	1,709	21.32	80

COLUMBIA GAS OF KENTUCKY, INC.

ACCOUNT 375.34 STRUCTURES AND IMPROVEMENTS - MEASURING AND REGULATING

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AS OF DECEMBER 31, 2015

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
SURVIVOR CURVE.. IOWA 52-R1.5						
NET SALVAGE PERCENT.. -20						
1979	2,876.54	2,167	1,914	1,538	21.64	71
1980	19,955.95	14,708	12,992	10,955	22.30	491
1981	4,975.93	3,605	3,184	2,787	22.64	123
1982	44,317.42	31,355	27,697	25,484	23.32	1,093
1983	14,782.02	10,262	9,065	8,673	23.68	366
1984	37,293.19	25,374	22,414	22,338	24.06	928
1985	65,010.47	43,063	38,039	39,974	24.75	1,615
1986	33,249.46	21,538	19,025	20,874	25.15	830
1987	101,713.96	64,348	56,840	65,217	25.56	2,552
1988	15,207.81	9,384	8,289	9,960	25.98	383
1989	10,113.68	6,046	5,341	6,795	26.69	255
1990	29,648.22	17,237	15,226	20,352	27.13	750
1991	4,350.98	2,456	2,169	3,052	27.58	111
1992	458.84	251	222	329	28.05	12
1993	750.28	397	351	549	28.52	19
1994	3,327.06	1,700	1,502	2,490	29.01	86
1995	8,429.84	4,147	3,663	6,453	29.50	219
1996	31,017.18	14,661	12,950	24,271	30.00	809
1997	2,485.67	1,131	999	1,984	30.28	66
1998	15,239.02	6,623	5,850	12,437	30.81	404
1999	6,771.06	2,815	2,487	5,638	31.12	181
2000	2,843.16	1,121	990	2,422	31.67	76
2001	34,293.66	12,831	11,334	29,818	32.01	932
2002	24,994.58	8,827	7,797	22,196	32.37	686
2003	1,447.21	480	424	1,313	32.75	40
2004	5,988.54	1,851	1,635	5,551	33.14	168
2005	5,198.99	1,494	1,320	4,919	33.36	147
2006	20,743.31	5,486	4,846	20,046	33.60	597
2007	27,457.41	6,610	5,839	27,110	33.87	800
2008	33,895.52	7,321	6,467	34,208	34.17	1,001
2009	15,253.81	2,927	2,585	15,720	34.15	460
2010	139,686.05	23,233	20,522	147,101	34.18	4,304
2011	115,097.22	16,104	14,225	123,892	34.11	3,632
2012	170,843.61	19,230	16,986	188,026	33.81	5,561
2013	168,569.46	14,160	12,508	189,775	33.21	5,714
2014	109,859.54	5,893	5,206	126,625	32.06	3,950
2015	397,311.34	8,201	7,244	469,530	28.65	16,388
	1,868,813.92	551,678	487,435	1,755,142		59,475

COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PERCENT .. 29.5 3.18

COLUMBIA GAS OF KENTUCKY, INC.

ACCOUNT 375.7 STRUCTURES AND IMPROVEMENTS - OTHER DISTRIBUTION SYSTEM
STRUCTURES

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AS OF DECEMBER 31, 2015

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
PARIS AREA OFFICE - VINE STREET INTERIM SURVIVOR CURVE.. SQUARE PROBABLE RETIREMENT YEAR.. 6-2028 NET SALVAGE PERCENT.. 0						
1950	3,575.48	3,002	3,073	503	12.50	40
1974	502.19	386	395	107	12.50	9
1975	469.01	358	366	103	12.50	8
1977	2,458.15	1,856	1,900	558	12.50	45
1985	678.43	481	492	186	12.50	15
2001	23,425.95	12,581	12,878	10,548	12.50	844
	31,109.21	18,664	19,105	12,004		961
WINCHESTER SERVICE CENTER AND OFFICE INTERIM SURVIVOR CURVE.. SQUARE PROBABLE RETIREMENT YEAR.. 6-2042 NET SALVAGE PERCENT.. 0						
1992	567,413.50	266,684	272,981	294,432	26.50	11,111
2003	10,253.37	3,286	3,364	6,890	26.50	260
2009	4,308.86	849	869	3,440	26.50	130
2014	12,581.47	674	690	11,892	26.50	449
	594,557.20	271,493	277,904	316,653		11,950
LEXINGTON HEADQUARTERS INTERIM SURVIVOR CURVE.. SQUARE PROBABLE RETIREMENT YEAR.. 6-2044 NET SALVAGE PERCENT.. 0						
1924	240.00	183	187	53	28.50	2
1949	748.22	524	536	212	28.50	7
1994	6,179,394.33	2,657,140	2,719,884	3,459,511	28.50	121,386
1998	26,669.93	10,146	10,386	16,284	28.50	571
2000	9,603.96	3,383	3,463	6,141	28.50	215
2001	126,272.90	42,580	43,585	82,687	28.50	2,901
2003	8,863.24	2,702	2,766	6,097	28.50	214
2005	36,210.95	9,749	9,979	26,232	28.50	920
2006	3,323.54	831	851	2,473	28.50	87
2009	6,157.10	1,143	1,170	4,987	28.50	175
2010	6,651.14	1,076	1,101	5,550	28.50	195
2011	15,565.37	2,122	2,172	13,393	28.50	470

COLUMBIA GAS OF KENTUCKY, INC.

ACCOUNT 375.7 STRUCTURES AND IMPROVEMENTS - OTHER DISTRIBUTION SYSTEM
STRUCTURES

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AS OF DECEMBER 31, 2015

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
LEXINGTON HEADQUARTERS						
INTERIM SURVIVOR CURVE.. SQUARE						
PROBABLE RETIREMENT YEAR.. 6-2044						
NET SALVAGE PERCENT.. 0						
2013	7,125.00	575	589	6,536	28.50	229
2014	176,824.83	8,841	9,050	167,775	28.50	5,887
2015	577,980.65	9,964	10,199	567,781	28.50	19,922
	7,181,631.16	2,750,959	2,815,918	4,365,713		153,181

OTHER SMALL STRUCTURES
SURVIVOR CURVE.. IOWA 37-S2
NET SALVAGE PERCENT.. 0

1936	430.55	431	431			
1951	1,184.61	1,154	1,181	3	1.72	2
1952	1,942.35	1,887	1,932	11	1.86	6
1953	627.88	608	622	5	2.01	2
1954	802.91	775	793	10	2.19	5
1955	908.64	874	895	14	2.39	6
1957	5,163.12	4,924	5,041	122	2.85	43
1958	3,138.49	2,978	3,049	90	3.10	29
1959	3,585.31	3,383	3,463	122	3.38	36
1960	2,487.10	2,333	2,388	99	3.67	27
1961	3,791.07	3,554	3,638	153	3.64	42
1962	120.00	112	115	5	3.97	1
1963	318.95	295	302	17	4.32	4
1965	2,612.53	2,388	2,445	168	4.75	35
1967	962.53	868	889	74	5.26	14
1968	5,311.35	4,769	4,882	429	5.41	79
1970	3,058.84	2,700	2,764	295	6.05	49
1972	478.16	416	426	52	6.50	8
1973	3,195.06	2,757	2,822	373	6.76	55
1985	1,278.71	944	966	312	10.82	29
1987	18,970.52	13,461	13,781	5,190	11.66	445
1988	4,679.99	3,243	3,320	1,360	12.18	112
1996	30,096.82	16,433	16,823	13,274	16.21	819
2000	8,591.08	3,875	3,967	4,624	18.87	245
2003	1,820.23	678	694	1,126	21.06	53

COLUMBIA GAS OF KENTUCKY, INC.

ACCOUNT 375.7 STRUCTURES AND IMPROVEMENTS - OTHER DISTRIBUTION SYSTEM
STRUCTURES

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AS OF DECEMBER 31, 2015

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
OTHER SMALL STRUCTURES						
SURVIVOR CURVE.. IOWA 37-S2						
NET SALVAGE PERCENT.. 0						
2009	11,426.93	2,273	2,327	9,100	26.18	348
2013	69.29	5	5	64	30.07	2
2015	45,449.58	700	717	44,733	32.07	1,395
	162,502.60	78,818	80,679	81,824		3,891
	7,969,800.17	3,119,934	3,193,606	4,776,194		169,983
COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PERCENT ..						28.1 2.13

COLUMBIA GAS OF KENTUCKY, INC.

ACCOUNT 376 MAINS

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AS OF DECEMBER 31, 2015

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
CAST IRON						
INTERIM SURVIVOR CURVE.. IOWA 70-R1.5						
PROBABLE RETIREMENT YEAR.. 12-2037						
NET SALVAGE PERCENT.. -20						
1940	13,490.39	13,566	11,618	4,571	14.59	313
1941	893.79	895	766	306	14.79	21
1944	919.11	907	777	326	15.46	21
1945	1,646.98	1,616	1,384	592	15.71	38
1946	347.56	342	293	124	15.25	8
1947	142.66	140	120	51	15.53	3
1949	1,016.24	981	840	379	16.15	23
1950	1,660.20	1,605	1,374	618	15.80	39
1951	14,757.55	14,164	12,130	5,579	16.15	345
1952	256.72	245	210	98	16.50	6
1953	14,998.98	14,287	12,235	5,764	16.24	355
1954	34,359.71	32,458	27,796	13,436	16.62	808
1955	3,801.13	3,560	3,049	1,513	17.02	89
1956	21,609.39	20,211	17,308	8,623	16.84	512
1957	14,206.35	13,164	11,273	5,774	17.26	335
1958	7,984.38	7,382	6,322	3,260	17.13	190
1959	7,773.43	7,115	6,093	3,235	17.57	184
1960	11,555.64	10,544	9,030	4,837	17.49	277
1961	1,408.02	1,280	1,096	593	17.44	34
1962	16,455.74	14,790	12,666	7,081	17.93	395
1963	10,833.08	9,691	8,299	4,701	17.92	262
1964	16,167.97	14,388	12,321	7,080	17.94	395
1965	14,930.71	13,210	11,313	6,604	17.99	367
1966	5,115.25	4,497	3,851	2,287	18.07	127
1967	828.87	724	620	375	18.17	21
1968	3,908.24	3,386	2,900	1,790	18.29	98
1969	50.18	43	37	23	18.44	1
1970	1,312.17	1,118	957	617	18.60	33
1972	206.93	174	149	99	18.61	5
	222,637.37	206,483	176,826	90,339		5,305

BARE STEEL
INTERIM SURVIVOR CURVE.. IOWA 70-R1.5
PROBABLE RETIREMENT YEAR.. 12-2037
NET SALVAGE PERCENT.. -20

1901	954.27	1,075	921	225	7.45	30
1905	5,993.40	6,676	5,717	1,475	8.55	173
1906	889.96	994	851	217	8.14	27

COLUMBIA GAS OF KENTUCKY, INC.

ACCOUNT 376 MAINS

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AS OF DECEMBER 31, 2015

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
BARE STEEL						
INTERIM SURVIVOR CURVE.. IOWA 70-R1.5						
PROBABLE RETIREMENT YEAR.. 12-2037						
NET SALVAGE PERCENT.. -20						
1908	78.13	87	75	19	8.78	2
1910	22.93	25	21	6	9.45	1
1913	2,744.71	3,004	2,573	721	9.87	73
1914	206.46	226	194	54	9.61	6
1915	7,709.64	8,368	7,166	2,085	10.61	197
1918	126.91	137	117	35	11.20	3
1920	1,975.29	2,128	1,822	548	10.88	50
1921	82.20	89	76	22	10.76	2
1922	100.69	107	92	29	11.77	2
1923	1,168.10	1,245	1,066	336	11.67	29
1924	348.15	371	318	100	11.59	9
1925	4,426.86	4,711	4,034	1,278	11.54	111
1926	10,451.64	11,001	9,421	3,121	12.54	249
1927	8,701.97	9,150	7,836	2,607	12.51	208
1928	202,041.06	212,143	181,673	60,776	12.50	4,862
1929	61,787.91	64,774	55,471	18,675	12.51	1,493
1930	9,684.06	10,135	8,679	2,942	12.54	235
1931	11,235.49	11,735	10,050	3,433	12.58	273
1932	8,125.88	8,386	7,182	2,570	13.59	189
1933	345,309.13	355,530	304,466	109,905	13.65	8,052
1934	1,884.93	1,936	1,658	604	13.73	44
1935	30,005.54	30,724	26,311	9,695	13.84	701
1936	9,796.82	10,000	8,564	3,192	13.96	229
1937	28,734.61	29,233	25,034	9,447	14.09	670
1938	12,869.57	13,047	11,173	4,270	14.24	300
1939	20,820.31	21,024	18,004	6,980	14.41	484
1940	123,120.87	123,810	106,027	41,718	14.59	2,859
1941	38,666.60	38,716	33,155	13,245	14.79	896
1942	5,912.10	5,893	5,047	2,048	14.99	137
1943	4,397.55	4,361	3,735	1,542	15.22	101
1944	1,963.92	1,938	1,660	697	15.46	45
1945	9,860.00	9,676	8,286	3,546	15.71	226
1946	30,991.47	30,499	26,118	11,071	15.25	726
1947	29,005.82	28,375	24,300	10,507	15.53	677
1948	68,095.54	66,189	56,682	25,032	15.83	1,581
1949	91,177.44	88,034	75,390	34,023	16.15	2,107
1950	247,452.18	239,217	204,859	92,084	15.80	5,828
1951	363,501.82	348,875	298,767	137,435	16.15	8,510
1952	163,076.75	155,340	133,029	62,663	16.50	3,798
1953	314,367.27	299,454	256,444	120,797	16.24	7,438

COLUMBIA GAS OF KENTUCKY, INC.

ACCOUNT 376 MAINS

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AS OF DECEMBER 31, 2015

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
BARE STEEL						
INTERIM SURVIVOR CURVE.. IOWA 70-R1.5						
PROBABLE RETIREMENT YEAR.. 12-2037						
NET SALVAGE PERCENT.. -20						
1954	316,336.81	298,824	255,904	123,700	16.62	7,443
1955	409,868.29	383,833	328,704	163,138	17.02	9,585
1956	605,160.35	565,994	484,701	241,491	16.84	14,340
1957	1,136,063.73	1,052,722	901,521	461,755	17.26	26,753
1958	1,034,928.96	956,895	819,458	422,457	17.13	24,662
1959	799,722.34	732,034	626,893	332,774	17.57	18,940
1960	770,323.12	702,904	601,947	322,441	17.49	18,436
1961	765,311.11	695,760	595,829	322,544	17.44	18,494
1962	643,406.76	578,294	495,235	276,853	17.93	15,441
1963	850,394.48	760,763	651,496	368,977	17.92	20,590
1964	973,821.38	866,623	742,151	426,434	17.94	23,770
1965	848,025.96	750,299	642,535	375,096	17.99	20,850
1966	1,314,272.02	1,155,403	989,454	587,672	18.07	32,522
1967	569,818.23	497,451	426,003	257,779	18.17	14,187
1968	818,322.85	708,995	607,163	374,824	18.29	20,493
1969	1,032,070.14	886,879	759,498	478,986	18.44	25,975
1970	488,918.15	416,441	356,628	230,073	18.60	12,370
1971	573,565.89	483,929	414,423	273,856	18.79	14,575
1972	575,697.29	483,862	414,366	276,471	18.61	14,856
1973	191,270.34	159,015	136,176	93,348	18.85	4,952
1974	106,349.65	87,917	75,290	52,330	18.74	2,792
1975	9,715.20	7,932	6,793	4,865	19.02	256
1976	23,345.04	18,921	16,203	11,811	18.98	622
1977	37,981.79	30,533	26,148	19,431	18.97	1,024
1978	203,699.27	161,330	138,158	106,281	19.32	5,501
1979	80,107.97	62,811	53,790	42,340	19.36	2,187
	17,458,363.07	15,764,802	13,500,531	7,449,505		425,249

COATED STEEL

SURVIVOR CURVE.. IOWA 70-R1.5

NET SALVAGE PERCENT.. -20

1951	4,910.38	4,371	3,743	2,149	22.45	96
1952	741.23	655	561	329	22.71	14
1953	1,187.59	1,042	892	533	22.97	23
1954	682.80	590	505	314	23.97	13
1955	3,791.15	3,248	2,781	1,768	24.25	73
1956	3,275.22	2,783	2,383	1,547	24.54	63
1957	6,556.31	5,523	4,730	3,138	24.83	126

COLUMBIA GAS OF KENTUCKY, INC.

ACCOUNT 376 MAINS

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AS OF DECEMBER 31, 2015

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
COATED STEEL						
SURVIVOR CURVE.. IOWA 70-R1.5						
NET SALVAGE PERCENT.. -20						
1958	9,068.02	7,571	6,484	4,398	25.14	175
1959	33,821.26	27,744	23,759	16,826	26.15	643
1960	27,027.46	21,960	18,806	13,627	26.47	515
1961	27,751.44	22,325	19,118	14,183	26.80	529
1962	12,877.64	10,252	8,780	6,674	27.15	246
1963	5,601.06	4,410	3,777	2,945	27.50	107
1964	17,102.65	13,317	11,404	9,119	27.87	327
1965	41,461.03	31,658	27,111	22,642	28.87	784
1966	40,786.73	30,766	26,347	22,597	29.24	773
1967	22,175.07	16,520	14,147	12,463	29.62	421
1968	28,008.83	20,597	17,639	15,972	30.02	532
1969	43,453.76	31,521	26,994	25,151	30.42	827
1970	159,729.88	114,239	97,831	93,845	30.84	3,043
1971	183,814.73	129,567	110,958	109,620	31.26	3,507
1972	436,196.67	300,557	257,389	266,047	32.26	8,247
1973	298,018.44	202,128	173,097	184,525	32.69	5,645
1974	352,012.61	234,905	201,166	221,249	33.13	6,678
1975	290,670.25	190,726	163,332	185,472	33.57	5,525
1976	422,082.23	272,091	233,011	273,488	34.03	8,037
1977	356,810.28	225,818	193,384	234,788	34.50	6,805
1978	401,648.94	249,424	213,600	268,379	34.96	7,677
1979	603,705.72	367,584	314,789	409,658	35.44	11,559
1980	599,333.09	357,442	306,103	413,096	35.93	11,497
1981	1,260,020.36	735,449	629,818	882,207	36.43	24,216
1982	858,524.66	490,080	419,691	610,539	36.92	16,537
1983	1,142,888.69	637,458	545,901	825,565	37.43	22,056
1984	1,608,773.39	875,688	749,914	1,180,614	37.94	31,118
1985	584,275.15	310,040	265,509	435,621	38.47	11,324
1986	1,413,841.63	735,650	629,990	1,066,620	38.53	27,683
1987	6,754,172.54	3,418,692	2,927,671	5,177,336	39.07	132,514
1988	987,465.49	485,596	415,851	769,108	39.61	19,417
1989	799,941.95	381,572	326,767	633,163	40.17	15,762
1990	736,057.11	340,058	291,216	592,052	40.73	14,536
1991	680,065.40	305,866	261,935	554,143	40.86	13,562
1992	1,304,195.28	566,386	485,037	1,079,997	41.44	26,062
1993	1,028,555.22	430,512	368,678	865,588	42.01	20,604
1994	1,107,496.02	448,669	384,227	944,768	42.19	22,393
1995	580,233.66	225,525	193,133	503,147	42.79	11,759
1996	1,076,956.75	403,213	345,300	947,048	43.00	22,024
1997	1,615,811.26	577,426	494,491	1,444,482	43.61	33,123
1998	1,229,615.90	420,824	360,382	1,115,157	43.85	25,431

COLUMBIA GAS OF KENTUCKY, INC.

ACCOUNT 376 MAINS

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AS OF DECEMBER 31, 2015

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
COATED STEEL						
SURVIVOR CURVE.. IOWA 70-R1.5						
NET SALVAGE PERCENT.. -20						
1999	3,981,052.04	1,300,371	1,113,601	3,663,661	44.11	83,057
2000	1,071,817.35	330,934	283,403	1,002,778	44.74	22,413
2001	873,353.56	255,299	218,631	829,393	45.02	18,423
2002	2,863,344.92	788,565	675,305	2,760,709	45.32	60,916
2003	651,490.98	169,023	144,747	637,043	45.31	14,060
2004	371,934.04	89,800	76,902	369,419	45.65	8,092
2005	472,413.71	105,953	90,735	476,161	45.68	10,424
2006	4,595,389.36	942,974	807,536	4,706,931	46.06	102,191
2007	1,539,342.87	287,426	246,144	1,601,068	46.14	34,700
2008	2,641,555.48	444,415	380,584	2,789,282	45.98	60,663
2009	1,799,157.71	268,146	229,633	1,929,357	45.85	42,080
2010	1,575,045.35	202,614	173,513	1,716,542	45.78	37,495
2011	2,343,815.75	253,132	216,775	2,595,804	45.50	57,051
2012	1,757,988.06	152,734	130,797	1,978,789	44.81	44,160
2013	2,298,048.92	148,914	127,526	2,630,133	43.80	60,049
2014	1,757,970.83	72,569	62,146	2,047,419	42.17	48,552
2015	2,204,715.72	34,923	29,907	2,615,752	37.52	69,716
	62,001,629.58	20,537,830	17,588,017	56,813,938		1,348,670

PLASTIC
SURVIVOR CURVE.. IOWA 70-R1.5
NET SALVAGE PERCENT.. -20

1947	776.56	715	612	320	20.79	15
1953	49.42	43	37	22	22.97	1
1956	690.84	587	503	326	24.54	13
1960	9,693.87	7,876	6,745	4,888	26.47	185
1961	2,566.11	2,064	1,768	1,312	26.80	49
1962	3,550.97	2,827	2,421	1,840	27.15	68
1965	1,606.68	1,227	1,051	877	28.87	30
1967	45,719.61	34,059	29,167	25,696	29.62	868
1968	175,959.62	129,394	110,809	100,342	30.02	3,343
1969	516,105.19	374,383	320,611	298,715	30.42	9,820
1970	285,983.51	204,535	175,158	168,022	30.84	5,448
1971	513,723.03	362,113	310,103	306,364	31.26	9,801
1972	419,469.52	289,031	247,518	255,845	32.26	7,931
1973	151,200.83	102,550	87,821	93,620	32.69	2,864
1974	141,790.17	94,619	81,029	89,119	33.13	2,690
1975	132,835.09	87,161	74,642	84,760	33.57	2,525
1976	221,715.41	142,927	122,399	143,660	34.03	4,222

COLUMBIA GAS OF KENTUCKY, INC.

ACCOUNT 376 MAINS

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AS OF DECEMBER 31, 2015

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
PLASTIC						
SURVIVOR CURVE.. IOWA 70-R1.5						
NET SALVAGE PERCENT.. -20						
1977	305,291.78	193,213	165,462	200,888	34.50	5,823
1978	710,584.63	441,273	377,894	474,808	34.96	13,581
1979	1,010,308.37	615,157	526,803	685,567	35.44	19,344
1980	1,312,997.65	783,072	670,601	904,996	35.93	25,188
1981	980,563.70	572,335	490,131	686,545	36.43	18,846
1982	1,562,030.72	891,670	763,601	1,110,836	36.92	30,088
1983	610,245.00	340,370	291,483	440,811	37.43	11,777
1984	1,311,823.85	714,052	611,494	962,695	37.94	25,374
1985	1,022,917.82	542,801	464,839	762,662	38.47	19,825
1986	2,035,715.66	1,059,224	907,089	1,535,769	38.53	39,859
1987	3,979,566.08	2,014,297	1,724,987	3,050,492	39.07	78,078
1988	3,105,147.28	1,526,987	1,307,668	2,418,508	39.61	61,058
1989	2,414,292.05	1,151,617	986,212	1,910,938	40.17	47,571
1990	2,320,884.01	1,072,248	918,243	1,866,818	40.73	45,834
1991	1,515,488.07	681,606	583,708	1,234,878	40.86	30,222
1992	1,483,006.27	644,040	551,538	1,228,070	41.44	29,635
1993	1,436,878.79	601,420	515,039	1,209,215	42.01	28,784
1994	1,259,752.03	510,351	437,050	1,074,652	42.19	25,472
1995	1,990,040.07	773,489	662,394	1,725,654	42.79	40,328
1996	1,461,949.23	547,354	468,738	1,285,601	43.00	29,898
1997	3,331,129.71	1,190,413	1,019,436	2,977,920	43.61	68,285
1998	2,895,685.71	991,019	848,681	2,626,142	43.85	59,889
1999	2,247,256.33	734,044	628,615	2,068,093	44.11	46,885
2000	2,902,792.21	896,266	767,537	2,715,814	44.74	60,702
2001	2,428,374.96	709,863	607,907	2,306,143	45.02	51,225
2002	2,613,724.62	719,820	616,433	2,520,036	45.32	55,605
2003	1,644,210.35	426,574	365,306	1,607,747	45.31	35,483
2004	1,621,862.32	391,582	335,340	1,610,895	45.65	35,288
2005	1,548,063.22	347,200	297,332	1,560,344	45.68	34,158
2006	2,490,684.32	511,088	437,681	2,551,140	46.06	55,387
2007	2,787,525.33	520,487	445,730	2,899,300	46.14	62,837
2008	4,530,912.97	762,281	652,796	4,784,300	45.98	104,052
2009	4,380,181.73	652,822	559,058	4,697,160	45.85	102,446
2010	2,872,852.46	369,564	316,484	3,130,939	45.78	68,391
2011	4,528,973.57	489,129	418,876	5,015,892	45.50	110,239
2012	8,861,264.52	769,867	659,292	9,974,225	44.81	222,589

COLUMBIA GAS OF KENTUCKY, INC.

ACCOUNT 376 MAINS

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AS OF DECEMBER 31, 2015

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
PLASTIC						
SURVIVOR CURVE.. IOWA 70-R1.5						
NET SALVAGE PERCENT.. -20						
2013	9,791,987.93	634,521	543,386	11,207,000	43.80	255,868
2014	10,979,917.66	453,251	388,151	12,787,750	42.17	303,243
2015	11,816,282.64	187,170	160,287	14,019,252	37.52	373,647
	118,726,602.05	29,269,648	25,065,698	117,406,224		2,782,677
	198,409,232.07	65,778,763	56,331,072	181,760,006		4,561,901
COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PERCENT ..						39.8 2.30

COLUMBIA GAS OF KENTUCKY, INC.

ACCOUNT 378 MEASURING AND REGULATING STATION EQUIPMENT - GENERAL

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AS OF DECEMBER 31, 2015

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
SURVIVOR CURVE.. IOWA 41-S0						
NET SALVAGE PERCENT.. -15						
1923	81.77	94	94			
1928	675.85	777	777			
1929	288.99	332	332			
1933	574.24	660	660			
1937	37.55	42	43			
1938	200.20	225	230			
1939	209.66	234	241			
1940	445.98	496	513			
1941	1,260.20	1,404	1,449			
1944	28.44	31	33			
1946	296.92	320	341			
1947	35.00	37	40			
1948	36.11	39	42			
1949	865.86	920	996			
1950	3,474.49	3,664	3,996			
1951	1,961.19	2,051	2,255			
1952	1,908.93	1,993	2,195			
1953	2,304.45	2,385	2,650			
1954	5,847.32	5,997	6,724			
1955	7,531.07	7,703	8,661			
1956	7,852.79	7,952	9,031			
1957	3,215.01	3,223	3,697			
1958	2,790.86	2,786	3,209			
1959	5,036.83	4,974	5,792			
1960	6,064.92	5,961	6,975			
1961	6,535.53	6,349	7,516			
1962	7,036.17	6,797	8,092			
1963	5,533.26	5,312	6,363			
1964	7,764.42	7,358	8,887	42	11.00	4
1965	7,539.42	7,093	8,567	103	11.23	9
1966	6,487.98	6,057	7,315	146	11.48	13
1967	5,402.16	5,002	6,041	171	11.74	15
1968	12,564.82	11,461	13,842	608	12.38	49
1969	13,863.44	12,528	15,131	812	12.67	64
1970	12,303.53	11,008	13,295	854	12.98	66
1971	57,786.28	51,156	61,784	4,670	13.31	351
1972	161,515.46	141,387	170,762	14,981	13.65	1,098
1973	31,891.77	27,587	33,319	3,357	14.00	240
1974	14,392.64	12,294	14,848	1,704	14.37	119
1975	14,339.24	12,087	14,598	1,892	14.75	128
1976	2,475.81	2,069	2,499	348	14.85	23
1977	2,981.35	2,455	2,965	464	15.26	30

COLUMBIA GAS OF KENTUCKY, INC.

ACCOUNT 378 MEASURING AND REGULATING STATION EQUIPMENT - GENERAL

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AS OF DECEMBER 31, 2015

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
SURVIVOR CURVE.. IOWA 41-S0						
NET SALVAGE PERCENT.. -15						
1978	7,355.99	5,964	7,203	1,256	15.69	80
1979	14,028.25	11,248	13,585	2,547	15.85	161
1980	18,626.35	14,677	17,726	3,694	16.31	226
1981	58,187.08	45,248	54,649	12,266	16.52	742
1982	81,803.81	62,400	75,364	18,710	17.01	1,100
1983	51,273.91	38,516	46,518	12,447	17.25	722
1984	90,093.28	66,578	80,410	23,197	17.52	1,324
1985	151,841.01	110,253	133,159	41,458	17.81	2,328
1986	140,285.86	99,475	120,142	41,187	18.34	2,246
1987	441,834.32	308,422	372,500	135,609	18.45	7,350
1988	255,983.26	174,862	211,192	83,189	18.80	4,425
1989	221,857.01	148,081	178,847	76,289	19.16	3,982
1990	93,318.21	60,752	73,374	33,942	19.55	1,736
1991	102,556.59	65,303	78,870	39,070	19.75	1,978
1992	127,502.54	78,915	95,311	51,317	20.17	2,544
1993	232,391.93	140,093	169,199	98,052	20.42	4,802
1994	132,390.33	77,586	93,705	58,544	20.69	2,830
1995	252,276.32	143,318	173,094	117,024	21.00	5,573
1996	154,231.97	84,746	102,353	75,014	21.31	3,520
1997	171,524.91	90,855	109,731	87,523	21.66	4,041
1998	72,763.84	37,195	44,923	38,755	21.87	1,772
1999	58,635.74	28,820	34,808	32,623	22.11	1,475
2000	43,367.02	20,408	24,648	25,224	22.38	1,127
2001	218,298.52	97,907	118,248	132,795	22.68	5,855
2002	250,411.20	106,521	128,652	159,321	23.00	6,927
2004	116,766.75	44,165	53,341	80,941	23.47	3,449
2005	63,161.98	22,270	26,897	45,739	23.75	1,926
2006	52,677.39	17,204	20,778	39,801	23.95	1,662
2007	72,746.13	21,759	26,280	57,378	24.18	2,373
2008	166,854.46	45,188	54,576	137,307	24.35	5,639
2009	109,374.06	26,326	31,796	93,984	24.56	3,827
2010	46,409.45	9,687	11,700	41,671	24.80	1,680
2011	188,003.66	33,079	39,952	176,252	24.91	7,076
2012	689,575.58	97,382	117,614	675,398	24.99	27,027
2013	272,576.02	28,368	34,262	279,200	25.12	11,115
2014	425,662.64	27,608	33,344	456,168	25.10	18,174
2015	3,922,466.25	88,412	106,780	4,404,056	24.95	176,515
	9,992,551.53	2,961,891	3,572,331	7,919,103		331,538

COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PERCENT .. 23.9 3.32

COLUMBIA GAS OF KENTUCKY, INC.

ACCOUNT 379.1 MEASURING AND REGULATING EQUIPMENT - CITY GATE

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AS OF DECEMBER 31, 2015

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
SURVIVOR CURVE.. IOWA 40-R1.5						
NET SALVAGE PERCENT.. -15						
1929	20.64	24	24			
1935	168.99	194	194			
1936	95.41	110	110			
1965	522.68	519	601			
1982	6,291.95	5,066	7,236			
1983	1,594.90	1,264	1,821	13	14.67	1
1987	243,572.89	177,225	255,326	24,783	16.55	1,497
1992	2,633.13	1,679	2,419	609	18.87	32
	254,900.59	186,081	267,731	25,405		1,530
COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PERCENT .. 16.6 0.60						

COLUMBIA GAS OF KENTUCKY, INC.

ACCOUNT 380 SERVICES

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AS OF DECEMBER 31, 2015

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
SURVIVOR CURVE.. IOWA 40-R1.5						
NET SALVAGE PERCENT.. -65						
1945	62.58	99	88	15	3.03	5
1946	113.87	180	161	27	2.96	9
1948	183.87	289	258	45	3.42	13
1949	146.44	228	203	39	3.92	10
1953	150.17	231	206	42	4.62	9
1954	6,785.76	10,329	9,217	1,980	5.17	383
1955	18,463.03	28,015	24,998	5,466	5.29	1,033
1956	47,604.16	71,972	64,222	14,325	5.44	2,633
1957	57,947.02	87,256	77,861	17,752	5.60	3,170
1958	58,098.43	86,545	77,226	18,636	6.19	3,011
1959	80,341.89	119,096	106,272	26,292	6.39	4,115
1960	68,934.64	101,640	90,696	23,046	6.61	3,487
1961	80,935.88	118,641	105,866	27,678	6.85	4,041
1962	91,278.92	132,959	118,643	31,967	7.10	4,502
1963	99,508.03	143,960	128,459	35,729	7.38	4,841
1964	141,771.31	203,606	181,683	52,240	7.67	6,811
1965	158,631.44	226,040	201,701	60,041	7.98	7,524
1966	109,740.23	155,070	138,373	42,698	8.30	5,144
1967	155,335.50	217,550	194,125	62,179	8.64	7,197
1968	200,182.28	277,717	247,814	82,487	8.99	9,175
1969	142,600.29	195,856	174,767	60,523	9.36	6,466
1970	152,125.51	207,859	185,478	65,529	9.45	6,934
1971	157,165.15	212,333	189,470	69,852	9.85	7,092
1972	235,927.49	314,967	281,053	108,227	10.26	10,548
1973	89,715.98	118,277	105,541	42,490	10.69	3,975
1974	90,159.34	117,909	105,213	43,550	10.86	4,010
1975	75,755.55	97,697	87,177	37,820	11.32	3,341
1976	149,073.07	189,447	169,048	76,923	11.78	6,530
1977	303,100.68	379,288	338,448	161,668	12.26	13,187
1978	424,155.65	524,893	468,375	231,482	12.50	18,519
1979	674,016.39	819,971	731,680	380,447	13.00	29,265
1980	613,774.28	737,063	657,699	355,029	13.28	26,734
1981	694,648.98	818,595	730,452	415,719	13.81	30,103
1982	723,676.00	836,085	746,059	448,006	14.34	31,242
1983	621,753.28	706,840	630,730	395,163	14.67	26,937
1984	803,841.28	894,085	797,814	528,524	15.23	34,703
1985	1,032,023.88	1,126,939	1,005,595	697,244	15.59	44,724
1986	1,083,392.28	1,160,151	1,035,231	752,366	15.95	47,170
1987	1,326,243.56	1,384,539	1,235,458	952,844	16.55	57,574
1988	1,344,381.82	1,372,641	1,224,841	993,389	16.94	58,642
1989	2,504,745.08	2,486,310	2,218,594	1,914,235	17.55	109,073
1990	2,259,695.69	2,186,764	1,951,302	1,777,196	17.98	98,843

COLUMBIA GAS OF KENTUCKY, INC.

ACCOUNT 380 SERVICES

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AS OF DECEMBER 31, 2015

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
SURVIVOR CURVE.. IOWA 40-R1.5						
NET SALVAGE PERCENT.. -65						
1991	2,018,027.94	1,900,619	1,695,968	1,633,778	18.42	88,696
1992	2,741,421.41	2,508,647	2,238,526	2,284,819	18.87	121,082
1993	3,163,356.03	2,807,067	2,504,814	2,714,723	19.34	140,368
1994	3,637,577.22	3,122,842	2,786,587	3,215,415	19.82	162,231
1995	3,639,713.87	3,015,976	2,691,228	3,314,300	20.32	163,105
1996	3,803,687.64	3,035,115	2,708,306	3,567,779	20.82	171,363
1997	3,777,872.02	2,894,832	2,583,128	3,650,361	21.34	171,057
1998	3,656,368.35	2,681,672	2,392,921	3,640,087	21.87	166,442
1999	3,158,573.24	2,218,598	1,979,709	3,231,937	22.26	145,190
2000	3,522,894.33	2,351,849	2,098,612	3,714,164	22.81	162,831
2001	2,945,533.28	1,867,262	1,666,203	3,193,927	23.24	137,432
2002	2,843,647.35	1,704,141	1,520,646	3,171,372	23.67	133,983
2003	2,959,498.92	1,666,139	1,486,736	3,396,437	24.13	140,756
2004	3,357,260.48	1,770,972	1,580,281	3,959,199	24.47	161,798
2005	2,605,321.06	1,277,597	1,140,031	3,158,749	24.83	127,215
2006	2,671,132.69	1,205,856	1,076,014	3,331,355	25.22	132,092
2007	2,972,153.11	1,221,109	1,089,625	3,814,428	25.63	148,827
2008	3,548,236.62	1,317,283	1,175,443	4,679,147	25.83	181,152
2009	4,440,733.28	1,462,511	1,305,034	6,022,176	26.07	231,000
2010	3,698,751.60	1,057,029	943,212	5,159,728	26.25	196,561
2011	4,746,115.04	1,144,905	1,021,627	6,809,463	26.27	259,211
2012	5,745,298.21	1,114,818	994,779	8,484,963	26.26	323,114
2013	6,455,984.21	937,409	836,473	9,815,901	25.91	378,846
2014	7,937,030.20	738,620	659,088	12,437,012	25.10	495,498
2015	8,333,630.69	299,761	267,484	13,483,007	22.49	599,511
	115,258,005.47	64,192,561	57,280,572	132,895,137		5,882,086
COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PERCENT ..						22.6 5.10

COLUMBIA GAS OF KENTUCKY, INC.

ACCOUNT 381 METERS

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AS OF DECEMBER 31, 2015

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
SURVIVOR CURVE.. IOWA 37-R2						
NET SALVAGE PERCENT.. +4						
1930	21.50	21	21			
1939	164.50	158	158			
1940	13.34	13	13			
1941	1,058.66	1,016	1,016			
1942	263.60	253	253			
1943	69.29	67	67			
1944	34.55	33	33			
1945	338.36	325	325			
1946	737.08	708	708			
1947	4,280.44	4,109	4,109			
1948	4,545.71	4,360	3,692	672	0.07	672
1949	2,834.87	2,696	2,283	438	0.62	438
1950	5,609.67	5,326	4,510	875	0.73	875
1951	3,426.30	3,246	2,749	540	0.86	540
1952	3,517.84	3,302	2,796	581	1.44	403
1953	4,247.56	3,976	3,367	711	1.60	444
1954	15,729.07	14,673	12,426	2,674	1.79	1,494
1955	2,839.80	2,639	2,235	491	2.00	246
1956	13,410.90	12,410	10,510	2,364	2.23	1,060
1957	12,806.64	11,724	9,929	2,365	2.85	830
1958	12,137.89	11,056	9,363	2,289	3.10	738
1959	57,285.17	51,892	43,946	11,048	3.38	3,269
1960	47,626.02	42,886	36,319	9,402	3.67	2,562
1961	22,551.16	20,294	17,186	4,463	3.64	1,226
1962	31,263.16	27,939	23,661	6,352	3.97	1,600
1963	19,878.54	17,633	14,933	4,150	4.32	961
1964	40,206.51	35,383	29,965	8,633	4.68	1,845
1965	83,440.33	73,214	62,003	18,100	4.75	3,811
1966	63,024.10	54,804	46,412	14,091	5.15	2,736
1967	87,262.83	75,161	63,652	20,120	5.56	3,619
1968	65,479.87	56,135	47,539	15,322	5.69	2,693
1969	55,047.30	46,689	39,540	13,305	6.13	2,170
1970	112,430.24	94,787	80,272	27,661	6.31	4,384
1971	111,045.36	92,980	78,742	27,862	6.52	4,273
1972	103,461.52	85,547	72,447	26,876	7.01	3,834
1973	53,569.28	43,929	37,202	14,225	7.25	1,962
1974	35,961.06	29,227	24,752	9,771	7.52	1,299
1975	37,600.97	30,116	25,504	10,593	8.04	1,318
1976	12,660.48	10,034	8,498	3,656	8.34	438
1977	18,112.57	14,192	12,019	5,369	8.67	619
1978	20,852.72	16,139	13,668	6,351	9.01	705
1979	163,036.95	123,960	104,978	51,537	9.59	5,374

COLUMBIA GAS OF KENTUCKY, INC.

ACCOUNT 381 METERS

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AS OF DECEMBER 31, 2015

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
SURVIVOR CURVE.. IOWA 37-R2						
NET SALVAGE PERCENT.. +4						
1980	223,627.00	167,667	141,992	72,690	9.95	7,306
1981	209,604.67	154,819	131,112	70,108	10.34	6,780
1982	229,091.97	166,508	141,011	78,917	10.75	7,341
1983	123,886.22	88,508	74,955	43,976	11.17	3,937
1984	133,570.49	93,298	79,011	49,217	11.79	4,174
1985	265,135.77	181,658	153,841	100,689	12.24	8,226
1986	272,379.59	182,830	154,833	106,651	12.69	8,404
1987	210,277.33	138,077	116,933	84,933	13.17	6,449
1988	268,313.11	172,115	145,759	111,822	13.65	8,192
1989	266,704.92	166,910	141,351	114,686	14.15	8,105
1990	277,777.79	169,333	143,403	123,264	14.66	8,408
1991	274,322.11	162,592	137,694	125,655	15.18	8,278
1992	224,291.40	129,020	109,263	106,057	15.72	6,747
1993	164,460.91	91,651	77,617	80,265	16.26	4,936
1994	411,861.58	221,891	187,913	207,474	16.81	12,342
1995	27,005.28	14,031	11,882	14,043	17.38	808
1996	567,429.45	283,588	240,163	304,569	17.96	16,958
1997	24,068.09	11,585	9,811	13,294	18.40	722
1998	588,369.41	270,838	229,365	335,470	19.00	17,656
1999	294,775.75	129,324	109,521	173,464	19.60	8,850
2000	25,710.78	10,752	9,106	15,576	20.09	775
2001	244,033.97	96,473	81,700	152,573	20.71	7,367
2002	160,851.35	60,037	50,844	103,573	21.22	4,881
2003	438,995.51	153,318	129,841	291,595	21.86	13,339
2004	791,910.28	257,871	218,383	541,851	22.40	24,190
2005	638,161.64	192,367	162,910	449,725	22.94	19,604
2006	331,018.62	91,774	77,721	240,057	23.39	10,263
2007	451,886.17	113,572	96,181	337,630	23.97	14,086
2008	366,901.40	82,703	70,039	282,186	24.45	11,541
2009	594,904.19	118,048	99,971	471,137	24.95	18,883
2010	324,776.55	55,560	47,052	264,733	25.36	10,439
2011	306,440.41	43,833	37,121	257,062	25.71	9,999
2012	445,677.18	50,743	42,973	384,877	26.00	14,803
2013	416,072.40	34,830	29,496	369,934	26.15	14,147
2014	452,474.51	23,717	20,085	414,291	25.97	15,953
2015	894,263.50	17,170	14,541	843,952	24.56	34,363
	13,270,915.01	5,524,063	4,679,195	8,060,883		437,690

COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PERCENT .. 18.4 3.30

COLUMBIA GAS OF KENTUCKY, INC.

ACCOUNT 381.1 METERS - AMI

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AS OF DECEMBER 31, 2015

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
SURVIVOR CURVE.. IOWA 15-S2.5						
NET SALVAGE PERCENT.. 0						
2011	319,311.64	104,606	33,521	285,791	9.24	30,930
2012	363,072.68	93,019	29,808	333,265	10.16	32,802
2013	374,851.44	68,898	22,079	352,772	11.10	31,781
2014	6,793,132.32	749,962	240,328	6,552,804	12.09	542,002
2015	854,710.98	31,453	10,079	844,632	13.09	64,525
	8,705,079.06	1,047,938	335,815	8,369,264		702,040
COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PERCENT .. 11.9						8.06

COLUMBIA GAS OF KENTUCKY, INC.

ACCOUNT 382 METER INSTALLATIONS

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AS OF DECEMBER 31, 2015

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
SURVIVOR CURVE.. IOWA 42-S2						
NET SALVAGE PERCENT.. -5						
1952	6.13	6	6			
1955	10.84	11	11			
1956	1.28	1	1			
1957	61.65	59	62	3	5.20	1
1959	4,692.64	4,482	4,737	190	5.61	34
1960	12,641.78	12,008	12,691	583	5.85	100
1961	9,937.29	9,382	9,916	518	6.11	85
1962	10,982.14	10,302	10,888	643	6.38	101
1963	12,772.01	11,898	12,575	836	6.67	125
1964	21,577.45	19,951	21,086	1,570	6.98	225
1965	30,167.04	27,833	29,416	2,259	6.97	324
1966	25,771.33	23,575	24,916	2,144	7.32	293
1967	30,110.37	27,294	28,847	2,769	7.68	361
1968	53,745.66	48,250	50,995	5,438	8.06	675
1969	64,184.35	57,352	60,614	6,780	8.14	833
1970	60,058.98	53,086	56,106	6,956	8.55	814
1971	68,604.99	59,948	63,358	8,677	8.97	967
1972	98,900.92	85,829	90,711	13,135	9.13	1,439
1973	42,060.49	36,037	38,087	6,077	9.58	634
1974	4,616.51	3,922	4,145	702	9.78	72
1975	9,163.42	7,676	8,113	1,509	10.26	147
1976	13,620.24	11,298	11,941	2,360	10.50	225
1977	19,253.61	15,801	16,700	3,516	10.76	327
1978	21,090.40	17,025	17,993	4,152	11.28	368
1979	31,332.65	24,977	26,398	6,501	11.58	561
1980	37,268.71	29,310	30,977	8,155	11.90	685
1981	64,168.23	49,508	52,324	15,053	12.45	1,209
1982	74,963.48	56,956	60,196	18,516	12.80	1,447
1983	62,683.34	46,849	49,514	16,304	13.16	1,239
1984	71,220.82	52,295	55,270	19,512	13.55	1,440
1985	88,244.69	63,303	66,904	25,753	14.14	1,821
1986	131,669.04	92,574	97,840	40,412	14.56	2,776
1987	247,939.00	170,650	180,357	79,979	14.98	5,339
1988	244,345.86	164,406	173,758	82,805	15.42	5,370
1989	312,022.64	204,044	215,651	111,973	16.05	6,977
1990	341,379.38	217,542	229,917	128,531	16.52	7,780
1991	321,497.20	199,303	210,640	126,932	17.00	7,467
1992	371,094.38	222,490	235,146	154,503	17.65	8,754
1993	357,075.96	207,524	219,329	155,601	18.15	8,573
1994	398,887.49	223,321	236,024	182,808	18.82	9,713
1995	384,127.80	206,709	218,467	184,867	19.50	9,480
1996	452,244.71	234,294	247,621	227,236	20.02	11,350

COLUMBIA GAS OF KENTUCKY, INC.

ACCOUNT 382 METER INSTALLATIONS

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AS OF DECEMBER 31, 2015

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
SURVIVOR CURVE.. IOWA 42-S2						
NET SALVAGE PERCENT.. -5						
1997	230,840.40	114,356	120,861	121,521	20.71	5,868
1998	377,499.09	178,289	188,431	207,943	21.41	9,712
1999	262,549.01	117,824	124,526	151,150	22.11	6,836
2000	312,834.70	132,902	140,462	188,014	22.81	8,243
2001	227,230.44	90,641	95,797	142,795	23.67	6,033
2002	226,800.45	84,873	89,701	148,439	24.38	6,089
2003	269,319.03	93,658	98,986	183,799	25.24	7,282
2004	250,025.01	80,307	84,875	177,651	26.09	6,809
2005	126,960.84	37,380	39,506	93,803	26.95	3,481
2006	273,290.00	73,059	77,215	209,740	27.81	7,542
2007	232,032.47	55,695	58,863	184,771	28.68	6,443
2008	148,560.02	31,478	33,269	122,719	29.67	4,136
2009	145,845.86	26,876	28,405	124,733	30.54	4,084
2010	153,505.06	23,935	25,296	135,884	31.54	4,308
2011	129,507.36	16,522	17,462	118,521	32.54	3,642
2012	179,930.88	17,854	18,869	170,058	33.54	5,070
2013	164,876.76	11,686	12,351	160,770	34.54	4,655
2014	166,632.42	7,086	7,489	167,475	35.54	4,712
2015	507,394.63	7,192	7,601	525,163	36.54	14,372
	8,991,831.33	4,210,694	4,450,213	4,991,210		219,448
COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PERCENT ..						22.7 2.44

COLUMBIA GAS OF KENTUCKY, INC.

ACCOUNT 383 HOUSE REGULATORS

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AS OF DECEMBER 31, 2015

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
SURVIVOR CURVE.. IOWA 45-S1.5						
NET SALVAGE PERCENT.. -5						
1950	235.47	227	212	35	5.93	6
1955	115.70	109	102	19	7.07	3
1960	65.64	60	56	13	8.60	2
1961	128.73	116	108	27	8.79	3
1962	288.72	260	242	61	9.00	7
1963	147.72	132	123	32	9.23	3
1964	150.22	133	124	34	9.48	4
1965	342.04	299	279	80	10.11	8
1966	558.33	485	452	134	10.38	13
1967	570.90	491	458	141	10.67	13
1968	14,739.96	12,570	11,717	3,760	10.98	342
1969	22,451.42	19,074	17,780	5,794	10.97	528
1970	23,437.16	19,707	18,370	6,239	11.32	551
1971	23,320.38	19,396	18,080	6,406	11.68	548
1972	31,201.38	25,652	23,912	8,849	12.06	734
1973	7,754.24	6,298	5,871	2,271	12.45	182
1974	2,801.08	2,246	2,094	847	12.85	66
1975	750.90	597	557	231	12.97	18
1976	7,060.23	5,535	5,160	2,253	13.41	168
1977	5,957.30	4,600	4,288	1,967	13.85	142
1978	9,571.22	7,274	6,781	3,269	14.31	228
1979	12,386.58	9,304	8,673	4,333	14.52	298
1980	10,874.14	8,026	7,482	3,936	15.01	262
1981	20,986.09	15,279	14,243	7,792	15.25	511
1982	36,461.61	26,034	24,268	14,017	15.76	889
1983	34,918.26	24,547	22,882	13,782	16.04	859
1984	37,949.65	26,108	24,337	15,510	16.58	935
1985	59,996.96	40,349	37,612	25,385	17.12	1,483
1986	59,192.97	39,057	36,408	25,745	17.45	1,475
1987	58,922.06	37,913	35,341	26,527	18.01	1,473
1988	44,550.05	28,043	26,141	20,637	18.37	1,123
1989	52,146.39	31,921	29,756	24,998	18.95	1,319
1990	51,751.34	30,897	28,801	25,538	19.35	1,320
1991	46,818.82	27,097	25,259	23,901	19.95	1,198
1992	59,920.52	33,711	31,424	31,493	20.36	1,547
1993	56,331.03	30,609	28,533	30,615	20.98	1,459
1994	44,925.13	23,633	22,030	25,141	21.42	1,174
1995	37,984.75	19,216	17,913	21,971	22.05	996
1996	73,518.97	35,826	33,396	43,799	22.52	1,945
1997	15,577.74	7,262	6,769	9,588	23.17	414
1998	7,306.78	3,249	3,029	4,643	23.82	195
1999	20,842.78	8,846	8,246	13,639	24.32	561

COLUMBIA GAS OF KENTUCKY, INC.

ACCOUNT 383 HOUSE REGULATORS

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AS OF DECEMBER 31, 2015

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
SURVIVOR CURVE.. IOWA 45-S1.5						
NET SALVAGE PERCENT.. -5						
2000	14,561.20	5,853	5,456	9,833	24.99	393
2001	16,926.69	6,416	5,981	11,792	25.66	460
2002	37,688.04	13,407	12,498	27,074	26.34	1,028
2003	322,212.14	106,978	99,722	238,601	27.03	8,827
2004	702,316.91	216,215	201,550	535,883	27.72	19,332
2005	363,882.60	103,084	96,092	285,985	28.41	10,066
2006	400,167.13	102,985	96,000	324,175	29.26	11,079
2007	327,510.66	75,999	70,844	273,042	29.96	9,114
2008	362,330.11	74,491	69,439	311,008	30.81	10,094
2009	304,034.66	54,589	50,886	268,350	31.52	8,514
2010	506,507.65	77,222	71,984	459,849	32.38	14,202
2011	181,944.54	22,772	21,227	169,815	33.24	5,109
2012	340,566.59	33,292	31,034	326,561	34.09	9,579
2013	240,381.68	16,860	15,717	236,684	34.95	6,772
2014	192,707.18	8,094	7,545	194,798	35.96	5,417
2015	195,968.26	2,757	2,570	203,197	36.81	5,520
	5,504,717.40	1,553,202	1,447,854	4,332,099		150,511
COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PERCENT ..						28.8 2.73

COLUMBIA GAS OF KENTUCKY, INC.

ACCOUNT 384 HOUSE REGULATOR INSTALLATIONS

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AS OF DECEMBER 31, 2015

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
SURVIVOR CURVE.. IOWA 45-S1.5						
NET SALVAGE PERCENT.. 0						
1963	2,133.59	1,815	2,134			
1964	23.63	20	24			
1966	702.81	581	703			
1967	8,478.20	6,949	8,478			
1968	25,557.56	20,758	25,558			
1969	28,925.50	23,404	28,926			
1970	30,568.22	24,479	30,568			
1971	26,435.11	20,939	26,435			
1972	31,295.74	24,505	31,296			
1973	16,730.61	12,941	16,731			
1974	1,591.58	1,215	1,592			
1975	3,064.36	2,321	3,064			
1976	21,094.53	15,749	21,095			
1977	31,052.60	22,836	31,053			
1978	37,691.51	27,281	37,692			
1979	42,871.79	30,670	42,872			
1980	40,766.03	28,654	40,637	129	15.01	9
1981	87,762.98	60,855	86,305	1,458	15.25	96
1982	81,396.17	55,349	78,496	2,900	15.76	184
1983	59,401.97	39,770	56,402	3,000	16.04	187
1984	64,964.67	42,565	60,366	4,599	16.58	277
1985	86,803.28	55,598	78,849	7,954	17.12	465
1986	69,271.47	43,530	61,734	7,537	17.45	432
1987	73,903.91	45,288	64,227	9,677	18.01	537
1988	63,444.69	38,035	53,941	9,504	18.37	517
1989	60,983.14	35,553	50,421	10,562	18.95	557
1990	63,537.01	36,127	51,235	12,302	19.35	636
1991	61,110.67	33,684	47,771	13,340	19.95	669
1992	83,216.78	44,588	63,235	19,982	20.36	981
1993	79,837.16	41,316	58,594	21,243	20.98	1,013
1994	122,269.98	61,257	86,875	35,395	21.42	1,652
1995	95,362.56	45,946	65,161	30,202	22.05	1,370
1996	145,436.70	67,497	95,724	49,713	22.52	2,208
1997	122,097.88	54,211	76,882	45,216	23.17	1,951
1998	129,614.44	54,892	77,848	51,766	23.82	2,173
1999	109,553.26	44,281	62,800	46,753	24.32	1,922
2000	40,904.07	15,658	22,206	18,698	24.99	748
2001	20,583.15	7,431	10,539	10,044	25.66	391

COLUMBIA GAS OF KENTUCKY, INC.

ACCOUNT 384 HOUSE REGULATOR INSTALLATIONS

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AS OF DECEMBER 31, 2015

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
SURVIVOR CURVE.. IOWA 45-S1.5						
NET SALVAGE PERCENT.. 0						
2002	92,533.60	31,350	44,461	48,073	26.34	1,825
2003	92,619.49	29,286	41,533	51,086	27.03	1,890
2015	1,929.60	26	37	1,893	36.81	51
	2,257,522.00	1,249,210	1,744,500	513,022		22,741
COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PERCENT ..						22.6 1.01

COLUMBIA GAS OF KENTUCKY, INC.

ACCOUNT 385 INDUSTRIAL MEASURING AND REGULATING STATION EQUIPMENT

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AS OF DECEMBER 31, 2015

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
SURVIVOR CURVE.. IOWA 32-R0.5						
NET SALVAGE PERCENT.. -10						
1949	98.34	108	108			
1950	139.70	154	154			
1951	41.15	45	45			
1952	115.82	127	127			
1955	152.38	163	99	69	1.61	43
1956	12.76	14	14			
1957	1,653.10	1,745	1,055	763	2.48	308
1958	51.97	54	33	24	3.10	8
1959	3,759.22	3,902	2,358	1,777	3.38	526
1960	560.70	579	350	267	3.67	73
1961	1,277.81	1,302	787	619	4.32	143
1962	4,064.68	4,114	2,486	1,985	4.64	428
1963	1,120.57	1,126	680	553	4.97	111
1964	5,808.12	5,791	3,500	2,889	5.32	543
1965	6,548.48	6,475	3,913	3,290	5.68	579
1966	5,379.82	5,273	3,187	2,731	6.06	451
1967	7,407.21	7,192	4,346	3,802	6.45	589
1968	8,682.63	8,347	5,045	4,506	6.85	658
1969	10,280.64	9,834	5,943	5,366	6.97	770
1970	23,409.90	22,146	13,384	12,367	7.41	1,669
1971	53,116.33	49,664	30,014	28,414	7.85	3,620
1972	6,097.42	5,660	3,421	3,286	8.05	408
1973	17,322.32	15,872	9,592	9,463	8.52	1,111
1974	8,056.54	7,318	4,423	4,439	8.75	507
1975	5,719.09	5,121	3,095	3,196	9.25	346
1976	1,332.72	1,181	714	752	9.52	79
1977	6,894.21	6,044	3,653	3,931	9.81	401
1978	2,050.57	1,776	1,073	1,183	10.12	117
1980	11,919.52	10,007	6,048	7,063	11.01	642
1981	38,651.97	31,977	19,325	23,192	11.37	2,040
1982	14,682.72	11,958	7,227	8,924	11.75	759
1983	25,008.01	20,114	12,156	15,353	11.95	1,285
1984	50,075.83	39,561	23,909	31,174	12.36	2,522
1985	20,145.97	15,614	9,436	12,725	12.79	995
1986	31,634.27	24,122	14,578	20,220	13.06	1,548
1987	220,780.59	164,731	99,555	143,304	13.52	10,599
1988	2,690.36	1,969	1,190	1,769	13.82	128
1989	41,450.65	29,724	17,964	27,632	14.15	1,953
1990	28,849.30	20,151	12,178	19,556	14.66	1,334
1991	26,185.78	17,853	10,789	18,015	15.03	1,199
1992	37,233.45	24,832	15,007	25,950	15.26	1,701
1993	34,858.14	22,604	13,661	24,683	15.67	1,575

COLUMBIA GAS OF KENTUCKY, INC.

ACCOUNT 385 INDUSTRIAL MEASURING AND REGULATING STATION EQUIPMENT

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AS OF DECEMBER 31, 2015

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
SURVIVOR CURVE.. IOWA 32-R0.5						
NET SALVAGE PERCENT.. -10						
1994	53,441.23	33,743	20,393	38,392	15.96	2,406
1995	50,966.08	31,148	18,824	37,239	16.40	2,271
1996	125,610.14	74,364	44,942	93,229	16.73	5,573
1997	96,616.40	55,243	33,386	72,892	17.09	4,265
1998	15,729.32	8,689	5,251	12,051	17.34	695
1999	26,657.06	14,175	8,567	20,756	17.63	1,177
2000	65,140.15	33,205	20,067	51,587	17.95	2,874
2001	43,485.33	21,152	12,783	35,051	18.29	1,916
2002	107,855.38	50,138	30,301	88,340	18.45	4,788
2003	51,104.45	22,486	13,589	42,626	18.75	2,273
2004	133,846.07	55,712	33,670	113,561	18.89	6,012
2005	663,238.96	258,922	156,480	573,083	19.09	30,020
2006	4,223.41	1,536	928	3,718	19.24	193
2007	54,533.27	18,356	11,094	48,893	19.28	2,536
2008	55,020.71	16,934	10,234	50,289	19.31	2,604
2009	66,748.63	18,517	11,191	62,232	19.27	3,229
2010	22,005.44	5,405	3,267	20,939	19.13	1,095
2011	197,187.18	41,689	25,195	191,711	18.92	10,133
2012	139,719.79	24,468	14,787	138,905	18.48	7,517
2013	62,659.15	8,492	5,132	63,793	17.78	3,588
2014	97,622.92	8,913	5,386	101,999	16.58	6,152
2015	148,631.36	5,771	3,488	160,006	13.66	11,713
	3,047,363.19	1,415,402	855,577	2,496,523		154,798

COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PERCENT .. 16.1 5.08

COLUMBIA GAS OF KENTUCKY, INC.

ACCOUNT 387.4 OTHER EQUIPMENT - CUSTOMER INFORMATION SERVICES

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AS OF DECEMBER 31, 2015

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
SURVIVOR CURVE.. IOWA 33-R2.5						
NET SALVAGE PERCENT.. -5						
1984	3,776.70	3,173	2,831	1,135	7.87	144
1985	58,185.04	48,075	42,890	18,204	8.26	2,204
1986	40,325.42	32,726	29,197	13,145	8.67	1,516
1987	46,822.78	37,129	33,125	16,039	9.24	1,736
1988	78,511.45	60,987	54,410	28,027	9.67	2,898
1989	99,558.80	75,350	67,224	37,313	10.26	3,637
1990	86,849.38	64,181	57,259	33,933	10.73	3,162
1991	52,805.10	37,902	33,814	21,631	11.34	1,907
1992	129,101.06	90,145	80,423	55,133	11.84	4,657
1993	69,120.15	46,703	41,666	30,910	12.47	2,479
1994	263,672.19	172,620	154,004	122,852	12.98	9,465
1995	24,370.97	15,369	13,712	11,878	13.63	871
1996	98,439.45	59,660	53,226	50,135	14.28	3,511
1998	146,116.94	81,345	72,572	80,851	15.50	5,216
1999	302,152.73	160,724	143,390	173,870	16.07	10,820
2000	93,514.64	47,180	42,092	56,098	16.76	3,347
2001	2,937.84	1,404	1,253	1,832	17.35	106
2002	602,076.98	270,573	241,392	390,789	18.04	21,662
2003	346,619.72	146,017	130,269	233,682	18.65	12,530
2004	300,848.05	117,701	105,007	210,883	19.36	10,893
2005	26,106.20	9,441	8,423	18,989	19.99	950
2006	22,127.77	7,328	6,538	16,696	20.62	810
2007	30,228.82	9,040	8,065	23,675	21.35	1,109
2009	31,564.93	7,411	6,612	26,531	22.57	1,175
2010	12,259.48	2,464	2,198	10,674	23.24	459
2011	169,202.07	28,213	25,170	152,492	23.83	6,399
2012	185,280.73	24,435	21,800	172,745	24.36	7,091
2013	419,376.39	40,292	35,947	404,398	24.82	16,293
2014	213,802.63	12,706	11,336	213,157	25.02	8,519
2015	505,414.04	10,614	9,469	521,216	24.50	21,274
	4,461,168.45	1,720,908	1,535,314	3,148,913		166,840

COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PERCENT .. 18.9 3.74

COLUMBIA GAS OF KENTUCKY, INC.

ACCOUNT 391.1 OFFICE FURNITURE AND EQUIPMENT - FURNITURE

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AS OF DECEMBER 31, 2015

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
SURVIVOR CURVE.. 20-SQUARE						
NET SALVAGE PERCENT.. 0						
1996	106,178.25	103,524	101,309	4,869	0.50	4,869
1997	4,658.70	4,309	4,217	442	1.50	295
1998	23,170.37	20,274	19,840	3,330	2.50	1,332
1999	19,222.76	15,859	15,520	3,703	3.50	1,058
2000	11,837.49	9,174	8,978	2,859	4.50	635
2001	1,551.84	1,125	1,101	451	5.50	82
2002	21,787.36	14,706	14,391	7,396	6.50	1,138
2011	12,228.11	2,751	2,692	9,536	15.50	615
2013	22,550.07	2,819	2,759	19,791	17.50	1,131
2015	490,295.76	12,257	11,995	478,301	19.50	24,528
	713,480.71	186,798	182,802	530,679		35,683

COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PERCENT .. 14.9 5.00

COLUMBIA GAS OF KENTUCKY, INC.

ACCOUNT 391.11 OFFICE FURNITURE AND EQUIPMENT - EQUIPMENT

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AS OF DECEMBER 31, 2015

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
SURVIVOR CURVE.. 15-SQUARE						
NET SALVAGE PERCENT.. 0						
2005	18,815.57	13,171	13,169	5,647	4.50	1,255
	18,815.57	13,171	13,169	5,647		1,255
COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PERCENT ..						4.5 6.67

COLUMBIA GAS OF KENTUCKY, INC.

ACCOUNT 391.12 OFFICE FURNITURE AND EQUIPMENT - INFORMATION SYSTEMS

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AS OF DECEMBER 31, 2015

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
SURVIVOR CURVE.. 5-SQUARE						
NET SALVAGE PERCENT.. 0						
2011	573,921.04	516,529	459,997	113,924	0.50	113,924
2013	30,842.68	15,421	13,733	17,110	2.50	6,844
2014	7,431.08	2,229	1,985	5,446	3.50	1,556
2015	55,943.18	5,594	4,982	50,961	4.50	11,325
	668,137.98	539,773	480,697	187,441		133,649
COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PERCENT .. 1.4						20.00

COLUMBIA GAS OF KENTUCKY, INC.

ACCOUNT 392.2 TRANSPORTATION EQUIPMENT - TRAILERS

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AS OF DECEMBER 31, 2015

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
SURVIVOR CURVE.. IOWA 16-L4						
NET SALVAGE PERCENT.. +10						
1998	1,494.24	1,170	604	741	2.62	283
2004	45,359.00	29,156	15,040	25,783	4.60	5,605
2011	24,462.20	6,570	3,389	18,627	10.58	1,761
2012	48,924.76	10,215	5,270	38,762	11.58	3,347
	120,240.20	47,111	24,303	83,913		10,996
COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PERCENT ..						7.6 9.15

COLUMBIA GAS OF KENTUCKY, INC.

ACCOUNT 394 TOOLS, SHOP AND GARAGE EQUIPMENT

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AS OF DECEMBER 31, 2015

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
SURVIVOR CURVE.. 25-SQUARE						
NET SALVAGE PERCENT.. 0						
1991	36,672.60	35,939	35,855	818	0.50	818
1992	52,486.66	49,337	49,222	3,265	1.50	2,177
1993	148,848.49	133,964	133,651	15,197	2.50	6,079
1994	208,710.04	179,491	179,072	29,638	3.50	8,468
1995	36,384.84	29,836	29,766	6,619	4.50	1,471
1996	187,442.53	146,205	145,864	41,579	5.50	7,560
1997	74,023.87	54,778	54,650	19,374	6.50	2,981
1998	142,623.01	99,836	99,603	43,020	7.50	5,736
1999	26,525.45	17,507	17,466	9,059	8.50	1,066
2000	55,442.14	34,374	34,294	21,148	9.50	2,226
2001	57,333.67	33,254	33,176	24,158	10.50	2,301
2002	213,892.58	115,502	115,233	98,660	11.50	8,579
2003	19,351.62	9,676	9,653	9,699	12.50	776
2004	87,815.91	40,395	40,301	47,515	13.50	3,520
2006	21,390.02	8,128	8,109	13,281	15.50	857
2007	21,155.23	7,193	7,176	13,979	16.50	847
2008	195,331.69	58,600	58,464	136,868	17.50	7,821
2009	57,235.97	14,881	14,846	42,390	18.50	2,291
2010	96,292.90	21,184	21,135	75,158	19.50	3,854
2011	129,991.20	23,398	23,344	106,647	20.50	5,202
2012	161,998.60	22,680	22,627	139,372	21.50	6,482
2013	436,365.86	43,637	43,535	392,831	22.50	17,459
2014	223,303.32	13,398	13,367	209,936	23.50	8,933
2015	254,798.75	5,096	5,084	249,715	24.50	10,192
	2,945,416.95	1,198,289	1,195,493	1,749,924		117,696

COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PERCENT .. 14.9 4.00

COLUMBIA GAS OF KENTUCKY, INC.

ACCOUNT 395 LABORATORY EQUIPMENT

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AS OF DECEMBER 31, 2015

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
SURVIVOR CURVE.. 20-SQUARE						
NET SALVAGE PERCENT.. 0						
1997	5,095.72	4,714	4,713	383	1.50	255
2004	4,162.05	2,393	2,393	1,769	8.50	208
	9,257.77	7,107	7,106	2,152		463
COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PERCENT ..						4.6 5.00

COLUMBIA GAS OF KENTUCKY, INC.

ACCOUNT 396 POWER OPERATED EQUIPMENT

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AS OF DECEMBER 31, 2015

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
SURVIVOR CURVE.. IOWA 18-S0.5						
NET SALVAGE PERCENT.. +10						
1985	3,980.30	3,387	3,582			
1989	4,490.61	3,620	4,042			
1991	6,574.03	5,146	5,917			
1994	57,662.78	42,732	49,536	2,361	4.61	512
2002	83,056.36	48,640	56,385	18,366	7.25	2,533
2004	102,490.64	54,524	63,205	29,037	7.96	3,648
	258,254.72	158,049	182,667	49,762		6,693
COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PERCENT ..						7.4 2.59

COLUMBIA GAS OF KENTUCKY, INC.

ACCOUNT 398 MISCELLANEOUS EQUIPMENT

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AS OF DECEMBER 31, 2015

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
FULLY ACCRUED						
NET SALVAGE PERCENT.. 0						
1993	3,290.19	3,290	3,290			
	3,290.19	3,290	3,290			
AMORTIZED						
SURVIVOR CURVE.. 15-SQUARE						
NET SALVAGE PERCENT.. 0						
2001	5,796.64	5,603	5,474	322	0.50	322
2005	1,508.23	1,056	1,032	476	4.50	106
2009	20,748.53	8,991	8,785	11,964	8.50	1,408
2010	8,738.69	3,204	3,130	5,608	9.50	590
2011	46,730.80	14,019	13,697	33,033	10.50	3,146
2014	4,263.86	426	416	3,848	13.50	285
	87,786.75	33,299	32,535	55,252		5,857
	91,076.94	36,589	35,825	55,252		5,857
COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PERCENT ..						9.4 6.43

COLUMBIA GAS OF KENTUCKY, INC.
RESPONSE TO ATTORNEY GENERAL'S INITIAL
REQUEST FOR INFORMATION
DATED JULY 8, 2016

2. Refer to the Ms. Cooper's Direct Testimony at 13 wherein she states: It is therefore reasonable to preclude the cost of replacing any failed meter families in base rates and to instead provide a mechanism for future recovery of such costs. Columbia proposes to provide this mechanism within the AMRP Rider because it is administratively more efficient.

a. Confirm that the test year revenue requirement includes the cost of replacing failed meters and failed meter families. If this is not correct, then demonstrate that the Company has removed all such costs from the test year.

b. Quantify the cost of replacing failed meters and meter families that the Company proposes to transition from recovery through base rates to the AMRP rider. Provide all assumptions, data, and calculations, including all electronic spreadsheets in live format with all formulas intact.

c. Provide a history of the costs of replacing failed meters and meter families in each calendar year 2012 through 2015, the base year, and the test year.

Provide these costs by activity level, FERC O&M/A&G expense account, and FERC plant account.

d. Provide a description and copy of all documentation related to the decision whether to repair or replace meters and the decision process for replacement of entire meter families.

Response:

a. Columbia’s forecasted test year does not contain any costs for replacement of failed meter families because there are not any known replacements to be made at this time.

b. Columbia does not propose to transition recovery of any failed meter failure replacement costs from base rates.

c. Columbia does not have the information in the form requested. However, the number of failed meters that have been required to be replaced in each of the requested years is shown below and an assumed historical cost based upon \$136 per meter. The forecasted cost is \$206 per meter.

	<u>Number of Meters</u>	<u>Estimated Costs</u>
2012	0	0
2013	0	0
2014	925	\$125,800
2015	798	\$108,528

9/15 – 8/16 (Base Year)	1,746	\$237,456
Test Year	0	0

d. To protect the integrity of the statistical sampling program, when a meter fails it is taken out of service and replaced with a new meter. The decision regarding replacement of entire meter families is based purely upon the results of the statistical meter sampling plan pursuant to the Commission's Order of February 26, 2001 in Case No. 2000-429.

**COLUMBIA GAS OF KENTUCKY, INC.
RESPONSE TO ATTORNEY GENERAL'S INITIAL
REQUEST FOR INFORMATION
DATED JULY 8, 2016**

3. Refer to page 9, lines 17-19 of Ms. Cole's Direct Testimony wherein she states: Columbia repairs approximately 820 leaks annually on its distribution system and continues to closely manage the number of outstanding open leaks. Provide a schedule showing the number and cost of leak repairs by FERC O&M/A&G account for each calendar year 2012 through 2015, the base year, and the test year.

Response:

The chart below shows the amount of leaks repaired and associated costs by FERC account. During the review of this information Columbia noted that it had not included enough expense in the forecasted period to adequately cover the amount of anticipated leak repairs. Columbia will likely incur costs in excess of \$1.5M to address leak repairs to its system during the forecasted period.

Leak Repair Information

2012		
FERC Account	Leaks	Cost
887	263	530,874.71
892	224	108,883.36
Total	487	\$ 639,758.07
2013		
FERC Account	Leaks	Cost
887	267	609,253.09
892	351	167,495.38
Total	618	\$ 776,748.47
2014		
FERC Account	Leaks	Cost
887	410	830,726.58
892	383	258,777.22
Total	793	\$ 1,089,503.80
2015		
FERC Account	Leaks	Cost
887	455	1,240,900.74
892	321	288,746.78
Total	776	\$ 1,529,647.52
Base Period		
FERC Account	Leaks	Cost
887	413	1,165,692.00
892	391	462,628.00
Total	804	\$ 1,628,320.00
Forecasted Period		
FERC Account	Leaks	Cost
887	400	736,840.96
892	350	208,322.23
Total	750	\$ 945,163.19

**COLUMBIA GAS OF KENTUCKY, INC.
RESPONSE TO ATTORNEY GENERAL'S INITIAL
REQUEST FOR INFORMATION
DATED JULY 8, 2016**

4. Refer to page 15, lines 1-4 of Mr. Belle's Direct Testimony wherein he states: "However, given the safety concerns that arise when this pipe is subjected to stress intensification, the safest course of action is for Columbia to replace first-generation pipe when it is encountered within the scope of an AMRP project."

a. Provide an expanded description of the process presently used by the Company to identify the first-generation pipe that is leaking or otherwise subject to safety concerns and how the process will change if replacement costs are included in the AMRP and recovered through the rider.

b. Describe how the Company presently recovers the replacement costs for first-generation pipe and explain, in detail, why the Company believes that form of recovery is inadequate.

Response:

a. Columbia does not identify small sections of first generation pipe that are included within the scope of a larger bare steel or cast iron replacement

project. However, when any leak is found on such pipe outside of an AMRP project, personnel trained in leak classification and response will conduct an investigation into the severity of the leak and classify it as Grade 1, 2+, 2, or 3 depending on whether the leak is hazardous or non-hazardous, the susceptibility for gas migration and the timeliness of the required repair. In such cases, the pipe is not identified as a first generation material until excavation occurs for the leak repair. Columbia's *DPI/FFR Field Reference Guide*¹ requires the responsible personnel to identify the color of the pipe which can then be used to identify whether it consists of first generation materials. Any evidence of cracking precludes repair and requires replacement. However, the data associated with an authorized repair on first generation materials would be imported into Columbia's Optimain program where the relative risk of the pipe segment would be calculated and prioritized with other pipeline segments for consideration as a future AMRP project.

The only element of the process that would change would be that Columbia would code the associated job order as eligible for the AMRP rider.

¹ This guide is included in its entirety in AG 1-4 Attachment A.

b. Currently, replacement of small individual segments of Aldyl-A pipe 50 feet or less are considered an O&M expense and may be recovered in a future rate case depending on timing. Currently, replacement of such sections greater than 50 feet are capitalized, but not currently included in Columbia's AMRP rider. Those costs would be recovered in a future rate case as well. Columbia's request to include the replacement of first generation plastic as part of the AMRP rider is due to its susceptibility of future leaks or safety related concerns. Should the first generation plastic in Columbia's system begin to leak or exhibit safety related concerns in an accelerated fashion, Columbia would like to be positioned to accelerate the replacement and recovery of this pipe similar to its priority pipe.



DPI/FFR ENHANCEMENTS REFERENCE GUIDE

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Leak Grade Criteria

After grading the leak, document the primary reason for selecting the leak grade. The abbreviated description of the codes, as presented in Ventyx and WMS, are shown below. Each leak grade is in its own table.

Refer to GS 1714.010, "Leakage Classification and Response" and GS 1708.100, "Leakage Control Records" for more details.

Leak Criteria Code	GRADE 1: Leak Grade Criteria Description	
	WMS	Ventyx
AA	Blowing Gas w/Possibility or Has Ignited	Blowing Gas w/ Possibility of Ignition or Has Ignited
AB	Migration into or under a bldg	Any indication of gas which has migrated into or under a building
AC	Likely or Existing Migrat to bldg wall	Likely or Existing Migration to outside wall of bldg
AD	=>4% gas in lge subsurface structure	=>4% gas in large subsurface structure that can accommodate a person & accum gas
AE	=>4% gas in sm non-gas substructure	=>4% gas in sm non-gas substructure w/likely migratn to bldg wall/srce of ignit
AF	Seen-Heard-Felt in dangerous location	Seen-Heard-Felt in location that may endanger general public or property
AG	Sustained rdgs-consec MH or CB (not MA)	Sustained readings in consecutive manholes, catch basins or substructures-not MA
AH	Abv grnd leak-Judgmnt-Immediate hzd	Abv ground leak - w/ blowing/hissing sound, close to bldg - Judgmnt-Immediate hzd
AI	Inside leak- requires component repl	Inside leak that requires a component replacement
AJ	Inside lk >= 2%LEL clr w/lube-adj-tghtng	Inside leak >= 2%LEL cleared by lubrication, adjustment or tightening
AZ	Judgement - Immediate Hazard	Judgement - Immediate Hazard

Leak Criteria Code	GRADE 2+: Leak Grade Criteria Description	
	WMS	Ventyx
BA	Close to but not against building wall	A leakage area close to but not against a foundation or building wall
BB	On SL under paving from lk to bldg wall	Leakage on service line under continuous paving from leak area to building wall
BC	Lkely migratn to outside bldg wall-frost	Likely migration to the outside bldg wall under existing or imminent frost
BD	<4% gas in non-gas substr in WtW pavemnt	<4% gas in a manhole, conduit, catch basin or tunnel in wall to wall pavement
BE	Abv grnd leak-Judgmnt-Accelerated Repair	Abv ground leak-Judgment-Requires Accelerated Repair
BF	Located within a school zone (CMA only)	Any leak located within a school zone - MA only
BZ	Judgment - Warrants Action in a Few Days	Judgment - Warrants Action in a Few Days

Leak Criteria Code	GRADE 2: Leak Grade Criteria Description	
	WMS	Ventyx
CA	=>2% gas under SW in WtW pvemt, not GR1	=>2% gas under SW in a wall-to-wall paved area that does not qualify as GR 1
CB	=>5% gas in street in WtW pvemt, not GR1	=>5% under street in a wall-to-wall paved area that does not qualify as GR 1
CC	2 sides of pvd drvevy &/or migr to bldg	Lkg on both sides of paved drvevy &/or indicates migration along drvevy to bldg
CD	2 sides of str or corners of intersectn	Sustained readings on both sides of a street or corners of an intersection
CE	<4% gas in sm non-gas sbstr w/likly migr	<4% gas in sm non-gas substructures w/likly migration w/probable future hazard
CF	<4% gas in large subsurface structure	<4% gas in large subsurface structure that can accom a person & accum gas
CG	>4% gas in small gas substructure	>4% gas in small gas associated substructures (e.g., curb box, valve box)
CH	Judgment - Justifies Scheduled Repair	Judgment - Justifies Scheduled Repair
CI	Abv Grd Lk-Jdgmnt-Justifies Schedld Repr	Above Ground Leak - Judgment - Justifies Scheduled Repair
CJ	Abv Grd Corrosion Lk w/in 100 ft of bldg	Any corrosion leak on an exposed facility within 100 feet of a building
CK	Hiss/blows slghtly-rural-ignition unlkely	Leak hisses or blows slightly in a rural area & accidental ignition is unlikely

Leak Criteria Code	GRADE 3: Leak Grade Criteria Description	
	WMS	Ventyx
DA	<4% gas in small gas assoc substructures	Any sustained reading of less than 4% gas in small gas associated substructures
DB	Und st-w/o wtw pvg-unlkely migrt to bldg	Under street-area w/o wall-to-wall paving-unlkely migration to outside bldg wall
DC	Abv grd-not corr-Judgment-remain non-haz	Above ground leak-not caused by corrosion-Judgment-expected to remain non-hazard

Cleared By Codes

“Cleared by” codes identify the type of facility involved, the action used to clear the leak, and the party that performed the work. With the DPI enhancements there are a few changes and additions to these codes, however, most of the ‘cleared by’ codes have remained the same.

Code 43 (Valve Repair- Pot Hole) was added to address situations where excavation is required to make repairs, but pipe is not exposed. Codes 44 and 45 are new codes that specify replacement. Formerly, repair/replacement of regulator station equipment and service meter settings were grouped together. Refer to Table 1 for a complete list of available “cleared by” codes.

Table 1: Cleared By Code List

Code	Description
00	Mistake - comments required
21	Main repair - company
22	Main repair - contractor
23	Main replacement or abandonment - company
24	Main replacement or abandonment - contractor
25	Company service line repair - company
26	Company service line repair - contractor
27	Company service line replacement or abandonment - company
28	Company service line replacement or abandonment - contractor
31	Leakage is on customer owned facility
32	Leakage is on foreign company's facility or determined to be stray gas
33	Negative readings
34	Reclassified
35	Plant regulator/station piping/auxiliary equipment repaired
36	Service meter/regulator/setting repaired
37	Customer service line repair - company
38	Customer service line repair - contractor
39	Customer service line replacement or abandonment - company
40	Customer service line replacement or abandonment - contractor
41	Valve repair - dig (main exposed)
42	Valve repair - no dig
43	Valve repair - Pot hole (main not exposed)
44	Plant regulator/station piping/auxiliary equipment replaced
45	Service meter/regulator/setting replaced

Leak Cause Codes

The new DPI expands the list of available “leak cause” codes (threats) from 9 to 52. This expanded list provides greater detail about the cause of the leaks on our system. This additional information will aid in the analysis of risks to our facilities.

“Leak cause” codes will now be a two letter code. This allows for a sub-set of data under each broad leak cause category. The first letter of the code will represent the “major” leak cause. The second letter provides even greater detail. For example, in the code CB (Excavation Damage - Failure to Notify), the “C” component of the code indicates Excavation Damage. The “B” in the code indicates the root cause of the damage (Failure to Notify). Refer to Table 2 for a complete list of available “leak cause” codes.

Note: The previous “leak cause” codes are shown in red text on the table, but are no longer available for use.

Table 2: “Leak Cause” Code List

Code	Description
A	CORROSION - BARE
AA	CORROSION - BARE - EXTERNAL
AB	CORROSION - BARE - INTERNAL
B	CORROSION - COATED
BA	CORROSION - COATED - EXTERNAL
BB	CORROSION - COATED - INTERNAL
C	EXCAVATION DAMAGE
CA	EXCAVATOR ERROR
CB	FAILURE TO NOTIFY
CC	LOCATOR ERROR
CD	POOR RECORDS
CZ	OTHER EXCAVATION DAMAGE
D	NATURAL FORCES
DA	EARTHQUAKE
DB	FROST
DC	LIGHTNING
DD	STORM DAMAGE
DE	TEMPERATURE
E	OTHER OUTSIDE FORCE DAMAGE
EA	ELECTRICAL ARCING
EB	FIRE/EXPLOSION NOT CAUSED BY GAS
EC	INTENTIONAL DAMAGE
ED	MARITIME VESSELS

Code	Description
EE	PREVIOUS MECHANICAL DAMAGE
EF	VEHICULAR DAMAGE
F	MATL,WELD, JOINT FAILURE
FA	ABOVE GROUND THREADED CONNECTION
FB	BELOWGRADE THREADED CONNECTION
FC	CAST IRON BELL JOINT
FD	DEFECTIVE BODY OF PIPE
FE	DEFECTIVE COMPONENT BODY
FF	DEFECTIVE FUSION JOINT
FG	DEFECTIVE PIPE SEAM
FH	DEFECTIVE WELD
FI	FLANGE GASKET FAILURE
FJ	MECHANICAL FITTING
FK	REPAIR DEVICE FAILURE
FZ	OTHER MATERIAL FAILURE
G	EQUIPMENT FAILURE
GA	DOPING/CAULKING/O-RING
GB	MALFUNCTION OF CONTROL/RELIEF EQUIPMENT - DEBRIS ON SEAT
GC	MALFUNCTION OF CONTROL/RELIEF EQUIPMENT - OTHER
GD	VALVE FAILURE/PACKING
GZ	OTHER EQUIPMENT FAILURE
H	INCORRECT CONST/OPERATION
HA	INADEQUATE/NOT FOLLOWED PROCEDURE
HB	LOOSE CONNECTION
HC	STRIPPED THREADS
HZ	OTHER OPERATOR ERROR
K	OTHER
KA	DID NOT EXPOSE LEAK
KZ	OTHER (COMMENT REQUIRED)

Leak Location and Detail

Leak Location and Detail is now a two level, four digit code in WMS and Ventyx. Leak location is represented by the first two digits and detail is represented by the last two. For example, in code **5104**, **51** indicates location (body of pipe) and **04** indicates detail (plastic/plastic insert).

In Ventyx, these codes are a two level drop down menu (pick list). The second level is based on the value selected in the first level. For example, if you select 66 steel fitting the second level (detail) menu will only contain steel fitting choices.

In WMS, leak location and detail are two separate fields both of which have PF4 functionality. See Table 5 through Table 14 for all available “leak location” and “leak location detail” codes.

Leak Location Code

The “leak location” codes have been altered to support a broader range of asset categories allowing greater accuracy about the location of the leak. For example, code “60 – Mechanical Fitting” has been removed and codes 66, 67, 71 and 72 have been added, and have various mechanical fittings within each category. Refer to Table 3 for all available “leak location” codes.

Table 3: Leak Location Codes (New Codes in Red Text)

Code	Description	Code	Description
51	BODY OF PIPE	68	SERVICE RISER - PLASTIC
56	BELL & SPIGOT JOINT	69	SERVICE RISER - STEEL
63	SETTING	71	VALVE - PLASTIC
65	REPAIR DEVICE	72	VALVE - STEEL
66	STEEL FITTING	99	OTHER (COMMENTS REQUIRED)
67	PLASTIC FITTING		

Furthermore, several codes have been removed from “leak location” and are now being utilized under “leak cause” codes. See Table 4 for removed codes.

Table 4: Removed Leak Location Codes

Code	Description	Code	Description
52	PIPE SEAM	57	FLANGE JOINT
53	THREADED JOINT	60	MECHANICAL FITTING
54	WELD JOINT	62	COMPONENT BODY
55	FUSION JOINT	70	OTHER (COMMENTS REQUIRED)

Leak Location Detail Code

As previously mentioned, the leak location detail code is a two digit code. These codes are second level drop down menus in Ventyx (PF4 tables in WMS) and are specific to the first level location code. See Table 5 through Table 14 for all available “leak location” and “leak location detail” codes.

Location Code 51 – Body of Pipe

Table 5 shows location detail codes that will be shown in WMS and Ventyx. In WMS, the code will be shown on another screen with the descriptions (PF4). In Ventyx, it will be viewable in a drop down menu format. Refer to Table 5 for all leak detail codes.

Table 5: Body of Pipe Leak Location Detail Codes

Leak Location Code	Detail Code	Leak Location Detail Description	
		WMS	Ventyx
51	01	STEEL - BELOW GROUND	STEEL - BELOW GROUND
51	02	STEEL TREATED - BELOW GROUND	STEEL TREATED - BELOW GROUND
51	03	STEEL/STEEL TREATED - ABOVE GROUND	STEEL/STEEL TREATED - ABOVE GROUND
51	04	PLASTIC/PLASTIC INSERT	PLASTIC/PLASTIC INSERT
51	05	CAST IRON	CAST IRON
51	06	WROUGHT IRON	WROUGHT IRON
51	07	OTHER PIPE MATERIAL	OTHER PIPE MATERIAL

Location Code 56 – Bell & Spigot Joint

Location code 56 is used to describe the location on a bell and spigot joint either with an existing repair clamp or without an existing repair clamp. Refer to Table 6 for bell and spigot joint detail codes.

Table 6: Bell & Spigot Leak Location Detail Codes

Leak Location Code	Detail Code	Bell & Spigot: Leak Location Detail Description	
		WMS	Ventyx
56	01	EXISTING REPAIR CLAMP	EXISTING REPAIR CLAMP
56	02	WITHOUT REPAIR CLAMP	WITHOUT REPAIR CLAMP

Location 63 – Settings

Location code 63 describes whether a setting is a customer meter set, a remote meter/regulator setting, or an M&R station (plant regulator station). A remote meter/regulator setting is any setting that is not attached to a structure. Table 7 below shows the detail codes for settings.

Table 7: Settings Leak Location Detail Codes

Leak Location Code	Detail Code	Settings: Leak Location Detail Description	
		WMS	Ventyx
63	01	CUSTOMER METER SET	CUSTOMER METER SET
63	02	REMOTE METER/REG SETTING(CUSTOMER)	REMOTE METER/REG SETTING(CUSTOMER)
63	03	M&R STATIONS	M&R STATIONS

Location Code 65 – Repair Device

The detail code for repair device identifies the type of repair device found leaking/failed. Table 8 shows repair device location details.

Table 8: Repair Device Location Detail Codes

Leak Location Code	Detail Code	Repair Device: Leak Location Description	
		WMS	Ventyx
65	01	CLAMP	CLAMP
65	02	TAPE/WRAP	TAPE/WRAP
65	03	ENCAPSULATION	ENCAPSULATION

Location Code 66 – Steel Fittings

Leak location code 66 identifies the specific type of steel fitting that has failed or is leaking. For example, a leak on a welded inline tee would be **07** on the list shown below in Table 9. The full leak location and detail code would be **6607**.

Table 9: Steel Fitting Description Detail Codes

Leak Location Code	Detail Code	Steel Fittings: Leak Location Detail Description		
		WMS	Ventyx	
			Level 1	Level 2
66	01	COUPLING - FLANGE	COUPLING	FLANGE
66	02	COUPLING - MECHANICAL COMPRESSION	COUPLING	MECHANICAL COMPRESSION
66	03	COUPLING - THREADED	COUPLING	THREADED
66	04	COUPLING - WELD	COUPLING	WELD
66	05	INLINE TEE - MECHANICAL COMPRESSION	INLINE TEE	MECHANICAL COMPRESSION
66	06	INLINE TEE - THREADED	INLINE TEE	THREADED
66	07	INLINE TEE - WELD	INLINE TEE	WELD
66	08	SERVICE SADDLE - MECHANICAL	SERVICE SADDLE	MECHANICAL
66	09	SERVICE SADDLE - WELD	SERVICE SADDLE	WELD
66	10	SERVICE SADDLE TEE - MECHANICAL	SERVICE SADDLE TEE	MECHANICAL
66	11	SERVICE SADDLE TEE - WELD	SERVICE SADDLE TEE	WELD
66	12	SERVICE TEE - THREADED	SERVICE TEE	THREADED
66	13	SERVICE TEE - WELD	SERVICE TEE	WELD
66	14	SERVICE TEE CAP - THREADED	SERVICE TEE CAP	THREADED
66	15	SERVICE TEE CAP - WELD	SERVICE TEE CAP	WELD
66	16	ELL - FLANGE	ELL	FLANGE
66	17	ELL - MECHANICAL COMPRESSION	ELL	MECHANICAL COMPRESSION
66	18	ELL - THREADED	ELL	THREADED
66	19	ELL - WELD	ELL	WELD
66	20	END CAP - MECHANICAL COMPRESSION	END CAP	MECHANICAL COMPRESSION
66	21	OTHER - FLANGE	OTHER	FLANGE
66	22	OTHER - MECHANICAL COMPRESSION	OTHER	MECHANICAL COMPRESSION
66	23	OTHER - THREADED	OTHER	THREADED
66	24	OTHER - WELD	OTHER	WELD

Location Code 67 – Plastic Fittings

Plastic fittings will be coded similar to steel fittings with the two level detail description in Ventyx to describe the fitting and the method of connection. Refer to Table 10 below for all plastic fitting location detail codes.

Table 10: Plastic Fitting Location Detail Codes

Leak Location Code	Detail Code	Plastic Fittings: Leak Location Detail Description		
		WMS	Ventyx	
			Level 1	Level 2
67	01	COUPLING - MECHANICAL COMPRESSION	COUPLING	MECHANICAL COMPRESSION
67	02	COUPLING - ELECTROFUSION	COUPLING	ELECTROFUSION
67	03	COUPLING - BUTT FUSION	COUPLING	BUTT FUSION
67	04	COUPLING - SOCKET FUSION	COUPLING	SOCKET FUSION
67	05	COUPLING - STAB	COUPLING	STAB
67	06	COUPLING - LYCOFIT/METFIT	COUPLING	LYCOFIT/METFIT
67	07	INLINE TEE - MECHANICAL COMPRESSION	INLINE TEE	MECHANICAL COMPRESSION
67	08	INLINE TEE - ELECTROFUSION	INLINE TEE	ELECTROFUSION
67	09	INLINE TEE - BUTT FUSION	INLINE TEE	BUTT FUSION
67	10	INLINE TEE - SOCKET FUSION	INLINE TEE	SOCKET FUSION
67	11	INLINE TEE - STAB	INLINE TEE	STAB
67	12	INLINE TEE - LYCOFIT/METFIT	INLINE TEE	LYCOFIT/METFIT
67	13	SERVICE SADDLE TEE - MECHANICAL	SERVICE SADDLE TEE	MECHANICAL
67	14	SERVICE SADDLE TEE - ELECTROFUSION	SERVICE SADDLE TEE	ELECTROFUSION
67	15	SERVICE SADDLE TEE - SADDLE FUSION	SERVICE SADDLE TEE	SADDLE FUSION
67	16	SERVICE TEE - THREADED	SERVICE TEE	THREADED
67	17	SERVICE TEE CAP - THREADED	SERVICE TEE CAP	THREADED
67	18	ELL - MECHANICAL COMPRESSION	ELL	MECHANICAL COMPRESSION
67	19	ELL - ELECTROFUSION	ELL	ELECTROFUSION
67	20	ELL - BUTT FUSION	ELL	BUTT FUSION
67	21	ELL - SOCKET FUSION	ELL	SOCKET FUSION
67	22	ELL - STAB	ELL	STAB
67	23	ELL - LYCOFIT/METFIT	ELL	LYCOFIT/METFIT
67	24	END CAP - MECHANICAL COMPRESSION	END CAP	MECHANICAL COMPRESSION
67	25	END CAP - ELECTROFUSION	END CAP	ELECTROFUSION
67	26	END CAP - BUTT FUSION	END CAP	BUTT FUSION

Leak Location Code	Detail Code	Plastic Fittings: Leak Location Detail Description		
		WMS	Ventyx	
			Level 1	Level 2
67	27	END CAP - SOCKET FUSION	END CAP	SOCKET FUSION
67	28	END CAP - STAB	END CAP	STAB
67	29	END CAP - LYCOFIT/METFIT	END CAP	LYCOFIT/METFIT
67	30	OTHER - MECHANICAL COMPRESSION	OTHER	MECHANICAL COMPRESSION
67	31	OTHER - ELECTROFUSION	OTHER	ELECTROFUSION
67	32	OTHER - BUTT FUSION	OTHER	BUTT FUSION
67	33	OTHER - SADDLE FUSION	OTHER	SADDLE FUSION
67	34	OTHER - SOCKET FUSION	OTHER	SOCKET FUSION
67	35	OTHER - STAB	OTHER	STAB
67	36	OTHER - LYCOFIT/METFIT	OTHER	LYCOFIT/METFIT

Location Code 68 – Service Riser (Plastic)

The detail codes on plastic service risers in which the carrier pipe is plastic are used to identify which risers are field assembled and which are factory assembled. Refer to Table 11 below for detail codes on plastic service risers.

Table 11: Plastic Service Riser Detail Codes

Leak Location Code	Detail Code	Service Riser (Plastic): Leak Location Detail Description	
		WMS	Ventyx
68	01	Field Assembled	Field Assembled
68	02	Factory Assembled	Factory Assembled

Location Code 69 – Service Riser (Steel)

Similar to the plastic service riser details, the steel riser details will describe the method in which the riser was assembled. In the case of steel risers, the riser itself is the carrier pipe. Refer to Table 12 below for detail codes on steel service risers.

Table 12: Steel Service Riser Detail Codes

Leak Location Code	Detail Code	Service Riser (Steel): Leak Location Detail Description	
		WMS	Ventyx
69	01	Field Assembled	Field Assembled
69	02	Factory Assembled	Factory Assembled
69	03	Metallic Fitting Assembled	Metallic Fitting Assembled

Location Code 71 – Valve (Plastic)

The description codes under the plastic valve location is a three level drop down in Ventyx. The first drop down list identifies the valve as either a main or service valve. The second drop down describes the valve type (ball or plug). The final drop down menu describes how the valve is attached to the main or service. Refer to Table 13 for detail codes on plastic valves.

Table 13: Plastic Valve Detail Codes

Leak Location Code	Detail Code	Valves (Plastic): Leak Location Detail Description			
		WMS	Ventyx		
			Level 1	Level 2	Level 3
71	01	SERVICE LINE VALVE - BALL - BUTT FUSION	SERVICE LINE VALVE	BALL	BUTT FUSION
71	02	SERVICE LINE VALVE - BALL - SOCKET FUSION	SERVICE LINE VALVE	BALL	SOCKET FUSION
71	03	SERVICE LINE VALVE - BALL - ELECTROFUSION	SERVICE LINE VALVE	BALL	ELECTROFUSION
71	04	SERVICE LINE VALVE - BALL - MECHANICAL	SERVICE LINE VALVE	BALL	MECHANICAL
71	05	SERVICE LINE VALVE - BALL - STAB	SERVICE LINE VALVE	BALL	STAB
71	06	SERVICE LINE VALVE - PLUG - BUTT FUSION	SERVICE LINE VALVE	PLUG	BUTT FUSION
71	07	SERVICE LINE VALVE - PLUG - SOCKET FUSION	SERVICE LINE VALVE	PLUG	SOCKET FUSION
71	08	SERVICE LINE VALVE - PLUG - ELECTROFUSION	SERVICE LINE VALVE	PLUG	ELECTROFUSION
71	09	SERVICE LINE VALVE - PLUG - MECHANICAL	SERVICE LINE VALVE	PLUG	MECHANICAL
71	10	SERVICE LINE VALVE - PLUG - STAB	SERVICE LINE VALVE	PLUG	STAB
71	11	MAIN LINE VALVE - BALL - BUTT FUSION	MAIN LINE VALVE	BALL	BUTT FUSION
71	12	MAIN LINE VALVE - BALL - SOCKET FUSION	MAIN LINE VALVE	BALL	SOCKET FUSION
71	13	MAIN LINE VALVE - BALL - ELECTROFUSION	MAIN LINE VALVE	BALL	ELECTROFUSION
71	14	MAIN LINE VALVE - BALL - MECHANICAL	MAIN LINE VALVE	BALL	MECHANICAL
71	15	MAIN LINE VALVE - PLUG - BUTT FUSION	MAIN LINE VALVE	PLUG	BUTT FUSION
71	16	MAIN LINE VALVE - PLUG - SOCKET FUSION	MAIN LINE VALVE	PLUG	SOCKET FUSION
71	17	MAIN LINE VALVE - PLUG - ELECTROFUSION	MAIN LINE VALVE	PLUG	ELECTROFUSION
71	18	MAIN LINE VALVE - PLUG - MECHANICAL	MAIN LINE VALVE	PLUG	MECHANICAL

Location Code 72 – Valve (Steel)

Steel valve location detail codes will describe the valve similar to the way plastic valves are described.

Note that in addition to plug and ball style valves, steel valves also include butterfly and gate styles.

Table 14 shows all available detail codes for steel valves.

Table 14: Steel Valve Detail Codes

Leak Location Code	Detail Code	Valves (Steel): Leak Location Detail Description			
		WMS	Ventyx		
			Level 1	Level 2	Level 3
72	01	METER VALVE - THREADED	METER VALVE	THREADED	
72	02	SERVICE LINE VALVE - BUTTERFLY - THREADED	SERVICE LINE VALVE	BUTTERFLY	THREADED
72	03	SERVICE LINE VALVE - BUTTERFLY - WELD	SERVICE LINE VALVE	BUTTERFLY	WELD
72	04	SERVICE LINE VALVE - BUTTERFLY - FLANGE	SERVICE LINE VALVE	BUTTERFLY	FLANGE
72	05	SERVICE LINE VALVE - BALL - THREADED	SERVICE LINE VALVE	BALL	THREADED
72	06	SERVICE LINE VALVE - BALL - WELD	SERVICE LINE VALVE	BALL	WELD
72	07	SERVICE LINE VALVE - BALL - MECHANICAL	SERVICE LINE VALVE	BALL	MECHANICAL
72	08	SERVICE LINE VALVE - BALL - FLANGE	SERVICE LINE VALVE	BALL	FLANGE
72	09	SERVICE LINE VALVE - PLUG - THREADED	SERVICE LINE VALVE	PLUG	THREADED
72	10	SERVICE LINE VALVE - PLUG - WELD	SERVICE LINE VALVE	PLUG	WELD
72	11	SERVICE LINE VALVE - PLUG - MECHANICAL	SERVICE LINE VALVE	PLUG	MECHANICAL
72	12	SERVICE LINE VALVE - PLUG - FLANGE	SERVICE LINE VALVE	PLUG	FLANGE
72	13	SERVICE LINE VALVE - GATE - THREADED	SERVICE LINE VALVE	GATE	THREADED
72	14	SERVICE LINE VALVE - GATE - WELD	SERVICE LINE VALVE	GATE	WELD
72	15	SERVICE LINE VALVE - GATE - FLANGE	SERVICE LINE VALVE	GATE	FLANGE
72	16	MAIN LINE VALVE - BUTTERFLY - THREADED	MAIN LINE VALVE	BUTTERFLY	THREADED
72	17	MAIN LINE VALVE - BUTTERFLY - WELD	MAIN LINE VALVE	BUTTERFLY	WELD
72	18	MAIN LINE VALVE - BUTTERFLY - FLANGE	MAIN LINE VALVE	BUTTERFLY	FLANGE
72	19	MAIN LINE VALVE - BALL - THREADED	MAIN LINE VALVE	BALL	THREADED
72	20	MAIN LINE VALVE - BALL - WELD	MAIN LINE VALVE	BALL	WELD
72	21	MAIN LINE VALVE - BALL - FLANGE	MAIN LINE VALVE	BALL	FLANGE
72	22	MAIN LINE VALVE - PLUG - THREADED	MAIN LINE VALVE	PLUG	THREADED
72	23	MAIN LINE VALVE - PLUG - WELD	MAIN LINE VALVE	PLUG	WELD
72	24	MAIN LINE VALVE - PLUG - FLANGE	MAIN LINE VALVE	PLUG	FLANGE
72	25	MAIN LINE VALVE - GATE - THREADED	MAIN LINE VALVE	GATE	THREADED
72	26	MAIN LINE VALVE - GATE - WELD	MAIN LINE VALVE	GATE	WELD
72	27	MAIN LINE VALVE - GATE - FLANGE	MAIN LINE VALVE	GATE	FLANGE

Leak Location Code 99 – Other

Leak location code 70 should only be used as a last resort. Use of this location code is to capture assets not listed in the other tables above. There is no leak location detail code for other, however, detailed comments are required.

Exposure Data Considerations

Two new fields have been added to the “exposure data” section of the DPI. These two new fields are “piping above ground” and “plastic color”. These fields will serve to further enhance the information we collect about our system.

As a reminder, while all fields may not be *required* (aka *measled* in Ventyx), the user should strive to fill in as many fields as possible with the information available.

Piping Above Ground

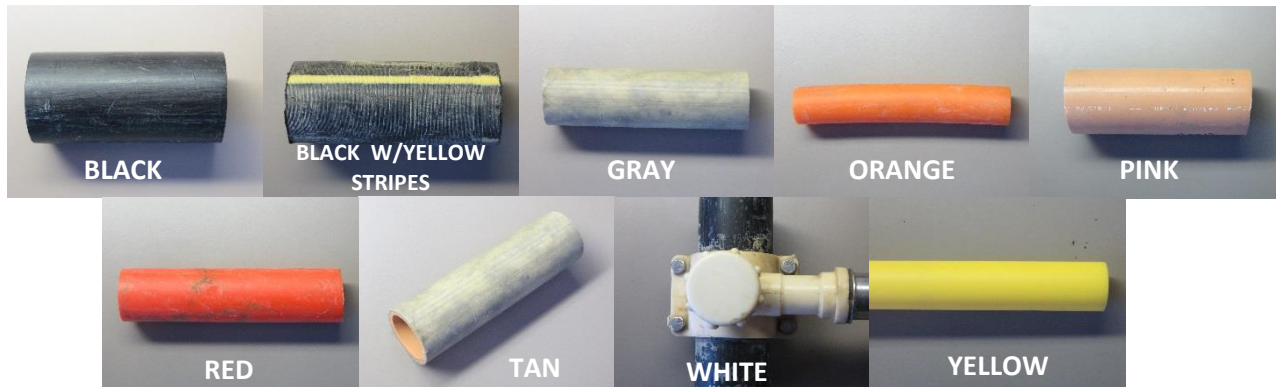
This field was added to Ventyx some time ago however it was not added to WMS until now. This field was added to help identify assets *designed* to be above ground (i.e. roof top main). If the cleared leak was on piping that was designed to be above ground, select Y for “Yes” from the drop down menu. If the cleared leak was on piping that was designed to be below ground, select “N” for “No”.

Plastic Color

If the pipe material is plastic (P) or plastic insert (PI), the color of the pipe will be required to be noted. Collecting the color of pipe helps identify the age of the plastic pipe where the leak occurred. The color should be observed on the outer surface of the pipe without scraping, cutting or gouging the surface. If you see multiple colors when you are evaluating the pipe, pick the predominant color. If the color does not clearly match one of the colors provided, choose "Other" and provide comments. See Table 15 for all available plastic colors and images for examples.

Table 15: Plastic Colors

Plastic Pipe Color			
Code	Color	Code	Color
01	BLACK	06	RED
02	BLACK WITH YELLOW STRIPES	07	TAN
03	GRAY	08	WHITE
04	ORANGE	09	YELLOW
05	PINK	10	OTHER (COMMENTS REQUIRED)



Facility Failure

Facility Failures are deficiencies in material design, construction, operation and maintenance associated with: an in-service pipeline (pipe, fittings), materials identified as being defective prior to being placed in-service (such as in the warehouse, during installation, or during testing), or tools and equipment. **Facility Failure Reports (FFR)** are the documentation of failures and are required for many, though not all, instances when a leak occurs.

This reference guide is not intended to replace the more complete information found in the Gas Standards. Refer to Gas Standards for complete requirements: GS 1708.100, GS 1652.010, GS 1652.015, ON 13-03.

When a FFR is required:

REQUIRED: A facility failure report is required for pipe and/or fittings (welded, fusion, bolted, mechanical compression) and/or equipment (valves, regulators, etc.), when the cause of failure is related to material/weld/joint failure, equipment failure, or incorrect installation. FFRs are always required for bell & spigot joints that have mechanical reinforcing clamps, as well as for mechanical compression fittings and service tee caps. FFRs are required for mechanical fittings where the pipe pulls out due to external damage. FFRs are required for threaded fittings only in VA.

NOT REQUIRED: A facility failure report is not required for threaded connections (except in VA), damages (except pull outs involving mechanical fittings), AOCs, non-leaking “prone to fail” risers, surface oxidation, bell & spigot joints that do not have reinforcing clamps, hand tools, fleet equipment (vehicles, backhoes, trailers, etc.), and IT equipment (MDTs, laptops, desktops, etc.).

A facility failure report may or may not have an associated DPI. If a DPI exists, the DPI number must be documented in the FFR in the space provided on the FFR form.

EFFECTIVE 2/8/2016:

Create facility failure reports only in electronic systems (Ventyx, WMS.NET). In both systems, a FFR may be entered even if the system does not automatically identify that one is required (“self reporting”).

More than one FFR may be created against a single DPI or JO.

In Ventyx: If a FFR is required (Ventyx will “measle”), the user must enter the FFR before the rest of their work (JO completion, DPI clearing, etc.) can be transmitted/submitted.

In WMS: If a DPI requires a FFR and WMS does not find that a FFR has been entered, the associated JO will not be allowed to go to an executed (EX) status. To execute the JO, a FFR will need to be entered. The expectation is that the business unit that did the work on the DPI or JO also completes the FFR.

A paper FFR form is available as an emergency backup method only, and is not to be used when electronic methods are operational. If the paper form is used, it does not have to be retained once the FFR is entered into WMS.

Ventyx Screens: Creating FFR

Facility Failure Report

Report Type Date Failed/Found DPI Num Alt DPI Num
Use DPI Cleared Date if DPI exists.

Failure Location

Address PSID/Site ID City ArcReader Coordinates
(copy and paste from ArcReader IDENTIFY feature)

Failure Information

Failed Item Stored At Contact Person Contact Number
Suspected Cause Facility Type
Failure Location Inside / Outside Above / Below
Method Of Installation Soil Type Operating Pressure At Time Of Failure PSIG
Operating Pressure Normal Range PSIG

Product Information

Asset Manufacturer Manufacturer if Other Model Number

Facility Failure Page 1 Facility Failure Page 2

Facility Failure Report

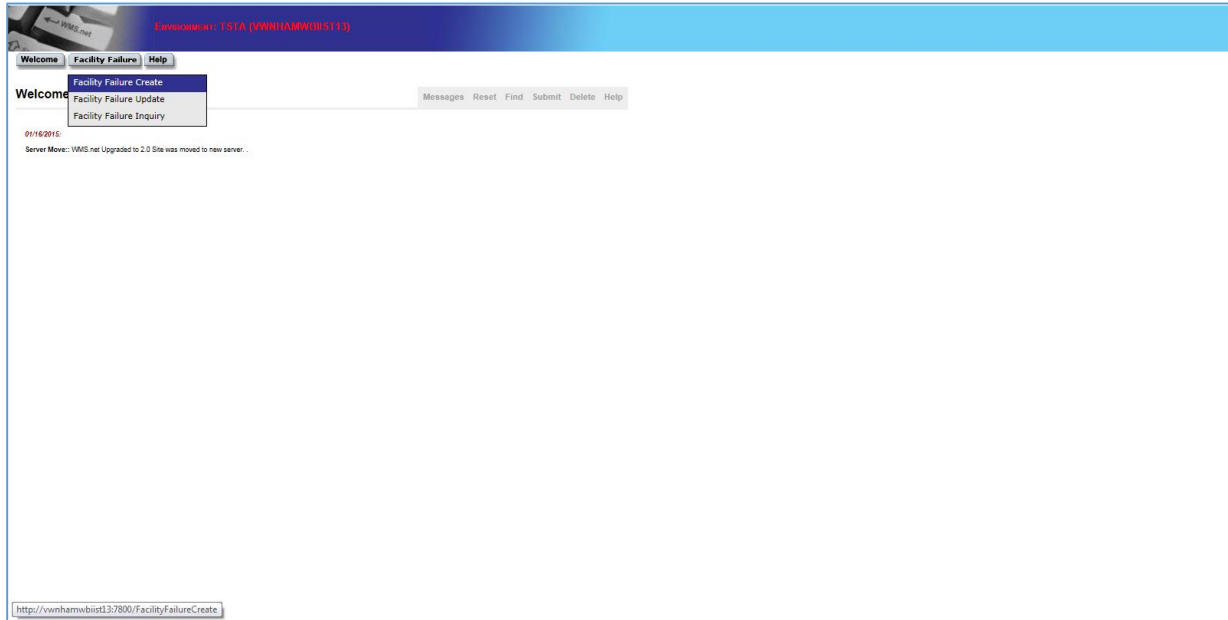
Product Information

Year Installed Year Manufactured Decade Installed Material Lot Number
Material Type Material Size X 2nd Size if Combo Material Color Fused Pipe Color
Print Line or Other Markings
Pipe 1 Units Material Material If Other Plastic Color
Pipe 2 Units Material Material If Other Plastic Color
Description Of Failure
Field Action Taken/Recommendations
Frontline Leader/Supervisor

Facility Failure Page 1 Facility Failure Page 2

WMS.NET Screens: Creating FFR

WMS.NET is a way to do certain WMS work via web pages. Creating, Viewing (Inquiry), and Searching for FFRs in WMS is performed in WMS.NET. In WMS.NET, hover the mouse pointer over the Facility Failure menu and select the Facility Failure Create function. Updating FFRs may only be done by Facility Failure Investigators as part of the investigation process.



Fill out the DPI number (if a DPI exists) and the JO number. Do not include dashes (-) in the JO number.

A screenshot of the "FACILITY FAILURE REPORT - Create" form. The browser's address bar shows "http://vwmhamwbis13:7800/FacilityFailureCreate...". The page title is "FACILITY FAILURE REPORT - Create". A navigation menu at the top includes "Messages", "Reset", "Find", "Submit", "Delete", and "Help". The form has a "General" tab selected. It contains two input fields: "DPI Number:" followed by an empty text box, and "Job Order Number:" followed by a text box containing the value "1542326480" and a small "x" icon to its right.

Creating a FFR in WMS.NET involves completing all of the information in 3 screens (General, Product, & Comments). The system will not allow the FFR to be submitted and saved until all required fields are entered. If you try to submit and more information is needed, the system will identify what fields need to be entered.

Environment: (STA (WWWIHAMWBIIS113))

Welcome Facility Failure Help

Job Order and DPI Found

FACILITY FAILURE REPORT - Create Messages Reset Find Submit Delete Help

General Product Comments

DPI Number: C206831 Job Order Number: 15309667600

Report Type: In-Service Date Failed/Found: 12/04/2015 Company: 38

Report Number: 00003363 Form Completed By: DFIRTH Location/TCC: 3810

Address PSID/Site ID Municipality/City ArcReader
1661 NEW HOPE RD 43 100396611 WAY -78.899268 38.080762

Failed Item Stored At Contact Person Contact Number Suspected Cause Facility Type
SHIPPED TO YORK PA PHIL TOOMEY (717)849-0136 Defective Fitting Service Line

Leak Grade Leak Clear Code Failure Location Inside-Outside Above-Below Method of Installation Soil Type
2 25 - CO SVC REPAIR-COMPANY Service-to-Service Outside Belowground Open Trench Clay

Operating Pressure - Time of Failure Operating Pressure - Normal Range
10 10

Environment: (STA (WWWIHAMWBIIS113))

Welcome Facility Failure Help

Job Order and DPI Found

FACILITY FAILURE REPORT - Create Messages Reset Find Submit Delete Help

General Product Comments

Asset Asset Detail Manufacturer Manufacturer If Other
FITTINGS - PLASTIC COUPLING - STAB Perfection

Model Number Year Installed Year Manufactured Decade Installed Lot Number Material Type
PERMASERT 2010 Unknown

Material Size 2nd Size if Combo Material Color Fused Pipe Color
1" X NA BLACK

Print Line or Other Markings
PE2406/PE2708

Pipe 1: Size 1" Units CTS Material Plastic Material if Other Plastic PE Color YELLOW

Pipe 2: Size 1" Units CTS Material Plastic Material if Other Plastic PE Color YELLOW

Environment: ESTA (WVNHAMW01S F13)

Welcome Facility Failure Help

Job Order and DPI Found

FACILITY FAILURE REPORT - Create Messages Reset Find Submit Delete Help

General Product Comments

Description of Failure
LEAK AT STAB FITTING WHERE SL ATTACHES TO RISER

Field Action Taken
REPLACED RISER

Front Line Leader / Supervisor: LEE REYNOLDS

Facility Failure Report Fields

The fields listed below exist in both the Ventyx and the WMS.NET versions of the FFR.

Report Type	In-service (materials have been gassed up), Not-in-service (materials are not installed or failed prior to being gassed up i.e. during installation or during an air test), or Tools/Equipment.
Date Failed/Found	The date that the failure was found. If a DPI exists, this date is the DPI <u>cleared date</u> . The FFR picks up where the DPI ends.
DPI Number	This will be automatically populated in Ventyx based on the DPI that came down with the JO. In WMS.NET, it gets entered on the initial create screen and carried over to the FFR general tab with its associated JO.

Alt DPI Number	Used in Ventyx only. If the DPI number that came down with the JO is not the DPI associated with the FFR, enter the correct DPI number in this field and WMS will override the DPI Number with the Alt DPI Number.
Address	This will be automatically populated based on the JO.
PSID/Site ID	This will be automatically populated based on the JO.
City	This will be automatically populated based on the JO.
Arcreader Coordinates	The longitude and latitude of the FFR. Copy and paste this from Arcreader's IDENTIFY function. Format is longitude then latitude, separated by a space. The longitude will always start with a minus sign (-) for our coordinates.
Failed Item Stored At	If the item is removed from service, it must be handed off for investigation. Each OC and some MODS have a designated place to store failure material until it is shipped or picked up for investigation. Enter the location (example: ". If the item is left in service, enter "Left in service". If lost (avoid this situation), enter "Lost".
Contact Person	Enter the name of the person, usually you, that another NiSource employee can call if there are questions about the failed material or the work that was performed.
Contact Number	Enter the best contact number to reach the contact person.

Suspected Cause	A drop down list of suspected causes, which lets the facility failure investigator know what your experience and the situation at the work location suggest as a starting point for their work.
Facility Type	Identify whether the failure occurred on a main, service line, or meter set.
Failure Location	Identify Main-to-Main, Main-to-Service (i.e. tapping tee), Service-to-Service (includes riser or curb valve), or Meter Set.
Inside/Outside	Identify whether the failed material was/is installed inside or outside a building.
Above/Below	Identify whether the failed material was/is installed above ground or below ground (buried).
Method of Installation	Identify the method that was used to originally install the failed item, not the method for other materials. Example: risers are installed open trench, even if the pipe is bored.
Soil Type	Identify the type of soil in which the buried component was installed.
Operating Pressure at Time of Failure	For In-Service failures, enter the pressure as a whole number, 1 to 1480 (units are PSIG). Low pressure or unknown is 1. For Not-in-Service or Tools/Equipment, leave blank. Example: For a failure that occurred at 7"wc, which is less than 1 PSIG, enter 1 as the lowest valid value.

Operating Pressure Normal Range	For In-Service failures, enter the upper number of the pressure range as a whole number, 1 to 1480 (units are PSIG). Low pressure or unknown is 1. For Not-in-Service or Tools/Equipment, leave blank. Example: For a failure on a 2# system, enter 2.
Asset	<p>The asset is the way WMS stores the type of material that failed. For leaking failures, the asset should be the same as the leak location. For non-leaking failures, the system uses the same codes/values as DPI leak locations. <u>Refer to the DPI portion of the field reference guide for valid codes.</u></p> <p><u>In Ventyx</u>: The user selects the Asset code separately from the leak location on an associated DPI. Ventyx cannot copy the value from the DPI to the FFR.</p> <p><u>In WMS.NET</u>: The system will auto-populate the Asset and Asset Detail if the FFR is associated with a DPI. Otherwise, select the asset first, then the asset detail.</p>
Asset Detail	<p><u>Not applicable to Ventyx.</u> In WMS.NET, the asset is split into two fields, Asset and Asset Detail. They work together. Asset is the high level type of material and Asset Detail is the low level type of material. Example: For a leak on a plastic curb valve, the Asset is "VALVE – PLASTIC" and the Asset Detail is "SERVICE LINE VALVE - PLUG – MECHANICAL".</p>
Manufacturer	A drop down of manufacturers. Select the manufacturer of the failed item. Or "Unknown". If the manufacturer is not on the list, select "Other" and fill in the Manufacturer in the "Manufacturer if Other" field.
Manufacturer if Other	Only used if "Other" is selected for Manufacturer.

Model Number	Enter the model of the failed material, if known. Example: the model of a Kerotest curb valve is Kerotite.
Year Installed	Enter the year the material was installed. The service line order/record (SLR) may have this information. If the year is not available, enter "Unknown".
Year Manufactured	Enter the year the material was manufactured. If the year is not available, enter "Unknown".
Decade Installed	If the Year Installed and Year Manufactured are both "Unknown", Federal reporting requirements mandate that the company identify the decade in which the material was installed. If the service line order/record (SLR) does not contain enough information to choose a decade, "Unknown" may be selected (and the failure investigator will follow up).
Material Lot Number	If the material still has a label affixed that includes the lot number, enter the lot number in this field.
Material Type	Select Plastic or Metallic for the failed item/material.
Material Size	Select the size of the pipe or fitting. If the fitting is a reducing fitting, the material size must be the larger of the two sizes.
2 nd Size if Combo	If the fitting is a reducing fitting, i.e. 2x1 tapping tee, enter the smaller size. "NA", the same value as Material Size, or leaving blank are allowed when the fitting is not a reducing fitting.
Material Color	For plastic material, select the plastic color of the failed fitting material (i.e. saddle tee, coupling).

Fusion Color	Applicable to saddle fusion components only. Select the color of the pipe onto which the fitting was fused. Example: A yellow service tee fused onto black pipe should be documented as Material Color = YELLOW and Fusion Color = BLACK.
Print Line or Other Markings	For pipe, in particular, but also for fittings: enter any visible markings not already documented in the FFR.
Pipe 1 and Pipe 2	For mechanical fittings and some fusion components, the characteristics of the pipe going in and out of the fitting are recorded in these fields. For reducing fittings, Pipe 1 needs to be the larger size pipe and Pipe 2 needs to be the smaller size pipe.
Units	Select the units for the pipe, either copper tubing size (CTS), iron pipe size (IPS) or nominal pipe size (NPS).
Material	Select Plastic, Steel or Other.
Material if Other	Only used if "Other" is selected for Material.
Plastic	Select the type of plastic. For the majority of plastic pipe and fittings, select PE (polyethylene). Other approved, but infrequently found, plastics are PA (polyamide) and PVC (polyvinyl chloride).
Color	Select the pipe colors for Pipe 1 and Pipe 2 when one or both are plastic pipe.

Description of Failure	Enter a complete and accurate description of the failure conditions. If the DPI number has not been documented in the DPI Number field, for any reason, document it here.
Field Action Taken	Enter a complete and accurate description of the work done to correct the failure in the field.
Frontline Leader/Supervisor	Enter the name of the FOL/FLL that another NiSource employee can call if there are questions about the failed material or the work that was performed.

COLUMBIA GAS OF KENTUCKY, INC.
RESPONSE TO ATTORNEY GENERAL'S INITIAL
REQUEST FOR INFORMATION
DATED JULY 8, 2016

5. Refer to page 15, lines 4-8 of Mr. Belle's Direct Testimony wherein he states: "Columbia also proposes to include within the AMRP the replacement of first generation plastic if a leak is found on a segment of pipe or as Columbia's Optimain tool supports the replacement of isolated segments of pipe based on its Optimain risk score."

a. Provide an expanded description of the process presently used by the Company if a leak is found on a segment of pipe or as Columbia's Optimain tool supports the replacement of isolated segments of pipe based on its Optimain risk score and how the process will change if these costs are included in the AMRP and recovered through the rider.

b. Describe how the Company presently recovers the replacement costs if a leak is found on a segment of pipe or as Columbia's Optimain tool supports the replacement of isolated segments of pipe based on its Optimain risk

score and explain why the Company believes that form of recovery is inadequate.

Response:

a. Currently, if a leak is found on a segment of first generation plastic pipe, Columbia will replace the leaking segment if it exhibited signs of cracking. Columbia will also replace a non-leaking segment of first generation plastic pipe if its Optimain risk score supported replacement.

The only element of the process that would change would be that Columbia would code the associated job order as eligible for the AMRP rider.

b. Currently, replacement costs of small individual segments of Aldyl-A pipe 50 feet in length or less are considered an O&M expense and may be recovered in a future rate case depending on timing. Currently, replacement costs of such sections greater than 50 feet in length are capitalized, but not currently included in Columbia's AMRP rider. Those costs would be recovered in a future rate case as well. Columbia's request to include the replacement of first generation plastic as part of the AMRP rider is due to its susceptibility of future leaks or safety related concerns. Should the first generation plastic in Columbia's system begin to leak or exhibit safety related concerns in an

accelerated fashion, Columbia would like to be positioned to accelerate the replacement and recovery of this pipe similar to its priority pipe.

**COLUMBIA GAS OF KENTUCKY, INC.
RESPONSE TO ATTORNEY GENERAL'S INITIAL
REQUEST FOR INFORMATION
DATED JULY 8, 2016**

6. Refer to page 10, lines 14-20 of Mr. Katko's Direct Testimony wherein he describes the Company's proposed cash working capital allowance using a 1/8 O&M expense methodology.

a. Provide all support for the proposition that the Company's proposed methodology provides a superior measure of cash working capital than the results of a properly performed cash working capital study using the lead/lag methodology.

b. Identify all jurisdictions in which NiSource electric and/or gas utilities are required to calculate cash working capital using the lead/lag methodology.

c. Provide a copy of all cash working capital studies prepared and filed with regulators by all NiSource electric and/or gas utilities since 2012. Also, please

provide a copy of all prefiled direct testimony that addresses each of these cash working capital studies.

Response:

- a. Columbia's methodology for calculating the cash working capital analysis is based on the fact that it has been accepted by the Commission in previous rate filings for many years. Columbia has not performed a cash working capital study based on the lead/lag methodology and, therefore, is unable to state which methodology provides a superior measure of cash working capital.
- b. Jurisdictions in which NiSource electric and/or gas utilities are required to calculate cash working capital using the lead/lag methodology are Ohio, Massachusetts, Virginia, and Maryland.
- c. Please see the following attachments for all cash working capital studies and the associated pre-filed direct testimony prepared and filed with regulators by all NiSource electric and/or gas utilities since 2012:

AG 01-06 Attachment A	2013 Columbia Gas of Maryland
AG 01-06 Attachment B	2013 Columbia Gas of Massachusetts
AG 01-06 Attachment C	2014 Columbia Gas of Virginia
AG 01-06 Attachment D	2015 Columbia Gas of Massachusetts
AG 01-06 Attachment E	2016 Columbia Gas of Maryland
AG 01-06 Attachment F	2016 Columbia Gas of Virginia

Columbia Gas of Maryland, Inc.
Summary of Cash Working Capital - Lead/Lag Study
Twelve Months Ended November 30, 2012

Line No.	Cost Category (1)	Reference (2)	Pro Forma Expense (3) \$	Daily Requirement (4) \$	Revenue Lag Days (5)	Expense Lead Days (6)	Net Lag Days (7)=(5)-(6)	Working Capital Requirement (8)=(4)*(7) \$
1	OPERATING EXPENSES							
2	Gas Purchased	Exh. No. 2, Sh. 4, Ln. 21	19,637,057	53,800	11.76	41.06	(29.30)	(1,576,340)
3	Payroll	Exh. No. 3, Sh. 2, Lns.1 & 2	2,588,845	7,093	11.76	19.52	(7.76)	(55,042)
4	OPEB	Exh. No. 3, Sh. 2, Ln.5	199,620	547	11.76	41.00	(29.24)	(15,994)
5	Pension	Exh. No. 3, Sh. 2, Ln.5	155,083	425	11.76	172.50	(160.74)	(68,315)
6	Other Employee Benefits	Exh. No. 3, Sh. 2, Ln.5	344,260	943	11.76	12.34	(0.58)	(547)
7	NiSource Corporate Services	Exh. No. 3, Sh. 2, Ln.6	4,339,242	11,888	11.76	35.90	(24.14)	(286,976)
8	Corporate Insurance	Exh. No. 3, Sh. 2, Ln.11	197,138	540	11.76	(117.58)	129.34	69,844
9	PSC Fees	Exh. No. 3, Sh. 2, Ln.18	57,861	159	11.76	(33.81)	45.57	7,246
10	Uncollectibles	Exh. No. 3, Sh. 2, Ln.14	188,293	516	11.76	11.76	0.00	0
11	Other O & M Expense	Exh. No. 3, Sh. 2	<u>2,901,747</u>	7,950	11.76	30.04	(18.28)	(145,326)
12	Total Operating Expense		<u>30,609,146</u>					
13	Depreciation & Amortization	Exh. No. 4, Sh. 1	<u>4,083,320</u>	11,187	0.00	0.00	0.00	0
14	TAXES OTHER THAN INCOME							
15	Payroll Taxes - F.I.C.A, FUTA, SUTA	Exh. No. 5, Sh. 1	214,864	589	11.76	8.10	3.66	2,156
16	Property Tax	Exh. No. 5, Sh. 1	1,488,998	4,079	11.76	(65.20)	76.96	313,920
17	Gross Receipts Tax and Consumption Tax	Exh. No. 5, Sh. 1	596,527	1,634	11.76	46.31	(34.55)	(56,455)
18	Other Taxes	Exh. No. 5, Sh. 1	<u>11,106</u>	30	11.76	(137.00)	148.76	4,463
19	Total Other Taxes		<u>2,311,495</u>					
20	INCOME TAXES							
21	Current - Federal	Exh. No. 6, Sh. 1, Ln. 9	(1,738,792)	(4,764)	11.76	37.50	(25.74)	122,625
22	Deferred - Federal	Exh. No. 6, Sh. 1, Lns. 12, 13 & 15	1,917,720		0.00	0.00	0.00	0
23	Investment Tax Credit	Exh. No. 6, Sh. 1, Ln. 14	(40,432)		0.00	0.00	0.00	0
24	Current - State	Exh. No. 6, Sh. 1, Ln. 7	(524,467)	(1,437)	11.76	37.50	(25.74)	36,988
25	Deferred - State	Exh. No. 6, Sh. 1, Ln. 22	580,668		0.00	0.00	0.00	0
26	INTEREST ON DEBT		1,432,079	3,924	11.76	90.40	(78.64)	(308,583)
27	TOTAL CASH WORKING CAPITAL REQUIREMENT							<u>(1,956,336)</u>

() Denotes Credit

Exhibit No. 9
Sheet 2 of 18
Witness: B. E. Elliott

Columbia Gas of Maryland, Inc.
Analysis of Cash Working Capital Requirement
Revenue Lag
Twelve Months Ended November 30, 2012

<u>Line No.</u>	<u>Lag Component</u> (1)	<u>Number of Days</u> (2)
1	Collection	(6.01)
2	Meter Reading 1/	15.25
3	Billing	<u>2.52</u>
4	Total Revenue Lag	11.76

1/ Meter reading lag days computed as:
 $366 \text{ days} / 12 \text{ Months} / 2 \text{ (midpoint)} = 15.2 \text{ days}$

Exhibit No. 9
Sheet 3 of 18
Witness: B. E. Elliott

Columbia Gas of Maryland, Inc.
Analysis of Cash Working Capital Requirement
Adjusted / Average Daily Revenue
Twelve Months Ended November 30, 2012

<u>Line No.</u>		<u>Amount</u> <u>(1)</u> \$
1	Total Tariff Revenues:	
2	Residential Revenues	19,956,218
3	Commercial Revenues	11,522,282
4	Industrial Revenues	185,893
5	Other Revenues	0
6	TOTAL TARIFF REVENUE	<u>31,664,393</u>
7	Transportation Revenue	3,422,655
8	Forfeited Discounts	6,516
9	Miscellaneous Service Revenue	38,901
10	SUBTOTAL OF ADDITIONAL REVENUE	<u>3,468,072</u>
11	TOTAL REVENUE	35,132,465
12	Average Daily Revenue (Line11/366 days)	<u>95,990</u>
13	Average Daily A/R Balance (Per Sheet No. 4)	<u>(576,877)</u>
14	Revenue Collection Lag Days (Line13 / Line12)	<u>(6.01)</u>

Exhibit No. 9
Sheet 4 of 18
Witness: B. E. Elliott

Columbia Gas of Maryland, Inc.
Analysis of Cash Working Capital Requirement
Summary of Accounts Receivable
Twelve Months Ended November 30, 2012

<u>Line No.</u>	<u>Test Year</u>	<u>142-0001-10801 Utility Service CAB Balance</u>	<u>142-0001-108XX Utility Service Other Balance</u>	<u>142-0002-10810 Customer Premises Work Balance</u>	<u>143-9900-10840-1001361 Home Energy Assistance Program Balance</u>	<u>143-9910-10840-1001511 Choice Transportation - DIS Balance</u>	<u>143-9910-10840-100152 Choice Transportation - GAS Balance</u>	<u>Utility Accounts Receivables (8)=(2 thru 7)</u>
	<u>(1)</u>	<u>(2)</u>	<u>(3)</u>	<u>(4)</u>	<u>(5)</u>	<u>(6)</u>	<u>(7)</u>	<u>(8)</u>
		\$	\$	\$	\$	\$	\$	\$
1	Dec 2011	(1,484,427)	146,328	17,633	301,134	(113,108)	390	(1,132,050)
2	Jan 2012	166,900	186,348	71,266	0	(43,408)	0	381,106
3	Feb	1,042,011	230,893	65,945	16,031	7,328	0	1,362,208
4	Mar	1,030,343	253,649	12,322	17,762	33,714	0	1,347,790
5	Apr	737,313	191,495	10,914	0	41,844	0	981,567
6	May	366,414	154,588	93,401	16,273	40,178	0	670,853
7	Jun	(293,792)	139,496	95,235	0	17,270	0	(41,792)
8	Jul	(1,498,863)	131,569	94,749	541,961	(14,811)	0	(745,395)
9	Aug	(2,187,500)	135,896	96,801	(19)	(41,694)	0	(1,996,516)
10	Sep	(2,591,780)	134,916	91,023	0	(51,556)	0	(2,417,398)
11	Oct	(3,152,339)	1,954	87,448	0	64,632	0	(2,998,305)
12	Nov 2012	(2,411,344)	71,612	5,416	0	(280)	0	<u>(2,334,596)</u>
13	Total	<u>(10,277,063)</u>	<u>1,778,743</u>	<u>742,151</u>	<u>893,142</u>	<u>(59,890)</u>	<u>390</u>	<u>(6,922,527)</u>
14	Avg. 12 Mo.	<u>(856,422)</u>	<u>148,229</u>	<u>61,846</u>	<u>74,429</u>	<u>(4,991)</u>	<u>32</u>	<u>(576,877)</u>

Exhibit No. 9
Sheet 5 of 18
Witness: B. E. Elliott

Columbia Gas of Maryland, Inc
Analysis of Cash Working Capital Requirement
Billing Lag Calculation
Twelve Months Ended November 30, 2012

<u>Line No.</u>	<u>Description</u> (1)	<u>Revenue Amount</u> (2) \$	<u>Billing Lag</u> (3)	<u>Weighted Revenue</u> (4)=(2)*(3) \$
1	Tariff / Transportation Revenues - (DIS)	31,256,690	1.00	31,256,690
2	GTS Revenues - GTS System	2,794,577	17.91	50,053,495
3	GMB Revenues - GAS System	<u>1,035,781</u>	6.75	<u>6,996,253</u>
4	Calculated Billing Lag	<u>35,087,048</u>	2.52	<u>88,306,438</u>

Exhibit No. 9
Sheet 6 of 18
Witness: B. E. Elliott

Columbia Gas of Maryland, Inc
Analysis of Cash Working Capital Requirement
Gas Purchased Cost
Twelve Months Ended November 30, 2012

Line No.	Service Month (1)	Lag Days (2)=(4)/(3)	Payment (3) \$	Weighted Days (4) \$
1	Nov, 2011	42.00	1,110,414.75	46,637,419.50
2	Dec, 2011	40.50	1,286,050.50	52,085,045.25
3	Jan, 2012	42.50	1,231,978.63	52,359,091.78
4	Feb, 2012	40.50	549,137.63	22,240,074.02
5	Mar, 2012	40.50	9,132.00	369,846.00
6	Apr, 2012	40.00	982,310.50	39,292,420.00
7	May, 2012	0.00	-	-
8	Jun, 2012	40.00	762,060.00	30,482,400.00
9	Jul, 2012	42.50	838,325.00	35,628,812.50
10	Aug, 2012	40.50	1,353,398.40	54,812,635.20
11	Sep, 2012	40.00	690,174.00	27,606,960.00
12	Oct, 2012	41.50	<u>796,684.50</u>	<u>33,062,406.75</u>
13	Total Lag Days	41.06	<u>9,609,665.91</u>	<u>394,577,110.99</u>

Exhibit No. 9
Sheet 7 of 18
Witness: B. E. Elliott

Columbia Gas of Maryland, Inc.
Analysis of Cash Working Capital Requirement
Payroll Costs
Twelve Months Ended November 30, 2012

<u>Line No.</u>	<u>Description</u> (1)	<u>Payroll Costs</u> (2) \$	<u>Lead Days</u> (3)	<u>Lead Days</u> (4)=(2)*(3) \$
1	Bi-Weekly			
2	F.I.T. & F.I.C.A.	795,561	6.00	4,773,368
3	State Withholding	185,332	6.00	1,111,992
4	Net Pay	<u>2,137,507</u>	6.00	<u>12,825,042</u>
5	Total	3,118,400	6.00	18,710,402
6	Monthly			
7	F.I.T. & F.I.C.A.	131,814	14.98	1,974,921
8	State Withholding	28,649	14.97	428,955
9	Net Pay	<u>315,128</u>	14.96	<u>4,714,491</u>
10	Total	<u>475,591</u>	14.97	<u>7,118,367</u>
11	Annual Incentive Pay	<u>192,819</u>	249.43	<u>48,095,681</u>
12	Grand Total	<u>3,786,810</u>		<u>73,924,450</u>
13	Total Weighted Average Lead Days		<u><u>19.52</u></u>	

Exhibit No. 9
Sheet 8 of 18
Witness: B. E. Elliott

Columbia Gas of Maryland, Inc.
Analysis of Cash Working Capital Requirement
OPEB
Twelve Months Ended November 30, 2012

<u>Line No.</u>	<u>Service Period</u>		<u>Payment Date</u>	<u>Midpoint of Service Period</u>	<u>Lead Days</u>	<u>Amount Paid</u>	<u>Weighted Lead Days</u>	
	<u>(1)</u>	<u>(2)</u>	<u>(3)</u>	<u>(4)</u>	<u>(5)=(3)-(2)+(4)</u>	<u>(6)</u>	<u>(7)=(5)*(6)</u>	
						\$	\$	
1	10/1/2011	12/31/2011	12/27/2011	11/15/2011	42.00	46,782	1,964,844	
2	12/1/2011	12/31/2011	12/29/2011	12/15/2011	13.50	1,967	26,555	
3	1/1/2012	3/31/2012	3/28/2012	2/14/2012	42.50	46,782	1,988,235	
4	4/1/2012	4/30/2012	4/4/2012	4/15/2012	(11.00)	2,037	(22,407)	
5	5/1/2012	5/31/2012	5/7/2012	5/15/2012	(8.50)	197	(1,675)	
6	4/1/2012	6/30/2012	6/25/2012	5/15/2012	40.50	84,406	3,418,443	
7	7/1/2012	9/30/2012	9/26/2012	8/15/2012	42.00	84,406	3,545,052	
8	Total						<u>266,577</u>	<u>10,919,047</u>
9	Weighted Average Days					<u>41.00</u>		

Exhibit No. 9
Sheet 9 of 18
Witness: B. E. Elliott

Columbia Gas of Maryland, Inc.
Analysis of Cash Working Capital Requirement
Pension
Twelve Months Ended November 30, 2012

<u>Line No.</u>	<u>Service Period</u>		<u>Payment Date</u>	<u>Midpoint of Service Period</u>	<u>Lead Days</u>	<u>Amount Paid</u>	<u>Weighted Lead Days</u>	
	<u>(1)</u>	<u>(2)</u>	<u>(3)</u>	<u>(4)</u>	<u>(5)=(3)-(2)+(4)</u>	<u>(6)</u>	<u>(7)=(5)*(6)</u>	
						\$	\$	
1	1/1/2011	12/31/2011	12/15/2011	7/1/2011	166.50	522,452	86,988,258	
2	1/1/2011	12/31/2011	12/27/2011	7/1/2011	178.50	522,452	93,257,682	
3	Total						<u>1,044,904</u>	<u>180,245,940</u>
4	Weighted Average Days					<u>172.50</u>		

Exhibit No. 9
Sheet 10 of 18
Witness: B. E. Elliott

Columbia Gas of Maryland, Inc.
Analysis of Cash Working Capital Requirement
Other Employee Benefits
Twelve Months Ended November 30, 2012

<u>Line No.</u>	<u>Service Period</u> (1)	<u>Payment Date</u> (2)	<u>Midpoint of Service Period</u> (3)	<u>Lead Days</u> (4)=(2)-(1)+(3)	<u>Payment</u> (5) \$	<u>Weighted Lead Days</u> (6)=(4)*(5) \$
1	12/31/2011	12/29/2011	12/15/2011	13.50	58,512	789,912
2	1/31/2012	1/30/2012	1/15/2012	14.50	61,813	896,289
3	2/29/2012	2/29/2012	2/14/2012	14.50	51,250	743,125
4	3/31/2012	3/28/2012	3/15/2012	12.50	51,110	638,875
5	4/30/2012	4/25/2012	4/15/2012	10.00	55,716	557,160
6	5/31/2012	5/29/2012	5/15/2012	13.50	54,510	735,885
7	6/30/2012	6/27/2012	6/15/2012	12.00	48,074	576,888
8	7/31/2012	7/26/2012	7/15/2012	10.50	59,996	629,958
9	8/31/2012	8/27/2012	8/15/2012	11.50	53,113	610,800
10	9/30/2012	9/24/2012	9/15/2012	9.00	53,522	481,698
11	10/31/2012	10/30/2012	10/15/2012	14.50	53,578	776,881
12	11/30/2012	11/27/2012	11/15/2012	12.00	53,538	642,456
13	Total				<u>654,732</u>	<u>8,079,927</u>
14	Weighted Average Days			<u>12.34</u>		

Exhibit No. 9
Sheet 11 of 18
Witness: B. E. Elliott

Columbia Gas of Maryland, Inc.
Analysis of Cash Working Capital Requirement
Corporate Services
Twelve Months Ended November 30, 2012

<u>Line No.</u>	<u>Service Period</u> (1)	<u>Payment Date</u> (2)	<u>Midpoint of Service Period</u> (3)	<u>Lead Days</u> (4)=(2)-(1)+(3)	<u>Payment</u> (5) \$	<u>Weighted Lead Days</u> (6)=(4)*(5) \$
1	11/30/2011	12/29/2011	15.0	44.00	437,166	19,235,304
2	12/31/2011	1/30/2012	15.5	45.50	507,263	23,080,467
3	1/31/2012	2/29/2012	15.5	44.50	419,290	18,658,405
4	2/29/2012	3/14/2012	14.5	28.50	451,429	12,865,727
5	3/31/2012	4/18/2012	15.5	33.50	522,298	17,496,983
6	4/30/2012	5/15/2012	15.0	30.00	464,511	13,935,330
7	5/31/2012	6/22/2012	15.5	37.50	468,811	17,580,413
8	6/30/2012	7/17/2012	15.0	32.00	446,974	14,303,168
9	7/31/2012	8/21/2012	15.5	36.50	529,680	19,333,320
10	8/31/2012	9/14/2012	15.5	29.50	440,161	12,984,750
11	9/30/2012	10/18/2012	15.0	33.00	452,310	14,926,230
12	10/31/2012	11/21/2012	15.5	36.50	<u>498,903</u>	<u>18,209,960</u>
13	Total				<u>5,638,796</u>	<u>202,610,057</u>
14	Weighted Average Days			<u>35.90</u>		

Witness: B. E. Elliott

Columbia Gas of Maryland, Inc.
Analysis of Cash Working Capital Requirement
Corporate Insurance
Twelve Months Ended November 30, 2012

<u>Line No.</u>	<u>Fee</u> (1)	<u>Payment Date</u> (2)	<u>Amount Paid</u> (3) \$	<u>Midpoint of Period</u> (4)	<u>Lead Days</u> (5)	<u>Dollar Lead Days</u> (6)=(3)*(5) \$
1	Workers Compensation	12/29/2011	1,534	10/15/2011	74.50	114,255
2	Officers and Directors Liability	12/29/2011	28,354	5/1/2012	(124.50)	(3,530,094)
3	Excess Liability	12/29/2011	1,261	5/1/2012	(124.50)	(157,029)
4	Workers Compensation	1/30/2012	396	11/15/2011	76.00	30,098
5	Group Life/Long Term Insurance	1/30/2012	200	8/15/2011	168.00	33,600
6	Workers Compensation	2/29/2012	4,194	12/15/2011	75.50	316,632
7	Group Life/Long Term Insurance	3/14/2012	330	11/15/2011	120.00	39,600
8	Group Life/Long Term Insurance	3/14/2012	1	12/30/2011	74.50	62
9	Workers Compensation	3/14/2012	6,868	1/15/2012	58.50	401,756
10	Workers Compensation	4/18/2012	817	2/14/2012	63.50	51,904
11	Workers Compensation	4/18/2012	(159)	12/30/2010	475.00	(75,335)
12	Group Life/Long Term Insurance	5/15/2012	57,357	7/1/2012	(47.00)	(2,695,785)
13	Excess Liability	6/22/2012	314	5/15/2012	37.50	11,761
14	Long Term Disability	6/22/2012	2,048	7/1/2012	(9.00)	(18,435)
15	Workers Compensation	6/22/2012	168	4/15/2012	68.00	11,414
16	Life Insurance	7/17/2012	(5,969)	7/1/2011	381.50	(2,277,196)
17	Long Term Disability	7/17/2012	129	7/1/2011	381.50	49,351
18	Excess Liability	7/31/2012	55,932	12/29/2012	(151.50)	(8,473,751)
19	Auto Liability	7/31/2012	4,164	12/29/2012	(151.50)	(630,872)
20	Officers and Directors Liability	7/31/2012	2,125	12/29/2012	(151.50)	(321,938)
21	General Liability	7/31/2012	4,254	12/29/2012	(151.50)	(644,407)
22	Group Life/Long Term Insurance	7/31/2012	3,805	12/29/2012	(151.50)	(576,492)
23	Workers Compensation	7/31/2012	8,925	12/29/2012	(151.50)	(1,352,119)
24	Excess Liability	8/21/2012	17,300	12/29/2012	(130.50)	(2,257,671)
25	Professional Liability	8/21/2012	840	12/29/2012	(130.50)	(109,580)
26	Property Insurance	8/21/2012	22,273	12/29/2012	(130.50)	(2,906,627)
27	SIR Buydown Liability	8/21/2012	36,998	12/29/2012	(130.50)	(4,828,239)
28	Workers Compensation	8/21/2012	97	5/15/2012	97.50	9,444
29	Workers Compensation	8/21/2012	26,377	12/29/2012	(130.50)	(3,442,199)
30	Property Insurance	9/14/2012	10,642	12/29/2012	(106.50)	(1,133,373)
31	Excess Liability	9/14/2012	273	12/29/2012	(106.50)	(29,075)
32	Group Life/Long Term Insurance	9/14/2012	154	12/29/2012	(106.50)	(16,385)
33	Workers Compensation	9/14/2012	429	7/15/2012	60.50	25,930
34	Property Insurance	10/18/2012	<u>(72)</u>	12/29/2012	<u>(72.50)</u>	<u>5,220</u>
35	Total		<u>292,359</u>			<u>(34,375,575)</u>
36	Weighted Average				<u>(117.58)</u>	

() Denotes Pre-paid expense

Exhibit No. 9
Sheet 13 of 18
Witness: B. E. Elliott

Columbia Gas of Maryland, Inc.
Analysis of Cash Working Capital Requirement
Other Operating and Maintenance Expenses
Twelve Months Ended November 30, 2012

<u>Line No.</u>	<u>Description</u> (1)	<u>Approved Check Amount</u> (2) \$	<u>Lead Days</u> (3)	<u>Dollar Weighted Days</u> (4) \$	<u>Percentage</u> (5)	<u>Lead Days</u> (6)=(3)*(5)
1	Total Work Management Contracts	771,417	29.15	22,484,746	57.87%	16.87
2	Total General Office Source	<u>42,503</u>	31.25	<u>1,328,244</u>	<u>42.13%</u>	13.17
3	Total	813,920		23,812,990	100.00%	<u>30.04</u>

Exhibit No. 9
Sheet 14 of 18
Witness: B. E. Elliott

Columbia Gas of Maryland, Inc.
Analysis of Cash Working Capital Requirement
Payroll Taxes
Twelve Months Ended November 30, 2012

<u>Line No.</u>	<u>Description</u> (1)	<u>Payroll Costs</u> (2) \$	<u>Lead Days</u> (3)	<u>Dollar Lead Days</u> (4) \$
1	F.I.C.A.	457,789	7.10	3,269,278
2	Federal Unemployment	4,001	11.80	47,280
3	State Unemployment	<u>9,575</u>	51.50	<u>492,942</u>
4	Total	<u>471,365</u>		<u>3,809,500</u>
5	Weighted Average Days		<u><u>8.10</u></u>	

Exhibit No. 9
Sheet 15 of 18
Witness: B. E. Elliott

Columbia Gas of Maryland, Inc.
Analysis of Cash Working Capital Requirement
Gross Receipts/Consumption Tax
Twelve Months Ended November 30, 2012

<u>Line No.</u>	<u>Service Period</u>		<u>Payment Date</u>	<u>Midpoint of Service Period</u>	<u>Lead Days</u>	<u>Amount Paid</u>	<u>Weighted Lead Days</u>
	<u>(1)</u>	<u>(2)</u>	<u>(3)</u>	<u>(4)</u>	<u>(5)=(3)-(2)+(4)</u>	<u>(6)</u>	<u>(7)=(5)*(6)</u>
						\$	\$
1	10/1/2011	12/31/2011	12/15/2011	11/15/2011	30.00	148,817	4,464,495
2	1/1/2011	12/31/2011	3/14/2012	7/1/2011	256.50	10,767	2,761,736
3	1/1/2012	3/31/2012	4/13/2012	2/14/2012	58.50	151,508	8,863,233
4	4/1/2012	6/30/2012	6/25/2012	5/15/2012	40.50	151,508	6,136,084
5	7/1/2012	9/30/2012	9/25/2012	8/15/2012	41.00	151,508	6,211,838
						<u>614,108</u>	<u>28,437,386</u>
6	Weighted Average Days				<u><u>46.31</u></u>		

Columbia Gas of Maryland, Inc.
Analysis of Cash Working Capital Requirement
Property Taxes / PSC Fees / Franchise Fess
Twelve Months Ended November 30, 2012

<u>Line No.</u>	<u>Description</u> (1)	<u>Amount Due</u> (2) \$	<u>Date of Statutory Payment</u> (3)	<u>Midpoint of Tax Year</u> (4)	<u>Lead Days</u> (5)	<u>Weighted Lead Days</u> (6)=(2)*(5) \$
1	<u>Property Taxes</u>					
2	ALLEGANY COUNTY	461,337	10/30/2012	1/1/2013	(63.00)	(29,064,251)
3	BARTON	1,021	10/12/2012	1/1/2013	(81.00)	(82,666)
4	CUMBERLAND	199,639	10/31/2012	1/1/2013	(62.00)	(12,377,606)
5	FROSTBURG	27,795	10/29/2012	1/1/2013	(64.00)	(1,778,883)
6	LUKE	339	10/12/2012	1/1/2013	(81.00)	(27,440)
7	GARRETT COUNTY	61,685	10/12/2012	1/1/2013	(81.00)	(4,996,473)
8	DEER PARK	415	10/29/2012	1/1/2013	(64.00)	(26,540)
9	GRANTSVILLE	757	10/29/2012	1/1/2013	(64.00)	(48,426)
10	KITZMILLER, TOWN OF	1,915	11/30/2012	1/1/2013	(32.00)	(61,290)
11	MOUNTAIN LAKE	2,917	10/29/2012	1/1/2013	(64.00)	(186,680)
12	OAKLAND	8,934	10/29/2012	1/1/2013	(64.00)	(571,753)
13	WASHINGTON COUNTY	417,229	10/31/2012	1/1/2013	(62.00)	(25,868,215)
14	HAGERSTOWN	195,256	10/16/2012	1/1/2013	(77.00)	(15,034,739)
15	HANCOCK	2,364	10/12/2012	1/1/2013	(81.00)	(191,449)
16	WILLIAMSPORT	111	11/15/2012	1/1/2013	(47.00)	(5,194)
17	<u>Gas Stored</u>					
18	West Virginia State Auditor	7,148	2/13/2012	1/1/2012	43.00	307,379
19	West Virginia State Auditor	7,122	8/20/2012	1/1/2013	(134.00)	(954,335)
20	Total	<u>1,395,982</u>			<u>(65.20)</u>	<u>(90,968,561)</u>
21	<u>PCS Fees</u>					
22	Maryland Public Service Comi	14,989	7/17/2012	1/1/2013	(168.00)	(2,518,207)
23	Maryland Public Service Comi	14,989	10/5/2012	1/1/2013	(88.00)	(1,319,061)
24	Maryland Public Service Comi	16,263	1/6/2012	1/1/2012	5.00	81,314
25	Maryland Public Service Comi	16,263	4/11/2012	1/1/2012	101.00	1,642,548
26	Total	<u>62,504</u>			<u>(33.81)</u>	<u>(2,113,406)</u>
27	<u>License & Franchise</u>					
28	BARTON	75	2/15/2012	7/1/2012	(137.00)	(10,275)
29	CUMBERLAND	5,000	2/15/2012	7/1/2012	(137.00)	(685,000)
30	LUKE	75	2/15/2012	7/1/2012	(137.00)	(10,275)
31	WESTERNPORT	200	2/15/2012	7/1/2012	(137.00)	(27,400)
32	MOUNTAIN LAKE PARK	1,500	2/15/2012	7/1/2012	(137.00)	(205,500)
33	HAGERSTOWN	500	2/15/2012	7/1/2012	(137.00)	(68,500)
34	FROSTBURG	1,500	2/15/2012	7/1/2012	(137.00)	(205,500)
35	LONACONING	100	2/15/2012	7/1/2012	(137.00)	(13,700)
36	MIDLAND	50	2/15/2012	7/1/2012	(137.00)	(6,850)
37	LOCH LYNN HEIGHTS	50	2/15/2012	7/1/2012	(137.00)	(6,850)
38	DEER PARK	100	2/15/2012	7/1/2012	(137.00)	(13,700)
39	KITZMILLER	100	2/15/2012	7/1/2012	(137.00)	(13,700)
40	Total	<u>9,250</u>			<u>(137.00)</u>	<u>(1,267,250)</u>

() Denotes Pre-paid expense

Exhibit No. 9
Sheet 17 of 18
Witness: B. E. Elliott

Columbia Gas of Maryland, Inc.
Analysis of Cash Working Capital Requirement
Income Taxes
Twelve Months Ended November 30, 2012

<u>Line No.</u>	<u>Amount Due</u> (1)	<u>Date of Statutory Payment</u> (2)	<u>Midpoint of Year</u> (3)	<u>Lead Days</u> (4)	<u>Weighted Lead Days</u> (5)
1	<u>FEDERAL INCOME TAXES</u>				
2	25.0%	15-Dec-11	01-Jul-11	167.00	41.80
3	25.0%	15-Apr-12	01-Jul-12	(77.00)	(19.30)
4	25.0%	15-Jun-12	01-Jul-12	(16.00)	(4.00)
5	25.0%	15-Sep-12	01-Jul-12	76.00	<u>19.00</u>
6	Total Federal Lead Days				<u><u>37.50</u></u>
7	<u>CORPORATE INCOME TAXES</u>				
8	25.0%	15-Dec-11	01-Jul-11	167.00	41.80
9	25.0%	15-Apr-12	01-Jul-12	(77.00)	(19.30)
10	25.0%	15-Jun-12	01-Jul-12	(16.00)	(4.00)
11	25.0%	15-Sep-12	01-Jul-12	76.00	19.00
12	Total Corporate Lead Days				<u><u>37.50</u></u>

() Denotes Pre-paid expense

Exhibit No. 9
Sheet 18 of 18
Witness: B. E. Elliott

Columbia Gas of Maryland, Inc.
Analysis of Cash Working Capital Requirement
Interest on Debt
Twelve Months Ended November 30, 2012

<u>Line No.</u>	<u>Debt Instrument</u> (1)	<u>Interest Charges</u> (2) \$	<u>Lead Days</u> (3)	<u>Dollar Weighted</u> (4)=(2)*(3) \$
1	Installment Promissory Note	1,510,672	92.50	139,737,114
2	Money Pool	<u>43,933</u>	16.90	<u>742,668</u>
3	TOTAL	1,554,604		140,479,782
4	Weighted Average		<u><u>90.40</u></u>	

**BEFORE
THE PUBLIC SERVICE COMMISSION OF MARYLAND**

IN THE MATTER OF THE APPLICATION)
OF COLUMBIA GAS OF MARYLAND, INC.) Case No. _____
FOR AUTHORITY TO INCREASE RATES)
AND CHARGES)

**DIRECT TESTIMONY
OF BRIAN E. ELLIOTT**

**ON BEHALF OF
COLUMBIA GAS OF MARYLAND, INC.**

February 27, 2013

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

2 A. Brian E. Elliott, 200 Civic Center Drive, Columbus, Ohio 43215.

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

4 A. I am employed by NiSource Corporate Services Company (“NCSC”). My title is
5 Manager for Regulatory Strategy & Support.

6 **Q. What is your educational background?**

7 A. I graduated from West Virginia State College in 1985 with a Bachelor of Science
8 degree in Business Administration and I majored in Accounting. I am a Certified
9 Public Accountant and a member of the American Institute of Certified Public
10 Accountants.

11 **Q. Please briefly describe your professional experience.**

12 A. In March 1991, I joined Columbia Natural Resources (“CNR”). From 1991 until
13 2001, I held several positions of increasing responsibility in the Finance Depart-
14 ment of CNR. In 1997, I was promoted to Financial Planning Manager. In 2001, I
15 changed roles to become the Accounting Manager of CNR. From mid-2002
16 through 2003, I assumed a role in NiSource Corporate Services Company as the
17 Financial Planning Manager of a group of regulated utilities, including Columbia
18 Gas of Ohio, Columbia Gas of Kentucky, and Bay State Gas Company (now dba
19 Columbia Gas of Massachusetts). From 2004 through mid-2012, I was the Ac-
20 counting Manager of Columbia Gas of Ohio. Most recently, in mid-2012, I ac-
21 cepted my current position as a manager in the Regulatory Strategy & Support De-
22 partment of NiSource Inc.’s gas distribution segment.

23 **Q. What is the purpose of your testimony?**

1 A. I am testifying on behalf of Columbia Gas of Maryland (“Columbia” or “the Com-
2 pany”) to support the Company’s cash working capital claims and to support the
3 Company’s rate base calculation. My testimony is separated into two sections, with
4 Section I discussing the cash working capital claim, and Section II discussing the de-
5 termination of the Company’s rate base.

6 **SECTION I – CASH WORKING CAPITAL**
7

8 **Q. How did you arrive at your cash working capital claim?**

9 A. I accomplish this through a lead-lag study. The study is presented in Exhibit 9, Sheets
10 1 through 18. The revenue and operating expenses for the twelve months ended No-
11 vember 30, 2012¹ were used to calculate the total net lag expressed in number of days.
12 These lag days were applied to the operating expenses anticipated for the test year
13 period ending March 31, 2013, to arrive at the appropriate amount of cash working
14 capital that is included in rate base.

15 **Q. Briefly define Cash Working Capital and describe the lead-lag method of**
16 **determining Cash Working Capital for ratemaking purposes.**

17 A. The commonly used and accepted definition of working capital is “a measure of
18 liquidity computed by subtracting current liabilities from current assets.” Working
19 capital, as it applies to the regulatory utility and to rate base, is a value assigned to
20 assets which are current or short-term in nature. The value of these current assets
21 represents a need for invested funds. Cash Working Capital (“CWC”) is that portion

¹ Though the test year for the lead lag study was the twelve months ended November 30, 2012, FUTA (Federal Unemployment Tax) and SUTA (State Unemployment Tax) payments made in December 2012 have been included. Additionally, four accounts payable transactions from December 2012 have been included. The impact of these transactions is inconsequential to the outcome of the lead lag study.

1 of working capital that is needed to finance the time period between receipt of
2 payment for utility service and the disbursements required to render that service.
3 “Revenue lag,” the time period from the date that customers receive service to the
4 date the Company receives payment from customers for service, is the basis for
5 determining the annual cash requirement that must be financed by the company.
6 This cash requirement is offset, in part, to the extent that the Company’s payments
7 for labor, materials & supplies, and other expenses incurred in providing services to
8 customers occurs after the time such services are received. These offsets are defined
9 as “expense leads.” Negative expense leads represent prepaid expenses and have the
10 same outcome as the revenue lags because they require additional CWC to be
11 provided by the Company’s investors. The examination of the timing of these
12 fundamental cash transactions constitutes the lead-lag method of determining CWC.
13 The net lag days are applied to the expense components of the cost of service to arrive
14 at the CWC requirement.

15 **Q. Please explain how the revenue lag days were determined.**

16 A. The revenue lag of 11.76 days, as reflected in Exhibit 9, Sheet 1, Column 5, is
17 summarized on Exhibit 9, Sheet 2. The revenue lag is comprised of a 15.25 day “meter
18 reading” period minus a 6.01 day collection lag (collection lag for this test period is
19 negative) plus a 2.52 day billing lag. Columbia’s monthly meter reading cycle
20 averages 30.5 days (366 divided by 12). Since service is provided throughout the
21 month, the average lag from the time service is rendered until the meters are read is
22 15.25 days (30.5 divided by 2). The collection lag, calculated on Exhibit 9, Sheet 3,
23 represents the time from the date bills are rendered to the date cash is received in
24 payment of the customer’s bill. This lag was arrived at through examination of

1 accounts receivable balances for all sales and transportation accounts using the
2 accounts receivable turnover method. End of the month book balances were utilized
3 as the most accurate measure of customer accounts receivable. Under the accounts
4 receivable turnover method, the twelve month-end balances of Accounts Receivable
5 were averaged to calculate the Average Accounts Receivable Balance of \$(576,877) as
6 listed on Exhibit 9, Sheet 4. “As billed” per book revenue was divided by 366 days to
7 calculate the Average Daily Revenue amount of \$95,990. The collection lag of (6.01)
8 days as shown on Exhibit 9, Sheet 3, Line 14 was arrived at by dividing the twelve
9 month average of accounts receivable by the average daily revenue. The 2.52 day
10 billing lag represents the average bill processing time after service is rendered and
11 meters are read. Processing customer bills consists primarily of entering data into
12 the billing system, computing, printing, placing bills in envelopes, sorting and
13 mailing monthly statements. Each of Columbia’s customers is billed under one of
14 three billing systems, depending upon the nature of the service provided and the
15 manner in which billed volumes are determined. The majority of Columbia’s
16 customers are billed through the Distributive Information System (“DIS”). DIS
17 issues a bill one day after a customer’s meter is read. As shown on Exhibit 9, Sheet
18 5, Line 1, the billing lag for these customers is assumed to be one (1) day. Additional
19 processing time is required for customers who are billed through the Gas
20 Transportation System (“GTS”) or the Gas Accounting System (“GAS”). For GTS
21 service, customer gas is delivered to Columbia on a calendar basis while their meters
22 are read on a cycle basis. Billings are held until the end of the month to ensure and
23 verify that adequate supplies were delivered. The amount of time from meter reading
24 to billing for these customers is a lag totaling 17.91 days as shown on Exhibit 9, Sheet

1 5, Line 2, Column 3. GAS primarily handles larger customers, the majority of which
2 require daily consumption data. Meter charts are provided showing the daily
3 pressure, temperature and consumption levels which then must be confirmed,
4 loaded into the billing system, with measured consumption then adjusted for
5 pressure and temperature to determine billed volumes. This activity is more labor
6 intensive than the small general service-type customer groups and takes significantly
7 longer to prepare monthly bills. The monthly billing lag as shown on Exhibit 9, Sheet
8 5, Line 3 is 6.75 days. The three groups were then weighted based on the revenue
9 billed to arrive at an overall average of 2.52 days shown on Exhibit 9, Sheet 5, Column
10 3, Line 4.

11 **Q. Please explain why the collection lag decreased significantly from the**
12 **2008 case.**

13 A. In its 2008 case, Columbia determined the collection lag to be 19.73 days. In its
14 current case, Columbia has calculated a collection lag of minus 6.01 days. There are
15 several factors that influence the determination of the number of collection lag days,
16 but the primary drivers of the decrease include the impact of resetting billing unit
17 levels due to the implementation of Automated Meter Reading Devices (“AMRDs”),
18 and extremely warmer-than-normal weather and its impact on budget payment
19 customers.

20 In the period since its previous case, Columbia has installed AMRDs on all of its sales
21 customers’ meters. The improved efficiency in reading meters, resulting from the full
22 implementation of AMRDs, has reduced the number of days needed each month to
23 read all customer meters. Consequently, Columbia has modified its meter reading
24 schedule to a higher concentration toward the beginning of the month. As previously

1 explained, Columbia is using its month-end accounts receivable balance as a
2 representation of the average balance for the month. Because customers' meters are
3 being read earlier in the month, and the bills are being issued earlier in the month as
4 a result, there is a greater likelihood that the month-end accounts receivable balance
5 is lower because there are, on average, more days for a customer to pay their bill prior
6 to the end of the month.

7 During the test year for this lead lag study, Columbia (and most of the U.S.)
8 experienced a historically warmer-than-normal winter heating season (2011-2012).
9 Deviations from normal weather impact accounts receivable balances for our budget
10 payment plan customers. In normal weather conditions, a budget payment plan
11 customer's accounts receivable balance is expected to build a credit balance during
12 the non-heating months and will see this credit balance erode over the course of the
13 winter heating season, ultimately ending at zero at the conclusion of the budget
14 payment plan annual cycle. In the event of warmer-than-normal weather, budget
15 payment plan customers continue to pay the same monthly amount. However,
16 because their actual bills are less than what would have been billed under normal
17 weather conditions, their credit balances are either increasing or are decreasing at a
18 slower than normal rate. This scenario results in a lower accounts receivable balance
19 (larger credit balance) than would have otherwise been seen during normal weather.
20 As previously discussed, under the accounts receivable turnover method, the month-
21 end balance directly impacts the collection lag calculation. As the month-end balance
22 decreases, so does the collection lag. In the case of warmer-than-normal weather,
23 the expected result is a lower number of collection lag days.

1 Columbia may update its revenue lag calculation to reflect the twelve month period
2 ending March 31, 2013, for two reasons. First, the weather being experienced during
3 the current heating season is much closer to normal than was experienced in the
4 heating season included in the current lead lag study. Using the current data would
5 give a more accurate indication of collection lag during more normal conditions.
6 Second, Columbia is in the process of developing a daily accounts receivable report.
7 Such a report would give us a better representation of actual account balances and
8 would eliminate the effect of the earlier meter reading dates previously discussed.

9 **Q. How were the expense lead days for gas purchases determined?**

10 A. The Company purchases gas from various producers and transports it through
11 interstate pipeline companies. For each service month, I reviewed data from the
12 Company's accounts payable system to determine the number of days from the
13 midpoint of the receipt of gas to the payment date for gas received. The gas purchase
14 expense lead days are calculated by dividing the annual weighted dollar lead days by
15 the annual amount paid to the suppliers. On Exhibit 9, Sheet 6, the costs for all the
16 suppliers were totaled and averaged to establish an overall weighted average of 41.06
17 lead days for gas purchased. Twelve months of purchases were considered in
18 developing the purchase expense lead. However, Columbia did not purchase gas
19 during the month of May 2012 because demand was low and Columbia was able to
20 meet its customers' needs with a combination of storage activity and off-system sales
21 transactions.

22 **Q. Are employees of Columbia Gas of Maryland paid utilizing more than**
23 **one method?**

24 A. Yes, some employees are paid bi-weekly and others are paid monthly.

1 **Q. Were the various types of payroll used to determine the number of lead**
2 **days for payroll?**

3 A. Yes, bi-weekly and monthly payrolls were used to measure the payroll lead days.

4 **Q. Please explain how payroll lead days were determined.**

5 A. For bi-weekly payroll, the pay period ends on Saturday, but employees are paid on
6 Friday, or one day before the pay period ends. The monthly payroll period ends on
7 the last day of the month, and payday is also on the last day of the month. When a
8 normal payday ends on a holiday or weekend for monthly employees, payday falls on
9 the previous business day. Lead days were calculated from the midpoint of the pay
10 period to payday arriving at an average lead of 6.00 days for bi-weekly and 14.97 days
11 for monthly. Columbia also has an Annual Incentive Pay program. Typically,
12 employees are paid this compensation after the year in which the services were
13 provided. Lead days for incentive compensation were calculated from the midpoint
14 of the year to the actual payment dates, both for bi-weekly and monthly paid
15 employees, to arrive at 249.43 days. These three lead days were weighted based on
16 payroll as shown at the bottom of Exhibit 9, Sheet 7 resulting in an overall payroll
17 lead of 19.52 days. Due to the payroll size, Columbia is required to make its tax
18 withholding payments on the same day employees are paid; therefore, the lead days
19 for withholding of taxes are the same as net pay.

20 **Q. Please explain how you handled the Company's major benefit costs in**
21 **your lead-lag analysis.**

22 A. For ratemaking purposes, FAS expenses for pensions are reflected for rate recovery.
23 The Company made two pension payments at the end of the service year. The date
24 of the payments was compared to the midpoint of the service year of the pension

1 benefit to determine the number of lead days. As shown in Exhibit 9 on Sheet 9, the
2 overall pension lead days were 172.50. Regarding post retirement benefits other
3 than pensions (“OPEB”), the Company funds at the FAS 106 annual cost levels.
4 OPEB funding occurs via inter-company billing from NCSC, and the expense lead
5 days of 41.00 days are calculated in Exhibit 9, Sheet 8. The other major benefits
6 are paid by the Company on a monthly basis, also via NCSC inter-company billing.
7 The date of the bill was compared to the midpoint of the service month. The bill is
8 processed near the end of the service month for an overall expense lead of 12.34 days
9 for the other benefits, as detailed on Exhibit 9, Sheet 10.

10 **Q. How were the NCSC lead days of 35.90 on Exhibit 9, Sheet 11**
11 **determined?**

12 A. The Company pays monthly for the services provided on a contract basis by NCSC.
13 Generally, payment is made at the end of the month following the month of service.
14 The date paid was compared to the month in which the related services were
15 provided, and resulted in an overall expense lead of 35.90 days for the test year.

16 **Q. Why are expense lead days shown for Corporate Insurance and PSC Fees**
17 **negative?**

18 A. Corporate insurance costs and PSC Fees are paid in advance of services provided
19 reflecting a working capital requirement. As indicated on Exhibit 9, Sheets 12 and
20 16, payments are made well in advance of the corresponding service period resulting
21 in a negative (117.58) and (33.81), respectively, expense lead. Furthermore, the
22 Company’s books and records recognize a prepayment of these costs.

23 **Q. Why did you show zero net lag days for Uncollectibles as shown on**
24 **Exhibit 9, Sheet 1, Line 10?**

1 A. Consistent with prior rate cases, uncollectibles has been excluded from the Cash
2 Working Capital calculation. Therefore, I have shown a zero revenue lag and a zero
3 expense lead in the study, effectively giving no consideration for uncollectibles.

4 **Q. What is included in Other O & M Expense (Exhibit 9, Sheet 1, Line 11) and**
5 **how was the 30.04 day expense lead as summarized on Exhibit 9, Sheet**
6 **13 determined?**

7 A. Payments to a wide variety of vendors for all O & M costs, other than those already
8 mentioned (payroll, benefits, gas purchased, system services, corporate insurance,
9 Commission fees, and uncollectibles) are included. These include items such as
10 outside services and office supplies. Payments are made through several payable
11 systems with most, over 77%, being paid through the accounts payable system and
12 the work management system. Since most of the payments are made through these
13 two systems, separate lead days were calculated and then combined to arrive at an
14 overall average lead days for this category of expense. For the accounts payable
15 system, 150 invoices were randomly chosen; for the work management system, 1,433
16 invoices were chosen. The lead days between the payment date and the midpoint of
17 the service period were calculated. The lead days for work management and accounts
18 payable were dollar weighted to arrive at an overall expense lead of 29.15 and 31.25
19 days, respectively. For the two payment systems, the lead days for O&M costs were
20 further dollar weighted to calculate a single total lead of 30.04 days as summarized
21 on Exhibit 9, Sheet 13.

1 **Q. How were the expense lead days for payroll taxes calculated?**

2 A. Similar to other expense items, the tax payments were compared to their respective
3 service or tax period. As indicated above, the Company provides its agent funds for
4 Federal withholding taxes on the same day as payday. Columbia's FICA tax liability
5 is also provided on the same day as payday. Federal and State Unemployment taxes
6 are paid quarterly until the liability is no longer applicable. The lead days between
7 the deposit date and the midpoint of the pay periods were calculated for all the
8 deposits and were dollar weighted to arrive at an overall expense lead of 8.10 days as
9 detailed in Exhibit 9, Sheet 14.

10 **Q. How did you develop the expense lead days for property taxes?**

11 A. The Company incurs Maryland property taxes on its real estate and West Virginia
12 property tax on its gas stored in West Virginia. Property taxes relating to real estate
13 cover a fiscal period from July 1 through June 30. Tax payments made by the
14 Company normally occur during the second quarter of the fiscal year. Two tax
15 payments are made on gas stored in West Virginia. In developing the negative
16 expense lead days of (65.20) as shown on Exhibit 9, Sheet 16, the lead days between
17 the payment date and the midpoint of the pay periods were calculated for all the
18 payments and were dollar weighted to arrive at an overall negative expense lead of
19 (65.20) days.

20 **Q. Please explain how you determined the expense lead days for gross
21 receipts/consumption tax?**

22 A. Gross receipts/consumption taxes, imposed on a percentage basis of total sales and
23 on total therms delivered for final consumption, are paid by the Company on a
24 quarterly basis. Generally, payment is made around the 15th day of the months of

1 April, June, September, and December. The date paid was compared to the midpoint
2 of the quarter in which the related services were provided, and resulted in an overall
3 expense lead of 46.31 days for the test year.

4 **Q. What taxes are reflected in the “Other” category and how was the**
5 **expense lead days developed?**

6 A. License and franchise taxes comprise most of the cost. Annual license and franchise
7 taxes are levied for the privilege of conducting business in counties within Maryland.
8 In developing the negative expense lead days of (137.00) as shown in Exhibit 9, Sheet
9 16, the lead days between the payment date and the midpoint of the pay periods were
10 calculated for all the payments and were dollar weighted to arrive at an overall
11 negative expense lead of (137.00) days.

12 **Q. Do Federal Income Taxes – Current follow a schedule prescribed by the**
13 **IRS?**

14 A. Yes. Starting in 1996, federal tax law requires 100% of the current year estimated tax
15 liability to be paid in four equal installments dated 4/15, 6/15, 9/15 and 12/15. The
16 lead days of 37.50, as shown on Exhibit 9, Sheet 17, were based on this schedule.

17 **Q. Why are no lead days for Deferred Federal and State taxes and for post-**
18 **1970 investment tax credits?**

19 A. Both deferred federal and state tax and investment tax credit adjustments are non-
20 cash in nature; therefore no days are assigned to each of them. The deferred federal
21 and state tax is passed back to customers through a reduction of rate base. The
22 investment tax credit relates to an incentive given several years ago, encouraging
23 organizations to invest. Per the IRS, utility companies were not allowed to pass back
24 the investment tax credit in the year received but were to amortize the credit over a

1 period of time (i.e., over the life of the asset). The investment tax credit is treated as
2 a pass back to customers by a reduction of income tax expense.

3 **Q. Does the Corporation Income Tax follow the same schedule as is**
4 **prescribed for Federal - Current Taxes?**

5 A. Yes.

6 **Q. How were the lead days associated with interest of debt calculated?**

7 A. Interest expense on long term debt was assigned expense lead days based on the
8 semi-annual payments of the Company's installment promissory notes. Interest on
9 the Company's short term debt is paid monthly. As shown in Exhibit 9, Sheet 18, the
10 interest expense incurred during the test year for each type of debt, installment
11 promissory notes and money pool, was used to weight the short and long term debt
12 lead days to arrive at an overall average of 90.40 days as shown on line 4.

13 **Q. Please summarize the Company's Cash Working Capital Requirement.**

14 A. The revenue lag and expense lead days were developed using generally acceptable
15 lead lag techniques. The cash working capital amount to be included as a reduction
16 to rate base is \$(1,956,336). The amount is included in Exhibit 9, Sheet 1.

17 **SECTION II – RATE BASE**
18

19 **Q. Please summarize the information you have provided to support the rate**
20 **base used to determine Columbia's revenue requirements.**

21 A. Exhibit 8 represents Columbia's rate base and consists of 14 sheets. The information
22 shown on Exhibit 8, Sheet 1 is the summary of the other sheets contained in Exhibit
23 8. Exhibit 8, Sheet 1 consists of four columns, with the last column representing the
24 rate base balances as of March 31, 2013, using a 13-month average, unless otherwise

1 noted. A working capital component is included in Exhibit 8, Sheet 1. The working
2 capital component is supported by my testimony to Exhibit 9 and is summarized in
3 Exhibit 9, Sheet 1. Exhibit 8, Sheet 1, Line 13, Column 4, represents the total rate
4 base used in determining the revenue requirement for Columbia.

5 **Q. Please describe the amounts shown in Columns 2 & 3 on Sheet 1 of**
6 **Exhibit 8.**

7 A. The amounts shown in column 2 represent the adjustments to rate base resulting
8 from carrying Safety & Reliability plant using terminal values as of March 31, 2013,
9 as opposed to using the 13-month average as of March 31, 2013. The calculation of
10 the adjustment amount to Gas Plant in Service and Depreciation Reserve can be
11 found on lines 53-62 of Exhibit 8, Sheet 2 and lines 57-66 of Exhibit 8, Sheet 5,
12 respectively. The amounts shown in Column 3 represent the post-test year
13 adjustments, net of retirements, for Safety & Reliability plant for the months of April
14 and May, 2013. The calculation of the post-test year adjustments to Gas Plant in
15 Service and Depreciation Reserve can be found on Exhibit 8, Sheet 14. These
16 amounts represent post-test year adjustments for the months of April and May, 2013,
17 and fall outside of the calculation of the 13-month average used for all other
18 components of rate base.

19 **Q. Please explain why you are using terminal values for the Safety &**
20 **Reliability plant.**

21 A. As described in the Commission's order in Washington Gas Light Company's Case
22 No. 9267, the Maryland Public Service Commission deviated from its historical
23 methodology of relying on an average test year rate base, in recognition of the

1 importance of gas system safety and reliability.² Columbia also recognizes the
2 importance of a safe and reliable gas delivery system and has made significant
3 investment in these areas. As discussed in the testimony of Columbia Witnesses
4 Kempic and Chepke, Columbia has substantially accelerated its investments in
5 replacing cast iron and bare steel over the last 5 years or so. During the test year
6 included in this case being filed by Columbia, the investment in safety and reliability
7 plant was nearly two-thirds of its total capital investment. This type of investment
8 does not generate new revenues and does not provide any specific advantage over
9 other types of investment. Columbia plans to continue to invest in the replacement
10 of its aging infrastructure at an accelerated rate because this type of investment is
11 part of its obligation to provide safe and reliable gas distribution service and the cast
12 iron and bare steel pipe will continue to age and deteriorate. For these reasons, the
13 terminal date is justified and will reduce the earnings attrition that would occur using
14 a 13-month average for this non-revenue producing investment. This treatment does
15 not violate the matching principle between revenues and investment, as the safety
16 and reliability investment activity does not generate additional revenue.

17 **Q. Please describe, in more detail, the individual schedules supporting your**
18 **rate base calculation.**

² I note that Baltimore Gas & Electric, in its recent gas rate case (Case No. 9299), also sought recovery of safety and reliability investments beyond the traditional 13 month average rate base. In that case, BG&E sought recovery of all safety and reliability plant based on terminal value up to the hearing dates. Further, they sought recovery for the 13 months of subsequent safety & reliability investment based on a 13-month average. The Commission granted BG&E recovery of its safety and reliability investments through the end of the test year and for a two month period following the terminal test year as well. In the order, the Commission stated “We cannot emphasize enough the need for gas and electric utilities to improve safety and reliability” along with “...when a utility demonstrates a commitment to improve safety and reliability, we will consider adjustments to the test year to reflect actual non-revenue producing safety and reliability investment.”

1 A. Exhibit 8 includes thirteen supporting schedules, numbered 2 through 14. Exhibit 8,
2 Sheets 2, 3, and 4 show Columbia's investment in Gas Plant, as of the end of the test
3 period, or March 31, 2013. Exhibit 8, Sheet 2 represents the Gas Plant in Service and
4 the amount on line 52 of column 14 represents the total 13-month average included
5 in rate base. Exhibit 8, Sheet 3 represents the Completed Construction Not Classified
6 and the amount on line 18 of column 14 represents the total 13-month average
7 included in rate base. Exhibit 8, Sheet 4 represents the Construction Work in
8 Progress and the amount on line 29 of column 14 represents the 13-month average
9 included in rate base.

10 Exhibit 8, Sheet 5 shows the Depreciation Reserve as of the end of the test period, or
11 March 31, 2013. The amount on line 56 in column 14 represents the total 13-month
12 average deducted from rate base.

13 Exhibit 8, Sheets 6 through 13 show various increases and decreases to rate base.
14 Exhibit 8, Sheet 6 represents Columbia's investment in Materials & Supplies as of the
15 end of the test period, or March 31, 2013. The amount on line 15 represents the 13-
16 month average included as an increase to rate base. Exhibit 8, Sheets 9 & 10
17 represent cash deposits or advances received from customers and, as a source of
18 capital being provided to Columbia by its customers, are being deducted from rate
19 base. Customer deposits are represented on Exhibit 8, Sheet 9, and the 13-month
20 average can be found on line 15. Customer Advances for Construction are
21 represented on Exhibit 8, Sheet 10, and the 13-month average can be found on line
22 15. Exhibit 8, Sheets 7, 8, 11, 12, and 13 represent Deferred Income Taxes and are
23 supported by the testimony of Company witness M. D. McCuen.

1 **Q. Please explain if and how the numbers provided in the rate base**
2 **schedules tie to the Company's financial statements.**

3 A. The Company's rate base as presented in Exhibit 8 was developed using actual data
4 through December 2012 for property plant and equipment and accumulated
5 depreciation. The data from January 2013 through March 2013 (through May 2013
6 for Safety & Reliability Plant) represents the Company's forecasted capital
7 expenditures and depreciation reserve for that period. The Company used actual
8 data through December 2012 for other components of rate base.

9 **Q. Does this complete your Prepared Direct Testimony?**

10 A. Yes, it does.

COLUMBIA GAS OF MASSACHUSETTS

**Lead Lag Study
as of
December 31, 2012**

Schedule WC-1

**Columbia Gas of Massachusetts
Cash Working Capital Requirements
Test Year Ending 12/31/12
Cash Working Capital Net Lag Days**

Line No.	<u>Components</u> (1)	<u>Lead Lag Days</u> (2)	<u>Reference</u> (3)
Gas Purchased Working Capital			
1	Gas Revenue Lag	50.34	Sch. WC -2, Page 6, Col. 3, Ln. 9
2	Gas Cost Lead	<u>39.50</u>	Sch. WC -4, Page 8, Col. 5, Ln. 458
3	Weighted Net Lag Days	<u><u>10.84</u></u>	Ln. 1 Less Ln. 2
4	Percentage (Ln. 3 / 366)	<u><u>2.962%</u></u>	
Other O&M Working Capital			
5	Total Revenue Lag	50.34	Sch. WC -2, Page 6, Col. 3, Ln. 9
6	O & M Expenses	<u>17.60</u>	Sch. WC -5, Col. 3, Ln. 18
7	Weighted Net Lag Days	<u><u>32.74</u></u>	Ln. 5 Less Ln. 6
8	Percentage (Ln. 7/ 366)	<u><u>8.945%</u></u>	

Columbia Gas of Massachusetts
Cash Working Capital Requirements
Test Year TME: December 31, 2011
Average Daily Accounts Receivable Balance

Accounts Receivable					
Ln. No.	Month / Day	Gas		Administrative 514229	Total (3 = 1 + 2)
		Computerized 514210			
		(1) \$	(2) \$		(3 = 1 + 2) \$
1	01/01/11	36,922,643.62		(98,767.89)	36,823,875.73
2	01/02/11	36,922,643.62		(98,767.89)	36,823,875.73
3	01/03/11	33,846,460.27		(99,341.21)	33,747,119.06
4	01/04/11	35,568,521.88		(99,341.21)	35,469,180.67
5	01/05/11	41,934,464.16		(99,341.21)	41,835,122.95
6	01/06/11	43,444,032.66		(100,352.93)	43,343,679.73
7	01/07/11	45,280,104.91		(106,564.91)	45,173,540.00
8	01/08/11	45,280,104.91		(106,564.91)	45,173,540.00
9	01/09/11	45,280,104.91		(106,564.91)	45,173,540.00
10	01/10/11	47,290,897.26		(267,445.97)	47,023,451.29
11	01/11/11	47,920,657.42		(138,325.27)	47,782,332.15
12	01/12/11	52,928,554.52		(138,325.27)	52,790,229.25
13	01/13/11	52,412,071.57		(100,541.85)	52,311,529.72
14	01/14/11	55,719,771.62		(100,512.21)	55,619,259.41
15	01/15/11	55,719,771.62		(100,512.21)	55,619,259.41
16	01/16/11	55,719,771.62		(100,512.21)	55,619,259.41
17	01/17/11	59,063,525.37		(100,347.21)	58,963,178.16
18	01/18/11	60,662,623.90		(103,358.43)	60,559,265.47
19	01/19/11	63,990,961.35		(106,100.13)	63,884,861.22
20	01/20/11	67,008,214.52		(106,064.38)	66,902,150.14
21	01/21/11	68,238,215.59		(103,322.68)	68,134,892.91
22	01/22/11	68,238,215.59		(103,322.68)	68,134,892.91
23	01/23/11	68,238,215.59		(103,322.68)	68,134,892.91
24	01/24/11	69,538,613.19		(202,663.42)	69,335,949.77
25	01/25/11	71,109,997.96		(103,322.68)	71,006,675.28
26	01/26/11	71,711,259.70		(103,241.15)	71,608,018.55
27	01/27/11	71,696,820.76		(573,469.20)	71,123,351.56
28	01/28/11	68,960,010.15		(116,151.37)	68,843,858.78
29	01/29/11	68,960,010.15		(116,151.37)	68,843,858.78
30	01/30/11	68,960,010.15		(116,151.37)	68,843,858.78
31	01/31/11	64,399,434.72		(116,151.37)	64,283,283.35
32	02/01/11	63,619,489.01		(116,151.37)	63,503,337.64
33	02/02/11	62,658,657.00		(119,151.37)	62,539,505.63
34	02/03/11	68,163,316.49		(116,151.37)	68,047,165.12
35	02/04/11	69,878,032.02		(116,151.37)	69,761,880.65
36	02/05/11	69,878,032.02		(116,151.37)	69,761,880.65
37	02/06/11	69,878,032.02		(116,151.37)	69,761,880.65
38	02/07/11	72,022,075.28		(116,151.37)	71,905,923.91
39	02/08/11	77,508,395.97		(202,122.30)	77,306,273.67
40	02/09/11	77,967,484.55		(170,185.39)	77,797,299.16
41	02/10/11	79,761,477.88		(142,264.91)	79,619,212.97
42	02/11/11	82,180,384.62		(117,001.44)	82,063,383.18
43	02/12/11	82,180,384.62		(117,001.44)	82,063,383.18
44	02/13/11	82,180,384.62		(117,001.44)	82,063,383.18
45	02/14/11	84,009,260.36		(116,559.77)	83,892,700.59
46	02/15/11	83,665,577.72		(116,559.77)	83,549,017.95
47	02/16/11	85,686,668.49		(121,547.64)	85,565,120.85
48	02/17/11	88,916,441.90		(121,732.89)	88,794,709.01
49	02/18/11	91,449,285.52		(116,645.02)	91,332,640.50
50	02/19/11	91,449,285.52		(116,645.02)	91,332,640.50
51	02/20/11	91,449,285.52		(116,645.02)	91,332,640.50
52	02/21/11	91,410,629.22		(116,709.37)	91,293,919.85
53	02/22/11	93,045,298.55		(116,709.37)	92,928,589.18
54	02/23/11	93,266,306.29		(116,709.37)	93,149,596.92
55	02/24/11	95,331,092.70		(323,514.16)	95,007,578.54
56	02/25/11	94,847,789.29		(282,854.45)	94,564,934.84
57	02/26/11	94,847,789.29		(282,854.45)	94,564,934.84
58	02/27/11	94,847,789.29		(282,854.45)	94,564,934.84
59	02/28/11	90,352,087.83		(730,051.19)	89,622,036.64
60	03/01/11	88,271,783.08		(545,190.61)	87,726,592.47
61	03/02/11	86,273,447.51		(1,113,104.04)	85,160,343.47
62	03/03/11	89,330,583.59		(130,300.19)	89,200,283.40
63	03/04/11	88,689,344.34		(115,750.19)	88,573,594.15
64	03/05/11	88,689,344.34		(115,750.19)	88,573,594.15
65	03/06/11	88,689,344.34		(115,750.19)	88,573,594.15
66	03/07/11	84,665,459.97		(115,750.19)	84,549,709.78
67	03/08/11	85,294,315.36		(115,750.19)	85,178,565.17

Columbia Gas of Massachusetts
Cash Working Capital Requirements
Test Year TME: December 31, 2011
Average Daily Accounts Receivable Balance

Accounts Receivable						
Ln. No.	Month / Day	Gas		Administrative	Total	
		Computerized 514210				514229
		(1)		(2)	(3 = 1 + 2)	
		\$		\$	\$	
68	03/09/11		89,337,109.81	(382,504.66)	88,954,605.15	
69	03/10/11		90,048,869.45	(353,458.18)	89,695,411.27	
70	03/11/11		90,319,494.17	(353,458.18)	89,966,035.99	
71	03/12/11		90,319,494.17	(353,458.18)	89,966,035.99	
72	03/13/11		90,319,494.17	(353,458.18)	89,966,035.99	
73	03/14/11		87,920,269.08	(531,970.66)	87,388,298.42	
74	03/15/11		88,457,803.39	(116,050.19)	88,341,753.20	
75	03/16/11		88,635,563.48	(116,050.19)	88,519,513.29	
76	03/17/11		88,170,920.24	(118,847.95)	88,052,072.29	
77	03/18/11		87,273,215.59	(116,074.46)	87,157,141.13	
78	03/19/11		87,273,215.59	(116,074.46)	87,157,141.13	
79	03/20/11		87,273,215.59	(116,074.46)	87,157,141.13	
80	03/21/11		85,605,691.22	(116,074.46)	85,489,616.76	
81	03/22/11		86,628,641.75	(116,074.46)	86,512,567.29	
82	03/23/11		87,852,623.32	(172,298.90)	87,680,324.42	
83	03/24/11		87,611,635.56	(172,318.90)	87,439,316.66	
84	03/25/11		88,603,386.26	(115,994.46)	88,487,391.80	
85	03/26/11		88,603,386.26	(115,994.46)	88,487,391.80	
86	03/27/11		88,603,386.26	(115,994.46)	88,487,391.80	
87	03/28/11		85,901,865.75	(116,145.09)	85,785,720.66	
88	03/29/11		84,835,519.15	(116,225.09)	84,719,294.06	
89	03/30/11		83,653,463.71	(271,538.47)	83,381,925.24	
90	03/31/11		80,612,233.09	(153,613.11)	80,458,619.98	
91	04/01/11		80,302,576.49	(153,613.11)	80,148,963.38	
92	04/02/11		80,302,576.49	(153,613.11)	80,148,963.38	
93	04/03/11		80,302,576.49	(153,613.11)	80,148,963.38	
94	04/04/11		79,054,914.08	(153,613.11)	78,901,300.97	
95	04/05/11		81,764,184.65	(116,188.88)	81,647,995.77	
96	04/06/11		82,291,575.19	(116,188.88)	82,175,386.31	
97	04/07/11		82,473,098.89	(132,773.53)	82,340,325.36	
98	04/08/11		83,309,082.71	(117,128.96)	83,191,953.75	
99	04/09/11		83,309,082.71	(117,128.96)	83,191,953.75	
100	04/10/11		83,309,082.71	(117,128.96)	83,191,953.75	
101	04/11/11		84,039,425.87	(116,830.84)	83,922,595.03	
102	04/12/11		84,145,172.07	(116,830.84)	84,028,341.23	
103	04/13/11		85,346,492.38	(116,830.84)	85,229,661.54	
104	04/14/11		85,473,426.97	(1,232,415.60)	84,241,011.37	
105	04/15/11		85,513,274.00	(1,232,201.80)	84,281,072.20	
106	04/16/11		85,513,274.00	(1,232,201.80)	84,281,072.20	
107	04/17/11		85,513,274.00	(1,232,201.80)	84,281,072.20	
108	04/18/11		85,458,532.70	(1,232,201.80)	84,226,330.90	
109	04/19/11		81,966,192.32	(119,222.12)	81,846,970.20	
110	04/20/11		82,696,259.29	(118,176.12)	82,578,083.17	
111	04/21/11		83,829,873.08	(119,387.14)	83,710,485.94	
112	04/22/11		83,658,984.78	(231,972.57)	83,427,012.21	
113	04/23/11		83,658,984.78	(231,972.57)	83,427,012.21	
114	04/24/11		83,658,984.78	(231,972.57)	83,427,012.21	
115	04/25/11		81,239,250.61	(121,649.07)	81,117,601.54	
116	04/26/11		80,984,323.36	(121,850.49)	80,862,472.87	
117	04/27/11		81,550,550.14	(122,159.40)	81,428,390.74	
118	04/28/11		80,450,744.87	(124,764.63)	80,325,980.24	
119	04/29/11		77,822,009.26	(126,984.64)	77,695,024.62	
120	04/30/11		77,822,009.26	(126,984.64)	77,695,024.62	
121	05/01/11		77,822,009.26	(126,984.64)	77,695,024.62	
122	05/02/11		75,182,136.03	(128,630.13)	75,053,505.90	
123	05/03/11		74,937,659.25	(129,332.36)	74,808,326.89	
124	05/04/11		76,615,241.14	(129,395.47)	76,485,845.67	
125	05/05/11		75,472,460.67	(390,968.63)	75,081,492.04	
126	05/06/11		74,646,010.46	(390,968.63)	74,255,041.83	
127	05/07/11		74,646,010.46	(390,968.63)	74,255,041.83	
128	05/08/11		74,646,010.46	(390,968.63)	74,255,041.83	
129	05/09/11		73,669,085.82	(390,968.63)	73,278,117.19	
130	05/10/11		72,602,247.83	(390,968.63)	72,211,279.20	
131	05/11/11		72,447,832.81	(141,245.47)	72,306,587.34	
132	05/12/11		71,441,509.40	(141,245.47)	71,300,263.93	

Columbia Gas of Massachusetts
Cash Working Capital Requirements
Test Year TME: December 31, 2011
Average Daily Accounts Receivable Balance

Accounts Receivable					
Ln. No.	Month / Day	Gas	Administrative	Total	
		Computerized 514210	514229	(3 = 1 + 2)	
		(1)	(2)		
		\$	\$	\$	
133	05/13/11	70,926,290.66	(349,617.72)	70,576,672.94	
134	05/14/11	70,926,290.66	(349,617.72)	70,576,672.94	
135	05/15/11	70,926,290.66	(349,617.72)	70,576,672.94	
136	05/16/11	69,100,122.64	(348,592.16)	68,751,530.48	
137	05/17/11	67,635,567.40	(268,076.58)	67,367,490.82	
138	05/18/11	67,179,274.15	(268,086.66)	66,911,187.49	
139	05/19/11	66,600,550.46	(268,104.81)	66,332,445.65	
140	05/20/11	65,929,142.73	(418,819.92)	65,510,322.81	
141	05/21/11	65,929,142.73	(418,819.92)	65,510,322.81	
142	05/22/11	65,929,142.73	(418,819.92)	65,510,322.81	
143	05/23/11	63,428,572.35	(800,310.72)	62,628,261.63	
144	05/24/11	61,850,267.63	(142,644.78)	61,707,622.85	
145	05/25/11	61,044,852.59	(142,644.78)	60,902,207.81	
146	05/26/11	59,963,009.58	(235,770.92)	59,727,238.66	
147	05/27/11	58,688,436.28	(236,297.35)	58,452,138.93	
148	05/28/11	58,688,436.28	(236,297.35)	58,452,138.93	
149	05/29/11	58,688,436.28	(236,297.35)	58,452,138.93	
150	05/30/11	58,688,436.28	(236,297.35)	58,452,138.93	
151	05/31/11	56,448,298.70	(133,405.58)	56,314,893.12	
152	06/01/11	54,505,183.17	(133,405.58)	54,371,777.59	
153	06/02/11	53,506,963.77	(850,078.78)	52,656,884.99	
154	06/03/11	53,140,006.18	(134,372.59)	53,005,633.59	
155	06/04/11	53,140,006.18	(134,372.59)	53,005,633.59	
156	06/05/11	53,140,006.18	(134,372.59)	53,005,633.59	
157	06/06/11	51,754,590.62	(134,372.59)	51,620,218.03	
158	06/07/11	50,744,864.01	(134,389.30)	50,610,474.71	
159	06/08/11	50,659,952.05	(833,232.36)	49,826,719.69	
160	06/09/11	49,972,403.87	(139,516.73)	49,832,887.14	
161	06/10/11	49,252,186.26	(140,005.60)	49,112,180.66	
162	06/11/11	49,252,186.26	(140,005.60)	49,112,180.66	
163	06/12/11	49,252,186.26	(140,005.60)	49,112,180.66	
164	06/13/11	48,359,846.42	(145,964.76)	48,213,881.66	
165	06/14/11	47,428,416.26	(146,320.96)	47,282,095.30	
166	06/15/11	47,667,341.21	(271,517.16)	47,395,824.05	
167	06/16/11	46,812,575.82	(183,424.05)	46,629,151.77	
168	06/17/11	46,208,553.82	(1,141,056.26)	45,067,497.56	
169	06/18/11	46,208,553.82	(1,141,056.26)	45,067,497.56	
170	06/19/11	46,208,553.82	(1,141,056.26)	45,067,497.56	
171	06/20/11	44,503,906.21	(678,688.25)	43,825,217.96	
172	06/21/11	43,702,698.13	(111,507.26)	43,591,190.87	
173	06/22/11	43,833,208.44	(221,837.84)	43,611,370.60	
174	06/23/11	43,576,887.66	(128,726.38)	43,448,161.28	
175	06/24/11	43,156,342.88	(113,994.40)	43,042,348.48	
176	06/25/11	43,156,342.88	(113,994.40)	43,042,348.48	
177	06/26/11	43,156,342.88	(113,994.40)	43,042,348.48	
178	06/27/11	41,169,815.20	(114,334.53)	41,055,480.67	
179	06/28/11	40,706,075.50	(116,940.84)	40,589,134.66	
180	06/29/11	40,122,852.00	(118,721.16)	40,004,130.84	
181	06/30/11	39,205,613.07	(304,456.02)	38,901,157.05	
182	07/01/11	38,437,906.37	(397,884.46)	38,040,021.91	
183	07/02/11	38,437,906.37	(397,884.46)	38,040,021.91	
184	07/03/11	38,437,906.37	(397,884.46)	38,040,021.91	
185	07/04/11	38,437,906.37	(397,884.46)	38,040,021.91	
186	07/05/11	37,035,537.32	(397,884.46)	36,637,652.86	
187	07/06/11	36,908,700.65	(397,884.46)	36,510,816.19	
188	07/07/11	36,529,445.31	(121,409.70)	36,408,035.61	
189	07/08/11	36,225,825.45	(124,891.93)	36,100,933.52	
190	07/09/11	36,225,825.45	(124,891.93)	36,100,933.52	
191	07/10/11	36,225,825.45	(124,891.93)	36,100,933.52	
192	07/11/11	35,588,040.86	(125,006.81)	35,463,034.05	
193	07/12/11	35,017,768.59	(125,934.77)	34,891,833.82	
194	07/13/11	34,847,899.87	(126,146.71)	34,721,753.16	
195	07/14/11	34,546,600.00	(126,942.70)	34,419,657.30	
196	07/15/11	34,674,763.46	(128,124.61)	34,546,638.85	
197	07/16/11	34,674,763.46	(128,124.61)	34,546,638.85	
198	07/17/11	34,674,763.46	(128,124.61)	34,546,638.85	
199	07/18/11	33,641,823.48	(128,843.27)	33,512,980.21	

Columbia Gas of Massachusetts
Cash Working Capital Requirements
Test Year TME: December 31, 2011
Average Daily Accounts Receivable Balance

Accounts Receivable					
Ln. No.	Month / Day	Gas	Administrative	Total	
		Computerized 514210	514229	(3 = 1 + 2)	
		(1)	(2)		
		\$	\$	\$	
200	07/19/11	33,255,971.78	(130,735.76)	33,125,236.02	
201	07/20/11	33,339,722.81	(131,823.07)	33,207,899.74	
202	07/21/11	33,201,365.21	(217,257.16)	32,984,108.05	
203	07/22/11	32,828,346.99	(133,617.23)	32,694,729.76	
204	07/23/11	32,828,346.99	(133,617.23)	32,694,729.76	
205	07/24/11	32,828,346.99	(133,617.23)	32,694,729.76	
206	07/25/11	32,467,254.34	(134,520.96)	32,332,733.38	
207	07/26/11	30,563,889.25	(135,195.82)	30,428,693.43	
208	07/27/11	29,971,371.32	(200,394.75)	29,770,976.57	
209	07/28/11	29,650,011.64	(201,113.07)	29,448,898.57	
210	07/29/11	29,085,287.24	(134,632.62)	28,950,654.62	
211	07/30/11	29,085,287.24	(134,632.62)	28,950,654.62	
212	07/31/11	29,085,287.24	(134,632.62)	28,950,654.62	
213	08/01/11	27,670,626.58	(134,758.23)	27,535,868.35	
214	08/02/11	26,647,442.46	(159,032.02)	26,488,410.44	
215	08/03/11	27,506,258.98	(137,423.13)	27,368,835.85	
216	08/04/11	27,161,663.05	(139,437.02)	27,022,226.03	
217	08/05/11	26,363,497.62	(139,351.06)	26,224,146.56	
218	08/06/11	26,363,497.62	(139,351.06)	26,224,146.56	
219	08/07/11	26,363,497.62	(139,351.06)	26,224,146.56	
220	08/08/11	25,107,166.04	(139,506.47)	24,967,659.57	
221	08/09/11	24,636,978.74	(139,506.47)	24,497,472.27	
222	08/10/11	24,425,580.81	(139,506.47)	24,286,074.34	
223	08/11/11	25,008,930.49	(139,506.47)	24,869,424.02	
224	08/12/11	24,439,589.17	(139,351.06)	24,300,238.11	
225	08/13/11	24,439,589.17	(139,351.06)	24,300,238.11	
226	08/14/11	24,439,589.17	(139,351.06)	24,300,238.11	
227	08/15/11	23,607,442.68	(139,351.06)	23,468,091.62	
228	08/16/11	23,298,782.35	(148,276.48)	23,150,505.87	
229	08/17/11	23,198,853.80	(127,363.83)	23,071,489.97	
230	08/18/11	23,016,102.88	(128,768.44)	22,887,334.44	
231	08/19/11	22,723,225.66	(129,371.37)	22,593,854.29	
232	08/20/11	22,723,225.66	(129,371.37)	22,593,854.29	
233	08/21/11	22,723,225.66	(129,371.37)	22,593,854.29	
234	08/22/11	21,916,470.66	(129,108.03)	21,787,362.63	
235	08/23/11	21,652,983.23	(129,138.81)	21,523,844.42	
236	08/24/11	21,614,932.05	(129,488.33)	21,485,443.72	
237	08/25/11	21,496,312.09	(129,573.37)	21,366,738.72	
238	08/26/11	19,738,669.33	(130,238.18)	19,608,431.15	
239	08/27/11	19,738,669.33	(130,238.18)	19,608,431.15	
240	08/28/11	19,738,669.33	(130,238.18)	19,608,431.15	
241	08/29/11	18,957,858.35	(129,740.40)	18,828,117.95	
242	08/30/11	18,205,539.06	(130,240.40)	18,075,298.66	
243	08/31/11	17,781,814.57	(130,081.26)	17,651,733.31	
244	09/01/11	17,580,895.65	(130,216.14)	17,450,679.51	
245	09/02/11	17,232,112.47	(130,206.78)	17,101,905.69	
246	09/03/11	17,232,112.47	(130,206.78)	17,101,905.69	
247	09/04/11	17,232,112.47	(130,206.78)	17,101,905.69	
248	09/05/11	17,232,112.47	(130,206.78)	17,101,905.69	
249	09/06/11	17,546,499.14	(131,108.12)	17,415,391.02	
250	09/07/11	16,684,545.87	(131,355.84)	16,553,190.03	
251	09/08/11	16,803,612.17	(131,706.58)	16,671,905.59	
252	09/09/11	16,475,051.47	(131,706.58)	16,343,344.89	
253	09/10/11	16,475,051.47	(131,706.58)	16,343,344.89	
254	09/11/11	16,475,051.47	(131,706.58)	16,343,344.89	
255	09/12/11	16,037,870.69	(123,974.60)	15,913,896.09	
256	09/13/11	16,233,378.63	(124,037.81)	16,109,340.82	
257	09/14/11	16,262,789.93	(124,652.36)	16,138,137.57	
258	09/15/11	16,313,914.60	(124,652.36)	16,189,262.24	
259	09/16/11	15,861,006.83	(123,659.65)	15,737,347.18	
260	09/17/11	15,861,006.83	(123,659.65)	15,737,347.18	
261	09/18/11	15,861,006.83	(123,659.65)	15,737,347.18	
262	09/19/11	15,181,306.85	(124,652.36)	15,056,654.49	
263	09/20/11	14,753,544.62	(124,572.68)	14,628,971.94	
264	09/21/11	15,051,589.23	(125,661.86)	14,925,927.37	
265	09/22/11	14,850,192.83	(125,661.86)	14,724,530.97	
266	09/23/11	14,677,864.97	(125,786.86)	14,552,078.11	
267	09/24/11	14,677,864.97	(125,786.86)	14,552,078.11	
268	09/25/11	14,677,864.97	(125,786.86)	14,552,078.11	
269	09/26/11	13,879,967.11	(137,223.74)	13,742,743.37	

Columbia Gas of Massachusetts
Cash Working Capital Requirements
Test Year TME: December 31, 2011
Average Daily Accounts Receivable Balance

Accounts Receivable					
Ln. No.	Month / Day	Gas		Administrative 514229	Total (3 = 1 + 2)
		Computerized 514210			
		(1) \$	(2) \$		(3 = 1 + 2) \$
270	09/27/11	11,644,911.54	(137,098.74)		11,507,812.80
271	09/28/11	11,838,732.11	(137,098.74)		11,701,633.37
272	09/29/11	11,841,118.29	(137,098.74)		11,704,019.55
273	09/30/11	10,931,024.64	(124,988.36)		10,806,036.28
274	10/01/11	10,931,024.64	(124,988.36)		10,806,036.28
275	10/02/11	10,931,024.64	(124,988.36)		10,806,036.28
276	10/03/11	10,217,084.55	(124,988.36)		10,092,096.19
277	10/04/11	9,980,558.34	(125,173.29)		9,855,385.05
278	10/05/11	10,720,615.80	(125,186.52)		10,595,429.28
279	10/06/11	10,393,876.67	(125,186.52)		10,268,690.15
280	10/07/11	10,084,926.27	(123,555.77)		9,961,370.50
281	10/08/11	10,084,926.27	(123,555.77)		9,961,370.50
282	10/09/11	10,084,926.27	(123,555.77)		9,961,370.50
283	10/10/11	10,084,926.27	(123,555.77)		9,961,370.50
284	10/11/11	9,080,326.82	(123,555.77)		8,956,771.05
285	10/12/11	9,063,738.90	(123,555.77)		8,940,183.13
286	10/13/11	9,215,856.11	(123,555.77)		9,092,300.34
287	10/14/11	9,011,668.54	(123,555.77)		8,888,112.77
288	10/15/11	9,011,668.54	(123,555.77)		8,888,112.77
289	10/16/11	9,011,668.54	(123,555.77)		8,888,112.77
290	10/17/11	8,420,641.92	(123,993.58)		8,296,648.34
291	10/18/11	8,176,581.26	(123,993.58)		8,052,587.68
292	10/19/11	8,394,289.63	(123,993.58)		8,270,296.05
293	10/20/11	8,604,937.92	(123,993.58)		8,480,944.34
294	10/21/11	8,696,509.85	(123,993.58)		8,572,516.27
295	10/22/11	8,696,509.85	(123,993.58)		8,572,516.27
296	10/23/11	8,696,509.85	(123,993.58)		8,572,516.27
297	10/24/11	8,029,694.41	(124,545.84)		7,905,148.57
298	10/25/11	7,868,803.35	(124,545.84)		7,744,257.51
299	10/26/11	5,989,905.96	(124,743.39)		5,865,162.57
300	10/27/11	6,079,955.59	(124,918.96)		5,955,036.63
301	10/28/11	6,101,402.42	(125,584.74)		5,975,817.68
302	10/29/11	6,101,402.42	(125,584.74)		5,975,817.68
303	10/30/11	6,101,402.42	(125,584.74)		5,975,817.68
304	10/31/11	4,767,317.28	(125,584.74)		4,641,732.54
305	11/01/11	4,724,408.47	(125,584.74)		4,598,823.73
306	11/02/11	5,084,848.02	(126,663.91)		4,958,184.11
307	11/03/11	6,665,327.38	(126,977.12)		6,538,350.26
308	11/04/11	7,154,548.76	(126,500.62)		7,028,048.14
309	11/05/11	7,154,548.76	(126,500.62)		7,028,048.14
310	11/06/11	7,154,548.76	(126,500.62)		7,028,048.14
311	11/07/11	7,431,074.98	(127,059.66)		7,304,015.32
312	11/08/11	7,784,681.91	(127,059.66)		7,657,622.25
313	11/09/11	8,749,412.20	(127,219.66)		8,622,192.54
314	11/10/11	9,219,318.09	(127,395.61)		9,091,922.48
315	11/11/11	9,219,318.09	(127,395.61)		9,091,922.48
316	11/12/11	9,219,318.09	(127,395.61)		9,091,922.48
317	11/13/11	9,219,318.09	(127,395.61)		9,091,922.48
318	11/14/11	9,731,477.36	(127,395.61)		9,604,081.75
319	11/15/11	10,144,617.27	(127,395.61)		10,017,221.66
320	11/16/11	11,324,380.33	(127,909.02)		11,196,471.31
321	11/17/11	12,041,961.59	(127,934.68)		11,914,026.91
322	11/18/11	13,610,621.62	(127,934.68)		13,482,686.94
323	11/19/11	13,610,621.62	(127,934.68)		13,482,686.94
324	11/20/11	13,610,621.62	(127,934.68)		13,482,686.94
325	11/21/11	13,905,725.13	(128,200.15)		13,777,524.98
326	11/22/11	14,191,887.25	(128,680.82)		14,063,206.43
327	11/23/11	13,557,795.75	(128,457.86)		13,429,337.89
328	11/24/11	13,557,795.75	(128,457.86)		13,429,337.89
329	11/25/11	13,557,795.75	(128,457.86)		13,429,337.89
330	11/26/11	13,557,795.75	(128,457.86)		13,429,337.89
331	11/27/11	13,557,795.75	(128,457.86)		13,429,337.89
332	11/28/11	12,939,359.57	(128,460.11)		12,810,899.46
333	11/29/11	12,536,519.01	(129,865.96)		12,406,653.05
334	11/30/11	12,178,564.55	(131,596.13)		12,046,968.42
335	12/01/11	11,910,086.60	(132,187.16)		11,777,899.44
336	12/02/11	11,179,193.31	(131,392.92)		11,047,800.39
337	12/03/11	11,179,193.31	(131,392.92)		11,047,800.39
338	12/04/11	11,179,193.31	(131,392.92)		11,047,800.39
339	12/05/11	13,702,163.57	(131,392.92)		13,570,770.65

Columbia Gas of Massachusetts
Cash Working Capital Requirements
Test Year TME: December 31, 2011
Average Daily Accounts Receivable Balance

Accounts Receivable

Ln. No.	Month / Day	Gas	Administrative	Total
		Computerized 514210	514229	
		(1) \$	(2) \$	(3 = 1 + 2) \$
340	12/06/11	14,427,755.40	(131,614.73)	14,296,140.67
341	12/07/11	14,493,845.30	(132,514.73)	14,361,330.57
342	12/08/11	15,818,946.29	(132,807.88)	15,686,138.41
343	12/09/11	15,824,921.68	(133,337.83)	15,691,583.85
344	12/10/11	15,824,921.68	(133,337.83)	15,691,583.85
345	12/11/11	15,824,921.68	(133,337.83)	15,691,583.85
346	12/12/11	17,367,444.75	(133,422.83)	17,234,021.92
347	12/13/11	18,712,616.98	(133,422.83)	18,579,194.15
348	12/14/11	19,539,596.63	(143,914.10)	19,395,682.53
349	12/15/11	21,277,670.81	(144,014.10)	21,133,656.71
350	12/16/11	21,899,371.79	(144,069.98)	21,755,301.81
351	12/17/11	21,899,371.79	(144,069.98)	21,755,301.81
352	12/18/11	21,899,371.79	(144,069.98)	21,755,301.81
353	12/19/11	22,177,446.38	(144,081.97)	22,033,364.41
354	12/20/11	24,237,726.64	(144,081.97)	24,093,644.67
355	12/21/11	27,012,809.02	(144,081.97)	26,868,727.05
356	12/22/11	28,858,266.83	(173,486.45)	28,684,780.38
357	12/23/11	28,996,012.04	(173,486.45)	28,822,525.59
358	12/24/11	28,996,012.04	(173,486.45)	28,822,525.59
359	12/25/11	28,996,012.04	(173,486.45)	28,822,525.59
360	12/26/11	28,996,012.04	(173,486.45)	28,822,525.59
361	12/27/11	28,640,551.07	(133,195.29)	28,507,355.78
362	12/28/11	28,311,468.09	(134,307.59)	28,177,160.50
363	12/29/11	28,068,143.24	(134,265.50)	27,933,877.74
364	12/30/11	26,696,487.97	(134,407.60)	26,562,080.37
365	12/31/11	26,696,487.97	(134,407.60)	26,562,080.37
366	Total	16,262,691,788.32	(69,780,027.96)	16,192,911,760.36

1	Average Daily Balance (Page 5, Column 3, Ln. 366/ 365 days)	44,364,141.81
2	Average Daily Balance - YTD 12/31/11 - A/R 3rd Party Sales & Trans. (See Workpaper WC-2 WP1, Col. 1, Ln 14)	2,696,492.32
3	Average Daily Balance - YTD 12/31/11 - Reserve Gas Account Uncollectibles (See Workpaper WC-2 WP1, Col. 5, Ln 14)	(4,203,411.35)
4	Total Net Average Daily Receivables (Lns. 1 thru 3)	42,857,222.79
5	Average Daily Revenue per Schedule WC -3	1,263,634.00
6	Collection Lag (Ln 4/5)	33.92
7	Meter Reading Lag (See WC-2, Workpaper - 2)	15.22
8	Billing Lag	1.20
9	Total Revenue Lag (Lns 6 thru 8)	50.34

Schedule WC-3

**Columbia Gas of Massachusetts
Cash Working Capital Requirements
Test Year Ending 12/31/11
Average Daily Revenue
Total Revenue**

<u>Ln. No.</u>	<u>Description</u> (1)	<u>Total Revenue</u> (2) \$
1	Residential Sales	311,962,625
2	C&I Firm	100,317,334
3	Sales for Resale	2,354,261
4	Residential Transportation	257,774
5	Forfeited Discounts	476,303
6	Revenue from Transportation	45,304,744
7	Rent from Gas Property	<u>553,523</u>
8	Total Revenue	461,226,564
9	Average Daily (Ln 9 / 365)	<u><u>1,263,634</u></u>

**Columbia Gas of Massachusetts
Cash Working Capital Requirements
Test Year Ended 12/31/12
Gas Purchase Costs**

<u>Line No.</u>	<u>Supplier</u> (1)	<u>Service Period</u> (2)	<u>Payment Date</u> (3)	<u>Midpoint of Service Period</u> (4)	<u>Lead Days</u> (5 = 3-2+4)	<u>Payment</u> (6) \$	<u>Dollar Weighted Days</u> (7= 5x6)
1	DTE ENERGY	11/30/2011	1/11/2012	15.00	57.00	19,240	1,096,674
2	CONOCOPHI	12/31/2011	1/10/2012	15.50	25.50	860	21,938
3	TRANSCO	12/31/2011	1/10/2012	15.50	25.50	4,647	118,488
4	VECTOR - CANADA	12/31/2011	1/12/2012	15.50	27.50	32,579	895,923
5	DOMINION	12/31/2011	1/13/2012	15.50	28.50	43,358	1,235,710
6	VECTOR	12/31/2011	1/17/2012	15.50	32.50	61,450	1,997,110
7	VECTOR	12/31/2011	1/17/2012	15.50	32.50	36,683	1,192,181
8	VECTOR	12/31/2011	1/17/2012	15.50	32.50	(15,984)	(519,479)
9	VECTOR	12/31/2011	1/17/2012	15.50	32.50	11,306	367,443
10	ALGONQUIN	12/31/2011	1/19/2012	15.50	34.50	1,177,753	40,632,465
11	IROQUOIS	12/31/2011	1/20/2012	15.50	35.50	167,105	5,932,212
12	PORTLAND	12/31/2011	1/20/2012	15.50	35.50	3,043,946	108,060,093
13	TETCO	12/31/2011	1/20/2012	15.50	35.50	663,561	23,556,424
14	UNION GAS	12/31/2011	1/20/2012	15.50	35.50	63,329	2,248,192
15	WASHINGTON 10	12/31/2011	1/20/2012	15.50	35.50	218,070	7,741,470
16	TENN	12/31/2011	1/23/2012	15.50	38.50	897,301	34,546,107
17	TENN	12/31/2011	1/23/2012	15.50	38.50	64,010	2,464,397
18	TENN	12/31/2011	1/23/2012	15.50	38.50	7,974	306,990
19	ALBERTA NGL	12/31/2011	1/25/2012	15.50	40.50	13,555	548,972
20	BG ENERGY	12/31/2011	1/25/2012	15.50	40.50	1,082,177	43,828,169
21	BG ENERGY	12/31/2011	1/25/2012	15.50	40.50	1,015,687	41,135,314
22	BG ENERGY	12/31/2011	1/25/2012	15.50	40.50	131,920	5,342,760
23	COLONIAL	12/31/2011	1/25/2012	15.50	40.50	113,550	4,598,759
24	CONOCOPHI	12/31/2011	1/25/2012	15.50	40.50	56,700	2,296,350
25	DISTRIGAS CORP	12/31/2011	1/25/2012	15.50	40.50	50,000	2,025,000
26	DTE ENERGY	12/31/2011	1/25/2012	15.50	40.50	1,095,553	44,369,877
27	EMERA	12/31/2011	1/25/2012	15.50	40.50	187,052	7,575,598
28	GAVILON	12/31/2011	1/25/2012	15.50	40.50	49,750	2,014,875
29	GAZPROM	12/31/2011	1/25/2012	15.50	40.50	45,660	1,849,230
30	GRANITE	12/31/2011	1/25/2012	15.50	40.50	37,616	1,523,437
31	ICE	12/31/2011	1/25/2012	15.50	40.50	1,500	60,750
32	J ARON	12/31/2011	1/25/2012	15.50	40.50	11,880	481,140
33	MACQUARIE	12/31/2011	1/25/2012	15.50	40.50	34,400	1,393,200
34	NEA	12/31/2011	1/25/2012	15.50	40.50	7,017,612	284,213,298
35	NEWJERSEY	12/31/2011	1/25/2012	15.50	40.50	39,915	1,616,558
36	NEXTERA(FPL)	12/31/2011	1/25/2012	15.50	40.50	1,120,355	45,374,371
37	NFGSC	12/31/2011	1/25/2012	15.50	40.50	93,125	3,771,570
38	REPSOL	12/31/2011	1/25/2012	15.50	40.50	4,451,168	180,272,288
39	SEQUENT	12/31/2011	1/25/2012	15.50	40.50	170,760	6,915,780
40	SHELL ENERGY	12/31/2011	1/25/2012	15.50	40.50	695,328	28,160,780
41	DTE ENERGY	12/31/2011	1/27/2012	15.50	42.50	709	30,146
42	TRANSCO	1/31/2012	2/10/2012	15.50	25.50	4,647	118,488
43	DOMINION	1/31/2012	2/13/2012	15.50	28.50	42,980	1,224,933
44	DOMINION	1/31/2012	2/13/2012	15.50	28.50	22	626
45	VECTOR - CANADA	1/31/2012	2/14/2012	15.50	29.50	32,579	961,081
46	VECTOR	1/31/2012	2/16/2012	15.50	31.50	61,450	1,935,661
47	VECTOR	1/31/2012	2/16/2012	15.50	31.50	36,683	1,155,499
48	VECTOR	1/31/2012	2/16/2012	15.50	31.50	(15,984)	(503,495)
49	VECTOR	1/31/2012	2/16/2012	15.50	31.50	11,306	356,137
50	ALGONQUIN	1/31/2012	2/21/2012	15.50	36.50	740,661	27,034,118
51	IROQUOIS	1/31/2012	2/21/2012	15.50	36.50	165,871	6,054,288
52	PORTLAND	1/31/2012	2/21/2012	15.50	36.50	3,036,380	110,827,874
53	TENN	1/31/2012	2/21/2012	15.50	36.50	933,608	34,076,694
54	TENN	1/31/2012	2/21/2012	15.50	36.50	63,757	2,327,144
55	TENN	1/31/2012	2/21/2012	15.50	36.50	(161,755)	(5,904,067)
56	TETCO	1/31/2012	2/21/2012	15.50	36.50	639,391	23,337,763
57	UNION GAS	1/31/2012	2/21/2012	15.50	36.50	63,751	2,326,920
58	WASHINGTON 10	1/31/2012	2/21/2012	15.50	36.50	218,070	7,959,540
59	GRANITE	1/31/2012	2/23/2012	15.50	38.50	38,070	1,465,678

**Columbia Gas of Massachusetts
Cash Working Capital Requirements
Test Year Ended 12/31/12
Gas Purchase Costs**

<u>Line No.</u>	<u>Supplier</u> (1)	<u>Service Period</u> (2)	<u>Payment Date</u> (3)	<u>Midpoint of Service Period</u> (4)	<u>Lead Days</u> (5 = 3-2+4)	<u>Payment</u> (6) \$	<u>Dollar Weighted Days</u> (7= 5x6)
60	ALBERTA NGL	1/31/2012	2/24/2012	15.50	39.50	12,786	505,056
61	BG ENERGY	1/31/2012	2/27/2012	15.50	42.50	971,177	41,275,036
62	BG ENERGY	1/31/2012	2/27/2012	15.50	42.50	1,124,956	47,810,633
63	CITYOFHOLYOKE	1/31/2012	2/27/2012	15.50	42.50	288,750	12,271,875
64	COLONIAL	1/31/2012	2/27/2012	15.50	42.50	28,301	1,202,805
65	DTE ENERGY	1/31/2012	2/27/2012	15.50	42.50	1,471,390	62,534,089
66	ICE	1/31/2012	2/27/2012	15.50	42.50	1,800	76,500
67	JP MORGAN	1/31/2012	2/27/2012	15.50	42.50	1,377,549	58,545,845
68	NEA	1/31/2012	2/27/2012	15.50	42.50	6,295,584	267,562,317
69	NEXTERA(FPL)	1/31/2012	2/27/2012	15.50	42.50	1,191,800	50,651,481
70	NFGSC	1/31/2012	2/27/2012	15.50	42.50	92,803	3,944,134
71	NJR	1/31/2012	2/27/2012	15.50	42.50	13,350	567,375
72	REPSOL	1/31/2012	2/27/2012	15.50	42.50	4,780,765	203,182,496
73	SHELL ENERGY	1/31/2012	2/27/2012	15.50	42.50	4,277,763	181,804,934
74	JP MORGAN	1/31/2012	3/6/2012	15.50	50.50	12,232	617,711
75	DOMINION	2/29/2012	3/12/2012	14.50	26.50	42,980	1,138,973
76	DOMINION	2/29/2012	3/12/2012	14.50	26.50	34	905
77	TRANSCO	2/29/2012	3/12/2012	14.50	26.50	4,347	115,190
78	VECTOR - CANADA	2/29/2012	3/14/2012	14.50	28.50	32,579	928,502
79	VECTOR	2/29/2012	3/16/2012	14.50	30.50	61,450	1,874,211
80	VECTOR	2/29/2012	3/16/2012	14.50	30.50	36,683	1,118,816
81	VECTOR	2/29/2012	3/16/2012	14.50	30.50	(15,984)	(487,511)
82	VECTOR	2/29/2012	3/16/2012	14.50	30.50	11,306	344,831
83	ALGONQUIN	2/29/2012	3/19/2012	14.50	33.50	1,025,753	34,362,735
84	IROQUOIS	2/29/2012	3/20/2012	14.50	34.50	165,963	5,725,732
85	PORTLAND	2/29/2012	3/20/2012	14.50	34.50	3,039,757	104,871,607
86	TETCO	2/29/2012	3/20/2012	14.50	34.50	643,208	22,190,667
87	UNION GAS	2/29/2012	3/20/2012	14.50	34.50	64,781	2,234,934
88	WASHINGTON 10	2/29/2012	3/21/2012	14.50	35.50	218,070	7,741,470
89	TENN	2/29/2012	3/22/2012	14.50	36.50	905,909	33,065,678
90	TENN	2/29/2012	3/22/2012	14.50	36.50	69,757	2,546,126
91	TENN	2/29/2012	3/22/2012	14.50	36.50	(89,057)	(3,250,591)
92	GRANITE	2/29/2012	3/23/2012	14.50	37.50	37,304	1,398,901
93	ALBERTA NGL	2/29/2012	3/26/2012	14.50	40.50	11,935	483,366
94	BG ENERGY	2/29/2012	3/26/2012	14.50	40.50	(36,748)	(1,488,310)
95	BG ENERGY	2/29/2012	3/26/2012	14.50	40.50	947,988	38,393,513
96	BG ENERGY	2/29/2012	3/26/2012	14.50	40.50	781,918	31,667,690
97	CITYOFHOLYOKE	2/29/2012	3/26/2012	14.50	40.50	225,000	9,112,500
98	DISTRIGAS CORP	2/29/2012	3/26/2012	14.50	40.50	17,000	688,500
99	DTE ENERGY	2/29/2012	3/26/2012	14.50	40.50	1,644,620	66,607,119
100	ICE	2/29/2012	3/26/2012	14.50	40.50	1,800	72,900
101	JP MORGAN	2/29/2012	3/26/2012	14.50	40.50	225,297	9,124,514
102	NEA	2/29/2012	3/26/2012	14.50	40.50	4,471,287	181,087,111
103	NEXTERA(FPL)	2/29/2012	3/26/2012	14.50	40.50	970,882	39,320,715
104	NFGSC	2/29/2012	3/26/2012	14.50	40.50	93,063	3,769,069
105	REPSOL	2/29/2012	3/26/2012	14.50	40.50	3,756,650	152,144,329
106	SHELL ENERGY	2/29/2012	3/26/2012	14.50	40.50	3,716,848	150,532,329
107	TRANSCO	3/31/2012	4/10/2012	15.50	25.50	4,647	118,488
108	DOMINION	3/31/2012	4/12/2012	15.50	27.50	42,905	1,179,900
109	VECTOR - CANADA	3/31/2012	4/12/2012	15.50	27.50	32,579	895,923
110	VECTOR	3/31/2012	4/16/2012	15.50	31.50	61,450	1,935,661
111	VECTOR	3/31/2012	4/16/2012	15.50	31.50	(15,984)	(503,495)
112	VECTOR	3/31/2012	4/16/2012	15.50	31.50	36,683	1,155,499
113	VECTOR	3/31/2012	4/16/2012	15.50	31.50	11,306	356,137
114	ALGONQUIN	3/31/2012	4/19/2012	15.50	34.50	641,540	22,133,116
115	GRANITE	3/31/2012	4/20/2012	15.50	35.50	37,589	1,334,417
116	IROQUOIS	3/31/2012	4/20/2012	15.50	35.50	165,581	5,878,112
117	PORTLAND	3/31/2012	4/20/2012	15.50	35.50	3,035,607	107,764,062
118	TETCO	3/31/2012	4/20/2012	15.50	35.50	650,343	23,087,192

**Columbia Gas of Massachusetts
Cash Working Capital Requirements
Test Year Ended 12/31/12
Gas Purchase Costs**

<u>Line No.</u>	<u>Supplier</u> (1)	<u>Service Period</u> (2)	<u>Payment Date</u> (3)	<u>Midpoint of Service Period</u> (4)	<u>Lead Days</u> (5 = 3-2+4)	<u>Payment</u> (6) \$	<u>Dollar Weighted Days</u> (7= 5x6)
119	UNION GAS	3/31/2012	4/20/2012	15.50	35.50	65,022	2,308,282
120	WASHINGTON 10	3/31/2012	4/20/2012	15.50	35.50	218,070	7,741,470
121	TENN	3/31/2012	4/23/2012	15.50	38.50	878,681	33,829,236
122	TENN	3/31/2012	4/23/2012	15.50	38.50	63,728	2,453,513
123	TENN	3/31/2012	4/23/2012	15.50	38.50	28,934	1,113,977
124	ALBERTA NGL	3/31/2012	4/25/2012	15.50	40.50	14,161	573,505
125	ASSOC (SPARK)	3/31/2012	4/25/2012	15.50	40.50	3,846	155,769
126	BG ENERGY	3/31/2012	4/25/2012	15.50	40.50	869,099	35,198,495
127	BG ENERGY	3/31/2012	4/25/2012	15.50	40.50	140,096	5,673,878
128	CAPITOL	3/31/2012	4/25/2012	15.50	40.50	45,465	1,841,333
129	CARGILL	3/31/2012	4/25/2012	15.50	40.50	47,588	1,927,294
130	CITIGROUP	3/31/2012	4/25/2012	15.50	40.50	22,300	903,150
131	COLONIAL	3/31/2012	4/25/2012	15.50	40.50	21,794	882,649
132	CONOCOPHI	3/31/2012	4/25/2012	15.50	40.50	127,295	5,155,448
133	DISTRIGAS CORP	3/31/2012	4/25/2012	15.50	40.50	305,200	12,360,600
134	DTE ENERGY	3/31/2012	4/25/2012	15.50	40.50	997,634	40,404,191
135	EMERA	3/31/2012	4/25/2012	15.50	40.50	136,063	5,510,531
136	EXGEN	3/31/2012	4/25/2012	15.50	40.50	26,789	1,084,955
137	GAVILON	3/31/2012	4/25/2012	15.50	40.50	29,000	1,174,500
138	GAZPROM	3/31/2012	4/25/2012	15.50	40.50	44,500	1,802,250
139	HESS	3/31/2012	4/25/2012	15.50	40.50	93,619	3,791,549
140	J ARON	3/31/2012	4/25/2012	15.50	40.50	72,625	2,941,313
141	JP MORGAN	3/31/2012	4/25/2012	15.50	40.50	1,526,815	61,835,998
142	MACQUARIE	3/31/2012	4/25/2012	15.50	40.50	43,588	1,765,294
143	MERRILL LCH	3/31/2012	4/25/2012	15.50	40.50	18,522	750,141
144	NEWJERSEY	3/31/2012	4/25/2012	15.50	40.50	32,594	1,320,047
145	NEXTERA(FPL)	3/31/2012	4/25/2012	15.50	40.50	25,526	1,033,813
146	NFGSC	3/31/2012	4/25/2012	15.50	40.50	92,891	3,762,073
147	NJR	3/31/2012	4/25/2012	15.50	40.50	13,600	550,800
148	REPSOL	3/31/2012	4/25/2012	15.50	40.50	3,398,149	137,625,030
149	SEQUENT	3/31/2012	4/25/2012	15.50	40.50	122,225	4,950,113
150	SHELL ENERGY	3/31/2012	4/25/2012	15.50	40.50	580,350	23,504,177
151	TENASKA	3/31/2012	4/25/2012	15.50	40.50	19,740	799,470
152	UET	3/31/2012	4/25/2012	15.50	40.50	118,000	4,779,000
153	ICE	3/31/2012	4/30/2012	15.50	45.50	1,800	81,900
154	CITYOFHOLYOKE	3/31/2012	5/4/2012	15.50	49.50	225,000	11,137,500
155	TRANSCO	4/30/2012	5/10/2012	15.00	25.00	4,492	112,298
156	DOMINION	4/30/2012	5/11/2012	15.00	26.00	42,945	1,116,570
157	VECTOR - CANADA	4/30/2012	5/15/2012	15.00	30.00	32,579	977,370
158	VECTOR	4/30/2012	5/17/2012	15.00	32.00	61,450	1,966,385
159	VECTOR	4/30/2012	5/17/2012	15.00	32.00	(15,984)	(511,487)
160	VECTOR	4/30/2012	5/17/2012	15.00	32.00	11,306	361,790
161	ALGONQUIN	4/30/2012	5/21/2012	15.00	36.00	594,688	21,408,771
162	IROQUOIS	4/30/2012	5/21/2012	15.00	36.00	165,726	5,966,127
163	PORTLAND	4/30/2012	5/21/2012	15.00	36.00	172,935	6,225,672
164	TENN	4/30/2012	5/21/2012	15.00	36.00	825,382	29,713,747
165	TENN	4/30/2012	5/21/2012	15.00	36.00	63,750	2,294,997
166	TENN	4/30/2012	5/21/2012	15.00	36.00	64,883	2,335,780
167	TETCO	4/30/2012	5/21/2012	15.00	36.00	631,776	22,743,951
168	WASHINGTON 10	4/30/2012	5/21/2012	15.00	36.00	218,070	7,850,505
169	UNION GAS	4/30/2012	5/22/2012	15.00	37.00	64,583	2,389,564
170	ALBERTA NGL	4/30/2012	5/25/2012	15.00	40.00	13,013	520,536
171	BG ENERGY	4/30/2012	5/25/2012	15.00	40.00	1,861,190	74,447,593
172	BG ENERGY	4/30/2012	5/25/2012	15.00	40.00	77,250	3,090,000
173	BG ENERGY	4/30/2012	5/25/2012	15.00	40.00	45,696	1,827,834
174	CAPITOL	4/30/2012	5/25/2012	15.00	40.00	39,670	1,586,800
175	CITIGROUP	4/30/2012	5/25/2012	15.00	40.00	39,750	1,590,000
176	COLONIAL	4/30/2012	5/25/2012	15.00	40.00	32,179	1,287,174
177	CONOCOPHI	4/30/2012	5/25/2012	15.00	40.00	51,880	2,075,200

**Columbia Gas of Massachusetts
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<u>Line No.</u>	<u>Supplier</u> (1)	<u>Service Period</u> (2)	<u>Payment Date</u> (3)	<u>Midpoint of Service Period</u> (4)	<u>Lead Days</u> (5 = 3-2+4)	<u>Payment</u> (6) \$	<u>Dollar Weighted Days</u> (7= 5x6)
178	DTE ENERGY	4/30/2012	5/25/2012	15.00	40.00	507,147	20,285,893
179	EMERA	4/30/2012	5/25/2012	15.00	40.00	84,575	3,383,000
180	GAVILON	4/30/2012	5/25/2012	15.00	40.00	83,250	3,330,000
181	GRANITE	4/30/2012	5/25/2012	15.00	40.00	37,374	1,494,960
182	HESS	4/30/2012	5/25/2012	15.00	40.00	42,365	1,694,600
183	ICE	4/30/2012	5/25/2012	15.00	40.00	1,800	72,000
184	J ARON	4/30/2012	5/25/2012	15.00	40.00	130,033	5,201,320
185	JP MORGAN	4/30/2012	5/25/2012	15.00	40.00	1,602,864	64,114,573
186	MERRILL LCH	4/30/2012	5/25/2012	15.00	40.00	16,500	660,000
187	NEWJERSEY	4/30/2012	5/25/2012	15.00	40.00	43,600	1,744,000
188	NEXTERA(FPL)	4/30/2012	5/25/2012	15.00	40.00	5,600	224,000
189	NFGSC	4/30/2012	5/25/2012	15.00	40.00	93,725	3,748,986
190	REPSOL	4/30/2012	5/25/2012	15.00	40.00	338,238	13,529,510
191	SEQUENT	4/30/2012	5/25/2012	15.00	40.00	14,750	590,000
192	SHELL ENERGY	4/30/2012	5/25/2012	15.00	40.00	63,418	2,536,700
193	UET	4/30/2012	5/25/2012	15.00	40.00	6,075	243,000
194	NORTHERN UTIL	4/30/2012	5/29/2012	15.00	44.00	153,075	6,735,300
195	CITYOFHOLYOKE	4/30/2012	6/15/2012	15.00	61.00	225,000	13,725,000
196	DOMINION	5/31/2012	6/11/2012	15.50	26.50	42,899	1,136,820
197	TRANSCO	5/31/2012	6/11/2012	15.50	26.50	4,642	123,003
198	VECTOR - CANADA	5/31/2012	6/13/2012	15.50	28.50	32,579	928,502
199	VECTOR	5/31/2012	6/15/2012	15.50	30.50	61,450	1,874,211
200	VECTOR	5/31/2012	6/15/2012	15.50	30.50	41,119	1,254,122
201	VECTOR	5/31/2012	6/15/2012	15.50	30.50	39,660	1,209,616
202	ALGONQUIN	5/31/2012	6/19/2012	15.50	34.50	374,629	12,924,708
203	IROQUOIS	5/31/2012	6/20/2012	15.50	35.50	41,833	1,485,055
204	PORTLAND	5/31/2012	6/20/2012	15.50	35.50	170,923	6,067,769
205	TETCO	5/31/2012	6/20/2012	15.50	35.50	641,795	22,783,728
206	UNION GAS	5/31/2012	6/20/2012	15.50	35.50	63,903	2,268,543
207	WASHINGTON 10	5/31/2012	6/20/2012	15.50	35.50	218,070	7,741,470
208	TENN	5/31/2012	6/22/2012	15.50	37.50	551,840	20,693,986
209	TENN	5/31/2012	6/22/2012	15.50	37.50	(1,664)	(62,413)
210	TENN	5/31/2012	6/22/2012	15.50	37.50	64,527	2,419,780
211	ALBERTA NGL	5/31/2012	6/25/2012	15.50	40.50	13,040	528,117
212	ASSOC (SPARK)	5/31/2012	6/25/2012	15.50	40.50	12,300	498,150
213	BARCLAYS	5/31/2012	6/25/2012	15.50	40.50	19,125	774,563
214	BG ENERGY	5/31/2012	6/25/2012	15.50	40.50	861,878	34,906,039
215	BG ENERGY	5/31/2012	6/25/2012	15.50	40.50	(283,333)	(11,475,000)
216	BPENERGY	5/31/2012	6/25/2012	15.50	40.50	58,763	2,379,881
217	CARGILL	5/31/2012	6/25/2012	15.50	40.50	5,865	237,533
218	CITIGROUP	5/31/2012	6/25/2012	15.50	40.50	64,950	2,630,475
219	COLONIAL	5/31/2012	6/25/2012	15.50	40.50	12,900	522,450
220	CONOCOPHI	5/31/2012	6/25/2012	15.50	40.50	78,455	3,177,428
221	DTE ENERGY	5/31/2012	6/25/2012	15.50	40.50	419,683	16,997,141
222	EMERA	5/31/2012	6/25/2012	15.50	40.50	13,750	556,875
223	ENCANA MARK	5/31/2012	6/25/2012	15.50	40.50	10,455	423,428
224	EXGEN	5/31/2012	6/25/2012	15.50	40.50	36,883	1,493,778
225	GAVILON	5/31/2012	6/25/2012	15.50	40.50	91,625	3,710,813
226	GRANITE	5/31/2012	6/25/2012	15.50	40.50	37,381	1,513,945
227	HESS	5/31/2012	6/25/2012	15.50	40.50	39,150	1,585,575
228	ICE	5/31/2012	6/25/2012	15.50	40.50	1,800	72,900
229	J ARON	5/31/2012	6/25/2012	15.50	40.50	727,076	29,446,588
230	JP MORGAN	5/31/2012	6/25/2012	15.50	40.50	92,324	3,739,122
231	MACQUARIE	5/31/2012	6/25/2012	15.50	40.50	93,513	3,787,256
232	NEWJERSEY	5/31/2012	6/25/2012	15.50	40.50	34,800	1,409,400
233	NEXTERA(FPL)	5/31/2012	6/25/2012	15.50	40.50	29,760	1,205,280
234	NFGSC	5/31/2012	6/25/2012	15.50	40.50	94,795	3,839,184
235	NJR	5/31/2012	6/25/2012	15.50	40.50	5,750	232,875
236	NORTHERN UTIL	5/31/2012	6/25/2012	15.50	40.50	17,385	704,093

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<u>Line No.</u>	<u>Supplier</u> (1)	<u>Service Period</u> (2)	<u>Payment Date</u> (3)	<u>Midpoint of Service Period</u> (4)	<u>Lead Days</u> (5 = 3-2+4)	<u>Payment</u> (6) \$	<u>Dollar Weighted Days</u> (7= 5x6)
237	REPSOL	5/31/2012	6/25/2012	15.50	40.50	762,238	30,870,621
238	SEQUENT	5/31/2012	6/25/2012	15.50	40.50	764,701	30,970,370
239	TRANSCO	6/30/2012	7/10/2012	15.00	25.00	4,492	112,298
240	DOMINION	6/30/2012	7/12/2012	15.00	27.00	42,212	1,139,736
241	VECTOR - CANADA	6/30/2012	7/12/2012	15.00	27.00	32,579	879,633
242	VECTOR	6/30/2012	7/16/2012	15.00	31.00	39,660	1,229,446
243	VECTOR	6/30/2012	7/16/2012	15.00	31.00	41,119	1,274,682
244	VECTOR	6/30/2012	7/16/2012	15.00	31.00	61,450	1,904,936
245	ALGONQUIN	6/30/2012	7/19/2012	15.00	34.00	337,011	11,458,379
246	ALGONQUIN	6/30/2012	7/19/2012	15.00	34.00	(14,152)	(481,154)
247	IROQUOIS	6/30/2012	7/20/2012	15.00	35.00	41,701	1,459,521
248	PORTLAND	6/30/2012	7/20/2012	15.00	35.00	170,480	5,966,813
249	TETCO	6/30/2012	7/20/2012	15.00	35.00	612,010	21,420,362
250	UNION GAS	6/30/2012	7/20/2012	15.00	35.00	62,864	2,200,237
251	WASHINGTON 10	6/30/2012	7/20/2012	15.00	35.00	218,070	7,632,435
252	TENN	6/30/2012	7/23/2012	15.00	38.00	544,201	20,679,648
253	TENN	6/30/2012	7/23/2012	15.00	38.00	(1,835)	(69,747)
254	TENN	6/30/2012	7/23/2012	15.00	38.00	(173,441)	(6,590,760)
255	ALBERTA NGL	6/30/2012	7/25/2012	15.00	40.00	13,561	542,442
256	BG ENERGY	6/30/2012	7/25/2012	15.00	40.00	(159,278)	(6,371,133)
257	BG ENERGY	6/30/2012	7/25/2012	15.00	40.00	909,440	36,377,600
258	BPENERGY	6/30/2012	7/25/2012	15.00	40.00	7,950	318,000
259	CAPITOL	6/30/2012	7/25/2012	15.00	40.00	13,000	520,000
260	CITIGROUP	6/30/2012	7/25/2012	15.00	40.00	33,423	1,336,930
261	COLONIAL	6/30/2012	7/25/2012	15.00	40.00	188,075	7,523,001
262	DTE ENERGY	6/30/2012	7/25/2012	15.00	40.00	202,251	8,090,040
263	EMERA	6/30/2012	7/25/2012	15.00	40.00	25,950	1,038,000
264	FREEPOINT	6/30/2012	7/25/2012	15.00	40.00	18,100	724,000
265	GAVILON	6/30/2012	7/25/2012	15.00	40.00	862,357	34,494,280
266	GAZPROM	6/30/2012	7/25/2012	15.00	40.00	25,000	1,000,000
267	GRANITE	6/30/2012	7/25/2012	15.00	40.00	37,313	1,492,521
268	HESS	6/30/2012	7/25/2012	15.00	40.00	19,150	766,000
269	ICE	6/30/2012	7/25/2012	15.00	40.00	1,800	72,000
270	JP MORGAN	6/30/2012	7/25/2012	15.00	40.00	24,205	968,200
271	MACQUARIE	6/30/2012	7/25/2012	15.00	40.00	32,675	1,307,000
272	NEWJERSEY	6/30/2012	7/25/2012	15.00	40.00	5,863	234,500
273	NEXTERA(FPL)	6/30/2012	7/25/2012	15.00	40.00	14,338	573,500
274	NFGSC	6/30/2012	7/25/2012	15.00	40.00	94,508	3,780,316
275	REPSOL	6/30/2012	7/25/2012	15.00	40.00	748,691	29,947,631
276	SEQUENT	6/30/2012	7/25/2012	15.00	40.00	831,030	33,241,200
277	SHELL ENERGY	6/30/2012	7/25/2012	15.00	40.00	6,692	267,680
278	TENASKA	6/30/2012	7/25/2012	15.00	40.00	13,250	530,000
279	UET	6/30/2012	7/25/2012	15.00	40.00	9,175	367,000
280	VIRGPOWER	6/30/2012	7/25/2012	15.00	40.00	39,623	1,584,920
281	VECTOR - CANADA	7/31/2012	8/9/2012	15.50	24.50	32,579	798,186
282	TRANSCO	7/31/2012	8/10/2012	15.50	25.50	4,642	118,362
283	DOMINION	7/31/2012	8/13/2012	15.50	28.50	42,863	1,221,584
284	VECTOR	7/31/2012	8/13/2012	15.50	28.50	61,450	1,751,312
285	VECTOR	7/31/2012	8/13/2012	15.50	28.50	39,660	1,130,297
286	VECTOR	7/31/2012	8/13/2012	15.50	28.50	41,119	1,171,885
287	ALGONQUIN	7/31/2012	8/20/2012	15.50	35.50	255,995	9,087,831
288	IROQUOIS	7/31/2012	8/20/2012	15.50	35.50	41,549	1,474,985
289	PORTLAND	7/31/2012	8/20/2012	15.50	35.50	170,480	6,052,053
290	TENN	7/31/2012	8/20/2012	15.50	35.50	533,920	18,954,171
291	TENN	7/31/2012	8/20/2012	15.50	35.50	(1,835)	(65,158)
292	TENN	7/31/2012	8/20/2012	15.50	35.50	7,677	272,545
293	TETCO	7/31/2012	8/20/2012	15.50	35.50	607,802	21,576,987
294	UNION GAS	7/31/2012	8/20/2012	15.50	35.50	63,707	2,261,606
295	WASHINGTON 10	7/31/2012	8/20/2012	15.50	35.50	218,070	7,741,470

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296	ALBERTA NGL	7/31/2012	8/24/2012	15.50	39.50	13,924	549,979
297	COLONIAL	7/31/2012	8/27/2012	15.50	42.50	515,668	21,915,869
298	DISTRIGAS CORP	7/31/2012	8/27/2012	15.50	42.50	385,727	16,393,409
299	DTE ENERGY	7/31/2012	8/27/2012	15.50	42.50	210,832	8,960,379
300	GAVILON	7/31/2012	8/27/2012	15.50	42.50	2,084,061	88,572,597
301	GRANITE	7/31/2012	8/27/2012	15.50	42.50	37,300	1,585,269
302	ICE	7/31/2012	8/27/2012	15.50	42.50	1,800	76,500
303	NFGSC	7/31/2012	8/27/2012	15.50	42.50	94,421	4,012,911
304	REPSOL	7/31/2012	8/27/2012	15.50	42.50	759,159	32,264,246
305	UET	7/31/2012	8/27/2012	15.50	42.50	813,715	34,582,902
306	TRANSCO	8/31/2012	9/10/2012	15.50	25.50	4,642	118,362
307	DOMINION	8/31/2012	9/11/2012	15.50	26.50	42,820	1,134,740
308	VECTOR - CANADA	8/31/2012	9/13/2012	15.50	28.50	32,579	928,502
309	VECTOR	8/31/2012	9/17/2012	15.50	32.50	61,450	1,997,110
310	VECTOR	8/31/2012	9/17/2012	15.50	32.50	39,660	1,288,935
311	VECTOR	8/31/2012	9/17/2012	15.50	32.50	41,119	1,336,360
312	ALGONQUIN	8/31/2012	9/19/2012	15.50	34.50	311,902	10,760,620
313	ALGONQUIN	8/31/2012	9/19/2012	15.50	34.50	48,954	1,688,922
314	IROQUOIS	8/31/2012	9/20/2012	15.50	35.50	41,483	1,472,643
315	PORTLAND	8/31/2012	9/20/2012	15.50	35.50	170,480	6,052,053
316	TETCO	8/31/2012	9/20/2012	15.50	35.50	598,043	21,230,523
317	UNION GAS	8/31/2012	9/20/2012	15.50	35.50	65,035	2,308,746
318	WASHINGTON 10	8/31/2012	9/21/2012	15.50	36.50	218,070	7,959,540
319	GRANITE	8/31/2012	9/24/2012	15.50	39.50	39,596	1,564,044
320	TENN	8/31/2012	9/24/2012	15.50	39.50	533,728	21,082,245
321	TENN	8/31/2012	9/24/2012	15.50	39.50	(1,821)	(71,913)
322	TENN	8/31/2012	9/24/2012	15.50	39.50	7,958	314,332
323	ALBERTA NGL	8/31/2012	9/25/2012	15.50	40.50	15,245	617,426
324	BG ENERGY	8/31/2012	9/25/2012	15.50	40.50	1,116,054	45,200,194
325	CITIGROUP	8/31/2012	9/25/2012	15.50	40.50	8,865	359,033
326	COLONIAL	8/31/2012	9/25/2012	15.50	40.50	446,560	18,085,680
327	CONOCOPHI	8/31/2012	9/25/2012	15.50	40.50	16,665	674,933
328	DISTRIGAS CORP	8/31/2012	9/25/2012	15.50	40.50	877,630	35,544,013
329	DTE ENERGY	8/31/2012	9/25/2012	15.50	40.50	260,088	10,533,583
330	GAVILON	8/31/2012	9/25/2012	15.50	40.50	1,002,060	40,583,430
331	ICE	8/31/2012	9/25/2012	15.50	40.50	1,800	72,900
332	J ARON	8/31/2012	9/25/2012	15.50	40.50	3,000	121,500
333	NFGSC	8/31/2012	9/25/2012	15.50	40.50	94,423	3,824,114
334	REPSOL	8/31/2012	9/25/2012	15.50	40.50	775,784	31,419,266
335	SWENERGY	8/31/2012	9/25/2012	15.50	40.50	17,250	698,625
336	TRANSCO	9/30/2012	10/10/2012	15.00	25.00	4,492	112,298
337	DOMINION	9/30/2012	10/11/2012	15.00	26.00	42,695	1,110,058
338	VECTOR - CANADA	9/30/2012	10/11/2012	15.00	26.00	32,579	847,054
339	VECTOR	9/30/2012	10/15/2012	15.00	30.00	61,450	1,843,486
340	VECTOR	9/30/2012	10/15/2012	15.00	30.00	39,660	1,189,787
341	VECTOR	9/30/2012	10/15/2012	15.00	30.00	41,119	1,233,563
342	ALGONQUIN	9/30/2012	10/19/2012	15.00	34.00	319,122	10,850,153
343	ALGONQUIN	9/30/2012	10/19/2012	15.00	34.00	24,130	820,430
344	UNION GAS	9/30/2012	10/19/2012	15.00	34.00	65,985	2,243,499
345	IROQUOIS	9/30/2012	10/22/2012	15.00	37.00	40,988	1,516,560
346	PORTLAND	9/30/2012	10/22/2012	15.00	37.00	160,080	5,922,973
347	TENN	9/30/2012	10/22/2012	15.00	37.00	527,577	19,520,364
348	TENN	9/30/2012	10/22/2012	15.00	37.00	(1,821)	(67,361)
349	TENN	9/30/2012	10/22/2012	15.00	37.00	67,044	2,480,637
350	TETCO	9/30/2012	10/22/2012	15.00	37.00	601,890	22,269,930
351	WASHINGTON 10	9/30/2012	10/22/2012	15.00	37.00	218,070	8,068,574
352	ALBERTA NGL	9/30/2012	10/25/2012	15.00	40.00	14,221	568,842
353	BG ENERGY	9/30/2012	10/25/2012	15.00	40.00	1,575,872	63,034,867
354	CITIGROUP	9/30/2012	10/25/2012	15.00	40.00	13,365	534,600

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355	COLONIAL	9/30/2012	10/25/2012	15.00	40.00	30,351	1,214,040
356	CONOCOPHI	9/30/2012	10/25/2012	15.00	40.00	8,970	358,800
357	DISTRIGAS CORP	9/30/2012	10/25/2012	15.00	40.00	85,360	3,414,406
358	DTE ENERGY	9/30/2012	10/25/2012	15.00	40.00	244,678	9,787,108
359	GAZPROM	9/30/2012	10/25/2012	15.00	40.00	15,888	635,520
360	GRANITE	9/30/2012	10/25/2012	15.00	40.00	39,593	1,583,712
361	ICE	9/30/2012	10/25/2012	15.00	40.00	1,800	72,000
362	J ARON	9/30/2012	10/25/2012	15.00	40.00	578,520	23,140,800
363	MACQUARIE	9/30/2012	10/25/2012	15.00	40.00	24,000	960,000
364	NEWJERSEY	9/30/2012	10/25/2012	15.00	40.00	17,262	690,490
365	NFGSC	9/30/2012	10/25/2012	15.00	40.00	94,415	3,776,594
366	REPSOL	9/30/2012	10/25/2012	15.00	40.00	786,791	31,471,640
367	SEQUENT	9/30/2012	10/25/2012	15.00	40.00	10,290	411,600
368	VIRGPOWER	9/30/2012	10/25/2012	15.00	40.00	18,600	744,000
369	HESS	9/30/2012	11/13/2012	15.00	59.00	30,500	1,799,500
370	HESS	9/30/2012	11/13/2012	15.00	59.00	4,620	272,580
371	DOMINION	10/31/2012	11/13/2012	15.50	28.50	42,569	1,213,226
372	TRANSCO	10/31/2012	11/13/2012	15.50	28.50	4,642	132,286
373	VECTOR - CANADA	10/31/2012	11/14/2012	15.50	29.50	32,579	961,081
374	DOMINION	10/31/2012	11/15/2012	15.50	30.50	626	19,080
375	VECTOR	10/31/2012	11/16/2012	15.50	31.50	61,450	1,935,661
376	VECTOR	10/31/2012	11/16/2012	15.50	31.50	39,660	1,249,276
377	VECTOR	10/31/2012	11/16/2012	15.50	31.50	41,119	1,295,241
378	ALGONQUIN	10/31/2012	11/19/2012	15.50	34.50	321,040	11,075,874
379	ALGONQUIN	10/31/2012	11/19/2012	15.50	34.50	2,732	94,250
380	IROQUOIS	10/31/2012	11/20/2012	15.50	35.50	40,328	1,431,658
381	PORTLAND	10/31/2012	11/20/2012	15.50	35.50	170,480	6,052,053
382	TETCO	10/31/2012	11/20/2012	15.50	35.50	596,181	21,164,421
383	UNION GAS	10/31/2012	11/20/2012	15.50	35.50	65,430	2,322,780
384	WASHINGTON 10	10/31/2012	11/20/2012	15.50	35.50	218,070	7,741,470
385	GRANITE	10/31/2012	11/23/2012	15.50	38.50	39,729	1,529,571
386	TENN	10/31/2012	11/23/2012	15.50	38.50	544,786	20,974,260
387	TENN	10/31/2012	11/23/2012	15.50	38.50	(1,821)	(70,092)
388	TENN	10/31/2012	11/23/2012	15.50	38.50	54,405	2,094,606
389	ALBERTA NGL	10/31/2012	11/26/2012	15.50	41.50	16,410	681,017
390	BG ENERGY	10/31/2012	11/26/2012	15.50	41.50	1,143,307	47,447,227
391	CITIGROUP	10/31/2012	11/26/2012	15.50	41.50	73,290	3,041,535
392	COLONIAL	10/31/2012	11/26/2012	15.50	41.50	64,004	2,656,174
393	CONOCOPHI	10/31/2012	11/26/2012	15.50	41.50	131,069	5,439,353
394	CP ENERGY	10/31/2012	11/26/2012	15.50	41.50	18,250	757,375
395	DISTRIGAS CORP	10/31/2012	11/26/2012	15.50	41.50	250,632	10,401,241
396	DTE ENERGY	10/31/2012	11/26/2012	15.50	41.50	481,060	19,963,973
397	EMERA	10/31/2012	11/26/2012	15.50	41.50	31,965	1,326,548
398	GAVILON	10/31/2012	11/26/2012	15.50	41.50	107,580	4,464,570
399	GAZPROM	10/31/2012	11/26/2012	15.50	41.50	81,080	3,364,820
400	HESS	10/31/2012	11/26/2012	15.50	41.50	20,717	859,747
401	ICE	10/31/2012	11/26/2012	15.50	41.50	1,800	74,700
402	JP MORGAN	10/31/2012	11/26/2012	15.50	41.50	17,500	726,250
403	MACQUARIE	10/31/2012	11/26/2012	15.50	41.50	2,190	90,885
404	MERRILL LCH	10/31/2012	11/26/2012	15.50	41.50	32,800	1,361,200
405	NEWJERSEY	10/31/2012	11/26/2012	15.50	41.50	34,600	1,435,900
406	NFGSC	10/31/2012	11/26/2012	15.50	41.50	94,411	3,918,056
407	REPSOL	10/31/2012	11/26/2012	15.50	41.50	842,040	34,944,653
408	SEQUENT	10/31/2012	11/26/2012	15.50	41.50	2,303,500	95,595,250
409	UET	10/31/2012	11/26/2012	15.50	41.50	77,588	3,219,886
410	VIRGPOWER	10/31/2012	11/26/2012	15.50	41.50	68,775	2,854,163
411	ALGONQUIN	10/31/2012	12/19/2012	15.50	64.50	6,916	446,102
412	TRANSCO	11/30/2012	12/10/2012	15.00	25.00	4,492	112,298
413	DOMINION	11/30/2012	12/11/2012	15.00	26.00	42,893	1,115,213

**Columbia Gas of Massachusetts
Cash Working Capital Requirements
Test Year Ended 12/31/12
Gas Purchase Costs**

<u>Line No.</u>	<u>Supplier</u> (1)	<u>Service Period</u> (2)	<u>Payment Date</u> (3)	<u>Midpoint of Service Period</u> (4)	<u>Lead Days</u> (5 = 3-2+4)	<u>Payment</u> (6) \$	<u>Dollar Weighted Days</u> (7= 5x6)
414	VECTOR - CANADA	11/30/2012	12/13/2012	15.00	28.00	32,579	912,212
415	VECTOR	11/30/2012	12/17/2012	15.00	32.00	61,450	1,966,385
416	VECTOR	11/30/2012	12/17/2012	15.00	32.00	36,683	1,173,840
417	VECTOR	11/30/2012	12/17/2012	15.00	32.00	39,660	1,269,106
418	VECTOR	11/30/2012	12/17/2012	15.00	32.00	41,119	1,315,801
419	ALGONQUIN	11/30/2012	12/19/2012	15.00	34.00	422,797	14,375,088
420	IROQUOIS	11/30/2012	12/20/2012	15.00	35.00	163,252	5,713,814
421	PORTLAND	11/30/2012	12/20/2012	15.00	35.00	3,000,505	105,017,682
422	TETCO	11/30/2012	12/20/2012	15.00	35.00	642,461	22,486,137
423	UNION GAS	11/30/2012	12/20/2012	15.00	35.00	64,781	2,267,325
424	WASHINGTON 10	11/30/2012	12/20/2012	15.00	35.00	218,070	7,632,435
425	TENN	11/30/2012	12/24/2012	15.00	39.00	823,010	32,097,400
426	TENN	11/30/2012	12/24/2012	15.00	39.00	206,295	8,045,501
427	TENN	11/30/2012	12/24/2012	15.00	39.00	(90,759)	(3,539,590)
428	ALBERTA NGL	11/30/2012	12/26/2012	15.00	41.00	14,891	610,531
429	ASSOC (SPARK)	11/30/2012	12/26/2012	15.00	41.00	29,599	1,213,577
430	BARCLAYS	11/30/2012	12/26/2012	15.00	41.00	236,970	9,715,770
431	BG ENERGY	11/30/2012	12/26/2012	15.00	41.00	1,911,632	78,376,906
432	BG ENERGY	11/30/2012	12/26/2012	15.00	41.00	543,208	22,271,512
433	BPENERGY	11/30/2012	12/26/2012	15.00	41.00	90,625	3,715,625
434	CITIGROUP	11/30/2012	12/26/2012	15.00	41.00	54,150	2,220,150
435	COLONIAL	11/30/2012	12/26/2012	15.00	41.00	1,531,526	62,792,584
436	CONOCOPHI	11/30/2012	12/26/2012	15.00	41.00	101,220	4,150,020
437	DTE ENERGY	11/30/2012	12/26/2012	15.00	41.00	1,016,208	41,664,520
438	EMERA	11/30/2012	12/26/2012	15.00	41.00	1,507,897	61,823,777
439	EXGEN	11/30/2012	12/26/2012	15.00	41.00	167,000	6,847,000
440	GAVILON	11/30/2012	12/26/2012	15.00	41.00	1,834,803	75,226,916
441	GRANITE	11/30/2012	12/26/2012	15.00	41.00	39,878	1,634,984
442	HESS	11/30/2012	12/26/2012	15.00	41.00	365,636	14,991,060
443	HESS	11/30/2012	12/26/2012	15.00	41.00	99,752	4,089,818
444	ICE	11/30/2012	12/26/2012	15.00	41.00	1,800	73,800
445	JP MORGAN	11/30/2012	12/26/2012	15.00	41.00	84,205	3,452,405
446	MACQUARIE	11/30/2012	12/26/2012	15.00	41.00	178,738	7,328,238
447	MERRILL LCH	11/30/2012	12/26/2012	15.00	41.00	78,713	3,227,213
448	NEWJERSEY	11/30/2012	12/26/2012	15.00	41.00	70,890	2,906,490
449	NEXTERA(FPL)	11/30/2012	12/26/2012	15.00	41.00	10,278	421,378
450	NFGSC	11/30/2012	12/26/2012	15.00	41.00	93,510	3,833,923
451	NJR	11/30/2012	12/26/2012	15.00	41.00	87,140	3,572,740
452	REPSOL	11/30/2012	12/26/2012	15.00	41.00	5,369,099	220,133,069
453	SEQUENT	11/30/2012	12/26/2012	15.00	41.00	1,983,124	81,308,100
454	SHELL ENERGY	11/30/2012	12/26/2012	15.00	41.00	402,250	16,492,250
455	TENASKA	11/30/2012	12/26/2012	15.00	41.00	36,500	1,496,500
456	TWIN EAGLE	11/30/2012	12/26/2012	15.00	41.00	140,219	5,748,983
457	VIRGPOWER	11/30/2012	12/26/2012	15.00	<u>41.00</u>	<u>47,850</u>	<u>1,961,850</u>
458					<u>39.50</u>	<u>162,954,592</u>	<u>6,436,659,803</u>

Schedule WC-5

**Columbia Gas of Massachusetts
Cash Working Capital Requirements
Test Year Ending 12/31/12
Total Operation and Maintenance Expense Summary**

<u>Ln. No.</u>	<u>Cost Category</u> (1)	<u>Amount</u> (2) (\$)	<u>Lead Days</u> (3)	<u>Weighted Lead Days</u> (4)	<u>Reference</u> (5)
1	Net Payroll	32,454,054	9.04	293,441,208	Sch. WC-6, Col. 2, Ln 5
2	Corporate Insurance	3,257,491	(92.93)	(302,718,639)	Sch. WC-7, Col. 4, Ln 12
3	Pension/PBOP	0 1_/	0.00	0	
4	Other Benefits	4,090,374	12.21	49,943,467	Sch. WC-8, Col. 4, Ln 13
5	System Management	38,730,911	35.01	1,355,969,194	Sch. WC-9, Col. 4, Ln 13
6	Uncollectibles	0 1_/	0.00	0	
7	Rents	656,032	(13.75)	(9,020,440)	Sch. WC -10, Col. 5, Ln 7
8	Outside Services	10,628,571	22.86	242,995,704	Sch. WC -11, Col. 7, Ln 41
9	Material & Supplies	3,311,363	29.16	96,547,755	Sch. WC -12, Col. 7, Ln 41
10	Utilities	1,801,173	35.97	64,780,808	Sch. WC -13, Col. 7, Ln 41
11	Other O&M	<u>11,670,392</u> 1_/	32.32	<u>377,155,559</u>	Sch. WC -14, Col. 7, Ln 41
12	Total O&M	106,600,361	20.35	2,169,094,616	
13	Property Taxes	14,518,716	(1.61)	(23,391,103)	Sch. WC -15, Col. 3, Ln 1
14	FICA & Medicare Tax	3,407,204	9.01	30,698,907	Sch. WC -15, Col. 3, Ln 2
15	Federal Unemployment Tax	48,032	74.56	3,581,258	Sch. WC -15, Col. 3, Ln 3
16	State Unemployment Tax	<u>275,276</u>	62.50	<u>17,204,769</u>	Sch. WC -15, Col. 3, Ln 4
17	Total Other Taxes	<u>18,249,228</u>	<u>1.54</u>	<u>28,093,831</u>	
18	Total (Ln. 12 + Ln. 16)	<u>124,849,589</u>	<u>17.60</u>	<u>2,197,188,447</u>	

1_/ Excludes the recovery of Pension/ PBOP, DSM, ERC, and Attorney General Fees via LDAC.
Excludes Uncollectibles per Order from DPU-12-25.
Excludes Itron Meter Reading, Metscan amortization and 2009 rate case amortization.

Schedule WC-6

**Columbia Gas of Massachusetts
 Cash Working Capital Requirements
 Test Year Ending 12/31/12
 Gross Payroll Lead Days**

<u>Ln. No.</u>	<u>Payroll</u> (1)	<u>Weighted Lead Days</u> (2)	<u>Gross Pay</u> (3) \$	<u>Weighted Dollar Days</u> (4)	<u>Reference</u> (5)
1	Monthly	15.10	1,655,140	24,992,823	WC-15b WP2, Col. 3, Ln 13
2	Bi-Weekly	5.93	8,136,834	48,287,702	WC-15f WP6, Col. 3, Ln 27
3	Weekly - Union	9.42	36,608,199	345,006,766	WC-15n WP14, Col. 3, Ln 53
4	Weekly - Non-union	<u>9.46</u>	<u>2,974,267</u>	<u>28,143,697</u>	WC-15j WP10, Col.3, Ln 53
5	Total	<u><u>9.04</u></u>	<u><u>49,374,440</u></u>	<u><u>446,430,988</u></u>	

Schedule WC-7

**Columbia Gas of Massachusetts
Cash Working Capital Requirements
Test Year Ending 12/31/12
Corporate Insurance**

<u>Ln. No.</u>	<u>Policy Period</u>	<u>End of Policy Period</u> (1)	<u>Payment Date</u> (2)	<u>Midpoint of Policy Period</u> (3)	<u>Lead Days</u> (4=2-1+3)	<u>Payment</u> (5) \$	<u>Weighted Lead Days</u> (6=4 * 5)
1	01/01/12-12/31/12	12/31/2012	5/15/2012	183.00	(47.00)	539,431	(25,353,257)
2	01/01/12-12/31/12	12/31/2012	6/22/2012	183.00	(9.00)	22,539	(202,851)
3	04/01/12-03/31/13	3/31/2013	8/21/2012	182.50	(39.50)	1,741	(68,770)
4	05/01/12-04/30/13	4/30/2013	8/21/2012	182.50	(69.50)	100	(6,950)
5	06/01/12-05/31/13	5/31/2013	9/14/2012	182.50	(76.50)	5,680	(434,520)
6	07/01/12-06/30/13	6/30/2013	8/21/2012	182.50	(130.50)	542	(70,731)
7	07/01/12-06/30/13	6/30/2013	9/14/2012	182.50	(106.50)	1,689,279	(179,908,214)
8	07/01/12-06/30/13	6/30/2013	10/18/2012	182.50	(72.50)	(529)	38,353
9	08/01/12-07/31/13	7/31/2013	7/17/2012	182.50	(196.50)	2,795	(549,218)
10	09/01/12-08/31/13	8/31/2013	1/15/2013	182.50	(45.50)	2,350	(106,925)
11	11/01/12-10/31/13	10/31/2013	1/15/2013	182.50	(106.50)	274,783	(29,264,390)
12		Total			(92.93)	2,538,711	(235,927,473)

Schedule WC-8

**Columbia Gas of Massachusetts
Cash Working Capital Requirements
Test Year Ending 12/31/12
Benefits**

<u>Ln. No.</u>	<u>Service Period</u> (1)	<u>Payment Date</u> (2)	<u>Midpoint of Service Period</u> (3)	<u>Lead Days</u> (4=2-1+3)	<u>Payment</u> (5) \$	<u>Weighted Lead Days</u> (6=4 * 5)
1	01/31/12	01/30/12	15.5	14.50	821,976	11,918,657
2	02/29/12	02/29/12	14.5	14.50	795,982	11,541,745
3	03/31/12	03/28/12	15.5	12.50	811,848	10,148,100
4	04/30/12	04/25/12	15.0	10.00	872,682	8,726,824
5	05/31/12	05/29/12	15.5	13.50	805,005	10,867,565
6	06/30/12	06/27/12	15.0	12.00	715,333	8,583,994
7	07/31/12	07/26/12	15.5	10.50	889,488	9,339,619
8	08/31/12	08/27/12	15.5	11.50	814,827	9,370,507
9	09/30/12	09/24/12	15.0	9.00	840,533	7,564,797
10	10/31/12	10/30/12	15.5	14.50	807,621	11,710,508
11	11/30/12	11/27/12	15.0	12.00	820,127	9,841,525
12	12/31/12	12/28/12	15.5	<u>12.50</u>	<u>896,029</u>	<u>11,200,360</u>
13	Total			<u>12.21</u>	<u>9,891,451</u>	<u>120,814,201</u>

Schedule WC-9

**Columbia Gas of Massachusetts
Cash Working Capital Requirements
Test Year Ending 12/31/12
NiSource Corporate Services Contract Billing**

<u>Ln. No.</u>	<u>Service Period</u> (1)	<u>Payment Date</u> (2)	<u>Midpoint of Service Period</u> (3)	<u>Lead Days</u> (4=2-1+3)	<u>Payment</u> (5) \$	<u>Weighted Lead Days</u> (6=4 * 5)
1	01/31/12	02/29/12	15.50	44.50	3,368,994	149,920,250
2	02/29/12	03/14/12	14.50	28.50	3,337,481	95,118,221
3	03/31/12	04/18/12	15.50	33.50	3,811,204	127,675,325
4	04/30/12	05/15/12	15.00	30.00	3,296,101	98,883,037
5	05/31/12	06/22/12	15.50	37.50	3,526,644	132,249,140
6	06/30/12	07/17/12	15.00	32.00	3,627,808	116,089,844
7	07/31/12	08/21/12	15.50	36.50	3,685,627	134,525,372
8	08/31/12	09/12/12	15.50	27.50	3,457,521	95,081,837
9	09/30/12	10/18/12	15.00	33.00	3,548,348	117,095,471
10	10/31/12	11/21/12	15.50	36.50	3,646,579	133,100,132
11	11/30/12	12/19/12	15.00	34.00	4,504,873	153,165,688
12	12/31/11	01/30/12	15.50	<u>45.50</u>	<u>3,880,247</u>	<u>176,551,220</u>
13	Total			<u>35.01</u>	<u>43,691,427</u>	<u>1,529,455,537</u>

Schedule WC-10

**Columbia Gas of Massachusetts
Cash Working Capital Requirements
Test Year Ending 12/31/12
Rent Expense**

<u>Ln. No.</u>	<u>Service Period Ending Date</u> (1)	<u>Leased Item</u> (2)	<u>Payment Date</u> (3)	<u>Midpoint of Service Period</u> (4)	<u>Lead Days</u> (5=3-1+4)	<u>Payment</u> (6) \$	<u>Weighted Lead Days *</u> (7=5 * 6)
1	01/31/12	Westborough HQ	01/03/12	15.50	(12.50)	116,089	(1,451,111)
2	02/29/12	Westborough HQ	02/01/12	14.00	(14.00)	116,089	(1,625,244)
3	03/31/12	Westborough HQ	03/01/12	15.50	(14.50)	116,089	(1,683,289)
4	04/30/12	Westborough HQ	04/02/12	15.00	(13.00)	116,089	(1,509,156)
5	05/31/12	Westborough HQ	05/01/12	15.50	(14.50)	116,089	(1,683,289)
6	06/30/12	Westborough HQ	06/01/12	15.00	(14.00)	116,089	(1,625,244)
7	Total				(13.75)	<u>696,533</u>	<u>(9,577,333)</u>

* Brackets indicate prepayments.

Schedule WC-11

Columbia Gas of Massachusetts
Cash Working Capital Requirements
Test Year Ending 12/31/12
Other Outside Services *

Ln. No.	Activity (1)	Vendor No. (2)	Beginning of Service Period (3)	End of Service Period (4)	Midpoint of Service Period (5)=(4-3)/2	Payment Date (6)	Lead Lag Days (7=6-4+5)	Payment (8) \$	Dollar Weighted Days (9=7 * 8)
Other Outside Services									
1	041632	8716	12/20/11	12/20/11	0.00	01/24/12	35.00	3,902	136,583
2	041205	20240	01/19/12	01/19/12	0.00	02/15/12	27.00	57	1,531
3	041205	20240	01/31/12	01/31/12	0.00	02/16/12	16.00	85	1,363
4	041612	22495	01/30/12	02/05/12	3.00	03/01/12	28.00	935	26,187
5	041205	20240	02/21/12	02/21/12	0.00	04/02/12	41.00	880	36,085
6	041611	313	02/03/12	02/29/12	13.00	03/27/12	40.00	702	28,093
7	041611	17163	03/01/12	03/31/12	15.00	03/27/12	11.00	3,240	35,640
8	041205	20240	03/22/12	03/22/12	0.00	04/18/12	27.00	397	10,716
9	041611	12820	03/01/12	03/31/12	15.00	06/11/12	87.00	1,750	152,250
10	041205	20240	04/10/12	04/10/12	0.00	05/18/12	38.00	241	9,145
11	041612	22495	04/09/12	04/15/12	3.00	05/15/12	33.00	1,986	65,533
12	041603	21526	04/30/12	04/30/12	0.00	05/04/12	4.00	16,771	67,083
13	041205	20240	05/07/12	05/07/12	0.00	06/28/12	52.00	39	2,021
14	041613	13640	05/10/12	05/11/12	0.50	06/01/12	21.50	1,004	21,583
15	041613	2531	05/14/12	05/19/12	2.50	06/06/12	20.50	934	19,139
16	041205	20240	06/04/12	06/04/12	0.00	07/25/12	51.00	227	11,561
17	041605	24081	06/12/12	06/12/12	0.00	06/26/12	14.00	8	117
18	041606	1603	06/15/12	06/19/12	2.00	07/02/12	15.00	1,690	25,346
19	041205	20240	05/29/12	05/29/12	0.00	06/29/12	31.00	248	7,676
20	041205	20240	07/05/12	07/05/12	0.00	08/14/12	40.00	139	5,549
21	041613	13640	07/06/12	07/09/12	1.50	08/06/12	29.50	1,182	34,881
22	041611	24946	06/25/12	07/06/12	5.50	08/03/12	33.50	880	29,480
23	041205	20240	07/31/12	07/31/12	0.00	08/14/12	14.00	248	3,467
24	041205	20240	08/07/12	08/07/12	0.00	09/25/12	49.00	403	19,766
25	041609	15394	08/14/12	08/14/12	0.00	08/24/12	10.00	788	7,875
26	041603	15500	08/23/12	08/23/12	0.00	09/07/12	15.00	186	2,793
27	041209	23497	09/01/12	09/30/12	14.50	09/04/12	-11.50	961	(11,049)
28	041205	26112	09/11/12	09/11/12	0.00	10/17/12	36.00	156	5,609
29	041205	20240	09/20/12	09/20/12	0.00	10/11/12	21.00	171	3,591
30	041606	17267	09/10/12	09/26/12	8.00	10/26/12	38.00	4,666	177,322
31	041613	2660	09/01/12	10/05/12	17.00	10/12/12	24.00	134	3,218
32	041611	24946	11/01/12	11/30/12	14.50	10/26/12	-20.50	6,000	(123,000)
33	041606	1459	10/22/12	10/23/12	0.50	11/07/12	15.50	2,228	34,526
34	041206	4076	11/06/12	11/06/12	0.00	12/12/12	36.00	124	4,474
35	041606	1525	11/05/12	11/10/12	2.50	12/03/12	25.50	5,107	130,241
36	041632	8716	10/22/12	10/23/12	0.50	12/31/12	69.50	5,249	364,787
37	041609	14220	11/01/12	11/30/12	14.50	01/07/13	52.50	860	45,124
38	041609	15394	12/07/12	12/07/12	0.00	12/19/12	12.00	1,449	17,388
39	041609	25282	11/26/12	11/30/12	2.00	01/08/13	41.00	5,378	220,498
40	041613	2531	12/22/12	12/28/12	3.00	01/15/13	<u>21.00</u>	<u>934</u>	<u>19,605</u>
41	Total Outside Services						<u>22.86</u>	<u>72,337</u>	<u>1,653,795</u>

* Payments for police security, janitorial services, laundry services, building and equipment maintenance, exterminating services, and temporary help to name a few.

Schedule WC-12

**Columbia Gas of Massachusetts
Cash Working Capital Requirements
Test Year Ending 12/31/12
Materials & Supplies***

Ln. No.	Activity (1)	Vendor No. (2)	Beginning of Service Period (3)	End of Service Period (4)	Midpoint of Service Period (5)=(4-3)/2	Payment Date (6)	Lead Lag Days (7=6-4+5)	Payment (8) \$	Dollar Weighted Days (9=7*8)	
Materials & Supplies										
1	042201	19028	12/01/11	12/31/11	15.00	01/26/12	41.00	52	2,134	
2	042216	1683	01/10/12	01/10/12	0.00	01/23/12	13.00	104	1,352	
3	042216	6728	01/10/12	01/10/12	0.00	02/08/12	29.00	226	6,542	
4	042201	18477	01/20/12	01/20/12	0.00	02/13/12	24.00	741	17,786	
5	042214	1690	01/31/12	01/31/12	0.00	02/27/12	27.00	45	1,222	
6	042216	6728	02/07/12	02/07/12	0.00	05/03/12	86.00	325	27,953	
7	043004	13449	02/13/12	02/13/12	0.00	03/15/12	31.00	5,885	182,449	
8	042209	23679	02/17/12	02/17/12	0.00	05/03/12	76.00	100	7,600	
9	042216	6728	02/28/12	02/28/12	0.00	03/22/12	23.00	150	3,460	
10	043004	13449	03/07/12	03/07/12	0.00	03/28/12	21.00	1,500	31,500	
11	042216	21533	07/10/12	07/10/12	0.00	07/24/12	14.00	113	1,579	
12	042214	5364	03/20/12	03/30/12	5.00	05/15/12	51.00	465	23,739	
13	042216	6728	03/30/12	03/30/12	0.00	04/25/12	26.00	87	2,254	
14	042209	21073	04/11/12	04/11/12	0.00	05/04/12	23.00	6,320	145,358	
15	042209	24949	04/12/12	04/12/12	0.00	05/07/12	25.00	424	10,594	
16	042216	1629	04/01/12	04/30/12	14.50	05/24/12	38.50	59	2,272	
17	042209	1186	05/08/12	05/08/12	0.00	06/07/12	30.00	1,442	43,267	
18	042201	2506	05/15/12	05/15/12	0.00	06/14/12	30.00	404	12,113	
19	042201	18477	05/31/12	05/31/12	0.00	07/02/12	32.00	361	11,560	
20	042216	6728	06/06/12	06/06/12	0.00	06/28/12	22.00	81	1,781	
21	042209	20844	06/13/12	06/13/12	0.00	07/18/12	35.00	1,319	46,158	
22	042201	25297	06/21/12	06/21/12	0.00	07/30/12	39.00	729	28,444	
23	042201	19028	06/01/12	06/30/12	14.50	07/26/12	40.50	52	2,108	
24	042201	23150	07/12/12	07/12/12	0.00	08/08/12	27.00	80	2,152	
25	042216	6728	07/23/12	07/23/12	0.00	08/21/12	29.00	81	2,347	
26	042209	1860	07/01/12	07/31/12	15.00	09/12/12	58.00	37	2,157	
27	042221	15709	08/08/12	08/08/12	0.00	09/07/12	30.00	268	8,034	
28	042216	6728	08/17/12	08/17/12	0.00	09/07/12	21.00	314	6,599	
29	042201	18477	08/28/12	08/28/12	0.00	11/14/12	78.00	757	59,048	
30	043004	2079	09/04/12	09/04/12	0.00	09/06/12	2.00	500	1,000	
31	042202	1296	09/13/12	09/13/12	0.00	09/20/12	7.00	120	840	
32	042216	6728	09/24/12	09/24/12	0.00	10/29/12	35.00	246	8,595	
33	042202	26449	09/26/12	09/26/12	0.00	11/02/12	37.00	164	6,057	
34	042216	10669	10/12/12	10/12/12	0.00	01/03/13	83.00	340	28,220	
35	042204	2585	10/24/12	10/24/12	0.00	11/15/12	22.00	912	20,071	
36	042209	24949	10/24/12	10/24/12	0.00	11/20/12	27.00	112	3,021	
37	042214	26511	11/02/12	11/02/12	0.00	11/13/12	11.00	91	1,000	
38	042201	23150	11/20/12	11/20/12	0.00	11/30/12	10.00	80	797	
39	042216	3766	11/30/12	11/30/12	0.00	12/20/12	20.00	3,720	74,393	
40	042214	6728	07/10/12	07/10/12	0.00	08/23/12	<u>44.00</u>	<u>156</u>	<u>6,861</u>	
41	Total Materials & Supplies							<u>29.16</u>	<u>28,962</u>	<u>844,418</u>

* Payments for safety shoes, rental agreements, office and construction supplies, various tools, and pipe, asphalt repair and mobile wireless phone agreements.

Schedule WC-13

Columbia Gas of Massachusetts
Cash Working Capital Requirements
Test Year Ending 12/31/12
Utilities *

<u>Ln. No.</u>	<u>Activity</u>	<u>Vendor No.</u>	<u>Beginning of Service Period</u>	<u>End of Service Period</u>	<u>Midpoint of Service Period</u>	<u>Payment Date</u>	<u>Lead Lag Days</u>	<u>Payment</u>	<u>Dollar Weighted Days</u>
	(1)	(2)	(3)	(4)	(5)=(4-3)/2	(6)	(7=6-4+5)	(8)	(9=7*8)
									\$
Utilities									
1	043001	21524	12/08/11	01/06/12	14.50	01/24/12	32.50	10	340
2	043001	2517	12/09/11	01/18/12	20.00	01/27/12	29.00	93	2,694
3	043001	21524	12/29/11	01/27/12	14.50	02/21/12	39.50	92	3,645
4	043001	21524	01/05/12	02/07/12	16.50	02/21/12	30.50	43	1,305
5	043006	23391	02/16/12	03/16/12	14.50	03/19/12	17.50	961	16,809
6	043001	517	01/19/12	02/16/12	14.00	03/14/12	41.00	49	2,012
7	043001	13844	02/03/12	03/06/12	16.00	03/16/12	26.00	66	1,710
8	043001	21524	02/07/12	03/08/12	15.00	03/28/12	35.00	11	379
9	043001	21524	02/22/12	03/23/12	15.00	04/12/12	35.00	262	9,183
10	043001	21524	02/27/12	03/28/12	15.00	04/20/12	38.00	28	1,081
11	043001	21524	03/07/12	04/09/12	16.50	05/08/12	45.50	129	5,885
12	043001	21524	03/16/12	04/16/12	15.50	05/04/12	33.50	12	415
13	043001	17230	03/24/12	04/25/12	16.00	05/24/12	45.00	149	6,693
14	043001	13844	04/03/12	05/04/12	15.50	05/16/12	27.50	4	107
15	043001	21524	04/09/12	05/08/12	14.50	05/25/12	31.50	11	341
16	043001	21524	04/24/12	05/24/12	15.00	06/13/12	35.00	86	3,006
17	043001	21524	05/01/12	06/01/12	15.50	06/19/12	33.50	12	400
18	043001	21524	05/07/12	06/08/12	16.00	07/18/12	56.00	155	8,652
19	043001	4076	06/19/12	06/19/12	0.00	07/12/12	23.00	113	2,598
20	043001	21524	05/24/12	06/22/12	14.50	07/11/12	33.50	14	453
21	043001	21524	06/04/12	07/02/12	14.00	07/25/12	37.00	29	1,056
22	043001	2578	06/08/12	07/09/12	15.50	08/07/12	44.50	67	2,994
23	043001	17230	06/25/12	07/25/12	15.00	08/09/12	30.00	6	170
24	043001	21524	06/29/12	08/01/12	16.50	08/21/12	36.50	759	27,715
25	043001	21524	07/10/12	08/09/12	15.00	08/27/12	33.00	27	904
26	043001	17230	07/20/12	08/20/12	15.50	09/26/12	52.50	6	290
27	043001	21524	07/31/12	08/30/12	15.00	09/19/12	35.00	73	2,568
28	043001	21524	08/08/12	09/07/12	15.00	09/27/12	35.00	71	2,502
29	043001	21524	08/17/12	09/17/12	15.50	10/02/12	30.50	10	305
30	043001	21524	08/28/12	09/27/12	15.00	10/22/12	40.00	21,540	861,592
31	043001	21524	09/04/12	10/03/12	14.50	10/22/12	33.50	31	1,030
32	043006	23391	10/15/12	11/15/12	15.50	12/07/12	37.50	1,330	49,862
33	043001	21524	09/26/12	10/24/12	14.00	12/11/12	62.00	12	758
34	043001	21524	10/02/12	11/02/12	15.50	11/14/12	27.50	47	1,296
35	043001	21524	10/12/12	11/09/12	14.00	12/05/12	40.00	8	330
36	043001	21524	10/23/12	11/21/12	14.50	12/13/12	36.50	79	2,881
37	043001	21524	10/27/12	11/29/12	16.50	12/18/12	35.50	25	888
38	043001	21524	11/05/12	12/06/12	15.50	12/27/12	36.50	10	365
39	043001	21524	11/14/12	12/14/12	15.00	01/03/13	35.00	12	412
40	043001	13844	11/27/12	12/27/12	15.00	01/11/13	<u>30.00</u>	<u>12,510</u>	<u>375,298</u>
41	Total Utilities						<u>35.97</u>	<u>38,952</u>	<u>1,400,926</u>

* Payments to utility companies such as Chicopee Electric Light, Western Mass Electric Co., NSTAR Electric Co., National Grid Electric Co.

Schedule WC-14

Columbia Gas of Massachusetts
Cash Working Capital Requirements
Test Year Ending 12/31/12
Other O&M

Ln. No.	Activity (1)	Vendor No. (2)	Beginning of Service Period (3)	End of Service Period (4)	Midpoint of Service Period (5)=(4-3)/2	Payment Date (6)	Lead Lag Days (7=6-4+5)	Payment (8) \$	Dollar Weighted Days (9=7*8)	
Utilities										
1	042702	8701	01/16/12	01/16/12	0.00	01/25/12	9.00	41	367	
2	042702	8701	01/24/12	01/24/12	0.00	02/07/12	14.00	181	2,536	
3	040213	24926	01/23/12	01/23/12	0.00	02/21/12	29.00	742	21,513	
4	042704	24946	01/24/12	02/02/12	4.50	02/29/12	31.50	2,691	84,754	
5	042702	8701	02/29/12	02/29/12	0.00	03/22/12	22.00	100	2,191	
6	042701	23150	03/08/12	03/08/12	0.00	03/22/12	14.00	69	971	
7	040213	20965	05/07/12	05/07/12	0.00	03/27/12	-41.00	175	(7,175)	
8	040213	24926	04/13/12	04/13/12	0.00	05/09/12	26.00	700	18,199	
9	040806	4891	05/01/12	05/01/12	0.00	05/14/12	13.00	667	8,665	
10	042702	25428	05/18/12	05/18/12	0.00	06/14/12	27.00	272	7,336	
11	040213	19548	06/20/12	06/20/12	0.00	07/05/12	15.00	550	8,250	
12	042702	16786	07/20/12	07/20/12	0.00	07/27/12	7.00	320	2,240	
13	040806	24843	07/18/12	07/18/12	0.00	08/15/12	28.00	59	1,649	
14	040806	23147	06/28/12	07/31/12	16.50	08/29/12	45.50	9,860	448,630	
15	040806	142	08/20/12	08/20/12	0.00	09/04/12	15.00	1,080	16,200	
16	040212	13769	08/23/12	08/23/12	0.00	08/30/12	7.00	151	1,058	
17	042702	26107	09/13/12	09/13/12	0.00	10/02/12	19.00	83	1,586	
18	040806	18236	09/25/12	09/25/12	0.00	10/16/12	21.00	390	8,190	
19	040601	18955	03/12/12	04/08/12	13.50	03/09/12	-16.50	14	(231)	
20	040601	14545	05/01/12	07/23/12	41.50	04/20/12	-52.50	62	(3,276)	
21	040806	25152	10/17/12	10/17/12	0.00	10/30/12	13.00	600	7,800	
22	042702	26107	09/20/12	09/20/12	0.00	10/01/12	11.00	92	1,007	
23	042702	26107	12/12/12	12/12/12	0.00	01/22/13	41.00	446	18,274	
24	040806	14153	11/16/12	11/16/12	0.00	01/10/13	55.00	1,435	78,925	
25	042702	8701	02/17/12	02/17/12	0.00	03/05/12	17.00	154	2,616	
26	042702	8701	04/30/12	04/30/12	0.00	05/08/12	8.00	181	1,445	
27	040602	24946	01/18/12	01/18/12	0.00	01/31/12	13.00	754	9,797	
28	042702	25993	12/24/12	12/24/12	0.00	01/31/13	38.00	2,189	83,173	
29	040806	18236	04/11/12	04/11/12	0.00	05/04/12	23.00	273	6,285	
30	040806	18236	10/09/12	10/09/12	0.00	10/30/12	21.00	390	8,190	
31	040213	15763	07/01/12	07/31/12	15.00	07/09/12	-7.00	266	(1,859)	
32	040213	20965	12/13/12	12/13/12	0.00	11/13/12	-30.00	65	(1,950)	
33	040213	19548	10/17/12	10/18/12	0.50	12/05/12	48.50	795	38,558	
34	040806	4891	03/14/12	03/14/12	0.00	03/29/12	15.00	854	12,803	
35	040806	4891	09/27/12	09/27/12	0.00	10/16/12	19.00	501	9,510	
36	042702	25428	03/22/12	03/22/12	0.00	04/06/12	15.00	209	3,130	
37	042702	23716	07/26/12	07/26/12	0.00	08/13/12	18.00	260	4,680	
38	040212	2506	04/25/12	04/25/12	0.00	05/25/12	30.00	75	2,247	
39	042702	21063	11/03/12	11/03/12	0.00	11/14/12	11.00	66	725	
40	040213	2702	07/26/12	07/26/12	0.00	08/03/12	<u>8.00</u>	<u>425</u>	<u>3,400</u>	
41	Total Other O&M							<u>32.32</u>	<u>28,233</u>	<u>912,406</u>

Schedule WC-15

Columbia Gas of Massachusetts
Cash Working Capital Requirements
Test Year Ending 12/31/12
Other Taxes

<u>Ln. No.</u>	<u>Cost Category</u> (1)	<u>Amount</u> (2) \$	<u>Lead Days</u> (3)	<u>Weighted Lead Days</u> (4)	<u>Reference</u> (5)
1	Property Tax	14,989,487	(1.61)	(24,149,022)	WC-15 WP1, Col. 3, Ln 1
2	FICA	6,018,795	9.01	54,228,245	WC-15 WP1, Col. 3, Ln 7
3	Federal Unemployment Tax	48,032	74.56	3,581,123	WC-15 WP1, Col. 3, Ln 13
4	State Unemployment Tax	<u>234,563</u>	<u>62.50</u>	<u>14,660,547</u>	WC-15 WP1, Col. 3, Ln 19
5	Total Other Taxes	<u>21,290,876</u>	<u>2.27</u>	<u>48,320,893</u>	

**THE COMMONWEALTH OF MASSACHUSETTS
DEPARTMENT OF PUBLIC UTILITIES**

D.P.U. 13-75

**DIRECT TESTIMONY OF
BRIAN E. ELLIOTT**

EXHIBIT CMA/BEE-1

LEAD/LAG STUDY

**IN SUPPORT OF
BAY STATE GAS COMPANY
d/b/a/ COLUMBIA GAS OF MASSACHUSETTS**

REQUEST FOR BASE REVENUE ADJUSTMENT

APRIL 16, 2013

**DIRECT TESTIMONY OF
BRIAN E. ELLIOTT
EXHIBIT CMA/BEE-1**

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III. CASH WORKING CAPITAL PROPOSAL16

1 in mid-2012, I accepted my current position as a manager in the Regulatory
2 Strategy & Support Department of NiSource's gas distribution segment.

3 **Q. Have you previously testified before the Massachusetts Department of Public**
4 **Utilities ("Department") or any other regulatory commission?**

5 A. No, I have not previously testified before the Department. I am currently testifying
6 before the Maryland Public Service Commission in a base-rate case for Columbia Gas
7 of Maryland ("CGM"). My testimony in that case is in support of CGM's Lead/Lag
8 Study and its Rate Base.

9 **Q. What is the purpose of your testimony in this proceeding?**

10 A. The purpose of my testimony is to present CMA's cash working capital
11 requirements through the use of a Lead/Lag Study.

12 **Q. Would you please provide a listing of the Exhibits that you are sponsoring**
13 **through your testimony?**

14 A. Yes. The table below lists all of the exhibits that I am sponsoring.

15
16

TABLE CMA/BEE-1

<u>Exhibit No.</u>	<u>Description</u>
Exhibit CMA/BEE-1	Testimony of Brian E. Elliott
Exhibit CMA/BEE-2	Lead/Lag Study
Exhibit CMA/BEE-3	Workpapers Supporting Exhibit CMA/BEE-2

17
18
19

1 **II. LEAD/LAG STUDY**

2 **Q. Have you prepared a lead lag study in support of the Company's filing in**
3 **this case?**

4 A. Yes. I prepared a Lead/Lag Study to update the net lag days associated with
5 Purchased Gas working capital collected through the Cost of Gas Adjustment
6 ("CGA") and to establish the net lag days to be used for Other operations and
7 maintenance ("O&M") Expense working capital that will be included in base
8 rates. The Lead/Lag Study is summarized and included as Exhibit CMA/BEE-
9 2.

10 **Q. What is cash working capital?**

11 A. Cash working capital is the amount of money that CMA needs to fund
12 operations in the time period between the receipt of payment of utility service
13 and the disbursements required to render that service.

14 **Q. What are the components of cash working capital?**

15 A. In Massachusetts, the cash working capital allowance is divided into two
16 components: (1) Purchased Gas; and (2) Other O&M expense & Other Taxes
17 ("Other O&M & Taxes") to accommodate the recovery of the Purchased Gas
18 component through the CGA and the Other O&M & Taxes expense component
19 through base rates. Each component uses revenue lag days and expense lead
20 days to determine the cash working capital requirement.

1 **Q. Please define the terms “revenue lag days” and “expense lead days.”**

2 A. Revenue lag is the time, measured in days, between delivery of a service to
3 CMA’s customers and CMA’s receipt of the payment for that service.
4 Similarly, expense lead is the time, again measured in days, between the
5 delivery of a service to CMA by a vendor and CMA’s payment for that service.
6 The revenue lag results in a need for capital while the expense lead offsets this
7 need to the extent the Company can properly delay payment of its labor,
8 material and supplies, and other expenses.

9 **Q. Please describe the Lead/Lag Study and its findings.**

10 A. The Lead/Lag Study consists of 15 schedules with Schedule WC-1
11 summarizing the Purchased Gas Working Capital net lag days and the Other
12 O&M Working Capital net lag days. Schedules WC-2 and WC-3 support the
13 Revenue Lag days, Schedule WC-4 supports the Purchased Gas lag days and
14 Schedules WC-5 though WC-15 support the Other O&M & Other Taxes net
15 days. The Lead/Lag Study produced a Purchased Gas net lag of 10.84 days or
16 2.962 percent (10.84/366), and 32.74 days or 8.945 percent (32.74/366) for
17 Other O&M expense.

18 **A. Revenue Lag Days**

19 **Q. How is the revenue lag computed?**

20 A. The revenue lag consists of a “meter reading or service lag,” a “collection lag”
21 and a “billing lag.” The sum of the days associated with these three lag

1 components is the total revenue lag experienced by CMA. See Exh.
2 CMA/BEE-2, Schedule WC-2, Page 6 of 6.

3 **Q. What lag does the Lead/Lag Study produce for the component "meter**
4 **reading or service lag?"**

5 A. The Lead/Lag Study produces a "meter reading or service lag" of 15.22 days.
6 This lag was obtained by dividing the number of billing days in the 2011 test
7 year used in D.P.U. 12-25, the Company's last rate case, by 12 months and then
8 in half to arrive at the midpoint of the monthly service periods.

9 **Q. How was the "collection lag" calculated and what was the result?**

10 A. The "collection lag" for utility service totals 33.92 days. This lag reflects the
11 time delay between the mailing of customer bills and the receipt of the billed
12 revenues from customers. The 33.92 days lag was determined following a
13 thorough examination of utility service Accounts Receivable balances for sales
14 and transportation accounts using the Accounts Receivable turnover method. A
15 combination of daily balances and end of month balances were utilized as this
16 combination provides the most accurate measure of customer Accounts
17 Receivable. Exhibit CMA/BEE-2, Schedule WC-2, Pages 1 through 6 detail
18 daily balances as provided in reports generated from the Customer billing
19 system for some of the Accounts Receivable. Exhibit CMA/BEE-2, Schedule
20 WC-2, Page 6, Lines 2 and 3 further adjust for balances of accounts not tracked
21 on a daily basis. For these accounts, shown in Exhibit CMA/BEE-3, Schedule
22 WC-2, Workpaper 1, end of month balances are utilized to calculate average

1 daily balances. Continuing on Exhibit CMA/BEE-2, Line 4 summarizes
2 CMA's net average daily balance of \$42,857,223. Under the Accounts
3 Receivable turnover method, the average daily Accounts Receivable balance is
4 divided by the average daily gas revenue to arrive at the "collection lag."

5 **Q. Does the "collection lag" reflect the results of the 2012 test year data?**

6 A. No, the collection lag of 33.92 days is adopted from the results of the Lead/Lag
7 Study developed for D.P.U. 12-25, the Company's last rate case ("D.P.U. 12-
8 25 Study"). The D.P.U. 12-25 Study relied on calendar year 2011 as its test
9 year. From the collection lag developed for that case, I have applied an
10 adjustment to the components of the calculation to fully remove the revenue,
11 Accounts Receivable, and uncollectible accrual associated with the Energy
12 Products and Services ("EP&S") business activity. EP&S was sold in early
13 2013. As such, the calculation of the collection lag has been normalized to
14 reflect activity and balances that reflect the business operations that are
15 currently ongoing.

16 **Q. Why are you using the collection lag study using 2011 test year data?**

17 A. The results of the collection lag analysis developed using the 2012 test year data
18 produced a collection lag that is not indicative of a normal collection lag. During
19 the 2012 test year, the Company's service territories, along with most of the United
20 States, experienced a historically warmer-than-normal winter heating season,
21 particularly in the first few months of 2012. To illustrate the significance of this

1 weather anomaly, the number of heating degree days calculated by the Company was
2 726 days (17.9%) below normal for calendar year 2012, compared to only 160 days
3 (2.7%) below normal for calendar year 2011. Deviations from normal weather impact
4 Accounts Receivable balances for the Company's budget payment plan customers. In
5 normal weather conditions, a budget payment plan customer's Accounts Receivable
6 balance is expected to build a credit balance during the non-heating months, which
7 will then be depleted over the course of the winter heating season, ultimately ending
8 at a balance of zero at the conclusion of the budget payment plan's annual cycle. In
9 the event of warmer-than-normal weather, budget payment plan customers continue
10 to pay the same monthly amount. However, because their actual bills are less than
11 what would have been billed under normal weather conditions, their credit balances
12 are either increasing or are decreasing at a slower than normal rate. This scenario
13 results in a lower Accounts Receivable balance, i.e. a larger credit balance than would
14 have otherwise been experienced during normal weather. As previously discussed,
15 under the Accounts Receivable turnover method, the month-end balance directly
16 impacts the collection lag calculation. As the month-end balance decreases, so does
17 the collection lag. In the case of warmer-than-normal weather, the result is a lower
18 number of collection lag days.

19 Despite that fact that calendar year 2011 was slightly warmer than normal, using the
20 adjusted 2011 test year data more closely reflects the collection lag that would be
21 experienced by the Company under normal heating season conditions.

1 **Q. Has the Department of Public Utilities addressed this type of anomaly in prior**
2 **cases?**

3 A. Yes. In D.P.U. 10-55, National Grid’s most recent gas rate case, the Department
4 found that “...the test year collection lag for Boston Gas is an anomaly and not
5 representative of both past and present time delay between the issuance of customers’
6 bills and the receipt of billed revenues. The Department, therefore, finds that it is
7 reasonable and appropriate to adjust the test year collection lag to reflect a more
8 representative delay period.” D.P.U. 10-55, at 204.

9 **Q. Did you prepare a collection lag based on the test year used in the current**
10 **base revenue case?**

11 A. Yes, a high-level analysis was performed to calculate the collection lag based
12 on revenue billed in 2012, and the associated Accounts Receivable and
13 uncollectible accrual accounts. As with the adjusted collection lag study
14 adopted from D.P.U. 12-25, the business activity associated with EP&S was
15 removed in order to reflect ongoing operations in the results of the analysis.
16 The results of this analysis produced a collection lag of 27.17 days.

17 **Q. How did you arrive at the 1.2 days “billing lag”?**

18 A. Most of CMA’s customers are billed the evening after the meters are read.
19 These customers’ billing lag is one day. Certain large customers require
20 additional time to process the billing data, resulting in an increase in the billing
21 lag from one day to 1.2 days.

1 **Q. Is the total revenue lag computed from these three separate lag**
2 **calculations?**

3 A. Yes. The total revenue lag of 50.34 days is computed by adding the number of
4 days associated with each of the three revenue lag components as shown in Exh.
5 CMA/BEE-2, Schedule WC-2, Page 6 of 6. This total number of lag days
6 represents the amount of time between the recorded delivery of service to
7 customers and the receipt of the related revenues from customers.

8 **B. Purchased Gas Lead Days**

9 **Q. What expense is Purchased Gas Cash Working Capital intended to**
10 **address?**

11 A. Purchased Gas Cash Working Capital provides cash working capital for
12 expenses paid by CMA on customers' behalf to gas suppliers, pipeline
13 transportation providers and supplemental gas providers.

14 **Q. How is Purchased Gas Cash Working Capital recovered as a cost**
15 **component in CMA's tariff?**

16 A. As noted earlier, Purchased Gas Cash Working Capital is recovered as a
17 separate cost component in CMA's Cost of Gas Adjustment Clause ("CGAC")
18 tariff. As such, the Purchased Gas Cash Working Capital allowance has been
19 removed from the total cash working capital included in distribution rate base
20 as shown on Company Witness Gore's Exhibit CMA/JTG-2, Schedule JTG-15.

21 **Q. What is the process going forward to determine the Purchased Gas Cash**
22 **Working Capital allowance that will be used for your semi-annual Cost of**
23 **Gas Adjustment ("CGA filings")?**

1 A. Prior to each peak period CGA, the Company will conduct a lead/lag study for
2 use in setting the Purchased Gas Working Capital allowance in its upcoming
3 peak and off-peak CGA filings. By using the most recent twelve month data
4 available, the updated lead/lag study will reflect recent weather conditions and
5 the impact of those weather conditions on customer payments. This approach
6 will help to reduce the effect of weather anomalies that may be present in the
7 Gas Purchase Working Capital net lag day percentage approved by the
8 Department in a base-rate proceeding. The updated lead/lag study would apply
9 to the September 2014 CGA filing. For filings prior to this date, the Company
10 will continue to use its rates as developed and approved in D.P.U. 12-25.

11 **Q. How has the number of days related to the Purchased Gas Cash Working**
12 **Capital changed since the D.P.U. 12-25 Study?**

13 A. As shown in the table below, the Purchased Gas net lag days reflect the days
14 approved in D.P.U. 12-25 of approximately 11.33 days. The current Lead/Lag
15 Study produced a net lag day for Purchased Gas of 10.84 days, a reduction of
16 0.49 days.

17

1

TABLE CMA/BEE-2

<u>Component</u>	<u>2012 Proposed</u>	<u>D.P.U. 12-25</u>	<u>Change</u>
Revenue Lag:			
Meter Read	15.22	15.22	0
Collection	33.92	34.31	-0.39
Billing	<u>1.20</u>	<u>1.20</u>	<u>0</u>
Total Revenue	50.34	50.73	-0.39
Purchased Gas Lead	<u>39.50</u>	<u>39.40</u>	<u>0.10</u>
Purchased Gas –Net	10.84	11.33	-0.49

2 **Q. How were the Purchased Gas net lag days calculated?**

3 A. I based the Purchased Gas net lag days upon data for the 12-months ended
 4 December 31, 2012. The Revenue Lag days were calculated as described
 5 earlier in this testimony.

6 **Q. How were the weighted Purchased Gas lead days determined?**

7 A. To determine the expense lead associated with Purchased Gas, all supplier
 8 invoices that were paid during the test year were identified using CMA's gas
 9 accounting system. The number of days for each invoice was calculated from
 10 the midpoint of the service period to the date the invoice was paid. The days
 11 were dollar weighted, totaled and averaged to arrive at an overall weighted
 12 average Purchased Gas expense lead. Exhibit CMA/BEE-2, Schedule WC-4
 13 illustrates this calculation.

1 **C. Other O&M & Taxes Cash Working Capital**

2 **Q. Please explain Other O&M & Taxes Cash Working Capital?**

3 A. The Other O&M & Taxes Cash Working Capital component is composed of
4 O&M expense consisting predominantly of payroll, employee and retiree
5 benefits, payroll taxes and property taxes. These are types of expenses that
6 CMA pays to underwrite the activities undertaken to serve customers before it
7 receives payment from customers for those services. It is appropriate for CMA
8 to recover its carrying cost for this service.

9 **Q. Did your Lead/Lag Study recalculate Other O&M & Taxes Expense lag**
10 **days for this proceeding?**

11 A. Yes. Similar to the study that the Company presented in D.P.U. 12-25, the
12 Other O&M & Tax Expense lead days are based upon test year data adjusted
13 for known and measurable changes. As reflected in Company Witness Gore's
14 Exhibit CMA/JTG-2, Schedule JTG-15, the revenue lag and expense lead days
15 resulting from the Lead/Lag Study have been applied to adjusted test year Other
16 O&M & Tax amounts to determine CMA's cash working capital requirements
17 to be included in rate base.

18 **Q. Is the term "lead days" in this Lead/Lag Study the same as that defined for**
19 **Purchased Gas?**

20 A. Yes, it is. Lead days are the number of days between the average delivery date
21 goods and services are purchased by CMA or rendered by a vendor and the
22 wire/Automated Clearing House ("ACH") payment or depository bank clearing

1 date (“expense lead”) of the payment made by CMA for those goods and
2 services.

3 **Q. Are the lead periods in the Lead Lag Study the same as those calculated**
4 **for the purpose of determining the lead in the Purchased Gas Working**
5 **Capital analysis?**

6 A. No. Given that the lead period is determined based on transactions between
7 CMA and the various vendors of goods and services, individual analyses must
8 be undertaken.

9 **Q. In determining the expense lead period, how were the weighted lead days**
10 **in payment of O&M costs determined?**

11 A. First, total O&M expense excluding gas costs were disaggregated into 15 major
12 cost categories, as shown on Exhibit CMA/BEE-2, Schedule WC–5. Payments
13 were reviewed and the lead days were calculated for each category. Depending
14 on the volume and dollar amount of the payments, some categories’ lead days
15 were calculated using all payments and some were calculated using a sampling
16 of the payments. Once the lead days for each category were determined, the
17 lead days were summarized and dollar weighted to arrive at Other O&M
18 expense lead days. Exhibit BSG/BEE–2, Schedule WC –5 provides this
19 calculation.

20 **Q. Briefly describe the lead days calculated for each category.**

21 A. The payroll lead is shown on Exhibit CMA/BEE-2, Schedule WC–6. CMA has
22 four individual pay groups: monthly, bi-weekly, weekly union and weekly non-

1 union. The monthly group is paid on the last business day of each month, the
2 bi-weekly group is paid one day before the end of the pay period and the weekly
3 group is paid six days after the pay period. This results in an overall weighted
4 lead of 9.04 days.

5 **Q. Please explain the negative days associated with corporate insurance?**

6 A. Corporate insurance premiums are paid in advance, generally on an annual basis
7 during the first half of the insurance policy period. The policy periods, as
8 shown in Exhibit CMA/BEE-2, Schedule WC-7, cover a one-year period.
9 Payments made during the test year were reviewed, and a negative 92.93 days
10 was calculated reflecting the prepayment of these costs.

11 **Q. Why were Pension and Postretirement Benefits Other Than Pensions**
12 **(“PBOP”) costs excluded from O&M costs?**

13 A. Pension/PBOP costs are recovered through the Company’s Local Distribution
14 Adjustment Clause, as approved by the Department in D.T.E 05-27. The
15 Pension/PBOP provision provides for carrying costs related to the funding of
16 these programs whether in a prepaid and/or accrued position. The Department,
17 in D.P.U. 09-30, eliminated these costs from the cash working capital
18 calculation.

19 PBOP costs are convenience billed to CMA on a monthly basis and, as shown
20 in Exhibit CMA/BEE-2, Schedule WC–8, have a 12.21 day lead. System
21 Management costs, or NCSC Contract Billings, are charged to CMA in the

1 month following the month the services were provided. This delay results in a
2 35.01 day lead as shown on Exhibit CMA/BEE-2, Schedule WC-9.

3 **Q. Why were zero days assigned to uncollectibles?**

4 A. The lag in uncollectible accounts was considered in developing the “collection
5 lag” component of the revenue lag. Customers’ Accounts Receivables net of
6 the provision for bad debts were used in calculating the average accounts
7 receivable balance.

8 **Q. Would you please explain the Rent category in the Lead/Lag Study?**

9 A. Yes. All of the costs in the Rent category are related to the rent for CMA’s
10 headquarters. The payments for the rent were reviewed as shown on Exhibit
11 CMA/BEE-2, Schedule WC–10 and the resulting negative 13.75 days were
12 used for this category.

13 **Q. How did you calculate the lead days for other miscellaneous O&M**
14 **expenses?**

15 A. Due to the number of payments for the cost categories Outside Services,
16 Material and Supplies, Utilities and other O&M Costs, a sample of 40 invoices
17 from each category from the 2012 test year was selected from the Company’s
18 accounts payable system. The lead days were calculated for each category and
19 are shown in Exhibit CMA/BEE-2, Schedule WC–11 through Schedule WC–
20 14, respectively. The results were used for each respective cost category.

1 **Q. Would you briefly describe the lead days associated with Other Taxes?**

2 A. Yes. Exhibit CMA/BEE-2, Schedule WC-15 summarizes the results of the
3 analysis of lead days for property tax, Federal Insurance Contributions Tax
4 (“FICA”), Federal Unemployment Tax Act (“FUTA”), and State
5 Unemployment Tax Act (“SUTA”) expenses. The negative 1.61 property tax
6 lead days were calculated based on a query of the tax payments made in 2012.
7 The FICA, FUTA and SUTA lead days of 9.01, 74.56 and 62.50, respectively,
8 were calculated based on the 2012 payments made to the Federal and
9 Massachusetts government for these payroll-related taxes.

10 **Q. How is the total O&M & Taxes Lag determined?**

11 A. The 17.60 days lead in payment for the cost of goods and services purchased is
12 subtracted from the 50.34 days lag in receipt of customer revenue to produce
13 the total O&M Lag of 32.74 days. Exhibit BSG/BEE-2, Schedule WC-1
14 provides this calculation.

15 **III. CASH WORKING CAPITAL PROPOSAL**

16 **Q. Would you summarize CMA’s proposal regarding Cash Working Capital?**

17 A. Yes. The Purchased Gas Cash Working Capital component is removed from
18 the cost of service and will be recovered in accordance with CMA’s CGAC
19 tariff. The O&M Cash Working Capital component is 32.74 days or 8.945
20 percent. For purposes of Company Witness Gore’s revenue requirement
21 analysis, the cash working capital component proposed for inclusion in the

1 distribution rate base is \$11,355,770, which represents the cash working capital
2 allowance calculated for Other O&M Expense and Taxes Other Than Income.
3 Exhibit CMA/JTG-2, Schedule JTG-15 presents this calculation.

4 **Q. Does the Lead/Lag Study produce results within the Department's 45-day**
5 **convention?**

6 A. Yes. The Lead/Lag Study produced lower results than the Department's 45-day
7 convention, which ensures savings for customers.

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

9 A. Yes, subject to reserving my right to respond to additional issues raised in discovery
10 or at hearings.

SCHEDULE 17

LEAD / LAG CASH WORKING CAPITAL CALCULATION – EARNINGS TEST

Exhibit No.: _____
Witness: B. E. Elliott
Schedule 17
Sheet 1

Columbia Gas of Virginia, Inc.
Cash Working Capital [1]
Schedule 17
Case No. PUE-2014-00020

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2	Cash Working Capital Requirements - LVTS (Per Books)	Sheet 2a
3	Cash Working Capital Requirements - Jurisdictional (Per Books)	Sheet 2b
4	Cash Working Capital Requirements - Jurisdictional (Adjusted)	Sheet 2c

[1] Based on the previous approved Rev Lag days and Expense Lead Days, Case No. PUE-2010-00017

Columbia Gas of Virginia, Inc.
Lead / Lag Cash Working Capital Calculation - Earnings Test - Total Company Per Books (GAAP)
For The Year Ended December 31, 2013
Case No. PUE-2014-00020

Line No.	Cost Category	Reference	Per Books Expense (1) \$	Daily Amount (2) \$	Rev Lag Days (3)	Expense Lead Days (4)	Reference (5)	Net Lag Days (6=3-4) \$	Working Capital Req. (7=2x6) \$
1	OPERATING EXPENSES:								
2	Purchased Gas Expense	F/S,7A2	171,773,918	470,613	37.57	38.69	Sheet 4	(1.12)	(527,087)
3	Deferred Gas Expense	F/S,7A1	(14,445,344)	(39,576)	37.57	37.57	Note 3	0.00	-
4	Stored Gas Expense	F/S,7A2	36,687,494	100,431	37.57	0.00	Note 1	37.57	3,773,193
5	Prepaid Insurance Expense	F/S,3	1,260,404	3,453	37.57	0.00	Note 1	37.57	129,729
6	Payroll Costs	F/S,2A-3	12,179,705	33,369	37.57	7.79	Sheet 5	29.78	993,729
7	Employee Benefits Expense	F/S,2A-3	1,863,927	5,107	37.57	0.00	Note 1	37.57	191,870
8	Incentive Compensation Exp	920-0003-1010-08198	1,087,020	2,978	37.57	0.00	Note 1	37.57	111,883
9	Pension and RIP Expense	F/S,2A-3	1,121,298	3,072	37.57	0.00	Note 1	37.57	115,415
10	OPEB Expense	926-7900-08626, 08628	502,797	1,378	37.57	25.23	Sheet 6	12.34	17,005
11	Other O & M Costs:								
12	Accrued Vacation	F/S,242-0001	1,577,186	4,321	37.57	0.00	Note 1	37.57	162,340
13	Uncollectible Expense	F/S,3	1,134,565	3,108	37.57	174.64	Sheet 7	(137.07)	(426,014)
14	Injuries and Damage Expense	F/S,3M2	166,150	455	37.57	0.00	Note 1	37.57	17,094
15	Environmental Remed Amort.	921-8911-08340-3440*	0	-	37.57	37.57	Note 2	0.00	-
16	Restructuring Costs Amort.	921-8911-08199-3430*	0	-	37.57	37.57	Note 2	0.00	-
17	Other	F/S,3	43,578,989	119,394	37.57	34.31	Sheet 8	3.26	389,224
18	Depreciation and Amort Exp	F/S,2	23,190,811	63,536	37.57	0.00	Note 1	37.57	2,387,048
19	* write-offs to c.e. 8990								
20	TAXES OTHER THAN INCOME:								
21	Payroll Tax Expense	F/S, 3N	1,094,406	2,998	37.57	8.40	Sheet 9	29.17	87,452
22	Property Tax Expense	F/S, 3N	5,408,989	14,819	37.57	116.06	Sheet 10	(78.49)	(1,163,143)
23	Other Taxes	F/S, 3N	155,684	427	37.57	45.54	Sheet 11	(7.97)	(3,403)
24	TOTAL OPERATING EXP & OTH TAX		288,307,999						
25	INCOME TAXES:								
26	Current (including state)	Tax W/S, Adj. 25	(4,052,651)	(11,103)	37.57	37.50	Sheet 12	0.07	(777)
27	Non-Utility Other Deductions	Tax W/S, Adj. 25	(328,469)	(900)	37.57	37.50	Sheet 12	0.07	(63)
28	Deferred FIT Included in RB	Tax W/S, Adj. 25	15,582,637	42,692	37.57	0.00	Note 1	37.57	1,603,938
29	Deferred ITC	F/S, 3N	(109,583)	(300)	37.57	37.57	Note 4	0.00	-
30	Deferred FIT excluded from RB	Tax W/S, Adj. 25	1,343,876	3,682	37.57	37.57	Note 2	0.00	-
31	Non-Utility Deferred Income Tax	Tax W/S, Adj. 25	260,872	715	37.57	37.57	Note 2	0.00	-
32	TOTAL INCOME TAX EXP		12,696,682						
33	JDC Expense Assoc Income Tax Savings	Sch 40a	0	-	37.57	37.57	Note 2	0.00	-
34	OTHER EXPENSES:								
35	Charitable Donations	Sch 40a	190,848	523	37.57	37.57	Note 2	0.00	-
36	Interest on Customer Deposits	Sch 40a	15,086	41	37.57	182.50	Sheet 13	(144.93)	(5,942)
37	Interest on Supplier Refunds	Sch 40a	207	1	37.57	182.50	Note 1	(144.93)	(145)
38	Interest Expense on LT Debt	F/S,5	14,297,282	39,171	37.57	89.08	Sheet 14	(51.51)	(2,017,698)
39	AFUDC	F/S,4	(170,536)	(467)	37.57	37.57	Note 2	0.00	-
40	Other Income	F/S,5	(5,302,840)	(14,528)	37.57	37.57	Note 2	0.00	-
41	TOTAL OTHER INCOME		9,030,047						
42	Preferred Dividends	Sch 40a	0	-	37.57	37.57	Note 2	0.00	-
43	JDC Capital Expense	Sch 40a	0	-	37.57	37.57	Note 2	0.00	-
44	Income Avail for Common Eq	F/S,2	20,033,279	54,886	37.57	37.57	Note 2	0.00	-
45	Subtotal		330,068,007	904,296					5,835,648
46	Customer Utility Taxes	Sheet 15	10,316,752	28,265	37.57	29.43	Sheet 15	8.14	230,077
47	State & Local Consumption Taxes	Sheet 16	3,705,199	10,151	37.57	36.42	Sheet 16	1.15	11,674
48	Plus: Balance Sheet Analysis	Sch 18					Schedule 18		435,431
49	TOTAL CASH WORKING CAPITAL REQUIREMENT/(SOURCE)								6,512,830

Note 1: Item is included in the Balance Sheet Analysis; therefore, 0 lead days assigned.
Note 2: 0 Net Lead days assigned in compliance with the Staff in Case No. PUE950033.
Note 3: Per Case No. PUE950033, 0 Cash Working Capital used due to a timing difference between deferred gas expense and the average deferred gas balance reflected in rate base.
Note 4: 0 Net Lead days assigned in compliance with normalization requirements of the IRS.

EXHIBIT C

Exhibit No.: _____
Witness: B. E. Elliott
Schedule 17
Sheet 2b

Columbia Gas of Virginia, Inc.
Lead / Lag Cash Working Capital Calculation - Earnings Test - Jurisdictional Per Books (GAAP)
For The Year Ended December 31, 2013
Case No. PUE-2014-00020

Line No.	Cost Category	Alloc Factor Ref Per	Alloc Factor % Per	Jurisdictional Per Books Expense (1) \$	Juris. Daily Amount (2) \$	Rev Lag Days (3)	Expense Lead Days (4)	Ref (5)	Net Lag Days (6=3-4) \$	Jurisdictional CWC Requirement (7=2x6) \$
1	OPERATING EXPENSES:									
2	Purchased Gas Expense	Sch 40a; p. 3		164,249,390	449,998	37.57	38.69	Sheet 4	(1.12)	(503,998)
3	Deferred Gas Expense	20	94.919%	(13,711,376)	(37,565)	37.57	37.57	Note 3	0.00	-
4	Stored Gas Expense	20	94.919%	34,794,927	95,329	37.57	0.00	Note 1	37.57	3,581,511
5	Prepaid Insurance Expense	22	95.084%	1,198,443	3,283	37.57	0.00	Note 1	37.57	123,342
6	Payroll costs	22	95.084%	11,580,951	31,729	37.57	7.79	Sheet 5	29.78	944,890
7	Employee Benefits Expense	22	95.084%	1,772,296	4,856	37.57	0.00	Note 1	37.57	182,440
8	Incentive Compensation	22	95.084%	1,033,582	2,832	37.57	0.00	Note 1	37.57	106,398
9	Pension and RIP expense	22	95.084%	1,066,175	2,921	37.57	0.00	Note 1	37.57	109,742
10	OPEB expense	22	95.084%	478,079	1,310	37.57	25.23	Sheet 6	12.34	16,165
11	Other O & M Costs:									
12	Accrued Vacation	22	95.084%	1,499,652	4,109	37.57	0.00	Note 1	37.57	154,375
13	Uncollectible Expense	2	99.261%	1,126,181	3,085	37.57	174.64	Sheet 7	(137.07)	(422,861)
14	Injuries and Damage Expense	22	95.084%	157,982	433	37.57	0.00	Note 1	37.57	16,268
15	Environmental Remed Amort.	22	95.084%	-	-	37.57	37.57	Note 2	0.00	-
16	Restructuring Costs Amort.	22	95.084%	-	-	37.57	37.57	Note 2	0.00	-
17	Other	22	95.084%	41,389,723	113,397	37.57	34.31	Sheet 8	3.26	369,674
18	Depreciation and Amort Exp	Sch 40a; p. 6		20,351,352	55,757	37.57	0.00	Note 1	37.57	2,094,790
19										
20	TAXES OTHER THAN INCOME									
21	Payroll Tax Expense	22	95.084%	1,040,605	2,851	37.57	8.40	Sheet 9	29.17	83,164
22	Property Tax Expense	16	91.706%	4,960,367	13,590	37.57	116.06	Sheet 10	(78.49)	(1,066,679)
23	Other Taxes	19	92.120%	149,371	409	37.57	45.54	Sheet 11	(7.97)	(3,260)
24	TOTAL OPERATING EXP	22	95.084%	273,137,699	748,324					
25	INCOME TAXES:									
26	Current (including state)		FIT W/S	(7,052,400)	(19,322)	37.57	37.50	Sheet 12	0.07	(1,353)
27	Deferred FIT Included in RB	17	87.491%	13,633,405	37,352	37.57	0.00	Note 1	37.57	1,403,315
28	Deferred FITC	17	87.491%	(95,875)	(263)	37.57	37.57	Note 4	0.00	-
29	Deferred FIT excluded from RB	17	87.491%	1,175,771	3,221	37.57	37.57	Note 2	0.00	-
30	TOTAL INCOME TAX EXP			7,660,900	20,988					
31	JDC Expense Assoc Income Tax Savings	Sch 40a; p. 1		-	-	37.57	37.57	Note 2	0.00	-
32	OTHER EXPENSES:									
33	Charitable Donations	22	95.084%	181,465	497	37.57	37.57	Note 2	0.00	-
34	Interest on Customer Deposits	18	99.642%	15,032	41	37.57	182.50	Sheet 13	(144.93)	(5,942)
35	Interest on Supplier Refunds	18	99.642%	206	1	37.57	182.50	Note 1	(144.93)	(145)
36	Interest Expense on LT Debt	Sch 40a; p. 1		12,309,987	33,726	37.57	89.08	Sheet 14	(51.51)	(1,737,226)
37	AFUDC	17	87.491%	(149,204)	(409)	37.57	37.57	Note 2	0.00	-
38	Other Income			-	-	37.57	37.57	Note 2	0.00	-
39	TOTAL OTHER INCOME			12,357,487	33,856					
40	Preferred Dividends	Sch 40a; p. 1		-	-	37.57	37.57	Note 2	0.00	-
41	JDC Capital Expense	Sch 40a; p. 1		-	-	37.57	37.57	Note 2	0.00	-
42	Income Avail for Common Eq	Sch 40a; p. 1		12,596,330	34,510	37.57	37.57	Note 2	0.00	-
43	Subtotal			305,752,416	837,678					5,444,610
44	Customer Utility Taxes	2	99.261%	10,240,512	28,056	37.57	29.43	Sheet 15	8.14	228,376
45	State & Local Consumption Taxes	2	99.261%	3,677,818	10,076	37.57	36.42	Sheet 16	1.15	11,587
46	Plus: Balance Sheet Analysis	Sch 18; sh. 3								610,768
47										6,295,341
										TOTAL CASH WORKING CAPITAL REQUIREMENT/(SOURCE)

Note 1: Item is included in the Balance Sheet Analysis; therefore, 0 lead days assigned.
Note 2: 0 Net Lead days assigned in compliance with the Staff in Case No. PUE950033
Note 3: Per Case No. PUE950033, 0 Cash Working Capital used due to a timing difference between deferred gas expense and the average deferred gas balance reflected in rate base.
Note 4: 0 Net Lead days assigned in compliance with normalization requirements of the IRS

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Exhibit No.: _____
 Witness: B. E. Elliott
 Schedule 17
 Sheet 2c

Columbia Gas of Virginia, Inc.
 Lead / Lag Cash Working Capital Calculation - Earnings Test - Jurisdictional Adjusted
 For The Year Ended December 31, 2013
 Case No. PUE-2014-00020

Line No.	Cost Category	Jurisdictional Per Books Expense (1)	Regulatory Accting Adjs Schedule 16 (2)	Jurisdictional Amounts After Adj. (3=1+2)	Juris, Daily Amount (4)	Rev Lag Days (5)	Expense Lead Days (6)	Ref (7)	Net Lag Days (8=5-6)	Juris. Adjusted CWC Requirement (9=4x8)
		\$	\$	\$	\$				\$	\$
1	OPERATING EXPENSES:									
2	Purchased Gas Expense	164,249,390	-	164,249,390	449,998	37.57	38.69	Sheet 4	(1.12)	(503,998)
3	Deferred Gas Expense	(13,711,376)	-	(13,711,376)	(37,565)	37.57	37.57	Note 3	0.00	-
4	Stored Gas Expense	34,794,927	-	34,794,927	95,329	37.57	0.00	Note 1	37.57	3,581,511
5	Prepaid Insurance Expense	1,198,443	-	1,198,443	3,283	37.57	0.00	Note 1	37.57	123,342
6	Payroll costs	11,580,951	-	11,580,951	31,729	37.57	7.79	Sheet 5	29.78	944,890
7	Employee Benefits Expense	1,772,296	-	1,772,296	4,856	37.57	0.00	Note 1	37.57	182,440
8	Incentive Compensation	1,033,582	-	1,033,582	2,832	37.57	0.00	Note 1	37.57	106,398
9	Pension and RIP expense	1,066,175	-	1,066,175	2,921	37.57	0.00	Note 1	37.57	109,742
10	OPEB expense	478,079	146,920	624,999	1,712	37.57	25.23	Sheet 6	12.34	21,126
11	<u>Other O & M Costs:</u>									
12	Accrued Vacation	1,499,652	-	1,499,652	4,109	37.57	0.00	Note 1	37.57	154,375
13	Uncollectible Expense	1,126,181	711	1,126,892	3,087	37.57	174.64	Sheet 7	(137.07)	(423,135)
14	Injuries and Damage Expense	157,982	-	157,982	433	37.57	0.00	Note 1	37.57	16,268
15	Environmental Remed Amort.	-	-	-	-	37.57	37.57	Note 2	0.00	-
16	Restructuring Costs Amort.	-	-	-	-	37.57	37.57	Note 2	0.00	-
17	Other	41,389,723	57,595	41,447,318	113,554	37.57	34.31	Sheet 8	3.26	370,186
18	Depreciation and Amort Exp	20,351,352	(573,903)	19,777,449	54,185	37.57	0.00	Note 1	37.57	2,035,730
19										
20	TAXES OTHER THAN INCOME									
21	Payroll Tax Expense	1,040,605	-	1,040,605	2,851	37.57	8.40	Sheet 9	29.17	83,164
22	Property Tax Expense	4,960,367	(128,976)	4,831,391	13,237	37.57	116.06	Sheet 10	(78.49)	(1,038,972)
23	Other Taxes	149,371	-	149,371	409	37.57	45.54	Sheet 11	(7.97)	(3,260)
24	TOTAL OPERATING EXP	273,137,699	(497,653)	272,640,046	746,960					
25	INCOME TAXES:									
26	Current (including state)	(7,052,400)	(1,828,363)	(8,880,763)	(24,331)	37.57	37.50	Sheet 12	0.07	(1,703)
27	Deferred FIT Included in RB	13,633,405	-	13,633,405	37,352	37.57	0.00	Note 1	37.57	1,403,315
28	Deferred ITC	(95,875)	-	(95,875)	(263)	37.57	37.57	Note 4	0.00	-
29	Deferred FIT excluded from RB	1,175,771	-	1,175,771	3,221	37.57	37.57	Note 2	0.00	-
30	TOTAL INCOME TAX EXP	7,660,900	(1,828,363)	5,832,537	15,979					
31	JDC Expense Assoc Income Tax Savings	-	(6,389)	(6,389)	(18)	37.57	37.57	Note 2	0.00	-
32	OTHER EXPENSES:									
33	Charitable Donations	181,465	(90,676)	90,789	249	37.57	37.57	Note 2	0.00	-
34	Interest on Customer Deposits	15,032	-	15,032	41	37.57	182.50	Sheet 13	(144.93)	(5,942)
35	Interest on Supplier Refunds	206	-	206	1	37.57	182.50	Note 1	(144.93)	(145)
36	Interest Expense on LT Debt	12,309,987	(1,642,878)	10,667,109	29,225	37.57	89.08	Sheet 14	(51.51)	(1,505,380)
37	AFUDC	(149,204)	-	(149,204)	(409)	37.57	37.57	Note 2	0.00	-
38	Other Income	-	-	-	-	37.57	37.57	Note 2	0.00	-
39	TOTAL OTHER INCOME	12,357,487	(1,733,554)	10,623,932	29,107					
40	Preferred Dividends	-	-	-	-	37.57	37.57	Note 2	0.00	-
41	JDC Capital Expense	-	43,814	43,814	120	37.57	37.57	Note 2	0.00	-
42	Income Avail for Common Eq	12,596,330	(2,909,227)	9,687,103	26,540	37.57	37.57	Note 2	0.00	-
43	Subtotal	305,752,416	(6,931,372)	298,821,043	818,688					5,649,952
44	Customer Utility Taxes	10,240,512	-	10,240,512	28,056	37.57	29.43	Sheet 15	8.14	228,376
45	State & Local Consumption Taxes	3,677,818	-	3,677,818	10,076	37.57	36.42	Sheet 16	1.15	11,587
46	Plus: Balance Sheet Analysis							Sch 18; sh. 3		610,768
47	TOTAL CASH WORKING CAPITAL REQUIREMENT/(SOURCE)									6,500,683

Note 1: Item is included in the Balance Sheet Analysis; therefore, 0 lead days assigned.
 Note 2: 0 Net Lead days assigned in compliance with the Staff in Case No. PUE950033
 Note 3: Per Case No. PUE950033, 0 Cash Working Capital used due to a timing difference between deferred gas expense and the average deferred gas balance reflected in rate base.
 Note 4: 0 Net Lead days assigned in compliance with normalization requirements of the IRS

SCHEDULE 18

BALANCE SHEET ANALYSIS – EARNINGS TEST



Exhibit No.: _____
Witness: **B. E. Elliott**
Schedule 18
Sheet 1

Columbia Gas of Virginia, Inc.
Cash Working Capital -- Balance Sheet Analysis
Schedule 18
Case No. PUE-2014-00020

Table of Contents

<u>Line No.</u>	<u>Description</u>	<u>Sheet Number</u>
1	Cash Working Capital - Balance Sheet Analysis - LVTS (Per Books)	Sheet 2
2	Cash Working Capital - Balance Sheet Analysis - Jurisdictional (Per Books)	Sheet 3
3	Cash Working Capital - Total Company Detail (Per Books)	Sheet 4

Exhibit No.: _____
 Witness: B. E. Elliott
 Schedule 18
 Sheet 2

Columbia Gas of Virginia, Inc.
 Cash Working Capital
 Balance Sheet Analysis -- LVTS
 13 Months Average December 31, 2013
 Case No. PUE-2014-00020

Line No.	Account Number		Sch 40b			
			13 Mo. Avg. 12/31/2013	Alloc Factor	LVTS %	LVTS 12/31/2013
1	141-0001	Notes Receivable - Employees	2,027	22	1.786%	36
2	143-9900-10820	Other A/R - Appliances	-	22	1.786%	-
3	143-9900-10830-100100	Other A/R - Employee Advances	(1,895)	22	1.786%	(34)
4	143-9900-10830-100110	Other A/R - Emp. Temp. Exp. Adv.	882	22	1.786%	16
5	143-9900-10830-100120	Other A/R - Officers & Employees - Misc.	1,913	22	1.786%	34
6	143-9900-10840-100131	Other A/R - Miscellaneous	(5,162)	22	1.786%	(92)
7	165-0001	Prepaid Insurance	386,980	22	1.786%	6,911
8	165-1022	Prepayments-Excess Liability Insurance	351,207	22	1.786%	6,273
9	174-0031	Exchange Gas - Transco; Asset Mgmt./Storage In Place	-	20	0.000%	-
10	174-9900-11290	Exchange Gas (activity 11290)	20,095	20	0.000%	-
11	183	5/ Preliminary Survey & Investigation	3,238,906	17	8.392%	271,809
12	186-0001	6/ Misc. Maintenance & Jobbing WIP	192,444	17	8.392%	16,150
13	Total Uses of Cash Working Capital		<u>4,187,397</u>			<u>301,103</u>
14	<u>Additional Sources of Cash Working Capital:</u>					
15	219-0002	Pension Booked to OCI - Reduction to Liability	15,309,522	22	1.786%	273,428
16	228-2000	Provision for Injuries & Damages	(84,105)	22	1.786%	(1,502)
17	232-10835	Material and Supplies - Account 154	-	17	8.392%	-
18	232	3/ A/P - CWIP (Acct 107)	(2,502,959)	17	8.392%	(210,048)
19	234	4/ A/P Exchange Gas	(2,130)	20	0.000%	-
20	241-14570	Tax Collections Payable-Employee FIT	(8,555)	17	8.392%	(718)
21	241-14590,14600	Tax Collections Payable-Employee FICA	(448)	22	1.786%	(8)
22	241-14690	Tax Collections Payable-Employee SIT	-	17	8.392%	-
23	242-0008-15005	Exchange gas - Borrowing	(4,377,233)	17	8.392%	(367,337)
24	242-0001	Vacation Accrual	(1,571,176)	2	0.006%	(94)
25	242-0010	Accrued Liability - Unclaimed Accounts	(918,867)	22	1.786%	(16,411)
26	242-0016	2/ Benefits - Dental Assistance Plan - Company Portion	(19,298)	22	1.786%	(345)
27	242-0017	2/ Benefits - C.M.E.P. - Company Portion	(94,277)	22	1.786%	(1,684)
28	242-0031	Pension Liability - Current	-	22	1.786%	-
29	242-0037	Thrift Restoration Plan	(9,343)	22	1.786%	(167)
30	242-0005	Benefits - Employee Payroll Deductions	(101,389)	22	1.786%	(1,811)
31	242-0006	1/ Contract Retentions	-	22	1.786%	-
32	242-0077, 228-3080	Accrued Pension Restoration Plan - Current	(308)	22	1.786%	(6)
33	242-9900-15290,15291	3/ Accr. Payroll - CWIP	(643,054)	22	1.786%	(11,485)
34	242-9900-15291-BON**	Wages Payable-AIP, Bonus Portion	(738,326)	22	1.786%	(13,187)
35	242-9900-15350	HeatShare Customer Contributions	(2,878)	2	0.006%	-
36	253-0031, 228-3031	Accrued Long Term Pension Cost	(7,941,264)	22	1.786%	(141,831)
37	253-0045	Pension Restoration Plan - Additional Liability	-	22	1.786%	-
38	253-0077, 228-3077	Accrued Long Term Pension Restoration - Current	(45,878)	22	1.786%	(819)
39	Total Additional Sources of Cash Working Capital		<u>(3,751,966)</u>			<u>(494,025)</u>
40	TOTAL USES / (SOURCES) CASH WORKING CAPITAL		<u>435,431</u>			<u>(192,922)</u>

1/ Amount is added since funds are booked to 107 but not yet paid to the contractor.
 2/ Amount is added since the average balance is not consistent with the lead lag calculation.
 3/ Staff allows only end-of-period balance for CWIP accounts.
 4/ Acct. 174-9900-11290 (Exchange Gas) x Expense Lead Days (Purchased Gas Expense) / 365 Days.
 5/ Excludes dollars associated with Breno Bluff, Calenese Acetate and the SAVE Program.
 6/ Excludes dollars associated with Breno Bluff and Calenese Acetate

Note: Please note A/P for Materials and Supplies is excluded as the warehouse was outsourced.

Exhibit No.: _____
Witness: B. E. Elliott
Schedule 18
Sheet 3

Columbia Gas of Virginia, Inc.
Cash Working Capital
Balance Sheet Analysis -- Jurisdictional
13 Months Average December 31, 2013
Case No. PUE-2014-00020

Line No.	Account Number		Sch 40b			
			13 Mo. Avg. 12/31/2013	Alloc Factor	Juris. %	Juris. 12/31/2013
1	141-0001	Notes Receivable - Employees	2,027	22	95.084%	1,927
2	143-9900-10820	Other A/R - Appliances	-	22	95.084%	-
3	143-9900-10830-100100	Other A/R - Employee Advances	(1,895)	22	95.084%	(1,802)
4	143-9900-10830-100110	Other A/R - Emp. Temp. Exp. Adv.	882	22	95.084%	839
5	143-9900-10830-100120	Other A/R - Officers & Employees - Misc.	1,913	22	95.084%	1,819
6	143-9900-10840-100131	Other A/R - Miscellaneous	(5,162)	22	95.084%	(4,908)
7	165-0001	Prepaid Insurance	386,980	22	95.084%	367,956
8	165-1022	Prepayments-Excess Liability Insurance	351,207	22	95.084%	333,942
9	174-0031	Exchange Gas - Transco; Asset Mgmt./Storage In Place	-	20	94.919%	-
10	174-9900-11290	Exchange Gas (activity 11290)	20,095	20	94.919%	19,074
11	183	5/ Preliminary Survey & Investigation	3,238,906	17	87.491%	2,833,751
12	186-0001	6/ Misc. Maintenance & Jobbing WIP	192,444	17	87.491%	168,371
13	Total Uses of Cash Working Capital		<u>4,187,397</u>			<u>3,720,969</u>
14	<u>Additional Sources of Cash Working Capital:</u>					
15	219-0002	Pension Booked to OCI - Reduction to Liability	15,309,522	22	95.084%	14,556,906
16	228-2000	Provision for Injuries & Damages	(84,105)	22	95.084%	(79,970)
17	232-10835	Material and Supplies - Account 154	-	17	87.491%	-
18	232	3/ A/P - CWIP (Acct 107)	(2,502,959)	17	87.491%	(2,189,864)
19	234	4/ A/P Exchange Gas	(2,130)	20	94.919%	(2,022)
20	241-14570	Tax Collections Payable-Employee FIT	(8,555)	17	87.491%	(7,485)
21	241-14590,14600	Tax Collections Payable-Employee FICA	(448)	22	95.084%	(426)
22	241-14690	Tax Collections Payable-Employee SIT	-	17	87.491%	-
23	242-0008-15005	Exchange gas - Borrowing	(4,377,233)	17	87.491%	(3,829,685)
24	242-0001	Vacation Accrual	(1,571,176)	2	99.261%	(1,559,565)
25	242-0010	Accrued Liability - Unclaimed Accounts	(918,867)	22	95.084%	(873,695)
26	242-0016	2/ Benefits - Dental Assistance Plan - Company Portion	(19,298)	22	95.084%	(18,349)
27	242-0017	2/ Benefits - C.M.E.P. - Company Portion	(94,277)	22	95.084%	(89,642)
28	242-0031	Pension Liability - Current	-	22	95.084%	-
29	242-0037	Thrift Restoration Plan	(9,343)	22	95.084%	(8,884)
30	242-0005	Benefits - Employee Payroll Deductions	(101,389)	22	95.084%	(96,405)
31	242-0006	1/ Contract Retentions	-	22	95.084%	-
32	242-0077, 228-3080	Accrued Pension Restoration Plan - Current	(308)	22	95.084%	(293)
33	242-9900-15290,15291	3/ Accr. Payroll - CWIP	(643,054)	22	95.084%	(611,441)
34	242-9900-15291-BON**	Wages Payable-A/P, Bonus Portion	(738,326)	22	95.084%	(702,030)
35	242-9900-15350	HeatShare Customer Contributions	(2,878)	2	99.261%	(2,857)
36	253-0031, 228-3031	Accrued Long Term Pension Cost	(7,941,264)	22	95.084%	(7,550,871)
37	253-0045	Pension Restoration Plan - Additional Liability	-	22	95.084%	-
38	253-0077, 228-3077	Accrued Long Term Pension Restoration - Current	(45,878)	22	95.084%	(43,623)
39	Total Additional Sources of Cash Working Capital		<u>(3,751,966)</u>			<u>(3,110,201)</u>
40	TOTAL USES / (SOURCES) CASH WORKING CAPITAL		<u>435,431</u>			<u>610,768</u>

- 1/ Amount is added since funds are booked to 107 but not yet paid to the contractor.
- 2/ Amount is added since the average balance is not consistent with the lead lag calculation.
- 3/ Staff allows only end-of-period balance for CWIP accounts.
- 4/ Acct. 174-9900-11290 (Exchange Gas) x Expense Lead Days (Purchased Gas Expense) / 365 Days.
- 5/ Excludes dollars associated with Bremo Bluff, Calenese Acetate and the SAVE Program.

Note: Please note A/P for Materials and Supplies is excluded as the warehouse was outsourced.

Exhibit No.:
 Witness: B. E. Elliott
 Schedule 18
 Sheet 4

Columbia Gas of Virginia, Inc.
Cash Working Capital
Balance Sheet Analysis – Total Company Detail
13 Months Average December 31, 2013
Case No. PUF-2014-00020

Line No.	Account Number	Dec-12 (1)	Jan-13 (2)	Feb-13 (3)	Mar-13 (4)	Apr-13 (5)	May-13 (6)	Jun-13 (7)	Jul-13 (8)	Aug-13 (9)	Sep-13 (10)	Oct-13 (11)	Nov-13 (12)	Dec-13 (13)	13 Month Total 12/31/2013 (14)	13 Month Average 12/31/2013 (15)	
		(\$)	(\$)	(\$)	(\$)	(\$)	(\$)	(\$)	(\$)	(\$)	(\$)	(\$)	(\$)	(\$)	(\$)	(\$)	
1	141-0001	2,027	2,027	2,027	2,027	2,027	2,027	2,027	2,027	2,027	2,027	2,027	2,027	2,027	26,351	2,027	
2	143-9900-10820	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
3	143-9900-10830-100100	(4,174)	(4,174)	(4,174)	-	-	(11,168)	-	-	(947)	-	-	-	-	(24,637)	(1,895)	
4	143-9900-10830-100110	1,999	599	2,099	2,099	-	400	400	1,000	1,000	1,000	700	82	82	11,460	882	
5	143-9900-10830-100120	1,424	1,424	2,060	2,060	2,060	2,060	2,060	2,060	2,060	2,060	2,060	2,060	2,060	24,872	1,913	
6	143-9900-10840-100131	(5,482)	78,021	(84,467)	(5,482)	(5,521)	(5,521)	(5,521)	(5,521)	(5,521)	(5,521)	(5,521)	(5,521)	(5,521)	(67,103)	(5,162)	
7	165-0001	454,492	385,809	317,108	248,416	179,724	111,032	42,340	672,692	608,830	539,479	470,128	535,659	465,034	5,030,734	386,980	
8	165-1022	309,714	258,095	348,381	282,571	195,862	132,665	69,468	660,789	594,402	528,015	461,628	395,241	328,854	4,565,685	351,207	
9	174-0031	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
10	174-9900-11290	26,124	26,124	26,124	26,124	26,124	26,124	26,124	26,124	26,124	26,124	26,124	-	-	261,240	20,095	
11	183	3,066,590	2,963,494	3,193,110	3,228,729	3,366,564	3,509,598	3,497,313	3,573,357	3,615,697	3,005,740	3,057,730	3,132,468	2,885,391	42,105,780	3,238,906	
12	186-0001	223,870	385,651	385,228	383,410	383,536	383,536	331,122	3,591	3,592	3,592	3,592	3,592	7,453	2,501,767	192,444	
13	Total Uses of Cash Working Capital	<u>4,076,584</u>	<u>4,097,061</u>	<u>4,186,860</u>	<u>4,179,955</u>	<u>4,150,376</u>	<u>4,150,753</u>	<u>3,965,333</u>	<u>4,936,119</u>	<u>4,847,264</u>	<u>4,102,516</u>	<u>3,992,344</u>	<u>4,065,608</u>	<u>3,685,376</u>	<u>54,436,149</u>	<u>4,187,397</u>	
14	Additional Sources of Cash Working Capital:																
15	219-0002	17,786,647	17,670,450	17,554,253	16,085,372	15,969,175	15,879,904	14,460,147	14,343,981	14,281,543	14,605,771	14,522,736	14,439,701	11,424,100	199,023,780	15,309,522	
16	228-2000	(43,669)	(77,813)	(97,798)	(88,913)	(94,407)	(88,969)	(98,410)	(107,690)	(97,340)	(86,841)	(71,444)	(68,767)	(71,300)	(1,093,363)	(84,105)	
17	232-10835	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
18	232	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
19	234	(2,769)	(2,769)	(2,769)	(2,769)	(2,769)	(2,769)	(2,769)	(2,769)	(2,769)	(2,769)	(2,769)	(2,769)	(2,769)	(2,502,959)	(2,502,959)	
20	241-14570	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
21	241-14590,14600	(27,544)	(27,544)	(27,544)	-	(6,961)	(6,961)	(6,961)	6,224	(6,961)	(6,961)	-	-	-	(11,1213)	(8,555)	
22	241-14690	-	-	-	(160)	(727)	(887)	(1,051)	(1,574)	(164)	(164)	-	(646)	(448)	(5,821)	(448)	
23	242-0008-15005	(3,590,884)	(2,002,103)	-	-	(1,280,114)	(1,945,467)	(1,945,467)	(4,052,355)	(6,525,272)	(9,322,480)	(9,824,842)	(9,824,842)	(6,590,199)	(56,904,025)	(4,377,233)	
24	242-0001	(1,463,385)	(1,504,365)	(1,578,418)	(1,576,529)	(1,608,892)	(1,619,371)	(1,614,872)	(1,564,017)	(1,544,352)	(1,573,884)	(1,629,520)	(1,570,615)	(1,577,064)	(20,425,284)	(1,571,176)	
25	242-0010	(844,716)	(852,061)	(868,711)	(924,427)	(931,708)	(949,518)	(967,897)	(983,560)	(1,001,046)	(1,001,396)	(858,554)	(873,692)	(887,979)	(11,945,265)	(918,867)	
26	242-0016	(18,960)	(18,960)	(18,960)	(18,960)	(18,960)	(18,960)	(18,960)	(18,960)	(18,960)	(18,960)	(18,960)	(18,960)	(21,155)	(250,870)	(19,298)	
27	242-0017	(90,899)	(90,899)	(90,899)	(90,899)	(90,899)	(90,899)	(90,899)	(90,899)	(90,899)	(90,899)	(90,899)	(90,899)	(112,854)	(1,225,597)	(94,277)	
28	242-0031	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
29	242-0037	(6,691)	(6,691)	(7,148)	(7,330)	(7,735)	(7,735)	(7,735)	(7,735)	(7,735)	(7,735)	(7,314)	(19,978)	(20,318)	(121,459)	(9,343)	
30	242-0005	(49,574)	(114,466)	(118,730)	(123,612)	(70,220)	(119,068)	(129,085)	(123,349)	(79,222)	(78,088)	(73,163)	(115,337)	(124,145)	(1,318,059)	(101,389)	
31	242-0006	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
32	242-0077, 228-3080	(300)	(300)	(300)	(300)	(300)	(300)	(300)	(300)	(300)	(300)	(300)	(300)	(400)	(4,000)	(308)	
33	242-9900-15290,15291	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	(643,054)	(643,054)	
34	242-9900-15291-BON**	(1,336,647)	(85,028)	(864,393)	(255,084)	(340,112)	(425,140)	(510,168)	(595,196)	(680,224)	(765,252)	(850,280)	(1,220,340)	(1,670,368)	(9,598,232)	(738,326)	
35	242-9900-15350	(3,166)	(3,106)	(3,196)	(2,956)	(2,891)	(2,733)	(2,718)	(2,902)	(2,684)	(2,728)	(2,663)	(2,870)	(2,798)	(37,411)	(2,878)	
36	253-0031, 228-3031	(9,659,895)	(9,631,970)	(9,604,045)	(8,698,844)	(8,670,919)	(8,648,286)	(7,298,390)	(7,272,938)	(7,248,178)	(7,724,465)	(7,714,549)	(7,704,633)	(3,359,322)	(103,236,434)	(7,941,264)	
37	253-0045	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
38	253-0077, 228-3077	(42,187)	(42,793)	(43,399)	(44,005)	(44,611)	(45,217)	(45,823)	(46,429)	(47,035)	(47,641)	(48,247)	(48,853)	(50,174)	(596,414)	(45,878)	
39	Total Additional Sources of Cash Working Capital	<u>605,361</u>	<u>1,209,580</u>	<u>4,227,943</u>	<u>4,250,584</u>	<u>2,796,350</u>	<u>1,907,624</u>	<u>1,718,642</u>	<u>(520,468)</u>	<u>(3,071,598)</u>	<u>(6,124,371)</u>	<u>(6,667,999)</u>	<u>(7,145,181)</u>	<u>(6,210,437)</u>	<u>(7,877,357)</u>	<u>(3,751,966)</u>	
40	TOTAL USES / (SOURCES) CASH WORKING CAPITAL	<u>4,681,945</u>	<u>7,306,641</u>	<u>8,414,803</u>	<u>8,430,539</u>	<u>6,947,326</u>	<u>6,058,377</u>	<u>5,683,975</u>	<u>4,415,651</u>	<u>1,775,666</u>	<u>(2,021,855)</u>	<u>(2,675,655)</u>	<u>(3,079,573)</u>	<u>(2,525,061)</u>	<u>46,558,792</u>	<u>435,431</u>	

1/ Amount is added since funds are booked to 107 but not yet paid to the contractor.
 2/ Amount is added since the average balance is not consistent with the trailing calculation.
 3/ Staff allows only end-of-period balance for CWIP accounts.
 4/ Acct. 174-9900-11290 (Exchange Gas) x Expense Lead Days (Purchased Gas Expense) / 365 Days.
 5/ Excludes dollars associated with Bravo Bluff, Calcasieu Acct and the SAVE Program.
 6/ Excludes dollars associated with Bravo Bluff and Calcasieu Acct

Note: Please note A/P for Materials and Supplies is excluded as the warehouse was outsourced.

100059071

SCHEDULE 27

LEAD/LAG CASH WORKING CAPITAL CALCULATION – ADJUSTED

Exhibit No.: _____
Witness: B. E. Elliott
Schedule 27
Sheet 1

Columbia Gas of Virginia, Inc.
Cash Working Capital
Schedule 27
Case No. PUE-2014-00020

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Exhibit No.: LF1
Witness: B. E. Robb
Schedule 27
Sheet 2

Columbia Gas of Virginia, Inc.
Lead / Lag Cash Working Capital Calculation - Total Company Per Books (GAAP)
For The Year Ended December 31, 2013
Case No. PUE-2014-00020

Line No.	Cost Category	Reference	Per Books Expense (1) \$	Daily Amount (2) \$	Rev Lag Days (3)	Expense Lead Days (4)	Reference (5)	Net Lag Days (6=3-4) \$	Working Capital Req. (7=2x6) \$	
1	OPERATING EXPENSES:									
2	Purchased Gas Expense	F/S,7A2	171,773,918	470,613	31.56	38.27	Sheet 4	(6.71)	(3,157,813)	
3	Deferred Gas Expense	F/S,7A1	(14,445,344)	(39,576)	31.56	31.56	Note 3	0.00	-	
4	Stored Gas Expense	F/S,7A2	36,657,494	100,431	31.56	0.00	Note 1	31.56	3,169,602	
5	Prepaid Insurance Expense	F/S,3	1,260,404	3,453	31.56	0.00	Note 1	31.56	108,977	
6	Payroll Costs	F/S,2A-3	12,179,705	33,369	31.56	7.97	Sheet 5	23.59	787,175	
7	Employee Benefits Expense	F/S,2A-3	1,863,927	5,107	31.56	0.00	Note 1	31.56	161,177	
8	Incentive Compensation Exp	920-0003-1010-08198	1,087,020	2,978	31.56	0.00	Note 1	31.56	93,986	
9	Pension and RIP Expense	F/S,2A-3	1,121,298	3,072	31.56	0.00	Note 1	31.56	96,952	
10	OPEB Expense	926-7900-08626, 08628	502,797	1,378	31.56	7.34	Sheet 6	24.22	33,375	
11	Other O & M Costs:									
12	Accrued Vacation	F/S,242-0001	1,577,186	4,321	31.56	0.00	Note 1	31.56	136,371	
13	Uncollectible Expense	F/S,3	1,134,565	3,108	31.56	207.28	Sheet 7	(175.72)	(546,138)	
14	Injuries and Damage Expense	F/S,3M2	166,150	455	31.56	0.00	Note 1	31.56	14,360	
15	Environmental Remed Amort.	921-8911-08340-3440*	0	-	31.56	31.56	Note 2	0.00	-	
16	Restructuring Costs Amort.	921-8911-08190-3430*	0	-	31.56	31.56	Note 2	0.00	-	
17	Corporate Services	CE 8010	28,108,459	77,009	31.56	30.70	Sheet 17	0.86	66,228	
18	Other	F/S,3	15,470,530	42,385	31.56	41.16	Sheet 8	(9.60)	(406,896)	
19	Depreciation and Amort Exp	F/S,2	23,190,811	63,536	31.56	0.00	Note 1	31.56	2,005,196	
20		* write-offs to c.e. 8990								
21	TAXES OTHER THAN INCOME:									
22	Payroll Tax Expense	F/S, 3N	1,094,406	2,998	31.56	9.00	Sheet 9	22.56	67,635	
23	Property Tax Expense	F/S, 3N	5,408,989	14,819	31.56	109.12	Sheet 10	(77.56)	(1,149,362)	
24	Other Taxes	F/S, 3N	<u>155,684</u>	427	31.56	35.30	Sheet 11	(3.74)	(1,597)	
25	TOTAL OPERATING EXP & OTH TAX		288,307,999							
26	INCOME TAXES:									
27	Current (including state)	Tax W/S, Adj. 25	(4,052,651)	(11,103)	31.56	37.50	Sheet 12	(5.94)	65,952	
28	Non-Utility Other Deductions	Tax W/S, Adj. 25	(328,469)	(900)	31.56	37.50	Sheet 12	(5.94)	5,346	
29	Deferred FIT Included in RB	Tax W/S, Adj. 25	15,582,637	42,692	31.56	0.00	Note 1	31.56	1,347,360	
30	Deferred FIT	F/S, 3N	(109,583)	(300)	31.56	31.56	Note 4	0.00	-	
31	Deferred FIT excluded from RB	Tax W/S, Adj. 25	1,343,876	3,682	31.56	31.56	Note 2	0.00	-	
32	Non-Utility Deferred Income Tax	Tax W/S, Adj. 25	<u>260,872</u>	715	31.56	31.56	Note 2	0.00	-	
33	TOTAL INCOME TAX EXP		12,696,682							
34	JDC Expense Assoc Income Tax Savings	Sch 40b	0	-	31.56	31.56	Note 2	0.00	-	
35	OTHER EXPENSES:									
36	Charitable Donations	Sch 40b	190,848	523	31.56	31.56	Note 2	0.00	-	
37	Interest on Customer Deposits	Sch 40b	15,086	41	31.56	182.50	Sheet 13	(150.94)	(6,189)	
38	Interest on Supplier Refunds	Sch 40b	207	1	31.56	182.50	Note 1	(150.94)	(151)	
39	Interest Expense on LT Debt	F/S,5	14,297,282	39,171	31.56	91.05	Sheet 14	(59.49)	(2,330,283)	
40	AFUDC	F/S,4	(170,536)	(467)	31.56	31.56	Note 2	0.00	-	
41	Other Income	F/S,5	<u>(5,302,840)</u>	(14,528)	31.56	31.56	Note 2	0.00	-	
42	TOTAL OTHER INCOME		9,030,047							
43	Preferred Dividends	Sch 40b	0	-	31.56	31.56	Note 2	0.00	-	
44	JDC Capital Expense	Sch 40b	0	-	31.56	31.56	Note 2	0.00	-	
45	Income Avail for Common Eq	F/S,2	<u>20,033,279</u>	<u>54,886</u>	31.56	31.56	Note 2	0.00	-	
46	Subtotal		330,068,007	904,296					561,263	
47	Customer Utility Taxes	Sheet 15	10,316,752	28,265	31.56	27.40	Sheet 15	4.16	117,582	
48	State & Local Consumption Taxes	Sheet 16	3,705,199	10,151	31.56	37.05	Sheet 16	(5.49)	(55,729)	
49	Plus: Balance Sheet Analysis	Sch 28					Schedule 28		766,551	
50									<u>1,389,667</u>	
			TOTAL CASH WORKING CAPITAL REQUIREMENT/(SOURCE)							

Note 1: Item is included in the Balance Sheet Analysis; therefore, 0 lead days assigned.
Note 2: 0 Net Lead days assigned in compliance with the Staff in Case No. PUE950033.
Note 3: Per Case No. PUE950033, 0 Cash Working Capital used due to a timing difference between deferred gas expense and the average deferred gas balance reflected in rate base.
Note 4: 0 Net Lead days assigned in compliance with normalization requirements of the IRS.

Exhibit No.: _____
Witness: B. E. Elliott
Schedule 2
Sheet 2a

Columbia Gas of Virginia, Inc.
Lead / Lag Cash Working Capital Calculation - LVTS Per Books (GAAP)
For The Year Ended December 31, 2013
Case No. PUE-2014-00020

Line No.	Cost Category	Alloc Factor Ref Per	Alloc Factor % Per	LVTS Per Books Expense (1) \$	LVTS Daily Amount (2) \$	Rev Lag Days (3)	Expense Lead Days (4)	Ref (5)	Net Lag Days (6=3-4) \$	LVTS CWC Requirement (7=2x6) \$
1	OPERATING EXPENSES:									
2	Purchased Gas Expense	Sch 40b; p. 3		-	-	31.56	38.27	Sheet 4	(6.71)	-
3	Deferred Gas Expense	20	0.000%	-	-	31.56	31.56	Note 3	0.00	-
4	Stored Gas Expense	20	0.000%	-	-	31.56	0.00	Note 1	31.56	-
5	Prepaid Insurance Expense	22	2.063%	26,002	71	31.56	0.00	Note 1	31.56	2,241
6	Payroll costs	22	2.063%	251,267	688	31.56	7.97	Sheet 5	23.59	16,230
7	Employee Benefits Expense	22	2.063%	38,453	105	31.56	0.00	Note 1	31.56	3,314
8	Incentive Compensation	22	2.063%	22,425	61	31.56	0.00	Note 1	31.56	1,925
9	Pension and RIP expense	22	2.063%	23,132	63	31.56	0.00	Note 1	31.56	1,988
10	QPEB expense	22	2.063%	10,373	28	31.56	7.34	Sheet 6	24.22	678
11	<u>Other O & M Costs:</u>									
12	Accrued Vacation	22	2.063%	32,537	89	31.56	0.00	Note 1	31.56	2,809
13	Uncollectible Expense	2	0.006%	68	-	31.56	207.28	Sheet 7	(175.72)	-
14	Injuries and Damage Expense	22	2.063%	3,428	9	31.56	0.00	Note 1	31.56	284
15	Environmental Remed Amort.	22	2.063%	-	-	31.56	31.56	Note 2	0.00	-
16	Restructuring Costs Amort.	22	2.063%	-	-	31.56	31.56	Note 2	0.00	-
17	Corporate Services	22	2.063%	579,878	1,589	31.56	30.70	Sheet 17	0.86	1,367
18	Other	22	2.063%	342,179	937	31.56	41.16	Sheet 8	(9.60)	(8,995)
19	Depreciation and Amort Exp	Sch 40b; p. 6		2,031,978	5,567	31.56	0.00	Note 1	31.56	175,695
20										
21	TAXES OTHER THAN INCOME									
22	Payroll Tax Expense	22	2.063%	22,578	62	31.56	9.00	Sheet 9	22.56	1,399
23	Property Tax Expense	16	4.563%	246,812	676	31.56	109.12	Sheet 10	(77.56)	(52,431)
24	Other Taxes	19	3.567%	2,531	7	31.56	35.30	Sheet 11	(3.74)	(26)
25	TOTAL OPERATING EXP	22	2.063%	3,633,641	9,952					
26	INCOME TAXES:									
27	Current (including state)		FIT W/S	1,152,204	3,157	31.56	37.50	Sheet 12	(5.94)	(18,753)
28	Deferred FIT Included in RB	17	8.656%	1,348,833	3,695	31.56	0.00	Note 1	31.56	116,614
29	Deferred ITC	17	8.656%	(9,486)	(26)	31.56	31.56	Note 4	0.00	-
30	Deferred FIT excluded from RB	17	8.656%	116,326	319	31.56	31.56	Note 2	0.00	-
31	TOTAL INCOME TAX EXP			2,607,877	7,145					
32	JDC Expense Assoc Income Tax Savings	Sch 40b; p. 1		-	-	31.56	31.56	Note 2	0.00	-
33	OTHER EXPENSES:									
34	Charitable Donations	22	2.063%	3,937	11	31.56	31.56	Note 2	0.00	-
35	Interest on Customer Deposits	18	0.000%	-	-	31.56	182.50	Sheet 13	(150.94)	-
36	Interest on Supplier Refunds	18	0.000%	-	-	31.56	182.50	Note 1	(150.94)	-
37	Interest Expense on LT Debt	Sch 40b; p. 1		1,392,092	3,814	31.56	91.05	Sheet 14	(59.49)	(226,895)
38	AFUDC	17	8.656%	(14,762)	(40)	31.56	31.56	Note 2	0.00	-
39	Other Income			-	-	31.56	31.56	Note 2	0.00	-
40	TOTAL OTHER INCOME			1,381,268	3,785					
41	Preferred Dividends	Sch 40b; p. 1		-	-	31.56	31.56	Note 2	0.00	-
42	JDC Capital Expense	Sch 40b; p. 1		-	-	31.56	31.56	Note 2	0.00	-
43	Income Avail for Common Eq	Sch 40b; p. 1		4,151,918	11,375	31.56	31.56	Note 2	0.00	-
44	Subtotal			11,774,704	32,257					17,444
45	Customer Utility Taxes	2	0.006%	619	2	31.56	27.40	Sheet 15	4.16	8
46	State & Local Consumption Taxes	2	0.006%	222	1	31.56	37.05	Sheet 16	(5.49)	(5)
47	Plus: Balance Sheet Analysis	Sch 28						Schedule 28		(172,126)
48										TOTAL CASH WORKING CAPITAL REQUIREMENT/(SOURCE) (154,679)

Note 1: Item is included in the Balance Sheet Analysis; therefore, 0 lead days assigned.
Note 2: 0 Net Lead days assigned in compliance with the Staff in Case No. PUE950033
Note 3: Per Case No. PUE950033, 0 Cash Working Capital used due to a timing difference between deferred gas expense and the average deferred gas balance reflected in rate base.
Note 4: 0 Net Lead days assigned in compliance with normalization requirements of the IRS

Exhibit No.: _____
Witness: B. E. Elliott
Schedule 27
Sheet 28b

Columbia Gas of Virginia, Inc.
Lead / Lag Cash Working Capital Calculation - Jurisdictional Per Books (GAAP)
For The Year Ended December 31, 2013
Case No. PUE-2014-00020

Line No.	Cost Category	Alloc Factor Ref Per	Alloc Factor % Per	Jurisdictional Per Books Expense (1) \$	Juris. Daily Amount (2) \$	Rev Lag Days (3)	Expense Lead Days (4)	Ref (5)	Net Lag Days (6=3-4) \$	Jurisdictional CWC Requirement (7=2x6) \$
1	<u>OPERATING EXPENSES:</u>									
2	Purchased Gas Expense	Sch 40b; p. 3		164,282,042	450,088	31.56	38.27	Sheet 4	(6.71)	(3,020,090)
3	Deferred Gas Expense	20	94.772%	(13,690,141)	(37,507)	31.56	31.56	Note 3	0.00	-
4	Stored Gas Expense	20	94.772%	34,741,040	95,181	31.56	0.00	Note 1	31.56	3,003,912
5	Prepaid Insurance Expense	22	94.781%	1,194,624	3,273	31.56	0.00	Note 1	31.56	103,296
6	Payroll costs	22	94.781%	11,544,046	31,628	31.56	7.97	Sheet 5	23.59	746,105
7	Employee Benefits Expense	22	94.781%	1,766,649	4,840	31.56	0.00	Note 1	31.56	152,750
8	Incentive Compensation	22	94.781%	1,030,288	2,823	31.56	0.00	Note 1	31.56	89,094
9	Pension and RIP expense	22	94.781%	1,062,777	2,912	31.56	0.00	Note 1	31.56	91,903
10	OPEB expense	22	94.781%	476,556	1,306	31.56	7.34	Sheet 6	24.22	31,631
11	<u>Other O & M Costs:</u>									
12	Accrued Vacation	22	94.781%	1,494,873	4,096	31.56	0.00	Note 1	31.56	129,270
13	Uncollectible Expense	2	99.267%	1,126,249	3,086	31.56	207.28	Sheet 7	(175.72)	(542,272)
14	Injuries and Damage Expense	22	94.781%	157,479	431	31.56	0.00	Note 1	31.56	13,602
15	Environmental Remed Amort.	22	94.781%	-	-	31.56	31.56	Note 2	0.00	-
16	Restructuring Costs Amort.	22	94.781%	-	-	31.56	31.56	Note 2	0.00	-
17	Corporate Services	22	94.781%	26,641,479	72,990	31.56	30.70	Sheet 17	0.86	62,771
18	Other	22	94.781%	14,612,923	40,035	31.56	41.16	Sheet 8	(9.60)	(384,336)
19	Depreciation and Amort Exp	Sch 40b; p. 6		20,329,031	55,696	31.56	0.00	Note 1	31.56	1,757,766
20										
21	<u>TAXES OTHER THAN INCOME</u>									
22	Payroll Tax Expense	22	94.781%	1,037,289	2,842	31.56	9.00	Sheet 9	22.56	64,116
23	Property Tax Expense	16	91.124%	4,928,887	13,504	31.56	109.12	Sheet 10	(77.56)	(1,047,370)
24	Other Taxes	19	92.633%	148,529	407	31.56	35.30	Sheet 11	(3.74)	(1,522)
25	TOTAL OPERATING EXP	22	94.781%	272,884,619	747,631					
26	<u>INCOME TAXES:</u>									
27	Current (including state)		FIT W/S	(6,877,067)	(18,841)	31.56	37.50	Sheet 12	(5.94)	111,916
28	Deferred FIT Included in RB	17	87.179%	13,584,787	37,219	31.56	0.00	Note 1	31.56	1,174,632
29	Deferred ITC	17	87.179%	(95,533)	(262)	31.56	31.56	Note 4	0.00	-
30	Deferred FIT excluded from RB	17	87.179%	1,171,578	3,210	31.56	31.56	Note 2	0.00	-
31	TOTAL INCOME TAX EXP			7,783,764	21,326					
32	JDC Expense Assoc Income Tax Savings	Sch 40b; p. 1		-	-	31.56	31.56	Note 2	0.00	-
33	<u>OTHER EXPENSES:</u>									
34	Charitable Donations	22	94.781%	180,888	496	31.56	31.56	Note 2	0.00	-
35	Interest on Customer Deposits	18	99.663%	15,035	41	31.56	182.50	Sheet 13	(150.94)	(6,189)
36	Interest on Supplier Refunds	18	99.663%	206	1	31.56	182.50	Note 1	(150.94)	(151)
37	Interest Expense on LT Debt	Sch 40b; p. 1		12,247,098	33,554	31.56	91.05	Sheet 14	(59.49)	(1,996,127)
38	AFUDC	17	87.179%	(148,672)	(407)	31.56	31.56	Note 2	0.00	-
39	Other Income			-	-	31.56	31.56	Note 2	0.00	-
40	TOTAL OTHER INCOME			12,294,556	33,685					
41	Preferred Dividends	Sch 40b; p. 1		-	-	31.56	31.56	Note 2	0.00	-
42	JDC Capital Expense	Sch 40b; p. 1		-	-	31.56	31.56	Note 2	0.00	-
43	Income Avail for Common Eq	Sch 40b; p. 1		12,787,299	35,034	31.56	31.56	Note 2	0.00	-
44	Subtotal			305,750,238	837,676					534,707
45	Customer Utility Taxes	2	99.267%	10,241,131	28,058	31.56	27.40	Sheet 15	4.16	116,721
46	State & Local Consumption Taxes	2	99.267%	3,678,040	10,077	31.56	37.05	Sheet 16	(5.49)	(55,323)
47	Plus: Balance Sheet Analysis	Sch 28						Schedule 28		901,318
48										TOTAL CASH WORKING CAPITAL REQUIREMENT/(SOURCE) 1,497,423

Note 1: Item is included in the Balance Sheet Analysis; therefore, 0 lead days assigned.
Note 2: 0 Net Lead days assigned in compliance with the Staff in Case No. PUE950033
Note 3: Per Case No. PUE950033, 0 Cash Working Capital used due to a timing difference between deferred gas expense and the average deferred gas balance reflected in rate base.
Note 4: 0 Net Lead days assigned in compliance with normalization requirements of the IRS

Exhibit No.: _____

Witness: B. E. Elliott

Schedule 27

Sheet 3

Columbia Gas of Virginia, Inc.
Analysis of Cash Working Capital Requirement
Revenue Lag
TME: December 31, 2013
Case No. PUE-2014-00020

<u>Line No.</u>	<u>Lag Component</u> (1)	<u>Number of Days</u> (2)
1	Meter Reading 1/	15.21
2	Collection (see Sheet No. 3a)	14.64
3	Billing (see Sheet No. 3c)	1.71
4	Total Revenue Lag	<u>31.56</u>

1/ CGV reads all meters monthly. Bills generated using the Distributive Information System are mailed that evening. Large volume Commercial and Industrial customers billed using Gas Accounting System are mailed 5 to 10 days from final meter read. Meter reading lag represents the midpoint of any billing month and are computed as: 365 days / 12 Months / 2 (midpoint) = 15.21 days.

Source: Company Financial Statements

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Exhibit No.: _____
Witness: B. E. Elliott
Schedule 27
Sheet 3a

Columbia Gas of Virginia, Inc.
Weighted Average Collection Lag
TME: December 31, 2013
Case No. PUE-2014-00020

<u>Line No.</u>	<u>Average Daily Revenue</u>	<u>Amount</u> \$
1	Total Tariff Revenues:	
2	Residential Revenues	184,129,921
3	Commercial Revenues	66,470,111
4	Industrial Revenues	3,576,289
5	Other Revenues	-
6	Total Tariff Revenue	<u>254,176,321</u>
7	Non - traditional sales	28,486,808
8	Transportation Revenue	44,958,892
9	Customer Utility Service Tax (Sheet 15)	10,316,752
10	State & Local Consumption Taxes	3,705,199
11	Forfeited Discounts	784,257
12	Miscellaneous Service Revenue	<u>861,476</u>
13	Subtotal of Additional Revenue	89,113,384
14	Supplier Refunds	<u>(274,950)</u>
15	Total Adjusted Revenue	<u>343,014,756</u>
16	Average Daily Revenue (Line 15 ÷ 365 days)	<u>939,766.45</u>
17	Average Daily A/R Balance (Per Sheet No. 3b)	<u>13,754,235</u>
18	Revenue Collection Lag Days (Line 17 ÷ Line 16)	<u>14.64</u>

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Exhibit No.: _____
Witness: B. E. Elliott
Schedule 27
Sheet 3h

Columbia Gas of Virginia, Inc.
Analysis of Cash Working Capital Allowance
Summary of Accounts Receivable
TME: December 31, 2013
Case No. PUE-2014-00020

Line No.	Test Year	142-0001-10801	142-0001-10802	142-0002-10810	143-1000-10835	143-9900-10840-100136	143-9910-10840	Utility Accounts Receivables
		Customer A/R CAB	Customer A/R GMB	Customer Premise	Off-System Sales	Home Energy Assistance	Transportation A/R	
		Month-End	Month-End	Month-End	Month-End	Month-end	Month-End	
		Balance	Balance 2/	Balance	Balance	Balance	Balance 3/	(7)=(1 thru 6)
		(1)	(2)	(3)	(4)	(5)	(6)	
		(\$)	(\$)	(\$)	(\$)	(\$)	(\$)	(\$)
1	January 2013	18,579,393	980,742	338,906	6,577,981	265,926	1,706,098	28,449,046
2	February	26,109,396	816,751	288,363	3,465,003	(4)	2,552,442	33,231,951
3	March	25,880,525	726,754	284,805	604,922	(4)	4,003,097	31,500,099
4	April	20,642,997	507,210	344,988	3,273,888	(4)	2,556,330	27,325,409
5	May	10,203,570	401,969	362,636	3,220,958	(4)	2,499,640	16,688,769
6	June	6,162,946	443,300	419,733	974,734	(4)	2,404,740	10,405,449
7	July	1,353,028	450,388	451,294	948,453	(4)	1,822,606	5,025,765
8	August	(2,404,369)	404,663	466,337	2,133,790	(4)	1,097,364	1,697,781
9	September	(5,066,627)	549,742	439,119	769,070	(4)	1,375,553	(1,933,147)
10	October	(8,526,662)	611,539	424,800	918,284	(4)	475,655	(6,096,388)
11	November	(3,584,483)	746,779	375,890	1,735,152	(4)	2,353,228	1,626,562
12	December	<u>8,090,848</u>	<u>733,650</u>	<u>387,393</u>	<u>5,530,255</u>	<u>17,008</u>	<u>2,370,371</u>	<u>17,129,525</u>
13	Total	<u>97,440,562</u>	<u>7,373,487</u>	<u>4,584,264</u>	<u>30,152,490</u>	<u>282,894</u>	<u>25,217,124</u>	<u>165,050,821</u>
14	Avg. 12 Mo.	<u>8,120,046.83</u>	<u>614,457</u>	<u>382,022</u>	<u>2,512,708</u>	<u>23,575</u>	<u>2,101,427</u>	<u>13,754,235</u>

- (1) Source: Company Financial Statements
- (2) Customer A/R GMC includes 143-9910-10840-100090.
- (3) Transportation A/R includes 143-9910-10840-100150, 143-9910-10840-100151, and 143-9910-10840-10052.

Exhibit No.: _____

Witness: B. E. Elliott

Schedule 27

Sheet 3c

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Columbia Gas of Virginia, Inc.
Analysis of Cash Working Capital Requirement
Billing Lag Calculation
TME: December 31, 2013

<u>Line No.</u>	<u>Description</u> (1)	<u>Revenue Amount</u> (2) \$	<u>Billing Lag</u> (3)	<u>Weighted Revenue</u> (4)=(2)*(3) \$
1	Tariff / Transportation Revenues - (DIS)	223,228,418	1.00	223,228,418
2	Tariff / Transportation Revenues - (GTS)	21,735,557	9.07	197,040,391
3	Tariff / Transportation Revenues - (GMB/GAS)	<u>9,212,346</u>	<u>1.54</u>	<u>14,172,042</u>
4		<u>254,176,321</u>		<u>434,440,851</u>
5	Calculated Billing Lag		<u>1.71</u>	

Exhibit No.: _____
 Witness: B. E. Elliott
 Schedule 27
 Sheet 4

Columbia Gas of Virginia, Inc.
 Analysis of Cash Working Capital Requirement
 Gas Purchased Cost
 TME: December 31, 2013
 Case No. PUE-2014-00020

<u>Line No.</u>	<u>Supplier Category</u> (1)	<u>Reference</u> (2)	<u>Amount Paid</u> (3) \$	<u>Weighted Average Lead Days</u> (4)	<u>Dollar Lead Days</u> (5=3*4) \$
1	Commodity Costs	Sheet 4a	\$117,380,321	40.97	\$ 4,808,977,491
2	Transportation Costs	Sheet 4b	<u>\$60,740,883</u>	<u>33.06</u>	<u>\$ 2,008,279,997</u>
3		Total	<u>\$178,121,204</u>	<u>38.27</u>	<u>\$ 6,817,257,488</u>

Note: The Gas Purchase leads for both Commodity and Transportation Costs were developed through the Gas Supply Department gas purchase system that included the gas flow service period, the date paid and the amount paid for each purchase.

Exhibit No.: _____

Witness: **B. E. Elliott**
Schedule 27
Sheet 4a

Columbia Gas of Virginia, Inc.
Analysis of Cash Working Capital Requirement
Gas Purchased - Commodity Costs
TME: December 31, 2013
Case No. PUE-2014-00020

<u>Line No.</u>	<u>Service Month</u> (1)	<u>Payment Date</u> (2)	<u>Midpoint of Service Period</u> (3)	<u>Lag Days</u> (4)=(2-1+3)	<u>Payment</u> (5)	<u>Weighted Days</u> (6)=(4*5)
1	01/31/13	02/25/13	15.50	40.50	\$28,917	1,171,139
2	01/31/13	02/25/13	15.50	40.50	\$1,027,148	41,599,486
3	01/31/13	02/25/13	15.50	40.50	\$420,964	17,049,022
4	01/31/13	02/25/13	15.50	40.50	\$464,413	18,808,721
5	01/31/13	02/25/13	15.50	40.50	\$2,075,697	84,065,718
6	01/31/13	02/25/13	15.50	40.50	\$8,138	329,589
7	01/31/13	02/25/13	15.50	40.50	\$79,699	3,227,789
8	01/31/13	02/25/13	15.50	40.50	\$271,931	11,013,206
9	01/31/13	02/25/13	15.50	40.50	\$27,175	1,100,588
10	01/31/13	02/25/13	15.50	40.50	\$644,770	26,113,181
11	01/31/13	02/25/13	15.50	40.50	\$131,603	5,329,901
12	01/31/13	02/25/13	15.50	40.50	\$211,171	8,552,441
13	01/31/13	02/25/13	15.50	40.50	\$84,600	3,426,300
14	01/31/13	02/25/13	15.50	40.50	\$3,078	124,639
15	01/31/13	02/25/13	15.50	40.50	\$223,243	9,041,321
16	01/31/13	02/25/13	15.50	40.50	\$153,254	6,206,787
17	01/31/13	02/25/13	15.50	40.50	\$12,042	487,701
18	01/31/13	02/25/13	15.50	40.50	\$32,626	1,321,353
19	01/31/13	02/25/13	15.50	40.50	\$20,503	830,351
20	01/31/13	02/25/13	15.50	40.50	\$3,022,025	122,392,005
21	01/31/13	02/25/13	15.50	40.50	\$63,900	2,587,950
22	01/31/13	02/25/13	15.50	40.50	\$178,689	7,236,884
23	01/31/13	02/25/13	15.50	40.50	\$42,000	1,701,000
24	01/31/13	02/25/13	15.50	40.50	\$35,200	1,425,600
25	01/31/13	02/25/13	15.50	40.50	\$1,256,834	50,901,777
26	01/31/13	02/25/13	15.50	40.50	\$815,000	33,007,500
27	01/31/13	02/25/13	15.50	40.50	\$39,590	1,603,395
28	01/31/13	02/25/13	15.50	40.50	\$2,840,081	115,023,260
29	01/31/13	02/25/13	15.50	40.50	\$166,550	6,745,275
30	01/31/13	02/25/13	15.50	40.50	\$277,427	11,235,773
31	01/31/13	02/25/13	15.50	40.50	\$1,566,015	63,423,587
32	01/31/13	02/25/13	15.50	40.50	\$2,421	98,044
33	01/31/13	02/25/13	15.50	40.50	\$24,857	1,006,688
34	02/28/13	03/25/13	14.00	39.00	\$438,200	17,089,800
35	02/28/13	03/25/13	14.00	39.00	\$105,759	4,124,601
36	02/28/13	03/25/13	14.00	39.00	\$404,262	15,766,230
37	02/28/13	03/25/13	14.00	39.00	\$2,250,810	87,781,600
38	02/28/13	03/25/13	14.00	39.00	\$20,894	814,866
39	02/28/13	03/25/13	14.00	39.00	\$19,427	757,657

140453003

Exhibit No.: _____

Witness: **B. E. Elliott**
Schedule 27
Sheet 4a

Columbia Gas of Virginia, Inc.
Analysis of Cash Working Capital Requirement
Gas Purchased - Commodity Costs
TME: December 31, 2013
Case No. PUE-2014-00020

<u>Line No.</u>	<u>Service Month</u> (1)	<u>Payment Date</u> (2)	<u>Midpoint of Service Period</u> (3)	<u>Lag Days</u> (4)=(2-1+3)	<u>Payment</u> (5)	<u>Weighted Days</u> (6)=(4*5)
40	02/28/13	03/25/13	14.00	39.00	\$404,696	15,783,144
41	02/28/13	03/25/13	14.00	39.00	\$32,350	1,261,650
42	02/28/13	03/25/13	14.00	39.00	\$249,121	9,715,702
43	02/28/13	03/25/13	14.00	39.00	\$24,975	974,025
44	02/28/13	03/25/13	14.00	39.00	\$52,370	2,042,430
45	02/28/13	03/25/13	14.00	39.00	\$65,200	2,542,800
46	02/28/13	03/25/13	14.00	39.00	\$18,137	707,324
47	02/28/13	03/25/13	14.00	39.00	\$32,500	1,267,500
48	02/28/13	03/25/13	14.00	39.00	\$2,221,649	86,644,305
49	02/28/13	03/25/13	14.00	39.00	\$67,983	2,651,337
50	02/28/13	03/25/13	14.00	39.00	\$32,200	1,255,800
51	02/28/13	03/25/13	14.00	39.00	\$32,600	1,271,400
52	02/28/13	03/25/13	14.00	39.00	\$1,372,339	53,521,203
53	02/28/13	03/25/13	14.00	39.00	\$57,500	2,242,500
54	02/28/13	03/25/13	14.00	39.00	\$2,491,874	97,183,086
55	02/28/13	03/25/13	14.00	39.00	\$3,592	140,069
56	02/28/13	03/25/13	14.00	39.00	\$34,350	1,339,650
57	02/28/13	03/25/13	14.00	39.00	\$1,368,416	53,368,224
58	02/28/13	03/25/13	14.00	39.00	\$1,342,915	52,373,675
59	02/28/13	03/25/13	14.00	39.00	\$2,283	89,047
60	03/31/13	04/25/13	15.50	40.50	\$407,675	16,510,838
61	03/31/13	04/25/13	15.50	40.50	\$1,394,622	56,482,191
62	03/31/13	04/25/13	15.50	40.50	\$1,538,965	62,328,093
63	03/31/13	04/25/13	15.50	40.50	\$241,550	9,782,775
64	03/31/13	04/25/13	15.50	40.50	\$266,075	10,776,033
65	03/31/13	04/25/13	15.50	40.50	\$7,550	305,775
66	03/31/13	04/25/13	15.50	40.50	\$59,913	2,426,456
67	03/31/13	04/25/13	15.50	40.50	\$67,560	2,736,180
68	03/31/13	04/25/13	15.50	40.50	\$8,096	327,888
69	03/31/13	04/25/13	15.50	40.50	\$35,200	1,425,600
70	03/31/13	04/25/13	15.50	40.50	\$111,790	4,527,495
71	03/31/13	04/25/13	15.50	40.50	\$163,620	6,626,610
72	03/31/13	04/25/13	15.50	40.50	\$2,716,032	109,999,279
73	03/31/13	04/25/13	15.50	40.50	\$160,943	6,518,192
74	03/31/13	04/25/13	15.50	40.50	\$103,865	4,206,533
75	03/31/13	04/25/13	15.50	40.50	\$38,153	1,545,207
76	03/31/13	04/25/13	15.50	40.50	\$26,676	1,080,378
77	03/31/13	04/25/13	15.50	40.50	\$558,426	22,616,233
78	03/31/13	04/25/13	15.50	40.50	\$9,573	387,686

Exhibit No.: _____

Witness: **B. E. Elliott**

Schedule 27

Sheet 4a

143450003

Columbia Gas of Virginia, Inc.
Analysis of Cash Working Capital Requirement
Gas Purchased - Commodity Costs
TME: December 31, 2013
Case No. PUE-2014-00020

<u>Line No.</u>	<u>Service Month</u> (1)	<u>Payment Date</u> (2)	<u>Midpoint of Service Period</u> (3)	<u>Lag Days</u> (4)=(2-1+3)	<u>Payment</u> (5)	<u>Weighted Days</u> (6)=(4*5)
79	03/31/13	04/25/13	15.50	40.50	\$38,827	1,572,494
80	03/31/13	04/25/13	15.50	40.50	\$44,330	1,795,365
81	03/31/13	04/25/13	15.50	40.50	\$71,082	2,878,821
82	03/31/13	04/25/13	15.50	40.50	\$5,940	240,570
83	03/31/13	04/25/13	15.50	40.50	\$517,979	20,978,150
84	03/31/13	04/25/13	15.50	40.50	\$1,853	75,056
85	04/30/13	05/28/13	15.00	43.00	\$5,901	253,743
86	04/30/13	05/28/13	15.00	43.00	\$40,150	1,726,450
87	04/30/13	05/28/13	15.00	43.00	\$21,050	905,150
88	04/30/13	05/28/13	15.00	43.00	\$316,730	13,619,390
89	04/30/13	05/28/13	15.00	43.00	\$163,163	7,015,988
90	04/30/13	05/28/13	15.00	43.00	\$208,750	8,976,250
91	04/30/13	05/28/13	15.00	43.00	\$333,770	14,352,089
92	04/30/13	05/28/13	15.00	43.00	\$30,994	1,332,731
93	04/30/13	05/28/13	15.00	43.00	\$59,825	2,572,492
94	04/30/13	05/28/13	15.00	43.00	\$26,906	1,156,958
95	04/30/13	05/28/13	15.00	43.00	\$232,047	9,978,010
96	04/30/13	05/28/13	15.00	43.00	\$37,830	1,626,690
97	04/30/13	05/28/13	15.00	43.00	\$6,218	267,353
98	04/30/13	05/28/13	15.00	43.00	\$58,276	2,505,872
99	04/30/13	05/28/13	15.00	43.00	\$411,346	17,687,891
100	04/30/13	05/28/13	15.00	43.00	\$382,184	16,433,891
101	04/30/13	05/28/13	15.00	43.00	\$172,955	7,437,065
102	04/30/13	05/28/13	15.00	43.00	\$56,103	2,412,408
103	04/30/13	05/28/13	15.00	43.00	\$170,739	7,341,756
104	04/30/13	05/28/13	15.00	43.00	\$240,942	10,360,495
105	04/30/13	05/28/13	15.00	43.00	\$2,662,581	114,490,964
106	04/30/13	05/28/13	15.00	43.00	\$170,433	7,328,598
107	04/30/13	05/28/13	15.00	43.00	\$29,448	1,266,264
108	04/30/13	05/28/13	15.00	43.00	\$35,742	1,536,906
109	04/30/13	05/28/13	15.00	43.00	\$103,013	4,429,538
110	04/30/13	05/28/13	15.00	43.00	\$16,263	699,309
111	04/30/13	05/28/13	15.00	43.00	\$3,042,267	130,817,460
112	04/30/13	05/28/13	15.00	43.00	\$22,518	968,274
113	04/30/13	05/28/13	15.00	43.00	\$16,165	695,095
114	04/30/13	05/28/13	15.00	43.00	\$426	18,297
115	04/30/13	05/28/13	15.00	43.00	\$38,240	1,644,320
116	04/30/13	05/28/13	15.00	43.00	\$189,321	8,140,796
117	04/30/13	05/28/13	15.00	43.00	\$165,258	7,106,094

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Exhibit No.: _____

Witness: **B. E. Elliott**
Schedule 27
Sheet 4a

Columbia Gas of Virginia, Inc.
Analysis of Cash Working Capital Requirement
Gas Purchased - Commodity Costs
TME: December 31, 2013
Case No. PUE-2014-00020

<u>Line No.</u>	<u>Service Month</u> (1)	<u>Payment Date</u> (2)	<u>Midpoint of Service Period</u> (3)	<u>Lag Days</u> (4)=(2-1+3)	<u>Payment</u> (5)	<u>Weighted Days</u> (6)=(4*5)
118	04/30/13	05/28/13	15.00	43.00	\$20,554	883,833
119	04/30/13	05/28/13	15.00	43.00	\$2,373,000	102,039,000
120	04/30/13	05/28/13	15.00	43.00	\$2,580	110,937
121	05/31/13	06/25/13	15.50	40.50	\$2,066	83,683
122	05/31/13	06/25/13	15.50	40.50	\$155,159	6,283,940
123	05/31/13	06/25/13	15.50	40.50	\$147,295	5,965,448
124	05/31/13	06/25/13	15.50	40.50	\$152,877	6,191,519
125	05/31/13	06/25/13	15.50	40.50	\$264,731	10,721,606
126	05/31/13	06/25/13	15.50	40.50	\$11,238	455,119
127	05/31/13	06/25/13	15.50	40.50	\$21,100	854,550
128	05/31/13	06/25/13	15.50	40.50	\$43,661	1,768,271
129	05/31/13	06/25/13	15.50	40.50	\$18,596	753,148
130	05/31/13	06/25/13	15.50	40.50	\$1,934,776	78,358,429
131	05/31/13	06/25/13	15.50	40.50	\$28,980	1,173,690
132	05/31/13	06/25/13	15.50	40.50	\$276,536	11,199,711
133	05/31/13	06/25/13	15.50	40.50	\$334,527	13,548,336
134	05/31/13	06/25/13	15.50	40.50	\$19,600	793,800
135	05/31/13	06/25/13	15.50	40.50	\$327,726	13,272,903
136	05/31/13	06/25/13	15.50	40.50	\$71,677	2,902,898
137	05/31/13	06/25/13	15.50	40.50	\$130,020	5,265,810
138	05/31/13	06/25/13	15.50	40.50	\$3,264,244	132,201,876
139	05/31/13	06/25/13	15.50	40.50	\$19,763	800,381
140	05/31/13	06/25/13	15.50	40.50	\$85,426	3,459,733
141	05/31/13	06/25/13	15.50	40.50	\$492,130	19,931,265
142	05/31/13	06/25/13	15.50	40.50	\$1,527,307	61,855,913
143	05/31/13	06/25/13	15.50	40.50	\$45,115	1,827,147
144	05/31/13	06/25/13	15.50	40.50	\$11,970	484,785
145	05/31/13	06/25/13	15.50	40.50	\$344,281	13,943,391
146	05/31/13	06/25/13	15.50	40.50	\$1,662	67,291
147	05/31/13	06/25/13	15.50	40.50	\$7,870	318,735
148	05/31/13	06/25/13	15.50	40.50	\$290,944	11,783,212
149	05/31/13	06/25/13	15.50	40.50	\$5,419	219,459
150	05/31/13	06/25/13	15.50	40.50	\$127,131	5,148,806
151	05/31/13	06/25/13	15.50	40.50	\$567,000	22,963,500
152	05/31/13	06/25/13	15.50	40.50	\$1,119	45,310
153	06/30/13	07/25/13	15.00	40.00	\$74,900	2,996,000
154	06/30/13	07/25/13	15.00	40.00	\$54,200	2,168,000
155	06/30/13	07/25/13	15.00	40.00	\$103,786	4,151,430

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Exhibit No.: _____

Witness: **B. E. Elliott**
Schedule 27
Sheet 4a

Columbia Gas of Virginia, Inc.
Analysis of Cash Working Capital Requirement
Gas Purchased - Commodity Costs
TME: December 31, 2013
Case No. PUE-2014-00020

<u>Line No.</u>	<u>Service Month</u> (1)	<u>Payment Date</u> (2)	<u>Midpoint of Service Period</u> (3)	<u>Lag Days</u> (4)=(2-1+3)	<u>Payment</u> (5)	<u>Weighted Days</u> (6)=(4*5)
195	07/31/13	08/26/13	15.50	41.50	\$1,338,821	55,561,073
196	07/31/13	08/26/13	15.50	41.50	\$504,995	20,957,293
197	07/31/13	08/26/13	15.50	41.50	\$786,685	32,647,428
198	07/31/13	08/26/13	15.50	41.50	\$55,838	2,317,256
199	07/31/13	08/26/13	15.50	41.50	\$87,075	3,613,613
200	07/31/13	08/26/13	15.50	41.50	\$7,420	307,930
201	07/31/13	08/26/13	15.50	41.50	\$44,870	1,862,084
202	07/31/13	08/26/13	15.50	41.50	\$68,706	2,851,299
203	07/31/13	08/28/13	15.50	43.50	\$60	2,628
204	08/31/13	09/25/13	15.50	40.50	\$20,160	816,480
205	08/31/13	09/25/13	15.50	40.50	\$382,788	15,502,914
206	08/31/13	09/25/13	15.50	40.50	\$308,964	12,513,032
207	08/31/13	09/25/13	15.50	40.50	\$64,011	2,592,425
208	08/31/13	09/25/13	15.50	40.50	\$74,313	3,009,677
209	08/31/13	09/25/13	15.50	40.50	\$83,050	3,363,525
210	08/31/13	09/25/13	15.50	40.50	\$54,986	2,226,943
211	08/31/13	09/25/13	15.50	40.50	\$99,303	4,021,771
212	08/31/13	09/25/13	15.50	40.50	\$324,248	13,132,044
213	08/31/13	09/25/13	15.50	40.50	\$485,099	19,646,520
214	08/31/13	09/25/13	15.50	40.50	\$57,420	2,325,490
215	08/31/13	09/25/13	15.50	40.50	\$140,284	5,681,502
216	08/31/13	09/25/13	15.50	40.50	\$7,986	323,433
217	08/31/13	09/25/13	15.50	40.50	\$2,435,366	98,632,324
218	08/31/13	09/25/13	15.50	40.50	\$46,068	1,865,754
219	08/31/13	09/25/13	15.50	40.50	\$117,541	4,760,421
220	08/31/13	09/25/13	15.50	40.50	\$51,725	2,094,863
221	08/31/13	09/25/13	15.50	40.50	\$44,699	1,810,299
222	08/31/13	09/25/13	15.50	40.50	\$34,000	1,377,000
223	08/31/13	09/25/13	15.50	40.50	\$21,945	888,773
224	08/31/13	09/25/13	15.50	40.50	\$645,111	26,126,996
225	08/31/13	09/25/13	15.50	40.50	\$17,688	716,344
226	08/31/13	09/25/13	15.50	40.50	\$112,325	4,549,163
227	08/31/13	09/25/13	15.50	40.50	\$500,293	20,261,867
228	08/31/13	09/25/13	15.50	40.50	\$18	713
229	08/31/13	09/25/13	15.50	40.50	\$222	8,981
230	09/30/13	10/25/13	15.00	40.00	\$209,820	8,392,810
231	09/30/13	10/25/13	15.00	40.00	\$16,944	677,740
232	09/30/13	10/25/13	15.00	40.00	\$137,869	5,514,750

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Exhibit No.: _____

Witness: **B. E. Elliott**
Schedule 27
Sheet 4a

Columbia Gas of Virginia, Inc.
Analysis of Cash Working Capital Requirement
Gas Purchased - Commodity Costs
TME: December 31, 2013
Case No. PUE-2014-00020

<u>Line No.</u>	<u>Service Month</u> (1)	<u>Payment Date</u> (2)	<u>Midpoint of Service Period</u> (3)	<u>Lag Days</u> (4)=(2-1+3)	<u>Payment</u> (5)	<u>Weighted Days</u> (6)=(4*5)
233	09/30/13	10/25/13	15.00	40.00	\$24,189	967,560
234	09/30/13	10/25/13	15.00	40.00	\$45,303	1,812,120
235	09/30/13	10/25/13	15.00	40.00	\$27,600	1,104,000
236	09/30/13	10/25/13	15.00	40.00	\$263,304	10,532,140
237	09/30/13	10/25/13	15.00	40.00	\$8,480	339,180
238	09/30/13	10/25/13	15.00	40.00	\$79,180	3,167,200
239	09/30/13	10/25/13	15.00	40.00	\$177,615	7,104,600
240	09/30/13	10/25/13	15.00	40.00	\$892,782	35,711,297
241	09/30/13	10/25/13	15.00	40.00	\$36,275	1,451,000
242	09/30/13	10/25/13	15.00	40.00	\$18,338	733,500
243	09/30/13	10/25/13	15.00	40.00	\$865,717	34,628,680
244	09/30/13	10/25/13	15.00	40.00	\$17,300	692,000
245	09/30/13	10/25/13	15.00	40.00	\$595,756	23,830,240
246	09/30/13	10/25/13	15.00	40.00	\$27,700	1,108,000
247	09/30/13	10/25/13	15.00	40.00	\$7,040	281,580
248	09/30/13	10/25/13	15.00	40.00	\$36,700	1,468,000
249	09/30/13	10/25/13	15.00	40.00	\$36,130	1,445,190
250	09/30/13	10/25/13	15.00	40.00	\$47,523	1,900,920
251	09/30/13	10/25/13	15.00	40.00	\$496,558	19,862,330
252	09/30/13	10/25/13	15.00	40.00	\$72	2,874
253	10/31/13	11/25/13	15.50	40.50	\$79,605	3,224,003
254	10/31/13	11/25/13	15.50	40.50	\$746	30,213
255	10/31/13	11/25/13	15.50	40.50	\$36,550	1,480,275
256	10/31/13	11/25/13	15.50	40.50	\$9,438	382,219
257	10/31/13	11/25/13	15.50	40.50	\$9,325	377,663
258	10/31/13	11/25/13	15.50	40.50	\$19,112	774,046
259	10/31/13	11/25/13	15.50	40.50	\$7,470	302,535
260	10/31/13	11/25/13	15.50	40.50	\$353,289	14,308,184
261	10/31/13	11/25/13	15.50	40.50	\$18,050	731,025
262	10/31/13	11/25/13	15.50	40.50	\$710,191	28,762,736
263	10/31/13	11/25/13	15.50	40.50	\$100,701	4,078,401
264	10/31/13	11/25/13	15.50	40.50	\$17,650	714,825
265	10/31/13	11/25/13	15.50	40.50	\$46,028	1,864,144
266	10/31/13	11/25/13	15.50	40.50	\$18,450	747,225
267	10/31/13	11/25/13	15.50	40.50	\$130,219	5,273,859
268	10/31/13	11/25/13	15.50	40.50	\$1,845,124	74,727,522
269	10/31/13	11/25/13	15.50	40.50	\$102,175	4,138,088
270	10/31/13	11/25/13	15.50	40.50	\$79,130	3,204,745
271	10/31/13	11/25/13	15.50	40.50	\$21,930	888,165

Exhibit No.: _____

Witness: **B. E. Elliott**
 Schedule 27
 Sheet 4a

Columbia Gas of Virginia, Inc.
Analysis of Cash Working Capital Requirement
Gas Purchased - Commodity Costs
TME: December 31, 2013
Case No. PUE-2014-00020

<u>Line No.</u>	<u>Service Month</u> (1)	<u>Payment Date</u> (2)	<u>Midpoint of Service Period</u> (3)	<u>Lag Days</u> (4)=(2-1+3)	<u>Payment</u> (5)	<u>Weighted Days</u> (6)=(4*5)
272	10/31/13	11/25/13	15.50	40.50	\$868,798	35,186,299
273	10/31/13	11/25/13	15.50	40.50	\$153,939	6,234,530
274	10/31/13	11/25/13	15.50	40.50	\$31,556	1,278,028
275	10/31/13	11/25/13	15.50	40.50	\$74,050	2,999,025
276	10/31/13	11/25/13	15.50	40.50	\$36,500	1,478,250
277	10/31/13	11/25/13	15.50	40.50	\$26,568	1,076,004
278	10/31/13	11/25/13	15.50	40.50	\$382,390	15,486,791
279	10/31/13	11/25/13	15.50	40.50	\$3,635	147,218
280	10/31/13	11/25/13	15.50	40.50	\$500	20,252
281	11/30/13	12/26/13	15.00	41.00	\$4,038	165,558
282	11/30/13	12/26/13	15.00	41.00	\$174,232	7,143,492
283	11/30/13	12/26/13	15.00	41.00	\$36,350	1,490,350
284	11/30/13	12/26/13	15.00	41.00	\$53,963	2,212,463
285	11/30/13	12/26/13	15.00	41.00	\$6,103	250,223
286	11/30/13	12/26/13	15.00	41.00	\$105,000	4,305,000
287	11/30/13	12/26/13	15.00	41.00	\$116,801	4,788,851
288	11/30/13	12/26/13	15.00	41.00	\$586,800	24,058,800
289	11/30/13	12/26/13	15.00	41.00	\$1,869,744	76,659,504
290	11/30/13	12/26/13	15.00	41.00	\$242,466	9,941,106
291	11/30/13	12/26/13	15.00	41.00	\$53,850	2,207,850
292	11/30/13	12/26/13	15.00	41.00	\$40,716	1,669,356
293	11/30/13	12/26/13	15.00	41.00	\$2,533,315	103,865,903
294	11/30/13	12/26/13	15.00	41.00	\$8,640	354,240
295	11/30/13	12/26/13	15.00	41.00	\$79,943	3,277,643
296	11/30/13	12/26/13	15.00	41.00	\$151,709	6,220,079
297	11/30/13	12/26/13	15.00	41.00	\$109,100	4,473,100
298	11/30/13	12/26/13	15.00	41.00	\$73,970	3,032,770
299	11/30/13	12/26/13	15.00	41.00	\$571,683	23,438,983
300	11/30/13	12/26/13	15.00	41.00	\$6,764	277,304
301	11/30/13	12/26/13	15.00	41.00	\$311,756	12,782,006
302	11/30/13	12/26/13	15.00	41.00	\$101,104	4,145,264
303	11/30/13	12/26/13	15.00	41.00	\$21,600	885,600
304	11/30/13	12/26/13	15.00	41.00	\$23,170	949,970
305	11/30/13	12/26/13	15.00	41.00	\$70,777	2,901,837
306	11/30/13	12/26/13	15.00	41.00	\$1,920	78,730
307	12/31/13	01/27/14	15.50	42.50	\$166,900	7,093,250
308	12/31/13	01/27/14	15.50	42.50	\$180,222	7,659,414
309	12/31/13	01/27/14	15.50	42.50	\$37,170	1,579,725

Exhibit No.: _____

Witness: **B. E. Elliott**
Schedule 27
Sheet 4a

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Columbia Gas of Virginia, Inc.
Analysis of Cash Working Capital Requirement
Gas Purchased - Commodity Costs
TME: December 31, 2013
Case No. PUE-2014-00020

<u>Line No.</u>	<u>Service Month</u> (1)	<u>Payment Date</u> (2)	<u>Midpoint of Service Period</u> (3)	<u>Lag Days</u> (4)=(2-1+3)	<u>Payment</u> (5)	<u>Weighted Days</u> (6)=(4*5)
310	12/31/13	01/27/14	15.50	42.50	\$1,332,809	56,644,384
311	12/31/13	01/27/14	15.50	42.50	\$319,155	13,564,088
312	12/31/13	01/27/14	15.50	42.50	\$1,083,603	46,053,147
313	12/31/13	01/27/14	15.50	42.50	\$111,230	4,727,275
314	12/31/13	01/27/14	15.50	42.50	\$30,803	1,309,106
315	12/31/13	01/27/14	15.50	42.50	\$99,699	4,237,186
316	12/31/13	01/27/14	15.50	42.50	\$1,116,013	47,430,553
317	12/31/13	01/27/14	15.50	42.50	\$54,309	2,308,133
318	12/31/13	01/27/14	15.50	42.50	\$6,069,288	257,944,746
319	12/31/13	01/27/14	15.50	42.50	\$873,472	37,122,560
320	12/31/13	01/27/14	15.50	42.50	\$62,100	2,639,250
321	12/31/13	01/27/14	15.50	42.50	\$37,825	1,607,563
322	12/31/13	01/27/14	15.50	42.50	\$3,260,912	138,588,778
323	12/31/13	01/27/14	15.50	42.50	\$69,640	2,959,700
324	12/31/13	01/27/14	15.50	42.50	\$1,825,772	77,595,308
325	12/31/13	01/27/14	15.50	42.50	\$42,700	1,814,750
326	12/31/13	01/27/14	15.50	42.50	\$406,638	17,282,098
327	12/31/13	01/27/14	15.50	42.50	\$29,676	1,261,230
328	12/31/13	01/27/14	15.50	42.50	\$3,167,580	134,622,150
329	12/31/13	01/27/14	15.50	42.50	\$41,329	1,756,461
330	12/31/13	01/27/14	15.50	42.50	\$107,850	4,583,625
331	12/31/13	01/27/14	15.50	42.50	\$4,861	206,587
332	Total			<u>40.97</u>	<u>\$117,380,321</u>	<u>4,808,977,491</u>

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Exhibit No.: _____
Witness: **B. E. Elliott**
Schedule 27
Sheet 4b

Columbia Gas of Virginia, Inc.
Analysis of Cash Working Capital Requirement
Gas Purchased - Transportation Costs
TME: December 31, 2013
Case No. PUE-2014-00020

<u>Line No.</u>	<u>Service Month</u> (1)	<u>Payment Date</u> (2)	<u>Midpoint of Service Period</u> (3)	<u>Lag Days</u> (4)=(2-1+3)	<u>Payment</u> (5)	<u>Weighted Days</u> (6)=(4*5)
1	01/31/13	02/22/13	15.50	37.50	\$191,625	7,185,939
2	01/31/13	02/11/13	15.50	26.50	\$596,434	15,805,498
3	01/31/13	02/15/13	15.50	30.50	\$28,346	864,564
4	01/31/13	02/22/13	15.50	37.50	\$138,368	5,188,783
5	01/31/13	02/20/13	15.50	35.50	\$18,852	669,256
6	01/31/13	02/22/13	15.50	37.50	\$2,587,554	97,033,258
7	01/31/13	02/11/13	15.50	26.50	\$744,118	19,719,138
8	01/31/13	02/20/13	15.50	35.50	\$3,888	138,020
9	01/31/13	02/19/13	15.50	34.50	\$767,449	26,476,989
10	02/28/13	03/22/13	14.00	36.00	\$192,763	6,939,481
11	02/28/13	03/11/13	14.00	25.00	\$611,554	15,288,848
12	02/28/13	03/15/13	14.00	29.00	\$28,079	814,289
13	02/28/13	03/22/13	14.00	36.00	\$142,941	5,145,862
14	02/28/13	03/20/13	14.00	34.00	\$18,852	640,977
15	02/28/13	03/22/13	14.00	36.00	\$2,475,553	89,119,899
16	02/28/13	03/11/13	14.00	25.00	\$672,096	16,802,405
17	02/28/13	03/25/13	14.00	39.00	\$3,708	144,621
18	02/28/13	03/15/13	14.00	29.00	\$764,578	22,172,762
19	03/31/13	04/22/13	15.50	37.50	\$197,334	7,400,020
20	03/31/13	04/11/13	15.50	26.50	\$722,074	19,134,958
21	03/31/13	04/15/13	15.50	30.50	\$24,380	743,585
22	03/31/13	04/22/13	15.50	37.50	\$138,368	5,188,783
23	03/31/13	04/19/13	15.50	34.50	\$18,852	650,403
24	03/31/13	04/22/13	15.50	37.50	\$2,607,565	97,783,699
25	03/31/13	04/10/13	15.50	25.50	\$878,405	22,399,339
26	03/31/13	04/15/13	15.50	30.50	\$764,756	23,325,055
27	04/30/13	05/20/13	15.00	35.00	\$198,728	6,955,465
28	04/30/13	05/13/13	15.00	28.00	\$755,014	21,140,401
29	04/30/13	05/13/13	15.00	28.00	\$15,035	420,968
30	04/30/13	05/23/13	15.00	38.00	\$175,044	6,651,687
31	04/30/13	05/20/13	15.00	35.00	\$46,397	1,623,895
32	04/30/13	05/20/13	15.00	35.00	\$2,116,341	74,071,922
33	04/30/13	05/10/13	15.00	25.00	\$925,761	23,144,025
34	04/30/13	05/16/13	15.00	31.00	\$762,658	23,642,405
35	05/31/13	06/24/13	15.50	39.50	\$193,014	7,624,063

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Exhibit No.: _____

Witness: **B. E. Elliott**
Schedule 27
Sheet 4b

Columbia Gas of Virginia, Inc.
Analysis of Cash Working Capital Requirement
Gas Purchased - Transportation Costs
TME: December 31, 2013
Case No. PUE-2014-00020

<u>Line No.</u>	<u>Service Month</u> (1)	<u>Payment Date</u> (2)	<u>Midpoint of Service Period</u> (3)	<u>Lag Days</u> (4)=(2-1+3)	<u>Payment</u> (5)	<u>Weighted Days</u> (6)=(4*5)
36	05/31/13	06/11/13	15.50	26.50	\$758,935	20,111,767
37	05/31/13	06/17/13	15.50	32.50	\$13,125	426,560
38	05/31/13	06/24/13	15.50	39.50	\$174,692	6,900,326
39	05/31/13	06/20/13	15.50	35.50	\$46,397	1,647,094
40	05/31/13	06/24/13	15.50	39.50	\$2,090,414	82,571,363
41	05/31/13	06/10/13	15.50	25.50	\$956,620	24,393,802
42	05/31/13	07/11/13	15.50	56.50	\$461	26,027
43	05/31/13	06/14/13	15.50	29.50	\$762,261	22,486,688
44	06/30/13	07/22/13	15.00	37.00	\$184,082	6,811,046
45	06/30/13	07/11/13	15.00	26.00	\$758,935	19,732,300
46	06/30/13	07/15/13	15.00	30.00	\$5,599	167,965
47	06/30/13	07/22/13	15.00	37.00	\$175,044	6,476,643
48	06/30/13	07/19/13	15.00	34.00	\$46,397	1,577,498
49	06/30/13	07/22/13	15.00	37.00	\$2,037,483	75,386,864
50	06/30/13	07/10/13	15.00	25.00	\$925,761	23,144,025
51	06/30/13	07/24/13	15.00	39.00	\$906	35,352
52	06/30/13	07/15/13	15.00	30.00	\$777,158	23,314,736
53	07/31/13	08/22/13	15.50	37.50	\$180,827	6,781,005
54	07/31/13	08/12/13	15.50	27.50	\$758,434	20,856,933
55	07/31/13	08/15/13	15.50	30.50	\$10,546	321,655
56	07/31/13	08/23/13	15.50	38.50	\$174,692	6,725,634
57	07/31/13	08/20/13	15.50	35.50	\$46,397	1,647,094
58	07/31/13	08/22/13	15.50	37.50	\$2,052,788	76,979,549
59	07/31/13	08/12/13	15.50	27.50	\$946,700	26,034,242
60	07/31/13	08/20/13	15.50	35.50	\$428	15,190
61	07/31/13	08/15/13	15.50	30.50	\$761,363	23,221,571
62	08/31/13	09/23/13	15.50	38.50	\$184,212	7,092,165
63	08/31/13	09/13/13	15.50	28.50	\$717,035	20,435,486
64	08/31/13	09/16/13	15.50	31.50	\$11,298	355,881
65	08/31/13	09/23/13	15.50	38.50	\$174,692	6,725,634
66	08/31/13	09/20/13	15.50	35.50	\$46,397	1,647,094
67	08/31/13	09/23/13	15.50	38.50	\$2,065,586	79,525,046
68	08/31/13	09/10/13	15.50	25.50	\$947,320	24,156,652
69	08/31/13	09/20/13	15.50	35.50	\$388	13,778
70	08/31/13	09/16/13	15.50	31.50	\$764,320	24,076,069
71	09/30/13	10/21/13	15.00	36.00	\$184,120	6,628,303
72	09/30/13	10/11/13	15.00	26.00	\$89,695	2,332,059

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Exhibit No.: _____

Witness: **B. E. Elliott**
Schedule 27
Sheet 4b

Columbia Gas of Virginia, Inc.
Analysis of Cash Working Capital Requirement
Gas Purchased - Transportation Costs
TME: December 31, 2013
Case No. PUE-2014-00020

<u>Line No.</u>	<u>Service Month</u> (1)	<u>Payment Date</u> (2)	<u>Midpoint of Service Period</u> (3)	<u>Lag Days</u> (4)=(2-1+3)	<u>Payment</u> (5)	<u>Weighted Days</u> (6)=(4*5)
73	09/30/13	10/15/13	15.00	30.00	\$13,200	395,985
74	09/30/13	10/21/13	15.00	36.00	\$175,044	6,301,598
75	09/30/13	10/18/13	15.00	33.00	\$46,397	1,531,101
76	09/30/13	10/21/13	15.00	36.00	\$2,185,646	78,683,270
77	09/30/13	10/10/13	15.00	25.00	\$916,761	22,919,018
78	09/30/13	10/21/13	15.00	36.00	\$376	13,522
79	09/30/13	10/14/13	15.00	29.00	\$761,481	22,082,963
80	10/31/13	11/22/13	15.50	37.50	\$183,977	6,899,147
81	10/31/13	11/12/13	15.50	27.50	\$385,429	10,599,299
82	10/31/13	11/15/13	15.50	30.50	\$8,653	263,904
83	10/31/13	11/22/13	15.50	37.50	\$174,692	6,550,943
84	10/31/13	11/20/13	15.50	35.50	\$46,397	1,647,094
85	10/31/13	11/22/13	15.50	37.50	\$2,827,552	106,033,199
86	10/31/13	11/12/13	15.50	27.50	\$947,319	26,051,283
87	10/31/13	11/20/13	15.50	35.50	\$388	13,778
88	10/31/13	11/15/13	15.50	30.50	\$765,912	23,360,322
89	11/30/13	12/24/13	15.00	39.00	\$181,565	7,081,046
90	11/30/13	12/12/13	15.00	27.00	\$364,587	9,843,847
91	11/30/13	12/16/13	15.00	31.00	\$19,430	602,317
92	11/30/13	12/23/13	15.00	38.00	\$175,044	6,651,687
93	11/30/13	12/20/13	15.00	35.00	\$46,397	1,623,895
94	11/30/13	12/23/13	15.00	38.00	\$2,836,328	107,780,475
95	11/30/13	12/10/13	15.00	25.00	\$926,899	23,172,473
96	11/30/13	12/16/13	15.00	31.00	\$770,643	23,889,927
97	12/31/13	01/23/14	15.50	38.50	\$191,125	7,358,331
98	12/31/13	01/13/14	15.50	28.50	\$680,987	19,408,142
99	12/31/13	01/16/14	15.50	31.50	\$22,938	722,561
100	12/31/13	01/24/14	15.50	39.50	\$174,692	6,900,326
101	12/31/13	01/17/14	15.50	32.50	\$46,397	1,507,903
102	12/31/13	01/23/14	15.50	38.50	\$2,770,327	106,657,572
103	12/31/13	01/10/14	15.50	25.50	\$965,516	24,620,649
104	12/31/13	01/16/14	15.50	31.50	\$770,796	24,280,062
105	Total			<u>33.06</u>	<u>\$60,740,883</u>	<u>2,008,279.997</u>

Exhibit No.: _____
Witness: **B. E. Elliott**
Schedule 27
Sheet 5

Columbia Gas of Virginia, Inc.
Analysis of Cash Working Capital Requirement
Payroll Costs
TME: December 31, 2013
Case No. PUE-2014-00020

<u>Line</u> <u>No.</u>	<u>Description</u>	<u>Reference</u>	<u>Payroll</u> <u>Costs</u> (1) \$	<u>Lead</u> <u>Days</u> (2)	<u>Dollar</u> <u>Lead</u> <u>Days</u> (3=1*2) \$
1	Bi-Weekly:	Sheet 5a	16,240,738	6.00	97,444,430
2	Monthly:	Sheet 5b	<u>4,879,316</u>	<u>14.53</u>	<u>70,892,828</u>
3		Total Payroll Costs	<u>21,120,054</u>	<u>7.97</u>	<u>168,337,258</u>

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Exhibit No.: _____
Witness: B. E. Elliott
Schedule 27
Sheet 5a

Columbia Gas of Virginia, Inc.
Analysis of Cash Working Capital Requirement
Bi-Weekly Gross Payroll Lead Days
TME: December 31, 2013
Case No. PUE-2014-00020

<u>Line No.</u>	<u>Pay Dates</u> (1)	<u>End of Pay Period</u> (2)	<u>Days from Pay Date to Pay Period</u> (3)	<u>Service Midpoint</u> (4)	<u>Bi-Weekly Gross Pay Lead Days</u> (5)=(3)+(4)	<u>Normal Bi-Weekly Gross Pay</u> (6) (\$)	<u>Bi-Weekly Gross Pay Dollar Days</u> (7)=(5)*(6)
1	01/11/13	01/12/13	(1.00)	7.00	6.00	521,814	3,130,881
2	01/25/13	01/26/13	(1.00)	7.00	6.00	544,572	3,267,430
3	02/08/13	02/09/13	(1.00)	7.00	6.00	548,896	3,293,374
4	02/22/13	02/23/13	(1.00)	7.00	6.00	556,265	3,337,589
5	03/08/13	03/09/13	(1.00)	7.00	6.00	1,273,080	7,638,480
6	03/22/13	03/23/13	(1.00)	7.00	6.00	547,081	3,282,485
7	04/05/13	04/06/13	(1.00)	7.00	6.00	570,534	3,423,206
8	04/19/13	04/20/13	(1.00)	7.00	6.00	565,513	3,393,080
9	05/03/13	05/04/13	(1.00)	7.00	6.00	567,545	3,405,269
10	05/17/13	05/18/13	(1.00)	7.00	6.00	562,302	3,373,811
11	05/31/13	06/01/13	(1.00)	7.00	6.00	560,556	3,363,336
12	06/14/13	06/15/13	(1.00)	7.00	6.00	581,252	3,487,511
13	06/28/13	06/29/13	(1.00)	7.00	6.00	601,192	3,607,150
14	07/12/13	07/13/13	(1.00)	7.00	6.00	592,477	3,554,864
15	07/26/13	07/27/13	(1.00)	7.00	6.00	571,093	3,426,558
16	08/09/13	08/10/13	(1.00)	7.00	6.00	609,957	3,659,742
17	08/23/13	08/24/13	(1.00)	7.00	6.00	635,450	3,812,700
18	09/06/13	09/07/13	(1.00)	7.00	6.00	620,140	3,720,841
19	09/20/13	09/21/13	(1.00)	7.00	6.00	610,429	3,662,576
20	10/04/13	10/05/13	(1.00)	7.00	6.00	630,795	3,784,770
21	10/18/13	10/19/13	(1.00)	7.00	6.00	653,618	3,921,709
22	11/01/13	11/02/13	(1.00)	7.00	6.00	639,056	3,834,338
23	11/15/13	11/16/13	(1.00)	7.00	6.00	703,790	4,222,743
24	11/29/13	11/30/13	(1.00)	7.00	6.00	668,811	4,012,864
25	12/13/13	12/14/13	(1.00)	7.00	6.00	641,732	3,850,390
26	12/27/13	12/28/13	(1.00)	7.00	6.00	<u>662,789</u>	<u>3,976,733</u>
27				Bi-Weekly Lead Days	<u>6.00</u>	<u>16,240,738</u>	<u>97,444,430</u>

Exhibit No.: _____
Witness: **B. E. Elliott**
Schedule 27
Sheet 5b

Columbia Gas of Virginia, Inc.
Analysis of Cash Working Capital Requirement
Monthly Gross Payroll Lead Days
TME: December 31, 2013
Case No. PUE-2014-00020

<u>Line No.</u>	<u>Monthly Pay Dates</u> (1)	<u>End of Pay Period</u> (2)	<u>Service Midpoint</u> (3)	<u>Monthly Gross Pay Lead Days</u> (4)=(1)-(2)+(3)	<u>Normal Monthly Gross Pay</u> (5) (S)	<u>Monthly Gross Pay Dollar Days</u> (6)=(4)*(5)
1	01/31/13	01/31/13	15.50	15.50	286,876	4,446,585
2	02/28/13	02/28/13	14.00	14.00	1,160,527	16,247,377
3	03/29/13	03/31/13	15.50	13.50	291,297	3,932,508
4	04/30/13	04/30/13	15.00	15.00	336,136	5,042,039
5	05/31/13	05/31/13	15.50	15.50	314,785	4,879,165
6	06/28/13	06/30/13	15.00	13.00	318,334	4,138,342
7	07/31/13	07/31/13	15.50	15.50	353,039	5,472,102
8	08/30/13	08/31/13	15.50	14.50	313,092	4,539,837
9	09/30/13	09/30/13	15.00	15.00	317,004	4,755,053
10	10/31/13	10/31/13	15.50	15.50	421,575	6,534,406
11	11/29/13	11/30/13	15.00	14.00	422,063	5,908,877
12	12/30/13	12/31/13	15.50	14.50	344,589	4,996,537
13		Monthly Lead Days		<u>14.53</u>	<u>4,879,316</u>	<u>70,892,828</u>

Exhibit No.: _____
Witness: B. E. Elliott
Schedule 27
Sheet 6

Columbia Gas of Virginia, Inc.
Analysis of Cash Working Capital Requirement
OPEB Costs
TME: December 31, 2013
Case No. PUE-2014-00020

<u>Line No.</u>	<u>End of Service Period</u> (1)	<u>Payment Date</u> (2)	<u>Midpoint of Service Period</u> (3)	<u>Amount Paid</u> (4) \$	<u>Lead Days</u> (5)=(2-1+3)	<u>Lead Days</u> (6)=(4x5) \$	<u>Notes</u>
1	December 31, 2012	January 30, 2013	15.50	36,128	45.50	1,643,839	Retiree Deferral
2	January 31, 2013	February 28, 2013	15.50	33,568	43.50	1,460,193	Retiree Deferral
3	February 28, 2013	March 27, 2013	14.00	30,525	41.00	1,251,507	Retiree Deferral
4	February 28, 2013	March 28, 2013	45.00	(100,221)	73.00	(7,316,100)	Reimbursement from Trust
5	March 31, 2013	March 27, 2013	45.00	100,000	41.00	4,100,000	Payment to Trust
6	March 31, 2013	April 25, 2013	15.50	44,719	40.50	1,811,101	Retiree Deferral
7	April 30, 2013	May 24, 2013	15.00	40,904	39.00	1,595,238	Retiree Deferral
8	May 31, 2013	June 25, 2013	15.50	37,665	40.50	1,525,442	Retiree Deferral
9	May 31, 2013	June 28, 2013	46.00	(123,287)	74.00	(9,123,261)	Reimbursement from Trust
10	June 30, 2013	June 27, 2013	45.50	100,000	42.50	4,250,000	Payment to Trust
11	June 30, 2013	July 26, 2013	15.00	36,407	41.00	1,492,677	Retiree Deferral
12	July 31, 2013	August 26, 2013	15.50	29,922	41.50	1,241,753	Retiree Deferral
13	August 31, 2013	September 24, 2013	15.50	36,650	39.50	1,447,655	Retiree Deferral
14	August 31, 2013	September 30, 2013	46.00	(102,978)	76.00	(7,826,330)	Reimbursement from Trust
15	September 30, 2013	September 27, 2013	46.00	100,000	43.00	4,300,000	Payment to Trust
16	September 30, 2013	October 28, 2013	15.00	31,101	43.00	1,337,349	Retiree Deferral
17	October 31, 2013	November 26, 2013	15.50	30,024	41.50	1,245,985	Retiree Deferral
18	November 30, 2013	December 23, 2013	15.00	33,842	38.00	1,286,009	Retiree Deferral
19	December 31, 2013	December 26, 2013	46.00	100,000	41.00	4,100,000	Payment to Trust
20	November 30, 2013	December 27, 2013	45.50	(94,967)	72.50	(6,885,124)	Reimbursement from Trust
21							
22	Total			<u>400,000</u>	<u>7.34</u>	<u>2,937,933</u>	

Exhibit No.: _____
Witness: **B. E. Elliott**
Schedule 27
Sheet 7

Columbia Gas of Virginia, Inc.
Analysis of Cash Working Capital Requirement
Uncollectible Expense
TME: December 31, 2013
Case No. PUE-2014-00020

<u>Line No.</u>	<u>Month</u> (1)	<u>A/C 144 Balance</u> (2) \$
1	January 2013	781,494
2	February	879,726
3	March	910,773
4	April	981,557
5	May	894,647
6	June	680,830
7	July	724,337
8	August	766,835
9	September	728,570
10	October	663,569
11	November	779,688
12	December 2013	<u>979,277</u>
13	Total	9,771,306
14	Avg. Monthly Accumulated Uncoll Bal	<u>814,276</u>
15	Per Books Uncollectible Expense	1,134,565
16	Adj: Expense reversed for MF Global written-off	<u>299,288</u>
17	Adjusted Uncollectible Expense	<u>1,433,853</u>
18	Number of Days	<u>365</u>
19	Avg. Daily Balance	<u>3,928.37</u>
20	Avg. No. Lead Days (Ln. 14 ÷ Ln. 19)	<u>207.28</u>

Source: Financial Statements, Page 1A

Exhibit No.: _____
 Witness: B. E. Elliott
 Schedule 27
 Sheet 8

Columbia Gas of Virginia, Inc.
Analysis of Cash Working Capital Requirement
Other O & M Costs
TME: December 31, 2013
Case No. PUE-2014-00020

<u>Line No.</u>	<u>Description</u> (1)	<u>Approved Check Amount</u> (2) \$	<u>Lead Days</u> (3)=(5/2)	<u>Notes</u> (4)	<u>Dollar Weighted Days</u> (5)	<u>Percentage</u> (6) %	<u>Lead Days</u> (7)=(3)*(6)
1	Total Work Management Contracts	19,795,518	30.23	1_ /	598,449,687	50.38%	15.23
2	Total General Office Source	<u>2,435,324</u>	52.26	2_ /	<u>127,282,057</u>	<u>49.62%</u>	<u>25.93</u>
3	Total	22,230,843			725,731,743	100.00%	<u><u>41.16</u></u>

Notes:

1_ / This data are made up of numerous invoices and is maintained in an excel spreadsheet.
 An electronic copy of this data may be provided upon request.

2_ / Days were based on 400 invoices randomly selected from the company's accounts payable system.

14045000

Exhibit No.: _____
 Witness: B. E. Elliott
 Schedule 27
 Sheet 9

Columbia Gas of Virginia, Inc.
 Analysis of Cash Working Capital Requirement
 Company Paid Payroll Taxes
 TME: December 31, 2013
 Case No. PUE-2014-00020

<u>Line No.</u>	<u>Description</u>	<u>Reference</u>	<u>Payroll Costs</u> (1) \$	<u>Lead Days</u> (2)	<u>Dollar Lead Days</u> (3) \$
1	F.I.C.A.	Sheet 9a	2,966,698	7.69	22,815,435
2	Federal Unemployment	Sheet 9b	11,063	72.50	802,086
3	State Unemployment	Sheet 9b	<u>49,923</u>	<u>72.50</u>	<u>3,619,398</u>
4		Total	<u>3,027,684</u>	<u>9.00</u>	<u>27,236,919</u>

140450003

Exhibit No.: _____

Witness: B. E. Elliott

Schedule 27

Sheet 9a

Columbia Gas of Virginia, Inc.
Analysis of Cash Working Capital Requirement
Employee's FICA Withheld Lead Day Calculation
TME: December 31, 2013
Case No. PUE-2014-00020

<u>Line No.</u>	<u>Pay Type</u>	<u>Reference</u>	<u>Employee's FICA Withholding</u> (1)	<u>Lead Days</u> (2)	<u>Dollar Weighted Days</u> (3)
1	Bi-Weekly	Sheet 9a, Page 1	2,377,772	6.00	14,266,627
2	Monthly	Sheet 9a, Page 2	<u>588,926</u>	<u>14.52</u>	<u>8,548,808</u>
3		Total	<u>2,966,698</u>	<u>7.69</u>	<u>22,815,435</u>

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Exhibit No.: _____
Witness: B. E. Elliott
Schedule 27
Sheet 9a, Page 1

Columbia Gas of Virginia, Inc.
Analysis of Cash Working Capital Requirement
Payroll Taxes - FICA BI-Weekly
TME: December 31, 2013
Case No. PUE-2014-00020

<u>Line No.</u>	<u>Pay Date</u> (1)	<u>Days From Midpoint To Pay 1/</u> (2)	<u>Total Bi-Weekly FICA Withheld</u> (3) (S)	<u>Deposit Date 2/</u> (4)	<u>Lead Days</u> (5)	<u>Weighted Payroll</u> (6=3x5)
1	01/11/13	6.00	75,933	01/11/13	6.00	455,599
2	01/25/13	6.00	79,387	01/25/13	6.00	476,323
3	02/08/13	6.00	80,040	02/08/13	6.00	480,241
4	02/22/13	6.00	81,100	02/22/13	6.00	486,597
5	03/08/13	6.00	190,776	03/08/13	6.00	1,144,658
6	03/22/13	6.00	79,671	03/22/13	6.00	478,024
7	04/05/13	6.00	83,261	04/05/13	6.00	499,566
8	04/19/13	6.00	82,567	04/19/13	6.00	495,402
9	05/03/13	6.00	82,778	05/03/13	6.00	496,665
10	05/17/13	6.00	81,974	05/17/13	6.00	491,841
11	05/31/13	6.00	85,807	05/31/13	6.00	514,840
12	06/14/13	6.00	84,859	06/14/13	6.00	509,153
13	06/28/13	6.00	87,883	06/28/13	6.00	527,300
14	07/12/13	6.00	86,542	07/12/13	6.00	519,255
15	07/26/13	6.00	83,264	07/26/13	6.00	499,583
16	08/09/13	6.00	89,158	08/09/13	6.00	534,949
17	08/23/13	6.00	93,078	08/23/13	6.00	558,466
18	09/06/13	6.00	90,724	09/06/13	6.00	544,345
19	09/20/13	6.00	89,228	09/20/13	6.00	535,370
20	10/04/13	6.00	92,287	10/04/13	6.00	553,722
21	10/18/13	6.00	95,836	10/18/13	6.00	575,017
22	11/01/13	6.00	93,570	11/01/13	6.00	561,422
23	11/15/13	6.00	103,439	11/15/13	6.00	620,635
24	11/29/13	6.00	101,648	11/29/13	6.00	609,887
25	12/13/13	6.00	90,468	12/13/13	6.00	542,808
26	12/27/13	<u>6.00</u>	<u>92,493</u>	12/27/13	<u>6.00</u>	<u>554,959</u>
27	Total	<u>6.00</u>	<u>2,377,772</u>		<u>6.00</u>	<u>14,266,627</u>

1/ See detail on Sheet 5a. Column 5.

2/ NiSource / CGV is a next day taxpayer, however, tax payments are processed by a third party agent and cash is provided to the agent on payday.

14045003

Exhibit No.: _____
Witness: B. E. Elliott
Schedule 27
Sheet 9a, Page 2

Columbia Gas of Virginia, Inc.
Analysis of Cash Working Capital Requirement
Payroll Taxes - FICA Monthly Pay
TME: December 31, 2013
Case No. PUE-2014-00020

Line No.	<u>Pay Date</u> (1)	<u>Days From Midpoint To Pay Date 1/</u> (2)	<u>Monthly Total FICA Withheld</u> (3) (\$)	<u>Deposit Date</u> (4)	<u>Lead Days</u> (5)	<u>Weighted FICA</u> (6=3x5)
1	01/31/13	15.50	42,254	01/31/13	15.50	654,933
2	02/28/13	14.00	146,910	02/28/13	14.00	2,056,736
3	03/29/13	13.50	40,051	03/29/13	13.50	540,687
4	04/30/13	15.00	40,422	04/30/13	15.00	606,336
5	05/31/13	15.50	42,545	05/31/13	15.50	659,443
6	06/28/13	13.00	42,960	06/28/13	13.00	558,486
7	07/31/13	15.50	41,414	07/31/13	15.50	641,918
8	08/30/13	14.50	38,194	08/30/13	14.50	553,817
9	09/30/13	15.00	38,338	09/30/13	15.00	575,072
10	10/31/13	15.50	40,471	10/31/13	15.50	627,296
11	11/29/13	14.00	37,475	11/29/13	14.00	524,653
12	12/30/13	<u>14.50</u>	<u>37,892</u>	12/30/13	<u>14.50</u>	<u>549,431</u>
13	Total	<u>14.53</u>	<u>588,926</u>		<u>14.52</u>	<u>8,548,808</u>

1/ See detail on Sheet 5a.

1404500003

Exhibit No.: _____
 Witness: B. E. Elliott
 Schedule 27
 Sheet 9b

Columbia Gas of Virginia, Inc.
 Analysis of Cash Working Capital Requirement
 Payroll Taxes - Unemployment Taxes
 TME: December 31, 2013
 Case No. PUE-2014-00020

Line No.	Service Period Qtr Ended (1)	Days From Midpoint (2)	Deposit Paid (3)	Lead Days (4=3-1+2)	Federal Paid (5) \$	State Paid (6) \$	Federal \$ Weighted (7=4*5)	State \$ Weighted (8=4*6)
<u>Monthly</u>								
1	01/31/13	15.50	03/29/13	72.50	1,406	5,928	101,938	429,808
2	02/28/13	14.00	03/29/13	43.00	176	1,252	12,770	90,769
3	03/31/13	15.50	03/29/13	13.50	20	78	1,424	5,649
4	04/30/13	15.00	06/28/13	74.00	22	108	1,621	7,810
5	05/31/13	15.50	06/28/13	43.50	18	99	1,280	7,145
6	06/30/13	15.00	06/28/13	13.00	28	112	2,047	8,120
7	07/31/13	15.50	09/30/13	76.50	44	220	3,176	15,916
8	08/31/13	15.50	09/30/13	45.50	-	2	-	133
9	09/30/13	15.00	09/30/13	15.00	24	94	1,726	6,847
10	10/31/13	15.50	12/31/13	76.50	18	96	1,319	6,957
11	11/30/13	15.00	12/31/13	46.00	-	-	-	-
12	12/31/13	15.50	12/31/13	15.50	107	424	7,751	30,745
<u>Bi-weekly</u>								
13	01/12/13	7.00	03/29/13	83.00	2,956	11,724	214,280	849,961
14	01/26/13	7.00	03/29/13	69.00	2,990	12,134	216,792	879,723
15	02/09/13	7.00	03/29/13	55.00	1,440	8,464	104,420	613,649
16	02/23/13	7.00	03/29/13	41.00	362	2,258	26,221	163,724
17	03/09/13	7.00	03/29/13	27.00	168	1,139	12,206	82,571
18	03/23/13	7.00	03/29/13	13.00	33	196	2,363	14,194
19	04/06/13	7.00	06/28/13	90.00	2	49	129	3,547
20	04/20/13	7.00	06/28/13	76.00	27	108	1,971	7,816
21	05/04/13	7.00	06/28/13	62.00	31	121	2,213	8,778
22	05/18/13	7.00	06/28/13	48.00	26	133	1,907	9,606
23	06/01/13	7.00	06/28/13	34.00	15	78	1,069	5,646
24	06/15/13	7.00	06/28/13	20.00	10	39	720	2,858
25	06/29/13	7.00	06/28/13	6.00	70	279	5,102	20,235
26	07/13/13	7.00	09/30/13	86.00	74	293	5,353	21,236
27	07/27/13	7.00	09/30/13	72.00	69	296	4,978	21,469
28	08/10/13	7.00	09/30/13	58.00	78	353	5,629	25,573
29	08/24/13	7.00	09/30/13	44.00	80	390	5,769	28,263
30	09/07/13	7.00	09/30/13	30.00	87	347	6,304	25,163
31	09/21/13	7.00	09/30/13	16.00	76	368	5,477	26,672
32	10/05/13	7.00	12/31/13	94.00	71	307	5,158	22,265
33	10/19/13	7.00	12/31/13	80.00	99	422	7,161	30,584
34	11/02/13	7.00	12/31/13	66.00	108	479	7,852	34,701
35	11/16/13	7.00	12/31/13	52.00	91	450	6,624	32,616
36	11/30/13	7.00	12/31/13	38.00	91	405	6,587	29,360
37	12/14/13	7.00	12/31/13	24.00	79	380	5,732	27,578
38	12/28/13	7.00	12/31/13	10.00	69	299	5,017	21,711
39	Total				11,063	49,923	802,086	3,619,398
40	Net Lead Days						72.50	72.50

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Exhibit No.: _____
 Witness: B. E. Elliott
 Schedule 27
 Sheet 10

Columbia Gas of Virginia, Inc.
Analysis of Cash Working Capital Requirement
Property Taxes
TME: December 31, 2013
Case No. PUE-2014-00020

Line No.	Taxing Authority	Payments	Date Paid	Midpoint of Tax Year	Lag Days	Weighted Lag Days
	(1)	(2)	(3)	(4)	(5)=(3-4)	(6)=(5*1)
		(\$)				(\$)
1	<u>Cities</u>					
2	Buena Vista	12,408.21	05/22/13	07/01/12	325.00	4,032,668
3		14,947.95	11/20/13	07/01/13	142.00	2,122,609
4	Chesapeake	62,578.26	03/07/13	07/01/12	249.00	15,581,987
5		62,578.26	05/22/13	07/01/12	325.00	20,337,935
6		64,892.91	10/07/13	07/01/13	98.00	6,359,505
7		64,892.91	12/19/13	07/01/13	171.00	11,096,688
8	Colonial Hts.	34,386.66	05/01/13	07/01/13	(61.00)	(2,097,586)
9		36,030.84	11/13/13	07/01/13	135.00	4,864,163
10	Covington	10,596.57	05/06/13	07/01/12	309.00	3,274,340
11		10,839.12	11/20/13	07/01/13	142.00	1,539,155
12	Fredericksburg	41,561.48	04/23/13	07/01/13	(69.00)	(2,867,742)
13		41,860.29	10/22/13	07/01/13	113.00	4,730,213
14		298.82	12/19/13	07/01/13	171.00	51,098
15	Harrisonburg	32,483.92	05/06/13	07/01/12	309.00	10,037,531
16		34,198.46	11/20/13	07/01/13	142.00	4,856,181
17	Hopewell	92,717.56	11/25/13	07/01/13	147.00	13,629,481
18	Lexington	26,167.74	11/20/13	07/01/13	142.00	3,715,819
19		34.60	11/20/13	07/01/13	142.00	4,913
20	Lynchburg	207,845.28	11/06/13	07/01/13	128.00	26,604,196
21		99,123.61	11/06/13	07/01/13	128.00	12,687,822
22		138.74	11/06/13	07/01/13	128.00	17,759
23	Manassas	72,144.47	05/06/13	07/01/13	(56.00)	(4,040,090)
24		79,694.28	11/25/13	07/01/13	147.00	11,715,059
25		32.83	11/25/13	07/01/13	147.00	4,826
26	Manassas Park	66,097.23	11/20/13	07/01/13	142.00	9,385,807

Exhibit No.: _____
Witness: B. E. Elliott
Schedule 27
Sheet 10

Columbia Gas of Virginia, Inc.
Analysis of Cash Working Capital Requirement
Property Taxes
TME: December 31, 2013
Case No. PUE-2014-00020

<u>Line No.</u>	<u>Taxing Authority</u>	<u>Payments</u>	<u>Date Paid</u>	<u>Midpoint of Tax Year</u>	<u>Lag Days</u>	<u>Weighted Lag Days</u>
	(1)	(2)	(3)	(4)	(5)=(3-4)	(6)=(5*1)
		(\$)				(\$)
27	<u>Cities (continued)</u>					
28	Petersburg	44,033.89	03/07/13	07/01/12	249.00	10,964,439
29		44,033.87	06/05/13	07/01/12	339.00	14,927,482
30		46,815.14	10/10/13	07/01/13	101.00	4,728,329
31		46,815.14	11/25/13	07/01/13	147.00	6,881,826
32		76.00	05/22/13	07/01/13	(40.00)	(3,040)
33	Portsmouth	68,419.85	03/07/13	07/01/12	249.00	17,036,543
34		68,419.85	05/18/13	07/01/12	321.00	21,962,772
35		70,654.21	10/10/13	07/01/13	101.00	7,136,075
36		70,654.21	12/19/13	07/01/13	171.00	12,081,870
37		305,552.28	11/20/13	07/01/13	142.00	43,388,424
38		18.75	11/20/13	07/01/13	142.00	2,663
39	Richmond	7.31	06/05/13	07/01/13	(26.00)	(190)
40	Staunton	145,381.39	11/25/13	07/01/13	147.00	21,371,064
41		96.55	11/25/13	07/01/13	147.00	14,193
42	Suffolk	144,259.10	11/25/13	07/01/13	147.00	21,206,088
43		755.31	11/25/13	07/01/13	147.00	111,031
44		220.08	11/25/13	07/01/13	147.00	32,352
45	Waynesboro	88,400.50	11/20/13	07/01/13	142.00	12,552,871
46	<u>Counties</u>					
47	Albemarle	691.66	05/06/13	07/01/13	(56.00)	(38,733)
48		659.56	11/20/13	07/01/13	142.00	93,658
49		1,041.30	05/06/13	07/01/13	(56.00)	(58,313)
50		923.72	11/20/13	07/01/13	142.00	131,168
51	Alleghany	4,556.05	11/20/13	07/01/13	142.00	646,959
52		98.14	12/19/13	07/01/13	171.00	16,782
53		34,408.11	11/20/13	07/01/13	142.00	4,885,952

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Exhibit No.: _____
Witness: B. E. Elliott
Schedule 27
Sheet 10

Columbia Gas of Virginia, Inc.
Analysis of Cash Working Capital Requirement
Property Taxes
TME: December 31, 2013
Case No. PUE-2014-00020

<u>Line No.</u>	<u>Taxing Authority</u>	<u>Payments</u>	<u>Date Paid</u>	<u>Midpoint of Tax Year</u>	<u>Lag Days</u>	<u>Weighted Lag Days</u>
	(1)	(2)	(3)	(4)	(5)=(3-4)	(6)=(5*1)
		(\$)				(\$)
54	<u>Counties (continued)</u>					
55	Amherst	27,091.03	11/20/13	07/01/13	142.00	3,846,926
56	Appomattox	5,321.22	11/25/13	07/01/13	147.00	782,219
57	Augusta	20,412.04	05/15/13	07/01/13	(47.00)	(959,366)
58		21,673.88	11/25/13	07/01/13	147.00	3,186,060
59	Bath	1.16	05/09/13	07/01/13	(53.00)	(61)
60		1.10	11/20/13	07/01/13	142.00	156
61	Bedford	23,948.37	11/20/13	07/01/13	142.00	3,400,669
62	Botetourt	4,129.20	11/20/13	07/01/13	142.00	586,346
63	Brunswick	966.08	11/25/13	07/01/13	147.00	142,014
64		6,922.40	11/20/13	07/01/13	142.00	982,981
65		27.65	11/20/13	07/01/13	142.00	3,926
66	Buchanan	11.99	11/20/13	07/01/13	142.00	1,703
67	Buckingham	93,349.60	11/20/13	07/01/13	142.00	13,255,643
68	Campbell	1,964.67	11/20/13	07/01/13	142.00	278,983
69		82.29	11/25/13	07/01/13	147.00	12,097
70		25,650.67	11/25/13	07/01/13	147.00	3,770,648
71	Caroline	13,273.85	05/22/13	07/01/13	(40.00)	(530,954)
72		14,230.82	11/20/13	07/01/13	142.00	2,020,776
73	Chesterfield	319,057.55	05/22/13	07/01/13	(40.00)	(12,762,302)
74		331,801.85	11/20/13	07/01/13	142.00	47,115,863
75		46.15	05/22/13	07/01/13	(40.00)	(1,846)
76		44.32	11/20/13	07/01/13	142.00	6,293
77	Culpeper	9,917.69	11/20/13	07/01/13	142.00	1,408,312
78		92,402.79	11/20/13	07/01/13	142.00	13,121,196
79	Dinwiddie	11,730.75	05/09/13	07/01/13	(53.00)	(621,730)
80		10,897.44	11/20/13	07/01/13	142.00	1,547,436

Exhibit No.: _____
Witness: **B. E. Elliott**
Schedule 27
Sheet 10

Columbia Gas of Virginia, Inc.
Analysis of Cash Working Capital Requirement
Property Taxes
TME: December 31, 2013
Case No. PUE-2014-00020

<u>Line No.</u>	<u>Taxing Authority</u>	<u>Payments</u>	<u>Date Paid</u>	<u>Midpoint of Tax Year</u>	<u>Lag Days</u>	<u>Weighted Lag Days</u>
	(1)	(2)	(3)	(4)	(5)=(3-4)	(6)=(5*1)
		(\$)				(\$)
81	<u>Counties (continued)</u>					
82	Fairfax (all jurisdiction)	134,307.75	01/16/13	07/01/12	199.00	26,727,242
83		61,666.86	07/15/13	07/01/13	14.00	863,336
84		69,597.75	11/25/13	07/01/13	147.00	10,230,869
85		15,369.58	11/20/13	07/01/13	142.00	2,182,480
86		42.34	11/20/13	07/01/13	142.00	6,012
87	Fauquier	1.62	02/28/13	07/01/12	242.00	392
88		337.73	06/05/13	07/01/13	(26.00)	(8,781)
89		382.28	11/27/13	07/01/13	149.00	56,960
90		60,305.92	05/15/13	07/01/13	(47.00)	(2,834,378)
91		60,310.53	11/20/13	07/01/13	142.00	8,564,095
92	Fluvanna	450.82	05/06/13	07/01/13	(56.00)	(25,246)
93		449.60	11/25/13	07/01/13	147.00	66,091
94	Giles	1,705.02	03/07/13	07/01/12	249.00	424,550
95		300.61	02/26/13	07/01/12	240.00	72,146
96		243.24	02/22/13	07/01/12	236.00	57,405
97		3,519.18	11/25/13	07/01/13	147.00	517,319
98		13,402.98	11/20/13	07/01/13	142.00	1,903,223
99	Goochland	10,631.43	11/25/13	07/01/13	147.00	1,562,820
100	Greene	2,437.68	11/20/13	07/01/13	142.00	346,151
101	Greensville	4,056.39	11/25/13	07/01/13	147.00	596,289
102	Halifax	3,362.73	05/06/13	07/01/13	(56.00)	(188,313)
103		8,658.86	11/20/13	07/01/13	142.00	1,229,558
104		517.79	11/20/13	07/01/13	142.00	73,526
105	Isle of Wight	6,030.73	12/19/13	07/01/13	171.00	1,031,255
106		66,219.96	11/25/13	07/01/13	147.00	9,734,334
107	Loudoun	26,655.81	05/09/13	07/01/13	(53.00)	(1,412,758)
108		32,897.70	11/25/13	07/01/13	147.00	4,835,962
109		1,686.50	05/09/13	07/01/13	(53.00)	(89,385)
110		1,687.59	10/01/13	07/01/13	92.00	155,258

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Exhibit No.: _____
Witness: B. E. Elliott
Schedule 27
Sheet 10

Columbia Gas of Virginia, Inc.
Analysis of Cash Working Capital Requirement
Property Taxes
TME: December 31, 2013
Case No. PUE-2014-00020

Line No.	Taxing Authority (1)	Payments (2) (\$)	Date Paid (3)	Midpoint of Tax Year (4)	Lag Days (5)=(3-4)	Weighted Lag Days (6)=(5*1) (\$)
111	Counties (continued)					
112	Louisa	57,385.25	11/20/13	07/01/13	142.00	8,148,706
113	Madison	120.24	11/20/13	07/01/13	142.00	17,074
114	Mecklenburg	113.22	11/25/13	07/01/13	147.00	16,643
115		6,872.59	12/19/13	07/01/13	171.00	1,175,213
116		11,253.52	11/27/13	07/01/13	149.00	1,676,774
117	Orange	3,295.78	05/09/13	07/01/13	(53.00)	(174,676)
118		3,295.78	12/19/13	07/01/13	171.00	563,578
119		342.18	11/20/13	07/01/13	142.00	48,590
120		578.32	11/20/13	07/01/13	142.00	82,121
121	Page	34.31	11/20/13	07/01/13	142.00	4,872
122	Pittsylvania	8,813.54	05/22/13	07/01/13	(40.00)	(352,542)
123		14,054.40	11/20/13	07/01/13	142.00	1,995,725
124		1,191.23	11/25/13	07/01/13	147.00	175,111
125		103.11	11/25/13	07/01/13	147.00	15,157
126		Powhatan	2,474.87	10/10/13	07/01/13	101.00
127	Prince George	12,504.45	05/09/13	07/01/13	(53.00)	(662,736)
128		22,489.73	11/20/13	07/01/13	142.00	3,193,542
129	Prince Wm	3,330.18	11/25/13	07/01/13	147.00	489,536
130		2,905.00	11/25/13	07/01/13	147.00	427,035
131		183,583.50	07/08/13	07/01/13	7.00	1,285,085
132		192,264.75	11/20/13	07/01/13	142.00	27,301,595
133		486.68	01/11/13	07/01/13	(171.00)	(83,222)
134		501.34	11/25/13	07/01/13	147.00	73,697
135		Rockbridge	98.10	11/20/13	07/01/13	142.00
136	25,244.37		11/20/13	07/01/13	142.00	3,584,701
137	Rockingham	154.20	05/06/13	07/01/13	(56.00)	(8,635)
138		167.72	11/20/13	07/01/13	142.00	23,816
139		72.77	05/22/13	07/01/13	(40.00)	(2,911)
140		78.39	11/20/13	07/01/13	142.00	11,131
141		28,755.63	05/06/13	07/01/13	(56.00)	(1,610,315)
142		33,302.13	11/20/13	07/01/13	142.00	4,728,902
143		318.82	11/25/13	07/01/13	147.00	46,867
144		234.43	11/25/13	07/01/13	147.00	34,461

140450003

Exhibit No.: _____
 Witness: B. E. Elliott
 Schedule 27
 Sheet 10

Columbia Gas of Virginia, Inc.
 Analysis of Cash Working Capital Requirement
 Property Taxes
 TME: December 31, 2013
 Case No. PUE-2014-00020

Line No.	Taxing Authority (1)	Payments (2) (\$)	Date Paid (3)	Midpoint of Tax Year (4)	Lag Days (5)=(3-4)	Weighted Lag Days (6)=(5*1) (\$)
145	<u>Counties (continued)</u>					
146	Shenandoah	871.26	05/15/13	07/01/13	(47.00)	(40,949)
147		871.26	11/20/13	07/01/13	142.00	123,719
148		18.34	11/20/13	07/01/13	142.00	2,604
149	Southampton	8,161.73	11/20/13	07/01/13	142.00	1,158,966
150	Spotsylvania	258,111.62	05/22/13	07/01/13	(40.00)	(10,324,465)
151		(707.64)	12/31/13	07/01/13	183.00	(129,498)
152		50.98	05/22/13	07/01/13	(40.00)	(2,039)
153		(2.00)	12/31/13	07/01/13	183.00	(366)
154	Stafford	163,921.64	05/22/13	07/01/13	(40.00)	(6,556,866)
155		167,390.86	11/25/13	07/01/13	147.00	24,606,456
156	Surry	1,497.28	11/20/13	07/01/13	142.00	212,614
157	Sussex	7,526.90	11/20/13	07/01/13	142.00	1,068,820
158		529.36	11/20/13	07/01/13	142.00	75,169
159	Warren	26.08	05/06/13	07/01/13	(56.00)	(1,460)
160	Total	<u>5,202,424.71</u>			109.12	<u>567,670,494.00</u>

Exhibit No.: _____
Witness: **B. E. Elliott**
Schedule 27
Sheet 11

Columbia Gas of Virginia, Inc.
Analysis of Cash Working Capital Requirement
Other Taxes
TME: December 31, 2013
Case No. PUE-2014-00020

<u>Line No.</u>	<u>End of Service Period</u> (1)	<u>Midpoint of Service Period</u> (1)	<u>Payment Date</u> (2)	<u>Amount Paid</u> (3) \$	<u>Lead Days</u> (4)	<u>Weighted Tax Dollars</u> (5=3*4) \$
<u>Direct Payment Sales Tax</u>						
1	1/31/2013	15.5	2/20/2013	10,629.77	35.50	377,357.00
2	2/28/2013	14	3/20/2013	6,602.44	34.00	224,483.00
3	3/31/2013	15.5	4/20/2013	13,837.26	35.50	491,223.00
4	4/30/2013	15	5/20/2013	7,208.24	35.00	252,288.00
5	5/31/2013	15.5	6/20/2013	8,033.35	35.50	285,184.00
6	6/30/2013	15	7/20/2013	12,623.13	35.00	441,810.00
7	7/31/2013	15.5	8/20/2013	18,703.20	35.50	663,964.00
8	8/31/2013	15.5	9/20/2013	28,230.80	35.50	1,002,193.00
9	9/30/2013	15	10/20/2013	12,525.92	35.00	438,407.00
10	10/31/2013	15.5	11/20/2013	28,697.77	35.50	1,018,771.00
11	11/30/2013	15	12/20/2013	35,581.52	35.00	1,245,353.00
12	12/31/2013	15.5	1/20/2014	<u>33,634.32</u>	<u>35.50</u>	<u>1,194,018.00</u>
				216,307.72	35.30	7,635,051.00
<u>Sales & Use</u>						
13	1/31/2013	15.5	2/20/2013	0.00	35.50	0.00
14	2/28/2013	14	3/20/2013	0.00	34.00	0.00
15	3/31/2013	15.5	4/20/2013	0.00	35.50	0.00
16	4/30/2013	15	5/20/2013	0.00	35.00	0.00
17	5/31/2013	15.5	6/20/2013	0.00	35.50	0.00
15	6/30/2013	15	7/20/2013	0.00	35.00	0.00
16	7/31/2013	15.5	8/20/2013	0.00	35.50	0.00
17	8/31/2013	15.5	9/20/2013	0.00	35.50	0.00
18	9/30/2013	15	10/20/2013	0.00	35.00	0.00
19	10/31/2013	15.5	11/20/2013	0.00	35.50	0.00
20	11/30/2013	15	12/20/2013	0.00	35.00	0.00
21	12/31/2013	15.5	1/20/2014	<u>0.00</u>	<u>35.50</u>	<u>0.00</u>
				0.00		0.00
22	TOTAL OTHER TAXES			<u>216,307.72</u>	<u>35.30</u>	<u>7,635,051.00</u>

140450003

Exhibit No.: _____
 Witness: **B. E. Elliott**
 Schedule 27
 Sheet 12

Columbia Gas of Virginia, Inc.
Analysis of Cash Working Capital Requirement
Federal Income Taxes
TME: December 31, 2013
Case No. PUE-2014-00020

<u>Line No.</u>	<u>Amount Due</u> (1)	<u>Service Period</u> (2)	<u>Date Paid</u> (3)	<u>Midpoint of Year</u> (4)	<u>Lead Days</u> (5)	<u>Weighted Lead Days</u> (6=1*5)
1	25.00%	2013	15-Apr-13	01-Jul-13	(77.00)	(19.25)
2	25.00%	2013	15-Jun-13	01-Jul-13	(16.00)	(4.00)
3	25.00%	2013	15-Sep-13	01-Jul-13	76.00	19.00
4	25.00%	2013	15-Dec-13	01-Jul-13	167.00	<u>41.75</u>
5				Total Federal Income Tax Lead Days		<u>37.50</u>

() Denotes Credit

Exhibit No.: _____
Witness: **B. E. Elliott**
Schedule 27
Sheet 13

Columbia Gas of Virginia, Inc.
Analysis of Cash Working Capital Requirement
Interest On Customer Deposits
TME: December 31, 2013
Case No. PUE-2014-00020

**Line
No.**

1 Weighted Average Lead Days 182.50

Note: Interest on Customer Deposits represents interest on deposits CGV requires as security on customers with poor payment history. The interest is recovered through rates and since CGV holds the deposit for one year, lead days are equal to the midpoint of the year or $365/2=182.5$.
Interest on SUPPLIER REFUNDS is included with the principle for the supplier refunds. Item is included in Balance Sheet Analysis. Therefore, the lead days are 0 for supplier refunds.

14305003

Exhibit No.: _____
 Witness: B. E. Elliott
 Schedule 27
 Sheet 14

Columbia Gas of Virginia, Inc.
Analysis of Cash Working Capital Requirement
Interest On Debt
TME: December 31, 2013
Case No. PUE-2014-00020

<u>Line No.</u>	<u>Instrument</u>	<u>Amount</u> (1) \$	<u>Lead Days</u> (2)	<u>Dollar Lead Days</u> (3=1*2) \$
1	Installment Promissory Notes	14,259,557	91.25	1,301,184,576
2	Money Pool	<u>37.725</u>	<u>16.89</u>	<u>637.175</u>
3	Total	<u>14,297,282</u>	<u>91.05</u>	<u>1,301,821,751</u>

Source: Financial Statements, Page 5

Exhibit No.: _____
Witness: **B. E. Elliott**
Schedule 27
Sheet 15

Columbia Gas of Virginia, Inc.
Analysis of Cash Working Capital Requirement
Customer Utility Sales Tax
TME: December 31, 2013
Case No. PUE-2014-00020

<u>Line No.</u>	<u>End of Period</u> (1)	<u>Payment Date</u> (2)	<u>Lead Days</u> (3=2-1)	<u>Amount Paid</u> (4)	<u>Weighted Tax Dollars</u> (5=3*4)
1	01/31/13	02/13/13	13.00	1,098,526	14,280.832
2	02/28/13	03/16/13	16.00	1,118,709	17,899,340
3	03/31/13	04/12/13	12.00	1,096,800	13,161,600
4	04/30/13	05/10/13	10.00	989,393	9,893,930
5	05/31/13	06/11/13	11.00	766,443	8,430,869
6	06/30/13	07/12/13	12.00	697,075	8,364,899
7	07/31/13	08/10/13	10.00	669,457	6,694,572
8	08/31/13	09/13/13	13.00	651,468	8,469,087
9	09/30/13	10/11/13	11.00	659,467	7,254,141
10	10/31/13	11/13/13	13.00	681,995	8,865,933
11	11/30/13	12/13/13	13.00	833,069	10,829,895
12	12/31/13	01/11/14	<u>11.00</u>	<u>1,054,351</u>	<u>11,597,862</u>
13	Wtd. Average Lead Days		12.19	10,316,752	125,742,960
14	Add: Service Midpoint 1/		<u>15.21</u>		
15	Total Lead Days		<u>27.40</u>		

1/ Service Midpoint lead days computed as: 365 days/12 months/ 2(midpoint) = 15.21 days.

2/ Represents the average number of days from the end of the month to the actual payment date.

Exhibit No.: _____
Witness: **B. E. Elliott**
Schedule 27
Sheet 16

Columbia Gas of Virginia, Inc.
Analysis of Cash Working Capital Requirement
State and Local Consumption Tax
TME: December 31, 2013
Case No. PUE-2014-00020

<u>Line No.</u>	<u>Jurisdiction</u> (1)	<u>Service Period</u> (2)	<u>Payment Date</u> (3)	<u>Midpoint of Service Period</u> (4)	<u>Lead Days</u> (5)=(3-2+4)	<u>Amount Paid</u> (6) \$	<u>Dollar Lead Days</u> (7)=(5*6) \$
1	State	1/31/2013	2/27/2013	15	42.00	487,385.26	20,470,181
2	Local	1/31/2013	2/13/2013		42.00	128,840.02	5,411,281
3	State	2/28/2013	3/23/2013	15.5	38.50	501,388.23	19,303,447
4	Local	2/28/2013	3/16/2013		38.50	132,553.59	5,103,313
5	State	3/31/2013	4/23/2013	15	38.00	474,682.75	18,037,945
6	Local	3/31/2013	4/12/2013		38.00	125,522.11	4,769,840
7	State	4/30/2013	5/23/2013	15.5	38.50	336,920.11	12,971,424
8	Local	4/30/2013	5/10/2013		38.50	89,092.25	3,430,052
9	State	5/31/2013	6/14/2013	15.5	29.50	134,314.24	3,962,270
10	Local	5/31/2013	6/11/2013		29.50	35,497.23	1,047,168
11	State	6/30/2013	7/23/2013	15	38.00	83,257.24	3,163,775
12	Local	6/30/2013	7/12/2013		38.00	21,928.94	833,300
13	State	7/31/2013	8/13/2013	15.5	28.50	66,277.22	1,888,901
14	Local	7/31/2013	8/10/2013		28.50	17,426.50	496,655
15	State	8/31/2013	9/20/2013	15	35.00	61,751.42	2,161,300
16	Local	8/31/2013	9/13/2013		35.00	16,230.13	568,055
17	State	9/30/2013	10/26/2013	15.5	41.50	65,301.86	2,710,027
18	Local	9/30/2013	10/11/2013		41.50	17,168.18	712,479
19	State	10/31/2013	11/20/2013	15.5	35.50	79,105.51	2,808,246
20	Local	10/31/2013	11/13/2013		35.50	20,828.98	739,429
21	State	11/30/2013	12/19/2013	15	34.00	202,523.46	6,885,798
22	Local	11/30/2013	12/13/2013		34.00	53,494.13	1,818,800
23	State	12/31/2013	1/17/2014	15.5	32.50	437,956.13	14,233,574
24	Local	12/31/2013	1/11/2014		<u>32.50</u>	<u>115,753.54</u>	<u>3,761,990</u>
25				Total	<u>37.05</u>	<u>3,705,199</u>	<u>137,289,250</u>

Note: State and Local Consumption Taxes are due the last business day of the month. They are processed to ensure payment is received by the last day of the month which may result in a payment date earlier than the last day.

14045003

Exhibit No.: _____
Witness: B. E. Elliott
Schedule 27
Sheet 17

Columbia Gas of Virginia, Inc.
Analysis of Cash Working Capital Requirement
Corporate Services
TME: December 31, 2013
Case No. PUE-2014-00020

<u>Line No.</u>	<u>End of Service Period</u> (1)	<u>Payment Date</u> (2)	<u>Midpoint of Service Period</u> (3)	<u>Lead Days</u> (4)=(2)-(1)+(3)	<u>Payment</u> (5) \$	<u>Weighted Lead Days</u> (6)=(4)*(5) \$
1	12/31/2012	1/15/2013	15.50	30.50	2,106,289	64,241,818
2	1/31/2013	2/15/2013	15.50	30.50	2,056,649	62,727,788
3	2/28/2013	3/15/2013	14.00	29.00	2,251,074	65,281,143
4	3/31/2013	4/16/2013	15.50	31.50	2,276,225	71,701,080
5	4/30/2013	5/15/2013	15.00	30.00	2,144,941	64,348,215
6	5/31/2013	6/17/2013	15.50	32.50	2,250,434	73,139,111
7	6/30/2013	7/15/2013	15.00	30.00	2,402,739	72,082,162
8	7/31/2013	8/16/2013	15.50	31.50	2,131,871	67,153,933
9	8/31/2013	9/16/2013	15.50	31.50	2,409,246	75,891,246
10	9/30/2013	10/15/2013	15.00	30.00	2,379,169	71,375,064
11	10/31/2013	11/15/2013	15.50	30.50	2,288,553	69,800,873
12	11/30/2013	12/16/2013	15.00	<u>31.00</u>	<u>2,594,527</u>	<u>80,430,336</u>
13		Total			<u>27,291,716</u>	<u>838,172,769</u>
14	Weighted Average Days (Col. 6/Col. 5)			<u>30.70</u>		

140450003

SCHEDULE 28

BALANCE SHEET ANALYSIS – ADJUSTED

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Exhibit No.: _____
Witness: **B. E. Elliott**
Schedule 28
Sheet 1

Columbia Gas of Virginia, Inc.
Cash Working Capital -- Balance Sheet Analysis
Schedule 28
Case No. PUE-2014-00020

Table of Contents

<u>Line No.</u>	<u>Description</u>	<u>Sheet Number</u>
1	Cash Working Capital - Balance Sheet Analysis - LVTS (Per Books)	Sheet 2
2	Cash Working Capital - Balance Sheet Analysis - Jurisdictional (Per Books)	Sheet 3
3	Cash Working Capital - Total Company Detail (Per Books)	Sheet 4

Exhibit No.: _____
Witness: **B. E. Elliott**
Schedule 28
Sheet 2

Columbia Gas of Virginia, Inc.
Cash Working Capital
Balance Sheet Analysis – LVTS
13 Months Average December 31, 2013
Case No. PUE-2014-00020

Line No.	Account Number		Sch 40b			
			13 Mo. Avg. 12/31/2013	Alloc Factor	LVTS %	LVTS 12/31/2013
1	141-0001	Notes Receivable - Employees	2,027	22	2.063%	42
2	143-9900-10820	Other A/R - Appliances	-	22	2.063%	-
3	143-9900-10830-100100	Other A/R - Employee Advances	(1,895)	22	2.063%	(39)
4	143-9900-10830-100110	Other A/R - Emp. Temp. Exp. Adv.	882	22	2.063%	18
5	143-9900-10830-100120	Other A/R - Officers & Employees - Misc.	1,913	22	2.063%	39
6	143-9900-10839	Income Tax Receivable - State	719,921	22	2.063%	14,852
7	143-9900-10840-100131	Other A/R - Miscellaneous	(5,162)	22	2.063%	(106)
8	165-0001	Prepaid Insurance	386,980	22	2.063%	7,983
9	165-1022	Prepayments-Excess Liability Insurance	351,207	22	2.063%	7,245
10	174-0031	Exchange Gas - Transco; Asset Mgmt./Storage In Place	-	20	0.000%	-
11	174-9900-11290	Exchange Gas (activity 11290)	20,095	20	0.000%	-
12	183	5/ Preliminary Survey & Investigation	3,238,906	17	8.656%	280,360
13	186-0001	6/ Misc. Maintenance & Jobbing WIP	192,444	17	8.656%	16,658
14	Total Uses of Cash Working Capital		<u>4,907,318</u>			<u>327,052</u>
15	<u>Additional Sources of Cash Working Capital:</u>					
16	219-0002	Pension Booked to OCI - Reduction to Liability	15,309,522	22	2.063%	315,835
17	228-2000	Provision for Injuries & Damages	(84,105)	22	2.063%	(1,735)
18	232-10835	Material and Supplies - Account 154	-	17	8.656%	-
19	232	3/ A/P - CWIP (Acct 107)	(2,502,959)	17	8.656%	(216,656)
20	234	4/ A/P Exchange Gas	(2,107)	20	0.000%	-
21	241-14570	Tax Collections Payable-Employee FIT	(8,555)	17	8.656%	(741)
22	241-14590,14600	Tax Collections Payable-Employee FICA	(448)	22	2.063%	(9)
23	241-14690	Tax Collections Payable-Employee SIT	-	17	8.656%	-
24	242-0008-15005	Exchange gas - Borrowing	(4,377,233)	17	8.656%	(378,893)
25	242-0001	Vacation Accrual	(1,571,176)	2	0.006%	(94)
26	242-0010	Accrued Liability - Unclaimed Accounts	(918,867)	22	2.063%	(18,956)
27	242-0016	2/ Benefits - Dental Assistance Plan - Company Portion	(19,298)	22	2.063%	(398)
28	242-0017	2/ Benefits - C.M.E.P. - Company Portion	(94,277)	22	2.063%	(1,945)
29	242-0031	Pension Liability - Current	-	22	2.063%	-
30	242-0037	Thrift Restoration Plan	(9,343)	22	2.063%	(193)
31	242-0005	Benefits - Employee Payroll Deductions	(101,389)	22	2.063%	(2,092)
32	242-0006	1/ Contract Retentions	-	22	2.063%	-
33	242-0077, 228-3080	Accrued Pension Restoration Plan - Current	(308)	22	2.063%	(6)
34	242-9900-15290,15291	3/ Accr. Payroll - CWIP	(643,054)	22	2.063%	(13,266)
35	242-9900-15291-BON**	Wages Payable-AIP, Bonus Portion	(738,326)	22	2.063%	(15,232)
36	242-9900-15350	HeatShare Customer Contributions	(2,878)	2	0.006%	-
37	253-0001-BANK04	Banked Vacation	(388,824)	2	0.006%	(23)
38	253-0031, 228-3031	Accrued Long Term Pension Cost	(7,941,264)	22	2.063%	(163,828)
39	253-0045	Pension Restoration Plan - Additional Liability	-	22	2.063%	-
40	253-0077, 228-3077	Accrued Long Term Pension Restoration - Current	(45,878)	22	2.063%	(946)
41	Total Additional Sources of Cash Working Capital		<u>(4,140,767)</u>			<u>(499,178)</u>
42	TOTAL USES / (SOURCES) CASH WORKING CAPITAL		<u>766,551</u>			<u>(172,126)</u>

- 1/ Amount is added since funds are booked to 107 but not yet paid to the contractor.
- 2/ Amount is added since the average balance is not consistent with the lead lag calculation.
- 3/ Staff allows only end-of-period balance for CWIP accounts.
- 4/ Acct. 174-9900-11290 (Exchange Gas) x Expense Lead Days (Purchased Gas Expense) / 365 Days.
- 5/ Excludes dollars associated with Brema Bluff, Calenese Acetate and the SAVE Program.
- 6/ Excludes dollars associated with Brema Bluff and Calenese Acetate

Note: Please note A/P for Materials and Supplies is excluded as the warehouse was outsourced.

Exhibit No.: _____
Witness: B. E. Elliott
Schedule 28
Sheet 3

Columbia Gas of Virginia, Inc.
Cash Working Capital
Balance Sheet Analysis -- Jurisdictional
13 Months Average December 31, 2013
Case No. PUE-2014-00020

Line No.	Account Number		Sch 40b			
			13 Mo. Avg. 12/31/2013	Alloc Factor	Juris. %	Juris. 12/31/2013
1	141-0001	Notes Receivable - Employees	2,027	22	94.781%	1,921
2	143-9900-10820	Other A/R - Appliances	-	22	94.781%	-
3	143-9900-10830-100100	Other A/R - Employee Advances	(1,895)	22	94.781%	(1,796)
4	143-9900-10830-100110	Other A/R - Emp. Temp. Exp. Adv.	882	22	94.781%	836
5	143-9900-10830-100120	Other A/R - Officers & Employees - Misc.	1,913	22	94.781%	1,813
6	143-9900-10839	Income Tax Receivable - State	719,921	22	94.781%	682,348
7	143-9900-10840-100131	Other A/R - Miscellaneous	(5,162)	22	94.781%	(4,893)
8	165-0001	Prepaid Insurance	386,980	22	94.781%	366,784
9	165-1022	Prepayments-Excess Liability Insurance	351,207	22	94.781%	332,878
10	174-0031	Exchange Gas - Transco; Asset Mgmt./Storage In Place	-	20	94.772%	-
11	174-9900-11290	Exchange Gas (activity 11290)	20,095	20	94.772%	19,044
12	183	5/ Preliminary Survey & Investigation	3,238,906	17	87.179%	2,823,646
13	186-0001	6/ Misc. Maintenance & Jobbing WIP	192,444	17	87.179%	167,771
14	Total Uses of Cash Working Capital		<u>4,907,318</u>			<u>4,390,352</u>
15	<u>Additional Sources of Cash Working Capital:</u>					
16	219-0002	Pension Booked to OCI - Reduction to Liability	15,309,522	22	94.781%	14,510,518
17	228-2000	Provision for Injuries & Damages	(84,105)	22	94.781%	(79,716)
18	232-10835	Material and Supplies - Account 154	-	17	87.179%	-
19	232	3/ A/P - CWIP (Acct 107)	(2,502,959)	17	87.179%	(2,182,055)
20	234	4/ A/P Exchange Gas	(2,107)	20	94.772%	(1,997)
21	241-14570	Tax Collections Payable-Employee FIT	(8,555)	17	87.179%	(7,458)
22	241-14590,14600	Tax Collections Payable-Employee FICA	(448)	22	94.781%	(425)
23	241-14690	Tax Collections Payable-Employee SIT	-	17	87.179%	-
24	242-0008-15005	Exchange gas - Borrowing	(4,377,233)	17	87.179%	(3,816,028)
25	242-0001	Vacation Accrual	(1,571,176)	2	99.267%	(1,559,659)
26	242-0010	Accrued Liability - Unclaimed Accounts	(918,867)	22	94.781%	(870,911)
27	242-0016	2/ Benefits - Dental Assistance Plan - Company Portion	(19,298)	22	94.781%	(18,291)
28	242-0017	2/ Benefits - C.M.E.P. - Company Portion	(94,277)	22	94.781%	(89,357)
29	242-0031	Pension Liability - Current	-	22	94.781%	-
30	242-0037	Thrift Restoration Plan	(9,343)	22	94.781%	(8,855)
31	242-0005	Benefits - Employee Payroll Deductions	(101,389)	22	94.781%	(96,098)
32	242-0006	1/ Contract Retentions	-	22	94.781%	-
33	242-0077, 228-3080	Accrued Pension Restoration Plan - Current	(308)	22	94.781%	(292)
34	242-9900-15290,15291	3. Accr. Payroll - CWIP	(643,054)	22	94.781%	(609,493)
35	242-9900-15291-BON**	Wages Payable-AIP, Bonus Portion	(738,326)	22	94.781%	(699,793)
36	242-9900-15350	HeatShare Customer Contributions	(2,878)	2	99.267%	(2,857)
37	253-0001-BANK04	Banked Vacation	(388,824)	2	99.267%	(385,974)
38	253-0031, 228-3031	Accrued Long Term Pension Cost	(7,941,264)	22	94.781%	(7,526,809)
39	253-0045	Pension Restoration Plan - Additional Liability	-	22	94.781%	-
40	253-0077, 228-3077	Accrued Long Term Pension Restoration - Current	(45,878)	22	94.781%	(43,484)
41	Total Additional Sources of Cash Working Capital		<u>(4,140,767)</u>			<u>(3,489,034)</u>
42	TOTAL USES / (SOURCES) CASH WORKING CAPITAL		<u>766,551</u>			<u>901,318</u>

1/ Amount is added since funds are booked to 107 but not yet paid to the contractor.
 2/ Amount is added since the average balance is not consistent with the lead lag calculation.
 3/ Staff allows only end-of-period balance for CWIP accounts.
 4/ Acct. 174-9900-11290 (Exchange Gas) x Expense Lead Days (Purchased Gas Expense) / 365 Days.
 5. Excludes dollars associated with Brems Bluff, Calenese Acetate and the SAVE Program.
 6. Excludes dollars associated with Brems Bluff and Calenese Acetate

Note: Please note A/P for Materials and Supplies is excluded as the warehouse was outsourced.

Columbia Gas of Virginia, Inc.
Cash Working Capital
Balance Sheet Analysis -- Total Company Detail
13 Months Average December 31, 2013
Case No. PUE-2014-00020

Line No.	Account Number		Dec-12	Jan-13	Feb-13	Mar-13	Apr-13	May-13	Jun-13	Jul-13	Aug-13	Sep-13	Oct-13	Nov-13	Dec-13	13 Month Total 12/31/2013	13 Month Average 12/31/2013	
			(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)
1	141-0001	Notes Receivable - Employees	2,027	2,027	2,027	2,027	2,027	2,027	2,027	2,027	2,027	2,027	2,027	2,027	2,027	26,351	2,027	
2	143-9900-10820	Other A/R - Appliances	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
3	143-9900-10830-100100	Other A/R - Employee Advances	(4,174)	(4,174)	(4,174)	-	-	(11,168)	-	-	(947)	-	-	-	-	(24,637)	(1,893)	
4	143-9900-10830-100110	Other A/R - Emp. Temp. Exp. Adv.	1,999	559	2,099	2,099	-	400	100	1,000	1,000	1,000	700	82	82	11,460	882	
5	143-9900-10830-100120	Other A/R - Officers & Employees - Misc.	1,424	1,424	1,424	2,060	2,060	2,060	2,060	2,060	2,060	2,060	2,060	2,060	2,060	24,872	1,913	
6	143-9900-10839	Income Tax Receivable - State	527,540	527,540	527,540	527,540	527,540	527,540	527,540	527,540	527,540	527,540	1,361,193	1,361,193	1,361,191	9,358,976	719,921	
7	143-9900-10840-100131	Other A/R - Miscellaneous	(5,482)	78,021	(84,467)	(5,482)	(5,521)	(5,521)	(5,521)	(5,521)	(5,521)	(5,521)	(5,521)	(5,521)	(5,525)	(67,103)	(5,162)	
8	165-0001	Prepaid Insurance	434,492	383,800	317,108	248,416	179,724	111,032	42,340	672,692	608,830	539,479	470,128	535,659	465,031	3,030,734	386,980	
9	165-1022	Prepayments-Process Liability Insurance	309,714	258,095	348,381	282,571	195,862	132,665	69,468	660,789	594,402	528,015	461,628	395,241	328,854	4,565,685	351,207	
10	174-0031	Exchange Gas - Trussco; Asset Mgmt./Storage In Place	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
11	174-9900-11290	Exchange Gas (activity 11290)	26,124	26,124	26,124	26,124	26,124	26,124	26,124	26,124	26,124	26,124	-	-	-	261,240	20,095	
12	183	3/ Preliminary Survey & Investigation	3,066,590	2,963,494	3,193,110	3,238,729	3,366,564	3,509,598	3,197,313	3,573,357	3,615,697	3,005,740	3,057,730	3,132,468	2,885,391	42,105,780	3,238,906	
13	186-0001	6/ Misc. Maintenance & Jobbing WIP	223,870	383,651	383,228	383,410	383,536	383,536	331,122	3,591	3,592	3,592	3,592	3,592	3,592	2,501,767	192,441	
14		Total Uses of Cash Working Capital	<u>4,604,124</u>	<u>4,624,601</u>	<u>4,711,400</u>	<u>4,707,485</u>	<u>4,677,916</u>	<u>4,678,293</u>	<u>4,492,813</u>	<u>5,463,659</u>	<u>5,374,804</u>	<u>4,630,056</u>	<u>5,353,330</u>	<u>5,426,801</u>	<u>5,016,567</u>	<u>63,795,125</u>	<u>4,907,318</u>	
15	Additional Sources of Cash Working Capital:																	
16	219-0002	Pension Booked to OCI - Reduction to Liability	17,786,647	17,670,450	17,534,253	16,085,372	15,969,175	15,879,904	14,460,147	14,343,981	14,281,543	14,605,771	14,522,736	14,439,701	11,424,100	199,023,780	15,309,522	
17	228-2000	Provision for Injuries & Damages	(43,669)	(77,815)	(97,798)	(88,913)	(94,407)	(88,969)	(98,410)	(107,690)	(97,340)	(86,841)	(71,414)	(68,767)	(71,300)	(1,093,363)	(84,105)	
18	232-10835	Material and Supplies - Account 154	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
19	232	3/ A/P - CWIP (Acct 107)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	(2,502,959)	-	(2,502,959)	
20	234	4/ A/P Exchange Gas	(2,739)	(2,739)	(2,739)	(2,739)	(2,739)	(2,739)	(2,739)	(2,739)	(2,739)	(2,739)	(2,739)	(2,739)	-	(27,390)	(2,107)	
21	241-14576	Tax Collections Payable-Employee FIT	(27,544)	(27,544)	(27,544)	-	(6,961)	(6,961)	(6,961)	6,224	(6,961)	(6,961)	-	-	-	(111,213)	(8,555)	
22	211-14590,14600	Tax Collections Payable-Employee FICA	-	-	-	(1,600)	(727)	(887)	(1,051)	(1,574)	(1,614)	(1,614)	-	(616)	(448)	(5,821)	(448)	
23	241-14690	Tax Collections Payable-Employee SIT	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
24	242-0008-15005	Exchange Gas - Borrowing	(3,590,884)	(2,002,103)	-	-	(1,280,114)	(1,945,467)	(1,915,467)	(4,052,355)	(6,525,272)	(9,322,180)	(9,824,842)	(9,824,842)	(6,590,199)	(56,904,025)	(4,377,233)	
25	242-0001	Vacation Accrual	(1,163,385)	(1,504,365)	(1,578,418)	(1,576,529)	(1,608,892)	(1,619,371)	(1,614,872)	(1,564,017)	(1,514,352)	(1,573,884)	(1,629,520)	(1,570,615)	(1,577,061)	(20,425,284)	(1,571,176)	
26	242-0010	Accrued Liability - Unclaimed Accounts	(844,716)	(852,061)	(868,711)	(924,427)	(931,708)	(949,518)	(967,897)	(983,560)	(1,001,046)	(1,001,396)	(858,554)	(873,692)	(887,979)	(11,945,265)	(918,867)	
27	242-0016	2/ Benefits - Dental Assistance Plan - Company Portion	(18,960)	(18,960)	(18,960)	(18,960)	(18,960)	(18,960)	(18,960)	(18,960)	(18,960)	(18,960)	(18,960)	(18,960)	(21,153)	(21,153)	(250,870)	(19,298)
28	242-0017	2/ Benefits - C.M.E.P. - Company Portion	(90,899)	(90,899)	(90,899)	(90,899)	(90,899)	(90,899)	(90,899)	(90,899)	(90,899)	(90,899)	(90,899)	(90,899)	(112,854)	(112,854)	(1,225,597)	(44,277)
29	242-0031	Pension Liability - Current	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
30	242-0037	Thrift Restoration Plan	(6,691)	(6,691)	(7,148)	(7,330)	(7,735)	(7,735)	(7,735)	(7,735)	(7,735)	(7,735)	(7,314)	(19,978)	(20,319)	(121,459)	(9,243)	
31	242-0005	Benefits - Employee Payroll Deductions	(19,574)	(114,466)	(118,730)	(123,612)	(70,220)	(119,068)	(129,085)	(123,349)	(79,222)	(78,088)	(73,163)	(115,337)	(124,145)	(1,318,059)	(101,389)	
32	242-0006	1/ Contract Retentions	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
33	242-0077, 228-3080	Accrued Pension Restoration Plan - Current	(300)	(300)	(300)	(300)	(300)	(300)	(300)	(300)	(300)	(300)	(300)	(300)	(400)	(4,000)	(308)	
34	242-9900-15290,15291	3/ Accr. Payroll - CWIP	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	(643,054)	-	(643,054)	
35	242-9900-15291-BON**	Wages Payable-A/P, Bonus Portion	(1,336,647)	(85,028)	(864,393)	(255,084)	(340,112)	(425,140)	(510,168)	(595,196)	(680,224)	(765,252)	(850,280)	(1,220,340)	(1,670,368)	(9,598,232)	(738,326)	
36	242-9900-15350	HeatShare Customer Contributions	(3,160)	(3,160)	(3,196)	(2,956)	(2,891)	(2,733)	(2,718)	(2,902)	(2,684)	(2,728)	(2,663)	(2,870)	(2,798)	(37,411)	(2,878)	
37	253-0001-BANK94	Banked Vacation	(341,281)	(341,281)	(341,281)	(395,267)	(395,267)	(395,821)	(406,049)	(406,049)	(406,083)	(406,083)	(406,083)	(408,978)	(408,978)	(3,054,706)	(388,824)	
38	253-0031, 228-3031	Accrued Long Term Pension Cost	(9,659,895)	(9,631,970)	(9,604,045)	(8,698,844)	(8,670,919)	(8,648,286)	(7,298,390)	(7,272,938)	(7,248,178)	(7,224,465)	(7,714,549)	(7,704,633)	(3,359,322)	(103,236,434)	(7,941,264)	
39	253-0045	Pension Restoration Plan - Additional Liability	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
40	253-0077, 228-3077	Accrued Long Term Pension Restoration - Current	(42,187)	(42,793)	(43,399)	(44,005)	(44,611)	(45,217)	(45,823)	(46,429)	(47,035)	(47,641)	(48,247)	(48,853)	(50,174)	(596,414)	(45,878)	
41		Total Additional Sources of Cash Working Capital	<u>264,110</u>	<u>2,868,329</u>	<u>3,896,692</u>	<u>3,855,347</u>	<u>2,401,713</u>	<u>1,511,833</u>	<u>1,312,623</u>	<u>(926,887)</u>	<u>(3,477,651)</u>	<u>(6,530,424)</u>	<u>(7,074,082)</u>	<u>(7,521,261)</u>	<u>(6,618,154)</u>	<u>(12,931,763)</u>	<u>(4,140,767)</u>	
42		TOTAL USES / (SOURCES) CASH WORKING CAPITAL	<u>4,868,234</u>	<u>7,492,930</u>	<u>8,608,092</u>	<u>8,463,812</u>	<u>7,079,629</u>	<u>6,190,126</u>	<u>5,805,496</u>	<u>4,537,172</u>	<u>1,897,153</u>	<u>(1,900,368)</u>	<u>(1,720,546)</u>	<u>(2,124,463)</u>	<u>(1,571,948)</u>	<u>50,863,362</u>	<u>766,541</u>	

1/ Amount is added since funds are booked to 107 but not yet paid to the contractor.
 2/ Amount is added since the average balance is not consistent with the lead lag calculation.
 3/ Staff allows only end-of-period balance for CWIP accounts
 4/ Acct. 174-9900-11290 (Exchange Gas) x Expense Lead Days (Purchased Gas Expense) + 365 Days.
 5/ Excludes dollars associated with Brenno Bluff, Calenese Acetate and the SAVE Program.
 6/ Excludes dollars associated with Brenno Bluff and Calenese Acetate

Note: Please note A/P for Materials and Supplies is excluded as the warehouse was outsourced.

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**DIRECT TESTIMONY
OF
BRIAN E. ELLIOTT
ON BEHALF OF
COLUMBIA GAS OF VIRGINIA, INC.
BEFORE THE
STATE CORPORATION COMMISSION OF VIRGINIA
CASE NO. PUE-2014-00020**

1 **Q. Please state your name, position of employment and business address.**

2 A. My name is Brian E. Elliott, and I am a Manager of Regulatory Strategy & Support
3 ("RS&S") for NiSource Corporate Services Company ("NCSC"). My business address is
4 200 Civic Center Drive, Columbus, Ohio 43215.

5 **Q. Please discuss your areas of responsibility.**

6 A. As a manager for RS&S, I am responsible for providing expert witness support for
7 Columbia Gas of Virginia ("CGV or Company") and any or all of the other distribution
8 companies identified as being part of the Natural Gas Distribution ("NGD") segment of
9 NiSource Inc. ("NiSource"). Those companies are: Columbia Gas of Kentucky, Columbia
10 Gas of Ohio, Columbia Gas of Maryland, Columbia Gas of Pennsylvania, and Bay State
11 Gas Company, which operates as Columbia Gas of Massachusetts. Additionally, I am
12 responsible for overseeing regular monthly duties, such as account reconciliations,
13 reporting, and analysis, along with regular rate filings for Columbia Gas of Ohio.

14 **Q. Please summarize your educational background and professional
15 experience.**

16 A. I graduated from West Virginia State College in 1985 with a Bachelor of Science degree
17 in Business Administration and I majored in Accounting. I am a Certified Public
18 Accountant and an active member of the American Institute of Certified Public
19 Accountants.

20 In March 1991, I joined Columbia Natural Resources ("CNR"). From 1991 until 2001, I

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properly delay payments for labor, materials and supplies incurred in providing service to customers. These offsets are defined as “expense leads.” Negative expense leads represent prepaid expenses and have the same outcome as the revenue lags because they require additional CWC to be provided by CGV’s investors.

The examination of the timing of these fundamental cash transactions constitutes the lead-lag method of determining CWC. The net lag days are applied to the expense components of the cost of service.

Q. Please describe the purpose of Schedules 17 and 18.

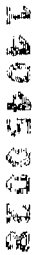
A. Schedule 17 (Sheets 2 & 2b) supports the CWC allowance shown in the Allowance for Working Capital section of Schedule 12 (Sheet 1, Line 3 & Sheet 2, Line 4). The revenue lag days and expense lead days used to calculate the CWC allowance are based on the Lead/Lag Study included and accepted in the Company’s 2010 Rate Case, Case No. PUE-2010-00017. Schedule 18, which uses balance sheet amounts from the test year ended December 31, 2013, calculates the additional CWC requirement derived from the Balance Sheet Analysis. This amount is then included on Schedule 17 (Sheets 2 & 2b) to arrive at the total CWC allowance.

Q. Please describe the lead-lag study summarized in Schedule 27, Sheet No. 2.

A. The summary in Schedule 27, Sheet No. 2 is supported by Sheets 3-17. Sheet No. 2 summarizes the calculation of the CWC requirement using the format that represents compliance with the format presented by Commission Staff in CGV’s prior two rate cases.

Q. Please explain how the revenue lag days were determined.

A. The revenue lag of 31.56 days, Column 3 on Sheet No. 2, is detailed on Sheet No. 3 of Schedule 27. The revenue lag is comprised of a 15.21 day “meter reading” period for tariff sales, a 14.64 day collection lag and a 1.71 day billing lag. CGV reads its tariff sales meters



1 once a month on a cycle basis with the time between meter reading dates averaging 30.42
2 days (365 divided by 12). Because service is provided throughout this period, the average
3 lag from the time service is rendered until the meters are read is 15.21 days (30.42 divided
4 by 2). The majority of gas transportation service (“GTS”) customers are billed on a calendar
5 month basis.

6 The collection lag, calculated on Sheet No. 3a, represents the time from the date bills are
7 rendered to the date cash is received in payment of the customer’s bill. This lag was arrived
8 at through examination of accounts receivable balances for tariff sales and transportation
9 accounts using the accounts receivable turnover method. In compliance with the
10 Commission’s Order in Case No. PUE-1995-00033, and consistently followed in
11 subsequent cases, end of month book balances were utilized as the most accurate measure
12 of customer accounts receivable. Under the accounts receivable turnover method, the
13 twelve month-end balances of Accounts Receivable were averaged to calculate the Average
14 Daily Accounts Receivable Balance of \$13,754,235 (\$165,050,821 divided by 12). Per Book
15 Revenue adjusted as explained below was divided by 365 days to calculate the Average
16 Daily Revenue of \$939,766 (\$343,014,756 divided by 365).

17 The Average Daily Accounts Receivable Balance is divided by the Average Daily Revenue to
18 arrive at 14.64 Revenue Collection Lag Days.

19 The sales tax and local consumption tax shown on lines 9 and 10, respectively, are customer
20 “add-on” taxes and are added to the per book revenue because they are included in the
21 Accounts Receivable Balance. Similarly, per book revenue must be adjusted for supplier
22 refunds because customer Accounts Receivables also include these while they are not
23 included in revenue.

24 The billing lag days, shown on Sheet 3c, represents a weighted average number of days

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1 required to process the billing data for CGV's customers. Each of CGV's customers is billed
2 under one of three billing systems, depending upon the nature of the service provided and
3 the manner in which billed volumes are determined. The majority of CGV's customers are
4 billed through the Distributive Information System ("DIS"). DIS issues a bill one day after a
5 customer's meter is read. All other customers are billed through either the GTS or the Gas
6 Accounting System ("GAS"). For GTS service, customer gas is delivered to CGV on a
7 calendar basis while their meters are read on a cycle basis. Billings are held until the end of
8 the month to ensure and verify that adequate supplies were delivered. GAS primarily
9 handles larger customers that typically require daily consumption data. For both GTS and
10 GAS, all bills generated during the historical test year were analyzed to determine the
11 number of days between the meter read date and the billing date. All three groups were
12 then weighted, based on revenue billed, to arrive at an overall average of 1.71 days.

13 **Q. How were the expense lead days for gas purchases determined?**

14 A. CGV purchases gas from various producers and transports it through interstate pipeline
15 companies. In determining the gas purchase expense lead, all purchases paid during the
16 test year were reviewed.

17 For each service month, the number of days from the midpoint of service to the payment
18 date for gas received was determined. The gas purchase expense lead days are calculated by
19 dividing the annual weighted dollar lead days by the annual amount paid to the suppliers.
20 On Sheet No. 4, the costs for all the suppliers are totaled and averaged to establish an
21 overall weighted average of 38.27 lead days for gas purchased.

22 **Q. Why is there no cash working capital requirement for deferred gas expense?**

23 A. The deferred gas balance is included in the ACA over/under recovery process. Because
24 interest is being calculated on this balance pursuant to Section 17.6(b), Sheet No. 450 of the

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Tariff, it is not necessary to include a CWC component related to deferred gas expense.

Q. Were all the various types of payroll used in determining the number of lead days for payroll?

A. Yes. Turning to Sheet No. 5 and looking at lines 1 through 3, the lead days for gross pay can be traced to Column 2. There are 6.00 lead days with regard to payroll for bi-weekly paid employees which are comprised of 7 days from the midpoint to the end of the pay period, less 1 day from the end of the pay period on Saturday to the day checks are issued on the previous Friday. The monthly payroll has an expense lead of 14.53 days and, combined with the bi-weekly expense lead, payroll has an overall average lead of 7.97 days as shown on Sheet No. 5, Column 2, Line 3.

Q. What benefit costs are included on Sheet No. 6 and how are the expense lead days calculated?

A. Other Post-retiree Employee Benefits ("OPEB"), which include the payments made for retiree medical and life benefits, are represented on Sheet No. 6. The Company funds the OPEB Trust at the FAS 106 annual cost levels. During 2013, the Company made four equal and quarterly payments to the OPEB Trust. Furthermore, on an ongoing basis, retirees' benefits are paid by the Company on a monthly basis, via NCSC intercompany billing. Reimbursement to the Company for these payments occurs quarterly from the OPEB Trust. Lead days are from the midpoint of the service month to the payment date, an average of 7.34 lead days.

Q. How are the uncollectible expense lead days of 207.28 on Sheet 7 determined?

A. The uncollectible lead days are calculated using the same type of formula used to calculate the accounts receivable turnover ratio. This approach is consistent with the method used by Commission Staff in Case No. PUE-1995-00033 and consistently applied by CGV in

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1 subsequent rate related proceedings and Annual Informational Filings. The 12 month-end
2 balances for Account 144, Accumulated Provision for Uncollectible Accounts, were
3 compiled to determine the Average Monthly Accumulated Uncollectible Balance of
4 \$814,276 (\$9,771,306 divided by 12). The Per Books Uncollectible Expense of \$1,134,565,
5 subsequently adjusted to remove nonrecurring uncollectible expense unrelated to gas utility
6 service, resulting in adjusted uncollectible expense of \$1,433,853, was divided by 365 days
7 to calculate the Average Daily Uncollectible Balance of \$3,928. The Average Monthly
8 Accumulated Uncollectible Balance was divided by the Average Daily Uncollectible Balance
9 to calculate the Uncollectible Lead Days of 207.28.

10 **Q. What is included in Other Operation and Maintenance Expense (line 18 on**
11 **Sheet No. 2) and how was the 41.16 day expense lead determined?**

12 A. Payments to a wide variety of vendors for all Operations and Maintenance (“O&M”) costs,
13 other than those already mentioned (payroll, benefits, gas purchased and uncollectibles)
14 were included. Payments are made through several payable systems with most being paid
15 through either the accounts payable system (“Catalyst”) or the Work Management System
16 (“WMS”). Because most of the payments are made through these two systems, separate
17 lead days were calculated and then combined to arrive at an overall average for this
18 category of expense. For the Catalyst system, 400 invoices were randomly chosen. Each
19 invoice was reviewed to determine the service period of the O&M expense. The payment
20 date is readily available as part of the accounts payable system. The lead days between the
21 payment date and the midpoint of the service period were calculated. The lead days were
22 dollar weighted to arrive at an overall dollar weighted expense lead of 52.26 days.

23 For WMS, all of the 41,397 purchase orders were used to calculate the lead days between
24 the purchase order date and the check date. The lead days were dollar weighted to arrive at
25 an overall dollar weighted expense lead of 30.23 days. For the two payment systems, the

1 Service. This methodology has been used in previous CGV cases and accepted by the
2 Commission Staff.

3 **Q. How were the lead days for interest on customer deposits and refunds**
4 **computed?**

5 A. Interest on customer deposits represents interest on deposits CGV requires as security from
6 customers with no, or bad, payment history. The interest is recovered in rates and, because
7 CGV holds the deposit for one year, the lead days are equal to the midpoint of the year or
8 182.5 days (365 days divided by 2).

9 **Q. How are the capital cost components measured?**

10 A. Interest expense lead days were based on the semi-annual payments of CGV's installment
11 promissory notes and monthly interest payments of CGV's money pool borrowings. The
12 weighted average lead days totaled 91.05 days as shown on Sheet 14.

13 **Q. Please explain why accrued vacation expense, prepaid insurance expense,**
14 **stored gas expense, injuries and damages expense, depreciation and**
15 **amortization expense, employee benefits expense, incentive compensation**
16 **expense, pension and RIP expense, and deferred federal income tax expense**
17 **have been assigned zero lead days.**

18 A. In Case No. PUE-1992-00037, the Staff recommended, and the Commission concurred,
19 that several accounts receive a zero lead day because these accounts are included in the
20 Balance Sheet analysis. As required by the Commission's Final Order in Case No. PUE-
21 1992-00037, zero Lead Days were assigned to the accounts mentioned above.

22 **Q. Please explain the impact of Customer Utility Taxes and State and Local**
23 **Consumption Taxes on CGV's CWC as shown on Lines 47 and 48, respectively.**

24 A. As explained earlier, these taxes are customer taxes. Adjustments were made to revenue for

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1 these taxes to properly calculate the revenue lag. However, the collection and payment of
2 these taxes require working capital. The Customer Utility Tax and State and Local
3 Consumption Tax lead days of 27.40 and 37.05 days, respectively, are developed on Sheets
4 15 and 16, respectively. The revenue lag days of 31.56 are subtracted from the expense lead
5 days of 27.40 and 37.05 to arrive at the net lag days of 4.16 and net lead days of 5.49 days,
6 respectively. Because these two taxes are not part of the cost of service, test year payments
7 are used to arrive at the related cash working capital shown in Column 7, lines 47 and 48.

8 **Q. What was the historic working capital requirement resulting from the**
9 **application of the lead-lag method?**

10 A. As indicated on Schedule 27, Sheet No. 2, the Net Working Capital Requirement for the
11 Twelve Months Ended December 31, 2013 is \$1,389,667.

12 **Q. Please explain the difference between Sheet No. 2 and Sheet No. 2b of**
13 **Schedule 27.**

14 A. In compliance with the Staff's method of calculating CWC, Sheet No. 2b is the net working
15 capital requirement prepared on a jurisdictional-basis. Jurisdictional percentages were
16 applied to the per book amounts shown on Sheet No. 2, Column 1. The percentages were
17 obtained from the Jurisdictional Study shown in Schedule 40b. As indicated on Sheet No.
18 2b, Schedule 27, the jurisdictional-based historic Net Working Capital Requirement is
19 \$1,497,423.

20 **Q. Where is the pro forma net working capital requirement?**

21 A. The pro forma Net Working Capital Requirement of \$1,422,722 is shown on Schedule 29
22 Adjustment 30, Line 47.

23 **Q. Please discuss the need for a Balance Sheet Analysis.**

24 A. In Case No. PUE-1992-00037, the Staff expressed the need for CGV to provide a full

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1 Balance Sheet Analysis. Accordingly, I have examined the impact that the balance sheet
2 accounts have on CGV's cash flows and related CWC requirement and have included
3 \$766,551 and \$901,318 on line 49 of Sheet No. 2 and line 47 of Sheet No. 2b, respectively, of
4 Schedule 27. Traditionally, the Balance Sheet Analysis is based on the 13-month average,
5 except for those specifically noted, of per book amounts for the test year of specific
6 accounts. However, Account 183, Preliminary Surveys & Investigation, and Account 186-1,
7 Misc. Maintenance Jobbing WIP, have been adjusted to eliminate expenditures related to
8 Large Volume Transportation Service customers that had been capitalized at the end of
9 2013 and included in construction work in progress ("CWIP"). This adjustment was
10 necessary to avoid double counting of these expenditures in rate base through inclusion in
11 both CWIP and the Balance Sheet Analysis. The total company and jurisdictional amounts
12 are contained in Schedule 28.

13 **Q. Does this conclude your pre-filed direct testimony?**

14 **A.** Yes, it does.

COLUMBIA GAS OF MASSACHUSETTS

**Lead Lag Study
as of
December 31, 2014**

Schedule WC-1

**Columbia Gas of Massachusetts
 Cash Working Capital Requirements
 Test Year Ending 12/31/14
 Cash Working Capital Net Lag Days**

<u>Line No.</u>	<u>Components</u> (1)	<u>Lead Lag Days</u> (2)	<u>Reference</u> (3)
Other O&M Working Capital			
1	Total Revenue Lag	63.28	Sch. WC-2, Page 6, Col. 3, Ln. 9
2	O & M Expenses	<u>16.46</u>	Sch. WC-4, Col. 3, Ln. 18
3	Weighted Net Lag Days	<u>46.82</u>	Ln. 1 Less Ln. 2
4	Percentage (Ln. 3/ 365)	<u>12.827%</u>	

Columbia Gas of Massachusetts
Cash Working Capital Requirements
Test Year TME: December 31, 2014
Average Daily Accounts Receivable Balance

Accounts Receivable

Ln. No.	Month / Day	Gas	Administrative	Total
		Computerized 514210	514229	(3 = 1 + 2)
		(1) \$	(2) \$	\$
1	01/01/14	43,446,574.91	(207,893.31)	43,238,681.60
2	01/02/14	44,477,928.80	(207,893.31)	44,270,035.49
3	01/03/14	43,100,773.45	(207,893.31)	42,892,880.14
4	01/04/14	43,100,773.45	(207,893.31)	42,892,880.14
5	01/05/14	43,100,773.45	(207,893.31)	42,892,880.14
6	01/06/14	47,495,939.58	(207,893.31)	47,288,046.27
7	01/07/14	50,187,797.46	(209,557.80)	49,978,239.66
8	01/08/14	55,724,119.09	(207,893.31)	55,516,225.78
9	01/09/14	56,201,166.90	(208,318.93)	55,992,847.97
10	01/10/14	60,876,432.84	(208,318.93)	60,668,113.91
11	01/11/14	63,277,889.05	(208,387.93)	63,069,501.12
12	01/12/14	63,277,889.05	(208,387.93)	63,069,501.12
13	01/13/14	63,277,889.05	(208,387.93)	63,069,501.12
14	01/14/14	63,172,405.61	(207,037.93)	62,965,367.68
15	01/15/14	66,440,041.74	(206,201.60)	66,233,840.14
16	01/16/14	69,299,319.86	(207,037.93)	69,092,281.93
17	01/17/14	69,130,397.95	(207,037.93)	68,923,360.02
18	01/18/14	69,130,397.95	(207,037.93)	68,923,360.02
19	01/19/14	69,130,397.95	(207,037.93)	68,923,360.02
20	01/20/14	68,026,010.12	(207,037.93)	67,818,972.19
21	01/21/14	70,619,414.01	(451,197.59)	70,168,216.42
22	01/22/14	72,833,736.65	(207,037.93)	72,626,698.72
23	01/23/14	74,086,326.14	(376,881.14)	73,709,445.00
24	01/24/14	76,740,328.38	(376,881.14)	76,363,447.24
25	01/25/14	76,740,328.38	(376,881.14)	76,363,447.24
26	01/26/14	76,740,328.38	(376,881.14)	76,363,447.24
27	01/27/14	77,317,146.16	(207,617.78)	77,109,528.38
28	01/28/14	78,105,886.07	(208,417.22)	77,897,468.85
29	01/29/14	77,212,846.38	(208,543.67)	77,004,302.71
30	01/30/14	77,176,310.73	(208,543.67)	76,967,767.06
31	01/31/14	73,357,629.18	(208,693.27)	73,148,935.91
32	02/01/14	73,357,629.18	(208,693.27)	73,148,935.91
33	02/02/14	73,357,629.18	(208,693.27)	73,148,935.91
34	02/03/14	71,561,807.74	(208,693.27)	71,353,114.47
35	02/04/14	72,382,716.64	(208,693.27)	72,174,023.37
36	02/05/14	74,269,173.06	(208,693.27)	74,060,479.79
37	02/06/14	77,354,755.83	(208,693.27)	77,146,062.56
38	02/07/14	80,919,752.25	(208,693.27)	80,711,058.98
39	02/08/14	80,919,752.25	(208,693.27)	80,711,058.98
40	02/09/14	80,919,752.25	(208,693.27)	80,711,058.98
41	02/10/14	79,836,532.19	(208,693.27)	79,627,838.92
42	02/11/14	82,119,014.54	(208,693.27)	81,910,321.27
43	02/12/14	87,349,783.65	(220,393.27)	87,129,390.38
44	02/13/14	88,529,423.49	(220,393.27)	88,309,030.22
45	02/14/14	90,683,052.69	(220,393.27)	90,462,659.42
46	02/15/14	90,683,052.69	(220,393.27)	90,462,659.42
47	02/16/14	90,683,052.69	(220,393.27)	90,462,659.42
48	02/17/14	90,683,052.69	(220,393.27)	90,462,659.42
49	02/18/14	89,370,542.05	(219,551.26)	89,150,990.79
50	02/19/14	93,088,520.92	(565,973.48)	92,522,547.44
51	02/20/14	100,003,532.47	(566,815.49)	99,436,716.98
52	02/21/14	103,202,299.64	(219,593.83)	102,982,705.81
53	02/22/14	103,202,299.64	(219,593.83)	102,982,705.81
54	02/23/14	103,202,299.64	(219,593.83)	102,982,705.81
55	02/24/14	103,108,685.55	(355,138.84)	102,753,546.71
56	02/25/14	103,025,848.40	(362,253.84)	102,663,594.56
57	02/26/14	106,071,737.33	(360,263.84)	105,711,473.49
58	02/27/14	104,928,215.14	(219,593.83)	104,708,621.31
59	02/28/14	102,356,139.94	(219,593.83)	102,136,546.11
60	03/01/14	102,356,139.94	(219,593.83)	102,136,546.11
61	03/02/14	102,356,139.94	(219,593.83)	102,136,546.11
62	03/03/14	97,272,248.57	(219,593.83)	97,052,654.74
63	03/04/14	91,421,183.01	(207,893.83)	91,213,289.18
64	03/05/14	93,884,204.79	(207,893.83)	93,676,310.96
65	03/06/14	91,027,055.38	(209,800.59)	90,817,254.79
66	03/07/14	87,223,800.34	(208,143.83)	87,015,656.51

**Columbia Gas of Massachusetts
Cash Working Capital Requirements
Test Year TME: December 31, 2014
Average Daily Accounts Receivable Balance**

Accounts Receivable

Ln. No.	Month / Day	Gas		Administrative 514229	Total (3 = 1 + 2)
		Computerized 514210			
		(1) \$	(2) \$		
67	03/08/14	87,223,800.34		(208,143.83)	87,015,656.51
68	03/09/14	87,223,800.34		(208,143.83)	87,015,656.51
69	03/10/14	83,506,458.90		(212,421.96)	83,294,036.94
70	03/11/14	80,901,218.21		(213,115.71)	80,688,102.50
71	03/12/14	77,789,642.55		(230,305.10)	77,559,337.45
72	03/13/14	75,618,143.50		(209,523.05)	75,408,620.45
73	03/14/14	104,698,853.86		(211,893.83)	104,486,960.03
74	03/15/14	104,698,853.86		(211,893.83)	104,486,960.03
75	03/16/14	104,698,853.86		(211,893.83)	104,486,960.03
76	03/17/14	107,001,081.50		(294,834.92)	106,706,246.58
77	03/18/14	115,238,014.10		(294,834.92)	114,943,179.18
78	03/19/14	119,743,241.70		(214,398.05)	119,528,843.65
79	03/20/14	124,300,152.51		(214,398.05)	124,085,754.46
80	03/21/14	128,243,411.95		(214,994.22)	128,028,417.73
81	03/22/14	128,243,411.95		(214,994.22)	128,028,417.73
82	03/23/14	128,243,411.95		(214,994.22)	128,028,417.73
83	03/24/14	129,269,414.24		(215,011.73)	129,054,402.51
84	03/25/14	129,215,446.91		(209,886.73)	129,005,560.18
85	03/26/14	135,093,079.77		(224,586.73)	134,868,493.04
86	03/27/14	135,841,760.85		(209,886.73)	135,631,874.12
87	03/28/14	137,170,452.88		(209,886.73)	136,960,566.15
88	03/29/14	137,170,452.88		(209,886.73)	136,960,566.15
89	03/30/14	137,170,452.88		(209,886.73)	136,960,566.15
90	03/31/14	133,331,132.93		(209,886.73)	133,121,246.20
91	04/01/14	132,271,024.67		(210,526.73)	132,060,497.94
92	04/02/14	129,985,483.63		(210,526.73)	129,774,956.90
93	04/03/14	138,940,716.55		(210,526.73)	138,730,189.82
94	04/04/14	138,574,950.28		(210,526.73)	138,364,423.55
95	04/05/14	138,574,950.28		(210,526.73)	138,364,423.55
96	04/06/14	138,574,950.28		(210,526.73)	138,364,423.55
97	04/07/14	136,586,431.08		(210,526.73)	136,375,904.35
98	04/08/14	135,373,058.55		(210,526.73)	135,162,531.82
99	04/09/14	138,300,488.51		(211,029.06)	138,089,459.45
100	04/10/14	136,318,318.03		(211,116.13)	136,107,201.90
101	04/11/14	135,930,880.51		(546,062.70)	135,384,817.81
102	04/12/14	135,930,880.51		(546,062.70)	135,384,817.81
103	04/13/14	135,930,880.51		(546,062.70)	135,384,817.81
104	04/14/14	131,597,646.31		(212,461.13)	131,385,185.18
105	04/15/14	132,855,955.70		(210,701.13)	132,645,254.57
106	04/16/14	133,020,790.34		(210,701.13)	132,810,089.21
107	04/17/14	134,251,351.22		(210,701.13)	134,040,650.09
108	04/18/14	132,456,617.99		(211,116.13)	132,245,501.86
109	04/19/14	132,456,617.99		(211,116.13)	132,245,501.86
110	04/20/14	132,456,617.99		(211,116.13)	132,245,501.86
111	04/21/14	132,456,617.99		(211,116.13)	132,245,501.86
112	04/22/14	130,554,572.57		(1,190,610.28)	129,363,962.29
113	04/23/14	130,156,532.30		(214,097.43)	129,942,434.87
114	04/24/14	128,943,793.87		(315,025.06)	128,628,768.81
115	04/25/14	128,821,184.98		(235,747.29)	128,585,437.69
116	04/26/14	128,821,184.98		(235,747.29)	128,585,437.69
117	04/27/14	128,821,184.98		(235,747.29)	128,585,437.69
118	04/28/14	128,821,184.98		(235,747.29)	128,585,437.69
119	04/29/14	121,913,805.97		(238,002.16)	121,675,803.81
120	04/30/14	121,534,693.24		(237,616.21)	121,297,077.03
121	05/01/14	120,240,279.87		(214,981.47)	120,025,298.40
122	05/02/14	118,932,804.22		(214,981.47)	118,717,822.75
123	05/03/14	118,932,804.22		(214,981.47)	118,717,822.75
124	05/04/14	118,932,804.22		(214,981.47)	118,717,822.75
125	05/05/14	117,717,639.67		(215,031.47)	117,502,608.20
126	05/06/14	114,788,822.17		(214,160.21)	114,574,661.96
127	05/07/14	116,750,874.34		(214,160.21)	116,536,714.13
128	05/08/14	114,236,532.34		(214,730.90)	114,021,801.44
129	05/09/14	115,699,726.47		(214,962.98)	115,484,763.49
130	05/10/14	115,699,726.47		(214,962.98)	115,484,763.49
131	05/11/14	115,699,726.47		(214,962.98)	115,484,763.49
132	05/12/14	112,212,515.46		(245,569.61)	111,966,945.85

**Columbia Gas of Massachusetts
Cash Working Capital Requirements
Test Year TME: December 31, 2014
Average Daily Accounts Receivable Balance**

Accounts Receivable

Ln. No.	Month / Day	Gas	Administrative	Total
		Computerized 514210	514229	(3 = 1 + 2)
		(1) \$	(2) \$	\$
133	05/13/14	112,418,427.75	(214,962.98)	112,203,464.77
134	05/14/14	111,870,301.09	(214,962.98)	111,655,338.11
135	05/15/14	112,251,485.81	(214,962.98)	112,036,522.83
136	05/16/14	111,652,311.38	(214,962.98)	111,437,348.40
137	05/17/14	111,652,311.38	(214,962.98)	111,437,348.40
138	05/18/14	111,652,311.38	(214,962.98)	111,437,348.40
139	05/19/14	105,537,092.86	(214,962.98)	105,322,129.88
140	05/20/14	105,748,512.71	(214,962.98)	105,533,549.73
141	05/21/14	105,141,551.04	(260,092.80)	104,881,458.24
142	05/22/14	105,066,584.54	(260,092.80)	104,806,491.74
143	05/23/14	103,425,995.32	(260,757.80)	103,165,237.52
144	05/24/14	103,425,995.32	(260,757.80)	103,165,237.52
145	05/25/14	103,425,995.32	(260,757.80)	103,165,237.52
146	05/26/14	103,425,995.32	(260,757.80)	103,165,237.52
147	05/27/14	97,719,871.61	(1,285,690.95)	96,434,180.66
148	05/28/14	95,705,387.16	(218,171.14)	95,487,216.02
149	05/29/14	94,406,186.85	(216,742.80)	94,189,444.05
150	05/30/14	92,301,564.89	(218,336.57)	92,083,228.32
151	05/31/14	92,301,564.89	(218,336.57)	92,083,228.32
152	06/01/14	92,301,564.89	(218,336.57)	92,083,228.32
153	06/02/14	88,612,967.01	(217,886.57)	88,395,080.44
154	06/03/14	86,058,701.85	(217,886.57)	85,840,815.28
155	06/04/14	86,563,019.13	(215,787.67)	86,347,231.46
156	06/05/14	85,414,417.14	(216,293.10)	85,198,124.04
157	06/06/14	85,216,579.59	(216,293.10)	85,000,286.49
158	06/07/14	85,216,579.59	(216,293.10)	85,000,286.49
159	06/08/14	85,216,579.59	(216,293.10)	85,000,286.49
160	06/09/14	83,327,287.30	(215,833.41)	83,111,453.89
161	06/10/14	82,047,802.22	(215,897.95)	81,831,904.27
162	06/11/14	80,983,499.27	(216,023.52)	80,767,475.75
163	06/12/14	80,330,214.58	(216,023.52)	80,114,191.06
164	06/13/14	80,105,000.76	(216,578.28)	79,888,422.48
165	06/14/14	80,105,000.76	(216,578.28)	79,888,422.48
166	06/15/14	80,105,000.76	(216,578.28)	79,888,422.48
167	06/16/14	78,051,746.84	(216,578.28)	77,835,168.56
168	06/17/14	77,295,448.06	(217,354.81)	77,078,093.25
169	06/18/14	75,701,858.12	(217,354.81)	75,484,503.31
170	06/19/14	75,447,311.21	(217,354.81)	75,229,956.40
171	06/20/14	74,951,227.11	(217,354.81)	74,733,872.30
172	06/21/14	74,951,227.11	(217,354.81)	74,733,872.30
173	06/22/14	74,951,227.11	(217,354.81)	74,733,872.30
174	06/23/14	73,057,813.41	(217,426.76)	72,840,386.65
175	06/24/14	72,841,388.38	(217,426.76)	72,623,961.62
176	06/25/14	71,937,559.94	(225,376.84)	71,712,183.10
177	06/26/14	71,105,970.93	(219,226.76)	70,886,744.17
178	06/27/14	70,212,034.04	(219,226.76)	69,992,807.28
179	06/28/14	70,212,034.04	(219,226.76)	69,992,807.28
180	06/29/14	70,212,034.04	(219,226.76)	69,992,807.28
181	06/30/14	68,137,543.58	(219,226.76)	67,918,316.82
182	07/01/14	67,108,021.85	(219,226.76)	66,888,795.09
183	07/02/14	66,542,871.15	(573,921.88)	65,968,949.27
184	07/03/14	66,584,574.45	(573,931.66)	66,010,642.79
185	07/04/14	66,584,574.45	(573,931.66)	66,010,642.79
186	07/05/14	66,584,574.45	(573,931.66)	66,010,642.79
187	07/06/14	66,584,574.45	(573,931.66)	66,010,642.79
188	07/07/14	64,501,448.48	(573,931.66)	63,927,516.82
189	07/08/14	63,650,148.33	(219,164.59)	63,430,983.74
190	07/09/14	62,718,105.97	(220,293.01)	62,497,812.96
191	07/10/14	62,517,338.36	(261,638.39)	62,255,699.97
192	07/11/14	62,062,500.87	(263,404.91)	61,799,095.96
193	07/12/14	62,062,500.87	(263,404.91)	61,799,095.96
194	07/13/14	62,062,500.87	(263,404.91)	61,799,095.96
195	07/14/14	60,764,965.68	(228,193.38)	60,536,772.30
196	07/15/14	60,398,769.78	(229,066.46)	60,169,703.32
197	07/16/14	60,187,280.66	(229,066.46)	59,958,214.20
198	07/17/14	59,856,569.53	(232,596.46)	59,623,973.07

Columbia Gas of Massachusetts
Cash Working Capital Requirements
Test Year TME: December 31, 2014
Average Daily Accounts Receivable Balance

Accounts Receivable

Ln. No.	Month / Day	Gas		Administrative	Total
		Computerized 514210			
		(1)		(2)	(3 = 1 + 2)
		\$		\$	\$
199	07/18/14	58,810,965.18		(229,066.46)	58,581,898.72
200	07/19/14	58,810,965.18		(229,066.46)	58,581,898.72
201	07/20/14	58,810,965.18		(229,066.46)	58,581,898.72
202	07/21/14	57,624,916.21		(229,066.46)	57,395,849.75
203	07/22/14	57,093,810.72		(228,666.46)	56,865,144.26
204	07/23/14	56,762,580.84		(229,066.46)	56,533,514.38
205	07/24/14	56,609,047.43		(229,066.46)	56,379,980.97
206	07/25/14	56,414,806.36		(229,066.46)	56,185,739.90
207	07/26/14	56,414,806.36		(229,066.46)	56,185,739.90
208	07/27/14	56,414,806.36		(229,066.46)	56,185,739.90
209	07/28/14	53,832,469.74		(229,066.46)	53,603,403.28
210	07/29/14	53,083,929.51		(229,066.46)	52,854,863.05
211	07/30/14	52,532,197.11		(229,066.46)	52,303,130.65
212	07/31/14	51,787,907.61		(229,294.72)	51,558,612.89
213	08/01/14	50,631,409.28		(229,222.28)	50,402,187.00
214	08/02/14	50,631,409.28		(229,222.28)	50,402,187.00
215	08/03/14	50,631,409.28		(229,222.28)	50,402,187.00
216	08/04/14	48,922,211.64		(230,058.79)	48,692,152.85
217	08/05/14	49,182,993.94		(230,058.79)	48,952,935.15
218	08/06/14	49,044,558.92		(229,263.01)	48,815,295.91
219	08/07/14	48,593,275.34		(229,263.01)	48,364,012.33
220	08/08/14	48,421,731.49		(229,263.01)	48,192,468.48
221	08/09/14	48,421,731.49		(229,263.01)	48,192,468.48
222	08/10/14	48,421,731.49		(229,263.01)	48,192,468.48
223	08/11/14	47,361,201.25		(226,424.33)	47,134,776.92
224	08/12/14	47,152,851.27		(226,424.33)	46,926,426.94
225	08/13/14	46,842,974.23		(226,424.33)	46,616,549.90
226	08/14/14	47,124,421.39		(230,873.55)	46,893,547.84
227	08/15/14	46,691,585.15		(230,992.32)	46,460,592.83
228	08/16/14	46,691,585.15		(230,992.32)	46,460,592.83
229	08/17/14	46,691,585.15		(230,992.32)	46,460,592.83
230	08/18/14	45,560,856.07		(230,936.32)	45,329,919.75
231	08/19/14	45,254,468.12		(231,731.31)	45,022,736.81
232	08/20/14	45,265,255.15		(231,731.31)	45,033,523.84
233	08/21/14	45,047,399.67		(231,072.90)	44,816,326.77
234	08/22/14	44,504,246.50		(231,328.90)	44,272,917.60
235	08/23/14	44,504,246.50		(231,328.90)	44,272,917.60
236	08/24/14	44,504,246.50		(231,328.90)	44,272,917.60
237	08/25/14	43,827,074.30		(230,709.32)	43,596,364.98
238	08/26/14	41,868,357.37		(230,709.32)	41,637,648.05
239	08/27/14	41,425,942.94		(230,709.32)	41,195,233.62
240	08/28/14	41,236,611.67		(231,032.09)	41,005,579.58
241	08/29/14	40,469,554.19		(231,092.09)	40,238,462.10
242	08/30/14	40,469,554.19		(231,092.09)	40,238,462.10
243	08/31/14	40,469,554.19		(231,092.09)	40,238,462.10
244	09/01/14	40,469,554.19		(231,092.09)	40,238,462.10
245	09/02/14	38,897,480.71		(232,588.16)	38,664,892.55
246	09/03/14	38,355,902.81		(232,588.16)	38,123,314.65
247	09/04/14	39,203,370.53		(232,338.16)	38,971,032.37
248	09/05/14	38,742,713.78		(232,493.16)	38,510,220.62
249	09/06/14	38,742,713.78		(232,493.16)	38,510,220.62
250	09/07/14	38,742,713.78		(232,493.16)	38,510,220.62
251	09/08/14	37,802,686.02		(232,493.16)	37,570,192.86
252	09/09/14	37,326,563.04		(232,673.54)	37,093,889.50
253	09/10/14	37,286,887.22		(226,612.50)	37,060,274.72
254	09/11/14	37,200,973.22		(227,554.71)	36,973,418.51
255	09/12/14	36,402,235.04		(227,554.71)	36,174,680.33
256	09/13/14	36,402,235.04		(227,554.71)	36,174,680.33
257	09/14/14	36,402,235.04		(227,554.71)	36,174,680.33
258	09/15/14	35,032,057.43		(227,554.71)	34,804,502.72
259	09/16/14	34,470,778.78		(227,554.71)	34,243,224.07
260	09/17/14	34,503,837.16		(227,554.71)	34,276,282.45
261	09/18/14	34,512,842.01		(227,554.71)	34,285,287.30
262	09/19/14	34,098,160.99		(227,554.71)	33,870,606.28
263	09/20/14	34,098,160.99		(227,554.71)	33,870,606.28
264	09/21/14	34,098,160.99		(227,554.71)	33,870,606.28

**Columbia Gas of Massachusetts
Cash Working Capital Requirements
Test Year TME: December 31, 2014
Average Daily Accounts Receivable Balance**

Accounts Receivable

Ln. No.	Month / Day	Gas		Administrative	Total
		Computerized 514210			
		(1)		(2)	(3 = 1 + 2)
		\$		\$	\$
265	09/22/14		33,184,137.46	(227,554.71)	32,956,582.75
266	09/23/14		32,906,905.26	(277,554.71)	32,629,350.55
267	09/24/14		33,288,545.74	(267,886.83)	33,020,658.91
268	09/25/14		30,682,818.68	(267,886.83)	30,414,931.85
269	09/26/14		30,867,358.00	(267,886.83)	30,599,471.17
270	09/27/14		30,867,358.00	(267,886.83)	30,599,471.17
271	09/28/14		30,867,358.00	(267,886.83)	30,599,471.17
272	09/29/14		28,943,647.07	(268,780.59)	28,674,866.48
273	09/30/14		28,093,216.23	(268,780.59)	27,824,435.64
274	10/01/14		27,720,187.49	(268,780.59)	27,451,406.90
275	10/02/14		27,317,062.83	(268,780.59)	27,048,282.24
276	10/03/14		28,056,660.77	(268,780.59)	27,787,880.18
277	10/04/14		28,056,660.77	(268,780.59)	27,787,880.18
278	10/05/14		28,056,660.77	(268,780.59)	27,787,880.18
279	10/06/14		26,774,045.52	(268,780.59)	26,505,264.93
280	10/07/14		26,163,481.05	(269,412.63)	25,894,068.42
281	10/08/14		26,496,611.98	(269,412.63)	26,227,199.35
282	10/09/14		27,463,120.26	(351,850.47)	27,111,269.79
283	10/10/14		27,189,422.03	(269,430.95)	26,919,991.08
284	10/11/14		27,189,422.03	(269,430.95)	26,919,991.08
285	10/12/14		27,189,422.03	(269,430.95)	26,919,991.08
286	10/13/14		27,189,422.03	(269,430.95)	26,919,991.08
287	10/14/14		26,254,500.03	(269,430.95)	25,985,069.08
288	10/15/14		25,153,471.71	(269,430.95)	24,884,040.76
289	10/16/14		25,673,474.82	(269,430.95)	25,404,043.87
290	10/17/14		25,279,725.06	(269,430.95)	25,010,294.11
291	10/18/14		25,279,725.06	(269,430.95)	25,010,294.11
292	10/19/14		25,279,725.06	(269,430.95)	25,010,294.11
293	10/20/14		24,465,206.53	(269,430.95)	24,195,775.58
294	10/21/14		24,111,337.06	(269,430.95)	23,841,906.11
295	10/22/14		24,230,565.46	(269,882.52)	23,960,682.94
296	10/23/14		24,377,287.71	(277,382.52)	24,099,905.19
297	10/24/14		24,149,904.22	(277,382.52)	23,872,521.70
298	10/25/14		24,149,904.22	(277,382.52)	23,872,521.70
299	10/26/14		24,149,904.22	(277,382.52)	23,872,521.70
300	10/27/14		23,007,529.54	(277,549.86)	22,729,979.68
301	10/28/14		21,532,324.03	(277,548.86)	21,254,775.17
302	10/29/14		21,295,763.10	(277,382.52)	21,018,380.58
303	10/30/14		20,427,587.14	(291,309.74)	20,136,277.40
304	10/31/14		19,375,094.24	(291,309.74)	19,083,784.50
305	11/01/14		19,375,094.24	(291,309.74)	19,083,784.50
306	11/02/14		19,375,094.24	(291,309.74)	19,083,784.50
307	11/03/14		18,785,162.81	(291,309.74)	18,493,853.07
308	11/04/14		19,112,284.94	(291,309.74)	18,820,975.20
309	11/05/14		20,212,837.72	(291,309.74)	19,921,527.98
310	11/06/14		20,366,333.04	(291,309.74)	20,075,023.30
311	11/07/14		21,135,452.87	(291,309.74)	20,844,143.13
312	11/08/14		21,135,452.87	(291,309.74)	20,844,143.13
313	11/09/14		21,135,452.87	(291,309.74)	20,844,143.13
314	11/10/14		20,527,378.02	(291,309.74)	20,236,068.28
315	11/11/14		20,527,378.02	(291,309.74)	20,236,068.28
316	11/12/14		22,146,246.00	(291,362.72)	21,854,883.28
317	11/13/14		22,608,081.58	(291,362.72)	22,316,718.86
318	11/14/14		24,696,615.67	(291,362.72)	24,405,252.95
319	11/15/14		24,696,615.67	(291,362.72)	24,405,252.95
320	11/16/14		24,696,615.67	(291,362.72)	24,405,252.95
321	11/17/14		24,795,662.71	(291,362.72)	24,504,299.99
322	11/18/14		26,174,560.76	(293,237.43)	25,881,323.33
323	11/19/14		28,308,086.73	(283,637.43)	28,024,449.30
324	11/20/14		32,451,543.60	(283,637.43)	32,167,906.17
325	11/21/14		32,985,731.12	(283,637.43)	32,702,093.69
326	11/22/14		32,985,731.12	(283,637.43)	32,702,093.69
327	11/23/14		32,985,731.12	(283,637.43)	32,702,093.69
328	11/24/14		34,180,722.89	(283,637.43)	33,897,085.46
329	11/25/14		36,111,794.21	(283,641.95)	35,828,152.26
330	11/26/14		34,926,735.16	(294,114.37)	34,632,620.79

**Columbia Gas of Massachusetts
Cash Working Capital Requirements
Test Year TME: December 31, 2014
Average Daily Accounts Receivable Balance**

Accounts Receivable

Ln. No.	Month / Day	Gas		Administrative	Total
		Computerized 514210	514229		
		(1)	(2)		(3 = 1 + 2)
		\$	\$		\$
331	11/27/14	34,926,735.16	(294,114.37)		34,632,620.79
332	11/28/14	34,926,735.16	(294,114.37)		34,632,620.79
333	11/29/14	34,926,735.16	(294,114.37)		34,632,620.79
334	11/30/14	34,926,735.16	(294,114.37)		34,632,620.79
335	12/01/14	34,649,979.40	(277,361.65)		34,372,617.75
336	12/02/14	37,195,928.82	(277,343.33)		36,918,585.49
337	12/03/14	40,235,799.70	(282,219.58)		39,953,580.12
338	12/04/14	41,213,679.91	(282,219.58)		40,931,460.33
339	12/05/14	43,256,531.80	(282,219.58)		42,974,312.22
340	12/06/14	43,256,531.80	(282,219.58)		42,974,312.22
341	12/07/14	43,256,531.80	(282,219.58)		42,974,312.22
342	12/08/14	44,395,354.57	(282,219.58)		44,113,134.99
343	12/09/14	46,639,569.25	(282,219.58)		46,357,349.67
344	12/10/14	48,353,524.24	(282,219.58)		48,071,304.66
345	12/11/14	50,047,252.54	(282,219.58)		49,765,032.96
346	12/12/14	51,054,384.36	(282,219.58)		50,772,164.78
347	12/13/14	51,054,384.36	(282,219.58)		50,772,164.78
348	12/14/14	51,054,384.36	(282,219.58)		50,772,164.78
349	12/15/14	52,200,437.96	(282,219.58)		51,918,218.38
350	12/16/14	52,835,229.89	(282,219.58)		52,553,010.31
351	12/17/14	53,622,003.77	(578,943.59)		53,043,060.18
352	12/18/14	55,981,837.13	(282,219.58)		55,699,617.55
353	12/19/14	57,212,325.31	(282,219.58)		56,930,105.73
354	12/20/14	57,212,325.31	(282,219.58)		56,930,105.73
355	12/21/14	57,212,325.31	(282,219.58)		56,930,105.73
356	12/22/14	58,119,501.88	(282,292.25)		57,837,209.63
357	12/23/14	59,918,617.73	(253,034.66)		59,665,583.07
358	12/24/14	60,058,305.51	(253,034.66)		59,805,270.85
359	12/25/14	60,058,305.51	(253,034.66)		59,805,270.85
360	12/26/14	56,840,552.31	(434,997.02)		56,405,555.29
361	12/27/14	56,840,552.31	(434,997.02)		56,405,555.29
362	12/28/14	56,840,552.31	(434,997.02)		56,405,555.29
363	12/29/14	58,206,608.06	(435,147.02)		57,771,461.04
364	12/30/14	55,514,554.47	(435,147.02)		55,079,407.45
365	12/31/14	53,062,757.41	(340,530.41)		52,722,227.00
366	Total	25,108,764,584.76	(95,046,726.41)		25,013,717,858.35

1	Average Daily Balance (Page 5, Column 3, Ln. 366/ 365 days)	68,530,733.86
2	Average Daily Balance - YTD 12/31/14 - A/R 3rd Party Sales & Trans.(See Workpaper WC-2 WP1, Col. 1, Ln 14)	11,156,698.17
3	Average Daily Balance - YTD 12/31/14 - Reserve Gas Account Uncollectibles (See Workpaper WC-2 WP1, Col. 5, Ln 14)	(4,639,578.66)
4	Total Net Average Daily Receivables (Lns. 1 thru 3)	75,047,853.38
5	Average Daily Revenue per Schedule WC -3	1,600,488.00
6	Collection Lag (Ln 4/5)	46.89
7	Meter Reading Lag (See WC-2, Workpaper - 2)	15.19
8	Billing Lag	1.20
9	Total Revenue Lag (Lns 6 thru 8)	63.28

Schedule WC-3

**Columbia Gas of Massachusetts
Cash Working Capital Requirements
Test Year Ending 12/31/14
Average Daily Revenue
Total Revenue**

<u>Ln. No.</u>	<u>Description</u> (1)	<u>Total Revenue</u> (2) \$
1	Residential Sales	395,701,930
2	C&I Firm	133,314,600
3	Sales for Resale	2,675,968
4	Residential Transportation	331,885
5	Forfeited Discounts	556,950
6	Revenue from Transportation	51,106,205
7	Rent from Gas Property	490,421
8	Total Revenue	584,177,960
9	Average Daily (Ln 9 / 365)	1,600,488

Schedule WC-4

**Columbia Gas of Massachusetts
Cash Working Capital Requirements
Test Year Ending 12/31/14
Total Operation and Maintenance Expense Summary**

<u>Ln. No.</u>	<u>Cost Category</u> (1)	<u>Amount</u> (2) (\$)	<u>Lead Days</u> (3)	<u>Weighted Lead Days</u> (4)	<u>Reference</u> (5)
1	Net Payroll	35,835,638	9.05	324,269,225	Sch. WC - 5, Col. 2, Ln 5
2	Corporate Insurance	4,210,978	(132.34)	(557,280,829)	Sch. WC - 6, Col. 4, Ln 15
3	Pension/PBOP	0 1_/	0.00	0	
4	Other Benefits	4,435,956	41.68	184,890,646	Sch. WC - 7, Col. 4, Ln 13
5	System Management	42,716,532	32.38	1,383,161,306	Sch. WC - 8, Col. 4, Ln 13
6	Uncollectibles	0 1_/	0.00	0	
7	Rents	567,763	(20.66)	(11,729,984)	Sch. WC - 9, Col. 5, Ln 61
8	Outside Services	12,822,201	46.64	598,081,308	Sch. WC - 10, Col. 3, Ln 1
9	Material & Supplies	3,531,826	27.69	97,792,377	Sch. WC - 10, Col. 3, Ln 2
10	Utilities	2,064,502	43.22	89,218,073	Sch. WC - 10, Col. 3, Ln 3
11	Other O&M	<u>12,264,635</u> 1_/	17.48	<u>214,374,782</u>	Sch. WC - 10, Col. 3, Ln 4
12	Total O&M	118,450,031	19.61	2,322,776,904	
13	Property Taxes	17,677,092	(4.26)	(75,244,310)	Sch. WC - 11, Col. 3, Ln 1
14	FICA & Medicare Tax	2,434,944	8.98	21,865,794	Sch. WC - 11, Col. 3, Ln 2
15	Federal Unemployment Tax	20,129	75.98	1,529,417	Sch. WC - 11, Col. 3, Ln 3
16	State Unemployment Tax	<u>206,690</u>	66.10	<u>13,662,226</u>	Sch. WC - 11, Col. 3, Ln 4
17	Total Other Taxes	<u>20,338,855</u>	<u>(1.88)</u>	<u>(38,186,873)</u>	
18	Total (Ln. 12 + Ln. 16)	<u>138,788,886</u>	<u>16.46</u>	<u>2,284,590,031</u>	

1_/ Excludes the recovery of Pension/ PBOP, DSM, ERC, and Attorney General Fees via LDAC.
Excludes Uncollectibles per Order from DPU-12-25.
Excludes Itron Meter Reading, Metscan amortization and 2009 rate case amortization.

Schedule WC-5

**Columbia Gas of Massachusetts
Cash Working Capital Requirements
Test Year Ending 12/31/14
Gross Payroll Lead Days**

<u>Ln. No.</u>	<u>Payroll</u> (1)	<u>Weighted Lead Days</u> (2)	<u>Gross Pay</u> (3) \$	<u>Weighted Dollar Days</u> (4)	<u>Reference</u> (5)
1	Monthly	15.27	1,822,255	27,827,492	WC-11b WP2, Col. 3, Ln 13
2	Bi-Weekly	6.00	9,569,074	57,414,446	WC-11f WP6, Col. 3, Ln 27
3	Weekly - Union	9.45	41,670,846	393,668,115	WC-11n WP14, Col. 3, Ln 53
4	Weekly - Non-union	<u>9.44</u>	<u>3,168,186</u>	<u>29,906,781</u>	WC-11j WP10, Col.3, Ln 53
5	Total	<u><u>9.05</u></u>	<u><u>56,230,362</u></u>	<u><u>508,816,834</u></u>	

Schedule WC-6

**Columbia Gas of Massachusetts
Cash Working Capital Requirements
Test Year Ending 12/31/14
Corporate Insurance**

<u>Ln. No.</u>	<u>Beginning of Policy Period</u>	<u>End of Policy Period</u> (1)	<u>Payment Date</u> (2)	<u>Midpoint of Policy Period</u> (3)	<u>Lead Days</u> (4=2-1+3)	<u>Payment</u> (5) \$	<u>Weighted Lead Days</u> (6=4 * 5)
1	1/1/2014	12/31/2014	3/18/2014	182.50	(105.50)	696,381	(73,468,225)
2	1/1/2014	12/31/2014	7/18/2014	182.50	16.50	325	5,363
3	2/1/2014	1/31/2015	6/16/2014	182.50	(46.50)	7,150	(332,475)
4	3/1/2014	2/28/2015	6/16/2014	182.50	(74.50)	2,050	(152,725)
5	4/1/2014	3/31/2015	5/15/2014	182.50	(137.50)	147,322	(20,256,807)
6	4/1/2014	3/31/2015	7/18/2014	182.50	(73.50)	5,091	(374,189)
7	5/1/2014	4/30/2015	6/16/2014	182.50	(135.50)	190,008	(25,746,070)
8	6/1/2014	5/31/2015	10/16/2014	182.50	(44.50)	8,886	(395,427)
9	7/1/2014	6/30/2015	7/31/2014	182.50	(151.50)	1,447,562	(219,305,593)
10	7/1/2014	6/30/2015	8/22/2014	182.50	(129.50)	2,234,762	(289,401,631)
11	7/1/2014	6/30/2015	10/16/2014	182.50	(74.50)	5,720	(426,140)
12	7/1/2014	6/30/2015	11/21/2014	182.50	(38.50)	37,432	(1,441,132)
13	8/1/2014	7/31/2015	9/16/2014	182.50	(135.50)	15,654	(2,121,117)
14	11/1/2014	10/31/2015	12/15/2014	182.50	(137.50)	310,184	(42,650,308)
15		Total			<u>(132.34)</u>	<u>5,108,527</u>	<u>(676,066,476)</u>

Schedule WC-7

**Columbia Gas of Massachusetts
Cash Working Capital Requirements
Test Year Ending 12/31/14
Benefits**

<u>Ln. No.</u>	<u>Service Period</u> (1)	<u>Payment Date</u> (2)	<u>Midpoint of Service Period</u> (3)	<u>Lead Days</u> (4=2-1+3)	<u>Payment</u> (5) \$	<u>Weighted Lead Days</u> (6=4 * 5)
1	12/31/13	01/29/14	15.5	44.50	908,250	40,417,145
2	01/31/14	02/27/14	14.5	41.50	816,451	33,882,717
3	02/28/14	03/26/14	15.5	41.50	888,074	36,855,087
4	03/31/14	04/24/14	15.0	39.00	831,842	32,441,838
5	04/30/14	05/28/14	15.5	43.50	916,540	39,869,509
6	05/31/14	06/26/14	15.0	41.00	1,012,088	41,495,608
7	06/30/14	07/29/14	15.5	44.50	964,219	42,907,750
8	07/31/14	08/26/14	15.5	41.50	942,270	39,104,185
9	08/31/14	09/24/14	15.0	39.00	1,001,667	39,065,020
10	09/30/14	10/27/14	15.5	42.50	877,998	37,314,897
11	10/31/14	11/28/14	15.0	43.00	1,004,657	43,200,254
12	11/30/14	12/23/14	15.5	<u>38.50</u>	<u>914,823</u>	<u>35,220,690</u>
13	Total			<u>41.68</u>	<u>11,078,880</u>	<u>461,774,700</u>

Schedule WC-8

**Columbia Gas of Massachusetts
Cash Working Capital Requirements
Test Year Ending 12/31/14
NiSource Corporate Services Contract Billing**

<u>Ln. No.</u>	<u>Service Period</u> (1)	<u>Payment Date</u> (2)	<u>Midpoint of Service Period</u> (3)	<u>Lead Days</u> (4=2-1+3)	<u>Payment</u> (5) \$	<u>Weighted Lead Days</u> (6=4 * 5)
1	12/31/13	01/15/14	15.50	30.50	7,454,374	227,358,393
2	01/31/14	02/18/14	14.50	32.50	5,052,589	164,209,151
3	02/28/14	03/18/14	15.50	33.50	7,789,554	260,950,052
4	03/31/14	04/15/14	15.00	30.00	4,755,135	142,654,038
5	04/30/14	05/15/14	15.50	30.50	5,076,186	154,823,666
6	05/31/14	06/16/14	15.00	31.00	4,569,482	141,653,939
7	06/30/14	07/18/14	15.50	33.50	4,466,403	149,624,494
8	07/31/14	08/22/14	15.50	37.50	5,979,781	224,241,780
9	08/31/14	09/16/14	15.00	31.00	4,336,940	134,445,130
10	09/30/14	10/16/14	15.50	31.50	6,309,761	198,757,477
11	10/31/14	11/21/14	15.00	36.00	4,842,379	174,325,645
12	11/30/14	12/15/14	15.50	<u>30.50</u>	<u>5,273,743</u>	<u>160,849,163</u>
13	Total			<u>32.38</u>	<u>65,906,325</u>	<u>2,133,892,928</u>

Schedule WC-9

Columbia Gas of Massachusetts
Cash Working Capital Requirements
Test Year Ending 12/31/14
Rent Expense

<u>Ln. No.</u>	<u>Service Period</u> (1)	<u>Leased Item</u> (2)	<u>Payment Date</u> (3)	<u>Midpoint of Service Period</u> (4)	<u>Lead Days</u> (5=3-1+4)	<u>Payment</u> (6) \$	<u>Weighted Lead Days *</u> (7=5 * 6)
1	01/31/14	Westborough HQ	12/12/13	15.50	(34.50)	36,602	(1,262,783)
2	02/28/14	Westborough HQ	01/23/14	14.00	(22.00)	36,602	(805,253)
3	03/31/14	Westborough HQ	02/03/14	15.50	(40.50)	36,602	(1,482,398)
4	04/30/14	Westborough HQ	04/03/14	15.00	(12.00)	36,602	(439,229)
5	05/31/14	Westborough HQ	04/24/14	15.50	(21.50)	36,602	(786,952)
6	06/30/14	Westborough HQ	05/27/14	15.00	(19.00)	36,602	(695,446)
7	07/31/14	Westborough HQ	06/25/14	15.50	(20.50)	36,602	(750,350)
8	08/31/14	Westborough HQ	07/30/14	15.50	(16.50)	36,602	(603,940)
9	09/30/14	Westborough HQ	08/20/14	15.00	(26.00)	36,602	(951,663)
10	10/31/14	Westborough HQ	09/25/14	15.50	(20.50)	36,602	(750,350)
11	11/30/14	Westborough HQ	10/23/14	15.00	(23.00)	36,602	(841,856)
12	12/31/14	Westborough HQ	12/01/14	15.50	(14.50)	36,602	(530,735)
13	01/31/14	Marshfield	12/27/13	15.50	(19.50)	20,671	(403,081)
14	02/28/14	Marshfield	01/24/14	14.00	(21.00)	19,944	(418,815)
15	03/31/14	Marshfield	02/26/14	15.50	(17.50)	19,944	(349,012)
16	04/30/14	Marshfield	03/26/14	15.00	(20.00)	19,944	(398,871)
17	05/31/14	Marshfield	04/25/14	15.50	(20.50)	19,944	(408,843)
18	06/30/14	Marshfield	05/28/14	15.00	(18.00)	19,944	(358,984)
19	07/31/14	Marshfield	06/26/14	15.50	(19.50)	19,944	(388,899)
20	08/31/14	Marshfield	07/31/14	15.50	(15.50)	19,944	(309,125)
21	09/30/14	Marshfield	08/21/14	15.00	(25.00)	19,944	(498,589)
22	10/31/14	Marshfield	09/26/14	15.50	(19.50)	19,944	(388,899)
23	11/30/14	Marshfield	10/24/14	15.00	(22.00)	19,944	(438,758)
24	12/31/14	Marshfield	12/02/14	15.50	(13.50)	19,944	(269,238)
25	01/31/14	Taunton	12/26/13	15.50	(20.50)	21,158	(433,746)
26	02/28/14	Taunton	01/22/14	14.00	(23.00)	20,249	(465,733)
27	03/31/14	Taunton	02/25/14	15.50	(18.50)	20,249	(374,611)
28	04/30/14	Taunton	03/25/14	15.00	(21.00)	20,249	(425,234)
29	05/31/14	Taunton	04/24/14	15.50	(21.50)	20,249	(435,359)
30	06/30/14	Taunton	05/28/14	15.00	(18.00)	20,249	(364,487)
31	07/31/14	Taunton	06/25/14	15.50	(20.50)	20,249	(415,110)
32	08/31/14	Taunton	07/30/14	15.50	(16.50)	20,249	(334,113)
33	09/30/14	Taunton	08/20/14	15.00	(26.00)	20,249	(526,481)
34	10/31/14	Taunton	09/25/14	15.50	(20.50)	20,249	(415,110)
35	11/30/14	Taunton	10/23/14	15.00	(23.00)	20,249	(465,733)
36	12/31/14	Taunton	12/01/14	15.50	(14.50)	20,249	(293,614)
37	01/31/14	Easthampton	12/26/13	15.50	(20.50)	11,940	(244,770)
38	02/28/14	Easthampton	01/22/14	14.00	(23.00)	11,940	(274,620)
39	03/31/14	Easthampton	03/03/14	15.50	(12.50)	11,940	(149,250)
40	04/30/14	Easthampton	03/25/14	15.00	(21.00)	11,940	(250,740)
41	05/31/14	Easthampton	04/24/14	15.50	(21.50)	11,940	(256,710)
42	06/30/14	Easthampton	05/27/14	15.00	(19.00)	11,940	(226,860)
43	07/31/14	Easthampton	06/25/14	15.50	(20.50)	11,940	(244,770)
44	08/31/14	Easthampton	07/30/14	15.50	(16.50)	11,940	(197,010)
45	09/30/14	Easthampton	08/20/14	15.00	(26.00)	11,940	(310,440)
46	10/31/14	Easthampton	09/25/14	15.50	(20.50)	11,940	(244,770)
47	11/30/14	Easthampton	10/23/14	15.00	(23.00)	11,940	(274,620)
48	12/31/14	Easthampton	12/01/14	15.50	(14.50)	11,940	(173,130)
49	01/31/14	Haverhill	01/23/14	15.50	7.50	5,625	42,188
50	02/28/14	Haverhill	01/31/14	14.00	(14.00)	5,625	(78,750)
51	03/31/14	Haverhill	02/26/14	15.50	(17.50)	5,625	(98,438)
52	04/30/14	Haverhill	03/26/14	15.00	(20.00)	5,625	(112,500)
53	05/31/14	Haverhill	04/25/14	15.50	(20.50)	5,625	(115,313)
54	06/30/14	Haverhill	05/28/14	15.00	(18.00)	5,625	(101,250)
55	07/31/14	Haverhill	06/26/14	15.50	(19.50)	5,750	(112,125)
56	08/31/14	Haverhill	07/31/14	15.50	(15.50)	5,750	(89,125)
57	09/30/14	Haverhill	08/21/14	15.00	(25.00)	5,750	(143,750)
58	10/31/14	Haverhill	09/26/14	15.50	(19.50)	5,750	(112,125)
59	11/30/14	Haverhill	10/24/14	15.00	(22.00)	5,750	(126,500)
60	12/31/14	Haverhill	12/04/14	15.50	(11.50)	5,750	(66,125)
61	Total				(20.66)	<u>1,134,709</u>	<u>(23,442,903)</u>

* Brackets indicate prepayments.

Schedule WC-10

Columbia Gas of Massachusetts
 Cash Working Capital Requirements
 Test Year Ending 12/31/14
 All Other O&M

<u>Ln. No.</u>	<u>Cost Category</u> (1)	<u>Amount</u> (2) \$	<u>Lead Days</u> (3)	<u>Weighted Lead Days</u> (4)	<u>Reference</u> (5)
1	Other Outside Services	8,884,373	46.64	414,404,833	WC-10 WP1, Pg. 78, Ln. 3391
2	Materials & Supplies	1,734,868	27.69	48,036,541	WC-10 WP2, Pg. 35, Ln. 1448
3	Utilities	1,492,486	43.22	64,498,250	WC-10 WP3, Pg. 32, Ln. 1302
4	Other O&M	1,203,946	17.48	21,043,933	WC-10 WP4, Pg. 33, Ln. 1358

Schedule WC-11

**Columbia Gas of Massachusetts
Cash Working Capital Requirements
Test Year Ending 12/31/14
Other Taxes**

<u>Ln. No.</u>	<u>Cost Category</u> (1)	<u>Amount</u> (2) \$	<u>Lead Days</u> (3)	<u>Weighted Lead Days</u> (4)	<u>Reference</u> (5)
1	Property Tax	17,450,308	(4.26)	(74,279,289)	WC-11 WP1, Col. 3, Ln 1
2	FICA	7,880,481	8.98	70,747,770	WC-11 WP1, Col. 3, Ln 7
3	Federal Unemployment Tax	29,375	75.98	2,231,748	WC-11 WP1, Col. 3, Ln 13
4	State Unemployment Tax	<u>268,715</u>	<u>66.10</u>	<u>17,762,341</u>	WC-11 WP1, Col. 3, Ln 19
5	Total Other Taxes	<u>25,628,879</u>	<u>0.64</u>	<u>16,462,570</u>	

**THE COMMONWEALTH OF MASSACHUSETTS
DEPARTMENT OF PUBLIC UTILITIES**

D.P.U. 15-50

**DIRECT TESTIMONY OF
BRIAN E. ELLIOTT**

EXHIBIT CMA/BEE-1

***LEAD/LAG STUDY
RATE BASE***

**IN SUPPORT OF
BAY STATE GAS COMPANY
d/b/a/ COLUMBIA GAS OF MASSACHUSETTS**

REQUEST FOR BASE REVENUE ADJUSTMENT

APRIL 17, 2015

**DIRECT TESTIMONY OF
BRIAN E. ELLIOTT
EXHIBIT CMA/BEE-1**

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**DIRECT TESTIMONY OF
BRIAN E. ELLIOTT**

I. INTRODUCTION

Q. Please state your name and business address.

A. My name is Brian E. Elliott. My business address is 290 West Nationwide Boulevard, Columbus, Ohio 43215. I am employed by NiSource Corporate Services Company (“NCSC”) as a Regulatory Accounting Manager.

Q. Please describe your educational background and professional experience.

A. I graduated from West Virginia State College in 1985 with a Bachelor of Science degree in Business Administration and I majored in Accounting. I am a Certified Public Accountant and a member of the American Institute of Certified Public Accountants.

In March 1991, I joined Columbia Natural Resources (“CNR”). From 1991 until 2001, I held several positions of increasing responsibility in the Finance Department of CNR. In 1997, I was promoted to Financial Planning Manager. In 2001, I changed roles to become the Accounting Manager of CNR. From mid-2002 through 2003, I assumed a role in NiSource Corporate Services Company as the Financial Planning Manager of a group of regulated utilities, including Columbia Gas of Ohio, Columbia Gas of Kentucky, and Bay State Gas Company d/b/a Columbia Gas of Massachusetts (“CMA” or the “Company”). From 2004 through mid-2012, I was the Accounting Manager of Columbia Gas of Ohio. Most recently,

1 in mid-2012, I accepted my current position as a manager in the Regulatory
2 Strategy & Support Department of NiSource's gas distribution segment.

3 **Q. Have you previously testified before the Massachusetts Department of Public**
4 **Utilities ("Department") or any other regulatory commission?**

5 A. Yes. I previously testified before the Department in support of the Company's petition
6 in D.P.U. 13-75. Additionally, I have previously testified before the Maryland Public
7 Service Commission in a base-rate case for Columbia Gas of Maryland; before the
8 Pennsylvania Public Utility Commission in a base-rate case for Columbia Gas of
9 Pennsylvania; and before the Virginia State Corporation Commission in a base-rate
10 case for Columbia Gas of Virginia. My testimony in those cases supported the
11 Lead/Lag, Rate Base, Balance Sheet Analysis, or Allocated Cost of Service Studies.

12 **Q. What is the purpose of your testimony in this proceeding?**

13 A. The purpose of my testimony is to present CMA's cash working capital
14 requirements through the use of a Lead/Lag Study and to support the Company's
15 rate base.

16 **Q. Would you please provide a listing of the Exhibits that you are sponsoring**
17 **through your testimony?**

18 A. Yes. The table below lists all of the exhibits that I am sponsoring.

19
20

TABLE CMA/BEE-1

<u>Exhibit No.</u>	<u>Description</u>
Exhibit CMA/BEE-1	Testimony of Brian E. Elliott

Exhibit CMA/BEE-2	Lead/Lag Study
Exhibit CMA/BEE-3	Workpapers Supporting Exhibit CMA/BEE-2
Exhibit CMA/BEE-4	Rate Base Study

1

2 **II. LEAD/LAG STUDY**

3 **Q. Have you prepared a lead lag study in support of the Company's filing in**
4 **this case?**

5 A. Yes. I prepared a Lead/Lag Study to establish the net lag days to be used for
6 Other Operations and Maintenance ("O&M") Expense working capital that will
7 be included in base rates. The Lead/Lag Study is summarized and included as
8 Exhibit CMA/BEE-2.

9 **Q. What is cash working capital?**

10 A. Cash working capital is the amount of money that CMA needs to fund
11 operations in the time period between the disbursements required to render that
12 service and the receipt of payment of utility service.

13 **Q. What are the components of cash working capital?**

14 A. In Massachusetts, the cash working capital allowance is typically divided into
15 two components: (1) Purchased Gas; and (2) Other O&M expense & Other
16 Taxes ("Other O&M & Taxes") to accommodate the recovery of the Purchased
17 Gas component through the CGA and the Other O&M & Taxes expense
18 component through base rates. Each component uses revenue lag days and
19 expense lead days to determine the cash working capital requirement. In its

1 current case, however, CMA is presenting only the cash working capital
2 allowance for Other O&M & Taxes. In its previous base-rate case, D.P.U. 13-
3 75, CMA requested, and the Department granted, the separation of the
4 calculation of the Purchased Gas Working Capital allowance from base rate
5 cases and to make it a stand-alone calculation performed immediately prior to
6 each of CMA's peak period CGA filings.

7 **Q. Please define the terms "revenue lag days" and "expense lead days."**

8 A. Revenue lag is the time, measured in days, between delivery of a service to
9 CMA's customers and CMA's receipt of the payment for that service.
10 Similarly, expense lead is the time, again measured in days, between the
11 delivery of a service to CMA by a vendor and CMA's payment for that service.
12 The revenue lag results in a need for capital while the expense lead offsets this
13 need to the extent the Company can properly delay payment of its labor,
14 material and supplies, and other expenses.

15 **Q. Please describe the Lead/Lag Study and its findings.**

16 A. The Lead/Lag Study consists of 11 schedules with Schedule WC-1
17 summarizing the Other O&M Working Capital net lag days. Schedules WC-2
18 and WC-3 support the Revenue Lag days, while Schedules WC-4 through WC-
19 11 support the Other O&M & Other Taxes net days. The Lead/Lag Study
20 produced a net lag of 46.82 days or 12.827 percent (46.82/365) for Other O&M
21 & Taxes expense.

1 **A. Revenue Lag Days**

2 **Q. How is the revenue lag computed?**

3 A. The revenue lag consists of a “meter reading or service lag,” a “collection lag”
4 and a “billing lag.” The sum of the days associated with these three lag
5 components is the total revenue lag experienced by CMA. See Exh.
6 CMA/BEE-2, Schedule WC-2, Page 6 of 6.

7 **Q. What lag does the Lead/Lag Study produce for the component "meter**
8 **reading or service lag?"**

9 A. The Lead/Lag Study produces a “meter reading or service lag” of 15.19 days.
10 This lag was obtained by dividing the number of billing days in the 2014 test
11 year by 12 months and then in half to arrive at the midpoint of the monthly
12 service periods.

13 **Q. How was the “collection lag” calculated and what was the result?**

14 A. The “collection lag” for utility service totals 46.89 days. This lag reflects the
15 time delay between the mailing of customer bills and the receipt of the billed
16 revenues from customers. The 46.89 days lag was determined following a
17 thorough examination of utility service Accounts Receivable balances for sales
18 and transportation accounts using the Accounts Receivable turnover method. A
19 combination of daily balances and end of month balances were utilized as this
20 combination provides the most accurate measure of customer Accounts
21 Receivable. Exhibit CMA/BEE-2, Schedule WC-2, at page 1-6 details the daily

1 balances as provided in reports generated from the Customer billing system for
2 some of the Accounts Receivable. Exhibit CMA/BEE-2, Schedule WC-2, Page
3 6, Lines 2 and 3 further adjust for balances of accounts not tracked on a daily
4 basis. For these accounts, shown in Exhibit CMA/BEE-3, Schedule WC-2,
5 Workpaper 1, end of month balances are utilized to calculate average daily
6 balances. Continuing on, Exhibit CMA/BEE-2, Line 4 summarizes CMA's net
7 average daily balance of \$75,047,853. Under the Accounts Receivable turnover
8 method, the average daily Accounts Receivable balance is divided by the
9 average daily gas revenue to arrive at the "collection lag."

10 **Q. How did you arrive at the 1.2 days "billing lag"?**

11 A. Most of CMA's customers are billed the evening after the meters are read.
12 These customers' billing lag is one day. Certain large customers require
13 additional time to process the billing data, resulting in an increase in the billing
14 lag from one day to 1.2 days.

15 **Q. Is the total revenue lag computed from these three separate lag**
16 **calculations?**

17 A. Yes. The total revenue lag of 63.28 days is computed by adding the number of
18 days associated with each of the three revenue lag components as shown in Exh.
19 CMA/BEE-2, Schedule WC-2, Page 6 of 6. This total number of lag days
20 represents the amount of time between the recorded delivery of service to
21 customers and the receipt of the related revenues from customers.

1 **B. Other O&M & Taxes Cash Working Capital**

2 **Q. Please explain Other O&M & Taxes Cash Working Capital?**

3 A. The Other O&M & Taxes Cash Working Capital component is composed of
4 O&M expense consisting predominantly of payroll, employee and retiree
5 benefits, payroll taxes and property taxes. These are types of expenses that
6 CMA pays to underwrite the activities undertaken to serve customers before it
7 receives payment from customers for those services. It is appropriate for CMA
8 to recover its carrying cost for this service.

9 **Q. Did your Lead/Lag Study recalculate Other O&M & Taxes Expense lag**
10 **days for this proceeding?**

11 A. Yes. Similar to the study that the Company presented in D.P.U. 13-75, the
12 Other O&M & Tax Expense net lag days are based upon test year data adjusted
13 for known and measurable changes. As shown in my Exhibit CMA/BEE-2,
14 Schedule WC-1, the Lead/Lag Study results in a net lag of 46.82 days. Further,
15 as shown in my Exhibit CMA/BEE-4, Schedule BEE-2, Column 3, these net
16 lag days (displayed as an annual percentage) are applied to the adjusted test year
17 Other O&M & Tax amounts to determine CMA's cash working capital
18 requirements to be included in rate base.

19 **Q. In determining the expense lead period, how were the weighted lead days**
20 **in payment of O&M costs determined?**

21 A. First, total O&M expense, excluding gas costs, was disaggregated into 15 major
22 cost categories, as shown on Exhibit CMA/BEE-2, Schedule WC-4. Payments

1 were reviewed and the lead days were calculated for each category. For all of
2 these categories, the lead days were calculated using all payments that were
3 made during the test year. Once the lead days for each category were
4 determined, the lead days were summarized and dollar weighted to arrive at
5 Other O&M & Taxes expense lead days. Exhibit BSG/BEE-2, Schedule WC-
6 4 provides this calculation.

7 **Q. Briefly describe the lead days calculated for each category.**

8 A. The payroll lead is shown on Exhibit CMA/BEE-2, Schedule WC-5. CMA has
9 four individual pay groups: monthly, bi-weekly, weekly union and weekly non-
10 union. The monthly group is paid on the last business day of each month, the
11 bi-weekly group is paid one day before the end of the pay period and the weekly
12 group is paid six days after the pay period. This results in an overall weighted
13 lead of 9.05 days.

14 **Q. Please explain the negative days associated with corporate insurance?**

15 A. Corporate insurance premiums are paid in advance, generally on an annual basis
16 during the first half of the insurance policy period. The policy periods, as
17 shown in Exhibit CMA/BEE-2, Schedule WC-6, cover a one-year period.
18 Payments made during the test year were reviewed, and a negative 132.34 days
19 was calculated reflecting the prepayment of these costs.

20 **Q. Why were Pension and Post-Retirement Benefits Other Than Pensions**
21 **(“PBOP”) costs excluded from O&M costs?**

1 A. Pension/PBOP costs are recovered through the Company's Local Distribution
2 Adjustment Clause, as approved by the Department in D.T.E 05-27. The
3 Pension/PBOP provision provides for carrying costs related to the funding of
4 these programs whether in a prepaid and/or accrued position. The Department,
5 in D.P.U. 09-30, eliminated these costs from the cash working capital
6 calculation.

7 PBOP costs are convenience billed to CMA on a monthly basis and, as shown
8 in Exhibit CMA/BEE-2, Schedule WC-7, have a 41.68 day lead. System
9 Management costs, or NCSC Contract Billings, are charged to CMA in the
10 month following the month the services were provided. This delay results in a
11 32.38 day lead as shown on Exhibit CMA/BEE-2, Schedule WC-8.

12 **Q. Why were zero days assigned to uncollectibles?**

13 A. The lag in uncollectible accounts was considered in developing the "collection
14 lag" component of the revenue lag. Customers' Accounts Receivables net of
15 the provision for bad debts were used in calculating the average accounts
16 receivable balance.

17 **Q. Would you please explain the Rent category in the Lead/Lag Study?**

18 A. Yes. All of the costs in the Rent category are related to the rent for CMA's
19 headquarters, operating centers, and general office space. The payments for the

1 rent were reviewed as shown on Exhibit CMA/BEE-2, Schedule WC-9 and the
2 resulting negative 20.66 days were used for this category.

3 **Q. How did you calculate the lead days for other miscellaneous O&M**
4 **expenses?**

5 A. Despite the very high number of payments processed for the cost categories
6 Outside Services, Material and Supplies, Utilities and other O&M Costs, all
7 invoices, processed through the Company's accounts payable system, from
8 each category from the 2014 test year, were used to calculate the corresponding
9 number of lead days. The lead days that were calculated for each category are
10 shown in Exhibit CMA/BEE-2, Schedule WC-10. The results were used for
11 each respective cost category.

12 **Q. Would you briefly describe the lead days associated with Other Taxes?**

13 A. Yes. Exhibit CMA/BEE-2, Schedule WC-11 summarizes the results of the
14 analysis of lead days for property tax, Federal Insurance Contributions Tax
15 ("FICA"), Federal Unemployment Tax Act ("FUTA"), and State
16 Unemployment Tax Act ("SUTA") expenses. The negative 4.26 property tax
17 lead days were calculated based on a query of the tax payments made in 2014.
18 The FICA, FUTA and SUTA lead days of 8.98, 75.98 and 66.10, respectively,
19 were calculated based on the 2014 payments made to the Federal and
20 Massachusetts government for these payroll-related taxes.

21 **Q. How is the total O&M & Taxes Lag determined?**

1 A. The 16.46 days lead in payment for the cost of goods and services purchased is
2 subtracted from the 63.28 days lag in receipt of customer revenue to produce
3 the total O&M Lag of 46.82 days. Exhibit BSG/BEE-2, Schedule WC-1
4 provides this calculation.

5 **III. CASH WORKING CAPITAL PROPOSAL**

6 **Q. Would you summarize CMA's proposal regarding Cash Working Capital?**

7 A. Yes. The Purchased Gas Cash Working Capital component is removed from
8 the cost of service and will be recovered in accordance with CMA's CGAC
9 tariff. The O&M Cash Working Capital component is 46.82 days or 12.827
10 percent. This component is calculated by subtracting the O&M Expense Lead
11 Days of 16.46 from the Revenue Lag Days of 63.28. Within the total rate base
12 claim of \$590,143,045, which is presented in my Exhibit CMA/BEE-4,
13 Schedule BEE-1, is the cash working capital component of \$20,021,862,
14 representing the cash working capital allowance calculated for Other O&M
15 Expense and Taxes Other Than Income.

16 **Q. Does the Lead/Lag Study produce results within the Department's 45-day**
17 **convention?**

18 A. No, the results very slightly exceed the 45-day convention. However, the results
19 developed in this study reflect the detailed analysis performed on the revenue and
20 cost categories using data from the historic test year ended December 31, 2014.

21 **IV. ADJUSTED RATE BASE DECEMBER 31, 2014**

1 **Q. Please describe the calculation of the Adjusted Rate Base as of December 31,**
2 **2014.**

3 A. Exhibit CMA/BEE-4, Schedule BEE-1, Rate Base Summary, provides a summary
4 of the rate-base computation beginning with December 31, 2014 per-books
5 balances in Column 1. The Company's total starting rate-base amount is
6 \$723,152,270. This amount is adjusted in Columns 2 through 5 for ratemaking
7 adjustments. Column 6 provides the adjusted Rate Base balance of \$590,143,046.

8 **Q. Please further describe the adjustments set forth in Column 2 of Exhibit**
9 **CMA/BEE-4, Schedule BEE-1.**

10 A. Column 2, line 4 addresses the adjustment required for the calculated Cash Working
11 Capital. Schedule BEE-2 provides the calculation of Cash Working Capital for the
12 period ended December 31, 2014, as well as the adjusted request in this case. The
13 Cash Working Capital Factor of 12.827 percent was developed and is shown in my
14 Exhibit CMA/BEE-2, Schedule WC-1.

15 CMA/BEE-4, Schedule BEE-1, Column 2, line 5 adjusts the Materials and Supplies
16 balance to reflect the 12-month average balance for the historic test year. This
17 adjustment is detailed on Schedule BEE-3. CMA/BEE-4, Schedule BEE-1,
18 Column 2, line 12 adjusts Reserve for Deferred Income Taxes. Schedule BEE-4
19 provides a reconciliation of the various adjustments to the per-books Reserve
20 balances and summarizes the \$27,851,186 adjustment on Line 19. These
21 adjustments reflect all appropriate deferred income taxes consistent with
22 Department precedent as reiterated in Western Massachusetts Electric Company,

1 D.P.U. 10-70. Deferred income taxes reflected in reconciling or tracking
2 mechanisms have been excluded, as well as deferred income taxes for items in
3 which unrecovered or unamortized balances are not included in rate base. The
4 deferred income taxes included in the rate-base calculation are attributable to
5 amounts where carrying costs are being recovered on uncollected balances, such as
6 over and under collected gas costs, consistent with Department precedent to reflect
7 such items net of taxes. In total, the adjustments made in CMA/BEE-4, Schedule
8 BEE-1, Column 2 increase the rate base by \$30,047,486.

9 **Q. Please describe your adjustments for merger-related goodwill noted in**
10 **Column 3 of Exhibit CMA/BEE-4, Schedule BEE-1.**

11 A. The Company's utility plant balances include entries related to the Bay
12 State/NIPSCO merger and the Lawrence Gas merger. In Column 3 of this
13 Schedule, I have removed these balances from the December 31, 2014 book
14 amounts. Further support and detail for this adjustment is provided in Columns 4
15 and 8 of Exhibit CMA/BEE-4, Schedule BEE-7 and in Column 4, Line 20 of
16 Exhibit CMA/BEE-4, Schedule BEE-4. In total, the adjustments made in
17 CMA/BEE-4, Schedule BEE-1, Column 3 decrease the rate base by \$158,268,631.

18 **Q. Please explain the adjustments in Column 4 of Exhibit CMA/BEE-4, Schedule**
19 **BEE-1.**

20 A. In D.T.E. 05-27, the Department disallowed costs related to the Palmer/Mount
21 Dumpling project. The Palmer/Mount Dumpling project is still being depreciated.
22 Exhibit CMA/BEE-4, Schedule BEE-6 details the associated Plant, Depreciation

1 Reserve and Deferred Taxes associated with this project. These amounts are
2 removed from the rate base amounts requested in this case. In total, the adjustments
3 made in CMA/BEE-4, Schedule BEE-1, Column 4 decrease the rate base by
4 \$38,080.

5 **Q. Please explain the adjustment in Column 5 of Exhibit CMA/BEE-4, Schedule**
6 **BEE-1.**

7 A. The adjustments in Column 5, Lines 2 and 9, of Exhibit CMA/BEE-4, Schedule
8 BEE-1, are related to Capital Leases. The cost of these capital leases, along with
9 the associated accumulated depreciation, is being removed from rate base. Similar
10 to Utility Plant, capital leases represent purchased plant on the balance sheet.
11 However, unlike Utility Plant, capital leases are privately financed, typically over
12 the expected useful life of the asset, and do not result in a net cash outlay for the
13 Company. For this reason, it is appropriate to remove the capital leases from rate
14 base. In total, the adjustments made in CMA/BEE-4, Schedule BEE-1, Column 5
15 decrease the rate base by \$4,750,000.

16 **Q. Please describe Column 6 of Exhibit CMA/BEE-4, Schedule BEE-1.**

17 A. The Column 6 amounts are the sum of columns 1 through 5. This column
18 represents rate base at December 31, 2014 with all adjustments related to the
19 historic test year included. The Company's total proposed rate base is
20 \$590,143,046. Schedule BEE-7 provides a summary of the various adjustments by

1 gas plant account number as noted in columns 1 through 5 for Gas Plant in Service,
2 Reserve for Depreciation and Reserve for Intangible Assets.

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

4 **A. Yes.**

Columbia Gas of Maryland, Inc.
Summary of Cash Working Capital - Lead/Lag Study
Twelve Months Ended November 30, 2015

Line No.	Cost Category (1)	Reference (2)	Pro Forma Expense (3) \$	Daily Requirement (4) \$	Revenue Lag Days (5)	Expense Lead Days (6)	Net Lag Days (7)=(5)-(6)	Working Capital Requirement (8)=(4)*(7) \$
1	OPERATING EXPENSES							
2	Gas Purchased	Exh. No. 1, Sh. 1, Ln. 6	11,553,819	31,654	17.08	41.97	(24.89)	(787,868)
3	Payroll	Exh. No. 3, Sh. 2, Lns.1 & 2	2,838,173	7,776	17.08	20.75	(3.67)	(28,538)
4	OPEB	Exh. No. 3, Sh. 6, Col. 7, Lns.8 & 9	0	0	17.08	44.20	(27.12)	0
5	Pension	Exh. No. 3, Sh. 6, Col. 7, Ln.12	146,684	402	17.08	182.50	(165.42)	(66,499)
6	Other Employee Benefits	Exh. No. 3, Sh. 2, Ln.4 - Line 4 - Line 5	494,520	1,355	17.08	30.29	(13.21)	(17,900)
7	NiSource Corporate Services	Exh. No. 3, Sh. 2, Ln.5	6,413,273	17,571	17.08	35.10	(18.02)	(316,629)
8	Corporate Insurance	Exh. No. 3, Sh. 2, Ln.14	242,704	665	17.08	(179.01)	196.09	130,400
9	PSC Fees and PC Fees	Exh. No. 3, Sh. 2, Ln.23	71,260	195	17.08	(45.58)	62.66	12,219
10	Uncollectibles	Exh. No. 3, Sh. 2, Ln.18	334,312	916	17.08	17.08	0.00	0
11	Other O & M Expense	Exh. No. 3, Sh. 2	<u>3,087,463</u>	8,459	17.08	31.05	(13.97)	(118,172)
12	Total Operating Expense		<u>25,182,208</u>					
13	Depreciation & Amortization	Exh. No. 1, Sh. 1, Ln 9	<u>4,628,374</u>	12,680	0.00	0.00	0.00	0
14	TAXES OTHER THAN INCOME							
15	Payroll Taxes - F.I.C.A, FUTA, SUTA	Exh. No. 5, Sh. 1	213,791	586	17.08	7.90	9.18	5,379
16	Property Tax	Exh. No. 5, Sh. 1	1,765,718	4,838	17.08	(30.30)	47.38	229,224
17	Gross Receipts Tax and Consumption Tax	Exh. No. 5, Sh. 1	712,006	1,951	17.08	63.82	(46.74)	(91,190)
18	Other Taxes	Exh. No. 5, Sh. 1	<u>21,200</u>	58	17.08	(141.00)	158.08	9,169
19	Total Other Taxes		<u>2,712,715</u>					
20	INCOME TAXES							
21	Current - Federal	Exh. No. 6, Sh. 1, Ln. 9	<u>(3,118,647)</u>	(8,544)	17.08	37.50	(20.42)	174,468
22	Deferred - Federal	Exh. No. 6, Sh. 1, Lns. 12, 13 & 15	3,713,651		0.00	0.00	0.00	0
23	Investment Tax Credit	Exh. No. 6, Sh. 1, Ln. 14	(33,044)		0.00	0.00	0.00	0
24	Current - State	Exh. No. 6, Sh. 1, Ln. 7	<u>(508,113)</u>	(1,392)	17.08	37.50	(20.42)	28,425
25	Deferred - State	Exh. No. 6, Sh. 1, Ln. 22	678,564		0.00	0.00	0.00	0
26	INTEREST ON DEBT		1,958,424	5,366	17.08	89.20	(72.12)	<u>(386,996)</u>
27	TOTAL CASH WORKING CAPITAL REQUIREMENT							<u>(1,224,508)</u>

() Denotes Credit

Exhibit No. 9
Sheet 2 of 18
Witness: M. L. Battig

Columbia Gas of Maryland, Inc.
Analysis of Cash Working Capital Requirement
Revenue Lag
Twelve Months Ended November 30, 2015

<u>Line No.</u>	<u>Lag Component</u> (1)	<u>Number of Days</u> (2)
1	Collection	(0.50)
2	Meter Reading 1/	15.21
3	Billing	<u>2.37</u>
4	Total Revenue Lag	17.08

1/ Meter reading lag days computed as:
 $365 \text{ days} / 12 \text{ Months} / 2 \text{ (midpoint)} = 15.21 \text{ days}$

Exhibit No. 9
Sheet 3 of 18
Witness: M. L. Battig

Columbia Gas of Maryland, Inc.
Analysis of Cash Working Capital Requirement
Adjusted / Average Daily Revenue
Twelve Months Ended November 30, 2015

<u>Line No.</u>		<u>Amount</u> (1) \$
1	Total Tariff Revenues:	
2	Residential Revenues	25,718,690
3	Commercial Revenues	14,605,192
4	Industrial Revenues	424,189
5	Billed RNA Revenues	219,862
6	TOTAL TARIFF REVENUE	<u>40,967,932</u>
7	Transportation Revenue	3,398,767
8	Forfeited Discounts	14,368
9	Miscellaneous Service Revenue	44,256
10	SUBTOTAL OF ADDITIONAL REVENUE	<u>3,457,391</u>
11	TOTAL REVENUE	44,425,323
12	Average Daily Revenue (Line11/365 days)	<u>121,713</u>
13	Average Daily A/R Balance (Per Sheet No. 4)	<u>(61,256)</u>
14	Revenue Collection Lag Days (Line13 / Line12)	<u>(0.50)</u>

Exhibit No. 9
Sheet 4 of 18
Witness: M. L. Battig

Columbia Gas of Maryland, Inc.
Analysis of Cash Working Capital Requirement
Summary of Accounts Receivable
Twelve Months Ended November 30, 2015

<u>Line No.</u>	<u>Test Year</u> (1)	14300280 Home Energy Assistance Program <u>Balance</u> (2) \$	
1	Dec 2014	13,423	
2	Jan 2015	(205)	
3	Feb	(205)	
4	Mar	(26,145)	
5	Apr	(410)	
6	May	0	
7	Jun	0	
8	Jul	0	
9	Aug	0	
10	Sep	0	
11	Oct	0	
12	Nov 2015	0	
13	Total	<u>(13,542)</u>	
14	Avg. 12 Mo.	<u>(1,129)</u>	
15	Average Account 142 Daily A/R Balance (Exh 9 Sheet 4a, Column 2, Ln. 366/365 days)		(60,127.76)
16	Average Daily Balance - Account 14300280 Home Energy Assistance Program Balance		<u>(1,129)</u>
17	Total Average Daily Accounts Receivable (Lns. 15 thru 16)		(61,256.26)

Exhibit No. 9
Sheet 4a of 18
Witness: M. L. Battig

Columbia Gas of Maryland
Analysis of Cash Working Capital Requirements
Test Year TME: November 30, 2015
Average Daily Accounts Receivable Balance

Ln. No.	Month / Day	142 Daily Customer Accounts Receivable Balance	
		(1)	(2) \$
1	12/01/14		(1,917,694.54)
2	12/02/14		(1,526,092.48)
3	12/03/14		(1,693,929.89)
4	12/04/14		(1,573,329.64)
5	12/05/14		(1,908,940.74)
6	12/06/14		(1,908,940.74)
7	12/07/14		(1,908,940.74)
8	12/08/14		(1,863,232.23)
9	12/09/14		(1,640,769.21)
10	12/10/14		(1,517,060.37)
11	12/11/14		(1,641,029.45)
12	12/12/14		(1,386,989.37)
13	12/13/14		(1,386,989.37)
14	12/14/14		(1,386,989.37)
15	12/15/14		(1,013,414.61)
16	12/16/14		(1,149,292.37)
17	12/17/14		(834,489.67)
18	12/18/14		(683,649.29)
19	12/19/14		(421,092.19)
20	12/20/14		(421,092.19)
21	12/21/14		(421,092.19)
22	12/22/14		(762,853.05)
23	12/23/14		(668,290.66)
24	12/24/14		(668,290.66)
25	12/25/14		(668,290.66)
26	12/26/14		(684,224.98)
27	12/27/14		(684,224.98)
28	12/28/14		(684,224.98)
29	12/29/14		(691,635.57)
30	12/30/14		(840,825.46)
31	12/31/14		(650,891.22)
32	01/01/15		(647,443.01)
33	01/02/15		(382,277.83)
34	01/03/15		(382,277.83)
35	01/04/15		(382,277.83)
36	01/05/15		(379,460.45)
37	01/06/15		(517,994.91)
38	01/07/15		(368,118.88)
39	01/08/15		(247,841.61)
40	01/09/15		(195,264.56)
41	01/10/15		(195,264.56)
42	01/11/15		(195,264.56)
43	01/12/15		(73,576.12)
44	01/13/15		(920.19)
45	01/14/15		(175,080.55)
46	01/15/15		211,262.24
47	01/16/15		545,822.22
48	01/17/15		545,822.22

Exhibit No. 9
Sheet 4a of 18
Witness: M. L. Battig

Columbia Gas of Maryland
Analysis of Cash Working Capital Requirements
Test Year TME: November 30, 2015
Average Daily Accounts Receivable Balance

Ln. No.	Month / Day	142 Daily Customer Accounts Receivable Balance	
		(1)	(2) \$
49	01/18/15		545,822.22
50	01/19/15		372,824.43
51	01/20/15		689,921.24
52	01/21/15		876,806.78
53	01/22/15		1,160,546.42
54	01/23/15		1,055,317.29
55	01/24/15		1,055,317.29
56	01/25/15		1,055,317.29
57	01/26/15		937,503.16
58	01/27/15		993,558.69
59	01/28/15		1,271,284.11
60	01/29/15		1,079,651.95
61	01/30/15		1,165,332.43
62	01/31/15		1,170,987.02
63	02/01/15		1,170,987.02
64	02/02/15		1,335,039.47
65	02/03/15		1,868,944.29
66	02/04/15		1,441,941.54
67	02/05/15		1,645,324.23
68	02/06/15		1,714,971.64
69	02/07/15		1,714,971.64
70	02/08/15		1,714,971.64
71	02/09/15		1,668,792.99
72	02/10/15		1,855,532.47
73	02/11/15		1,833,972.76
74	02/12/15		1,632,929.30
75	02/13/15		1,918,978.69
76	02/14/15		1,918,978.69
77	02/15/15		1,918,978.69
78	02/16/15		2,147,445.43
79	02/17/15		1,933,773.07
80	02/18/15		2,199,683.86
81	02/19/15		2,395,560.70
82	02/20/15		2,619,217.40
83	02/21/15		2,619,217.40
84	02/22/15		2,619,217.40
85	02/23/15		2,116,874.81
86	02/24/15		2,172,005.77
87	02/25/15		2,427,325.73
88	02/26/15		2,590,375.76
89	02/27/15		2,373,069.26
90	02/28/15		2,379,270.91
91	03/01/15		2,379,270.91
92	03/02/15		2,499,730.53
93	03/03/15		2,795,972.84
94	03/04/15		2,974,040.30
95	03/05/15		2,728,212.70
96	03/06/15		2,846,808.80

Exhibit No. 9
Sheet 4a of 18
Witness: M. L. Battig

Columbia Gas of Maryland
Analysis of Cash Working Capital Requirements
Test Year TME: November 30, 2015
Average Daily Accounts Receivable Balance

Ln. No.	Month / Day	142 Daily Customer Accounts Receivable Balance
(1)	(2)	\$
97	03/07/15	2,846,808.80
98	03/08/15	2,846,808.80
99	03/09/15	2,841,952.15
100	03/10/15	2,937,336.08
101	03/11/15	2,963,173.66
102	03/12/15	3,004,063.45
103	03/13/15	2,773,549.03
104	03/14/15	2,773,549.03
105	03/15/15	2,773,549.03
106	03/16/15	2,908,836.33
107	03/17/15	3,161,976.53
108	03/18/15	3,171,502.78
109	03/19/15	3,373,018.34
110	03/20/15	3,446,147.88
111	03/21/15	3,446,147.88
112	03/22/15	3,446,147.88
113	03/23/15	3,322,391.70
114	03/24/15	2,988,490.98
115	03/25/15	2,969,629.50
116	03/26/15	3,076,260.64
117	03/27/15	3,181,176.79
118	03/28/15	3,181,176.79
119	03/29/15	3,181,176.79
120	03/30/15	2,748,299.97
121	03/31/15	2,788,106.38
122	04/01/15	2,859,407.43
123	04/02/15	2,991,969.01
124	04/03/15	2,991,969.01
125	04/04/15	2,991,969.01
126	04/05/15	2,991,969.01
127	04/06/15	2,574,052.83
128	04/07/15	2,551,927.67
129	04/08/15	2,471,845.22
130	04/09/15	2,470,871.14
131	04/10/15	2,579,720.37
132	04/11/15	2,579,720.37
133	04/12/15	2,579,720.37
134	04/13/15	2,445,999.43
135	04/14/15	2,247,082.03
136	04/15/15	2,320,788.32
137	04/16/15	2,548,259.98
138	04/17/15	2,391,106.36
139	04/18/15	2,391,106.36
140	04/19/15	2,391,106.36
141	04/20/15	2,363,525.36
142	04/21/15	2,331,219.42
143	04/22/15	2,366,250.67
144	04/23/15	2,236,142.66

Exhibit No. 9
Sheet 4a of 18
Witness: M. L. Battig

Columbia Gas of Maryland
Analysis of Cash Working Capital Requirements
Test Year TME: November 30, 2015
Average Daily Accounts Receivable Balance

Ln. No.	Month / Day	142 Daily Customer Accounts Receivable Balance
(1)	(2)	\$
145	04/24/15	2,153,789.98
146	04/25/15	2,153,789.98
147	04/26/15	2,153,789.98
148	04/27/15	2,106,095.67
149	04/28/15	2,079,553.55
150	04/29/15	1,885,881.74
151	04/30/15	1,984,674.20
152	05/01/15	2,037,348.27
153	05/02/15	2,037,348.27
154	05/03/15	2,037,348.27
155	05/04/15	2,001,853.31
156	05/05/15	1,805,500.64
157	05/06/15	1,819,706.18
158	05/07/15	1,844,726.38
159	05/08/15	1,800,900.34
160	05/09/15	1,800,900.34
161	05/10/15	1,800,900.34
162	05/11/15	1,757,327.16
163	05/12/15	1,685,787.30
164	05/13/15	1,544,385.25
165	05/14/15	1,579,018.04
166	05/15/15	1,589,244.50
167	05/16/15	1,589,244.50
168	05/17/15	1,589,244.50
169	05/18/15	1,419,647.53
170	05/19/15	1,365,148.85
171	05/20/15	1,362,934.57
172	05/21/15	1,362,637.26
173	05/22/15	1,211,634.45
174	05/23/15	1,211,634.45
175	05/24/15	1,211,634.45
176	05/25/15	1,211,634.45
177	05/26/15	1,072,301.24
178	05/27/15	1,086,775.61
179	05/28/15	1,054,814.34
180	05/29/15	929,500.17
181	05/30/15	929,500.17
182	05/31/15	930,257.75
183	06/01/15	730,651.49
184	06/02/15	558,690.65
185	06/03/15	768,972.29
186	06/04/15	715,071.64
187	06/05/15	707,300.08
188	06/06/15	707,300.08
189	06/07/15	707,300.08
190	06/08/15	631,359.23
191	06/09/15	591,314.52
192	06/10/15	628,600.34

Exhibit No. 9
Sheet 4a of 18
Witness: M. L. Battig

Columbia Gas of Maryland
Analysis of Cash Working Capital Requirements
Test Year TME: November 30, 2015
Average Daily Accounts Receivable Balance

Ln. No.	Month / Day	142 Daily Customer Accounts Receivable Balance
(1)	(2)	\$
193	06/11/15	650,539.54
194	06/12/15	543,985.84
195	06/13/15	543,985.84
196	06/14/15	543,985.84
197	06/15/15	459,343.03
198	06/16/15	466,064.93
199	06/17/15	411,534.79
200	06/18/15	407,803.38
201	06/19/15	378,237.08
202	06/20/15	378,237.08
203	06/21/15	378,237.08
204	06/22/15	295,372.64
205	06/23/15	237,891.54
206	06/24/15	187,085.22
207	06/25/15	180,968.42
208	06/26/15	145,853.61
209	06/27/15	145,853.61
210	06/28/15	145,853.61
211	06/29/15	(127,065.19)
212	06/30/15	(120,969.69)
213	07/01/15	(72,826.24)
214	07/02/15	(69,826.51)
215	07/03/15	(69,826.51)
216	07/04/15	(69,826.51)
217	07/05/15	(69,826.51)
218	07/06/15	(222,065.15)
219	07/07/15	(247,515.84)
220	07/08/15	(280,800.79)
221	07/09/15	(277,986.46)
222	07/10/15	(267,669.45)
223	07/11/15	(267,669.45)
224	07/12/15	(267,669.45)
225	07/13/15	(411,397.60)
226	07/14/15	(486,622.80)
227	07/15/15	(477,698.54)
228	07/16/15	(458,313.35)
229	07/17/15	(496,305.98)
230	07/18/15	(496,305.98)
231	07/19/15	(496,305.98)
232	07/20/15	(544,148.28)
233	07/21/15	(562,162.57)
234	07/22/15	(602,575.43)
235	07/23/15	(644,206.40)
236	07/24/15	(670,356.88)
237	07/25/15	(670,356.88)
238	07/26/15	(670,356.88)
239	07/27/15	(720,768.54)
240	07/28/15	(708,490.12)

Exhibit No. 9
Sheet 4a of 18
Witness: M. L. Battig

Columbia Gas of Maryland
Analysis of Cash Working Capital Requirements
Test Year TME: November 30, 2015
Average Daily Accounts Receivable Balance

Ln. No.	Month / Day	142 Daily Customer Accounts Receivable Balance
(1)	(2)	\$
241	07/29/15	(908,090.29)
242	07/30/15	(868,286.50)
243	07/31/15	(841,760.34)
244	08/01/15	(841,760.34)
245	08/02/15	(841,760.34)
246	08/03/15	(853,458.26)
247	08/04/15	(949,326.40)
248	08/05/15	(946,682.93)
249	08/06/15	(949,749.86)
250	08/07/15	(936,103.07)
251	08/08/15	(936,103.07)
252	08/09/15	(936,103.07)
253	08/10/15	(1,027,440.10)
254	08/11/15	(1,062,055.92)
255	08/12/15	(1,176,633.19)
256	08/13/15	(1,150,644.33)
257	08/14/15	(1,181,531.16)
258	08/15/15	(1,181,531.16)
259	08/16/15	(1,181,531.16)
260	08/17/15	(1,279,685.79)
261	08/18/15	(1,290,835.21)
262	08/19/15	(1,275,680.01)
263	08/20/15	(1,254,847.54)
264	08/21/15	(1,370,561.74)
265	08/22/15	(1,370,561.74)
266	08/23/15	(1,370,561.74)
267	08/24/15	(1,433,935.17)
268	08/25/15	(1,463,106.85)
269	08/26/15	(1,469,580.66)
270	08/27/15	(1,603,013.67)
271	08/28/15	(1,647,902.87)
272	08/29/15	(1,647,902.87)
273	08/30/15	(1,647,902.87)
274	08/31/15	(1,589,991.05)
275	09/01/15	(1,597,110.13)
276	09/02/15	(1,689,564.30)
277	09/03/15	(1,682,148.21)
278	09/04/15	(1,730,188.15)
279	09/05/15	(1,730,188.15)
280	09/06/15	(1,730,188.15)
281	09/07/15	(1,730,188.15)
282	09/08/15	(1,809,717.75)
283	09/09/15	(1,819,603.81)
284	09/10/15	(1,819,990.50)
285	09/11/15	(1,911,503.99)
286	09/12/15	(1,911,503.99)
287	09/13/15	(1,911,503.99)
288	09/14/15	(2,017,647.50)

Exhibit No. 9
Sheet 4a of 18
Witness: M. L. Battig

Columbia Gas of Maryland
Analysis of Cash Working Capital Requirements
Test Year TME: November 30, 2015
Average Daily Accounts Receivable Balance

Ln. No.	Month / Day	142 Daily Customer Accounts Receivable Balance
(1)	(2)	\$
289	09/15/15	(2,078,107.35)
290	09/16/15	(2,128,906.61)
291	09/17/15	(2,128,784.24)
292	09/18/15	(2,142,798.69)
293	09/19/15	(2,142,798.69)
294	09/20/15	(2,142,798.69)
295	09/21/15	(2,212,183.12)
296	09/22/15	(2,304,113.55)
297	09/23/15	(2,344,395.08)
298	09/24/15	(2,334,301.84)
299	09/25/15	(2,358,372.60)
300	09/26/15	(2,358,372.60)
301	09/27/15	(2,358,372.60)
302	09/28/15	(2,533,861.40)
303	09/29/15	(2,511,818.60)
304	09/30/15	(2,459,361.68)
305	10/01/15	(2,414,178.25)
306	10/02/15	(2,498,408.46)
307	10/03/15	(2,498,408.46)
308	10/04/15	(2,498,408.46)
309	10/05/15	(2,574,104.90)
310	10/06/15	(2,592,467.82)
311	10/07/15	(2,634,160.61)
312	10/08/15	(2,594,606.55)
313	10/09/15	(2,628,979.80)
314	10/10/15	(2,628,979.80)
315	10/11/15	(2,628,979.80)
316	10/12/15	(2,811,116.40)
317	10/13/15	(2,759,874.10)
318	10/14/15	(2,755,564.13)
319	10/15/15	(2,760,330.41)
320	10/16/15	(2,728,864.27)
321	10/17/15	(2,728,864.27)
322	10/18/15	(2,728,864.27)
323	10/19/15	(2,777,768.47)
324	10/20/15	(2,784,370.65)
325	10/21/15	(2,849,306.55)
326	10/22/15	(2,844,232.11)
327	10/23/15	(2,799,924.09)
328	10/24/15	(2,799,924.09)
329	10/25/15	(2,799,924.09)
330	10/26/15	(2,839,485.41)
331	10/27/15	(2,938,701.94)
332	10/28/15	(2,876,593.48)
333	10/29/15	(2,797,353.72)
334	10/30/15	(2,662,009.21)
335	10/31/15	(2,660,264.36)
336	11/01/15	(2,660,264.36)

Exhibit No. 9
Sheet 4a of 18
Witness: M. L. Battig

Columbia Gas of Maryland
Analysis of Cash Working Capital Requirements
Test Year TME: November 30, 2015
Average Daily Accounts Receivable Balance

Ln. No.	Month / Day	142 Daily Customer Accounts Receivable Balance
(1)	(2)	\$
337	11/02/15	(2,794,474.28)
338	11/03/15	(2,765,873.24)
339	11/04/15	(2,745,302.56)
340	11/05/15	(2,739,724.12)
341	11/06/15	(2,674,003.95)
342	11/07/15	(2,674,003.95)
343	11/08/15	(2,674,003.95)
344	11/09/15	(2,742,282.16)
345	11/10/15	(2,840,244.64)
346	11/11/15	(2,742,873.87)
347	11/12/15	(2,659,098.05)
348	11/13/15	(2,684,833.75)
349	11/14/15	(2,684,833.75)
350	11/15/15	(2,684,833.75)
351	11/16/15	(2,712,586.83)
352	11/17/15	(2,679,367.49)
353	11/18/15	(2,638,759.53)
354	11/19/15	(2,699,769.74)
355	11/20/15	(2,706,646.34)
356	11/21/15	(2,706,646.34)
357	11/22/15	(2,706,646.34)
358	11/23/15	(2,673,733.14)
359	11/24/15	(2,636,804.20)
360	11/25/15	(2,718,809.34)
361	11/26/15	(2,718,809.34)
362	11/27/15	(2,718,809.34)
363	11/28/15	(2,718,809.34)
364	11/29/15	(2,718,809.34)
365	11/30/15	(2,683,457.95)
366	Total	(21,946,632.33)

367 Average Account 142 Daily Accounts Receivable Balance (Column 2, Ln. 366/365 days

(60,127.76)

Exhibit No. 9
Sheet 5 of 18
Witness: M. L. Battig

Columbia Gas of Maryland, Inc
Analysis of Cash Working Capital Requirement
Billing Lag Calculation
Twelve Months Ended November 30, 2015

<u>Line No.</u>	<u>Description</u> (1)	<u>Revenue Amount</u> (2) \$	<u>Billing Lag</u> (3)	<u>Weighted Revenue</u> (4)=(2)*(3) \$
1	Tariff / Transportation Revenues - (DIS)	40,253,687	1.00	40,253,687
2	GTS Revenues - GTS System	2,941,734	20.03	58,922,042
3	GMB Revenues - GAS System	<u>1,171,278</u>	5.13	<u>6,012,747</u>
4	Calculated Billing Lag	<u>44,366,699</u>	2.37	<u>105,188,475</u>

Exhibit No. 9
Sheet 6 of 18
Witness: M. L. Battig

Columbia Gas of Maryland, Inc
Analysis of Cash Working Capital Requirement
Gas Purchased Cost
Twelve Months Ended November 30, 2015

Line No.	Service Month (1)	Lag Days (2)=(4)/(3)	Payment (3) \$	Weighted Days (4) \$
1	Nov, 2014	41.00	2,204,717.49	90,393,417.09
2	Dec, 2014	41.50	2,383,087.95	98,898,149.93
3	Jan, 2015	40.50	1,675,667.06	67,864,515.93
4	Feb, 2015	39.00	1,612,813.16	62,899,713.24
5	Mar, 2015	42.50	1,807,582.64	76,822,262.20
6	Apr, 2015	41.00	1,302,149.38	53,388,124.58
7	May, 2015	40.50	999,006.45	40,459,761.23
8	Jun, 2015	42.00	1,394,335.59	58,562,094.78
9	Jul, 2015	40.50	1,173,662.10	47,533,315.05
10	Aug, 2015	40.50	1,193,327.79	48,329,775.50
11	Sep, 2015	41.00	1,132,856.95	46,447,134.95
12	Oct, 2015	56.00	<u>1,192,738.58</u>	<u>66,793,360.48</u>
13	Total Lag Days	41.97	<u>18,071,945.14</u>	<u>758,391,624.95</u>

Exhibit No. 9
Sheet 7 of 18
Witness: M. L. Battig

Columbia Gas of Maryland, Inc.
Analysis of Cash Working Capital Requirement
Payroll Costs
Twelve Months Ended November 30, 2015

<u>Line No.</u>	<u>Description</u> (1)	<u>Payroll Costs</u> (2) \$	<u>Lead Days</u> (3)	<u>Lead Days</u> (4)=(2)*(3) \$
1	Bi-Weekly			
2	F.I.T. & F.I.C.A.	1,070,897	6.00	6,425,384
3	State Withholding	222,925	6.00	1,337,551
4	Net Pay	<u>2,555,104</u>	6.00	<u>15,330,623</u>
5	Total	3,848,926	6.00	23,093,558
6	Monthly			
7	F.I.T. & F.I.C.A.	262,735	14.91	3,917,464
8	State Withholding	52,934	14.92	789,884
9	Net Pay	<u>564,848</u>	14.94	<u>8,440,477</u>
10	Total	<u>880,516</u>	14.93	<u>13,147,825</u>
11	Annual Incentive Pay	<u>274,504</u>	246.24	<u>67,593,172</u>
12	Grand Total	<u>5,003,946</u>		<u>103,834,555</u>
13	Total Weighted Average Lead Days		<u><u>20.75</u></u>	

Exhibit No. 9
Sheet 8 of 18
Witness: M. L. Battig

Columbia Gas of Maryland, Inc.
Analysis of Cash Working Capital Requirement
OPEB
Twelve Months Ended November 30, 2015

<u>Line No.</u>	<u>Service Period</u>		<u>Payment Date</u>	<u>Midpoint of Service Period</u>	<u>Lead Days</u>	<u>Amount Paid</u>	<u>Weighted Lead Days</u>	
	<u>(1)</u>	<u>(2)</u>	<u>(3)</u>	<u>(4)</u>	<u>(5)=(3)-(2)+(4)</u>	<u>(6)</u>	<u>(7)=(5)*(6)</u>	
						\$	\$	
1	1/1/2015	3/31/2015	3/31/2015	2/14/2015	45.00	50,000	2,250,000	
2	4/1/2015	6/30/2015	6/26/2015	5/15/2015	41.50	50,000	2,075,000	
3	7/1/2015	9/30/2015	9/30/2015	8/15/2015	46.00	50,000	2,300,000	
4	Total						<u>150,000</u>	<u>6,625,000</u>
5	Weighted Average Days					<u>44.20</u>		

Exhibit No. 9
Sheet 9 of 18
Witness: M. L. Battig

Columbia Gas of Maryland, Inc.
Analysis of Cash Working Capital Requirement
Pension
Twelve Months Ended November 30, 2015

<u>Line No.</u>	<u>Service Period</u>		<u>Payment Date</u>	<u>Midpoint of Service Period</u>	<u>Lead Days</u>	<u>Amount Paid</u>	<u>Weighted Lead Days</u>	
	<u>(1)</u>	<u>(2)</u>	<u>(3)</u>	<u>(4)</u>	<u>(5)=(3)-(2)+(4)</u>	<u>(6)</u>	<u>(7)=(5)*(6)</u>	
						\$	\$	
1	1/1/2014	12/31/2014	12/31/2014	7/1/2014	182.50	186,024	33,949,380	
2	Total						<u>186,024</u>	<u>33,949,380</u>
3	Weighted Average Days					<u>182.50</u>		

Exhibit No. 9
Sheet 10 of 18
Witness: M. L. Battig

Columbia Gas of Maryland, Inc.
Analysis of Cash Working Capital Requirement
Other Employee Benefits
Twelve Months Ended November 30, 2015

<u>Line No.</u>	<u>Midpoint of Service Period</u> (1)	<u>Payment Date</u> (2)	<u>Lead Days</u> (3)=(2)-(1)	<u>Payment</u> (4) \$	<u>Weighted Lead Days</u> (5)=(3)*(4) \$
1	11/30/2014	12/23/2014	23.00	65,625	1,509,381
3	1/31/2015	2/24/2015	24.00	108,364	2,600,728
4	2/28/2015	3/25/2015	25.00	50,009	1,250,220
5	3/31/2015	4/28/2015	28.00	56,043	1,569,190
6	4/30/2015	5/29/2015	29.00	62,697	1,818,203
7	5/31/2015	6/29/2015	29.00	63,415	1,839,033
8	6/30/2015	7/31/2015	31.00	66,574	2,063,793
9	7/31/2015	9/29/2015	60.00	60,018	3,601,052
10	8/31/2015	9/29/2015	29.00	60,484	1,754,026
11	9/30/2015	10/30/2015	30.00	57,997	1,739,909
12	10/31/2015	11/30/2015	30.00	76,458	2,293,732
13	Total			<u>727,682</u>	<u>22,039,267</u>
14	Weighted Average Days		<u>30.29</u>		

Exhibit No. 9
Sheet 11 of 18
Witness: M. L. Battig

Columbia Gas of Maryland, Inc.
Analysis of Cash Working Capital Requirement
Corporate Services
Twelve Months Ended November 30, 2015

<u>Line No.</u>	<u>Service Period</u> (1)	<u>Payment Date</u> (2)	<u>Midpoint of Service Period</u> (3)	<u>Lead Days</u> (4)=(2)-(1)+(3)	<u>Payment</u> (5) \$	<u>Weighted Lead Days</u> (6)=(4)*(5) \$
1	11/30/2014	12/15/2014	15.0	30.00	658,986	19,769,588
2	12/31/2014	1/21/2015	15.5	36.50	666,050	24,310,837
3	1/31/2015	2/13/2015	15.5	28.50	596,514	17,000,635
4	2/28/2015	3/13/2015	14.5	27.50	492,844	13,553,197
5	3/31/2015	4/15/2015	15.5	30.50	668,271	20,382,255
6	4/30/2015	5/22/2015	15.0	37.00	545,639	20,188,636
7	4/30/2015	5/29/2015	15.0	44.00	63,139	2,778,134
8	5/31/2015	6/29/2015	15.5	44.50	539,065	23,988,408
9	6/30/2015	7/31/2015	15.0	46.00	697,910	32,103,874
10	7/31/2015	8/20/2015	15.5	35.50	765,328	27,169,142
11	8/31/2015	9/15/2015	15.5	30.50	716,214	21,844,518
12	9/30/2015	10/23/2015	15.0	38.00	660,752	25,108,582
13	10/31/2015	11/20/2015	15.5	35.50	<u>673,866</u>	<u>23,922,258</u>
14	Total				<u>7,744,578</u>	<u>272,120,064</u>
15	Weighted Average Days			<u>35.10</u>		

Columbia Gas of Maryland, Inc.
Analysis of Cash Working Capital Requirement
Corporate Insurance
Twelve Months Ended November 30, 2015

<u>Line No.</u>	<u>Fee (1)</u>	<u>Payment Date (2)</u>	<u>Amount Paid (3)</u>	<u>Midpoint of Period (4)</u>	<u>Lead Days (5)</u>	<u>Dollar Lead Days (6)=(3)*(5)</u>
			\$			\$
1	Primary Liability	7/1/2015	14,064	12/30/2015	(182.50)	(2,566,693)
2	SIR Buydown Liability	6/29/2015	35,035	12/30/2015	(184.50)	(6,463,958)
3	Property Insurance	6/29/2015	1,716	12/30/2015	(184.50)	(316,580)
4	Property Insurance	6/29/2015	91	12/30/2015	(184.50)	(16,697)
5	Workers Compensation	6/29/2015	26,975	12/30/2015	(184.50)	(4,976,888)
6	Property Insurance	7/8/2015	120	12/30/2015	(175.50)	(20,972)
7	Property Insurance	7/15/2015	3,187	12/30/2015	(168.50)	(536,944)
8	Property Insurance	7/15/2015	3,654	12/30/2015	(168.50)	(615,702)
9	Property Insurance	6/3/2015	693	12/30/2015	(210.50)	(145,824)
10	Property Insurance	7/27/2015	1,761	12/30/2015	(156.50)	(275,609)
11	Officers and Directors Liability	10/28/2015	2,651	5/1/2016	(186.50)	(494,357)
12	Officers and Directors Liability	10/28/2015	1,166	5/1/2016	(186.50)	(217,532)
13	Officers and Directors Liability	10/28/2015	1,442	5/1/2016	(186.50)	(268,892)
14	Excess Liability	6/29/2015	6,000	12/30/2015	(184.50)	(1,107,000)
15	Excess Liability	8/4/2015	347	12/30/2015	(148.50)	(51,483)
16	Officers and Directors Liability	11/2/2015	554	5/1/2016	(181.50)	(100,515)
17	Excess Liability	11/2/2015	700	5/1/2016	(181.50)	(127,055)
18	Excess Liability	7/7/2015	825	12/30/2015	(176.50)	(145,581)
19	Excess Liability	7/3/2015	1,671	12/30/2015	(180.50)	(301,616)
20	Excess Liability	7/3/2015	1,425	12/30/2015	(180.50)	(257,213)
21	Excess Liability	7/3/2015	645	12/30/2015	(180.50)	(116,423)
22	Excess Liability	7/3/2015	1,289	12/30/2015	(180.50)	(232,665)
23	Excess Liability	7/3/2015	834	12/30/2015	(180.50)	(150,537)
24	Excess Liability	7/3/2015	645	12/30/2015	(180.50)	(116,423)
25	Excess Liability	7/3/2015	525	12/30/2015	(180.50)	(94,763)
26	Excess Liability	7/3/2015	1,966	12/30/2015	(180.50)	(354,863)
27	Excess Liability	7/3/2015	1,671	12/30/2015	(180.50)	(301,616)
28	Excess Liability	11/4/2015	1,658	5/1/2016	(179.50)	(297,568)
29	Officers and Directors Liability	11/2/2015	22,356	5/1/2016	(181.50)	(4,057,531)
30	Officers and Directors Liability	11/2/2015	8,247	5/1/2016	(181.50)	(1,496,742)
31	Fiduciary Liability	11/4/2015	5,403	5/1/2016	(179.50)	(969,765)
32	Excess Liability	7/10/2015	51,506	12/30/2015	(173.50)	(8,936,334)
33	Professional Liability	7/10/2015	863	12/30/2015	(173.50)	(149,760)
34	Excess Liability	7/23/2015	5,836	12/30/2015	(160.50)	(936,700)
35	Excess Liability	11/2/2015	6,264	5/1/2016	(181.50)	(1,136,952)
36	Excess Liability	7/10/2015	150	12/30/2015	(173.50)	(26,025)
37	Property Insurance	7/7/2015	6,535	12/30/2015	(176.50)	(1,153,428)
38	Property Insurance	8/21/2015	33	12/30/2015	(131.50)	(4,287)
39	Property Insurance	9/2/2015	83	12/30/2015	(119.50)	(9,973)
40	Excess Liability	7/22/2015	425	12/30/2015	(161.50)	(68,665)
41	Excess Liability	7/22/2015	939	12/30/2015	(161.50)	(151,649)
42	Excess Liability	7/22/2015	631	12/30/2015	(161.50)	(101,908)
43	Excess Liability	7/30/2015	453	12/30/2015	(153.50)	(69,496)
44	Property Insurance	8/10/2015	<u>448</u>	12/30/2015	(142.50)	<u>(63,876)</u>
45	Total		<u>223,479</u>			<u>(40,005,060)</u>
46	Weighted Average				<u>(179.01)</u>	

() Denotes Pre-paid expense

Exhibit No. 9
Sheet 13 of 18
Witness: M. L. Battig

Columbia Gas of Maryland, Inc.
Analysis of Cash Working Capital Requirement
Other Operating and Maintenance Expenses
Twelve Months Ended November 30, 2015

<u>Line No.</u>	<u>Description</u> (1)	<u>Approved Check Amount</u> (2) \$	<u>Lead Days</u> (3)	<u>Dollar Weighted Days</u> (4) \$	<u>Percentage</u> (5)	<u>Lead Days</u> (6)=(3)*(5)
1	Total Work Management Contracts	3,793,350	29.33	111,254,672	57.87%	16.97
2	Total General Office Source	<u>57,937</u>	33.42	<u>1,936,060</u>	<u>42.13%</u>	14.08
3	Total	3,851,287		113,190,733	100.00%	<u>31.05</u>

Exhibit No. 9
Sheet 14 of 18
Witness: M. L. Battig

Columbia Gas of Maryland, Inc.
Analysis of Cash Working Capital Requirement
Payroll Taxes
Twelve Months Ended November 30, 2015

<u>Line No.</u>	<u>Description</u> (1)	<u>Payroll Costs</u> (2) \$	<u>Lead Days</u> (3)	<u>Dollar Lead Days</u> (4) \$
1	F.I.C.A.	698,603	7.70	5,366,057
2	Federal Unemployment	2,520	15.70	39,642
3	State Unemployment	<u>7,549</u>	28.70	<u>216,810</u>
4	Total	<u>708,671</u>		<u>5,622,508</u>
5	Weighted Average Days		<u><u>7.90</u></u>	

Exhibit No. 9
Sheet 15 of 18
Witness: M. L. Battig

Columbia Gas of Maryland, Inc.
Analysis of Cash Working Capital Requirement
Gross Receipts/Consumption Tax
Twelve Months Ended November 30, 2015

<u>Line No.</u>	<u>Service Period</u>		<u>Payment Date</u>	<u>Midpoint of Service Period</u>	<u>Lead Days</u>	<u>Amount Paid</u>	<u>Weighted Lead Days</u>
	<u>(1)</u>	<u>(2)</u>	<u>(3)</u>	<u>(4)</u>	<u>(5)=(3)-(2)+(4)</u>	<u>(6)</u>	<u>(7)=(5)*(6)</u>
						\$	\$
1	10/1/2014	12/31/2014	12/24/2014	11/15/2014	39.00	161,264	6,289,286
2	1/1/2014	12/31/2014	3/30/2015	7/1/2014	271.50	76,581	20,791,742
3	1/1/2015	3/31/2015	3/30/2015	2/14/2015	44.00	180,409	7,937,996
4	4/1/2015	6/30/2015	6/25/2015	5/15/2015	40.50	180,409	7,306,565
5	7/1/2015	9/30/2015	9/25/2015	8/15/2015	41.00	180,409	7,396,769
						<u>779,072</u>	<u>49,722,358</u>
6	Weighted Average Days				<u><u>63.82</u></u>		

Columbia Gas of Maryland, Inc.
Analysis of Cash Working Capital Requirement
Property Taxes / PSC Fees / Franchise Fees
Twelve Months Ended November 30, 2015

<u>Line No.</u>	<u>Description</u> (1)	<u>Amount Due</u> (2) \$	<u>Date of Statutory Payment</u> (3)	<u>Midpoint of Tax Year</u> (4)	<u>Lead Days</u> (5)	<u>Weighted Lead Days</u> (6)=(2)*(5) \$
1	<u>Property Taxes</u>					
2	ALLEGANY COUNTY	529,207	12/4/2015	1/1/2016	(28.00)	(14,817,802)
3	BARTON	1,041	11/24/2015	1/1/2016	(38.00)	(39,576)
4	CUMBERLAND	234,072	12/3/2015	1/1/2016	(29.00)	(6,788,075)
5	FROSTBURG	28,949	11/24/2015	1/1/2016	(38.00)	(1,100,073)
6	LUKE	994	11/24/2015	1/1/2016	(38.00)	(37,757)
7	GARRETT COUNTY	75,619	12/4/2015	1/1/2016	(28.00)	(2,117,335)
8	GRANTSVILLE	807	11/24/2015	1/1/2016	(38.00)	(30,683)
9	MOUNTAIN LAKE	3,008	11/24/2015	1/1/2016	(38.00)	(114,301)
10	OAKLAND	11,189	12/3/2015	1/1/2016	(29.00)	(324,482)
11	WASHINGTON COUNTY	477,984	12/3/2015	1/1/2016	(29.00)	(13,861,537)
12	HAGERSTOWN	264,862	11/24/2015	1/1/2016	(38.00)	(10,064,744)
13	HANCOCK	2,731	11/24/2015	1/1/2016	(38.00)	(103,779)
14	WILLIAMSPORT	120	12/17/2015	1/1/2016	(15.00)	(1,795)
15	<u>Gas Stored</u>					
16	West Virginia State Auditor	8,839	2/12/2015	1/1/2015	42.00	371,252
17	West Virginia State Auditor	<u>6,993</u>	8/24/2015	1/1/2016	(130.00)	<u>(909,064)</u>
18	Total	<u>1,646,415</u>			<u>(30.30)</u>	<u>(49,939,750)</u>
19	<u>PSC Fees</u>					
20	Maryland Public Service Comm	24,634	7/16/2015	1/1/2016	(169.00)	(4,163,080)
21	Maryland Public Service Comm	24,634	10/7/2015	1/1/2016	(86.00)	(2,118,491)
22	Maryland Public Service Comm	22,404	1/7/2015	1/1/2015	6.00	134,424
23	Maryland Public Service Comm	<u>22,404</u>	3/25/2015	1/1/2015	83.00	<u>1,859,526</u>
24	Total	<u>94,075</u>			<u>(45.58)</u>	<u>(4,287,621)</u>
25	<u>License & Franchise</u>					
26	BARTON	75	2/10/2015	7/1/2015	(141.00)	(10,575)
27	CUMBERLAND	5,000	2/10/2015	7/1/2015	(141.00)	(705,000)
28	LUKE	75	2/10/2015	7/1/2015	(141.00)	(10,575)
29	WESTERNPORT	200	2/10/2015	7/1/2015	(141.00)	(28,200)
30	MOUNTAIN LAKE PARK	1,500	2/10/2015	7/1/2015	(141.00)	(211,500)
31	HAGERSTOWN	500	2/10/2015	7/1/2015	(141.00)	(70,500)
32	FROSTBURG	1,500	2/10/2015	7/1/2015	(141.00)	(211,500)
33	LONACONING	100	2/10/2015	7/1/2015	(141.00)	(14,100)
34	MIDLAND	50	2/10/2015	7/1/2015	(141.00)	(7,050)
35	LOCH LYNN HEIGHTS	50	2/10/2015	7/1/2015	(141.00)	(7,050)
36	DEER PARK	100	2/10/2015	7/1/2015	(141.00)	(14,100)
37	KITZMILLER	<u>500</u>	2/10/2015	7/1/2015	(141.00)	<u>(70,500)</u>
38	Total	<u>9,650</u>			<u>(141.00)</u>	<u>(1,360,650)</u>

() Denotes Pre-paid expense

Exhibit No. 9
Sheet 17 of 18
Witness: M. L. Battig

Columbia Gas of Maryland, Inc.
Analysis of Cash Working Capital Requirement
Income Taxes
Twelve Months Ended November 30, 2015

<u>Line No.</u>	<u>Amount Due</u> (1)	<u>Date of Statutory Payment</u> (2)	<u>Midpoint of Year</u> (3)	<u>Lead Days</u> (4)	<u>Weighted Lead Days</u> (5)
1	<u>FEDERAL INCOME TAXES</u>				
2	25.0%	15-Dec-14	01-Jul-14	167.00	41.80
3	25.0%	15-Apr-15	01-Jul-15	(77.00)	(19.30)
4	25.0%	15-Jun-15	01-Jul-15	(16.00)	(4.00)
5	25.0%	15-Sep-15	01-Jul-15	76.00	<u>19.00</u>
6	Total Federal Lead Days				<u><u>37.50</u></u>
7	<u>CORPORATE INCOME TAXES</u>				
8	25.0%	15-Dec-14	01-Jul-14	167.00	41.80
9	25.0%	15-Apr-15	01-Jul-15	(77.00)	(19.30)
10	25.0%	15-Jun-15	01-Jul-15	(16.00)	(4.00)
11	25.0%	15-Sep-15	01-Jul-15	76.00	19.00
12	Total Corporate Lead Days				<u><u>0.00</u></u> <u><u>37.50</u></u>

() Denotes Pre-paid expense

Exhibit No. 9
Sheet 18 of 18
Witness: M. L. Battig

Columbia Gas of Maryland, Inc.
Analysis of Cash Working Capital Requirement
Interest on Debt
Twelve Months Ended November 30, 2015

<u>Line No.</u>	<u>Debt Instrument</u> (1)	<u>Interest Charges</u> (2) \$	<u>Lead Days</u> (3)	<u>Dollar Weighted</u> (4)=(2)*(3) \$
1	Installment Promissory Notes	1,802,193	90.88	163,789,428
2	Money Pool	<u>42,404</u>	16.73	<u>709,288</u>
3	TOTAL	1,844,597		164,498,716
4	Weighted Average		<u><u>89.20</u></u>	

**BEFORE
THE PUBLIC SERVICE COMMISSION OF MARYLAND**

IN THE MATTER OF THE APPLICATION)
OF COLUMBIA GAS OF MARYLAND, INC.)
FOR AUTHORITY TO INCREASE RATES)
AND CHARGES)
Case No. _____

**DIRECT TESTIMONY
OF MAY L. BATTIG**

ON BEHALF OF
COLUMBIA GAS OF MARYLAND, INC.

April 15, 2016

1 **Introduction**

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

3 A. My name is May L. Battig. My business address is 290 W. Nationwide Blvd,
4 Columbus, Ohio 43215.

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

6 A. I am employed by NiSource Corporate Services Company (“NCSC”). My current title
7 is Lead Regulatory Analyst at NCSC.

8 **Q. Please briefly describe your professional experience.**

9 A. In May 2001, I joined NCSC as a Financial Analyst in the Financial Planning
10 Department for Columbia Gas Distribution Companies. From 2001 – 2006, I held
11 several positions of increasing responsibility and worked specifically on the financial
12 plans for Bay State Gas Company (now dba Columbia Gas of Massachusetts (“CMA”)
13 and Columbia Gas of Ohio (“COH”). In mid-2006, I accepted a position as a Senior
14 Regulatory Analyst in NCSC’s Regulatory Strategy and Support Department. I
15 became a Lead Regulatory Analyst in 2009. In mid-2009, I returned to Financial
16 Planning as a Lead Financial Analyst working on financial plans for COH. From
17 2012 to present, I rejoined Regulatory Strategy and Support as a Lead Regulatory
18 Analyst.

19 **Q. Please describe your educational background.**

20 A. I graduated from The Ohio State University in 1994 with a Bachelor of Science degree
21 in Business Administration, majoring in Finance and Economics.

1 **Q. What are your responsibilities in your current position?**

2 A. My responsibilities as a Lead Regulatory Analyst include providing support for
3 regulatory filings for several NiSource gas distribution companies, including, but not
4 limited to Columbia Gas of Maryland, Inc. (“Columbia” or “the Company”),
5 Columbia Gas of Pennsylvania, Inc. (“CPA”), Columbia Gas of Virginia, Inc. (“CGV”),
6 COH, and CMA. These filings include annual Uncollectible Expense, Percentage
7 Income Payment Plan adjustments, Lost and Unaccounted for Gas, and gas cost
8 adjustments.

9 **Q. Have you previously testified before this or any other regulatory agency?**

10 A. No, I have not.

11 **Q. What is the purpose of your testimony in this proceeding?**

12 A. I am testifying on behalf of Columbia to support the Company’s cash working capital
13 (“CWC”) claim. I accomplish this through a lead-lag study. The study is presented in
14 Exhibit 9, Sheets 1 through 18. The revenue and operating expenses for the twelve
15 months ended November 30, 2015 were used to calculate the total net lag expressed in
16 number of days. These lag days were applied to the operating expenses anticipated for
17 the test year period ending April 30, 2016, to arrive at the appropriate amount of CWC
18 that is included in rate base.

19 **Q. Briefly define CWC and describe the lead-lag method of determining**
20 **CWC for ratemaking purposes.**

1 A. The commonly used and accepted definition of working capital is “a measure of
2 liquidity computed by subtracting current liabilities from current assets”. Working
3 capital, as it applies to the regulated utility and its rate base, is a value assigned to assets
4 which are current or short-term in nature. The value of these current assets represents
5 a need for invested funds. CWC is that portion of working capital that is needed to
6 finance the time period between receipt of payment for utility service and the
7 disbursements required to render that service. “Revenue lag,” the time period from
8 the date that customers receive service to the date the Company receives payment from
9 customers for service, is the basis for determining the annual cash requirement that
10 must be financed by the Company. This cash requirement is offset, in part, to the
11 extent that the Company’s payments for labor, materials & supplies, and other
12 expenses incurred in providing services to customers occur after the time such services
13 are received. These offsets are defined as “expense leads”. Negative expense leads
14 represent prepaid expenses and have the same outcome as the revenue lags because
15 they require additional CWC to be provided by the Company’s investors. The
16 examination of the timing of these fundamental cash transactions constitutes the lead-
17 lag method of determining CWC. The net lag days are applied to the expense
18 components of the cost of service to arrive at the CWC requirement.

19 **Q. Please explain how the revenue lag days were determined.**

20 A. The revenue lag of 17.08 days, as reflected in Exhibit 9, Sheet 1, Column 5, is
21 summarized on Sheet 2. The revenue lag is comprised of three components: a meter

1 reading lag, a collection lag, and a billing lag. First, the meter reading lag represents
2 the average number of days from the time the customer receives gas service to the time
3 the customer's meter is read. Columbia's monthly meter reading cycle averages 30.42
4 days (365 divided by 12). Since service is provided throughout the month, the average
5 lag from the time service is rendered until the meters are read is 15.21 days (30.42
6 divided by 2).

7 Second, the minus 0.50 day collection lag, calculated on Sheet 3, represents the time
8 from the date bills are rendered to the date cash is received in payment of the
9 customer's bill. This lag was arrived at through examination of accounts receivable
10 balances for all sales and transportation accounts using the accounts receivable
11 turnover method. As reflected on Sheet 4 and 4a, a combination of daily customer
12 accounts receivable balances and end of the month balances were utilized as this
13 combination provides the most accurate measure of customer accounts receivable
14 available. Under the accounts receivable turnover method, the average daily Accounts
15 Receivable Balance of \$(61,256) is listed on Sheet 4. "As billed" per book revenue was
16 divided by 365 days to calculate the Average Daily Revenue amount of \$121,713 shown
17 on Sheet 3. The collection lag of minus 0.50 days as shown on Line 14 of Sheet 3 was
18 arrived at by dividing the average daily accounts receivable balance by the average daily
19 revenue.

1 Third, the 2.37 day billing lag represents the average bill processing time after service
2 is rendered and meters are read. Processing customer bills consists primarily of
3 entering data into the billing system, computing, printing, and placing bills in
4 envelopes, and sorting and mailing monthly statements. Each of Columbia's
5 customers is billed under one of three billing systems, depending upon the nature of
6 the service provided and the manner in which billed volumes are determined. The
7 majority of Columbia's customers are billed through the Distributive Information
8 System ("DIS"). DIS issues a bill one day after a customer's meter is read. As shown
9 on Sheet 5, Line 1, the billing lag for these customers is assumed to be one (1) day.
10 Additional processing time is required for customers who are billed through the Gas
11 Transportation System ("GTS") or the Gas Accounting System ("GAS"). For GTS
12 service, customer gas is delivered to Columbia on a calendar basis while their meters
13 are read on a cycle basis. Billings are held until the end of the month to ensure and
14 verify that adequate supplies were delivered. The time from meter reading to billing
15 was determined for these customers with the lag totaling 20.03 days as shown on Line
16 2, Column 3. GAS primarily handles larger customers, the majority of which require
17 daily consumption data. Meter charts are provided showing the daily pressure,
18 temperature and consumption levels, which then must be confirmed, loaded into the
19 billing system, with measured consumption then adjusted for pressure and
20 temperature to determine billed volumes. This activity is more labor intensive than
21 the small general service-type customer groups and takes significantly longer to

1 prepare monthly bills. The monthly billing lag as shown on Sheet 5, Line 3 is 5.13 days.
2 The three groups were then weighted based on the revenue billed to arrive at an overall
3 average of 2.37 days shown on Sheet 5, Column 3, Line 4.

4 **Q. How were the expense lead days for gas purchases determined?**

5 A. The Company purchases gas from various producers and transports it through
6 interstate pipeline companies. For each service month, I reviewed data from the
7 Company's accounts payable system to determine the number of days from the
8 midpoint of the receipt of gas to the payment date for gas received. The gas purchase
9 expense lead days are calculated by dividing the annual weighted dollar lead days by
10 the annual amount paid to the suppliers. On Exhibit 9, Sheet 6, the costs for all the
11 suppliers were totaled and averaged to establish an overall weighted average of 41.97
12 lead days for gas purchased. Twelve months of purchases were considered in
13 developing the purchase expense lead.

14 **Q. Are employees of Columbia paid utilizing more than one method?**

15 A. Yes, some employees are paid bi-weekly and others are paid monthly.

16 **Q. Were the various types of payroll used to determine the number of lead
17 days for payroll?**

18 A. Yes, bi-weekly and monthly payrolls were used to measure the payroll lead days.

19 **Q. Please explain how payroll lead days were determined.**

20 A. For bi-weekly payroll, the pay period ends on Saturday, but employees are paid on
21 Friday, or one day before the pay period ends. The monthly payroll period ends on the

1 last day of the month, and payday is also on the last day of the month. When a normal
2 payday ends on a holiday or weekend for monthly employees, payday falls on the
3 previous business day. Lead days were calculated from the midpoint of the pay period
4 to payday arriving at an average lead of 6.00 days for bi-weekly and 14.93 days for
5 monthly.

6 Columbia also has an Annual Incentive Pay program. Typically, employees are paid
7 this compensation after the year in which the services were provided. Lead days for
8 incentive compensation were calculated from the midpoint of the year to the actual
9 payment dates, both for bi-weekly and monthly paid employees, to arrive at 246.24
10 days. These three calculations of lead days were weighted based on payroll as shown
11 at the bottom of Exhibit 9, Sheet 7, resulting in an overall payroll lead of 20.75 days.
12 Due to the payroll size, Columbia is required to make its tax withholding payments on
13 the same day employees are paid; therefore, the lead days for withholding of taxes are
14 the same as net pay.

15 **Q. How were major benefit costs determined in your lead-lag analysis?**

16 A. For ratemaking purposes, Statement of Financial Accounting Standards (SFAS) 87
17 expenses for pensions are reflected for rate recovery. The Company made one pension
18 payment at the end of the service year. The date of the payment was compared to the
19 midpoint of the service year of the pension benefit to determine the number of lead
20 days. As shown in Exhibit 9 on Sheet 9, the pension lead days were 182.50. Post-
21 retirement benefits other than pensions (“OPEB”) had no impact on the cash working

1 capital study, because the pro forma test year level of expense was zero, as supported
2 by witness Shaeffer. The other major benefits are paid by the Company via NCSC
3 inter-Company billing. The date of the bill was compared to the midpoint of the service
4 period. The bill is processed near the end of the service month for an overall expense
5 lead of 30.29 days for the other benefits, as detailed on Exhibit 9, Sheet 10.

6 **Q. How were the NCSC lead days of 35.10 on Exhibit 9, Sheet 11 determined?**

7 A. The Company pays monthly for the services provided on a contract basis by NCSC.
8 Generally, payment is made at the end of the month following the month of service.
9 The date paid was compared to the month in which the related services were provided,
10 and resulted in an overall expense lead of 35.10 days for the test year.

11 **Q. Why are expense lead days shown for Corporate Insurance and PSC Fees**
12 **negative?**

13 A. Corporate insurance costs and Public Service Commission (“PSC”) Fees are paid in
14 advance of services provided, reflecting a working capital requirement. As indicated
15 on Exhibit 9, Sheets 12 and 16, payments are made well in advance of the
16 corresponding service period resulting in a negative (179.01) and (45.58), respectively,
17 expense lead. Furthermore, the Company’s books and records recognize a prepayment
18 of these costs.

19 **Q. Why did you show zero net lag days for Uncollectibles as shown on Exhibit**
20 **9, Sheet 1, Line 10?**

1 A. Consistent with prior rate cases, uncollectibles has been excluded from the Cash
2 Working Capital calculation. Therefore, I have shown a zero revenue lag and a zero
3 expense lead in the study, effectively giving no consideration for uncollectibles.

4 **Q. What is included in Other Operation & Maintenance (“O&M”) Expense**
5 **(Exhibit 9, Sheet 1, Line 11) and how was the 31.05 day expense lead as**
6 **summarized on Exhibit 9, Sheet 13 determined?**

7 A. Payments to a wide variety of vendors for all O & M costs, other than those already
8 mentioned (payroll, benefits, gas purchased, system services, corporate insurance,
9 Commission fees, and uncollectibles) are included. These include items such as
10 outside services and office supplies. Since most of the payments are made through
11 the accounts payable system and the work management system, separate lead days
12 were calculated and then combined to arrive at overall average lead days for this
13 category of expense. For the accounts payable system as in the past cases, 150
14 invoices were randomly chosen; for the work management system, all invoices were
15 used. The lead days between the payment date and the midpoint of the service
16 period were calculated. The lead days for work management and accounts payable
17 were dollar weighted to arrive at an overall expense lead of 29.33 and 33.42 days,
18 respectively. For the two payment systems, the lead days for O&M costs were further
19 dollar weighted to calculate a single total lead of 31.05 days as summarized on
20 Exhibit 9, Sheet 13.

21 **Q. How were the expense lead days for payroll taxes calculated?**

1 A. Similar to other expense items, the tax payments were compared to their respective
2 service or tax period. As indicated above, the Company provides its agent funds for
3 Federal withholding taxes on the same day as payday. Columbia's Federal Insurance
4 Contributions Act (FICA) tax liability is also provided on the same day as payday.
5 Federal and State Unemployment taxes are paid quarterly until the liability is no
6 longer applicable. The lead days between the deposit date and the midpoint of the
7 pay periods were calculated for all the deposits and were dollar weighted to arrive at
8 an overall expense lead of 7.90 days as detailed in Exhibit 9, Sheet 14.

9 **Q. How did you develop the expense lead days for property taxes?**

10 A. The Company incurs Maryland property taxes on its real estate and West Virginia
11 property tax on its gas stored in West Virginia. Property taxes relating to real estate
12 cover a fiscal period from July 1 through June 30. Tax payments made by the Company
13 normally occur during the second quarter of the fiscal year. Two tax payments are
14 made on gas stored in West Virginia. In developing the negative expense lead days of
15 (30.30) as shown on Exhibit 9, Sheet 16, the lead days between the payment date and
16 the midpoint of the pay periods were calculated for all the payments and were dollar
17 weighted to arrive at an overall negative expense lead of (30.30) days.

18 **Q. Please explain how you determined the expense lead days for gross
19 receipts/consumption tax?**

20 A. Gross receipts/consumption taxes, imposed on a percentage basis of total sales and on
21 total therms delivered for final consumption, are paid by the Company on a quarterly

1 basis. Generally, payment is made around the end of the months of March, June,
2 September, and December. The date paid was compared to the midpoint of the quarter
3 in which the related services were provided, and resulted in an overall expense lead of
4 63.82 days for the test year, as shown on Exhibit 9, Sheet 15.

5 **Q. What taxes are reflected in the “Other Taxes” category and how were the**
6 **expense lead days developed?**

7 A. License and franchise taxes comprise most of the cost. Annual license and franchise
8 taxes are levied for the privilege of conducting business in counties within Maryland.
9 In developing the negative expense lead days of (141.00) as shown in Exhibit 9, Sheet
10 16, the lead days between the payment date and the midpoint of the pay periods were
11 calculated for all the payments and were dollar weighted to arrive at an overall negative
12 expense lead of (141.00) days.

13 **Q. Do Federal Income Taxes – Current follow a schedule prescribed by the**
14 **Internal Revenue Service?**

15 A. Yes. Current federal tax laws require 100% of the current year estimated tax liability
16 to be paid in four equal installments dated 4/15, 6/15, 9/15 and 12/15. The lead days
17 of 37.50, as shown on Exhibit 9, Sheet 17, were based on this schedule.

18 **Q. Why are there no lead days for Deferred Federal and State taxes and for**
19 **post-1970 investment tax credits?**

20 A. Both deferred federal and state tax and investment tax credit adjustments are non-cash
21 in nature; therefore no days are assigned to each of them.

1 **Q. Please explain how the lead days associated with interest on debt were**
2 **calculated.**

3 A. Interest expense on long term debt was assigned expense lead days based on the semi-
4 annual payments of the Company's installment promissory notes. Interest on the
5 Company's short term debt is paid monthly. As shown in Exhibit 9, Sheet 18, the
6 interest expense incurred during the test year for each type of debt, installment
7 promissory notes and money pool, was used to weight the short and long term debt
8 lead days to arrive at an overall average of 89.20 days as shown on line 4.

9 **Q. Please summarize the Company's CWC Requirement.**

10 A. The revenue lag and expense lead days were developed using generally acceptable lead
11 lag techniques. The CWC amount to be included as a reduction to rate base is
12 \$(1,224,508). The amount is included in Exhibit 9, Sheet 1.

13 **Q. Does this complete your Prepared Direct Testimony?**

14 A. Yes, it does.

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SCHEDULE 17

LEAD / LAG CASH WORKING CAPITAL CALCULATION – EARNINGS TEST

16044914

Exhibit No.: _____
Witness: C. E. Notestone
Schedule 17
Sheet 1

Columbia Gas of Virginia, Inc.
Cash Working Capital
Schedule 17
Case No. PUE-2016-00033

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160440124

Exhibit No.: _____
Witness: C. E. Notestone
Schedule 17
Sheet 2

Columbin Gas of Virginia, Inc.
Lead / Lag Cash Working Capital Calculation - Earnings Test - Total Company Per Books (GAAP)
For The Year Ended December 31, 2015
Case No. PUE-2016-00033

Line No.	Cost Category	Reference	Per Books	Daily	Rev	Expense	Net Lag	Working	
			Expense	Amount	Lag	Lead	Lag	Capital	
			(1)	(2)	(3)	(4)	(5=3-4)	Req.	
			\$	\$	Days	Days	\$	(6=2x5)	
								\$	
1	OPERATING EXPENSES:								
2	Purchased Gas Expense	80*****	130,977,977	358,844	33.66	37.60	(3.94)	(1,413,845)	
3	Deferred Gas Expense	80510000	5,937,106	16,266	33.66	33.66	0.00	0	
4	Storage Gas Delivered	80820000	(26,678,999)	(73,093)	33.66	0.00	33.66	(2,460,310)	
5	Storage Gas Withdrawn	80810000	36,361,067	99,619	33.66	0.00	33.66	3,353,176	
6	Prepaid Insurance Expense	92500000	1,495,207	4,096	33.66	0.00	33.66	137,871	
7	Employee Payroll	Various O&M	14,529,355	39,806	33.66	8.17	25.49	1,014,655	
8	DIMP Deferral	88000000	0	0	33.66	0.00	33.66	0	
9	Employee Benefits Expense	92600000	6,129,218	16,792	33.66	0.00	33.66	565,219	
10	Incentive Compensation	92000000-9004	1,067,558	2,925	33.66	0.00	33.66	98,456	
11	Pension, OPEB & RIP Expense	92600000	346,643	950	33.66	0.00	33.66	31,977	
12	Vacation	Various O&M	1,213,165	3,324	33.66	0.00	33.66	111,886	
13	Uncollectible Expense	90400000	827,146	2,266	33.66	137.56	(103.90)	(235,437)	
14	Injuries and Damage Expense	92500000-4017	112,546	308	33.66	0.00	33.66	10,367	
15	Corporate Services	O&M CE 7001	31,356,002	85,907	33.66	30.50	3.16	271,466	
16	Regulatory Asset Amortization:								
17	Environmental Remediation	92300000-3014, 3021	822,430	2,253	33.66	33.66	0.00	0	
18	Deferred DIMP Expenses		0	0	33.66	33.66	0.00	0	
19	Metered Propane Conversion		0	0	33.66	33.66	0.00	0	
20	Other	Sch 40a, pg 1	25,045,648	68,618	33.66	44.86	(11.20)	(768,522)	
21	Depreciation and Amortization	Sch 40a, pg 1	27,567,270	75,527	33.66	0.00	33.66	2,542,239	
22	TAXES OTHER THAN INCOME:								
23	Payroll Tax Expense	Sch 40a, pg 5	1,222,871	3,350	33.66	8.86	24.80	83,080	
24	Property Tax Expense	Sch 40a, pg 5	6,302,674	17,268	33.66	117.25	(83.59)	(1,443,432)	
25	Other Taxes	Sch 40a, pg 5	19,901	55	33.66	35.20	(1.54)	(85)	
26	INCOME TAXES:								
27	Current FIT & SIT	Sch 40a, pg 7	(5,656,540)	(15,497)	33.66	37.50	(3.84)	59,508	
28	Non-Utility Other Deductions	Sch 40a, pg 7	265,268	727	33.66	37.50	(3.84)	(2,792)	
29	Deferred FIT Included in Rate Base	Tax W/S, Adj 25	22,272,405	61,020	33.66	0.00	33.66	2,053,933	
30	Deferred ITC	Tax W/S, Adj 25	(101,203)	(277)	33.66	33.66	0.00	0	
31	Deferred FIT Excluded from Rate Base	Tax W/S, Adj 25	(477,213)	(1,307)	33.66	33.66	0.00	0	
32	Non-Utility Deferred Income Tax	Tax W/S, Adj 25	174,772	479	33.66	33.66	0.00	0	
33	OTHER EXPENSES:								
34	AFUDC	Sch 40a, pg 1	(43,849)	(120)	33.66	33.66	0.00	0	
35	Charitable Donations	Sch 40a, pg 1	252,318	691	33.66	33.66	0.00	0	
36	Interest on Customer Deposits	Sch 40a, pg 1	8,689	24	33.66	182.50	(148.84)	(3,572)	
37	Interest on Supplier Refunds	Sch 40a, pg 1	378	1	33.66	182.50	(148.84)	(149)	
38	Other Expense/(Income)	Sch 40a, pg 1	(391,411)	(1,072)	33.66	33.66	0.00	0	
39	Interest Expense on Debt	Sch 40a, pg 1	16,325,487	44,727	33.66	90.70	(57.04)	(2,551,228)	
40	JDC Expense		0	0	33.66	33.66	0.00	0	
41	Income Available for Common Equity	Sch 40a, pg 1	24,718,640	67,722	33.66	33.66	0.00	0	
42	Subtotal		322,873,047	884,583				1,454,461	
43	Customer Utility Taxes	Sheet 15	10,567,765	28,953	33.66	30.79	2.87	83,095	
44	State & Local Consumption Taxes	Sheet 16	3,763,310	10,310	33.66	34.53	(0.87)	(8,970)	
45	Plus: Balance Sheet Analysis	Sch 18						5,023,334	
46								<u>6,551,920</u>	
			TOTAL CASH WORKING CAPITAL REQUIREMENT/(SOURCE)						<u>6,551,920</u>

Exhibit No.: _____
Witness: C. E. Notestine
Schedule 17
Sheet 2

Columbia Gas of Virginia, Inc.
Lead / Lag Cash Working Capital Calculation - Earnings Test - Jurisdictional Adjusted
For The Year Ended December 31, 2015
Case No. PUE-2016-00033

Line No.	Cost Category	Jurisdictional Per Books Expense (1) \$	Regulatory Accounting Adjs Schedule 16 (2) \$	Jurisdictional Amounts After Adj. (3=1+2) \$	Juris. Dnily Amount (4) \$	Rev Lag Days (5)	Expense Lend Days (6)	Net Lag Days (7=5-6) \$	Jurisdictional CWC Requirement (8=4x7) \$
1	OPERATING EXPENSES:								
2	Purchased Gas Expense	122,414,220	0	122,414,220	335,381	33.66	37.60	(3.94)	(1,321,401)
3	Deferred Gas Expense	5,671,242	(567,260)	5,103,982	13,984	33.66	33.66	0.00	0
4	Storage Gas Delivered	(25,484,313)	0	(25,484,313)	(69,820)	33.66	0.00	33.66	(2,350,141)
5	Storage Gas Withdrawn	34,732,818	0	34,732,818	95,158	33.66	0.00	33.66	3,203,018
6	Prepaid Insurance Expense	1,395,148	0	1,395,148	3,822	33.66	0.00	33.66	128,649
7	Employee Payroll	13,557,051	(36,521)	13,520,530	37,043	33.66	8.17	25.49	944,226
8	DIMP Deferral	0	0	0	0	33.66	0.00	33.66	0
9	Employee Benefits Expense	5,719,051	0	5,719,051	15,669	33.66	0.00	33.66	527,419
10	Incentive Compensation	996,117	0	996,117	2,729	33.66	0.00	33.66	91,858
11	Pension, OPEB & RIP Expense	323,446	201,081	524,527	1,437	33.66	0.00	33.66	48,369
12	Vacation	1,131,980	0	1,131,980	3,101	33.66	0.00	33.66	104,380
13	Uncollectible Expense	821,422	(4,973)	816,449	2,237	33.66	137.56	(103.90)	(232,424)
14	Injuries and Damage Expense	105,014	0	105,014	288	33.66	0.00	33.66	9,694
15	Corporate Services	29,257,658	0	29,257,658	80,158	33.66	30.50	3.16	253,299
16	Regulatory Asset Amortization:								
17	Environmental Remediation	767,393	0	767,393	2,102	33.66	33.66	0.00	0
18	Deferred DIMP Expenses	0	0	0	0	33.66	33.66	0.00	0
19	Metered Propane Conversion	0	0	0	0	33.66	33.66	0.00	0
20	Other	22,143,797	756,266	22,900,063	62,740	33.66	44.86	(11.20)	(702,688)
21	Depreciation and Amortization	24,260,049	(250,497)	24,009,552	65,780	33.66	0.00	33.66	2,214,155
22	TAXES OTHER THAN INCOME								
23	Payroll Tax Expense	1,141,036	0	1,141,036	3,126	33.66	8.86	24.80	77,525
24	Property Tax Expense	5,491,331	23,019	5,514,350	15,108	33.66	117.25	(83.59)	(1,262,878)
25	Other Taxes	18,410	0	18,410	50	33.66	35.20	(1.54)	(77)
26	INCOME TAXES:								
27	Current FIT & SIT	(9,559,317)	(1,689,760)	(11,249,077)	(30,819)	33.66	37.50	(3.84)	118,345
28	Deferred FIT Included in Rate Base	19,332,893	0	19,332,893	52,967	33.66	0.00	33.66	1,782,869
29	Deferred ITC	(87,846)	0	(87,846)	(241)	33.66	33.66	0.00	0
30	Deferred FIT Excluded from Rate Base	(414,230)	0	(414,230)	(1,135)	33.66	33.66	0.00	0
31	JDC Exp Associated Income Tax Savings	0	(6,151)	(6,151)	(17)	33.66	33.66	0.00	0
32	OTHER EXPENSES:								
33	AFUDC	(38,062)	(43,546)	(81,608)	(224)	33.66	33.66	0.00	0
34	Charitable Donations	235,433	(117,717)	117,716	323	33.66	33.66	0.00	0
35	Interest on Customer Deposits	8,669	0	8,669	24	33.66	182.50	(148.84)	(3,572)
36	Interest on Supplier Refunds	377	0	377	1	33.66	182.50	(148.84)	(149)
37	Other Expense/(Income)	0	0	0	0	33.66	33.66	0.00	0
38	Interest Expense on Debt	13,931,785	161,105	14,092,890	38,611	33.66	90.70	(57.04)	(2,202,371)
39	JDC Expense	0	43,403	43,403	119	33.66	33.66	0.00	0
40	Income Available for Common Equity	14,799,565	(2,812,464)	11,987,101	32,841	33.66	33.66	0.00	0
41	Subtotal	282,748,259	(4,250,772)	278,491,336	762,991				1,428,105
42	Customer Utility Taxes	10,494,636	0	10,494,636	28,752	33.66	30.79	2.87	82,518
43	State & Local Consumption Taxes	3,737,267	0	3,737,267	10,239	33.66	34.53	(0.87)	(8,908)
44	Plus: Balance Sheet Analysis								4,345,296
45									TOTAL CASH WORKING CAPITAL REQUIREMENT/(SOURCE) 5,847,011

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Exhibit No.: _____
Witness: C. E. Notestone
Schedule 17
Sheet 3

Columbia Gas of Virginia, Inc.
Analysis of Cash Working Capital Requirement
Revenue Lag
TME: December 31, 2015
Case No. PUE-2016-00033

<u>Line No.</u>	<u>Lag Component</u> (1)	<u>Number of Days</u> (2)
1	Meter Reading 1/	15.21
2	Collection (see Sheet No. 3a)	16.10
3	Billing (see Sheet No. 3c)	2.35
4	Total Revenue Lag	<u>33.66</u>

1/ CGV reads all meters monthly. Bills generated using the Distributive Information System are mailed that evening. Large volume Commercial and Industrial customers billed using Gas Accounting System are mailed 5 to 10 days from final meter read. Meter reading lag represents the midpoint of any billing month and are computed as: $365 \text{ days} / 12 \text{ Months} / 2$ (midpoint) = 15.21 days.

Source: Company Financial Statements

EXHIBIT 14

Exhibit No.: _____
Witness: C. E. Notestone
Schedule 17
Sheet 3a

Columbia Gas of Virginia, Inc.
Weighted Average Collection Lag
TME: September 30, 2015
Case No. PUE-2016-00033

<u>Line No.</u>	<u>Average Daily Revenue</u>	<u>Amount</u> \$
1	Total Tariff Revenues:	
2	Residential Revenues	200,212,579
3	Commercial Revenues	67,719,557
4	Industrial Revenues	2,994,116
5	Other Revenues	-
6	Total Tariff Revenue	270,926,252
7	Non - traditional sales	15,335,928
8	Transportation Revenue	59,022,726
9	Utility Service, State & Local Consumption Taxes	14,623,860
10	Forfeited Discounts	802,981
11	Miscellaneous Service Revenue	752,375
12	Billed RNA Revenue	506,791
13	Other Gas Revenues - Other	801,017
14	Subtotal of Additional Revenue	91,845,678
15	Supplier Refunds	(1,034,883)
16	Total Adjusted Revenue	361,737,047
17	Average Daily Revenue (Line 16 ÷ 365 days)	991,060
18	Average Daily A/R Balance (Per Sheet No. 3b)	14,627,398
19	Revenue Collection Lag Days (Line 18 ÷ Line 17)	14.76
20	Collection Lag Adjustment (1)	1.34
21	Revenue Collection Lag Days (Line 19 + Line 20)	16.10

(1) Collection lag adjustment for changes in payment processing dates for certain automatic payment customers.

Columbia Gas of Virginia, Inc.
 Analysis of Cash Working Capital Allowance
 Summary of Accounts Receivable
 TME: September 30, 2015
 Case No. PUE-2016-00033

Line No.	Test Year	14200220, 14200230		14200250, 14300220		14200260		14300018		14300280		14300240, 14300330		Utility Accounts Receivables (7=1 through 6) (\$)
		Customer A/R CAB	Customer A/R GMB	Customer A/R GMB	Customer Premise	Off-System Sales	Home Energy Assistance	Transportation A/R	Month-End Balance (1) (\$)	Month-End Balance (2) (\$)	Month-End Balance (3) (\$)	Month-End Balance (4) (\$)	Month-End Balance (5) (\$)	
1	October 2014	(9,595,686)	565,844	258,341	847,509	-	1,419,942	-	1,419,942	-	1,419,942	-	(6,504,050)	
2	November	(3,528,700)	1,112,050	238,448	1,435,370	-	4,651,826	-	4,651,826	-	4,651,826	-	3,908,995	
3	December	8,084,711	882,287	392,496	5,130,825	-	3,520,157	-	3,520,157	-	3,520,157	-	18,010,476	
4	January 2015	19,990,683	1,099,185	606,772	2,964,631	243,750	5,375,172	243,750	5,375,172	243,750	5,375,172	243,750	30,280,193	
5	February	30,800,032	1,172,542	546,596	2,456,994	55,824	8,227,151	55,824	8,227,151	55,824	8,227,151	55,824	43,259,139	
6	March	25,218,135	725,223	278,123	1,169,878	51,184	5,900,639	51,184	5,900,639	51,184	5,900,639	51,184	33,343,182	
7	April	16,195,245	481,255	424,439	(69,278)	7,719	8,688,643	7,719	8,688,643	7,719	8,688,643	7,719	25,728,023	
8	May	9,985,506	433,763	454,632	744,883	-	4,878,334	-	4,878,334	-	4,878,334	-	16,497,118	
9	June	3,634,228	301,109	597,140	854,855	-	4,121,342	-	4,121,342	-	4,121,342	-	9,508,674	
10	July	(471,431)	270,360	475,725	1,309,067	-	3,187,061	-	3,187,061	-	3,187,061	-	4,770,782	
11	August	(4,404,632)	338,482	497,535	945,628	-	2,982,634	-	2,982,634	-	2,982,634	-	359,647	
12	September	(7,584,330)	460,205	429,927	869,374	-	2,191,418	-	2,191,418	-	2,191,418	-	(3,633,406)	
13	Total	88,323,761	7,842,305	5,200,174	18,659,736	358,477	55,144,319	358,477	55,144,319	358,477	55,144,319	358,477	175,528,773	
14	12 Mo. Avg.	7,360,313	653,525	433,348	1,554,978	29,873	4,595,360	29,873	4,595,360	29,873	4,595,360	29,873	14,627,398	

(1) Source: Company Financial Statements

12107499

EXHIBIT

Exhibit No.: _____
 Witness: C. E. Notestone
 Schedule 17
 Sheet 3c

**Columbia Gas of Virginia, Inc.
 Analysis of Cash Working Capital Requirement
 Billing Lag Calculation
 TME: December 31, 2015**

<u>Line No.</u>	<u>Description</u> (1)	<u>Revenue Amount</u> (2) \$	<u>Billing Lag</u> (3)	<u>Weighted Revenue</u> (4)=(2)*(3) \$
1	Tariff / Transportation Revenues - (DIS)	229,389,926	1.45	332,251,281
2	Tariff / Transportation Revenues - (GTS)	31,782,417	9.03	287,034,511
3	Tariff / Transportation Revenues - (GMB/GAS)	<u>9,753,909</u>	<u>1.70</u>	<u>16,627,064</u>
4		<u>270,926,252</u>		<u>635,912,856</u>
5	Calculated Billing Lag		<u>2.35</u>	

16040114

Exhibit No.: _____
Witness: C. E. Notestone
Schedule 17
Sheet 3d

Columbia Gas of Virginia, Inc.
Analysis of Cash Working Capital Requirement
Collection Lag Adjustment for Automatic Payment Customers
TME: December 31, 2015

<u>Line No.</u>	<u>Month</u>	<u>A/R Balance Impact</u> (\$)
1	January 2015	2,205,767
2	February	1,746,256
3	March	2,028,950
4	April	1,116,889
5	May	866,643
6	June	800,033
7	July	888,798
8	August	858,952
9	September	889,025
10	October	963,368
11	November	920,198
12	December	<u>1,442,736</u>
13	Total	<u>14,727,615</u>
14	Average A/R Balance for Automatic Payment Customers	<u>1,227,301</u>
15	Total Adjusted Revenue TME 12/31/2015	333,819,775
16	Average Daily Revenue (Line 15 / 365)	914,575
17	Revenue Collection Lag Days (Line 14 / Line 16)	1.34

151051

Exhibit No.: _____
 Witness: C. E. Notestone
 Schedule 17
 Sheet 4

Columbia Gas of Virginia, Inc.
Analysis of Cash Working Capital Requirement
Gas Purchased Cost
TME: December 31, 2015
Case No. PUE-2016-00033

<u>Line No.</u>	<u>Supplier Category</u> (1)	<u>Reference</u> (2)	<u>Amount Paid</u> (3) \$	<u>Weighted Average Lead Days</u> (4)	<u>Dollar Lead Days</u> (5=3*4) \$
1	Commodity Costs .	Sheet 4a	\$85,377,163	40.55	\$ 3,461,684,061
2	Transportation Costs	Sheet 4b	\$59,451,109	33.36	\$ 1,983,325,536
3		Total	\$144,828,271	37.60	\$ 5,445,009,597

Note: The Gas Purchase leads for both Commodity and Transportation Costs were developed through the Gas Supply Department gas purchase system that included the gas flow service period, the date paid and the amount paid for each purchase.

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Exhibit No.: _____
 Witness: C. E. Notestone
 Schedule 17
 Sheet 4a

Columbia Gas of Virginia, Inc.
 Analysis of Cash Working Capital Requirement
 Gas Purchased - Commodity Costs
 TME: December 31, 2015
 Case No. PUE-2016-00033

Line No.	Service Month (1)	Payment Date (2)	Midpoint of Service Period (3)	Lag Days (4)=(2-1+3)	Payment (5)	Weighted Days (6)=(4*5)
1	01/31/15	02/25/15	15.50	40.50	\$123,120	4,986,360
2	01/31/15	02/25/15	15.50	40.50	\$1,321,530	53,521,965
3	01/31/15	02/25/15	15.50	40.50	\$3,956,941	160,256,090
4	01/31/15	02/25/15	15.50	40.50	\$129,675	5,251,838
5	01/31/15	02/25/15	15.50	40.50	\$56,650	2,294,325
6	01/31/15	02/25/15	15.50	40.50	\$25,926	1,050,003
7	01/31/15	02/25/15	15.50	40.50	\$5,480	221,940
8	01/31/15	02/25/15	15.50	40.50	\$1,082,361	43,835,615
9	01/31/15	02/25/15	15.50	40.50	\$91,931	3,723,185
10	01/31/15	02/25/15	15.50	40.50	\$2,622,169	106,197,859
11	01/31/15	02/25/15	15.50	40.50	\$45,757	1,853,159
12	01/31/15	02/25/15	15.50	40.50	\$369,109	14,948,894
13	01/31/15	02/25/15	15.50	40.50	\$1,372,236	55,575,558
14	01/31/15	02/25/15	15.50	40.50	\$62,045	2,512,823
15	01/31/15	02/25/15	15.50	40.50	\$104,339	4,225,709
16	01/31/15	02/25/15	15.50	40.50	\$70,375	2,850,188
17	01/31/15	02/25/15	15.50	40.50	\$2,769,602	112,168,881
18	01/31/15	02/25/15	15.50	40.50	\$56,350	2,282,175
19	01/31/15	02/25/15	15.50	40.50	\$18,505	749,453
20	01/31/15	02/25/15	15.50	40.50	\$3,822	154,789
21	02/28/15	03/25/15	14.00	39.00	\$219,588	8,563,913
22	02/28/15	03/25/15	14.00	39.00	\$1,041,348	40,612,572
23	02/28/15	03/25/15	14.00	39.00	\$32,600	1,271,400
24	02/28/15	03/25/15	14.00	39.00	\$2,577,230	100,511,970
25	02/28/15	03/25/15	14.00	39.00	\$92,568	3,610,152
26	02/28/15	03/25/15	14.00	39.00	\$40,770	1,590,030
27	02/28/15	03/25/15	14.00	39.00	\$12,850	501,150
28	02/28/15	03/25/15	14.00	39.00	\$87,020	3,393,780
29	02/28/15	03/25/15	14.00	39.00	\$6,753,337	263,380,124
30	02/28/15	03/25/15	14.00	39.00	\$372,400	14,523,600
31	02/28/15	03/25/15	14.00	39.00	\$25,950	1,012,050
32	02/28/15	03/25/15	14.00	39.00	\$3,563,470	138,975,343
33	02/28/15	03/25/15	14.00	39.00	\$24,850	969,150
34	02/28/15	03/25/15	14.00	39.00	\$229,154	8,936,992
35	02/28/15	03/25/15	14.00	39.00	\$5,130	200,070
36	02/28/15	03/25/15	14.00	39.00	\$395,710	15,432,690
37	02/28/15	03/25/15	14.00	39.00	\$1,246,668	48,620,033
38	02/28/15	03/25/15	14.00	39.00	\$18,540	723,070
39	02/28/15	03/25/15	14.00	39.00	\$89,400	3,486,600
40	02/28/15	03/25/15	14.00	39.00	\$2,230,144	86,975,616
41	02/28/15	03/25/15	14.00	39.00	\$53,094	2,070,675
42	02/28/15	03/25/15	14.00	39.00	\$19,914	776,646

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Exhibit No.: _____
 Witness: C. E. Notestone
 Schedule 17
 Sheet 4a

Columbia Gas of Virginia, Inc.
Analysis of Cash Working Capital Requirement
Gas Purchased - Commodity Costs
 TME: December 31, 2015
 Case No. PUE-2016-00033

Line No.	Service Month (1)	Payment Date (2)	Midpoint of Service Period (3)	Lag Days (4)=(2-1+3)	Payment (5)	Weighted Days (6)=(4*5)
43	02/28/15	03/25/15	14.00	39.00	\$182,279	7,108,881
44	02/28/15	03/25/15	14.00	39.00	\$382,590	14,921,010
45	02/28/15	03/25/15	14.00	39.00	\$773	30,164
46	03/31/15	04/27/15	15.50	42.50	\$4,805	204,202
47	03/31/15	04/27/15	15.50	42.50	\$1,537,950	65,362,854
48	03/31/15	04/27/15	15.50	42.50	\$1,193,934	50,742,195
49	03/31/15	04/27/15	15.50	42.50	\$53,828	2,287,669
50	03/31/15	04/27/15	15.50	42.50	\$16,458	699,481
51	03/31/15	04/27/15	15.50	42.50	\$237,225	10,082,063
52	03/31/15	04/27/15	15.50	42.50	\$7,613	323,553
53	03/31/15	04/27/15	15.50	42.50	\$27,336	1,161,780
54	03/31/15	04/27/15	15.50	42.50	\$13,800	586,500
55	03/31/15	04/27/15	15.50	42.50	\$2,870	121,975
56	03/31/15	04/27/15	15.50	42.50	\$38,842	1,650,796
57	03/31/15	04/27/15	15.50	42.50	\$1,116,502	47,431,335
58	03/31/15	04/27/15	15.50	42.50	\$10,040	426,700
59	03/31/15	04/27/15	15.50	42.50	\$1,782	73,714
60	03/31/15	04/27/15	15.50	42.50	\$2,087,121	88,702,623
61	03/31/15	04/27/15	15.50	42.50	\$69,421	2,950,393
62	03/31/15	04/27/15	15.50	42.50	\$120,119	5,105,036
63	03/31/15	04/27/15	15.50	42.50	\$10,804	459,159
64	03/31/15	04/27/15	15.50	42.50	\$183,157	7,784,151
65	03/31/15	04/27/15	15.50	42.50	\$302,405	12,852,213
66	03/31/15	04/27/15	15.50	42.50	\$747,680	31,776,379
67	03/31/15	04/27/15	15.50	42.50	\$26,055	1,107,338
68	03/31/15	04/27/15	15.50	42.50	\$50,750	2,156,875
69	03/31/15	04/27/15	15.50	42.50	\$17,388	738,990
70	03/31/15	04/27/15	15.50	42.50	\$224,475	9,540,188
71	03/31/15	04/27/15	15.50	42.50	\$353,822	15,037,424
72	03/31/15	04/27/15	15.50	42.50	\$5,080	215,900
73	03/31/15	04/27/15	15.50	42.50	\$37,113	1,577,281
74	03/31/15	04/27/15	15.50	42.50	\$95,972	4,078,810
75	03/31/15	04/27/15	15.50	42.50	\$2,050	87,123
76	04/30/15	05/26/15	15.00	41.00	\$486	19,906
77	04/30/15	05/26/15	15.00	41.00	\$205,645	8,431,434
78	04/30/15	05/26/15	15.00	41.00	\$311,182	12,758,442
79	04/30/15	05/26/15	15.00	41.00	\$12,535	513,933
80	04/30/15	05/26/15	15.00	41.00	\$7,140	292,740
81	04/30/15	05/26/15	15.00	41.00	\$17,733	727,060
82	04/30/15	05/26/15	15.00	41.00	\$38,207	1,566,504
83	04/30/15	05/26/15	15.00	41.00	\$222,886	9,138,338
84	04/30/15	05/26/15	15.00	41.00	\$605,941	24,843,587
85	04/30/15	05/26/15	15.00	41.00	\$69,285	2,840,685
86	04/30/15	05/26/15	15.00	41.00	\$46,748	1,916,658
87	04/30/15	05/26/15	15.00	41.00	\$26,890	1,102,490
88	04/30/15	05/26/15	15.00	41.00	\$246,480	10,105,680
89	04/30/15	05/26/15	15.00	41.00	\$175,148	7,181,048
90	04/30/15	05/26/15	15.00	41.00	\$19,500	799,500
91	04/30/15	05/26/15	15.00	41.00	\$1,548,268	63,478,994
92	04/30/15	05/26/15	15.00	41.00	\$1,526	62,578
93	04/30/15	05/26/15	15.00	41.00	\$867,066	35,549,716
94	04/30/15	05/26/15	15.00	41.00	\$69,027	2,830,107
95	04/30/15	05/26/15	15.00	41.00	\$11,527	472,597
96	04/30/15	05/26/15	15.00	41.00	\$512,150	20,998,150

EXHIBIT F

Exhibit No.: _____
 Witness: C. E. Notestone
 Schedule 17
 Sheet 4a

Columbin Gas of Virginia, Inc.
 Analysis of Cash Working Capital Requirement
 Gas Purchased - Commodity Costs
 TME: December 31, 2015
 Case No. PUE-2016-00033

Line No.	Service Month (1)	Payment Date (2)	Midpoint of Service Period (3)	Lag Days (4)=(2-1+3)	Payment (5)	Weighted Days (6)=(4*5)
92	04/30/15	05/26/15	15.00	41.00	\$287,550	11,789,550
93	04/30/15	05/26/15	15.00	41.00	\$207,495	8,507,295
94	04/30/15	05/26/15	15.00	41.00	\$13,842	567,522
95	04/30/15	05/26/15	15.00	41.00	\$176,675	7,243,675
96	04/30/15	05/26/15	15.00	41.00	\$27,251	1,117,271
97	04/30/15	05/26/15	15.00	41.00	\$83,523	3,424,427
98	04/30/15	05/26/15	15.00	41.00	\$18,113	742,613
99	04/30/15	05/26/15	15.00	41.00	\$86,283	3,537,583
100	04/30/15	05/26/15	15.00	41.00	\$233,687	9,581,183
101	04/30/15	05/26/15	15.00	41.00	\$506,991	20,786,631
102	04/30/15	05/26/15	15.00	41.00	\$56,275	2,307,285
103	04/30/15	05/26/15	15.00	41.00	\$378	15,491
104	04/30/15	05/26/15	15.00	41.00	\$43,741	1,793,401
105	05/31/15	06/25/15	15.50	40.50	\$55,200	2,235,600
106	05/31/15	06/25/15	15.50	40.50	\$8,205	332,303
107	05/31/15	06/25/15	15.50	40.50	\$610,328	24,718,284
108	05/31/15	06/25/15	15.50	40.50	\$43,160	1,747,980
109	05/31/15	06/25/15	15.50	40.50	\$103,913	4,208,456
110	05/31/15	06/25/15	15.50	40.50	\$73,316	2,969,298
111	05/31/15	06/25/15	15.50	40.50	\$39,375	1,594,688
112	05/31/15	06/25/15	15.50	40.50	\$22,515	911,858
113	05/31/15	06/25/15	15.50	40.50	\$111,240	4,505,220
114	05/31/15	06/25/15	15.50	40.50	\$22,844	925,172
115	05/31/15	06/25/15	15.50	40.50	\$1,171,266	47,436,268
116	05/31/15	06/25/15	15.50	40.50	\$50,400	2,041,200
117	05/31/15	06/25/15	15.50	40.50	\$100,879	4,083,589
118	05/31/15	06/25/15	15.50	40.50	\$103,796	4,203,718
119	05/31/15	06/25/15	15.50	40.50	\$83,250	3,371,625
120	05/31/15	06/25/15	15.50	40.50	\$151,580	6,138,990
121	05/31/15	06/25/15	15.50	40.50	\$179,285	7,261,043
122	05/31/15	06/25/15	15.50	40.50	\$1,292,641	52,351,978
123	05/31/15	06/25/15	15.50	40.50	\$8,040	325,620
124	05/31/15	06/25/15	15.50	40.50	\$196,967	7,977,164
125	05/31/15	06/25/15	15.50	40.50	\$73,269	2,967,395
126	05/31/15	06/25/15	15.50	40.50	\$213,650	8,652,825
127	05/31/15	06/25/15	15.50	40.50	\$12,400	502,200
128	05/31/15	06/25/15	15.50	40.50	\$140	5,667

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Exhibit No.: _____
 Witness: C. E. Notestone
 Schedule 17
 Sheet 4a

Columbin Gas of Virginia, Inc.
Analysis of Cash Working Capital Requirement
Gas Purchased - Commodity Costs
 TME: December 31, 2015
 Case No. PUE-2016-00033

Line No.	Service Month (1)	Payment Date (2)	Midpoint of Service Period (3)	Lag Days (4)=(2-1+3)	Payment (5)	Weighted Days (6)=(4*5)
129	06/30/15	07/27/15	15.00	42.00	\$214,800	9,021,600
130	06/30/15	07/27/15	15.00	42.00	\$386,935	16,251,249
131	06/30/15	07/27/15	15.00	42.00	\$6,731	282,713
132	06/30/15	07/27/15	15.00	42.00	\$19,075	801,150
133	06/30/15	07/27/15	15.00	42.00	\$11,926	500,871
134	06/30/15	07/27/15	15.00	42.00	\$37,098	1,558,116
135	06/30/15	07/27/15	15.00	42.00	\$40,625	1,706,250
136	06/30/15	07/27/15	15.00	42.00	\$1,288,671	54,124,181
137	06/30/15	07/27/15	15.00	42.00	\$27,900	1,171,800
138	06/30/15	07/27/15	15.00	42.00	\$29,399	1,234,737
139	06/30/15	07/27/15	15.00	42.00	\$97,308	4,086,915
140	06/30/15	07/27/15	15.00	42.00	\$65,825	2,764,650
141	06/30/15	07/27/15	15.00	42.00	\$41,100	1,726,200
142	06/30/15	07/27/15	15.00	42.00	\$125,335	5,264,052
143	06/30/15	07/27/15	15.00	42.00	\$6,713	281,925
144	06/30/15	07/27/15	15.00	42.00	\$42,213	1,772,925
145	06/30/15	07/27/15	15.00	42.00	\$117,078	4,917,276
146	06/30/15	07/27/15	15.00	42.00	\$13,650	573,300
147	06/30/15	07/27/15	15.00	42.00	\$55,238	2,319,975
148	06/30/15	07/27/15	15.00	42.00	\$1,027,500	43,155,000
149	06/30/15	07/27/15	15.00	42.00	\$22	934
150	07/31/15	08/25/15	15.50	40.50	\$18,624	754,252
151	07/31/15	08/25/15	15.50	40.50	\$135,726	5,496,885
152	07/31/15	08/25/15	15.50	40.50	\$722,648	29,267,244
153	07/31/15	08/25/15	15.50	40.50	\$36,611	1,482,756
154	07/31/15	08/25/15	15.50	40.50	\$119,429	4,836,864
155	07/31/15	08/25/15	15.50	40.50	\$33,844	1,370,672
156	07/31/15	08/25/15	15.50	40.50	\$462,925	18,748,463
157	07/31/15	08/25/15	15.50	40.50	\$315,067	12,760,224
158	07/31/15	08/25/15	15.50	40.50	\$55,475	2,246,738
159	07/31/15	08/25/15	15.50	40.50	\$2,261,410	91,587,089
160	07/31/15	08/25/15	15.50	40.50	\$3,960	160,380
161	07/31/15	08/25/15	15.50	40.50	\$238,795	9,671,198
162	07/31/15	08/25/15	15.50	40.50	\$102,322	4,144,041
163	07/31/15	08/25/15	15.50	40.50	\$11,572	468,676
164	07/31/15	08/25/15	15.50	40.50	\$6,032	244,286
165	07/31/15	08/25/15	15.50	40.50	\$179,863	7,284,431
166	07/31/15	08/25/15	15.50	40.50	\$60,835	2,463,828
167	07/31/15	08/25/15	15.50	40.50	\$13,988	566,494
168	07/31/15	08/25/15	15.50	40.50	\$53,500	2,166,750
169	07/31/15	08/25/15	15.50	40.50	\$57,293	2,320,352
170	07/31/15	08/25/15	15.50	40.50	\$16,035	649,418
171	07/31/15	08/25/15	15.50	40.50	\$26,600	1,077,300
172	07/31/15	08/25/15	15.50	40.50	\$28,025	1,135,013
173	07/31/15	08/25/15	15.50	40.50	\$1,313,795	53,208,698
174	07/31/15	08/25/15	15.50	40.50	\$87,127	3,528,644
175	07/31/15	08/25/15	15.50	40.50	\$5	194
176	07/31/15	08/25/15	15.50	40.50	\$28,450	1,152,225

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Exhibit No.: _____
Witness: C. E. Notestono
Schedule 17
Sheet 4a

Columbia Gas of Virginia, Inc.
Analysis of Cash Working Capital Requirement
Gas Purchased - Commodity Costs
TME: December 31, 2015
Case No. PUE-2016-00033

Line No.	Service Month (1)	Payment Date (2)	Midpoint of Service Period (3)	Lag Days (4)=(2-1+3)	Payment (5)	Weighted Days (6)=(4*5)
177	08/31/15	09/25/15	15.50	40.50	\$28,667	1,161,014
178	08/31/15	09/25/15	15.50	40.50	\$269,759	10,925,240
179	08/31/15	09/25/15	15.50	40.50	\$26,300	1,065,150
180	08/31/15	09/25/15	15.50	40.50	\$2,405	97,387
181	08/31/15	09/25/15	15.50	40.50	\$10,862	439,891
182	08/31/15	09/25/15	15.50	40.50	\$229,941	9,312,630
183	08/31/15	09/25/15	15.50	40.50	\$52,500	2,126,250
184	08/31/15	09/25/15	15.50	40.50	\$1,645,734	66,652,208
185	08/31/15	09/25/15	15.50	40.50	\$466,059	18,875,379
186	08/31/15	09/25/15	15.50	40.50	\$73,652	2,982,916
187	08/31/15	09/25/15	15.50	40.50	\$1,632,971	66,135,329
188	08/31/15	09/25/15	15.50	40.50	\$52,812	2,138,886
189	08/31/15	09/25/15	15.50	40.50	\$41,038	1,662,019
190	08/31/15	09/25/15	15.50	40.50	\$1,623	65,732
191	08/31/15	09/25/15	15.50	40.50	\$205,900	8,338,950
192	08/31/15	09/25/15	15.50	40.50	\$257,557	10,431,059
193	08/31/15	09/25/15	15.50	40.50	\$103,526	4,192,783
194	08/31/15	09/25/15	15.50	40.50	\$13,850	560,925
195	08/31/15	09/25/15	15.50	40.50	\$252,045	10,207,802
196	08/31/15	09/25/15	15.50	40.50	\$9,334	378,027
197	08/31/15	09/25/15	15.50	40.50	\$27,325	1,106,663
198	08/31/15	09/25/15	15.50	40.50	\$5	194
199	08/31/15	09/25/15	15.50	40.50	\$18,356	743,398
200	09/30/15	10/26/15	15.00	41.00	\$28,260	1,158,660
201	09/30/15	10/26/15	15.00	41.00	\$48,200	1,976,200
202	09/30/15	10/26/15	15.00	41.00	\$21,582	884,862
203	09/30/15	10/26/15	15.00	41.00	\$9,405	385,605
204	09/30/15	10/26/15	15.00	41.00	\$76,378	3,131,483
205	09/30/15	10/26/15	15.00	41.00	\$785,014	32,183,576
206	09/30/15	10/26/15	15.00	41.00	\$41,850	1,715,850
207	09/30/15	10/26/15	15.00	41.00	\$67,707	2,775,996
208	09/30/15	10/26/15	15.00	41.00	\$2,463	100,963
209	09/30/15	10/26/15	15.00	41.00	\$599,975	24,598,975
210	09/30/15	10/26/15	15.00	41.00	\$1,453,099	59,577,054
211	09/30/15	10/26/15	15.00	41.00	\$40,093	1,643,813
212	09/30/15	10/26/15	15.00	41.00	\$83,163	3,409,663
213	09/30/15	10/26/15	15.00	41.00	\$100,397	4,116,257
214	09/30/15	10/26/15	15.00	41.00	\$79,797	3,271,677
215	09/30/15	10/26/15	15.00	41.00	\$765,900	31,401,900
216	09/30/15	10/26/15	15.00	41.00	\$12,175	499,175
217	09/30/15	10/26/15	15.00	41.00	\$53,631	2,198,871
218	09/30/15	10/26/15	15.00	41.00	\$61,333	2,514,663
219	09/30/15	10/26/15	15.00	41.00	\$24,400	1,000,400
220	09/30/15	10/26/15	15.00	41.00	\$396,000	16,236,000
221	09/30/15	10/26/15	15.00	41.00	\$8	311
222	09/30/15	10/26/15	15.00	41.00	\$25,300	1,037,300
223	09/30/15	10/26/15	15.00	41.00	\$17,298	709,218

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Exhibit No.: _____
Witness: C. E. Notestone
Schedule 17
Sheet 4a

Columbin Gas of Virginia, Inc.
Analysis of Cnsh Working Capital Requirement
Gas Purchased - Commodity Costs
TME: December 31, 2015
Case No. PUE-2016-00033

Line No.	Service Month (1)	Payment Date (2)	Midpoint of Service Period (3)	Lag Days (4)=(2-1+3)	Payment (5)	Weighted Days (6)=(4*5)
224	10/31/15	11/25/15	15.50	40.50	\$591	40,146
225	10/31/15	11/25/15	15.50	40.50	\$153,056	6,198,778
226	10/31/15	11/25/15	15.50	40.50	\$25,757	1,043,138
227	10/31/15	11/25/15	15.50	40.50	\$3,242	131,311
228	10/31/15	11/25/15	15.50	40.50	\$522,094	21,144,787
229	10/31/15	11/25/15	15.50	40.50	\$19,311	782,079
230	10/31/15	11/25/15	15.50	40.50	\$14,000	567,000
231	10/31/15	11/25/15	15.50	40.50	\$68,628	2,779,414
232	10/31/15	11/25/15	15.50	40.50	\$1,153,999	46,736,962
233	10/31/15	11/25/15	15.50	40.50	\$83,191	3,369,236
234	10/31/15	11/25/15	15.50	40.50	\$45,392	1,838,366
235	10/31/15	11/25/15	15.50	40.50	\$1,283,119	51,966,330
236	10/31/15	11/25/15	15.50	40.50	\$21,902	887,031
237	10/31/15	11/25/15	15.50	40.50	\$59,775	2,420,888
238	10/31/15	11/25/15	15.50	40.50	\$7,920	320,760
239	10/31/15	11/25/15	15.50	40.50	\$32,688	1,323,844
240	10/31/15	11/25/15	15.50	40.50	\$1,612	65,299
241	10/31/15	11/25/15	15.50	40.50	\$25,663	1,039,331
242	10/31/15	11/25/15	15.50	40.50	\$13,110	530,955
243	10/31/15	11/25/15	15.50	40.50	\$45,340	1,836,260
244	10/31/15	11/25/15	15.50	40.50	\$36,880	1,493,640
245	10/31/15	11/25/15	15.50	40.50	\$61,501	2,490,801
246	10/31/15	11/25/15	15.50	40.50	\$23,000	931,500
247	10/31/15	11/25/15	15.50	40.50	\$61	2,459
248	11/30/15	12/28/15	15.00	43.00	\$752,550	32,359,650
249	11/30/15	12/28/15	15.00	43.00	\$18,250	784,750
250	11/30/15	12/28/15	15.00	43.00	\$30,759	1,322,637
251	11/30/15	12/28/15	15.00	43.00	\$1,159,199	49,845,574
252	11/30/15	12/28/15	15.00	43.00	\$40,895	1,758,485
253	11/30/15	12/28/15	15.00	43.00	\$37	1,600

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Exhibit No.: _____
 Witness: C. E. Notestone
 Schedule 17
 Sheet 4a

Columbia Gas of Virginia, Inc.
Analysis of Cash Working Capital Requirement
Gas Purchased - Commodity Costs
 TME: December 31, 2015
 Case No. PUE-2016-00033

Line No.	Service Month (1)	Payment Date (2)	Midpoint of Service Period (3)	Lag Days (4)=(2-1+3)	Payment (5)	Weighted Days (6)=(4*5)
254	12/31/15	01/25/16	15.50	40.50	\$854,050	34,589,025
255	12/31/15	01/25/16	15.50	40.50	\$225,138	9,118,069
256	12/31/15	01/25/16	15.50	40.50	\$28,485	1,153,643
257	12/31/15	01/25/16	15.50	40.50	\$5,653	228,926
258	12/31/15	01/25/16	15.50	40.50	\$77,180	3,125,800
259	12/31/15	01/25/16	15.50	40.50	\$27,357	1,107,959
260	12/31/15	01/25/16	15.50	40.50	\$1,403,143	56,827,301
261	12/31/15	01/25/16	15.50	40.50	\$28,414	1,150,747
262	12/31/15	01/25/16	15.50	40.50	\$14,265	577,733
263	12/31/15	01/25/16	15.50	40.50	\$776,655	31,454,336
264	12/31/15	01/25/16	15.50	40.50	\$1,925	77,963
265	12/31/15	01/25/16	15.50	40.50	\$2,376	96,228
266	12/31/15	01/25/16	15.50	40.50	\$16,652	674,406
267	12/31/15	01/25/16	15.50	40.50	\$1,884,304	76,314,312
268	12/31/15	01/25/16	15.50	40.50	\$389	15,759
269	Total			40.55	\$85,377,163	3,461,684,061

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Exhibit No.: _____
Witness: C. E. Notestone
Schedule 17
Sheet 4b

Columbia Gas of Virginia, Inc.
Analysis of Cash Working Capital Requirement
Gas Purchased - Transportation Costs
TME: December 31, 2015
Case No. PUE-2016-00033

<u>Line No.</u>	<u>Service Month</u> (1)	<u>Payment Date</u> (2)	<u>Midpoint of Service Period</u> (3)	<u>Lag Days</u> (4)=(2-1+3)	<u>Payment</u> (5)	<u>Weighted Days</u> (6)=(4*5)
1	01/31/15	02/23/15	15.50	38.50	\$178,076	6,855,907
2	01/31/15	02/12/15	15.50	27.50	\$620,145	17,053,984
3	01/31/15	02/17/15	15.50	32.50	\$35,421	1,151,167
4	01/31/15	02/23/15	15.50	38.50	\$134,975	5,196,520
5	01/31/15	02/20/15	15.50	35.50	\$25,573	907,850
6	01/31/15	02/23/15	15.50	38.50	\$2,449,803	94,317,427
7	01/31/15	02/20/15	15.50	35.50	\$5,474	194,331
8	01/31/15	02/10/15	15.50	25.50	\$786,793	20,063,230
9	01/31/15	02/17/15	15.50	32.50	\$772,552	25,107,932
10	02/28/15	03/23/15	14.00	37.00	\$181,369	6,710,640
11	02/28/15	03/12/15	14.00	26.00	\$650,195	16,905,067
12	02/28/15	03/16/15	14.00	30.00	\$34,262	1,027,871
13	02/28/15	03/23/15	14.00	37.00	\$139,985	5,179,461
14	02/28/15	03/20/15	14.00	34.00	\$29,404	999,724
15	02/28/15	03/23/15	14.00	37.00	\$2,691,342	99,579,670
16	02/28/15	03/20/15	14.00	34.00	\$6,005	204,160
17	02/28/15	03/10/15	14.00	24.00	\$710,652	17,055,649
18	02/28/15	03/16/15	14.00	30.00	\$762,266	22,867,985
19	03/31/15	04/20/15	15.50	35.50	\$179,427	6,369,671
20	03/31/15	04/13/15	15.50	28.50	\$541,095	15,421,204
21	03/31/15	04/16/15	15.50	31.50	\$16,882	531,774
22	03/31/15	04/23/15	15.50	38.50	\$134,942	5,195,274
23	03/31/15	04/20/15	15.50	35.50	\$27,542	977,741
24	03/31/15	04/20/15	15.50	35.50	\$2,581,773	91,652,927
25	03/31/15	04/20/15	15.50	35.50	\$2,876	102,088
26	03/31/15	04/10/15	15.50	25.50	\$785,610	20,033,064
27	03/31/15	04/21/15	15.50	36.50	\$770,080	28,107,921
28	04/30/15	05/22/15	15.00	37.00	\$178,925	6,620,234
29	04/30/15	05/11/15	15.00	26.00	\$511,694	13,304,041
30	04/30/15	05/15/15	15.00	30.00	\$15,900	476,996
31	04/30/15	05/22/15	15.00	37.00	\$185,622	6,868,029
32	04/30/15	05/20/15	15.00	35.00	\$112,989	3,954,624
33	04/30/15	05/22/15	15.00	37.00	\$2,015,682	74,580,224
34	04/30/15	05/20/15	15.00	35.00	\$922	32,271
35	04/30/15	05/11/15	15.00	26.00	\$779,546	20,268,186
36	04/30/15	05/15/15	15.00	30.00	\$842,272	25,268,165

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Exhibit No.: _____

Witness: C. E. Notestone
 Schedule 17
 Sheet 4b

Columbia Gas of Virginia, Inc.
Analysis of Cash Working Capital Requirement
Gas Purchased - Transportation Costs
TME: December 31, 2015
Case No. PUE-2016-00033

<u>Line No.</u>	<u>Service Month</u> (1)	<u>Payment Date</u> (2)	<u>Midpoint of Service Period</u> (3)	<u>Lag Days</u> (4)=(2-1+3)	<u>Payment</u> (5)	<u>Weighted Days</u> (6)=(4*5)
37	05/31/15	06/22/15	15.50	37.50	\$178,839	6,706,478
38	05/31/15	06/11/15	15.50	26.50	\$643,395	17,049,965
39	05/31/15	06/15/15	15.50	30.50	\$11,561	352,598
40	05/31/15	06/22/15	15.50	37.50	\$185,622	6,960,840
41	05/31/15	06/19/15	15.50	34.50	\$107,489	3,708,379
42	05/31/15	06/22/15	15.50	37.50	\$2,041,598	76,559,928
43	05/31/15	06/22/15	15.50	37.50	\$449	16,821
44	05/31/15	06/10/15	15.50	25.50	\$803,577	20,491,207
45	05/31/15	06/18/15	15.50	33.50	\$762,063	25,529,113
46	06/30/15	07/23/15	15.00	38.00	\$178,543	6,784,644
47	06/30/15	07/13/15	15.00	28.00	\$704,831	19,735,267
48	06/30/15	07/16/15	15.00	31.00	\$11,958	370,701
49	06/30/15	07/23/15	15.00	38.00	\$185,622	7,053,651
50	06/30/15	07/20/15	15.00	35.00	\$107,489	3,762,124
51	06/30/15	07/23/15	15.00	38.00	\$2,005,113	76,194,293
52	06/30/15	07/10/15	15.00	25.00	\$777,655	19,441,373
53	06/30/15	07/17/15	15.00	32.00	\$761,294	24,361,393
54	07/31/15	08/24/15	15.50	39.50	\$178,449	7,048,730
55	07/31/15	08/13/15	15.50	28.50	\$771,115	21,976,774
56	07/31/15	08/17/15	15.50	32.50	\$12,706	412,947
57	07/31/15	08/24/15	15.50	39.50	\$185,622	7,332,085
58	07/31/15	08/20/15	15.50	35.50	\$107,489	3,815,868
59	07/31/15	08/24/15	15.50	39.50	\$1,991,604	78,668,354
60	07/31/15	08/20/15	15.50	35.50	\$378	13,426
61	07/31/15	08/11/15	15.50	26.50	\$434	11,504
62	07/31/15	08/10/15	15.50	25.50	\$802,646	20,467,484
63	07/31/15	08/17/15	15.50	32.50	\$754,760	24,529,684
63	08/31/15	09/21/15	15.50	36.50	\$177,852	6,491,614
64	08/31/15	09/11/15	15.50	26.50	\$743,835	19,711,625
65	08/31/15	09/14/15	15.50	29.50	\$11,333	334,324
66	08/31/15	09/21/15	15.50	36.50	\$185,622	6,775,218
67	08/31/15	09/18/15	15.50	33.50	\$115,452	3,867,644
68	08/31/15	09/21/15	15.50	36.50	\$1,999,308	72,974,731
69	08/31/15	09/10/15	15.50	25.50	\$801,097	20,427,967
70	08/31/15	09/14/15	15.50	29.50	\$755,974	22,301,229
71	09/30/15	10/22/15	15.00	37.00	\$178,379	6,600,017
72	09/30/15	10/13/15	15.00	28.00	\$757,595	21,212,657
73	09/30/15	10/15/15	15.00	30.00	\$11,002	330,062
74	09/30/15	10/23/15	15.00	38.00	\$185,639	7,054,279
75	09/30/15	10/20/15	15.00	35.00	\$110,124	3,854,347
76	09/30/15	10/22/15	15.00	37.00	\$1,992,721	73,730,679
77	09/30/15	10/23/15	15.00	38.00	\$378	14,372
78	09/30/15	10/21/15	15.00	36.00	\$431	15,528
79	09/30/15	10/13/15	15.00	28.00	\$771,880	21,612,629
80	09/30/15	10/16/15	15.00	31.00	\$759,513	23,544,908

100490114

Exhibit No.: _____
 Witness: C. E. Notestone
 Schedule 17
 Sheet 4b

Columbia Gas of Virginia, Inc.
Analysis of Cash Working Capital Requirement
Gas Purchased - Transportation Costs
TME: December 31, 2015
Case No. PUE-2016-00033

<u>Line No.</u>	<u>Service Month</u> (1)	<u>Payment Date</u> (2)	<u>Midpoint of Service Period</u> (3)	<u>Lag Days</u> (4)=(2-1+3)	<u>Payment</u> (5)	<u>Weighted Days</u> (6)=(4*5)
80	10/31/15	11/23/15	15.50	38.50	\$178,281	6,863,836
81	10/31/15	11/12/15	15.50	27.50	\$770,495	21,188,609
82	10/31/15	11/16/15	15.50	31.50	\$13,635	429,490
83	10/31/15	11/23/15	15.50	38.50	\$185,622	7,146,462
84	10/31/15	11/20/15	15.50	35.50	\$107,489	3,815,868
85	10/31/15	11/23/15	15.50	38.50	\$2,611,119	100,528,073
86	10/31/15	11/20/15	15.50	35.50	\$183	6,497
87	10/31/15	11/10/15	15.50	25.50	\$800,477	20,412,157
88	10/31/15	11/16/15	15.50	31.50	\$768,799	24,217,175
89	11/30/15	12/21/15	15.00	36.00	\$178,063	6,410,253
90	11/30/15	12/11/15	15.00	26.00	\$766,642	19,932,685
91	11/30/15	12/14/15	15.00	29.00	\$6,957	201,743
92	11/30/15	12/21/15	15.00	36.00	\$185,651	6,683,441
93	11/30/15	12/18/15	15.00	33.00	\$109,488	3,613,096
94	11/30/15	12/21/15	15.00	36.00	\$2,216,585	79,797,065
95	11/30/15	12/21/15	15.00	36.00	\$161	5,798
96	11/30/15	12/10/15	15.00	25.00	\$782,622	19,565,558
97	11/30/15	12/14/15	15.00	29.00	\$759,283	22,019,201
98	12/31/15	01/25/16	15.50	40.50	\$177,977	7,208,058
99	12/31/15	01/14/16	15.50	29.50	\$735,168	21,687,448
100	12/31/15	01/14/16	15.50	29.50	\$9,237	272,480
101	12/31/15	01/25/16	15.50	40.50	\$185,622	7,517,707
102	12/31/15	01/20/16	15.50	35.50	\$107,489	3,815,868
103	12/31/15	01/25/16	15.50	40.50	\$2,475,329	100,250,820
104	12/31/15	01/11/16	15.50	26.50	\$809,898	21,462,287
105	12/31/15	01/19/16	15.50	34.50	\$780,330	26,921,391
106	Total			33.36	\$59,451,109	1,983,325,536

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Exhibit No.: _____
 Witness: C. E. Notestone
 Schedule 17
 Sheet 5

Columbia Gas of Virginia, Inc.
Analysis of Cash Working Capital Requirement
Payroll Costs
TME: December 31, 2015
Case No. PUE-2016-00033

<u>Line No.</u>	<u>Description</u>	<u>Reference</u>	<u>Payroll Costs</u> (1) \$	<u>Lead Days</u> (2)	<u>Dollar Lead Days</u> (3=1*2) \$
1	Bi-Weekly:	Sheet 5a	18,795,094	5.88	110,568,139
2	Monthly:	Sheet 5b	<u>6,789,236</u>	<u>14.49</u>	<u>98,392,269</u>
3		Total Payroll Costs	<u>25,584,330</u>	<u>8.17</u>	<u>208,960,408</u>

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Exhibit No.: _____
 Witness: C. E. Notestone
 Schedule 17
 Sheet 5a

Columbia Gas of Virginia, Inc.
Analysis of Cash Working Capital Requirement
Bi-Weekly Gross Payroll Lead Days
TME: December 31, 2015
Case No. PUE-2016-00033

<u>Line No.</u>	<u>Pay Dates</u> (1)	<u>End of Pay Period</u> (2)	<u>Days from Pay Date to Pay Period</u> (3)	<u>Service Midpoint</u> (4)	<u>Bi-Weekly Gross Pay Lead Days</u> (5)=(3)+(4)	<u>Normal Bi-Weekly Gross Pay</u> (6) (\$)	<u>Bi-Weekly Gross Pay Dollar Days</u> (7)=(5)*(6)
1	01/09/15	01/10/15	(1.00)	7.00	6.00	663,489	3,980,935
2	01/23/15	01/24/15	(1.00)	7.00	6.00	682,880	4,097,280
3	02/06/15	02/07/15	(1.00)	7.00	6.00	680,494	4,082,965
4	02/20/15	02/21/15	(1.00)	7.00	6.00	683,927	4,103,565
5	03/06/15	03/07/15	(1.00)	7.00	6.00	1,537,644	9,225,861
6	03/20/15	03/21/15	(1.00)	7.00	6.00	653,084	3,918,501
7	04/03/15	04/04/15	(1.00)	7.00	6.00	676,225	4,057,351
8	04/17/15	04/18/15	(1.00)	7.00	6.00	676,981	4,061,886
9	05/01/15	05/02/15	(1.00)	7.00	6.00	660,639	3,963,836
10	05/15/15	05/16/15	(1.00)	7.00	6.00	675,027	4,050,162
11	05/29/15	05/30/15	(1.00)	7.00	6.00	652,877	3,917,260
12	06/12/15	06/13/15	(1.00)	7.00	6.00	659,135	3,954,812
13	06/26/15	06/27/15	(1.00)	7.00	6.00	663,715	3,982,288
14	07/10/15	07/11/15	(1.00)	7.00	6.00	688,047	4,128,279
15	07/24/15	07/25/15	(1.00)	7.00	6.00	671,235	4,027,412
16	08/07/15	08/08/15	(1.00)	7.00	6.00	697,655	4,185,929
17	08/21/15	08/22/15	(1.00)	7.00	6.00	681,702	4,090,213
18	09/04/15	09/05/15	(1.00)	7.00	6.00	681,616	4,089,699
19	09/18/15	09/19/15	(1.00)	7.00	6.00	696,551	4,179,303
20	10/02/15	10/03/15	(1.00)	7.00	6.00	721,006	4,326,038
21	10/16/15	10/17/15	(1.00)	7.00	6.00	705,725	4,234,349
22	10/30/15	10/31/15	(1.00)	7.00	6.00	737,182	4,423,090
23	11/13/15	11/14/15	(1.00)	7.00	6.00	754,325	4,525,951
24	11/25/15	11/28/15	(3.00)	7.00	4.00	729,923	2,919,693
25	12/11/15	12/12/15	(1.00)	7.00	6.00	721,433	4,328,601
26	12/24/15	12/26/15	(2.00)	7.00	5.00	742,576	3,712,880
27				Bi-Weekly Lead Days	5.88	18,795,094	110,568,139

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Exhibit No.: _____
 Witness: C. E. Notestone
 Schedule 17
 Sheet 5b

Columbia Gas of Virginia, Inc.
Analysis of Cash Working Capital Requirement
Monthly Gross Payroll Lead Days
TME: December 31, 2015
Case No. PUE-2016-00033

<u>Line No.</u>	<u>Monthly Pay Dates</u> (1)	<u>End of Pay Period</u> (2)	<u>Service Midpoint</u> (3)	<u>Monthly Gross Pay Lead Days</u> (4)=(1)-(2)+(3)	<u>Normal Monthly Gross Pay</u> (5) (\$)	<u>Monthly Gross Pay Dollar Days</u> (6)=(4)*(5)
1	01/30/15	01/31/15	15.50	14.50	441,034	6,394,995
2	02/27/15	02/28/15	14.00	13.00	1,647,272	21,414,533
3	03/31/15	03/31/15	15.50	15.50	440,504	6,827,809
4	04/30/15	04/30/15	15.00	15.00	423,808	6,357,120
5	05/29/15	05/31/15	15.50	13.50	444,794	6,004,720
6	06/30/15	06/30/15	15.00	15.00	450,746	6,761,190
7	07/31/15	07/31/15	15.50	15.50	461,664	7,155,796
8	08/31/15	08/31/15	15.50	15.50	462,329	7,166,097
9	09/30/15	09/30/15	15.00	15.00	467,631	7,014,465
10	10/30/15	10/31/15	15.50	14.50	481,770	6,985,659
11	11/30/15	11/30/15	15.00	15.00	478,445	7,176,677
12	12/31/15	12/31/15	15.50	15.50	589,239	9,133,208
13		Monthly Lead Days		14.49	6,789,236	98,392,269

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Exhibit No.: _____
Witness: C. E. Notestone
Schedule 17
Sheet 6

Columbia Gas of Virginia, Inc.
Analysis of Cash Working Capital Requirement
Uncollectible Expense
TME: December 31, 2015
Case No. PUE-2016-00033

<u>Line</u> <u>No.</u>	<u>Component Description</u>	<u>Days</u>
1	Midpoint of Service Month	15.21
2	Billing Lag	2.35
3	Charge Off (1)	<u>120</u>
4	Total Uncollectible Expense Lead Days	137.56

(1) Unpaid accounts are charged off after 120 days per Columbia's collections/charge off process.

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Exhibit No.: _____
 Witness: C. E. Notestone
 Schedule 17
 Sheet 7

Columbia Gas of Virginia, Inc.
 Analysis of Cash Working Capital Requirement
 Other O & M Costs
 TME: December 31, 2015
 Case No. PUE-2016-00033

<u>Line No.</u>	<u>Description</u> (1)	<u>Approved Check Amount</u> (2) \$	<u>Lead Days</u> (3)=(5/2)	<u>Notes</u> (4)	<u>Dollar Weighted Days</u> (5)	<u>Percentage</u> (6) %	<u>Lead Days</u> (7)=(3)*(6)
1	Total Work Management Contracts	21,656,841	38.25	1_ /	828,362,942	41.83%	16.00
2	Total General Office Source	<u>697,093</u>	49.62	2_ /	<u>34,590,477</u>	<u>58.17%</u>	<u>28.86</u>
3	Total	22,353,933			862,953,419	100.00%	<u>44.86</u>

Notes:

- 1_ / This data are made up of numerous invoices and is maintained in an excel spreadsheet. An electronic copy of this data may be provided upon request.
- 2_ / Days were based on 400 invoices randomly selected from the company's accounts payable system.

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Exhibit No.: _____
 Witness: C. E. Notestone
 Schedule 17
 Sheet 8

Columbia Gas of Virginia, Inc.
 Analysis of Cash Working Capital Requirement
 Company Paid Payroll Taxes
 TME: December 31, 2015
 Case No. PUE-2016-00033

<u>Line No.</u>	<u>Description</u>	<u>Reference</u>	<u>Payroll Costs</u> (1) \$	<u>Lead Days</u> (2)	<u>Dollar Lead Days</u> (3) \$
1	F.I.C.A.	Sheet 9a	3,668,811	8.03	29,454,458
2	Federal Unemployment	Sheet 9b	13,762	74.50	1,025,281
3	State Unemployment	Sheet 9b	<u>32,547</u>	<u>74.50</u>	<u>2,424,746</u>
4		Total	<u>3,715,120</u>	<u>8.86</u>	<u>32,904,485</u>

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Exhibit No.: _____
 Witness: C. E. Notestone
 Schedule 17
 Sheet 8a

Columbia Gas of Virginia, Inc.
 Analysis of Cash Working Capital Requirement
 Employee's FICA Withheld Lead Day Calculation
 TME: December 31, 2015
 Case No. PUE-2016-00033

<u>Line No.</u>	<u>Pay Type</u>	<u>Reference</u>	<u>Employee's FICA Withholding</u> (1)	<u>Lead Days</u> (2)	<u>Dollar Weighted Days</u> (3)
1	Bi-Weekly	Sheet 9a, Page 1	2,757,448	5.88	16,224,207
2	Monthly	Sheet 9a, Page 2	<u>911,363</u>	<u>14.52</u>	<u>13,230,251</u>
3		Total	<u>3,668,811</u>	<u>8.03</u>	<u>29,454,458</u>

15040114

Exhibit No.: _____
Witness: C. E. Notestone
Schedule 17
Sheet 8a, Page 1

Columbia Gas of Virginia, Inc.
Analysis of Cash Working Capital Requirement
Payroll Taxes - FICA BI-Weekly
TME: December 31, 2015
Case No. PUE-2016-00033

<u>Line No.</u>	<u>Pay Date</u> (1)	<u>Days From Midpoint To Pay 1/</u> (2)	<u>Total Bi-Weekly FICA Withheld</u> (3) (\$)	<u>Deposit Date 2/</u> (4)	<u>Lead Days</u> (5)	<u>Weighted Payroll</u> (6=3x5)
1	01/09/15	6.00	96,820	01/09/15	6.00	580,917
2	01/23/15	6.00	99,752	01/23/15	6.00	598,515
3	02/06/15	6.00	99,376	02/06/15	6.00	596,259
4	02/20/15	6.00	99,811	02/20/15	6.00	598,863
5	03/06/15	6.00	230,458	03/06/15	6.00	1,382,748
6	03/20/15	6.00	95,155	03/20/15	6.00	570,933
7	04/03/15	6.00	98,747	04/03/15	6.00	592,480
8	04/17/15	6.00	98,902	04/17/15	6.00	593,413
9	05/01/15	6.00	96,386	05/01/15	6.00	578,316
10	05/15/15	6.00	98,545	05/15/15	6.00	591,270
11	05/29/15	6.00	99,856	05/29/15	6.00	599,134
12	06/12/15	6.00	96,180	06/12/15	6.00	577,083
13	06/26/15	6.00	96,838	06/26/15	6.00	581,025
14	07/10/15	6.00	100,585	07/10/15	6.00	603,508
15	07/24/15	6.00	97,643	07/24/15	6.00	585,859
16	08/07/15	6.00	101,988	08/07/15	6.00	611,930
17	08/21/15	6.00	99,547	08/21/15	6.00	597,283
18	09/04/15	6.00	99,425	09/04/15	6.00	596,553
19	09/18/15	6.00	101,232	09/18/15	6.00	607,394
20	10/02/15	6.00	105,207	10/02/15	6.00	631,244
21	10/16/15	6.00	102,889	10/16/15	6.00	617,337
22	10/30/15	6.00	112,789	10/30/15	6.00	676,732
23	11/13/15	6.00	110,391	11/13/15	6.00	662,349
24	11/25/15	4.00	106,614	11/25/15	4.00	426,456
25	12/11/15	6.00	105,056	12/11/15	6.00	630,338
26	12/24/15	<u>5.00</u>	<u>107,254</u>	12/24/15	<u>5.00</u>	<u>536,268</u>
27	Total	<u>5.88</u>	<u>2,757,448</u>		<u>5.88</u>	<u>16,224,207</u>

1/ See detail on Sheet 5a, Column 5.

2/ NiSource / CGV is a next day taxpayer, however, tax payments are processed by a third party agent and cash is provided to the agent on payday.

159440114

Exhibit No.: _____
 Witness: C. E. Notestone
 Schedule 17
 Sheet 8a, Page 2

Columbia Gas of Virginia, Inc.
Analysis of Cash Working Capital Requirement
Payroll Taxes - FICA Monthly Pay
TME: December 31, 2015
Case No. PUE-2016-00033

Line No.	Pay Date (1)	Days From Midpoint To Pay Date 1/ (2)	Monthly Total FICA Withheld (3) (\$)	Deposit Date (4)	Lead Days (5)	Weighted FICA (6=3x5)
1	01/30/15	14.50	64,529	01/30/15	14.50	935,677
2	02/27/15	13.00	204,029	02/27/15	13.00	2,652,381
3	03/31/15	15.50	55,908	03/31/15	15.50	866,572
4	04/30/15	15.00	61,946	04/30/15	15.00	929,188
5	05/29/15	13.50	65,154	05/29/15	13.50	879,578
6	06/30/15	15.00	64,531	06/30/15	15.00	967,972
7	07/31/15	15.50	65,387	07/31/15	15.50	1,013,502
8	08/31/15	15.50	63,861	08/31/15	15.50	989,841
9	09/30/15	15.00	64,056	09/30/15	15.00	960,841
10	10/30/15	14.50	64,643	10/30/15	14.50	937,319
11	11/30/15	15.00	62,121	11/30/15	15.00	931,811
12	12/31/15	<u>15.50</u>	<u>75,198</u>	12/31/15	<u>15.50</u>	<u>1,165,569</u>
13	Total	<u>14.49</u>	<u>911,363</u>		<u>14.52</u>	<u>13,230,251</u>

1/ See detail on Sheet 5a.

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Exhibit No.: _____
 Witness: C. E. Notestone
 Schedule 17
 Sheet 8b

Columbia Gas of Virginia, Inc.
Analysis of Cash Working Capital Requirement
Payroll Taxes - Unemployment Taxes
 TME: December 31, 2015
 Case No. PUE-2016-00033

Line No.	Service Period Qtr Ended (1)	Days From Midpoint (2)	Deposit Paid (3)	Lead Days (4=3-1+2)	Federal Paid (5) \$	State Paid (6) \$	Federal \$ Weighted (7=4*5)	State \$ Weighted (8=4*6)
<u>Monthly</u>								
1	01/31/15	15.50	03/31/15	74.50	2,229	5,721	166,074	426,218
2	02/28/15	14.00	03/31/15	45.00	249	1,217	18,537	90,693
3	03/31/15	15.50	03/31/15	15.50	11	(1,064)	794	(79,236)
4	04/30/15	15.00	06/30/15	76.00	31	69	2,335	5,158
5	05/31/15	15.50	06/30/15	45.50	48	120	3,604	8,965
6	06/30/15	15.00	06/30/15	15.00	34	69	2,496	5,158
7	07/31/15	15.50	09/30/15	76.50	105	242	7,846	18,063
8	08/31/15	15.50	09/30/15	45.50	25	76	1,842	5,655
9	09/30/15	15.00	09/30/15	15.00	40	84	2,985	6,231
10	10/31/15	15.50	12/31/15	76.50	-	12	-	863
11	11/30/15	15.00	12/31/15	46.00	82	174	6,141	12,944
12	12/31/15	15.50	12/31/15	15.50	43	111	3,236	8,284
<u>Bi-weekly</u>								
13	01/10/15	7.00	03/31/15	87.00	3,746	9,191	279,040	684,747
14	01/24/15	7.00	03/31/15	73.00	3,705	9,296	276,034	692,545
15	02/07/15	7.00	03/31/15	59.00	1,909	6,723	142,243	500,834
16	02/21/15	7.00	03/31/15	45.00	501	1,931	37,327	143,844
17	03/07/15	7.00	03/31/15	31.00	75	657	5,583	48,946
18	03/21/15	7.00	03/31/15	17.00	13	(4,229)	962	(315,071)
19	04/04/15	7.00	06/30/15	94.00	11	22	809	1,673
20	04/18/15	7.00	06/30/15	80.00	22	46	1,676	3,463
21	05/02/15	7.00	06/30/15	66.00	22	27	1,643	2,022
22	05/16/15	7.00	06/30/15	52.00	20	50	1,491	3,758
23	05/30/15	7.00	06/30/15	38.00	13	38	1,004	2,800
24	06/13/15	7.00	06/30/15	24.00	22	51	1,614	3,782
25	06/27/15	7.00	06/30/15	10.00	34	70	2,505	5,178
26	07/11/15	7.00	09/30/15	88.00	32	66	2,396	4,952
27	07/25/15	7.00	09/30/15	74.00	32	65	2,347	4,852
28	08/08/15	7.00	09/30/15	60.00	48	123	3,585	9,175
29	08/22/15	7.00	09/30/15	46.00	40	99	2,999	7,388
30	09/05/15	7.00	09/30/15	32.00	83	198	6,157	14,735
31	09/19/15	7.00	09/30/15	18.00	145	308	10,809	22,915
32	10/03/15	7.00	12/31/15	96.00	149	313	11,104	23,323
33	10/17/15	7.00	12/31/15	82.00	126	295	9,378	21,960
34	10/31/15	7.00	12/31/15	68.00	59	212	4,397	15,829
35	11/14/15	7.00	12/31/15	54.00	24	68	1,816	5,085
36	11/28/15	7.00	12/31/15	40.00	16	46	1,193	3,448
37	12/12/15	7.00	12/31/15	26.00	8	28	617	2,079
38	12/26/15	7.00	12/31/15	12.00	9	20	662	1,488
39	Total				13,762	32,547	1,025,281	2,424,746
40	Net Lead Days						74.50	74.50

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Exhibit No.: _____
Witness: C. E. Notestone
Schedule 17
Sheet 9

Columbia Gas of Virginia, Inc.
Analysis of Cash Working Capital Requirement
Property Taxes
TME: December 31, 2015
Case No. PUE-2016-00033

Line No.	Taxing Authority	Payments	Date Paid	Midpoint of Tax Year	Lag Days	Weighted Lag Days
	(1)	(2)	(3)	(4)	(5)=(3-4)	(6)=(5*1)
		(\$)				(\$)
	Cities					
1	Altavista	1,870.07	12/03/15	07/01/15	155.00	289,861
2	Bridgewater	160.17	05/25/15	07/01/15	(37.00)	(5,926)
3	Bridgewater	179.58	11/17/15	07/01/15	139.00	24,962
4	Broadway	340.29	11/24/15	07/01/15	146.00	49,682
5	Buena Vista	18,868.97	05/25/15	07/01/14	328.00	6,189,022
6	Buena Vista	10.88	05/25/15	07/01/14	328.00	3,569
7	Bucna Vista	24,095.36	11/17/15	07/01/15	139.00	3,349,255
8	Chesapeake	66,303.52	03/08/15	07/01/14	250.00	16,575,880
9	Chesapeake	66,303.53	05/25/15	07/01/14	328.00	21,747,558
10	Chesapeake	69,711.30	10/23/15	07/01/15	114.00	7,947,088
11	Chesapeake	69,711.30	12/04/15	07/01/15	156.00	10,874,963
12	Clifton Forge	6,387.91	11/20/15	07/01/15	142.00	907,083
13	Colonial Hts.	37,530.91	05/10/15	07/01/15	(52.00)	(1,951,607)
14	Colonial Hts.	41,339.34	11/03/15	07/01/15	125.00	5,167,418
15	Covington	19,843.63	05/25/15	07/01/14	328.00	6,508,711
16	Covington	21,465.26	11/17/15	07/01/15	139.00	2,983,671
17	Culpeper, Town	8,910.69	01/25/15	07/01/14	208.00	1,853,424
18	Dayton	75.43	05/25/15	07/01/15	(37.00)	(2,791)
19	Dayton	83.71	11/17/15	07/01/15	139.00	11,636
20	Dumfries	2,453.79	05/25/15	07/01/15	(37.00)	(90,790)
21	Dumfries	2,162.24	11/17/15	07/01/15	139.00	300,551
22	Fredericksburg	45,704.50	05/10/15	07/01/15	(52.00)	(2,376,634)
23	Fredericksburg	48,989.86	11/03/15	07/01/15	125.00	6,123,733
24	Fredericksburg	1,493.05	11/19/15	07/01/15	141.00	210,520
25	Glasgow	105.59	11/20/15	07/01/15	142.00	14,994
26	Gordonsville	342.22	11/18/15	07/01/15	140.00	47,911
27	Halifax	507.93	09/15/15	07/01/15	76.00	38,603
28	Harrisonburg	38,203.36	05/17/15	07/01/14	320.00	12,225,075
29	Harrisonburg	41,989.19	11/17/15	07/01/15	139.00	5,836,497
30	Haymarket	926.78	11/20/15	07/01/15	142.00	131,603
31	Haymarket	221.83	11/20/15	07/01/15	142.00	31,500
32	Herndon	16,277.01	11/18/15	07/01/15	140.00	2,278,781
33	Hopewell	95,454.49	01/06/15	07/01/14	189.00	18,040,899
34	Hurt	106.82	11/17/15	07/01/15	139.00	14,848
35	Iron Gate	95.00	11/20/15	07/01/15	142.00	13,490

EXHIBIT

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 Schedule 17
 Sheet 9

Columbia Gas of Virginia, Inc.
Analysis of Cash Working Capital Requirement
Property Taxes
TME: December 31, 2015
Case No. PUE-2016-00033

Line No.	Taxing Authority	Payments	Date Paid	Midpoint of Tax Year	Lag Days	Weighted Lag Days
	(1)	(2) (\$)	(3)	(4)	(5)=(3-4)	(6)=(5*1) (\$)
Cities (continued)						
1	La Crosse	109.84	12/18/15	07/01/15	170.00	18,673
2	Lawrenceville	1,069.00	12/04/15	07/01/15	156.00	166,764
3	Lexington	45,996.27	11/18/15	07/01/15	140.00	6,439,478
4	Lynchburg	(15.85)	06/22/15	07/01/14	356.00	(5,643)
5	Lynchburg	107,921.13	11/03/15	07/01/15	125.00	13,490,141
6	Lynchburg	264,448.39	11/18/15	07/01/15	140.00	37,022,775
7	Manassas	83,122.11	05/25/15	07/01/15	(37.00)	(3,075,518)
8	Manassas	88,864.95	11/17/15	07/01/15	139.00	12,352,228
9	Manassas Park	66,877.15	11/17/15	07/01/15	139.00	9,295,924
10	Narrows	42,308.11	11/20/15	07/01/15	142.00	6,007,752
11	Pearisburg	2,351.65	04/21/15	07/01/14	294.00	691,385
12	Pembroke	291.65	03/08/15	07/01/14	250.00	72,913
13	Petersburg	46,775.99	03/08/15	07/01/14	250.00	11,693,998
14	Petersburg	46,776.00	05/25/15	07/01/14	328.00	15,342,528
15	Petersburg	48,984.92	12/01/15	07/01/15	153.00	7,494,693
16	Petersburg	48,984.92	12/01/15	07/01/15	153.00	7,494,693
17	Portsmouth	74,552.82	03/11/15	07/01/14	253.00	18,861,863
18	Portsmouth	74,552.82	06/04/15	07/01/14	338.00	25,198,853
19	Portsmouth	80,804.28	10/15/15	07/01/15	106.00	8,565,254
20	Portsmouth	345,469.26	11/17/15	07/01/15	139.00	48,020,227
21	Portsmouth	80,804.28	12/11/15	07/01/15	163.00	13,171,098
22	Quantico	509.01	11/24/15	07/01/15	146.00	74,315
23	Quantico	48.07	12/04/15	07/01/15	156.00	7,499
24	Remington	1.44	03/08/15	07/01/14	250.00	360
25	Rich Creek	254.14	01/08/15	07/01/14	191.00	48,541
26	Richmond	5.47	05/25/15	07/01/15	(37.00)	(202)
27	Richmond	0.04	11/19/15	07/01/15	141.00	6
28	South Hill	6,581.17	12/04/15	07/01/15	156.00	1,026,663
29	Staunton	177,443.66	12/01/15	07/01/15	153.00	27,148,880
30	Suffolk	161,469.94	11/19/15	07/01/15	141.00	22,767,262
31	Timberville	262.84	12/03/15	07/01/15	155.00	40,740
32	Vienna	41.23	11/18/15	07/01/15	140.00	5,772
33	Warrenton	381.69	06/30/15	07/01/15	(1.00)	(382)
34	Waverly	283.75	12/04/15	07/01/15	156.00	44,265
35	Waynesboro	109,781.45	11/19/15	07/01/15	141.00	15,479,184

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Exhibit No.: _____
Witness: C. E. Notestone
Schedule 17
Sheet 9

Columbia Gas of Virginia, Inc.
Analysis of Cash Working Capital Requirement
Property Taxes
TME: December 31, 2015
Case No. PUE-2016-00033

Line No.	Taxing Authority (1)	Payments (2) (\$)	Date Paid (3)	Midpoint of Tax Year (4)	Lag Days (5)=(3-4)	Weighted Lag Days (6)=(5*1) (\$)
1	<u>Counties</u>					
2	Albemarle	5,273.17	11/24/15	07/01/15	146.00	769,883
3	Alleghany	42,903.05	11/17/15	07/01/15	139.00	5,963,524
4	Amherst	32,570.72	11/20/15	07/01/15	142.00	4,625,042
5	Appomattox	5,856.53	11/17/15	07/01/15	139.00	814,058
6	Augusta	24,151.95	05/25/15	07/01/15	(37.00)	(893,622)
7	Augusta	30,951.87	12/07/15	07/01/15	159.00	4,921,347
8	Bath	1.08	05/17/15	07/01/14	320.00	346
9	Bath	1.07	11/17/15	07/01/15	139.00	149
10	Bedford	24,784.01	12/01/15	07/01/15	153.00	3,791,954
11	Botetourt	5,136.16	11/18/15	07/01/15	140.00	719,062
12	Brunswick	7,586.47	12/04/15	07/01/15	156.00	1,183,489
13	Buckingham	99,637.55	11/18/15	07/01/15	140.00	13,949,257
14	Campbell	26,504.27	11/20/15	07/01/15	142.00	3,763,606
15	Caroline	19,386.31	05/25/15	07/01/15	(37.00)	(717,293)
16	Caroline	19,386.31	11/20/15	07/01/15	142.00	2,752,856
17	Caroline	25,909.72	11/20/15	07/01/15	142.00	3,679,180
18	Chatham	1,811.18	12/07/15	07/01/15	159.00	287,978
19	Chesterfield	357,183.00	05/25/15	07/01/15	(37.00)	(13,215,771)
20	Chesterfield	388,390.62	11/17/15	07/01/15	139.00	53,986,296
21	Culpeper County	90,584.29	11/17/15	07/01/15	139.00	12,591,216
22	Dinwiddie	11,445.33	05/25/15	07/01/15	(37.00)	(423,477)
23	Dinwiddie	11,445.33	11/18/15	07/01/15	140.00	1,602,346
24	Dinwiddie	1,209.48	11/18/15	07/01/15	140.00	169,327
25	Fairfax (all jurisdictions)	65,012.52	07/28/15	07/01/15	27.00	1,755,338
26	Fauquier	62,583.36	05/25/15	07/01/15	(37.00)	(2,315,584)
27	Fauquier	64,914.41	11/24/15	07/01/15	146.00	9,477,504
28	Fluvanna	90,503.30	05/25/15	07/01/15	(37.00)	(3,348,622)
29	Fluvanna	9,567.71	11/24/15	07/01/15	146.00	1,396,886
30	Giles	83,284.75	11/20/15	07/01/15	142.00	11,826,435
31	Goochland	11,082.57	11/18/15	07/01/15	140.00	1,551,560
32	Greene	2,892.98	11/20/15	07/01/15	142.00	410,803
33	Greensville	4,552.13	11/18/15	07/01/15	140.00	637,298
34	Halifax	6,253.85	05/25/15	07/01/15	(37.00)	(231,392)

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Exhibit No.: _____
Witness: C. E. Notestone
Schedule 17
Sheet 9

Columbia Gas of Virginia, Inc.
Analysis of Cash Working Capital Requirement
Property Taxes
TME: December 31, 2015
Case No. PUE-2016-00033

Line No.	Taxing Authority	Payments	Date Paid	Midpoint of Tax Year	Lag Days	Weighted Lag Days
	(1)	(2)	(3)	(4)	(5)=(3-4)	(6)=(5*1)
		(\$)				(\$)
Counties (continued)						
1	Halifax	6,047.96	12/04/15	07/01/15	156.00	943,482
2	Isle of Wight	95,100.72	11/20/15	07/01/15	142.00	13,504,302
3	Loudoun	32,114.26	07/28/15	07/01/15	27.00	867,085
4	Loudoun	36,072.79	12/07/15	07/01/15	159.00	5,735,574
5	Louisa	64,593.36	11/20/15	07/01/15	142.00	9,172,257
6	Madison	133.38	11/18/15	07/01/15	140.00	18,673
7	Mecklenburg	11,979.39	11/19/15	07/01/15	141.00	1,689,094
8	Orange	1,362.42	06/04/15	07/01/15	(27.00)	(36,785)
9	Orange	1,551.86	11/19/15	07/01/15	141.00	218,812
10	Page	38.47	11/17/15	07/01/15	139.00	5,347
11	Pittsylvania	12,689.90	05/25/15	07/01/15	(37.00)	(469,526)
12	Pittsylvania	12,275.28	11/20/15	07/01/15	142.00	1,743,090
13	Powhatan	3,394.34	11/18/15	07/01/15	140.00	475,208
14	Prince George	16,763.90	05/17/15	07/01/15	(45.00)	(754,376)
15	Prince George	17,723.88	11/20/15	07/01/15	142.00	2,516,791
16	Prince Wm	189,545.13	06/30/15	07/01/15	(1.00)	(189,545)
17	Prince Wm	233,995.97	11/17/15	07/01/15	139.00	32,525,440
18	Rockbridge	29,361.49	11/18/15	07/01/15	140.00	4,110,609
19	Rockingham	31,857.09	05/25/15	07/01/15	(37.00)	(1,178,712)
20	Rockingham	32,822.45	11/20/15	07/01/15	142.00	4,660,788
21	Rockingham	5,268.94	11/20/15	07/01/15	142.00	748,189
22	Shenandoah	933.47	05/25/15	07/01/15	(37.00)	(34,538)
23	Shenandoah	60.16	11/30/15	07/01/15	152.00	9,144
24	Shenandoah	933.46	12/02/15	07/01/15	154.00	143,753
25	Smyth	5,918.82	12/04/15	07/01/15	156.00	923,336
26	Southampton	10,434.85	11/17/15	07/01/15	139.00	1,450,444
27	Spotsylvania	269,039.56	05/31/15	07/01/15	(31.00)	(8,340,226)
28	Spotsylvania	4,177.78	11/17/15	07/01/15	139.00	580,711
29	Stafford	166,237.57	05/25/15	07/01/15	(37.00)	(6,150,790)
30	Stafford	186,218.19	11/20/15	07/01/15	142.00	26,442,983
31	Surry	1,516.33	11/17/15	07/01/15	139.00	210,770
32	Sussex	8,224.18	11/18/15	07/01/15	140.00	1,151,385
33	Warren	28.20	05/25/15	07/01/15	(37.00)	(1,043)
34	States					
35	State of West Virginia	56,015.60	02/12/15	07/01/13	591.00	33,105,220
36		60,064.01	08/24/15	07/01/14	419.00	25,166,820
37	Total	<u>5,993,591.31</u>			117.25	<u>702,772,767</u>

EXHIBIT 17

Exhibit No.: _____
Witness: C. E. Notestone
Schedule 17
Sheet 10

Columbia Gas of Virginia, Inc.
Analysis of Cash Working Capital Requirement
Other Taxes
TME: December 31, 2015
Case No. PUE-2016-00033

Line No.	End of Service Period	Midpoint of Service Period (1)	Payment Date (2)	Amount Paid (3) \$	Lead Days (4)	Weighted Tax Dollars (5=3*4) \$
<u>Direct Payment Sales Tax</u>						
1	1/31/2015	15.5	2/20/2015	6,764.47	35.50	240,139.00
2	2/28/2015	14	3/20/2015	12,776.89	34.00	434,414.00
3	3/31/2015	15.5	4/20/2015	12,113.65	35.50	430,035.00
4	4/30/2015	15	5/20/2015	5,042.96	35.00	176,504.00
5	5/31/2015	15.5	6/20/2015	17,502.12	35.50	621,325.00
6	6/30/2015	15	7/20/2015	21,683.15	35.00	758,910.00
7	7/31/2015	15.5	8/20/2015	6,461.37	35.50	229,379.00
8	8/31/2015	15.5	9/20/2015	15,688.48	35.50	556,941.00
9	9/30/2015	15	10/20/2015	27,261.17	35.00	954,141.00
10	10/31/2015	15.5	11/20/2015	8,402.23	35.50	298,279.00
11	11/30/2015	15	12/20/2015	29,397.63	35.00	1,028,917.00
12	12/31/2015	15.5	1/20/2016	46,146.66	35.50	1,638,206.00
				209,240.78	35.20	7,367,190.00
<u>Sales & Use</u>						
13	1/31/2015	15.5	2/20/2015	0.00	35.50	0.00
14	2/28/2015	14	3/20/2015	0.00	34.00	0.00
15	3/31/2015	15.5	4/20/2015	0.00	35.50	0.00
16	4/30/2015	15	5/20/2015	0.00	35.00	0.00
17	5/31/2015	15.5	6/20/2015	0.00	35.50	0.00
15	6/30/2015	15	7/20/2015	0.00	35.00	0.00
16	7/31/2015	15.5	8/20/2015	0.00	35.50	0.00
17	8/31/2015	15.5	9/20/2015	0.00	35.50	0.00
18	9/30/2015	15	10/20/2015	0.00	35.00	0.00
19	10/31/2015	15.5	11/20/2015	0.00	35.50	0.00
20	11/30/2015	15	12/20/2015	0.00	35.00	0.00
21	12/31/2015	15.5	1/20/2016	0.00	35.50	0.00
				0.00		0.00
22	TOTAL OTHER TAXES			<u>209,240.78</u>	<u>35.20</u>	<u>7,367,190.00</u>

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Exhibit No.: _____
 Witness: C. E. Notestone
 Schedule 17
 Sheet 11

Columbia Gas of Virginia, Inc.
Analysis of Cash Working Capital Requirement
Federal Income Taxes
TME: December 31, 2015
Case No. PUE-2016-00033

<u>Line No.</u>	<u>Amount Due</u> (1)	<u>Service Period</u> (2)	<u>Date Paid</u> (3)	<u>Midpoint of Year</u> (4)	<u>Lead Days</u> (5)	<u>Weighted Lead Days</u> (6=1*5)
1	25.00%	2015	15-Apr-15	01-Jul-15	(77.00)	(19.25)
2	25.00%	2015	15-Jun-15	01-Jul-15	(16.00)	(4.00)
3	25.00%	2015	15-Sep-15	01-Jul-15	76.00	19.00
4	25.00%	2015	15-Dec-15	01-Jul-15	167.00	<u>41.75</u>
5					Total Federal Income Tax Lead Days	<u>37.50</u>

() Denotes Credit

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Exhibit No.: _____
 Witness: C. E. Notestone
 Schedule 17
 Sheet 13

Columbia Gas of Virginia, Inc.
Analysis of Cash Working Capital Requirement
Interest On Debt
TME: December 31, 2015
Case No. PUE-2016-00033

<u>Line No.</u>	<u>Instrument</u>	<u>Amount</u> (1) \$	<u>Lead Days</u> (2)	<u>Dollar Lead Days</u> (3=1*2) \$
1	Installment Promissory Notes	16,204,939	91.25	1,478,700,684
2	Money Pool	<u>120,548</u>	<u>17.05</u>	<u>2,055,343</u>
3	Total	<u>16,325,487</u>	<u>90.70</u>	<u>1,480,756,027</u>

Source: Financial Statements, Page 5

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Exhibit No.: _____
Witness: C. E. Notestone
Schedule 17
Sheet 14

Columbia Gas of Virginia, Inc.
Analysis of Cash Working Capital Requirement
Customer Utility Sales Tax
TME: December 31, 2015
Case No. PUE-2016-00033

<u>Line No.</u>	<u>End of Period</u> (1)	<u>Payment Date</u> (2)	<u>Lead Days</u> (3=2-1)	<u>Amount Paid</u> (4)	<u>Weighted Tax Dollars</u> (5=3*4)
1	01/31/15	02/17/15	17.00	1,177,686	20,020,664
2	02/28/15	03/13/15	13.00	1,228,435	15,969,659
3	03/31/15	04/20/15	20.00	1,213,396	24,267,914
4	04/30/15	05/15/15	15.00	946,837	14,202,561
5	05/31/15	06/12/15	12.00	769,011	9,228,126
6	06/30/15	07/15/15	15.00	693,181	10,397,722
7	07/31/15	08/19/15	19.00	676,211	12,848,011
8	08/31/15	09/16/15	16.00	667,599	10,681,580
9	09/30/15	10/16/15	16.00	680,742	10,891,864
10	10/31/15	11/13/15	13.00	715,783	9,305,175
11	11/30/15	12/16/15	16.00	827,673	13,242,765
12	12/31/15	01/14/16	<u>14.00</u>	<u>971,212</u>	<u>13,596,968</u>
13	Wtd. Average Lead Days 2/		15.58	10,567,765	164,653,009
14	Add: Service Midpoint 1/		<u>15.21</u>		
15	Total Lead Days		<u>30.79</u>		

1/ Service Midpoint lead days computed as: 365 days/12 months/ 2(midpoint) = 15.21 days.

2/ Represents the average number of days from the end of the month to the actual payment date.



Exhibit No.: _____
Witness: C. E. Notestone
Schedule 17
Sheet 15

Columbia Gas of Virginia, Inc.
Analysis of Cash Working Capital Requirement
State and Local Consumption Tax
TME: December 31, 2015
Case No. PUE-2016-00033

<u>Line No.</u>	<u>Jurisdiction</u> (1)	<u>Service Period</u> (2)	<u>Payment Date</u> (3)	<u>Midpoint of Service Period</u> (4)	<u>Lead Days</u> (5)=(3-2+4)	<u>Amount Paid</u> (6) \$	<u>Dollar Lead Days</u> (7)=(5*6) \$
1	State	1/31/2015	2/20/2015	15.5	35.50	561,512.15	19,933,681
2	Local	1/31/2015	2/17/2015		35.50	148,444.51	5,269,780
3	State	2/28/2015	3/18/2015	14	32.00	618,184.91	19,781,917
4	Local	2/28/2015	3/13/2015		32.00	163,420.65	5,229,461
5	State	3/31/2015	4/20/2015	15.5	35.50	572,167.94	20,311,962
6	Local	3/31/2015	4/20/2015		35.50	151,339.33	5,372,546
7	State	4/30/2015	5/15/2015	15	30.00	270,606.10	8,118,183
8	Local	4/30/2015	5/15/2015		30.00	71,561.26	2,146,838
9	State	5/31/2015	6/16/2015	15.5	31.50	125,331.29	3,947,936
10	Local	5/31/2015	6/12/2015		31.50	33,100.61	1,042,669
11	State	6/30/2015	7/17/2015	15	32.00	74,518.44	2,384,590
12	Local	6/30/2015	7/15/2015		32.00	19,615.51	627,696
13	State	7/31/2015	8/24/2015	15.5	39.50	65,323.45	2,580,276
14	Local	7/31/2015	8/19/2015		39.50	17,178.43	678,548
15	State	8/31/2015	9/23/2015	15.5	38.50	61,533.91	2,369,056
16	Local	8/31/2015	9/16/2015		38.50	16,159.10	622,125
17	State	9/30/2015	10/22/2015	15	37.00	64,502.62	2,386,597
18	Local	9/30/2015	10/16/2015		37.00	16,966.83	627,773
19	State	10/31/2015	11/18/2015	15.5	33.50	93,432.39	3,129,985
20	Local	10/31/2015	11/13/2015		33.50	24,616.91	824,666
21	State	11/30/2015	12/24/2015	15	39.00	164,518.12	6,416,207
22	Local	11/30/2015	12/16/2015		39.00	43,463.70	1,695,084
23	State	12/31/2015	1/22/2016	15.5	37.50	305,162.79	11,443,605
24	Local	12/31/2015	1/14/2016		37.50	80,648.65	3,024,324
25				Total	<u>34.53</u>	<u>3,763,310</u>	<u>129,965,505</u>

Note: State and Local Consumption Taxes are due the last business day of the month. They are processed to ensure payment is received by the last day of the month which may result in a payment date earlier than the last day.

EXHIBIT

Exhibit No.: _____
 Witness: C. E. Notestone
 Schedule 17
 Sheet 16

Columbia Gas of Virginia, Inc.
Analysis of Cash Working Capital Requirement
Corporate Services
TME: December 31, 2015
Case No. PUE-2016-00033

Line No.	End of Service Period (1)	Payment Date (2)	Midpoint of Service Period (3)	Lead Days (4)=(2)-(1)+(3)	Payment (5) \$	Weighted Lead Days (6)=(4)*(5) \$
1	1/31/2015	2/13/2015	15.50	28.50	3,451,905	98,379,295
2	2/28/2015	3/13/2015	14.00	27.00	3,332,710	89,983,179
3	3/31/2015	4/15/2015	15.50	30.50	3,893,606	118,754,976
4	4/30/2015	5/15/2015	(1) 15.00	30.00	2,770,976	83,129,285
5	4/30/2015	5/15/2015	(1) 15.00	30.00	416,032	12,480,972
6	5/31/2015	6/15/2015	(1) 15.50	30.50	3,344,613	102,010,696
7	6/30/2015	7/15/2015	(1) 15.00	30.00	4,963,147	148,894,406
8	7/31/2015	8/17/2015	(1) 15.50	32.50	4,661,146	151,487,236
9	8/31/2015	9/15/2015	15.50	30.50	3,910,308	119,264,401
10	9/30/2015	10/23/2015	15.00	38.00	3,749,473	142,479,978
11	10/31/2015	11/20/2015	15.50	35.50	2,810,869	99,785,841
12	11/30/2015	12/10/2015	15.00	25.00	5,063,701	126,592,523
13	12/31/2015	1/15/2016	15.50	30.50	4,103,420	125,154,310
14		Total			<u>46,471,906</u>	<u>1,418,397,098</u>
15	Weighted Average Days (Col. 6/Col. 5)			<u>30.50</u>		

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SCHEDULE 18

BALANCE SHEET ANALYSIS – EARNINGS TEST

160440115

Exhibit No.: _____
Witness: C. E. Notestone
Schedule 18
Sheet 1

Columbia Gas of Virginia, Inc.
Cash Working Capital -- Balance Sheet Analysis
Schedule 18
Case No. PUE-2016-00033

Table of Contents

<u>Line No.</u>	<u>Description</u>	<u>Sheet Number</u>
1	Cash Working Capital - Balance Sheet Analysis - LVTS (Per Books)	Sheet 2
2	Cash Working Capital - Balance Sheet Analysis - Jurisdictional (Per Books)	Sheet 3
3	Cash Working Capital - Total Company Detail (Per Books)	Sheet 4

160440115

Exhibit No.: _____
Witness: C. E. Notestone
Schedule 18
Sheet 2

Columbia Gas of Virginia, Inc.
Cash Working Capital
Balance Sheet Analysis -- LVTS
13 Months Average December 31, 2015
Case No. PUE-2016-00033

Line No.	Account Number	Description	Sch 40b			
			13 Mo. Avg. 12/31/2015	Alloc Factor	LVTS %	LVTS 12/31/2015
1	14100000	Notes Receivable - Employees	-	22	4.320%	-
2	14300180-3633,3638	Other A/R - Employee Advances	-	22	4.320%	-
3	14300001-4525	Other A/R - Emp. Temp. Exp. Adv.	376	22	4.320%	16
4	14302000-9605	Income Tax Receivable - State	75,028	22	4.320%	3,241
5	14300001-3638	Other A/R - Miscellaneous	(7,486)	22	4.320%	(323)
6	14300300	Other AR-Rent Deposits	30,204	22	4.320%	1,305
7	16521000	Prepaid Insurance	419,592	22	4.320%	18,126
8	16520000	Prepayments-Excess Liability Insurance	351,679	22	4.320%	15,193
9	17401000	Exchange Gas	20,640	20	0.000%	-
10	18230005	Reg Asset OPEB Transition	215,502	22	4.320%	9,310
11	18235105	NC Reg Asset OPEB Regulatory	4,027,808	22	4.320%	174,001
12	18320000, 18320001	Preliminary Survey & Investigation	3,785,520	17	9.389%	355,422
13	18600200	Misc. Maintenance & Jobbing WIP	54,210	17	9.389%	5,090
14	18608200	Def Debit-Mutual Materials	5,758	17	9.389%	541
15	190*****-Various Sub Accounts	Accum Deferred Income Taxes (Excl NOL ADIT)	7,235,024	17	9.389%	679,296
16	Total Uses of Cash		<u>16,213,855</u>			<u>1,261,218</u>
17	<u>Sources of Cash:</u>					
18	21905000, 21905010, 21905200, 21905220	Pension/OPEB Bal/Adj Booked to OCI	11,232,890	22	4.320%	485,261
19	21905020, 21905030, 21905230, 21905240	Pension/OPEB Fed/St Tax Booked to OCI	(4,390,590)	17	9.389%	(412,232)
20	22820000	Provision for Injuries & Damages	(34,313)	22	4.320%	(1,482)
21	22838030	Misc Op Res-NC OPEB Retire Cnt	2,312	22	4.320%	100
22	232	A/P - CWIP (Acct 107)	(3,072,773)	17	9.389%	(288,503)
23	234	A/P Exchange Gas	(2,126)	20	0.000%	-
24	24103110, 24103120, 24103130, 24103140, 24103150	Tax Collections Payable-Employee FIT/SIT/FICA	-	17	9.389%	-
25	24240050-R400	Exchange gas - Borrowing	(253,197)	17	9.389%	(23,773)
26	24203200, 24203201	Vacation Accrual	(2,084,614)	2	0.006%	(125)
27	24203000	Accrued Liability - Profit Sharing	(190,989)	22	4.320%	(8,251)
28	24201629, 24201629-3027	Accrued Liability - Unclaimed Accounts	(1,021,465)	22	4.320%	(44,127)
29	24208000, 24208020	Benefits - C.M.E.P. - Company Portion	(244,959)	22	4.320%	(10,582)
30	24202500-9257-N008	Thrift Restoration Plan	(3,663)	22	4.320%	(158)
31	25300000	Reclass Thrift Restoration Plan	(20,766)	22	4.320%	(897)
32	24204000, 24204080, 24204081, 24204082, 24204090, 24204091, 24204092, 24204210	Benefits - Employee Payroll Deductions	(122,244)	22	4.320%	(5,281)
33	24211263	Accd Liab-ST FAS112	(55,558)	22	4.320%	(2,400)
34	24203300, 24203305	Accr. Payroll - CWIP	(103,349)	22	4.320%	(4,465)
35	22838020	Accrued Pension Restoration Plan	(66,132)	22	4.320%	(2,857)
36	22839000	Accrued Pension Restoration Plan - Current	(608)	22	4.320%	(26)
37	24203100	Wages Payable-CIP, Bonus Portion	(1,097,345)	22	4.320%	(47,405)
38	24250110, 24250110-3500	HeatShare Customer Contributions	(2,583)	2	0.006%	-
39	24250160	Credits Deposits - Gas Supply	(267,846)	22	4.320%	(11,571)
40	22834010	Accum Provisions OPEB- Active	(2,448,169)	22	4.320%	(105,761)
41	22840010	Banked Vacation	(545,930)	2	0.006%	(33)
42	22838000	Accrued Long Term Pension Cost	(5,590,495)	22	4.320%	(241,509)
43	22836010	Accrued Long Term Pension Restoration - Current	-	22	4.320%	-
44	25304010-9014	Def Credits-FAS112	(274,822)	22	4.320%	(11,872)
45	25405150	Reg Liab NC-OPEB Tracker	-	22	4.320%	-
46	28301000, 28302000, 28305000, 28306000	Accumulated Deferred Income Taxes	(531,188)	17	9.389%	(49,873)
47	Total Sources of Cash		<u>(11,190,521)</u>			<u>(787,822)</u>
48	TOTAL USES / (SOURCES) CASH		<u>5,023,334</u>			<u>473,396</u>

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Exhibit No.: _____
Witness: C. E. Notestone
Schedule 18
Sheet 3

Columbia Gas of Virginia, Inc.
Cash Working Capital
Balance Sheet Analysis – Jurisdictional
13 Months Average December 31, 2015
Case No. PUE-2016-00033

Line No.	Account Number	Description	Sch 40b		Juris. %	Juris. 12/31/2015
			13 Mo. Avg. 12/31/2015	Alloc Factor		
<u>Uses of Cash:</u>						
1	14100000	Notes Receivable - Employees	-	22	93.308%	-
2	14300180-3633,3638	Other A/R - Employee Advances	-	22	93.308%	-
3	14300001-4525	Other A/R - Emp. Temp. Exp. Adv.	376	22	93.308%	351
4	14302000-9605	Income Tax Receivable - State	75,028	22	93.308%	70,007
5	14300001-3638	Other A/R - Miscellaneous	(7,486)	22	93.308%	(6,985)
6	14300300	Other AR-Rent Deposits	30,204	22	93.308%	28,183
7	16521000	Prepaid Insurance	419,592	22	93.308%	391,513
8	16520000	Prepayments-Excess Liability Insurance	351,679	22	93.308%	328,145
9	17401000	Exchange Gas	20,640	20	95.522%	19,716
10	18230005	Reg Asset OPEB Transition	215,502	22	93.308%	201,081
11	1823105	NC Reg Asset OPEB Regulatory	4,027,808	22	93.308%	3,758,267
12	18320000, 18320001	Preliminary Survey & Investigation	3,785,520	17	86.802%	3,285,907
13	18600200	Misc. Maintenance & Jobbing WIP	54,210	17	86.802%	47,055
14	18608200	Def Debit-Mutual Materials	5,758	17	86.802%	4,998
15	190*****-Various Sub Accounts	Accum Deferred Income Taxes (Excl NOL ADIT)	7,235,024	17	86.802%	6,280,146
16	Total Uses of Cash		<u>16,213,855</u>			<u>14,408,384</u>
<u>Sources of Cash:</u>						
18	21905000, 21905010, 21905200, 21905220	Pension/OPEB Bal/Adj Booked to OCI	11,232,890	22	93.308%	10,481,185
19	21905020, 21905030, 21905230, 21905240	Pension/OPEB Fed/St Tax Booked to OCI	(4,390,590)	17	86.802%	(3,811,120)
20	22820000	Provision for Injuries & Damages	(34,313)	22	93.308%	(32,017)
21	22838030	Misc Op Res-NC OPEB Retire Cnt	2,312	22	93.308%	2,157
22	232	A/P - CWIP (Acct 107)	(3,072,773)	17	86.802%	(2,667,228)
23	234	A/P Exchange Gas	(2,126)	20	95.522%	(2,031)
24	24103110, 24103120, 24103130, 24103140, 24103150	Tax Collections Payable-Employee FIT/SIT/FICA	-	17	86.802%	-
25	24240050-R400	Exchange gas - Borrowing	(253,197)	17	86.802%	(219,780)
26	24203200, 24203201	Vacation Accrual	(2,084,614)	2	99.308%	(2,070,188)
27	24203000	Accrued Liability - Profit Sharing	(190,989)	22	93.308%	(178,208)
28	24201629, 24201629-3027	Accrued Liability - Unclaimed Accounts	(1,021,465)	22	93.308%	(953,109)
29	24208000, 24208020	Benefits - C.M.E.P. - Company Portion	(244,959)	22	93.308%	(228,566)
30	24202500-9257-N008	Thrift Restoration Plan	(3,663)	22	93.308%	(3,418)
31	25300000	Reclass Thrift Restoration Plan	(20,766)	22	93.308%	(19,376)
32	24204000, 24204080, 24204081, 24204082, 24204090, 24204091, 24204092, 24204210	Benefits - Employee Payroll Deductions	(122,244)	22	93.308%	(114,063)
33	24211263	Accd Liab-ST FAS112	(55,558)	22	93.308%	(51,840)
34	24203300, 24203305	Accr. Payroll - CWIP	(103,349)	22	93.308%	(96,433)
35	22838020	Accrued Pension Restoration Plan	(66,132)	22	93.308%	(61,706)
36	22839000	Accrued Pension Restoration Plan - Current	(608)	22	93.308%	(567)
37	24203100	Wages Payable-CIP, Bonus Portion	(1,097,345)	22	93.308%	(1,023,911)
38	24250110, 24250110-3500	HeatShare Customer Contributions	(2,583)	2	99.308%	(2,565)
39	24250160	Credits Deposits - Gas Supply	(267,846)	22	93.308%	(249,922)
40	22834010	Accum Provisions OPEB- Active	(2,448,169)	22	93.308%	(2,284,338)
41	22840010	Banked Vacation	(545,930)	2	99.308%	(542,152)
42	22838000	Accrued Long Term Pension Cost	(5,590,495)	22	93.308%	(5,216,379)
43	22836010	Accrued Long Term Pension Restoration - Current	-	22	93.308%	-
44	25304010-9014	Def Credits-FAS112	(274,822)	22	93.308%	(256,431)
45	25405150	Reg Liab NC-OPEB Tracker	-	22	93.308%	-
46	28301000, 28302000, 28305000, 28306000	Accumulated Deferred Income Taxes	(531,188)	17	86.802%	(461,082)
47	Total Sources of Cash		<u>(11,190,521)</u>			<u>(10,063,088)</u>
48	TOTAL USES / (SOURCES) CASH		<u>5,023,334</u>			<u>4,345,296</u>

Exhibit No. 1
 Witness: C. E. Nixons
 Schedule 18
 Sheet 4

Columbia Gas of Virginia, Inc.
 Cash Working Capital
 Balance Sheet Analysis - Total Company Detail
 13 Months Average December 31, 2015
 Case No. PUE-2016-00033

Line No.	Account	Description	Dec-15 (U)	Dec-15 (S)	Jan-15 (U)	Jan-15 (S)	Feb-15 (U)	Feb-15 (S)	Mar-15 (U)	Mar-15 (S)	Apr-15 (U)	Apr-15 (S)	May-15 (U)	May-15 (S)	Jun-15 (U)	Jun-15 (S)	Jul-15 (U)	Jul-15 (S)	Aug-15 (U)	Aug-15 (S)	Sep-15 (U)	Sep-15 (S)	Oct-15 (U)	Oct-15 (S)	Nov-15 (U)	Nov-15 (S)	Dec-15 (U)	Dec-15 (S)	13 Month Total Dec-15 (U)	13 Month Total Dec-15 (S)	13 Month Average Dec-15 (U)	13 Month Average Dec-15 (S)						
1	14100000	Notes Receivable - Employees																																				
2	14300000	Other A/R - Employee Advances																																				
3	14300000	Other A/R - Temp. Exp. Adv.																																				
4	14300000	Income Tax Receivable - State																																				
5	14300000	Other A/R - Miscellaneous																																				
6	14300000	Other A/R - Rent Deposits																																				
7	16321000	Prepaid Insurance																																				
8	16321000	Prepaid Insurance - Business Liability Insurance																																				
9	17401000	Exchange On																																				
10	18230005	Reg Asset OPEB Transition																																				
11	18231005	NC Reg Asset OPEB Regulatory																																				
12	18310000	Reg Asset OPEB Regulatory																																				
13	18600700	Preliminary Survey & Investigation																																				
14	18600700	Misc. Maintenance & Jobbing WIP																																				
14	190****	Def Debit Manual Materials																																				
14	190****	Accrued Deferred Income Taxes (Egal NOL ADIT)																																				
15		Total Uses of Cash	18,058,108	17,727,466	16,319,850	16,452,802	16,032,215	15,140,405	14,578,657	15,481,803	15,999,533	16,124,020	17,574,748	15,092,824	16,746,310	16,213,855	16,213,855	16,213,855	16,213,855	16,213,855	16,213,855	16,213,855	16,213,855	16,213,855	16,213,855	16,213,855	16,213,855	16,213,855	16,213,855	16,213,855	16,213,855	16,213,855	16,213,855	16,213,855	16,213,855	16,213,855	16,213,855	
16		Source of Cash:																																				
17	21905000	Pension/OPEB Bal/Adj Booked to OCI																																				
18	21905020	Pension/OPEB FASB Tax Booked to OCI																																				
19	22300000	Provision for Injuries & Damages																																				
20	22300030	Misc Op Res-NC OPEB Return Cut																																				
21	22300030	AP - CWP (Asset 107)																																				
22	22300030	AP - CWP (Asset 107)																																				
23	24103100	FT/ST/FICA																																				
24	24200050	Exchange gas - Borrowing																																				
25	24200050	Vacation Accrual																																				
26	24200050	Accrued Liability - Profit Sharing																																				
27	24200050	Accrued Liability - Unclaimed Accounts																																				
28	24200050	Benefits - C.M.A.E.P. - Company Pension																																				
29	24200050	Thrift Restoration Plan																																				
30	24200050	Rebates Thrift Restoration Plan																																				
31	24200050	Benefits - Employee Payroll Deductions																																				
32	24200050	Accr. Lab-ST FAS 112																																				
33	24200050	Accr. Lab-ST FAS 112																																				
34	24200050	Accr. Pension Restoration Plan - Current																																				
35	24200050	Wages Payable-OT, Bonus Payroll																																				
36	24200050	HealthShare-CIP, Bonus Payroll																																				
37	24200050	Credit Card Customer Contributions																																				
38	24200050	Accum Provisions OPEB - Gas Supply																																				
39	24200050	Accum Provisions OPEB - Auto																																				
40	24200050	Accum Provisions OPEB - Misc																																				
41	24200050	Accrual Long Term Pension Cost																																				
42	24200050	Accrual Long Term Pension Cost																																				
43	24200050	Def Credits-FAS 112																																				
44	24200050	Reg Lab-NC-OPEB Tracker																																				
45	24200050	Accumulated Deferred Income Taxes																																				
46		Total Sources of Cash	6,478,105	8,541,087	9,534,676	10,324,650	10,011,472	7,357,368	7,680,017	7,685,921	7,592,167	7,770,607	10,455,178	6,041,890	3,858,713	103,416,720	5,073,314	103,416,720	103,416,720	103,416,720	103,416,720	103,416,720	103,416,720	103,416,720	103,416,720	103,416,720	103,416,720	103,416,720	103,416,720	103,416,720	103,416,720	103,416,720	103,416,720	103,416,720	103,416,720			

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160440115

SCHEDULE 27

LEAD/LAG CASH WORKING CAPITAL CALCULATION – ADJUSTED

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Exhibit No.: _____
Witness: C. E. Notestone
Schedule 27
Sheet 1

Columbia Gas of Virginia, Inc.
Cash Working Capital
Schedule 27
Case No. PUE-2016-00033

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Exhibit No.: _____
Witness: C. E. Notestone
Schedule 27
Sheet 2

Columbia Gas of Virginia, Inc.
Lead / Lag Cash Working Capital Calculation - Total Company Per Books (GAAP)
For The Year Ended December 31, 2015
Case No. PUE-2016-00033

Line No.	Cost Category	Reference	Per Books Expense (1) \$	Daily Amount (2) \$	Rev Lag Days (3)	Expense Lead Days (4)	Net Lag Days (5=3-4) \$	Working Capital Req. (6=2x5) \$
1	OPERATING EXPENSES:							
2	Purchased Gas Expense	80*****	130,977,977	358,844	33.66	37.60	(3.94)	(1,413,845)
3	Deferred Gas Expense	80510000	5,937,106	16,266	33.66	33.66	0.00	0
4	Storage Gas Delivered	80820000	(26,678,999)	(73,093)	33.66	0.00	33.66	(2,460,310)
5	Storage Gas Withdrawn	80810000	36,361,067	99,619	33.66	0.00	33.66	3,333,176
6	Prepaid Insurance Expense	92500000	1,495,207	4,096	33.66	0.00	33.66	137,871
7	Employee Payroll	Various O&M	14,529,355	39,806	33.66	8.17	25.49	1,014,655
8	DIMP Deferral	88000000	0	0	33.66	0.00	33.66	0
9	Employee Benefits Expense	92600000	6,129,218	16,792	33.66	0.00	33.66	565,219
10	Incentive Compensation	92000000-9004	1,067,558	2,925	33.66	0.00	33.66	98,456
11	Pension, OPEB & RIP Expense	92600000	346,643	950	33.66	0.00	33.66	31,977
12	Vacation	Various O&M	1,213,165	3,324	33.66	0.00	33.66	111,886
13	Uncollectible Expense	90400000	827,146	2,266	33.66	137.56	(103.90)	(235,437)
14	Injuries and Damage Expense	92500000-4017	112,546	308	33.66	0.00	33.66	10,367
15	Corporate Services	O&M CE 7001	31,356,002	85,907	33.66	30.50	3.16	271,466
16	Regulatory Asset Amortization:							
17	Environmental Remediation	92300000-3014, 3021	822,430	2,253	33.66	33.66	0.00	0
18	Deferred DIMP Expenses		0	0	33.66	33.66	0.00	0
19	Metered Propane Conversion		0	0	33.66	33.66	0.00	0
20	Other	Sch 40b, pg 1	25,045,648	68,618	33.66	44.86	(11.20)	(768,522)
21	Depreciation and Amortization	Sch 40b, pg 1	27,567,270	75,527	33.66	0.00	33.66	2,542,239
22	TAXES OTHER THAN INCOME:							
23	Payroll Tax Expense	Sch 40b, pg 5	1,222,871	3,350	33.66	8.86	24.80	83,080
24	Property Tax Expense	Sch 40b, pg 5	6,302,674	17,268	33.66	117.25	(83.59)	(1,443,432)
25	Other Taxes	Sch 40b, pg 5	19,901	55	33.66	35.20	(1.54)	(85)
26	INCOME TAXES:							
27	Current FIT & SIT	Sch 40b, pg 7	(5,656,541)	(15,497)	33.66	37.50	(3.84)	59,508
28	Non-Utility Other Deductions	Sch 40b, pg 7	265,268	727	33.66	37.50	(3.84)	(2,792)
29	Deferred FIT Included in Rate Base	Tax W/S, Adj 25	22,272,406	61,020	33.66	0.00	33.66	2,053,933
30	Deferred ITC	Tax W/S, Adj 25	(101,203)	(277)	33.66	33.66	0.00	0
31	Deferred FIT Excluded from Rate Base	Tax W/S, Adj 25	(477,213)	(1,307)	33.66	33.66	0.00	0
32	Non-Utility Deferred Income Tax	Tax W/S, Adj 25	174,772	479	33.66	33.66	0.00	0
33	OTHER EXPENSES:							
34	AFUDC	Sch 40b, pg 1	(43,849)	(120)	33.66	33.66	0.00	0
35	Charitable Donations	Sch 40b, pg 1	252,318	691	33.66	33.66	0.00	0
36	Interest on Customer Deposits	Sch 40b, pg 1	8,689	24	33.66	182.50	(148.84)	(3,572)
37	Interest on Supplier Refunds	Sch 40b, pg 1	378	1	33.66	182.50	(148.84)	(149)
38	Other Expense/(Income)	Sch 40b, pg 1	(391,411)	(1,072)	33.66	33.66	0.00	0
39	Interest Expense on Debt	Sch 40b, pg 1	16,325,487	44,727	33.66	90.70	(57.04)	(2,551,228)
40	JDC Expense		0	0	33.66	33.66	0.00	0
41	Income Available for Common Equity	Sch 40b, pg 1	24,718,640	67,722	33.66	33.66	0.00	0
42	Subtotal		322,873,047	884,584				1,454,461
43	Customer Utility Taxes	Sheet 15	10,567,765	28,953	33.66	30.79	2.87	83,095
44	State & Local Consumption Taxes	Sheet 16	3,763,310	10,310	33.66	34.53	(0.87)	(8,970)
45	Plus: Balance Sheet Analysis	Sch 28						5,023,334
46	TOTAL CASH WORKING CAPITAL REQUIREMENT/(SOURCE)							6,551,920

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Exhibit No.: _____
Witness: C. E. Notestone
Schedule 27
Sheet 2a

Columbia Gas of Virginia, Inc.
Lead / Lag Cash Working Capital Calculation - LVTS Per Books (GAAP)
For The Year Ended December 31, 2015
Case No. PUE-2016-00033

Line No.	Cost Category	Alloc Factor Ref Per	Alloc Factor % Per	LVTS Per Books Expense (1) \$	LVTS Daily Amount (2) \$	Rev Lag Days (3)	Expense Lead Days (4)	Net Lag Days (5=3-4) \$	LVTS CWC Requirement (6=2x5) \$
1	OPERATING EXPENSES:								
2	Purchased Gas Expense	Sch 40b, pg 3		0	0	33.66	37.60	(3.94)	0
3	Deferred Gas Expense	20	0.000%	0	0	33.66	33.66	0.00	0
4	Storage Gas Delivered	20	0.000%	0	0	33.66	0.00	33.66	0
5	Storage Gas Withdrawn	20	0.000%	0	0	33.66	0.00	33.66	0
6	Prepaid Insurance Expense	22	4.188%	62,619	172	33.66	0.00	33.66	5,790
7	Employee Payroll	22	4.188%	608,489	1,667	33.66	8.17	25.49	42,492
8	DIMP Deferral	21	5.493%	0	0	33.66	0.00	33.66	0
9	Employee Benefits Expense	22	4.188%	256,692	703	33.66	0.00	33.66	23,663
10	Incentive Compensation	22	4.188%	44,709	122	33.66	0.00	33.66	4,107
11	Pension, OPEB & RIP Expense	22	4.188%	14,517	40	33.66	0.00	33.66	1,346
12	Vacation	22	4.188%	50,807	139	33.66	0.00	33.66	4,679
13	Uncollectible Expense	2	0.007%	58	0	33.66	137.56	(103.90)	0
14	Injuries and Damage Expense	22	4.188%	4,713	13	33.66	0.00	33.66	438
15	Corporate Services	22	4.188%	1,313,189	3,598	33.66	30.50	3.16	11,370
16	Regulatory Asset Amortization:								
17	Environmental Remediation	22	4.188%	34,443	94	33.66	33.66	0.00	0
18	Deferred DIMP Expenses	21	5.493%	0	0	33.66	33.66	0.00	0
19	Metered Propane Conversion		0.000%	0	0	33.66	33.66	0.00	0
20	Other	22	4.188%	1,007,381	2,760	33.66	44.86	(11.20)	(30,912)
21	Depreciation and Amortization	Sch 40b, pg 6		2,418,018	6,625	33.66	0.00	33.66	222,998
22	TAXES OTHER THAN INCOME								
23	Payroll Tax Expense	22	4.188%	51,214	140	33.66	8.86	24.80	3,472
24	Property Tax Expense	16	8.737%	550,665	1,509	33.66	117.25	(83.59)	(126,137)
25	Other Taxes	19	5.725%	869	2	33.66	35.20	(1.54)	(3)
26	INCOME TAXES:								
27	Current FIT & SIT		FIT W/S	1,931,278	5,291	33.66	37.50	(3.84)	(20,317)
28	Deferred FIT Included in Rate Base	17	9.031%	2,011,421	5,511	33.66	0.00	33.66	185,500
29	Deferred ITC	17	9.031%	(9,140)	(25)	33.66	33.66	0.00	0
30	Deferred FIT Excluded from Rate Base	17	9.031%	(43,097)	(118)	33.66	33.66	0.00	0
31	OTHER EXPENSES:								
32	AFUDC	17	9.031%	(3,960)	(11)	33.66	33.66	0.00	0
33	Charitable Donations	22	4.188%	10,567	29	33.66	33.66	0.00	0
34	Interest on Customer Deposits	18	0.000%	0	0	33.66	182.50	(148.84)	0
35	Interest on Supplier Refunds	18	0.000%	0	0	33.66	182.50	(148.84)	0
36	Other Expense/(Income)			0	0	33.66	33.66	0.00	0
37	Interest Expense on Debt	Sch 40b; p. 1		1,606,419	4,401	33.66	90.70	(57.04)	(251,033)
38	JDC Expense	Sch 40b; p. 1		0	0	33.66	33.66	0.00	0
39	Income Available for Common Equity	Sch 40b; p. 1		<u>6,135,370</u>	16,809	33.66	33.66	0.00	0
40	Subtotal			18,065,162					77,453
41	Customer Utility Taxes	2	0.007%	740	2	33.66	30.79	2.87	6
42	State & Local Consumption Taxes	2	0.007%	263	1	33.66	34.53	(0.87)	(1)
43	Plus: Balance Sheet Analysis								<u>456,883</u>
44									<u>534,341</u>

TOTAL CASH WORKING CAPITAL REQUIREMENT/(SOURCE)

EXHIBIT F

Exhibit No.: _____
Witness: C. E. Notestone
Schedule 27
Sheet 2b

Columbin Gas of Virginia, Inc.
Lead / Lag Cash Working Capital Calculation - Jurisdictional Per Books (GAAP)
For The Year Ended December 31, 2015
Case No. PUE-2016-00033

Line No.	Cost Category	Alloc Factor Ref Per	Alloc Factor % Per	Jurisdictional Per Books Expense (1)	Juris. Daily Amount (2)	Rev Lag Days (3)	Expense Lead Days (4)	Net Lag Days (5=3-4)	Jurisdictional CWC Requirement (6=2x5)
				\$	\$			\$	\$
1	OPERATING EXPENSES:								
2	Purchased Gas Expense	Sch 40b, pg 3		122,392,353	335,322	33.66	37.60	(3.94)	(1,321,169)
3	Deferred Gas Expense	20	95.662%	5,679,554	15,560	33.66	33.66	0.00	0
4	Storage Gas Delivered	20	95.662%	(25,521,664)	(69,922)	33.66	0.00	33.66	(2,353,575)
5	Storage Gas Withdrawn	20	95.662%	34,783,724	95,298	33.66	0.00	33.66	3,207,731
6	Prepaid Insurance Expense	22	93.292%	1,394,909	3,822	33.66	0.00	33.66	128,649
7	Employee Payroll	22	93.292%	13,554,726	37,136	33.66	8.17	25.49	946,597
8	DIMP Deferral	21	91.529%	0	0	33.66	0.00	33.66	0
9	Employee Benefits Expense	22	93.292%	5,718,070	15,666	33.66	0.00	33.66	527,318
10	Incentive Compensation	22	93.292%	995,947	2,729	33.66	0.00	33.66	91,858
11	Pension, OPEB & RIP Expense	22	93.292%	323,390	886	33.66	0.00	33.66	29,823
12	Vacation	22	93.292%	1,131,786	3,101	33.66	0.00	33.66	104,380
13	Uncollectible Expense	2	99.320%	821,521	2,251	33.66	137.56	(103.90)	(233,879)
14	Injuries and Damage Expense	22	93.292%	104,996	288	33.66	0.00	33.66	9,694
15	Corporate Services	22	93.292%	29,252,641	80,144	33.66	30.50	3.16	253,255
16	Regulatory Asset Amortization:								
17	Environmental Remediation	22	93.292%	767,262	2,102	33.66	33.66	0.00	0
18	Deferred DIMP Expenses	21	91.529%	0	0	33.66	33.66	0.00	0
19	Metered Propane Conversion		0.000%	0	0	33.66	33.66	0.00	0
20	Other	22	93.292%	22,140,039	60,658	33.66	44.86	(11.20)	(679,370)
21	Depreciation and Amortization	Sch 40b, pg 6		24,212,319	66,335	33.66	0.00	33.66	2,232,836
22	TAXES OTHER THAN INCOME								
23	Payroll Tax Expense	22	93.292%	1,140,841	3,126	33.66	8.86	24.80	77,525
24	Property Tax Expense	16	87.252%	5,499,209	15,066	33.66	117.25	(83.59)	(1,259,367)
25	Other Taxes	19	89.606%	18,341	50	33.66	35.20	(1.54)	(77)
26	INCOME TAXES:								
27	Current FIT & SIT		FIT W/S	(9,592,952)	(26,282)	33.66	37.50	(3.84)	100,923
28	Deferred FIT Included in Rate Base	17	86.943%	19,364,298	53,053	33.66	0.00	33.66	1,785,764
29	Deferred ITC	17	86.943%	(87,989)	(241)	33.66	33.66	0.00	0
30	Deferred FIT Excluded from Rate Base	17	86.943%	(414,903)	(1,137)	33.66	33.66	0.00	0
31	OTHER EXPENSES:								
32	AFUDC	17	86.943%	(38,124)	(104)	33.66	33.66	0.00	0
33	Charitable Donations	22	93.292%	235,393	645	33.66	33.66	0.00	0
34	Interest on Customer Deposits	18	99.775%	8,670	24	33.66	182.50	(148.84)	(3,572)
35	Interest on Supplier Refunds	18	99.775%	377	1	33.66	182.50	(148.84)	(149)
36	Other Expense/(Income)			0	0	33.66	33.66	0.00	0
37	Interest Expense on Debt	Sch 40b; p. 1		13,992,790	38,336	33.66	90.70	(57.04)	(2,186,685)
38	JDC Expense	Sch 40b; p. 1		0	0	33.66	33.66	0.00	0
39	Income Available for Common Equity	Sch 40b; p. 1		<u>14,795,166</u>	40,535	33.66	33.66	0.00	0
40	Subtotal			282,748,937					1,458,510
41	Customer Utility Taxes	2	99.320%	10,495,904	28,756	33.66	30.79	2.87	82,530
42	State & Local Consumption Taxes	2	99.320%	3,737,719	10,240	33.66	34.53	(0.87)	(8,909)
43	Plus: Balance Sheet Analysis								<u>4,348,231</u>
44									<u>TOTAL CASH WORKING CAPITAL REQUIREMENT/(SOURCE) 5,880,362</u>

150440115

Exhibit No.: _____
 Witness: C. E. Notestone
 Schedule 27
 Sheet 3

Columbia Gas of Virginia, Inc.
Analysis of Cash Working Capital Requirement
Revenue Lag
TME: December 31, 2015
Case No. PUE-2016-00033

<u>Line No.</u>	<u>Lag Component</u> (1)	<u>Number of Days</u> (2)
1	Meter Reading 1/	15.21
2	Collection (see Sheet No. 3a)	16.10
3	Billing (see Sheet No: 3c)	2.35
4	Total Revenue Lag	<u>33.66</u>

1/ CGV reads all meters monthly. Bills generated using the Distributive Information System are mailed that evening. Large volume Commercial and Industrial customers billed using Gas Accounting System are mailed 5 to 10 days from final meter read. Meter reading lag represents the midpoint of any billing month and are computed as: 365 days / 12 Months / 2 (midpoint) = 15.21 days.

Source: Company Financial Statements

160440115

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Witness: C. E. Notestone
Schedule 27
Sheet 3a

Columbia Gas of Virginia, Inc.
Weighted Average Collection Lag
TME: September 30, 2015
Case No. PUE-2016-00033

<u>Line No.</u>	<u>Average Daily Revenue</u>	<u>Amount</u> \$
1	Total Tariff Revenues:	
2	Residential Revenues	200,212,579
3	Commercial Revenues	67,719,557
4	Industrial Revenues	2,994,116
5	Other Revenues	-
6	Total Tariff Revenue	<u>270,926,252</u>
7	Non - traditional sales	15,335,928
8	Transportation Revenue	59,022,726
9	Utility Service, State & Local Consumption Taxes	14,623,860
10	Forfeited Discounts	802,981
11	Miscellaneous Service Revenue	752,375
12	Billed RNA Revenue	506,791
13	Other Gas Revenues - Other	<u>801,017</u>
14	Subtotal of Additional Revenue	91,845,678
15	Supplier Refunds	<u>(1,034,883)</u>
16	Total Adjusted Revenue	<u>361,737,047</u>
17	Average Daily Revenue (Line 16 ÷ 365 days)	<u>991,060</u>
18	Average Daily A/R Balance (Per Sheet No. 3b)	<u>14,627,398</u>
19	Revenue Collection Lag Days (Line 18 ÷ Line 17)	14.76
20	Collection Lag Adjustment (1)	<u>1.34</u>
21	Revenue Collection Lag Days (Line 19 + Line 20)	16.10

(1) Collection lag adjustment for changes in payment processing dates for automatic payment customers.

Exhibit No.: _____
 Witness: C. E. Notestone
 Schedule 27
 Sheet 3b

Columbia Gas of Virginia, Inc.
 Analysis of Cash Working Capital Allowance
 Summary of Accounts Receivable
 TME: September 30, 2015
 Case No. PUE-2016-00033

Line No.	Test Year	14200220, 14200230		14200250, 14300220		14200260		14300018		14300280		14300240, 14300330		Utility Accounts Receivables (7=1 thru 6) (\$)
		Customer A/R CAB	Customer A/R GMB	Customer A/R GMB	Customer Premise	Off-System Sales	Home Energy Assistance	Transportation A/R	Month-End Balance	Month-End Balance	Month-End Balance	Month-End Balance	Month-End Balance	
1	October 2014	(9,595,686)	565,844	258,341	847,509	-	1,419,942	-	-	-	-	1,419,942	(6,504,050)	
2	November	(3,528,700)	1,112,050	238,448	1,435,370	-	4,651,826	-	-	-	-	4,651,826	3,908,995	
3	December	8,084,711	882,287	392,496	5,130,825	-	3,520,157	-	-	-	-	3,520,157	18,010,476	
4	January 2015	19,990,683	1,099,185	606,772	2,964,631	243,750	5,375,172	243,750	243,750	243,750	243,750	5,375,172	30,280,193	
5	February	30,800,032	1,172,542	546,596	2,456,994	55,824	8,227,151	55,824	55,824	55,824	55,824	8,227,151	43,259,139	
6	March	25,218,135	725,223	278,123	1,169,878	51,184	5,900,639	51,184	51,184	51,184	51,184	5,900,639	33,343,182	
7	April	16,195,245	481,255	424,439	(69,278)	7,719	8,688,643	7,719	7,719	7,719	7,719	8,688,643	25,728,023	
8	May	9,985,506	433,763	454,632	744,883	-	4,878,334	-	-	-	-	4,878,334	16,497,118	
9	June	3,634,228	301,109	597,140	854,855	-	4,121,342	-	-	-	-	4,121,342	9,508,674	
10	July	(471,431)	270,360	475,725	1,309,067	-	3,187,061	-	-	-	-	3,187,061	4,770,782	
11	August	(4,404,632)	338,482	497,535	945,628	-	2,982,634	-	-	-	-	2,982,634	359,647	
12	September	(7,584,330)	460,205	429,927	869,374	-	2,191,418	-	-	-	-	2,191,418	(3,633,406)	
13	Total	88,323,761	7,842,305	5,200,174	18,659,736	358,477	55,144,319	358,477	358,477	358,477	358,477	55,144,319	175,528,773	
14	12 Mo. Avg.	7,360,313	653,525	433,348	1,554,978	29,873	4,595,360	29,873	29,873	29,873	29,873	4,595,360	14,627,398	

(1) Source: Company Financial Statements

STUDIOS

FILED

Exhibit No.: _____
 Witness: C. E. Notestone
 Schedule 27
 Sheet 3c

Columbia Gas of Virginia, Inc.
Analysis of Cash Working Capital Requirement
Billing Lag Calculation
TME: December 31, 2015

<u>Line No.</u>	<u>Description</u> (1)	<u>Revenue Amount</u> (2) \$	<u>Billing Lag</u> (3)	<u>Weighted Revenue</u> (4)=(2)*(3) \$
1	Tariff / Transportation Revenues - (DIS)	229,389,926	1.45	332,251,281
2	Tariff / Transportation Revenues - (GTS)	31,782,417	9.03	287,034,511
3	Tariff / Transportation Revenues - (GMB/GAS)	<u>9,753,909</u>	<u>1.70</u>	<u>16,627,064</u>
4		<u>270,926,252</u>		<u>635,912,856</u>
5	Calculated Billing Lag		<u>2.35</u>	

160440115

Exhibit No.: _____
 Witness: C. E. Notestone
 Schedule 27
 Sheet 3d

Columbia Gas of Virginia, Inc.
Analysis of Cash Working Capital Requirement
Collection Lag Adjustment for Automatic Payment Customers
TME: December 31, 2015

<u>Line No.</u>	<u>Month</u>	<u>A/R Balance Impact</u> (\$)
1	January 2015	2,205,767
2	February	1,746,256
3	March	2,028,950
4	April	1,116,889
5	May	866,643
6	June	800,033
7	July	888,798
8	August	858,952
9	September	889,025
10	October	963,368
11	November	920,198
12	December	<u>1,442,736</u>
13	Total	<u>14,727,615</u>
14	Average A/R Balance for Automatic Payment Customers	<u>1,227,301</u>
15	Total Adjusted Revenue TME 12/31/2015	333,819,775
16	Average Daily Revenue (Line 15 / 365)	914,575
17	Revenue Collection Lag Days (Line 14 / Line 16)	1.34

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Exhibit No.: _____
 Witness: C. E. Notestone
 Schedule 27
 Sheet 4

Columbia Gas of Virginia, Inc.
Analysis of Cash Working Capital Requirement
Gas Purchased Cost
TME: December 31, 2015
Case No. PUE-2016-00033

<u>Line No.</u>	<u>Supplier Category</u> (1)	<u>Reference</u> (2)	<u>Amount Paid</u> (3) \$	<u>Weighted Average Lead Days</u> (4)	<u>Dollar Lead Days</u> (5=3*4) \$
1	Commodity Costs	Sheet 4a	\$85,377,163	40.55	\$ 3,461,684,061
2	Transportation Costs	Sheet 4b	<u>\$59,451,109</u>	<u>33.36</u>	<u>\$ 1,983,325,536</u>
3		Total	<u>\$144,828,271</u>	<u>37.60</u>	<u>\$ 5,445,009,597</u>

Note: The Gas Purchase leads for both Commodity and Transportation Costs were developed through the Gas Supply Department gas purchase system that included the gas flow service period, the date paid and the amount paid for each purchase.

10040115

Exhibit No.: _____
Witness: C. E. Notestone
Schedule 27
Sheet 4a

Columbin Gas of Virginia, Inc.
Analysis of Cash Working Capital Requirement
Gas Purchased - Commodity Costs
TME: December 31, 2015
Case No. PUE-2016-00033

Line No.	Service Month (1)	Payment Date (2)	Midpoint of Service Period (3)	Lag Days (4)=(2-1+3)	Payment (5)	Weighted Days (6)=(4*5)
1	01/31/15	02/25/15	15.50	40.50	\$123,120	4,986,360
2	01/31/15	02/25/15	15.50	40.50	\$1,321,530	53,521,965
3	01/31/15	02/25/15	15.50	40.50	\$3,956,941	160,256,090
4	01/31/15	02/25/15	15.50	40.50	\$129,675	5,251,838
5	01/31/15	02/25/15	15.50	40.50	\$56,650	2,294,325
6	01/31/15	02/25/15	15.50	40.50	\$25,926	1,050,003
7	01/31/15	02/25/15	15.50	40.50	\$5,480	221,940
8	01/31/15	02/25/15	15.50	40.50	\$1,082,361	43,835,615
9	01/31/15	02/25/15	15.50	40.50	\$91,931	3,723,185
10	01/31/15	02/25/15	15.50	40.50	\$2,622,169	106,197,859
11	01/31/15	02/25/15	15.50	40.50	\$45,757	1,853,159
12	01/31/15	02/25/15	15.50	40.50	\$369,109	14,948,894
13	01/31/15	02/25/15	15.50	40.50	\$1,372,236	55,575,558
14	01/31/15	02/25/15	15.50	40.50	\$62,045	2,512,823
15	01/31/15	02/25/15	15.50	40.50	\$104,339	4,225,709
16	01/31/15	02/25/15	15.50	40.50	\$70,375	2,850,188
17	01/31/15	02/25/15	15.50	40.50	\$2,769,602	112,168,881
18	01/31/15	02/25/15	15.50	40.50	\$56,350	2,282,175
19	01/31/15	02/25/15	15.50	40.50	\$18,505	749,453
20	01/31/15	02/25/15	15.50	40.50	\$3,822	154,789
21	02/28/15	03/25/15	14.00	39.00	\$219,588	8,563,913
22	02/28/15	03/25/15	14.00	39.00	\$1,041,348	40,612,572
23	02/28/15	03/25/15	14.00	39.00	\$32,600	1,271,400
24	02/28/15	03/25/15	14.00	39.00	\$2,577,230	100,511,970
25	02/28/15	03/25/15	14.00	39.00	\$92,568	3,610,152
26	02/28/15	03/25/15	14.00	39.00	\$40,770	1,590,030
27	02/28/15	03/25/15	14.00	39.00	\$12,850	501,150
28	02/28/15	03/25/15	14.00	39.00	\$87,020	3,393,780
29	02/28/15	03/25/15	14.00	39.00	\$6,753,337	263,380,124
30	02/28/15	03/25/15	14.00	39.00	\$372,400	14,523,600
31	02/28/15	03/25/15	14.00	39.00	\$25,950	1,012,050
32	02/28/15	03/25/15	14.00	39.00	\$3,563,470	138,975,343
33	02/28/15	03/25/15	14.00	39.00	\$24,850	969,150
34	02/28/15	03/25/15	14.00	39.00	\$229,154	8,936,992
35	02/28/15	03/25/15	14.00	39.00	\$5,130	200,070
36	02/28/15	03/25/15	14.00	39.00	\$395,710	15,432,690
37	02/28/15	03/25/15	14.00	39.00	\$1,246,668	48,620,033
38	02/28/15	03/25/15	14.00	39.00	\$18,540	723,070
39	02/28/15	03/25/15	14.00	39.00	\$89,400	3,486,600
40	02/28/15	03/25/15	14.00	39.00	\$2,230,144	86,975,616
41	02/28/15	03/25/15	14.00	39.00	\$53,094	2,070,675
42	02/28/15	03/25/15	14.00	39.00	\$19,914	776,646

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Exhibit No.: _____
 Witness: C. E. Notestone
 Schedule 27
 Sheet 4a

Columbia Gas of Virginia, Inc.
Analysis of Cash Working Capital Requirement
Gas Purchased - Commodity Costs
TME: December 31, 2015
Case No. PUE-2016-00033

<u>Line No.</u>	<u>Service Month</u> (1)	<u>Payment Date</u> (2)	<u>Midpoint of Service Period</u> (3)	<u>Lag Days</u> (4)=(2-1+3)	<u>Payment</u> (5)	<u>Weighted Days</u> (6)=(4*5)
43	02/28/15	03/25/15	14.00	39.00	\$182,279	7,108,881
44	02/28/15	03/25/15	14.00	39.00	\$382,590	14,921,010
45	02/28/15	03/25/15	14.00	39.00	\$773	30,164
46	03/31/15	04/27/15	15.50	42.50	\$4,805	204,202
47	03/31/15	04/27/15	15.50	42.50	\$1,537,950	65,362,854
48	03/31/15	04/27/15	15.50	42.50	\$1,193,934	50,742,195
49	03/31/15	04/27/15	15.50	42.50	\$53,828	2,287,669
50	03/31/15	04/27/15	15.50	42.50	\$16,458	699,481
51	03/31/15	04/27/15	15.50	42.50	\$237,225	10,082,063
52	03/31/15	04/27/15	15.50	42.50	\$7,613	323,553
53	03/31/15	04/27/15	15.50	42.50	\$27,336	1,161,780
54	03/31/15	04/27/15	15.50	42.50	\$13,800	586,500
55	03/31/15	04/27/15	15.50	42.50	\$2,870	121,975
56	03/31/15	04/27/15	15.50	42.50	\$38,842	1,650,796
57	03/31/15	04/27/15	15.50	42.50	\$1,116,502	47,451,335
58	03/31/15	04/27/15	15.50	42.50	\$10,040	426,700
59	03/31/15	04/27/15	15.50	42.50	\$1,782	75,714
60	03/31/15	04/27/15	15.50	42.50	\$2,087,121	88,702,623
61	03/31/15	04/27/15	15.50	42.50	\$69,421	2,950,393
62	03/31/15	04/27/15	15.50	42.50	\$120,119	5,105,036
63	03/31/15	04/27/15	15.50	42.50	\$10,804	459,159
64	03/31/15	04/27/15	15.50	42.50	\$183,157	7,784,151
65	03/31/15	04/27/15	15.50	42.50	\$302,405	12,852,213
66	03/31/15	04/27/15	15.50	42.50	\$747,680	31,776,379
67	03/31/15	04/27/15	15.50	42.50	\$26,055	1,107,338
68	03/31/15	04/27/15	15.50	42.50	\$50,750	2,156,875
69	03/31/15	04/27/15	15.50	42.50	\$17,388	738,990
70	03/31/15	04/27/15	15.50	42.50	\$224,475	9,540,188
71	03/31/15	04/27/15	15.50	42.50	\$353,822	15,037,424
72	03/31/15	04/27/15	15.50	42.50	\$5,080	215,900
73	03/31/15	04/27/15	15.50	42.50	\$37,113	1,577,281
74	03/31/15	04/27/15	15.50	42.50	\$95,972	4,078,810
75	03/31/15	04/27/15	15.50	42.50	\$2,050	87,123
71	04/30/15	05/26/15	15.00	41.00	\$486	19,906
72	04/30/15	05/26/15	15.00	41.00	\$205,645	8,431,434
73	04/30/15	05/26/15	15.00	41.00	\$311,182	12,758,442
74	04/30/15	05/26/15	15.00	41.00	\$12,535	513,933
75	04/30/15	05/26/15	15.00	41.00	\$7,140	292,740
76	04/30/15	05/26/15	15.00	41.00	\$17,733	727,060
77	04/30/15	05/26/15	15.00	41.00	\$38,207	1,566,504
78	04/30/15	05/26/15	15.00	41.00	\$222,886	9,138,338
79	04/30/15	05/26/15	15.00	41.00	\$605,941	24,843,587
80	04/30/15	05/26/15	15.00	41.00	\$69,285	2,840,685
81	04/30/15	05/26/15	15.00	41.00	\$46,748	1,916,658
82	04/30/15	05/26/15	15.00	41.00	\$26,890	1,102,490
83	04/30/15	05/26/15	15.00	41.00	\$246,480	10,105,680
84	04/30/15	05/26/15	15.00	41.00	\$175,148	7,181,048
85	04/30/15	05/26/15	15.00	41.00	\$19,500	799,500
86	04/30/15	05/26/15	15.00	41.00	\$1,548,268	63,478,994
87	04/30/15	05/26/15	15.00	41.00	\$1,526	62,578
88	04/30/15	05/26/15	15.00	41.00	\$867,066	35,549,716
89	04/30/15	05/26/15	15.00	41.00	\$69,027	2,830,107
90	04/30/15	05/26/15	15.00	41.00	\$11,527	472,597
91	04/30/15	05/26/15	15.00	41.00	\$512,150	20,998,150

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Exhibit No.: _____
 Witness: C. E. Notestone
 Schedule 27
 Sheet 4a

Columbia Gas of Virginia, Inc.
 Analysis of Cash Working Capital Requirement
 Gas Purchased - Commodity Costs
 TME: December 31, 2015
 Case No. PUE-2016-00033

Line No.	Service Month (1)	Payment Date (2)	Midpoint of Service Period (3)	Lag Days (4)=(2-1+3)	Payment (5)	Weighted Days (6)=(4*5)
92	04/30/15	05/26/15	15.00	41.00	\$287,550	11,789,550
93	04/30/15	05/26/15	15.00	41.00	\$207,495	8,507,295
94	04/30/15	05/26/15	15.00	41.00	\$13,842	567,522
95	04/30/15	05/26/15	15.00	41.00	\$176,675	7,243,675
96	04/30/15	05/26/15	15.00	41.00	\$27,251	1,117,271
97	04/30/15	05/26/15	15.00	41.00	\$83,523	3,424,427
98	04/30/15	05/26/15	15.00	41.00	\$18,113	742,613
99	04/30/15	05/26/15	15.00	41.00	\$86,283	3,537,583
100	04/30/15	05/26/15	15.00	41.00	\$233,687	9,581,183
101	04/30/15	05/26/15	15.00	41.00	\$506,991	20,786,631
102	04/30/15	05/26/15	15.00	41.00	\$56,275	2,307,285
103	04/30/15	05/26/15	15.00	41.00	\$378	15,491
104	04/30/15	05/26/15	15.00	41.00	\$43,741	1,793,401
105	05/31/15	06/25/15	15.50	40.50	\$55,200	2,235,600
106	05/31/15	06/25/15	15.50	40.50	\$8,205	332,303
107	05/31/15	06/25/15	15.50	40.50	\$610,328	24,718,284
108	05/31/15	06/25/15	15.50	40.50	\$43,160	1,747,980
109	05/31/15	06/25/15	15.50	40.50	\$103,913	4,208,456
110	05/31/15	06/25/15	15.50	40.50	\$73,316	2,969,298
111	05/31/15	06/25/15	15.50	40.50	\$39,375	1,594,688
112	05/31/15	06/25/15	15.50	40.50	\$22,515	911,858
113	05/31/15	06/25/15	15.50	40.50	\$111,240	4,505,220
114	05/31/15	06/25/15	15.50	40.50	\$22,844	925,172
115	05/31/15	06/25/15	15.50	40.50	\$1,171,266	47,436,268
116	05/31/15	06/25/15	15.50	40.50	\$50,400	2,041,200
117	05/31/15	06/25/15	15.50	40.50	\$100,879	4,085,589
118	05/31/15	06/25/15	15.50	40.50	\$103,796	4,203,718
119	05/31/15	06/25/15	15.50	40.50	\$83,250	3,371,625
120	05/31/15	06/25/15	15.50	40.50	\$151,580	6,138,990
121	05/31/15	06/25/15	15.50	40.50	\$179,285	7,261,043
122	05/31/15	06/25/15	15.50	40.50	\$1,292,641	52,351,978
123	05/31/15	06/25/15	15.50	40.50	\$8,040	325,620
124	05/31/15	06/25/15	15.50	40.50	\$196,967	7,977,164
125	05/31/15	06/25/15	15.50	40.50	\$73,269	2,967,395
126	05/31/15	06/25/15	15.50	40.50	\$213,650	8,652,825
127	05/31/15	06/25/15	15.50	40.50	\$12,400	502,200
128	05/31/15	06/25/15	15.50	40.50	\$140	5,667

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Exhibit No.: _____
 Witness: C. E. Notestone
 Schedule 27
 Sheet 4a

Columbia Gas of Virginia, Inc.
 Analysis of Cash Working Capital Requirement
 Gas Purchased - Commodity Costs
 TME: December 31, 2015
 Case No. PUE-2016-00033

Line No.	Service Month (1)	Payment Date (2)	Midpoint of Service Period (3)	Lag Days (4)=(2-1+3)	Payment (5)	Weighted Days (6)=(4*5)
129	06/30/15	07/27/15	15.00	42.00	\$214,800	9,021,600
130	06/30/15	07/27/15	15.00	42.00	\$386,935	16,251,249
131	06/30/15	07/27/15	15.00	42.00	\$6,731	282,713
132	06/30/15	07/27/15	15.00	42.00	\$19,075	801,150
133	06/30/15	07/27/15	15.00	42.00	\$11,926	500,871
134	06/30/15	07/27/15	15.00	42.00	\$37,098	1,558,116
135	06/30/15	07/27/15	15.00	42.00	\$40,625	1,706,250
136	06/30/15	07/27/15	15.00	42.00	\$1,288,671	54,124,181
137	06/30/15	07/27/15	15.00	42.00	\$27,900	1,171,800
138	06/30/15	07/27/15	15.00	42.00	\$29,399	1,234,737
139	06/30/15	07/27/15	15.00	42.00	\$97,308	4,086,915
140	06/30/15	07/27/15	15.00	42.00	\$65,825	2,764,650
141	06/30/15	07/27/15	15.00	42.00	\$41,100	1,726,200
142	06/30/15	07/27/15	15.00	42.00	\$125,335	5,264,052
143	06/30/15	07/27/15	15.00	42.00	\$6,713	281,925
144	06/30/15	07/27/15	15.00	42.00	\$42,213	1,772,925
145	06/30/15	07/27/15	15.00	42.00	\$117,078	4,917,276
146	06/30/15	07/27/15	15.00	42.00	\$13,650	573,300
147	06/30/15	07/27/15	15.00	42.00	\$55,238	2,319,975
148	06/30/15	07/27/15	15.00	42.00	\$1,027,500	43,155,000
149	06/30/15	07/27/15	15.00	42.00	\$22	934
150	07/31/15	08/25/15	15.50	40.50	\$18,624	754,252
151	07/31/15	08/25/15	15.50	40.50	\$135,726	5,496,885
152	07/31/15	08/25/15	15.50	40.50	\$722,648	29,267,244
153	07/31/15	08/25/15	15.50	40.50	\$36,611	1,482,756
154	07/31/15	08/25/15	15.50	40.50	\$119,429	4,836,864
155	07/31/15	08/25/15	15.50	40.50	\$33,844	1,370,672
156	07/31/15	08/25/15	15.50	40.50	\$462,925	18,748,463
157	07/31/15	08/25/15	15.50	40.50	\$315,067	12,760,224
158	07/31/15	08/25/15	15.50	40.50	\$55,475	2,246,738
159	07/31/15	08/25/15	15.50	40.50	\$2,261,410	91,587,089
160	07/31/15	08/25/15	15.50	40.50	\$3,960	160,380
161	07/31/15	08/25/15	15.50	40.50	\$238,795	9,671,198
162	07/31/15	08/25/15	15.50	40.50	\$102,322	4,144,041
163	07/31/15	08/25/15	15.50	40.50	\$11,572	468,676
164	07/31/15	08/25/15	15.50	40.50	\$6,032	244,286
165	07/31/15	08/25/15	15.50	40.50	\$179,863	7,284,431
166	07/31/15	08/25/15	15.50	40.50	\$60,835	2,463,828
167	07/31/15	08/25/15	15.50	40.50	\$13,988	566,494
168	07/31/15	08/25/15	15.50	40.50	\$53,500	2,166,750
169	07/31/15	08/25/15	15.50	40.50	\$57,293	2,320,352
170	07/31/15	08/25/15	15.50	40.50	\$16,035	649,418
171	07/31/15	08/25/15	15.50	40.50	\$26,600	1,077,300
172	07/31/15	08/25/15	15.50	40.50	\$28,025	1,135,013
173	07/31/15	08/25/15	15.50	40.50	\$1,313,795	53,208,698
174	07/31/15	08/25/15	15.50	40.50	\$87,127	3,528,644
175	07/31/15	08/25/15	15.50	40.50	\$5	194
176	07/31/15	08/25/15	15.50	40.50	\$28,450	1,152,225

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Exhibit No.: _____
Witness: C. E. Notestone
Schedule 27
Sheet 4a

Columbia Gas of Virginia, Inc.
Analysis of Cash Working Capital Requirement
Gas Purchased - Commodity Costs
TME: December 31, 2015
Case No. PUE-2016-00033

Line No.	Service Month (1)	Payment Date (2)	Midpoint of Service Period (3)	Lag Days (4)=(2-1+3)	Payment (5)	Weighted Days (6)=(4*5)
177	08/31/15	09/25/15	15.50	40.50	\$28,667	1,161,014
178	08/31/15	09/25/15	15.50	40.50	\$269,759	10,925,240
179	08/31/15	09/25/15	15.50	40.50	\$26,300	1,065,150
180	08/31/15	09/25/15	15.50	40.50	\$2,405	97,387
181	08/31/15	09/25/15	15.50	40.50	\$10,862	439,891
182	08/31/15	09/25/15	15.50	40.50	\$229,941	9,312,630
183	08/31/15	09/25/15	15.50	40.50	\$52,500	2,126,250
184	08/31/15	09/25/15	15.50	40.50	\$1,645,734	66,652,208
185	08/31/15	09/25/15	15.50	40.50	\$466,059	18,875,379
186	08/31/15	09/25/15	15.50	40.50	\$73,652	2,982,916
187	08/31/15	09/25/15	15.50	40.50	\$1,632,971	66,135,329
188	08/31/15	09/25/15	15.50	40.50	\$52,812	2,138,886
189	08/31/15	09/25/15	15.50	40.50	\$41,038	1,662,019
190	08/31/15	09/25/15	15.50	40.50	\$1,623	65,732
191	08/31/15	09/25/15	15.50	40.50	\$205,900	8,338,950
192	08/31/15	09/25/15	15.50	40.50	\$257,557	10,431,059
193	08/31/15	09/25/15	15.50	40.50	\$103,526	4,192,783
194	08/31/15	09/25/15	15.50	40.50	\$13,850	560,925
195	08/31/15	09/25/15	15.50	40.50	\$252,045	10,207,802
196	08/31/15	09/25/15	15.50	40.50	\$9,334	378,027
197	08/31/15	09/25/15	15.50	40.50	\$27,325	1,106,663
198	08/31/15	09/25/15	15.50	40.50	\$5	194
199	08/31/15	09/25/15	15.50	40.50	\$18,356	743,398
200	09/30/15	10/26/15	15.00	41.00	\$28,260	1,158,660
201	09/30/15	10/26/15	15.00	41.00	\$48,200	1,976,200
202	09/30/15	10/26/15	15.00	41.00	\$21,582	884,862
203	09/30/15	10/26/15	15.00	41.00	\$9,405	385,605
204	09/30/15	10/26/15	15.00	41.00	\$76,378	3,131,483
205	09/30/15	10/26/15	15.00	41.00	\$785,014	32,185,576
206	09/30/15	10/26/15	15.00	41.00	\$41,850	1,715,850
207	09/30/15	10/26/15	15.00	41.00	\$67,707	2,775,996
208	09/30/15	10/26/15	15.00	41.00	\$2,463	100,963
209	09/30/15	10/26/15	15.00	41.00	\$599,975	24,598,975
210	09/30/15	10/26/15	15.00	41.00	\$1,453,099	59,577,054
211	09/30/15	10/26/15	15.00	41.00	\$40,093	1,643,813
212	09/30/15	10/26/15	15.00	41.00	\$83,163	3,409,663
213	09/30/15	10/26/15	15.00	41.00	\$100,397	4,116,257
214	09/30/15	10/26/15	15.00	41.00	\$79,797	3,271,677
215	09/30/15	10/26/15	15.00	41.00	\$765,900	31,401,900
216	09/30/15	10/26/15	15.00	41.00	\$12,175	499,175
217	09/30/15	10/26/15	15.00	41.00	\$53,631	2,198,871
218	09/30/15	10/26/15	15.00	41.00	\$61,333	2,514,663
219	09/30/15	10/26/15	15.00	41.00	\$24,400	1,000,400
220	09/30/15	10/26/15	15.00	41.00	\$396,000	16,236,000
221	09/30/15	10/26/15	15.00	41.00	\$8	311
222	09/30/15	10/26/15	15.00	41.00	\$25,300	1,037,300
223	09/30/15	10/26/15	15.00	41.00	\$17,298	709,218

100440115

Exhibit No.: _____
 Witness: C. E. Notestone
 Schedule 27
 Sheet 4a

Columbian Gas of Virginia, Inc.
 Analysis of Cash Working Capital Requirement
 Gas Purchased - Commodity Costs
 TME: December 31, 2015
 Case No. PUE-2016-00033

<u>Line No.</u>	<u>Service Month</u> (1)	<u>Payment Date</u> (2)	<u>Midpoint of Service Period</u> (3)	<u>Lag Days</u> (4)=(2-1+3)	<u>Payment</u> (5)	<u>Weighted Days</u> (6)=(4*5)
224	10/31/15	11/25/15	15.50	40.50	\$991	40,146
225	10/31/15	11/25/15	15.50	40.50	\$153,056	6,198,778
226	10/31/15	11/25/15	15.50	40.50	\$25,757	1,043,138
227	10/31/15	11/25/15	15.50	40.50	\$3,242	131,311
228	10/31/15	11/25/15	15.50	40.50	\$522,094	21,144,787
229	10/31/15	11/25/15	15.50	40.50	\$19,311	782,079
230	10/31/15	11/25/15	15.50	40.50	\$14,000	567,000
231	10/31/15	11/25/15	15.50	40.50	\$68,628	2,779,414
232	10/31/15	11/25/15	15.50	40.50	\$1,153,999	46,736,962
233	10/31/15	11/25/15	15.50	40.50	\$83,191	3,369,236
234	10/31/15	11/25/15	15.50	40.50	\$45,392	1,838,366
235	10/31/15	11/25/15	15.50	40.50	\$1,283,119	51,966,330
236	10/31/15	11/25/15	15.50	40.50	\$21,902	887,031
237	10/31/15	11/25/15	15.50	40.50	\$59,775	2,420,888
238	10/31/15	11/25/15	15.50	40.50	\$7,920	320,760
239	10/31/15	11/25/15	15.50	40.50	\$32,688	1,323,844
240	10/31/15	11/25/15	15.50	40.50	\$1,612	65,299
241	10/31/15	11/25/15	15.50	40.50	\$25,663	1,039,331
242	10/31/15	11/25/15	15.50	40.50	\$13,110	530,955
243	10/31/15	11/25/15	15.50	40.50	\$45,340	1,836,260
244	10/31/15	11/25/15	15.50	40.50	\$36,880	1,493,640
245	10/31/15	11/25/15	15.50	40.50	\$61,501	2,490,801
246	10/31/15	11/25/15	15.50	40.50	\$23,000	931,500
247	10/31/15	11/25/15	15.50	40.50	\$61	2,459
248	11/30/15	12/28/15	15.00	43.00	\$752,550	32,359,650
249	11/30/15	12/28/15	15.00	43.00	\$18,250	784,750
250	11/30/15	12/28/15	15.00	43.00	\$30,759	1,322,637
251	11/30/15	12/28/15	15.00	43.00	\$1,159,199	49,845,574
252	11/30/15	12/28/15	15.00	43.00	\$40,895	1,758,485
253	11/30/15	12/28/15	15.00	43.00	\$37	1,600

20160415

Exhibit No.: _____
 Witness: C. E. Notestone
 Schedule 27
 Sheet 4a

Columbin Gas of Virginia, Inc.
 Analysis of Cash Working Capital Requirement
 Gas Purchased - Commodity Costs
 TME: December 31, 2015
 Case No. PUE-2016-00033

<u>Line No.</u>	<u>Service Month</u> (1)	<u>Payment Date</u> (2)	<u>Midpoint of Service Period</u> (3)	<u>Lag Days</u> (4)=(2-1+3)	<u>Payment</u> (5)	<u>Weighted Days</u> (6)=(4*5)
254	12/31/15	01/25/16	15.50	40.50	\$854,050	34,589,025
255	12/31/15	01/25/16	15.50	40.50	\$225,138	9,118,069
256	12/31/15	01/25/16	15.50	40.50	\$28,485	1,153,643
257	12/31/15	01/25/16	15.50	40.50	\$5,653	228,926
258	12/31/15	01/25/16	15.50	40.50	\$77,180	3,125,800
259	12/31/15	01/25/16	15.50	40.50	\$27,357	1,107,959
260	12/31/15	01/25/16	15.50	40.50	\$1,403,143	56,827,301
261	12/31/15	01/25/16	15.50	40.50	\$28,414	1,150,747
262	12/31/15	01/25/16	15.50	40.50	\$14,265	577,733
263	12/31/15	01/25/16	15.50	40.50	\$776,655	31,454,536
264	12/31/15	01/25/16	15.50	40.50	\$1,925	77,963
265	12/31/15	01/25/16	15.50	40.50	\$2,376	96,228
266	12/31/15	01/25/16	15.50	40.50	\$16,652	674,406
267	12/31/15	01/25/16	15.50	40.50	\$1,884,304	76,314,312
268	12/31/15	01/25/16	15.50	40.50	\$389	15,759
269	Total			40.55	<u>\$85,377,163</u>	<u>3,461,684,061</u>

100440115

Exhibit No.: _____
 Witness: C. E. Notestone
 Schedule 27
 Sheet 4b

Columbia Gas of Virginia, Inc.
 Analysis of Cash Working Capital Requirement
 Gas Purchased - Transportation Costs
 TME: December 31, 2015
 Case No. PUE-2016-00033

<u>Line No.</u>	<u>Service Month</u> (1)	<u>Payment Date</u> (2)	<u>Midpoint of Service Period</u> (3)	<u>Lag Days</u> (4)=(2-1+3)	<u>Payment</u> (5)	<u>Weighted Days</u> (6)=(4*5)
1	01/31/15	02/23/15	15.50	38.50	\$178,076	6,855,907
2	01/31/15	02/12/15	15.50	27.50	\$620,145	17,053,984
3	01/31/15	02/17/15	15.50	-32.50	\$35,421	1,151,167
4	01/31/15	02/23/15	15.50	38.50	\$134,975	5,196,520
5	01/31/15	02/20/15	15.50	35.50	\$25,573	907,850
6	01/31/15	02/23/15	15.50	38.50	\$2,449,803	94,317,427
7	01/31/15	02/20/15	15.50	35.50	\$5,474	194,331
8	01/31/15	02/10/15	15.50	25.50	\$786,793	20,063,230
9	01/31/15	02/17/15	15.50	32.50	\$772,552	25,107,932
10	02/28/15	03/23/15	14.00	37.00	\$181,369	6,710,640
11	02/28/15	03/12/15	14.00	26.00	\$650,195	16,905,067
12	02/28/15	03/16/15	14.00	30.00	\$34,262	1,027,871
13	02/28/15	03/23/15	14.00	37.00	\$139,985	5,179,461
14	02/28/15	03/20/15	14.00	34.00	\$29,404	999,724
15	02/28/15	03/23/15	14.00	37.00	\$2,691,342	99,579,670
16	02/28/15	03/20/15	14.00	34.00	\$6,005	204,160
17	02/28/15	03/10/15	14.00	24.00	\$710,652	17,055,649
18	02/28/15	03/16/15	14.00	30.00	\$762,266	22,867,985
19	03/31/15	04/20/15	15.50	35.50	\$179,427	6,369,671
20	03/31/15	04/13/15	15.50	28.50	\$541,095	15,421,204
21	03/31/15	04/16/15	15.50	31.50	\$16,882	531,774
22	03/31/15	04/23/15	15.50	38.50	\$134,942	5,195,274
23	03/31/15	04/20/15	15.50	35.50	\$27,542	977,741
24	03/31/15	04/20/15	15.50	35.50	\$2,581,773	91,652,927
25	03/31/15	04/20/15	15.50	35.50	\$2,876	102,088
26	03/31/15	04/10/15	15.50	25.50	\$785,610	20,033,064
27	03/31/15	04/21/15	15.50	36.50	\$770,080	28,107,921
28	04/30/15	05/22/15	15.00	37.00	\$178,925	6,620,234
29	04/30/15	05/11/15	15.00	26.00	\$511,694	13,304,041
30	04/30/15	05/15/15	15.00	30.00	\$15,900	476,996
31	04/30/15	05/22/15	15.00	37.00	\$185,622	6,868,029
32	04/30/15	05/20/15	15.00	35.00	\$112,989	3,954,624
33	04/30/15	05/22/15	15.00	37.00	\$2,015,682	74,580,224
34	04/30/15	05/20/15	15.00	35.00	\$922	32,271
35	04/30/15	05/11/15	15.00	26.00	\$779,546	20,268,186
36	04/30/15	05/15/15	15.00	30.00	\$842,272	25,268,165

160440115

Exhibit No.: _____

Witness: C. E. Notestone
 Schedule 27
 Sheet 4b

Columbia Gas of Virginia, Inc.
Analysis of Cash Working Capital Requirement
Gas Purchased - Transportation Costs
 TME: December 31, 2015
 Case No. PUE-2016-00033

Line No.	Service Month (1)	Payment Date (2)	Midpoint of Service Period (3)	Lag Days (4)=(2-1+3)	Payment (5)	Weighted Days (6)=(4*5)
37	05/31/15	06/22/15	15.50	37.50	\$178,839	6,706,478
38	05/31/15	06/11/15	15.50	26.50	\$643,395	17,049,965
39	05/31/15	06/15/15	15.50	30.50	\$11,561	352,598
40	05/31/15	06/22/15	15.50	37.50	\$185,622	6,960,840
41	05/31/15	06/19/15	15.50	34.50	\$107,489	3,708,379
42	05/31/15	06/22/15	15.50	37.50	\$2,041,598	76,559,928
43	05/31/15	06/22/15	15.50	37.50	\$449	16,821
44	05/31/15	06/10/15	15.50	25.50	\$803,577	20,491,207
45	05/31/15	06/18/15	15.50	33.50	\$762,063	25,529,113
46	06/30/15	07/23/15	15.00	38.00	\$178,543	6,784,644
47	06/30/15	07/13/15	15.00	28.00	\$704,831	19,735,267
48	06/30/15	07/16/15	15.00	31.00	\$11,958	370,701
49	06/30/15	07/23/15	15.00	38.00	\$185,622	7,053,651
50	06/30/15	07/20/15	15.00	35.00	\$107,489	3,762,124
51	06/30/15	07/23/15	15.00	38.00	\$2,005,113	76,194,293
52	06/30/15	07/10/15	15.00	25.00	\$777,655	19,441,373
53	06/30/15	07/17/15	15.00	32.00	\$761,294	24,361,393
54	07/31/15	08/24/15	15.50	39.50	\$178,449	7,048,730
55	07/31/15	08/13/15	15.50	28.50	\$771,115	21,976,774
56	07/31/15	08/17/15	15.50	32.50	\$12,706	412,947
57	07/31/15	08/24/15	15.50	39.50	\$185,622	7,332,085
58	07/31/15	08/20/15	15.50	35.50	\$107,489	3,815,868
59	07/31/15	08/24/15	15.50	39.50	\$1,991,604	78,668,354
60	07/31/15	08/20/15	15.50	35.50	\$378	13,426
61	07/31/15	08/11/15	15.50	26.50	\$434	11,504
62	07/31/15	08/10/15	15.50	25.50	\$802,646	20,467,484
63	07/31/15	08/17/15	15.50	32.50	\$754,760	24,529,684
63	08/31/15	09/21/15	15.50	36.50	\$177,852	6,491,614
64	08/31/15	09/11/15	15.50	26.50	\$743,835	19,711,625
65	08/31/15	09/14/15	15.50	29.50	\$11,333	334,324
66	08/31/15	09/21/15	15.50	36.50	\$185,622	6,775,218
67	08/31/15	09/18/15	15.50	33.50	\$115,452	3,867,644
68	08/31/15	09/21/15	15.50	36.50	\$1,999,308	72,974,731
69	08/31/15	09/10/15	15.50	25.50	\$801,097	20,427,967
70	08/31/15	09/14/15	15.50	29.50	\$755,974	22,301,229
71	09/30/15	10/22/15	15.00	37.00	\$178,379	6,600,017
72	09/30/15	10/13/15	15.00	28.00	\$757,595	21,212,657
73	09/30/15	10/15/15	15.00	30.00	\$11,002	330,062
74	09/30/15	10/23/15	15.00	38.00	\$185,639	7,054,279
75	09/30/15	10/20/15	15.00	35.00	\$110,124	3,854,347
76	09/30/15	10/22/15	15.00	37.00	\$1,992,721	73,730,679
77	09/30/15	10/23/15	15.00	38.00	\$378	14,372
78	09/30/15	10/21/15	15.00	36.00	\$431	15,528
79	09/30/15	10/13/15	15.00	28.00	\$771,880	21,612,629
80	09/30/15	10/16/15	15.00	31.00	\$759,513	23,544,908

15049115

Exhibit No.: _____

Witness: C. E. Notestone
 Schedule 27
 Sheet 4b

Columbia Gas of Virginia, Inc.
 Analysis of Cash Working Capital Requirement
 Gas Purchased - Transportation Costs
 TME: December 31, 2015
 Case No. PUE-2016-00033

Line No.	Service Month (1)	Payment Date (2)	Midpoint of Service Period (3)	Lag Days (4)=(2-1+3)	Payment (5)	Weighted Days (6)=(4*5)
80	10/31/15	11/23/15	15.50	38.50	\$178,281	6,863,836
81	10/31/15	11/12/15	15.50	27.50	\$770,495	21,188,609
82	10/31/15	11/16/15	15.50	31.50	\$13,635	429,490
83	10/31/15	11/23/15	15.50	38.50	\$185,622	7,146,462
84	10/31/15	11/20/15	15.50	35.50	\$107,489	3,815,868
85	10/31/15	11/23/15	15.50	38.50	\$2,611,119	100,528,073
86	10/31/15	11/20/15	15.50	35.50	\$183	6,497
87	10/31/15	11/10/15	15.50	25.50	\$800,477	20,412,157
88	10/31/15	11/16/15	15.50	31.50	\$768,799	24,217,175
89	11/30/15	12/21/15	15.00	36.00	\$178,063	6,410,253
90	11/30/15	12/11/15	15.00	26.00	\$766,642	19,932,685
91	11/30/15	12/14/15	15.00	29.00	\$6,957	201,743
92	11/30/15	12/21/15	15.00	36.00	\$185,651	6,683,441
93	11/30/15	12/18/15	15.00	33.00	\$109,488	3,613,096
94	11/30/15	12/21/15	15.00	36.00	\$2,216,585	79,797,065
95	11/30/15	12/21/15	15.00	36.00	\$161	5,798
96	11/30/15	12/10/15	15.00	25.00	\$782,622	19,565,558
97	11/30/15	12/14/15	15.00	29.00	\$759,283	22,019,201
98	12/31/15	01/25/16	15.50	40.50	\$177,977	7,208,058
99	12/31/15	01/14/16	15.50	29.50	\$735,168	21,687,448
100	12/31/15	01/14/16	15.50	29.50	\$9,237	272,480
101	12/31/15	01/25/16	15.50	40.50	\$185,622	7,517,707
102	12/31/15	01/20/16	15.50	35.50	\$107,489	3,815,868
103	12/31/15	01/25/16	15.50	40.50	\$2,475,329	100,250,820
104	12/31/15	01/11/16	15.50	26.50	\$809,898	21,462,287
105	12/31/15	01/19/16	15.50	34.50	\$780,330	26,921,391
106	Total			33.36	\$59,451,109	1,983,325,536

10044015

Exhibit No.: _____
Witness: C. E. Notestone
Schedule 27
Sheet 5

Columbia Gas of Virginia, Inc.
Analysis of Cash Working Capital Requirement
Payroll Costs
TME: December 31, 2015
Case No. PUE-2016-00033

<u>Line No.</u>	<u>Description</u>	<u>Reference</u>	<u>Payroll Costs</u> (1) \$	<u>Lead Days</u> (2)	<u>Dollar Lead Days</u> (3=1*2) \$
1	Bi-Weekly:	Sheet 5a	18,795,094	5.88	110,568,139
2	Monthly:	Sheet 5b	<u>6,789,236</u>	<u>14.49</u>	<u>98,392,269</u>
3		Total Payroll Costs	<u>25,584,330</u>	<u>8.17</u>	<u>208,960,408</u>

10040115

Exhibit No.: _____
Witness: C. E. Notestone
Schedule 27
Sheet 5a

Columbia Gas of Virginia, Inc.
Analysis of Cash Working Capital Requirement
Bi-Weekly Gross Payroll Lead Days
TME: December 31, 2015
Case No. PUE-2016-00033

<u>Line No.</u>	<u>Pay Dates</u> (1)	<u>End of Pay Period</u> (2)	<u>Days from Pay Date to Pay Period</u> (3)	<u>Service Midpoint</u> (4)	<u>Bi-Weekly Gross Pay Lead Days</u> (5)=(3)+(4)	<u>Normal Bi-Weekly Gross Pay</u> (6) (\$)	<u>Bi-Weekly Gross Pay Dollar Days</u> (7)=(5)*(6)
1	01/09/15	01/10/15	(1.00)	7.00	6.00	663,489	3,980,935
2	01/23/15	01/24/15	(1.00)	7.00	6.00	682,880	4,097,280
3	02/06/15	02/07/15	(1.00)	7.00	6.00	680,494	4,082,965
4	02/20/15	02/21/15	(1.00)	7.00	6.00	683,927	4,103,565
5	03/06/15	03/07/15	(1.00)	7.00	6.00	1,537,644	9,225,861
6	03/20/15	03/21/15	(1.00)	7.00	6.00	653,084	3,918,501
7	04/03/15	04/04/15	(1.00)	7.00	6.00	676,225	4,057,351
8	04/17/15	04/18/15	(1.00)	7.00	6.00	676,981	4,061,886
9	05/01/15	05/02/15	(1.00)	7.00	6.00	660,639	3,963,836
10	05/15/15	05/16/15	(1.00)	7.00	6.00	675,027	4,050,162
11	05/29/15	05/30/15	(1.00)	7.00	6.00	652,877	3,917,260
12	06/12/15	06/13/15	(1.00)	7.00	6.00	659,135	3,954,812
13	06/26/15	06/27/15	(1.00)	7.00	6.00	663,715	3,982,288
14	07/10/15	07/11/15	(1.00)	7.00	6.00	688,047	4,128,279
15	07/24/15	07/25/15	(1.00)	7.00	6.00	671,235	4,027,412
16	08/07/15	08/08/15	(1.00)	7.00	6.00	697,655	4,185,929
17	08/21/15	08/22/15	(1.00)	7.00	6.00	681,702	4,090,213
18	09/04/15	09/05/15	(1.00)	7.00	6.00	681,616	4,089,699
19	09/18/15	09/19/15	(1.00)	7.00	6.00	696,551	4,179,303
20	10/02/15	10/03/15	(1.00)	7.00	6.00	721,006	4,326,038
21	10/16/15	10/17/15	(1.00)	7.00	6.00	705,725	4,234,349
22	10/30/15	10/31/15	(1.00)	7.00	6.00	737,182	4,423,090
23	11/13/15	11/14/15	(1.00)	7.00	6.00	754,325	4,525,951
24	11/25/15	11/28/15	(3.00)	7.00	4.00	729,923	2,919,693
25	12/11/15	12/12/15	(1.00)	7.00	6.00	721,433	4,328,601
26	12/24/15	12/26/15	(2.00)	7.00	5.00	742,576	3,712,880
27				Bi-Weekly Lead Days	5.88	18,795,094	110,568,139

18040115

Exhibit No.: _____
 Witness: C. E. Notestone
 Schedule 27
 Sheet 5b

Columbia Gas of Virginia, Inc.
Analysis of Cash Working Capital Requirement
Monthly Gross Payroll Lead Days
TME: December 31, 2015
Case No. PUE-2016-00033

Line No.	Monthly Pay Dates (1)	End of Pay Period (2)	Service Midpoint (3)	Monthly Gross Pay Lead Days (4)=(1)-(2)+(3)	Normal Monthly Gross Pay (5) (\$)	Monthly Gross Pay Dollar Days (6)=(4)*(5)
1	01/30/15	01/31/15	15.50	14.50	441,034	6,394,995
2	02/27/15	02/28/15	14.00	13.00	1,647,272	21,414,533
3	03/31/15	03/31/15	15.50	15.50	440,504	6,827,809
4	04/30/15	04/30/15	15.00	15.00	423,808	6,357,120
5	05/29/15	05/31/15	15.50	13.50	444,794	6,004,720
6	06/30/15	06/30/15	15.00	15.00	450,746	6,761,190
7	07/31/15	07/31/15	15.50	15.50	461,664	7,155,796
8	08/31/15	08/31/15	15.50	15.50	462,329	7,166,097
9	09/30/15	09/30/15	15.00	15.00	467,631	7,014,465
10	10/30/15	10/31/15	15.50	14.50	481,770	6,985,659
11	11/30/15	11/30/15	15.00	15.00	478,445	7,176,677
12	12/31/15	12/31/15	15.50	15.50	589,239	9,133,208
13		Monthly Lead Days		14.49	6,789,236	98,392,269

160449115

Exhibit No.: _____
Witness: C. E. Notestone
Schedule 27
Sheet 6

Columbia Gas of Virginia, Inc.
Analysis of Cash Working Capital Requirement
Uncollectible Expense
TME: December 31, 2015
Case No. PUE-2016-00033

<u>Line</u> <u>No.</u>	<u>Component Description</u>	<u>Days</u>
1	Midpoint of Service Month	15.21
2	Billing Lag	2.35
3	Charge Off (1)	<u>120</u>
4	Total Uncollectible Expense Lead Days	137.56

(1) Unpaid accounts are charged off after 120 days per Columbia's collections/charge off process.

18040115

Exhibit No.: _____
 Witness: C. E. Notestone
 Schedule 27
 Sheet 8

Columbia Gas of Virginia, Inc.
Analysis of Cash Working Capital Requirement
Company Paid Payroll Taxes
TME: December 31, 2015
Case No. PUE-2016-00033

<u>Line No.</u>	<u>Description</u>	<u>Reference</u>	<u>Payroll Costs</u> (1) \$	<u>Lead Days</u> (2)	<u>Dollar Lead Days</u> (3) \$
1	F.I.C.A.	Sheet 8a	3,668,811	8.03	29,454,458
2	Federal Unemployment	Sheet 8b	13,762	74.50	1,025,281
3	State Unemployment	Sheet 8b	<u>32,547</u>	<u>74.50</u>	<u>2,424,746</u>
4		Total	<u>3,715,120</u>	<u>8.86</u>	<u>32,904,485</u>

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Exhibit No.: _____
 Witness: C. E. Notestone
 Schedule 27
 Sheet 8a

Columbia Gas of Virginia, Inc.
Analysis of Cash Working Capital Requirement
Employee's FICA Withheld Lead Day Calculation
 TME: December 31, 2015
 Case No. PUE-2016-00033

<u>Line No.</u>	<u>Pay Type</u>	<u>Reference</u>	<u>Employee's FICA Withholding</u> (1)	<u>Lead Days</u> (2)	<u>Dollar Weighted Days</u> (3)
1	Bi-Weekly	Sheet 8a, Page 1	2,757,448	5.88	16,224,207
2	Monthly	Sheet 8a, Page 2	<u>911,363</u>	<u>14.52</u>	<u>13,230,251</u>
3		Total	<u>3,668,811</u>	<u>8.03</u>	<u>29,454,458</u>

150440115

Exhibit No.: _____
Witness: C, E. Notestone
Schedule 27
Sheet 8a, Page 1

Columbia Gas of Virginia, Inc.
Analysis of Cash Working Capital Requirement
Payroll Taxes - FICA Bi-Weekly
TME: December 31, 2015
Case No. PUE-2016-00033

<u>Line No.</u>	<u>Pay Date</u> (1)	<u>Days From Midpoint To Pay 1/</u> (2)	<u>Total Bi-Weekly FICA Withheld</u> (3) (\$)	<u>Deposit Date 2/</u> (4)	<u>Lead Days</u> (5)	<u>Weighted Payroll</u> (6=3x5)
1	01/09/15	6.00	96,820	01/09/15	6.00	580,917
2	01/23/15	6.00	99,752	01/23/15	6.00	598,515
3	02/06/15	6.00	99,376	02/06/15	6.00	596,259
4	02/20/15	6.00	99,811	02/20/15	6.00	598,863
5	03/06/15	6.00	230,458	03/06/15	6.00	1,382,748
6	03/20/15	6.00	95,155	03/20/15	6.00	570,933
7	04/03/15	6.00	98,747	04/03/15	6.00	592,480
8	04/17/15	6.00	98,902	04/17/15	6.00	593,413
9	05/01/15	6.00	96,386	05/01/15	6.00	578,316
10	05/15/15	6.00	98,545	05/15/15	6.00	591,270
11	05/29/15	6.00	99,856	05/29/15	6.00	599,134
12	06/12/15	6.00	96,180	06/12/15	6.00	577,083
13	06/26/15	6.00	96,838	06/26/15	6.00	581,025
14	07/10/15	6.00	100,585	07/10/15	6.00	603,508
15	07/24/15	6.00	97,643	07/24/15	6.00	585,859
16	08/07/15	6.00	101,988	08/07/15	6.00	611,930
17	08/21/15	6.00	99,547	08/21/15	6.00	597,283
18	09/04/15	6.00	99,425	09/04/15	6.00	596,553
19	09/18/15	6.00	101,232	09/18/15	6.00	607,394
20	10/02/15	6.00	105,207	10/02/15	6.00	631,244
21	10/16/15	6.00	102,889	10/16/15	6.00	617,337
22	10/30/15	6.00	112,789	10/30/15	6.00	676,732
23	11/13/15	6.00	110,391	11/13/15	6.00	662,349
24	11/25/15	4.00	106,614	11/25/15	4.00	426,456
25	12/11/15	6.00	105,056	12/11/15	6.00	630,338
26	12/24/15	<u>5.00</u>	<u>107,254</u>	12/24/15	<u>5.00</u>	<u>536,268</u>
27	Total	<u>5.88</u>	<u>2,757,448</u>		<u>5.88</u>	<u>16,224,207</u>

1/ See detail on Sheet 5a, Column 5.
2/ NiSource / CGV is a next day taxpayer, however, tax payments are processed by a third party agent and cash is provided to the agent on payday.

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Exhibit No.: _____
 Witness: C. E. Notestone
 Schedule 27
 Sheet 8a, Page 2

Columbia Gas of Virginia, Inc.
Analysis of Cash Working Capital Requirement
Payroll Taxes - FICA Monthly Pay
TME: December 31, 2015
Case No. PUE-2016-00033

Line No.	<u>Pay Date</u> (1)	<u>Days From Midpoint To Pay Date 1/</u> (2)	<u>Monthly Total FICA Withheld</u> (3) (\$)	<u>Deposit Date</u> (4)	<u>Lead Days</u> (5)	<u>Weighted FICA</u> (6=3x5)
1	01/30/15	14.50	64,529	01/30/15	14.50	935,677
2	02/27/15	13.00	204,029	02/27/15	13.00	2,652,381
3	03/31/15	15.50	55,908	03/31/15	15.50	866,572
4	04/30/15	15.00	61,946	04/30/15	15.00	929,188
5	05/29/15	13.50	65,154	05/29/15	13.50	879,578
6	06/30/15	15.00	64,531	06/30/15	15.00	967,972
7	07/31/15	15.50	65,387	07/31/15	15.50	1,013,502
8	08/31/15	15.50	63,861	08/31/15	15.50	989,841
9	09/30/15	15.00	64,056	09/30/15	15.00	960,841
10	10/30/15	14.50	64,643	10/30/15	14.50	937,319
11	11/30/15	15.00	62,121	11/30/15	15.00	931,811
12	12/31/15	<u>15.50</u>	<u>75,198</u>	12/31/15	<u>15.50</u>	<u>1,165,569</u>
13	Total	<u>14.49</u>	<u>911,363</u>		<u>14.52</u>	<u>13,230,251</u>

1/ See detail on Sheet 5a.

160440115

Exhibit No.: _____
 Witness: C. E. Notestone
 Schedule 27
 Sheet 8b

Columbia Gas of Virginia, Inc.
Analysis of Cash Working Capital Requirement
Payroll Taxes - Unemployment Taxes
TME: December 31, 2015
Case No. PUE-2016-00033

Line No.	Service Period Qtr Ended (1)	Days From Midpoint (2)	Deposit Paid (3)	Lead Days (4=3-1+2)	Federal Paid (5) \$	State Paid (6) \$	Federal \$ Weighted (7=4*5)	State \$ Weighted (8=4*6)
<u>Monthly</u>								
1	01/31/15	15.50	03/31/15	74.50	2,229	5,721	166,074	426,218
2	02/28/15	14.00	03/31/15	45.00	249	1,217	18,537	90,693
3	03/31/15	15.50	03/31/15	15.50	11	(1,064)	794	(79,236)
4	04/30/15	15.00	06/30/15	76.00	31	69	2,335	5,158
5	05/31/15	15.50	06/30/15	45.50	48	120	3,604	8,965
6	06/30/15	15.00	06/30/15	15.00	34	69	2,496	5,158
7	07/31/15	15.50	09/30/15	76.50	105	242	7,846	18,063
8	08/31/15	15.50	09/30/15	45.50	25	76	1,842	5,655
9	09/30/15	15.00	09/30/15	15.00	40	84	2,985	6,231
10	10/31/15	15.50	12/31/15	76.50	-	12	-	863
11	11/30/15	15.00	12/31/15	46.00	82	174	6,141	12,944
12	12/31/15	15.50	12/31/15	15.50	43	111	3,236	8,284
<u>Bi-weekly</u>								
13	01/10/15	7.00	03/31/15	87.00	3,746	9,191	279,040	684,747
14	01/24/15	7.00	03/31/15	73.00	3,705	9,296	276,034	692,545
15	02/07/15	7.00	03/31/15	59.00	1,909	6,723	142,243	500,834
16	02/21/15	7.00	03/31/15	45.00	501	1,931	37,327	143,844
17	03/07/15	7.00	03/31/15	31.00	75	657	5,583	48,946
18	03/21/15	7.00	03/31/15	17.00	13	(4,229)	962	(315,071)
19	04/04/15	7.00	06/30/15	94.00	11	22	809	1,673
20	04/18/15	7.00	06/30/15	80.00	22	46	1,676	3,463
21	05/02/15	7.00	06/30/15	66.00	22	27	1,643	2,022
22	05/16/15	7.00	06/30/15	52.00	20	50	1,491	3,758
23	05/30/15	7.00	06/30/15	38.00	13	38	1,004	2,800
24	06/13/15	7.00	06/30/15	24.00	22	51	1,614	3,782
25	06/27/15	7.00	06/30/15	10.00	34	70	2,505	5,178
26	07/11/15	7.00	09/30/15	88.00	32	66	2,396	4,952
27	07/25/15	7.00	09/30/15	74.00	32	65	2,347	4,852
28	08/08/15	7.00	09/30/15	60.00	48	123	3,585	9,175
29	08/22/15	7.00	09/30/15	46.00	40	99	2,999	7,388
30	09/05/15	7.00	09/30/15	32.00	83	198	6,157	14,735
31	09/19/15	7.00	09/30/15	18.00	145	308	10,809	22,915
32	10/03/15	7.00	12/31/15	96.00	149	313	11,104	23,323
33	10/17/15	7.00	12/31/15	82.00	126	295	9,378	21,960
34	10/31/15	7.00	12/31/15	68.00	59	212	4,397	15,829
35	11/14/15	7.00	12/31/15	54.00	24	68	1,816	5,085
36	11/28/15	7.00	12/31/15	40.00	16	46	1,193	3,448
37	12/12/15	7.00	12/31/15	26.00	8	28	617	2,079
38	12/26/15	7.00	12/31/15	12.00	9	20	662	1,488
39	Total				13,762	32,547	1,025,281	2,424,746
40	Net Lead Days						<u>74.50</u>	<u>74.50</u>

100440115

Exhibit No.: _____
Witness: C. E. Notestone
Schedule 27
Sheet 9

Columbia Gas of Virginia, Inc.
Analysis of Cash Working Capital Requirement
Property Taxes
TME: December 31, 2015
Case No. PUE-2016-00033

Line No.	Taxing Authority	Payments	Date Paid	Midpoint of Tax Year	Lag Days	Weighted Lag Days
	(1)	(2)	(3)	(4)	(5)=(3-4)	(6)=(5*1)
		(\$)				(\$)
Cities						
1	Altavista	1,870.07	12/03/15	07/01/15	155.00	289,861
2	Bridgewater	160.17	05/25/15	07/01/15	(37.00)	(5,926)
3	Bridgewater	179.58	11/17/15	07/01/15	139.00	24,962
4	Broadway	340.29	11/24/15	07/01/15	146.00	49,682
5	Buena Vista	18,868.97	05/25/15	07/01/14	328.00	6,189,022
6	Buena Vista	10.88	05/25/15	07/01/14	328.00	3,569
7	Buena Vista	24,095.36	11/17/15	07/01/15	139.00	3,349,255
8	Chesapeake	66,303.52	03/08/15	07/01/14	250.00	16,575,880
9	Chesapeake	66,303.53	05/25/15	07/01/14	328.00	21,747,558
10	Chesapeake	69,711.30	10/23/15	07/01/15	114.00	7,947,088
11	Chesapeake	69,711.30	12/04/15	07/01/15	156.00	10,874,963
12	Clifton Forge	6,387.91	11/20/15	07/01/15	142.00	907,083
13	Colonial Hts.	37,530.91	05/10/15	07/01/15	(52.00)	(1,951,607)
14	Colonial Hts.	41,339.34	11/03/15	07/01/15	125.00	5,167,418
15	Covington	19,843.63	05/25/15	07/01/14	328.00	6,508,711
16	Covington	21,465.26	11/17/15	07/01/15	139.00	2,983,671
17	Culpeper, Town	8,910.69	01/25/15	07/01/14	208.00	1,853,424
18	Dayton	75.43	05/25/15	07/01/15	(37.00)	(2,791)
19	Dayton	83.71	11/17/15	07/01/15	139.00	11,636
20	Dumfries	2,453.79	05/25/15	07/01/15	(37.00)	(90,790)
21	Dumfries	2,162.24	11/17/15	07/01/15	139.00	300,551
22	Fredericksburg	45,704.50	05/10/15	07/01/15	(52.00)	(2,376,634)
23	Fredericksburg	48,989.86	11/03/15	07/01/15	125.00	6,123,733
24	Fredericksburg	1,493.05	11/19/15	07/01/15	141.00	210,520
25	Glasgow	105.59	11/20/15	07/01/15	142.00	14,994
26	Gordonsville	342.22	11/18/15	07/01/15	140.00	47,911
27	Halifax	507.93	09/15/15	07/01/15	76.00	38,603
28	Harrisonburg	38,203.36	05/17/15	07/01/14	320.00	12,225,075
29	Harrisonburg	41,989.19	11/17/15	07/01/15	139.00	5,836,497
30	Haymarket	926.78	11/20/15	07/01/15	142.00	131,603
31	Haymarket	221.83	11/20/15	07/01/15	142.00	31,500
32	Hemdon	16,277.01	11/18/15	07/01/15	140.00	2,278,781
33	Hopewell	95,454.49	01/06/15	07/01/14	189.00	18,040,899
34	Hurt	106.82	11/17/15	07/01/15	139.00	14,848
35	Iron Gate	95.00	11/20/15	07/01/15	142.00	13,490

150440115

Exhibit No.: _____
 Witness: C. E. Notestone
 Schedule 27
 Sheet 9

Columbia Gas of Virginia, Inc.
Analysis of Cash Working Capital Requirement
Property Taxes
TME: December 31, 2015
Case No. PUE-2016-00033

Line No.	Taxing Authority (1)	Payments (2) (\$)	Date Paid (3)	Midpoint of Tax Year (4)	Lag Days (5)=(3-4)	Weighted Lag Days (6)=(5*1) (\$)
Cities (continued)						
1	La Crosse	109.84	12/18/15	07/01/15	170.00	18,673
2	Lawrenceville	1,069.00	12/04/15	07/01/15	156.00	166,764
3	Lexington	45,996.27	11/18/15	07/01/15	140.00	6,439,478
4	Lynchburg	(15.85)	06/22/15	07/01/14	356.00	(5,643)
5	Lynchburg	107,921.13	11/03/15	07/01/15	125.00	13,490,141
6	Lynchburg	264,448.39	11/18/15	07/01/15	140.00	37,022,775
7	Manassas	83,122.11	05/25/15	07/01/15	(37.00)	(3,075,518)
8	Manassas	88,864.95	11/17/15	07/01/15	139.00	12,352,228
9	Manassas Park	66,877.15	11/17/15	07/01/15	139.00	9,295,924
10	Narrows	42,308.11	11/20/15	07/01/15	142.00	6,007,752
11	Pearisburg	2,351.65	04/21/15	07/01/14	294.00	691,385
12	Pembroke	291.65	03/08/15	07/01/14	250.00	72,913
13	Petersburg	46,775.99	03/08/15	07/01/14	250.00	11,693,998
14	Petersburg	46,776.00	05/25/15	07/01/14	328.00	15,342,528
15	Petersburg	48,984.92	12/01/15	07/01/15	153.00	7,494,693
16	Petersburg	48,984.92	12/01/15	07/01/15	153.00	7,494,693
17	Portsmouth	74,552.82	03/11/15	07/01/14	253.00	18,861,863
18	Portsmouth	74,552.82	06/04/15	07/01/14	338.00	25,198,853
19	Portsmouth	80,804.28	10/15/15	07/01/15	106.00	8,565,254
20	Portsmouth	345,469.26	11/17/15	07/01/15	139.00	48,020,227
21	Portsmouth	80,804.28	12/11/15	07/01/15	163.00	13,171,098
22	Quantico	509.01	11/24/15	07/01/15	146.00	74,315
23	Quantico	48.07	12/04/15	07/01/15	156.00	7,499
24	Remington	1.44	03/08/15	07/01/14	250.00	360
25	Rich Creek	254.14	01/08/15	07/01/14	191.00	48,541
26	Richmond	5.47	05/25/15	07/01/15	(37.00)	(202)
27	Richmond	0.04	11/19/15	07/01/15	141.00	6
28	South Hill	6,581.17	12/04/15	07/01/15	156.00	1,026,663
29	Staunton	177,443.66	12/01/15	07/01/15	153.00	27,148,880
30	Suffolk	161,469.94	11/19/15	07/01/15	141.00	22,767,262
31	Timberville	262.84	12/03/15	07/01/15	155.00	40,740
32	Vienna	41.23	11/18/15	07/01/15	140.00	5,772
33	Warrenton	381.69	06/30/15	07/01/15	(1.00)	(382)
34	Waverly	283.75	12/04/15	07/01/15	156.00	44,265
35	Waynesboro	109,781.45	11/19/15	07/01/15	141.00	15,479,184

160440115

Exhibit No.: _____
 Witness: C. E. Notestone
 Schedule 27
 Sheet 9

Columbia Gas of Virginia, Inc.
Analysis of Cash Working Capital Requirement
Property Taxes
TME: December 31, 2015
Case No. PUE-2016-00033

Line No.	Taxing Authority	Payments	Date Paid	Midpoint of Tax Year	Lag Days	Weighted Lag Days
	(1)	(2)	(3)	(4)	(5)=(3-4)	(6)=(5*1)
		(\$)				(\$)
1	<u>Counties</u>					
2	Albemarle	5,273.17	11/24/15	07/01/15	146.00	769,883
3	Alleghany	42,903.05	11/17/15	07/01/15	139.00	5,963,524
4	Amherst	32,570.72	11/20/15	07/01/15	142.00	4,625,042
5	Appomattox	5,856.53	11/17/15	07/01/15	139.00	814,058
6	Augusta	24,151.95	05/25/15	07/01/15	(37.00)	(893,622)
7	Augusta	30,951.87	12/07/15	07/01/15	159.00	4,921,347
8	Bath	1.08	05/17/15	07/01/14	320.00	346
9	Bath	1.07	11/17/15	07/01/15	139.00	149
10	Bedford	24,784.01	12/01/15	07/01/15	153.00	3,791,954
11	Botetourt	5,136.16	11/18/15	07/01/15	140.00	719,062
12	Brunswick	7,586.47	12/04/15	07/01/15	156.00	1,183,489
13	Buckingham	99,637.55	11/18/15	07/01/15	140.00	13,949,257
14	Campbell	26,504.27	11/20/15	07/01/15	142.00	3,763,606
15	Caroline	19,386.31	05/25/15	07/01/15	(37.00)	(717,293)
16	Caroline	19,386.31	11/20/15	07/01/15	142.00	2,752,856
17	Caroline	25,909.72	11/20/15	07/01/15	142.00	3,679,180
18	Chatham	1,811.18	12/07/15	07/01/15	159.00	287,978
19	Chesterfield	357,183.00	05/25/15	07/01/15	(37.00)	(13,215,771)
20	Chesterfield	388,390.62	11/17/15	07/01/15	139.00	53,986,296
21	Culpeper County	90,584.29	11/17/15	07/01/15	139.00	12,591,216
22	Dinwiddie	11,445.33	05/25/15	07/01/15	(37.00)	(423,477)
23	Dinwiddie	11,445.33	11/18/15	07/01/15	140.00	1,602,346
24	Dinwiddie	1,209.48	11/18/15	07/01/15	140.00	169,327
25	Fairfax (all jurisdictns)	65,012.52	07/28/15	07/01/15	27.00	1,755,338
26	Fauquier	62,583.36	05/25/15	07/01/15	(37.00)	(2,315,584)
27	Fauquier	64,914.41	11/24/15	07/01/15	146.00	9,477,504
28	Fluvanna	90,503.30	05/25/15	07/01/15	(37.00)	(3,348,622)
29	Fluvanna	9,567.71	11/24/15	07/01/15	146.00	1,396,886
30	Giles	83,284.75	11/20/15	07/01/15	142.00	11,826,435
31	Goochland	11,082.57	11/18/15	07/01/15	140.00	1,551,560
32	Greene	2,892.98	11/20/15	07/01/15	142.00	410,803
33	Greensville	4,552.13	11/18/15	07/01/15	140.00	637,298
34	Halifax	6,253.85	05/25/15	07/01/15	(37.00)	(231,392)

20160115

Exhibit No.: _____
Witness: C. E. Notestone
Schedule 27
Sheet 9

Columbia Gas of Virginia, Inc.
Analysis of Cash Working Capital Requirement
Property Taxes
TME: December 31, 2015
Case No. PUE-2016-00033

Line No.	Taxing Authority	Payments	Date Paid	Midpoint of Tax Year	Lag Days	Weighted Lag Days
	(1)	(2)	(3)	(4)	(5)=(3-4)	(6)=(5*1)
		(\$)				(\$)
Counties (continued)						
1	Halifax	6,047.96	12/04/15	07/01/15	156.00	943,482
2	Isle of Wight	95,100.72	11/20/15	07/01/15	142.00	13,504,302
3	Loudoun	32,114.26	07/28/15	07/01/15	27.00	867,085
4	Loudoun	36,072.79	12/07/15	07/01/15	159.00	5,735,574
5	Louisa	64,593.36	11/20/15	07/01/15	142.00	9,172,257
6	Madison	133.38	11/18/15	07/01/15	140.00	18,673
7	Mecklenburg	11,979.39	11/19/15	07/01/15	141.00	1,689,094
8	Orange	1,362.42	06/04/15	07/01/15	(27.00)	(36,785)
9	Orange	1,551.86	11/19/15	07/01/15	141.00	218,812
10	Page	38.47	11/17/15	07/01/15	139.00	5,347
11	Pittsylvania	12,689.90	05/25/15	07/01/15	(37.00)	(469,526)
12	Pittsylvania	12,275.28	11/20/15	07/01/15	142.00	1,743,090
13	Powhatan	3,394.34	11/18/15	07/01/15	140.00	475,208
14	Prince George	16,763.90	05/17/15	07/01/15	(45.00)	(754,376)
15	Prince George	17,723.88	11/20/15	07/01/15	142.00	2,516,791
16	Prince Wm	189,545.13	06/30/15	07/01/15	(1.00)	(189,545)
17	Prince Wm	233,995.97	11/17/15	07/01/15	139.00	32,525,440
18	Rockbridge	29,361.49	11/18/15	07/01/15	140.00	4,110,609
19	Rockingham	31,857.09	05/25/15	07/01/15	(37.00)	(1,178,712)
20	Rockingham	32,822.45	11/20/15	07/01/15	142.00	4,660,788
21	Rockingham	5,268.94	11/20/15	07/01/15	142.00	748,189
22	Shenandoah	933.47	05/25/15	07/01/15	(37.00)	(34,538)
23	Shenandoah	60.16	11/30/15	07/01/15	152.00	9,144
24	Shenandoah	933.46	12/02/15	07/01/15	154.00	143,753
25	Smyth	5,918.82	12/04/15	07/01/15	156.00	923,336
26	Southampton	10,434.85	11/17/15	07/01/15	139.00	1,450,444
27	Spotsylvania	269,039.56	05/31/15	07/01/15	(31.00)	(8,340,226)
28	Spotsylvania	4,177.78	11/17/15	07/01/15	139.00	580,711
29	Stafford	166,237.57	05/25/15	07/01/15	(37.00)	(6,150,790)
30	Stafford	186,218.19	11/20/15	07/01/15	142.00	26,442,983
31	Surry	1,516.33	11/17/15	07/01/15	139.00	210,770
32	Sussex	8,224.18	11/18/15	07/01/15	140.00	1,151,385
33	Warren	28.20	05/25/15	07/01/15	(37.00)	(1,043)
34	States					
35	State of West Virginia	56,015.60	02/12/15	07/01/13	591.00	33,105,220
36		60,064.01	08/24/15	07/01/14	419.00	25,166,820
37	Total	<u>5,993,591.31</u>			117.25	<u>702,772,767</u>

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Exhibit No.: _____
Witness: C. E. Notestone
Schedule 27
Sheet 10

Columbia Gas of Virginia, Inc.
Analysis of Cash Working Capital Requirement
Other Taxes
TME: December 31, 2015
Case No. PUE-2016-00033

<u>Line No.</u>	<u>End of Service Period</u>	<u>Midpoint of Service Period</u> (1)	<u>Payment Date</u> (2)	<u>Amount Paid</u> (3) \$	<u>Lead Days</u> (4)	<u>Weighted Tax Dollars</u> (5=3*4) \$
<u>Direct Payment Sales Tax</u>						
1	1/31/2015	15.5	2/20/2015	6,764.47	35.50	240,139.00
2	2/28/2015	14	3/20/2015	12,776.89	34.00	434,414.00
3	3/31/2015	15.5	4/20/2015	12,113.65	35.50	430,035.00
4	4/30/2015	15	5/20/2015	5,042.96	35.00	176,504.00
5	5/31/2015	15.5	6/20/2015	17,502.12	35.50	621,325.00
6	6/30/2015	15	7/20/2015	21,683.15	35.00	758,910.00
7	7/31/2015	15.5	8/20/2015	6,461.37	35.50	229,379.00
8	8/31/2015	15.5	9/20/2015	15,688.48	35.50	556,941.00
9	9/30/2015	15	10/20/2015	27,261.17	35.00	954,141.00
10	10/31/2015	15.5	11/20/2015	8,402.23	35.50	298,279.00
11	11/30/2015	15	12/20/2015	29,397.63	35.00	1,028,917.00
12	12/31/2015	15.5	1/20/2016	<u>46,146.66</u>	<u>35.50</u>	<u>1,638,206.00</u>
				209,240.78	35.20	7,367,190.00
<u>Sales & Use</u>						
13	1/31/2015	15.5	2/20/2015	0.00	35.50	0.00
14	2/28/2015	14	3/20/2015	0.00	34.00	0.00
15	3/31/2015	15.5	4/20/2015	0.00	35.50	0.00
16	4/30/2015	15	5/20/2015	0.00	35.00	0.00
17	5/31/2015	15.5	6/20/2015	0.00	35.50	0.00
15	6/30/2015	15	7/20/2015	0.00	35.00	0.00
16	7/31/2015	15.5	8/20/2015	0.00	35.50	0.00
17	8/31/2015	15.5	9/20/2015	0.00	35.50	0.00
18	9/30/2015	15	10/20/2015	0.00	35.00	0.00
19	10/31/2015	15.5	11/20/2015	0.00	35.50	0.00
20	11/30/2015	15	12/20/2015	0.00	35.00	0.00
21	12/31/2015	15.5	1/20/2016	<u>0.00</u>	<u>35.50</u>	<u>0.00</u>
				0.00		0.00
22	TOTAL OTHER TAXES			<u>209,240.78</u>	<u>35.20</u>	<u>7,367,190.00</u>

160440115

Exhibit No.: _____
 Witness: C. E. Notestone
 Schedule 27
 Sheet 11

Columbia Gas of Virginia, Inc.
 Analysis of Cash Working Capital Requirement
 Federal Income Taxes
 TME: December 31, 2015
 Case No. PUE-2016-00033

<u>Line No.</u>	<u>Amount Due</u> (1)	<u>Service Period</u> (2)	<u>Date Paid</u> (3)	<u>Midpoint of Year</u> (4)	<u>Lead Days</u> (5)	<u>Weighted Lead Days</u> (6=1*5)
1	25.00%	2015	15-Apr-15	01-Jul-15	(77.00)	(19.25)
2	25.00%	2015	15-Jun-15	01-Jul-15	(16.00)	(4.00)
3	25.00%	2015	15-Sep-15	01-Jul-15	76.00	19.00
4	25.00%	2015	15-Dec-15	01-Jul-15	167.00	<u>41.75</u>
5			Total Federal Income Tax Lead Days			<u>37.50</u>

() Denotes Credit

16040115

Exhibit No.: _____
 Witness: C. E. Notestone
 Schedule 27
 Sheet 13

Columbia Gas of Virginia, Inc.
Analysis of Cash Working Capital Requirement
Interest On Debt
TME: December 31, 2015
Case No. PUE-2016-00033

<u>Line No.</u>	<u>Instrument</u>	<u>Amount</u> (1) \$	<u>Lead Days</u> (2)	<u>Dollar Lead Days</u> (3=1*2) \$
1	Installment Promissory Notes	16,204,939	91.25	1,478,700,684
2	Money Pool	<u>120,548</u>	<u>17.05</u>	<u>2,055,343</u>
3	Total	<u>16,325,487</u>	<u>90.70</u>	<u>1,480,756,027</u>

Source: Financial Statements, Page 5

51040145

Exhibit No.: _____
 Witness: C. E. Notestone
 Schedule 27
 Sheet 14

Columbia Gas of Virginia, Inc.
Analysis of Cash Working Capital Requirement
Customer Utility Sales Tax
TME: December 31, 2015
Case No. PUE-2016-00033

<u>Line No.</u>	<u>End of Period</u> (1)	<u>Payment Date</u> (2)	<u>Lead Days</u> (3=2-1)	<u>Amount Paid</u> (4)	<u>Weighted Tax Dollars</u> (5=3*4)
1	01/31/15	02/17/15	17.00	1,177,686	20,020,664
2	02/28/15	03/13/15	13.00	1,228,435	15,969,659
3	03/31/15	04/20/15	20.00	1,213,396	24,267,914
4	04/30/15	05/15/15	15.00	946,837	14,202,561
5	05/31/15	06/12/15	12.00	769,011	9,228,126
6	06/30/15	07/15/15	15.00	693,181	10,397,722
7	07/31/15	08/19/15	19.00	676,211	12,848,011
8	08/31/15	09/16/15	16.00	667,599	10,681,580
9	09/30/15	10/16/15	16.00	680,742	10,891,864
10	10/31/15	11/13/15	13.00	715,783	9,305,175
11	11/30/15	12/16/15	16.00	827,673	13,242,765
12	12/31/15	01/14/16	14.00	971,212	13,596,968
13	Wtd. Average Lead Days 2/		15.58	10,567,765	164,653,009
14	Add: Service Midpoint 1/		<u>15.21</u>		
15	Total Lead Days		<u>30.79</u>		

1/ Service Midpoint lead days computed as: 365 days/12 months/ 2(midpoint) = 15.21 days.

2/ Represents the average number of days from the end of the month to the actual payment date.



Exhibit No.: _____
 Witness: C. E. Notestone
 Schedule 27
 Sheet 15

Columbia Gas of Virginia, Inc.
Analysis of Cash Working Capital Requirement
State and Local Consumption Tax
TME: December 31, 2015
Case No. PUE-2016-00033

<u>Line No.</u>	<u>Jurisdiction</u> (1)	<u>Service Period</u> (2)	<u>Payment Date</u> (3)	<u>Midpoint of Service Period</u> (4)	<u>Lead Days</u> (5)=(3-2+4)	<u>Amount Paid</u> (6) \$	<u>Dollar Lead Days</u> (7)=(5*6) \$
1	State	1/31/2015	2/20/2015	15.5	35.50	561,512.15	19,933,681
2	Local	1/31/2015	2/17/2015		35.50	148,444.51	5,269,780
3	State	2/28/2015	3/18/2015	14	32.00	618,184.91	19,781,917
4	Local	2/28/2015	3/13/2015		32.00	163,420.65	5,229,461
5	State	3/31/2015	4/20/2015	15.5	35.50	572,167.94	20,311,962
6	Local	3/31/2015	4/20/2015		35.50	151,339.33	5,372,546
7	State	4/30/2015	5/15/2015	15	30.00	270,606.10	8,118,183
8	Local	4/30/2015	5/15/2015		30.00	71,561.26	2,146,838
9	State	5/31/2015	6/16/2015	15.5	31.50	125,331.29	3,947,936
10	Local	5/31/2015	6/12/2015		31.50	33,100.61	1,042,669
11	State	6/30/2015	7/17/2015	15	32.00	74,518.44	2,384,590
12	Local	6/30/2015	7/15/2015		32.00	19,615.51	627,696
13	State	7/31/2015	8/24/2015	15.5	39.50	65,323.45	2,580,276
14	Local	7/31/2015	8/19/2015		39.50	17,178.43	678,548
15	State	8/31/2015	9/23/2015	15.5	38.50	61,533.91	2,369,056
16	Local	8/31/2015	9/16/2015		38.50	16,159.10	622,125
17	State	9/30/2015	10/22/2015	15	37.00	64,502.62	2,386,597
18	Local	9/30/2015	10/16/2015		37.00	16,966.83	627,773
19	State	10/31/2015	11/18/2015	15.5	33.50	93,432.39	3,129,985
20	Local	10/31/2015	11/13/2015		33.50	24,616.91	824,666
21	State	11/30/2015	12/24/2015	15	39.00	164,518.12	6,416,207
22	Local	11/30/2015	12/16/2015		39.00	43,463.70	1,695,084
23	State	12/31/2015	1/22/2016	15.5	37.50	305,162.79	11,443,605
24	Local	12/31/2015	1/14/2016		37.50	80,648.65	3,024,324
25				Total	34.53	3,763,310	129,965,505

Note: State and Local Consumption Taxes are due the last business day of the month. They are processed to ensure payment is received by the last day of the month which may result in a payment date earlier than the last day.

10040115

Exhibit No.: _____
Witness: C. E. Notestone
Schedule 27
Sheet 16

Columbia Gas of Virginia, Inc.
Analysis of Cash Working Capital Requirement
Corporate Services
TME: December 31, 2015
Case No. PUE-2016-00033

<u>Line No.</u>	<u>End of Service Period</u> (1)	<u>Payment Date</u> (2)	<u>Midpoint of Service Period</u> (3)	<u>Lead Days</u> (4)=(2)-(1)+(3)	<u>Payment</u> (5) \$	<u>Weighted Lead Days</u> (6)=(4)*(5) \$
1	1/31/2015	2/13/2015	15.50	28.50	3,451,905	98,379,295
2	2/28/2015	3/13/2015	14.00	27.00	3,332,710	89,983,179
3	3/31/2015	4/15/2015	15.50	30.50	3,893,606	118,754,976
4	4/30/2015	5/15/2015	(1) 15.00	30.00	2,770,976	83,129,285
5	4/30/2015	5/15/2015	(1) 15.00	30.00	416,032	12,480,972
6	5/31/2015	6/15/2015	(1) 15.50	30.50	3,344,613	102,010,696
7	6/30/2015	7/15/2015	(1) 15.00	30.00	4,963,147	148,894,406
8	7/31/2015	8/17/2015	(1) 15.50	32.50	4,661,146	151,487,236
9	8/31/2015	9/15/2015	15.50	30.50	3,910,308	119,264,401
10	9/30/2015	10/23/2015	15.00	38.00	3,749,473	142,479,978
11	10/31/2015	11/20/2015	15.50	35.50	2,810,869	99,785,841
12	11/30/2015	12/10/2015	15.00	25.00	5,063,701	126,592,523
13	12/31/2015	1/15/2016	15.50	30.50	4,103,420	125,154,310
14		Total			<u>46,471,906</u>	<u>1,418,397,098</u>
15	Weighted Average Days (Col. 6/Col. 5)			<u>30.50</u>		

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SCHEDULE 28

BALANCE SHEET ANALYSIS – ADJUSTED

100440115

Exhibit No.: _____
Witness: C. E. Notestone
Schedule 28
Sheet 1

Columbia Gas of Virginia, Inc.
Cash Working Capital -- Balance Sheet Analysis
Schedule 28

Case No. PUE-2016-00033

Table of Contents

<u>Line No.</u>	<u>Description</u>	<u>Sheet Number</u>
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2	Cash Working Capital - Balance Sheet Analysis - Jurisdictional (Per Books)	Sheet 3
3	Cash Working Capital - Total Company Detail (Per Books)	Sheet 4

1604415

Exhibit No.: _____
Witness: C. E. Notestone
Schedule 28
Sheet 2

Columbia Gas of Virginia, Inc.
Cash Working Capital
Balance Sheet Analysis – LVTS
13 Months Average December 31, 2015
Case No. PUE-2016-00033

Line No.	Account Number	Description	Sch 40b		LVTS %	LVTS 12/31/2015
			13 Mo. Avg. 12/31/2015	Alloc Factor		
1	14100000	Notes Receivable - Employees	-	22	4.188%	-
2	14300180-3633,3638	Other A/R - Employee Advances	-	22	4.188%	-
3	14300001-4525	Other A/R - Emp. Temp. Exp. Adv.	376	22	4.188%	16
4	14302000-9605	Income Tax Receivable - State	75,028	22	4.188%	3,142
5	14300001-3638	Other A/R - Miscellaneous	(7,486)	22	4.188%	(314)
6	14300300	Other AR-Rent Deposits	30,204	22	4.188%	1,265
7	16521000	Prepaid Insurance	419,592	22	4.188%	17,573
8	16520000	Prepayments-Excess Liability Insurance	351,679	22	4.188%	14,728
9	17401000	Exchange Gas	20,640	20	0.000%	-
10	18230005	Reg Asset OPEB Transition	215,502	22	4.188%	9,025
11	18235105	NC Reg Asset OPEB Regulatory	4,027,808	22	4.188%	168,685
12	18320000, 18320001	Preliminary Survey & Investigation	3,785,520	17	9.031%	341,870
13	18600200	Misc. Maintenance & Jobbing WIP	54,210	17	9.031%	4,896
14	18608200	Def Debit-Mutual Materials	5,758	17	9.031%	520
15	190*****-Various Sub Accounts	Accum Deferred Income Taxes (Excl NOL ADIT)	<u>7,235,024</u>	17	9.031%	<u>653,395</u>
16	Total Uses of Cash Working Capital		<u>16,213,855</u>			<u>1,214,801</u>
17	Sources of Cash Working Capital:					
18	21905000, 21905010, 21905200, 21905220	Pension/OPEB Bal/Adj Booked to OCI	11,232,890	22	4.188%	470,433
19	21905020, 21905030, 21905230, 21905240	Pension/OPEB Fed/St Tax Booked to OCI	(4,390,590)	17	9.031%	(396,514)
20	22820000	Provision for Injuries & Damages	(34,313)	22	4.188%	(1,437)
21	22838030	Misc Op Res-NC OPEB Retire Cnt	2,312	22	4.188%	97
22	232	A/P - CWIP (Acct 107)	(3,072,773)	17	9.031%	(277,502)
23	234	A/P Exchange Gas	(2,126)	20	0.000%	-
24	24103110, 24103120, 24103130, 24103140, 24103150	Tax Collections Payable-Employee FIT/SIT/FICA	-	17	9.031%	-
25	24240050-R400	Exchange gas - Borrowing	(253,197)	17	9.031%	(22,866)
26	24203200, 242403201	Vacation Accrual	(2,084,614)	2	0.007%	(146)
27	24203000	Accrued Liability - Profit Sharing	(190,989)	22	4.188%	(7,999)
28	24201629, 24201629-3027	Accrued Liability - Unclaimed Accounts	(1,021,465)	22	4.188%	(42,779)
29	24208000, 24208020	Benefits - C.M.E.P. - Company Portion	(244,959)	22	4.188%	(10,259)
30	24202500-9257-N008	Thrift Restoration Plan	(3,663)	22	4.188%	(153)
31	25300000	Reclass Thrift Restoration Plan	(20,766)	22	4.188%	(870)
32	24204000, 24204080, 24204081, 24204082, 24204090, 24204091, 24204092, 24204210	Benefits - Employee Payroll Deductions	(122,244)	22	4.188%	(5,120)
33	24211263	Accd Liab-ST FAS112	(55,558)	22	4.188%	(2,327)
34	24203300, 24203305	Accr. Payroll - CWIP	(103,349)	22	4.188%	(4,328)
35	22838020	Accrued Pension Restoration Plan	(66,132)	22	4.188%	(2,770)
36	22839000	Accrued Pension Restoration Plan - Current	(608)	22	4.188%	(25)
37	24203100	Wages Payable-CIP, Bonus Portion	(1,097,345)	22	4.188%	(45,957)
38	24250110, 24250110-3500	HeatShare Customer Contributions	(2,583)	2	0.007%	-
39	24250160	Credits Deposits - Gas Supply	(267,846)	22	4.188%	(11,217)
40	22834010	Accum Provisions OPEB- Active	(2,448,169)	22	4.188%	(102,529)
41	22840010	Banked Vacation	(545,930)	2	0.007%	(38)
42	22838000	Accrued Long Term Pension Cost	(5,590,495)	22	4.188%	(234,130)
43	22836010	Accrued Long Term Pension Restoration - Current	-	22	4.188%	-
44	25304010-9014	Def Credits-FAS112	(274,822)	22	4.188%	(11,510)
45	25405150	Reg Liab NC-OPEB Tracker	-	22	4.188%	-
46	28301000, 28302000, 28305000, 28306000	Accumulated Deferred Income Taxes	<u>(531,188)</u>	17	9.031%	<u>(47,972)</u>
47	Total Sources of Cash Working Capital		<u>(11,190,521)</u>			<u>(757,918)</u>
48	TOTAL USES / (SOURCES) CASH WORKING CAPITAL		<u>5,023,334</u>			<u>456,883</u>

Exhibit No.: _____
 Witness: C. E. Notestone
 Schedule 28
 Sheet 3

Columbia Gas of Virginia, Inc.
Cash Working Capital
Balance Sheet Analysis – Jurisdictional
13 Months Average December 31, 2015
Case No. PUE-2016-00033

Line No.	Account Number	Description	13 Mo. Avg. 12/31/2015	Sch 40b Alloc Factor	Juris. %	Juris. 12/31/2015
<u>Uses of Cash Working Capital:</u>						
1	14100000	Notes Receivable - Employees	-	22	93.292%	-
2	14300180-3633,3638	Other A/R - Employee Advances	-	22	93.292%	-
3	14300001-4525	Other A/R - Emp. Temp. Exp. Adv.	376	22	93.292%	351
4	14302000-9605	Income Tax Receivable - State	75,028	22	93.292%	69,995
5	14300001-3638	Other A/R - Miscellaneous	(7,486)	22	93.292%	(6,984)
6	14300300	Other AR-Rent Deposits	30,204	22	93.292%	28,178
7	16521000	Prepaid Insurance	419,592	22	93.292%	391,446
8	16520000	Prepayments-Excess Liability Insurance	351,679	22	93.292%	328,088
9	17401000	Exchange Gas	20,640	20	95.662%	19,745
10	18230005	Reg Asset OPEB Transition	215,502	22	93.292%	201,046
11	18235105	NC Reg Asset OPEB Regulatory	4,027,808	22	93.292%	3,757,623
12	18320000, 18320001	Preliminary Survey & Investigation	3,785,520	17	86.943%	3,291,245
13	18600200	Misc. Maintenance & Jobbing WIP	54,210	17	86.943%	47,132
14	18608200	Def Debit-Mutual Materials	5,758	17	86.943%	5,006
15	190*****-Various Sub Accounts	Accum Deferred Income Taxes (Excl NOL ADIT)	7,235,024	17	86.943%	6,290,347
16	Total Uses of Cash Working Capital		16,213,855			14,423,218
<u>Sources of Cash Working Capital:</u>						
17	21905000, 21905010, 21905200, 21905220	Pension/OPEB Bal/Adj Booked to OCI	11,232,890	22	93.292%	10,479,388
19	21905020, 21905030, 21905230, 21905240	Pension/OPEB Fed/St Tax Booked to OCI	(4,390,590)	17	86.943%	(3,817,311)
20	22820000	Provision for Injuries & Damages	(34,313)	22	93.292%	(32,011)
21	22838030	Misc Op Res-NC OPEB Retire Cnt	2,312	22	93.292%	2,157
22	232	A/P - CWIP (Acct 107)	(3,072,773)	17	86.943%	(2,671,561)
23	234	A/P Exchange Gas	(2,126)	20	95.662%	(2,034)
24	24103110, 24103120, 24103130, 24103140, 24103150	Tax Collections Payable-Employee FIT/SIT/FICA	-	17	86.943%	-
25	24240050-R400	Exchange gas - Borrowing	(253,197)	17	86.943%	(220,137)
26	24203200, 224203201	Vacation Accrual	(2,084,614)	2	99.320%	(2,070,439)
27	24203000	Accrued Liability - Profit Sharing	(190,989)	22	93.292%	(178,177)
28	24201629, 24201629-3027	Accrued Liability - Unclaimed Accounts	(1,021,465)	22	93.292%	(952,945)
29	24208000, 24208020	Benefits - C.M.E.P. - Company Portion	(244,959)	22	93.292%	(228,527)
30	24202500-9257-N008	Thrft Restoration Plan	(3,663)	22	93.292%	(3,417)
31	25300000	Reclass Thrft Restoration Plan	(20,766)	22	93.292%	(19,373)
32	24204000, 24204080, 24204081, 24204082, 24204090, 24204091, 24204092, 24204210	Benefits - Employee Payroll Deductions	(122,244)	22	93.292%	(114,044)
33	24211263	Accd Liab-ST FAS112	(55,558)	22	93.292%	(51,831)
34	24203300, 24203305	Accr. Payroll - CWIP	(103,349)	22	93.292%	(96,416)
35	22838020	Accrued Pension Restoration Plan	(66,132)	22	93.292%	(61,696)
36	22839000	Accrued Pension Restoration Plan - Current	(608)	22	93.292%	(567)
37	24203100	Wages Payable-CIP, Bonus Portion	(1,097,345)	22	93.292%	(1,023,735)
38	24250110, 24250110-3500	HeatShare Customer Contributions	(2,583)	2	99.320%	(2,565)
39	24250160	Credits Deposits - Gas Supply	(267,846)	22	93.292%	(249,879)
40	22834010	Accum Provisions OPEB- Active	(2,448,169)	22	93.292%	(2,283,946)
41	22840010	Banked Vacation	(545,930)	2	99.320%	(542,218)
42	22838000	Accrued Long Term Pension Cost	(5,590,495)	22	93.292%	(5,215,485)
43	22836010	Accrued Long Term Pension Restoration - Current	-	22	93.292%	-
44	25304010-9014	Def Credits-FAS112	(274,822)	22	93.292%	(256,387)
45	25405150	Reg Liab NC-OPEB Tracker	-	22	93.292%	-
46	28301000, 28302000, 28305000, 28306000	Accumulated Deferred Income Taxes	(531,188)	17	86.943%	(461,831)
47	Total Sources of Cash Working Capital		(11,190,521)			(10,074,987)
48	TOTAL USES / (SOURCES) CASH WORKING CAPITAL		5,023,334			4,348,231

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Exhibit No. _____
Witness: C. E. Nooner
Schedule 28
Sheet 4

Columbia Gas of Virginia, Inc.
Cash Working Capital
Balance Sheet Analysis - Total Company Detail
13 Months Average December 31, 2015
Case No. PUE-2016-00033

Line No.	Account	Description	Period I	Period II	Period III	Period IV	Period V	Period VI	Period VII	Period VIII	Period IX	Period X	Period XI	Period XII	Period XIII	13 Months Total Periods	13 Months Average Periods
1	1410000	Notes Receivable - Employees															
2	1430000	Other A/R - Employee Advances															
3	1430001	Other A/R - Emp. Temp. Exp. Adv.															
4	1430002	Income Tax Receivable - State															
5	1430003	Other A/R - Miscellaneous															
6	1430004	Other A/R - Rent Deposits															
7	16521000	Prepaid Insurance															
8	16522000	Prepaid Insurance-Excess Liability Insurance															
9	17401000	Exchange Gas															
10	18230005	Reg Asset OPEB Transition															
11	18231005	NC Reg Asset OPEB Regulatory															
12	18320600	Preliminary Survey & Investigation															
13	18600700	Misc. Maintenance & Jobbing WIP															
14	18600800	Dr/Debit-Materials															
15	190*****	Accum Deferred Income Taxes (Excl NGL ADIT)															
16		Total Urea of Cash Working Capital	18,058,108	17,727,466	16,219,850	16,452,882	16,023,515	15,148,495	14,578,657	15,481,803	14,344,020	17,584,248	15,922,804	16,746,110	210,280,113	16,219,850	
17		Source of Cash Working Capital	10,948,527	10,869,895	11,142,164	11,063,532	10,984,900	10,906,268	10,827,616	11,316,838	11,245,214	11,173,590	11,101,966	13,416,692	146,077,567	11,232,890	
18	21905000	Pension/OPEB Bal/Adj Booked to OCI	(4,395,473)	(4,364,285)	(4,334,285)	(4,242,514)	(4,402,246)	(4,374,384)	(4,402,246)	(4,346,522)	(4,318,661)	(4,280,799)	(4,318,661)	(4,280,799)	(46,067,669)	(4,318,661)	
19	22870600	Provision for Injuries & Damages	(34,563)	(35,088)	(35,469)	(35,956)	(36,444)	(36,930)	(37,417)	(37,904)	(38,391)	(38,878)	(39,365)	(39,852)	(403,312)	(39,365)	
20	22870600	Misc Op Res-NC OPEB Return Cut	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
21	23830300	A/R - CWIP (Asset 107)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
22	234	A/R - CWIP (Asset 107)	(8)	(184)	(382)	(569)	(756)	(943)	(1,130)	(1,317)	(1,504)	(1,691)	(1,878)	(1,972)	(2,066)	(1,972)	
23	24103100	Accrued Pension Payable-Employee	(2,786,861)	(2,801,130)	(2,815,400)	(2,829,670)	(2,843,940)	(2,858,210)	(2,872,480)	(2,886,750)	(2,901,020)	(2,915,290)	(2,929,560)	(2,943,830)	(30,451,110)	(2,929,560)	
24	24103150	FTS/STFICA	(1,818,496)	(1,832,765)	(1,847,034)	(1,861,303)	(1,875,572)	(1,889,841)	(1,904,110)	(1,918,379)	(1,932,648)	(1,946,917)	(1,961,186)	(1,975,455)	(20,261,440)	(1,961,186)	
25	2420050-R-000	Exchange gas - Borrowing	(564,704)	(564,704)	(564,704)	(564,704)	(564,704)	(564,704)	(564,704)	(564,704)	(564,704)	(564,704)	(564,704)	(564,704)	(5,647,040)	(564,704)	
26	24201200	Ventilation Annual	(350,132)	(350,132)	(350,132)	(350,132)	(350,132)	(350,132)	(350,132)	(350,132)	(350,132)	(350,132)	(350,132)	(350,132)	(3,501,320)	(350,132)	
27	24201300	Accrued Liability - Profit Sharing	(959,940)	(959,940)	(959,940)	(959,940)	(959,940)	(959,940)	(959,940)	(959,940)	(959,940)	(959,940)	(959,940)	(959,940)	(9,599,400)	(959,940)	
28	24201629	Accrued Liability - Unallocated Accounts	(919,709)	(919,709)	(919,709)	(919,709)	(919,709)	(919,709)	(919,709)	(919,709)	(919,709)	(919,709)	(919,709)	(919,709)	(9,197,090)	(919,709)	
29	24201900	Benefits - C.M.E.P. - Company Pension	(331,277)	(331,277)	(331,277)	(331,277)	(331,277)	(331,277)	(331,277)	(331,277)	(331,277)	(331,277)	(331,277)	(331,277)	(3,312,770)	(331,277)	
30	24202500-925-74008	Health Restoration Plan	(34,010)	(34,010)	(34,010)	(34,010)	(34,010)	(34,010)	(34,010)	(34,010)	(34,010)	(34,010)	(34,010)	(34,010)	(340,100)	(34,010)	
31	25380000	Rebates - Employee Payroll Deductions	(70,861)	(70,861)	(70,861)	(70,861)	(70,861)	(70,861)	(70,861)	(70,861)	(70,861)	(70,861)	(70,861)	(70,861)	(708,610)	(70,861)	
32	24204000	Accruals - Employee Payroll Deductions	(53,102)	(53,102)	(53,102)	(53,102)	(53,102)	(53,102)	(53,102)	(53,102)	(53,102)	(53,102)	(53,102)	(53,102)	(531,020)	(53,102)	
33	24211263	Accruals - FAS112	(61,945)	(61,945)	(61,945)	(61,945)	(61,945)	(61,945)	(61,945)	(61,945)	(61,945)	(61,945)	(61,945)	(61,945)	(619,450)	(61,945)	
34	24201300	Accruals - CWIP	(500)	(500)	(500)	(500)	(500)	(500)	(500)	(500)	(500)	(500)	(500)	(5,000)	(500)		
35	23830000	Accruals - Pension Restoration Plan - Current	(1,770,043)	(1,770,043)	(1,770,043)	(1,770,043)	(1,770,043)	(1,770,043)	(1,770,043)	(1,770,043)	(1,770,043)	(1,770,043)	(1,770,043)	(1,770,043)	(17,700,430)	(1,770,043)	
36	23830000	Accruals - Pension Restoration Plan - Future	(2,994)	(2,994)	(2,994)	(2,994)	(2,994)	(2,994)	(2,994)	(2,994)	(2,994)	(2,994)	(2,994)	(2,994)	(29,940)	(2,994)	
37	24201100	Health Restoration Plan - Current	(294,500)	(294,500)	(294,500)	(294,500)	(294,500)	(294,500)	(294,500)	(294,500)	(294,500)	(294,500)	(294,500)	(294,500)	(2,945,000)	(294,500)	
38	24201100	Health Restoration Plan - Future	(2,844,126)	(2,844,126)	(2,844,126)	(2,844,126)	(2,844,126)	(2,844,126)	(2,844,126)	(2,844,126)	(2,844,126)	(2,844,126)	(2,844,126)	(2,844,126)	(28,441,260)	(2,844,126)	
39	24201100	Health Restoration Plan - Active	(485,088)	(485,088)	(485,088)	(485,088)	(485,088)	(485,088)	(485,088)	(485,088)	(485,088)	(485,088)	(485,088)	(485,088)	(4,850,880)	(485,088)	
40	23840100	Accruals - Long Term Pension Cost	(5,170,246)	(5,170,246)	(5,170,246)	(5,170,246)	(5,170,246)	(5,170,246)	(5,170,246)	(5,170,246)	(5,170,246)	(5,170,246)	(5,170,246)	(5,170,246)	(51,702,460)	(5,170,246)	
41	23840100	Accruals - Long Term Pension Cost	(70,363)	(70,363)	(70,363)	(70,363)	(70,363)	(70,363)	(70,363)	(70,363)	(70,363)	(70,363)	(70,363)	(70,363)	(703,630)	(70,363)	
42	23840100	Accruals - Long Term Pension Cost	(1,053,351)	(1,053,351)	(1,053,351)	(1,053,351)	(1,053,351)	(1,053,351)	(1,053,351)	(1,053,351)	(1,053,351)	(1,053,351)	(1,053,351)	(1,053,351)	(10,533,510)	(1,053,351)	
43	23840100	Accruals - Long Term Pension Cost	(1,184,379)	(1,184,379)	(1,184,379)	(1,184,379)	(1,184,379)	(1,184,379)	(1,184,379)	(1,184,379)	(1,184,379)	(1,184,379)	(1,184,379)	(1,184,379)	(11,843,790)	(1,184,379)	
44	23840100-9014	Reg. Liab NC-OPEB Tracker	6,408,106	8,541,082	9,514,976	10,524,620	10,911,472	11,357,368	11,803,264	12,249,160	12,695,056	13,140,952	13,586,848	14,032,744	144,764,112	12,695,056	
45	2440150	Accruals - Deferred Income Taxes															
46	28901000	Total Sources of Cash Working Capital	11,650,092	11,184,379	10,514,976	10,324,620	10,011,472	9,357,368	8,603,264	7,849,160	7,095,056	6,340,952	5,586,848	4,832,744	48,312,112	10,324,620	
47			6,408,106	8,541,082	9,514,976	10,524,620	10,911,472	11,357,368	11,803,264	12,249,160	12,695,056	13,140,952	13,586,848	14,032,744	144,764,112	12,695,056	
48		TOTAL USES / (SOURCES) CASE															

10/24/15

150440105

**DIRECT TESTIMONY
OF
CHAD E. NOTESTONE
ON BEHALF OF
COLUMBIA GAS OF VIRGINIA, INC.
BEFORE THE
STATE CORPORATION COMMISSION OF VIRGINIA
CASE NO. PUE-2016-00033**

1 **Q. Please state your name, position of employment and business address.**

2 A. My name is Chad E. Notestone, and I am a Manager of Regulatory Accounting for
3 NiSource Corporate Services Company ("NCSC"). My business address is 290 W.
4 Nationwide Blvd., Columbus, Ohio 43215. A statement of my background and
5 qualifications is attached as Appendix A.

6 **Q. Please discuss your areas of responsibility.**

7 A. As Manager of Regulatory Accounting, I am responsible for providing regulatory services
8 and support for NiSource Inc.'s ("NiSource") gas distribution subsidiary companies.
9 Specifically, I provide support for various rate filings and compliance filings made with
10 the state regulatory commissions.

11 **Q. Have you previously testified before any regulatory commission?**

12 A. Yes. I submitted testimony in support of Columbia Gas of Virginia, Inc.'s ("CGV" or the
13 "Company") most recent general rate case before the State Corporation Commission of
14 Virginia ("Commission"), Case No. PUE-2014-00020 (the "2014 Rate Case"). I have also
15 provided testimony supporting matters before the Kentucky Public Service Commission
16 and the Public Service Commission of Maryland.

17 **Q. Please provide a brief overview of the Company's application.**

18 A. The Company's application requests authority to increase its rates and charges, effective
19 for the first billing unit of October 2016, and to revise the terms and conditions
20 applicable to gas service as described more fully herein ("Application"). The proposed

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rates and charges are designed to increase the non-gas base revenues of CGV by approximately \$37 million per year. This revenue increase includes \$7 million associated with investments under the Company's Steps to Advance Virginia's Energy ("SAVE") Plan pursuant to Va. Code §§ 56-603 *et seq.* (the "SAVE Act"), which the Company recovers through a rate mechanism ("SAVE Rider") separate from base rates. As permitted under the SAVE Act, CGV is proposing to include recovery of \$7 million of SAVE investment in base rates and to set the current SAVE Rider at zero coincident with the implementation of its proposed base rates.

Q. What is the purpose of your testimony in this proceeding?

A. The purpose of my testimony is to discuss and provide support for CGV's original cost rate base for both the historic test year ended December 31, 2015 and the forecasted 13 month average rate year ending September 30, 2017 ("rate year"). I will also present and support the Balance Sheet Analysis and Lead Lag Cash Working Capital study for CGV.

Q. Are you sponsoring any schedules in connection with your direct testimony?

A. Yes. My testimony supports the following Schedules, which were prepared by me or under my supervision and direction, and are accurate and complete to the best of my knowledge and belief:

- **Schedule 12** – 13 month average December 31, 2015 Rate Base, Earnings Test per books
- **Schedule 14** – 13 month average December 31, 2015 Rate Base, Earnings Test jurisdictional adjusted
- **Schedule 17** – Lead Lag Cash Working Capital Calculation, based on the test year ended December 31, 2015

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- 1 • **Schedule 18** – Balance Sheet Analysis, based on the per books 13 month
- 2 average at December 31, 2015

- 3 • **Schedule 22** – period end December 31, 2015 jurisdictional Rate Base

- 4 • **Schedule 24** – 13 month average September 30, 2017 jurisdictional Rate Base
- 5 adjusted

- 6 • **Schedule 27** – Lead Lag Cash Working Capital Calculation, based on the test
- 7 year ended December 31, 2015

- 8 • **Schedule 28** – Balance Sheet Analysis, based on the per books 13 month
- 9 average at December 31, 2015

- 10 • **Schedule 29, Adjustment 30** – Lead Lag Cash Working Capital Calculation –
- 11 Adjusted, based on the test year ended December 31, 2015

- 12 • **Schedule 29 Adjustments 31 – 38, 55, 56** – Rate Base adjustments based on
- 13 the rate year ending September 30, 2017

14 I also sponsor Attachment CEN-1, which contains an analysis of all balance sheet

15 accounts indicating how each accounts' impact is handled in this proceeding.

16 **Q. What is CGV's total rate base for purposes of this case?**

17 A. The Company's jurisdictional 13 month average rate base of \$525,044,677 is based on

18 reasonably predictable original cost for the rate year.

19 **Q. How did you determine the plant investment and other rate base**

20 **adjustments for the forecasted rate year?**

21 A. Actual plant information as of December 31, 2015 was the latest available at the time of

1 the preparation of this filing and, therefore, was used as the starting point for the
2 forecast. Budgeted plant additions supported by Company Witness Philip D. Wilson
3 were then added for the period January 2016 through September 2017 to arrive at the
4 cumulative net plant investment for the rate year. The 13 month average rate year
5 balance was then used to adjust the December 31, 2015 test period plant balance. Other
6 rate base items were adjusted in a similar manner when budget transaction levels were
7 available. Rate Base as of December 31, 2015, adjusted through September 30, 2017, as
8 explained above, is shown on Schedule 24.

9 **Q. Is the method for forecasting net property, plant and equipment in this case**
10 **consistent with the Company's previous rate proceeding before the**
11 **Commission?**

12 A. Yes. The Company's methodology in determining forecasted levels of net plant
13 investment is consistent with the methods used in the 2014 Rate Case.

14 **Q. Did you include the offsetting adjustments for depreciation and deferred**
15 **income taxes?**

16 A. Yes. The Company's accumulated provision for depreciation and accumulated provision
17 for deferred income tax were adjusted accordingly for the projected rate year activity.

18 **Q. Did you make any adjustments to accumulated deferred income taxes**
19 **("ADIT") for the rate year?**

20 A. Yes. CGV is including an adjustment to include the deferred income tax asset on
21 contributions in aid of construction ("CIAC") accumulated for the rate year. This
22 adjustment is necessary because the Company is proposing to change the way it
23 calculates customer reimbursements by eliminating the tax gross up on the
24 reimbursements.

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1 **Q. Please explain what a tax gross up is and why it is sometimes required on**
2 **reimbursements received by the Company.**

3 A. Reimbursements received by the Company for the relocation of existing facilities or the
4 construction of new facilities are considered a CIAC, which may or may not be subject to
5 income tax. Contributions that are received as a prerequisite or an inducement to
6 providing service by the utility are generally taxable, while contributions received for
7 projects clearly benefitting the public as a whole (*i.e.*, government-required relocation
8 projects) are generally not taxable pursuant to Internal Revenue Service (“IRS”) Notice
9 87-82, 1987-2 CB 389 (Appendix A) and Internal Revenue Code (“IRC”) Section 118(b).

10 Prior to the Tax Reform Act of 1986 reimbursements received by the Company were
11 treated as non-taxable contributions to the capital of a Corporation. The amendment of
12 IRC Section 118(b) by the Tax Reform Act of 1986 requires that taxable CIACs be
13 included in taxable income in the year received and is effective for contributions received
14 after December 31, 1986. Because of the repeal of the income exclusion for CIAC, taxable
15 contributions from customers may require a gross-up for the payment of income taxes,
16 depending upon each jurisdiction’s regulatory policy. If a gross-up is not required by the
17 jurisdiction, the Company is required to include the deferred income tax asset on the
18 CIAC in rate base upon which a rate of return is calculated.

19 **Q. Which method is currently being utilized by the Company and why is the**
20 **Company requesting a change?**

21 A. The Company is currently required to calculate a gross-up on each taxable
22 reimbursement received. The Company is requesting a change to include the deferred
23 income tax asset on the CIAC in rate base in order to encourage new business and
24 development by making the cost of these projects less prohibitive with the elimination of
25 the gross-up. For example, the tax gross-up can be as much as one-third or more of the

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1 total CIAC depending on the effective tax rates and discount rate used for the gross-up
2 calculation.

3 **Q. Did you make any other adjustments to ADIT for the rate year?**

4 A. Yes included on Schedule 29, Adjustment 37, Sheet No. 1 and Adjustment 38, Sheet No. 1
5 is an adjustment required by the IRC related to ADIT. Whenever there are estimated
6 changes in the deferred taxes that occur in a future rate period, the normalization
7 requirements of the IRC require that the deferred taxes be reflected on a pro rata basis as
8 provided under Reg. Section 1.167(l)-1(h)(6)(ii). A future test period is defined as that
9 portion of the test period after the effective date of the rate order. Under the pro rata
10 basis, the change in the deferred taxes is determined by multiplying the change by a
11 fraction of the number of days remaining in the period at the time such change is to be
12 accrued over the total number of days in the future period.

13 **Q. Did you include a rate base allowance for cash working capital (“CWC”)?**

14 A. Yes. The results of the full Balance Sheet Analysis and Lead Lag study were used for the
15 CWC requirement in this case, which is discussed in further detail later in my testimony.

16 **Q. Please explain how you determined the level of other working capital items
17 for rate base along with the deductions for customer deposits and supplier
18 refunds.**

19 A. A 13 month average of actual balances in Fuel Stock – Account 151; Materials and
20 Supplies – Account 154; Customer Deposits – Account 235; and Supplier Refunds –
21 Account 242 ended December 31, 2015 were used for the rate year. Budget transaction
22 details are not available for these accounts and CGV does not anticipate a material
23 change to occur in these balances for the rate year. These balances will be updated as
24 more actual data becomes available.

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1 **Q. How is the Company treating its Commission-approved SAVE Plan-related**
2 **rate base investment in this case?**

3 A. The Company's rate base requirement in this proceeding includes all SAVE-related
4 infrastructure investment costs.¹

5 **Q. Did CGV include any other deferred debits in rate base?**

6 A. Yes. The Company included a rate base adjustment to include the deferred debits in
7 Account 186 related to the deferral of eligible safety activity costs,² as well as the
8 unamortized portion of deferred expenses related to strategic natural gas facilities.³ The
9 calculation of the 13 month average deferral balance for the rate year is shown in
10 Adjustments 55 and 56.

11 **Q. Please describe the methodology CGV used to determine CWC for ratemaking**
12 **purposes.**

13 A. CGV continues to provide a full Balance Sheet Analysis and Lead Lag study for calculating
14 CWC as set forth in the Commission's Rules Governing Rate Utility Rate Applications and
15 Annual Informational Filings.⁴ The methodology used to determine CWC is consistent with
16 that used in the 2014 Rate Case. Accordingly in this case, I have examined the impact of the
17 Balance Sheet accounts on CGV's cash flows and included it in the calculation of the CWC
18 requirement.

19 **Q. Briefly define CWC and describe the Lead Lag method of determining CWC for**
20 **rate making purposes.**

21 A. Working capital, as it applies to a regulated utility and rate base, is a value assigned to

¹ CGV's SAVE Plan was initially approved by the Commission in Case No. PUE-2011-00049 and was most recently amended and extended by the Commission's Order Approving Amended SAVE Plan in Case No. PUE-2015-00071.

² See Paragraph (9) of the Stipulation and Recommendation approved in Case No. PUE-2014-00020.

³ Va. Code § 56-235.9.

⁴ 20 VAC 5-201-10 *et seq.*

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1 **Q. Please explain how the revenue lag days were determined.**

2 A. The revenue lag of 33.66 days, Column 4 on Sheet No. 2, is detailed on Sheet No. 3 of
3 Schedule 27. The revenue lag is comprised of a 15.21 day “meter reading” period for tariff
4 sales, a 16.10 day collection lag and a 2.35 day billing lag. CGV reads most of its meters
5 once a month on a cycle basis with the time between meter readings averaging 30.42 days
6 (365 divided by 12). Since service is provided throughout the month, the average lag from
7 the time service is rendered until the meters are read is 15.21 days (30.42 divided by 2).

8 The collection lag, calculated on Sheet No. 3a, represents the time from the date bills are
9 rendered to the date cash is received in payment of the customer’s bill. This lag was arrived
10 at through examination of accounts receivable balances for tariff sales and transportation
11 accounts using the accounts receivable turnover method. In compliance with the
12 Commission’s Order in Case No. PUE-1995-00033, and consistently followed in
13 subsequent cases, end of month book balances were utilized as the most accurate measure
14 of customer accounts receivable. Under the accounts receivable turnover method, the 12
15 month-end balances of accounts receivable were averaged to calculate the Average Daily
16 Accounts Receivable Balance of \$14,627,398 (\$175,528,773 divided by 12). Per Book
17 Revenue adjusted as explained below was divided by 365 days to calculate the Average
18 Daily Revenue of \$991,060 (\$361,737,047 divided by 365). The Average Daily Accounts
19 Receivable Balance is divided by the Average Daily Revenue to arrive at 14.76 Revenue
20 Collection Lag Days. As detailed on Sheet No. 3d, the Revenue Collection Lag Days were
21 further adjusted by 1.34 days to account for known changes in payment processing dates
22 that will be in effect during the rate year. Expected impacts to accounts receivable balances
23 from this process change were calculated based on actual billing information from affected
24 customers for the 12 months ended December 31, 2015. The result is a total Revenue
25 Collection Lag of 16.10 days.

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1 **Q. Please continue.**

2 A. Utility service taxes and state and local consumption taxes shown on Line 9 are customer
3 “add-on” taxes and are added to the per book revenue because they are included in the
4 Accounts Receivable Balance. Similarly, per book revenue must be adjusted for supplier
5 refunds because customer Accounts Receivables also include these while they are not
6 included in revenue.

7 The billing lag days, shown on Sheet No. 3c, represents a weighted average number of days
8 required to process the billing data for CGV’s customers. Each of CGV’s customers is billed
9 under one of three billing systems, depending upon the nature of the service provided and
10 the manner in which billed volumes are determined. The majority of CGV’s customers are
11 billed through the Distributive Information System (“DIS”). DIS issues a bill the next
12 business day after a customer’s meter is read. All other customers are billed through either
13 the Gas Transportation System (“GTS”) or the Gas Accounting System (“GAS”). For GTS
14 service, customer gas is delivered to CGV on a calendar basis while their meters are read on
15 a cycle basis. Billings are held until the end of the month to ensure and verify that adequate
16 supplies were delivered. GAS primarily handles larger customers that typically require
17 daily consumption data. For both GTS and GAS, all bills generated during the historical
18 test year were analyzed to determine the number of days between the meter read date and
19 the billing date. All three groups were then weighted, based on revenue billed, to arrive at
20 an overall average of 2.35 days.

21 **Q. How were the expense lead days for gas purchases determined?**

22 A. CGV purchases gas from various producers and transports it through interstate pipeline
23 companies. In determining the gas purchase expense lead, all purchases paid during the
24 test year were reviewed.

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1 For each service month, the number of days from the midpoint of service to the payment
2 date for gas received was determined. The gas purchase expense lead days are calculated by
3 dividing the annual weighted dollar lead days by the annual amount paid to the suppliers.
4 On Sheet No. 4, the costs for all suppliers are totaled and averaged to establish an overall
5 weighted average of 37.60 lead days for gas purchased.

6 **Q. Were all of the various types of payroll used in determining the number of**
7 **lead days for payroll?**

8 A. Yes. Sheet No. 5 shows the calculation of lead days for gross pay in Column 2. There are
9 5.88 lead days with regard to payroll for bi-weekly paid employees, which are comprised of
10 7 days from the midpoint to the end of the pay period, less 1 day from the end of the pay
11 period on Saturday to the day checks are issued on the previous Friday. The monthly
12 payroll has an expense lead of 14.49 days and, combined with the bi-weekly expense lead,
13 payroll has an overall average lead of 8.17 days as shown on Line 3, Column 2.

14 **Q. How are the uncollectible expense lead days of 137.56 on Sheet No. 6**
15 **determined?**

16 A. The uncollectible lead days are calculated based on the number of days from the midpoint
17 of service until the time the Company charges off the account, which is 120 days after the
18 bill is rendered. As such, 137.56 days represents the proper expense lead days for
19 uncollectible accounts which is the sum of the days from the midpoint of service (15.21
20 days), billing lag (2.35 days), plus the time period of non-payments (120 days).

21 **Q. What is included in Other Operations and Maintenance Expense (Line 20 on**
22 **Sheet No. 2) and how was the 44.86 day expense lead determined?**

23 A. Payments to a wide variety of vendors for all Operations and Maintenance ("O&M") costs,
24 other than those already mentioned (payroll, benefits, gas purchased and uncollectibles)

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1 were included. Payments are made through several payable systems with most being paid
2 through either the accounts payable system ("Catalyst") or the Work Management System
3 ("WMS"). Because most of the payments are made through these two systems, separate
4 lead days were calculated and then combined to arrive at an overall average for this
5 category of expense. For the Catalyst system, 400 invoices were randomly chosen. Each
6 invoice was reviewed to determine the service period of the O&M expense. The payment
7 date is readily available as part of the accounts payable system. The lead days between the
8 payment date and the midpoint of the service period were calculated. The lead days were
9 dollar weighted to arrive at an overall dollar weighted expense lead of 49.62 days.

10 For WMS, all of the purchase orders were used to calculate the lead days between the
11 purchase order date and the check date. The lead days were dollar weighted to arrive at an
12 overall dollar weighted expense lead of 38.25 days. For the two payment systems, the lead
13 days for the above O&M costs were further dollar weighted, by applying percentages
14 representing the ratio of O&M costs paid via WMS and Catalyst, respectively, to calculate a
15 total lead of 44.86 days as summarized on Sheet No. 7.

16 **Q. Please explain the number of lead days shown on Sheet No. 2 Line 23 for**
17 **payroll taxes.**

18 A. Payroll tax lead days of 8.86 days are based on the statutory requirements for payment of
19 Federal Insurance Contributions Act ("FICA") and Federal and State Unemployment taxes.
20 NiSource/CGV is a next day taxpayer for FICA. Therefore, in computing the FICA lead on
21 Sheet Nos. 8a-1 and 8a-2, the respective payroll leads were used and weighted based on
22 FICA withholdings and result in 8.03 expense lead days (See Sheet No. 8a).
23 Unemployment taxes, both federal and state, are based on quarterly payments and result in
24 74.50 lead days for each. The weighted average lead for Payroll Taxes is 8.86 days.

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1 **Q. What is the number of expense lead days for Property and Other Taxes?**

2 A. Property taxes averaged 117.25 expense lead days based on the statutory payment schedule
3 shown on Sheet No. 9. Other taxes include the state sales and registration fee and provide
4 CGV with working capital as indicated by the 35.20 average lead days shown on Sheet
5 No. 10.

6 **Q. Do Federal Income Taxes - Current follow a schedule prescribed by the IRS?**

7 A. Yes, beginning in 1996, federal tax law requires 100% of the current year estimated tax
8 liability to be paid in four equal installments.

9 **Q. Why are there no lead days for post-1970 investment tax credits?**

10 A. To assign lead days would be to flow tax credit benefits through to ratepayers in a manner
11 other than that permitted by the normalization requirements of the IRS. This methodology
12 has been used in previous CGV cases and accepted by the Staff.

13 **Q. How were the lead days for interest on customer deposits and refunds
14 computed?**

15 A. Interest on customer deposits represents interest on deposits CGV requires as a security
16 from customers with no or bad payment history. The interest is recovered in rates and,
17 because CGV holds the deposit for one year, the lead days are equal to the midpoint of the
18 year or 182.5 days (365 days divided by 2).

19 **Q. How are the capital cost components measured?**

20 A. Interest expense lead days were based on the semi-annual payments of CGV's installment
21 promissory notes and monthly interest payments of CGV's money pool borrowings. The
22 weighted average lead days totaled 90.70 days as shown on Sheet No. 13.

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1 **Q. Please explain why accrued vacation expense, prepaid insurance expense,**
2 **stored gas expense, injuries and damages expense, depreciation and**
3 **amortization expense, employee benefits expense, incentive compensation**
4 **expense, pension and retirement income plan expense, and deferred federal**
5 **income tax expense have been assigned zero lead days.**

6 A. In Case No. PUE-1992-00037, the Staff recommended, and the Commission concurred,
7 that several accounts receive a zero lead day because these accounts are included in the
8 Balance Sheet analysis. As required by the Commission's Final Order in Case No. PUE-
9 1992-00037, zero lead days were assigned to the accounts mentioned above.

10 **Q. Please explain the impact of Customer Utility Taxes and State and Local**
11 **Consumption Taxes on CGV's CWC as shown on Lines 43 and 44, respectively.**

12 A. As explained earlier, these taxes are customer taxes. Adjustments were made to revenue for
13 these taxes to properly calculate the revenue lag. However, the collection and payment of
14 these taxes require working capital. The Customer Utility Tax and State and Local
15 Consumption Tax lead days of 30.79 and 34.53 days, respectively, are developed on Sheet
16 Nos. 14 and 15, respectively. The revenue lag days of 33.66 are subtracted from the expense
17 lead days of 30.79 and 34.53 to arrive at the net lag days of 2.87 and net lead days of -0.87
18 days, respectively. Because these two taxes are not part of the cost of service, test year
19 payments are used to arrive at the related cash working capital shown in Column 6, Lines
20 43 and 44.

21 **Q. What was the historic working capital requirement resulting from the**
22 **application of the lead lag method?**

23 A. As indicated on Schedule 27, Sheet No. 2, the Net Working Capital Requirement for the
24 Twelve Months Ended December 31, 2015 is \$6,551,920.

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Q. Please explain the difference between Sheet No. 2 and Sheet No. 2b of Schedule 27.

A. In compliance with the Staff's method of calculating CWC, Sheet No. 2b is the net working capital requirement prepared on a jurisdictional basis. Jurisdictional percentages were applied to the per book amounts shown on Sheet No. 2, Column 1. The percentages were obtained from the Jurisdictional Study shown in Schedule 40b. As indicated on Schedule 27, Sheet No. 2b, the jurisdictional-based historic Net Working Capital Requirement is \$5,880,362.

Q. Where is the adjusted net working capital requirement?

A. The adjusted Net Working Capital Requirement of \$5,200,002 is shown on Schedule 29 Adjustment 30, Line 48.

Q. Please discuss the Balance Sheet Analysis.

A. I have examined the impact that the balance sheet accounts have on CGV's cash flows and related CWC requirement and have included \$5,023,334 and \$4,348,231 on Line 45 of Sheet No. 2 and Line 43 of Sheet No. 2b, respectively, of Schedule 27. CGV's Balance Sheet Analysis in this case includes several additional accounts as recommended by Staff in the 2014 Rate Case.⁵ Schedule 28, Sheet No. 2 shows the Balance Sheet Analysis which is based on a 13 month average of per book account balances, except for those specifically noted, for the test year ended December 31, 2015. Schedule 28 is supported by Attachment CEN-1, which contains an analysis of all balance sheet accounts indicating how each accounts' impact is handled in this proceeding.

Q. Does this conclude your pre-filed direct testimony?

A. Yes, it does.

⁵ See Pre-filed Staff Testimony of Paul M. McLeod at 24.

APPENDIX A

**BACKGROUND AND QUALIFICATIONS
OF
CHAD E. NOTESTONE**

I attended Ohio University and received a Bachelor of Business Administration degree in Finance in 2006 and a Master of Business Administration degree in 2013.

I began my career with NCSC in 2007 as a Regulatory Analyst. I was promoted to Senior Regulatory Analyst in 2009 and then to Lead Regulatory Analyst in 2013. I assumed my current position in 2015. In addition to my work experience, I have attended a variety of public utility accounting and ratemaking seminars.

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Exhibit No.
Witness: C.E. Notestine
Attachment GEN-1
Page 5 of 5

Columbia Gas of Virginia, Inc
Support for Balance Sheet Analysis Schedules 18 and 28
As of December 31, 2015

Account Number	12/31/15 Balance	Description	Included in
Gas Util & Other Plant			
101-107	1,049,199,052	Total Utility Plant	Rate Base
Accumulated Depreciation & Depletion			
108-111	(294,951,582)	Accum Prov - Amort and Depr	Rate Base
Cash & Temporary Cash Investments			
13100000	1,014,804	Cash	CWC requirement
13400000	10,000	Other Special Deposits	CWC requirement
13500002	1,690	Petty Cash Funds	CWC requirement
13601000	3,590,295	Temp Cash Inv-Brkr Margn Dep	Not included
A/R Customers (Less Allowance for Doubtful Accts)			
14200160	19,918,846	Cust AR-Credit Balances	Not included
14200220	(3,116,104)	Cust AR-CAB	Lead Lag
14200230	4,658	Cust AR-CAB Late Payment	Lead Lag
14200250	690,296	Cust AR-GMB	Lead Lag
14200260	504,394	Cust AR-Cust Premise Work	Lead Lag
144	(882,535)	Accum Prov Uncollectible - Cr	Lead Lag
A/R Other			
14300001	1,066,304	Misc Accts Rec-Other	Partially included in Balance Sheet Analysis
14300018	851,480	Other AR-Billed OSS	Lead Lag
14300220	60,447	Other AR-GMB Estimate	Lead Lag
14300240	3,935,589	Other AR-GTS	Lead Lag
14300260	(11,749)	Other AR-Choice-Billing Fee	Not included
14300270	928	Other AR-Retail Service	Not included
14300300	30,204	Other AR-Rent Deposits	Balance Sheet Analysis
14300330	(1,133,621)	Other AR Choice Trans-Columbia	Lead Lag
14300340	339,646	Other AR Choice Trans-Marketer	Not included
14300350	406,454	Other AR Choice Trans-Purchase	Not included
14300395	51,989	Other AR-CPG Non-Transit Srvcs	Lead Lag
14301000	0	AR-Tax-Curr-Federal	Not included
14302000	75,028	AR-Tax-Curr-State	Balance Sheet Analysis
A/R From Associated Companies			
14600000	1,322,479	AR Assoc Co-Mech	Lead Lag
14620000	98,589	Foreign Cash	Lead Lag
Gas Inventory			
15101000	512,442	Fuel Stock - Gas	Rate Base
15400000	236,012	Plant Materials-Oth Supplies	Rate Base
16410000	27,666,813	Gas Stored-Current	Not included
16420000	932,313	Liquefied Natural Gas Stored	Not included
Prepayments			
16500000	10,621	Other Misc Prepayments	Not included
16520000	330,648	Prepaid-Insurance Affiliate	Balance Sheet Analysis
16521000	560,382	Prepaid-Insurance NonAffil	Balance Sheet Analysis
Accrued Utility Revenues			
17300000	16,272,868	AR Accrued Revenues - Unbilled	Not included
17302000	81,744	AR Accrd Rev Unbill Exch Gas	Not included
Other Current Assets			
17401000	22	Misc Assets-Exch Gas Receiv	Balance Sheet Analysis
17505000	320	Deriv Instrmnt Asset -Non-Curr	Not included
17500000	240	Deriv Instrmnt Asset -Curr	Not included
Other Regulatory Asset			
18230004	796,812	Reg Asset Environ Cur	Not included
18230005	215,502	Reg Asset OPEB Transition	Balance Sheet Analysis
18230200	24,970	Reg Asset Cr Bal Transf	Not included
18230430	1,658,360	Reg Asset Hedging	Not included
18230500	1,233,404	Reg Asset CGV Residential RNA	Not included
18230510	189,115	Reg Asset CGV SGS RNA	Not included

Exhibit No.
Witness: C.E. Notestine
Attachment GEN-1
Page 2 of 5

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Columbia Gas of Virginia, Inc
Support for Balance Sheet Analysis Schedules 18 and 28
As of December 31, 2015

Account Number	12/31/15 Balance	Description	Included in
18230550	32,320	Reg Asset Unbilled Res RNA	Not included
18230560	(19,177)	Reg Asset Unbilled SGS RNA	Not included
18235104	3,861,188	NC Reg Asset Envir Non-Curr	Not included
18235105	3,537,823	NC Reg Asset OPEB Regulatory	Balance Sheet Analysis
18235400	2,518	NC Reg Asset ERC Site Cost	Not included
18235506	391,211	NC Reg Asset Def Depr Cap Lse	Not included
18235600	920,730	NC Reg Asset Hedging	Not included
18237000	1,159,265	NC Reg Asset Inc Tax NC Fed	Not included
Deferred Debits			
18320000	4,754,050	Oth Prelim Survey B Bal	Balance Sheet Analysis
18320001	(1,094,381)	Oth Prelim Survey Additions	Balance Sheet Analysis
18600400	6,597,837	DefDebitCusAdv_DEPPST12-31-99	Rate Base
18600700	64,785	Def Debit-Non-Current	Rate Base
18608000	22,883	Def Debit-Current	Rate Base
18608200	8,043	Def Debit-Mutual Materials	Balance Sheet Analysis
18608300	5,687	Def Debit-Def Prop Tax	Rate Base
18608400	66,086	Def Debit-PISCC	Rate Base
18608500	22,573	Def Debit-Accum Depr	Rate Base
18608600	1,567,368	Def Debit-DIMP Defr-Level 1	Rate Base
18609000	4,310,263	Def Debit NC-DIMP Defr-Level 1	Rate Base
18609001	2,717,850	Def Debit NC-DIMP Defr-Level 2	Rate Base
18609100	15,639	Def Debit NC-Def Prop Tax	Rate Base
18609200	181,738	Def Debit NC-PISCC	Rate Base
18609300	62,077	Def Debit NC-Accum Depr	Rate Base
18600200	3,743	Def Debit-Maint and Jobng WIP	Balance Sheet Analysis
19001000	6,749,552	ADIT-Other-Current-Fed	Partially included in Balance Sheet Analysis
19002000	1,287,234	ADIT-Other-Current-State	Partially included in Balance Sheet Analysis
19005000	10,803,644	ADIT-Other-Noncurr-Fed	Partially included in Balance Sheet Analysis, Rate Base
19005100	236,384	ADIT Reg Liability NC - Fed (Investment Tax Cr)	Not included
19006000	953,626	ADIT-Other-Noncurr-State	Partially included in Balance Sheet
19006100	43,124	ADIT Reg Liability NC - State	Not included
19100100	(13,636,145)	Unrecov Purchs Gas Costs-Com	Not included
19100400	6,185,730	End User Exchange	Not included
19100500	102,747	Unrecov PurchGas Cst-Specl Adj	Not included
19100800	(6,302,000)	Unrecov Purch Gas Cst-Unbill	Not included
Equity			
Common Stock, at Par Value			
20100000	65,305,300	Common Stock-Beg Balance	Capital Structure
Additional Paid in Capital			
20700000	1,886,691	Premium on Capital Stock	Capital Structure
20800000	2,256,000	Donations Received B Bal IC	Capital Structure
21100000	3,637,085	APIC Beg Balance	Capital Structure
21108000	(41,869)	APIC Tax Savings Allocation	Capital Structure
Retained Earnings			
21600000	40,736,357	Retained Earnings-Beg Bal	Capital Structure
	24,574,634	Retained Earnings - Current Year	Capital Structure
21600003	105,904,028	Retained Earnings-Pre Merger	Capital Structure
Other Comprehensive Income			
21901000	(627,681)	OCI-SFAS 133 Beg Bal	Not included
21901010	(484,181)	OCI-SFAS 133 Gross	Not included
21901020	646,550	OCI-SFAS 133 Reclas Adj	Not included
21901030	153,084	OCI-SFAS 133 Fed Tax	Not included
21901040	27,916	OCI-SFAS 133 St Tax	Not included

Columbia Gas of Virginia, Inc
Support for Balance Sheet Analysis Schedules 18 and 28
As of December 31, 2015

Account Number	12/31/15 Balance	Description	Included in
21905000	(13,834,067)	OCI-Pension Oblig Beg Bal	Balance Sheet Analysis
21905010	(2,203,257)	OCI-Pension Oblig Adj	Balance Sheet Analysis
21905020	5,276,281	OCI-Pension Oblig Fed Tx	Balance Sheet Analysis
21905030	962,239	OCI-Pension Oblig St Tax	Balance Sheet Analysis
21905200	2,534,639	OCI-OPEB Oblig Beg Bal	Balance Sheet Analysis
21905210	-	OCI-OPEB Oblig Add	Balance Sheet Analysis
21905220	85,993	OCI-OPEB Oblig Adj	Balance Sheet Analysis
21905230	(862,192)	OCI-OPEB Oblig Fed Tax	Balance Sheet Analysis
21905240	(157,239)	OCI-OPEB Oblig State Tax	Balance Sheet Analysis
Liabilities			
Long Term Debt			
22300000	255,275,000	Adv from Assoc Co-Beg Bal	Capital Structure
22300010	39,000,000	Adv from Assoc Co-Issuances	Capital Structure
22300030	(13,000,000)	Adv from Assoc Co-Transfers	Capital Structure
Other Noncurrent Liabilities			
22700000	5,770,655	Oblig Und Cap Leas B Bal	Not included
22700002	(243,198)	Oblig Und Cap Leas NC Transfer	Not included
22820000	49,837	Accum Prov Prop Injur Damg	Balance Sheet Analysis
22834010	2,492,280	Accum Provisions OPEB- Active	Balance Sheet Analysis
22838000	7,838,634	Accum Provisions Pen Cost Qual	Balance Sheet Analysis
22838020	68,424	Accum Prov LT PenCost Non-Qual	Balance Sheet Analysis
22839000	1,900	Accum Prov ST PenCost Non-Qual	Balance Sheet Analysis
22840010	558,238	Other LT Liab-Vacation Banked	Balance Sheet Analysis
Accounts Payable			
23200000	3,835,606	AP - AP Module Use Only	Lead Lag and Balance Sheet Analysis
23200001	1,163,991	AP-Misc	Lead Lag and Balance Sheet Analysis
23200080	(37,734)	AP-Leases	Lead Lag and Balance Sheet Analysis
23201055	-	AP-PNC Wires_ACH	Lead Lag and Balance Sheet Analysis
23201056	18,772	AP-PNC Disbursement	Lead Lag and Balance Sheet Analysis
23201058	(23,028)	AP-PNC Land Disbursement	Lead Lag and Balance Sheet Analysis
23201061	2,955,915	AP-MellonBank Disbursement_ACH	Lead Lag and Balance Sheet Analysis
23202300	5,360,488	AP-Gas Purchases-Producer	Lead Lag and Balance Sheet Analysis
23202400	5,247,623	AP-Gas Purchases-Transport	Lead Lag and Balance Sheet Analysis
23202500	1,467,899	AP-Choice Marketer Payable	Lead Lag and Balance Sheet Analysis
23202900	8,619	AP-CPG Non-Transition Srvces	Lead Lag and Balance Sheet Analysis
NP to Associated Cos			
23300000	33,300,000	NP Assoc Co-Beg Bal	Capital Structure
23300020	(33,300,000)	NP Assoc Co-Retirements	Capital Structure
23300030	13,000,000	NP Assoc Co-Transfers	Capital Structure
AP to Associated Cos			
23400000	5,457,721	AP Assoc Co-Mech	Lead Lag
23400010	1,380,861	AP Assoc Co-Interest	Lead Lag
23400030	-	AP Assoc Co-Transportation	Lead Lag
23400111	106,864	AP Assoc Co-ERS_Only	Lead Lag
23410000	31,897,770	Money Pool Borrowings	Capital Structure
23410001	20,734	Money Pool Borrowings Int Pay	Capital Structure
Customer Deposits			
23500000	8,936,707	Customer Deposits	Rate Base
Accrued Taxes			
23601000	(2,470,751)	Accrd Fed Inc Tax-Current	Lead Lag

Columbia Gas of Virginia, Inc
Support for Balance Sheet Analysis Schedules 18 and 28
As of December 31, 2015

Account Number	12/31/15 Balance	Description	Included In
23602000	96,855	Accrd ST Inc Tax-Current Year	Lead Lag
23603200	1,139,826	Accrd Property Tax	Lead Lag
23603300	39,742	Accrd Sales and Use Tax	Lead Lag
23603700	121,527	Accrd Taxes Incentive Plan	Lead Lag
23604100	1,261	Accrd Unempl Insur-State	Lead Lag
23605000	(0)	Accrd Fed Inc Tax-Noncurrent	Lead Lag
Accrued Interest			
23700010	166,933	Int Accrued-Cust Deposit	Not included
Other Current Liabilities			
24103300	46	Tax Coll Pay Sales and Use Tax	Lead Lag
24103500	1,356,913	Tax Coll Pay State Consum Tax	Lead Lag
24200000	250,000	Accd Liab-Misc	Not included
24201629	1,085,466	Accd Liab-Unclaimed AP Checks	Balance Sheet Analysis
24202500	-	Accd Liab-Thrft Pln Restr Com	Balance Sheet Analysis
24203000	231,741	Accd Liab-Profit Sharing	Lead Lag and Balance Sheet Analysis
24203100	1,588,644	Accd Liab-Incentive Compnstion	Lead Lag and Balance Sheet Analysis
24203200	638,216	Accd Liab-Vacation Pay PY	Lead Lag and Balance Sheet Analysis
24203201	1,516,178	Accd Liab-Vacation Pay CY	Lead Lag and Balance Sheet Analysis
24203300	(79,672,191)	Accd Liab-Payroll	Lead Lag and Balance Sheet Analysis
24203305	79,992,156	Accd Liab-Gross Payroll	Lead Lag and Balance Sheet Analysis
24204000	785	Accd Liab-PR Ded Misc	Lead Lag and Balance Sheet Analysis
24204080	9,189	Accd Liab-PR Ded ThrftPlan Pyt	Lead Lag and Balance Sheet Analysis
24204081	10,749	Accd Liab-PR Ded ThrftPlan EE	Lead Lag and Balance Sheet Analysis
24204082	439	Accd Liab-PR Ded Roth401k Plan	Lead Lag and Balance Sheet Analysis
24204090	902	Accd Liab-PR Ded FSA Health	Lead Lag and Balance Sheet Analysis
24204091	706	Accd Liab-PR Ded FSA Dep Care	Lead Lag and Balance Sheet Analysis
24204092	41,969	Accd Liab-PR Ded HSA Benefits	Lead Lag and Balance Sheet Analysis
24204210	17,735	Accd Liab-PR Ded Employee Stk	Lead Lag and Balance Sheet Analysis
24207000	66,836	Accd Liab-Professional Srvc	Lead Lag
24207020	43,044	Accd Liab-Benefits Admin Fees	lead Lag
24207500	1,073,062	Accd Liab-Insurance	Not included
24208000	261,841	Accd Liab-Health Benefits	Lead Lag and Balance Sheet Analysis
24208020	28,001	Accd Liab-Dental	Lead Lag and Balance Sheet Analysis
24209000	360,000	Accd Liab-Environmental	Not included
24211263	69,066	Accd Liab-ST FAS112	Balance Sheet Analysis
24220300	378,984	Accd Liab-Rate Refunds	Rate Base
24224000	19,951,895	Customer AR Credit Balances	Not included
24240050	6,185,752	Accd Liab-Shipper Gas	Partially included in Balance Sheet Analysis
24250110	2,976	Accd Liab-Heatshare Cust Cntri	Balance Sheet Analysis
24250160	225,000	Accd Liab-Gas Supply Cr Dep	Balance Sheet Analysis
24300000	209,157	Oblig Cap Leases Curr-Beg Bal	Not included
24300002	(209,157)	Oblig Cap Leases Curr-Payments	Not included
24300003	243,198	Oblig Cap Leases Curr-Transfer	Not included
Derivative Liability			

Columbia Gas of Virginia, Inc
Support for Balance Sheet Analysis Schedules 18 and 28
As of December 31, 2015

Account Number	12/31/15 Balance	Description	Included in
24405000	920,730	Deriv Instrmnt Liab-Non-Curr	Not Included
24400000	1,658,360	Deriv Instrmnt Liab-Curr	Not included
24500000	328,230	Deriv Instrmnt-Hedg-Curr	Not included
Custmr Advn for Constr NonCur			
25200000	6,975,089	Custmr Advn for Constr NonCur	Rate Base
Deferred Credits			
25300000	24,334	Def Credits	Balance Sheet Analysis
25303020	4,413,062	Def Credits-Environmental	Not included
25304010	337,848	Def Credits-FAS112	Balance Sheet Analysis
25400700	240	Reg Liab Curr-Hedging Prog	Not included
25400450	43,000	Reg Liab Curr-Gas Cost Uncollectible	Not included
25401400	(24,970)	Reg Liab Curr-CARE Program	Not included
25401450	(90,475,775)	Reg Liab Curr-OFS Cust Proceed	Not included
25401500	77,413,670	Reg Liab Curr-Cap Rel Proceeds	Not included
25401600	43,213,991	Reg Liab Curr-OFS Proceeds	Not included
25401650	(30,158,589)	Reg Liab Curr-OFS Proceed-PGCC	Not included
25402300	1,008,518	Reg Liab Curr-CVA Save Prog	Not included
25402400	24,970	Reg Liab Curr-Asset Reclass	Not included
25405050	279,508	Reg Liab NC-Deferred ITC	Not included
25405850	320	Reg Liab NC-Hedging Prog	Not included
Deferred Income Taxes			
28205000	181,343,251	Fed ADIT-Property	Rate Base
28205100	1,153,160	Fed ADIT-Unprovided Property	Not included
28205300	(90,054)	Fed ADIT-ARAM	Rate Base
28206000	20,372,626	St ADIT-Property	Rate Base
28206100	6,105	St ADIT-Unprovided Property	Not included
28301000	819,162	Fed ADIT-Other Current	Partially included in Balance Sheet Analysis
28302000	149,393	ST ADIT-Other Current	Partially included in Balance Sheet Analysis
28305000	(169,640)	Fed ADIT-Other NC	Partially included in Balance Sheet Analysis
28306000	(30,936)	ST ADIT-NC Other	Partially included in Balance Sheet Analysis
Investment Tax Credit			
25500000	439,001	Investment Tax Credit-ITC	Not included

Total Assets 869,416,185
Total Liabilities 869,416,185

**COLUMBIA GAS OF KENTUCKY, INC.
 RESPONSE TO ATTORNEY GENERAL'S INITIAL
 REQUEST FOR INFORMATION
 DATED JULY 8, 2016**

7. Refer to WPD-2.4H. Provide the source and/or calculation of the property tax rates used to calculate the property tax expense in the test year.

Response:

Below please find the calculation methodology for property tax rates used to calculate the property tax expense.

<u>2015 as of 12/31/14</u>	Kentucky
Actual Paid	3,050,057
Actual Assessment	239,670,783
2015 Effective Tax Rate	1.2726%
1.5% Inflation Factor for Anticipated Rate Increase	1.015
2016 Effective Tax Rate	1.2917%
1.5% Inflation Factor for Anticipated Rate Increase	1.015
2017 Effective Tax Rate	1.3111%
<u>2014 as of 12/31/13</u>	West Virginia Stored Gas
Actual Paid	182,757
Actual Assessment	15,466,532
60% Assessment Rate	60%
Assessment x 60%	\$9,279,919
2014 Effective Tax Rate	1.9694%
2016 Effective Tax Rate	1.9694%
2017 Effective Tax Rate	1.9694%

KY PSC Case No. 2016-00162
Response to Attorney General's Data Request Set One No. 8
Respondents: Herbert A. Miller, Jr., Judy Cooper, Jim Racher,
Mark Katko and Matthew Ruth

**COLUMBIA GAS OF KENTUCKY, INC.
RESPONSE TO ATTORNEY GENERAL'S INITIAL
REQUEST FOR INFORMATION
DATED JULY 8, 2016**

8. Refer to page 5 lines 3-7 of Mr. Spanos' Direct Testimony wherein he states: The methods of this study are the same as those utilized in the past by Columbia, however the depreciation procedure has been changed in order to more appropriately match utilization of assets to their recovery. The rates determined in this Depreciation Study are based on the equal life group procedure and the remaining life method.

a. Provide a copy of all communications between the Company and/or NiSource and Mr. Spanos, including, but not limited to, the request for proposal, proposal, engagement letter, contract, purchase order, letters, memos, emails, and/or notes taken by the Company, NiSource, Gannett Fleming, and/or Mr. Spanos.

In a telephone conversation on July 12, 2016, between counsel for Columbia (Stephen Seiple) and counsel for the Attorney General (Kent Chandler), the AG and

Columbia agreed to the following two revisions to this subpart (a) that would narrow the scope of the data request:

(1) The request is for a copy of all communications between Columbia and and/or NiSource and Mr. Spanos for purposes of the depreciation study in this case; and,

(2) With regard to emails, Columbia can limit the email search to those individuals most likely to have had contact with Mr. Spanos for purposes of this case, and those individuals may manually search their email for such communications.

b. Indicate if the Company and/or NiSource directed Mr. Spanos to propose the ELG procedure in the depreciation study or if Mr. Spanos proposed this to the Company and/or NiSource and was authorized to proceed on that basis. Please identify the person(s) and his/her (their) position(s) who authorized Mr. Spanos to propose a change from the ALG to the ELG procedure.

c. Confirm that the Company depreciates and recovers the cost of its plant regardless of whether the ALG or the ELG procedure is used.

d. Confirm that the ELG procedure accelerates depreciation expense and recovery compared to the ALG procedure.

Response:

- a) The attached file AG 1-8 Attachment A sets forth the email correspondence between Columbia and/or NiSource and Mr. Spanos during the conduct of the depreciation study for purposes of this case. There are no other communications or documents. Columbia has attached to this response, as AG 1-8 Attachment B, a spreadsheet detailing the size (in number of printed pages if physically printed) of the attachments to the e-mails in this response. Columbia requests the Attorney General's Office identify for Columbia the attachments it would like produced and Columbia will work with the Attorney General's Office to promptly produce those attachments. (By phone conversation between Steve Seiple and Kent Chandler on July 19, 2016, the Attorney General's office agreed to this procedure.)

Columbia did not issue a request for proposal for Mr. Spanos' services. There is no contract or engagement letter for Mr. Spanos. The May 25, 2016 (at 11:22 a.m.) e-mail chain contains details on the engagement of Gannett Fleming and Mr. Spanos for the depreciation study for purposes of this case.

- b) Mr. Spanos determines alternative scenarios during the conduct of his depreciation studies which always includes results using the ASL and

ELG procedures. The ELG procedure has been proposed in past depreciation studies for Columbia, but each of those cases have resulted in settlement. Mr. Spanos recommended the use of ELG in this proceeding and Columbia agreed once again based on the merits of the depreciation procedure.

- c) It is true that Columbia will recover the cost of its plant and net salvage percent regardless of whether it utilizes the ASL or ELG procedure as long as it is combined with the remaining life method. The ELG method is the method that matches the recovery of the asset more closely to the utilization of the asset.
- d) The ELG procedure does not accelerate depreciation expense and recovery as compared to the ASL procedure. The ELG is a better match of the utilization to the recovery of the asset.

**Fw: KY PSC Case No. 2016-00162 - Columbia Gas of Kentucky Rate Case -
AG 1-8(a)**

Kevin Yates to: Cheryl MacDonald
Cc: Steve Seiple, Matthew Ruth

07/13/2016 04:21 PM

History: This message has been replied to.

Cheryl,

I've done a basic search of emails and combined into a pdf file.



CKY Combined Emails AG Set 1-8 KY.pdf

Feel free to contact me if I can be of any assistance.

Regards

Kevin Yates
Lead Financial Analyst
NGD Fixed Assets
work 614-460-4726

----- Forwarded by Kevin Yates/NCS/Enterprise on 07/13/2016 04:18 PM -----

From: Matthew Ruth/NCS/Enterprise
To: Kevin Yates/NCS/Enterprise@NiSource,
Date: 07/12/2016 10:29 AM
Subject: Fw: KY PSC Case No. 2016-00162 - Columbia Gas of Kentucky Rate Case - AG 1-8(a)

Kevin,

Can you perform the below search for communication with John Spanos for CKY Depreciation study?

Matthew Ruth
NiSource
Columbia Gas Companies
Asset Accounting Manager
Phone: 614-460-4741

----- Forwarded by Matthew Ruth/NCS/Enterprise on 07/12/2016 10:28 AM -----

From: Steve Seiple/NCS/Enterprise
To: Herbert A Miller/CKY/Enterprise@NiSource, Judy Cooper/CKY/Enterprise@NiSource, James F Racher/NCS/Enterprise@NiSource, Mark Katko/NCS/Enterprise@NiSource, Matthew Ruth/NCS/Enterprise@NiSource,
Cc: Joseph Clark/NCS/Enterprise@NISOURCE, Kimra Cole/NCS/Enterprise@NISOURCE, Linda Rumpke/CKY/Enterprise@NISOURCE, kscuccia@nisource.com, Cheryl MacDonald/NCS/Enterprise@NiSource
Date: 07/12/2016 10:21 AM
Subject: KY PSC Case No. 2016-00162 - Columbia Gas of Kentucky Rate Case - AG 1-8(a)

Herb, Judy, Jim, Mark and Matt,

I had a discussion with one of the Kentucky AGs this morning about the overbroad nature of AG data request #8(a). In order to avoid CKY having to object to the question, we agreed to two modifications to the question:

- (1) the request is for a copy of all communications between CKY and and/or NiSource and Mr. Spanos *for purposes of the depreciation study in this case.*
- (2) with regard to emails, CKY can limit the email search to those individuals most likely to have had contact with Mr. Spanos for purposes of this case, and those individuals may manually search their email for such communications.

Matt, I suspect you had the bulk of the contact with Mr. Spanos. Is there anyone else who may had contact with Mr. Spanos for purposes of this case to whom this email should be forwarded?

For each of you (Herb, Judy, Jim, Mark and Matt) please search your inbox, sent mail and any relevant folders for any email correspondence related to the depreciation study in this case that you may have with Mr. Spanos. Please copy those emails into a pdf file and send the pdf file to Cheryl MacDonald (with me on the cc: list for the email) so that she can include them as part of the response to AG #8(a). Even if you have no such correspondence please send Cheryl an email so that we will know you conducted the search.

Thanks!

Stephen B. Seiple | Assistant General Counsel

290 W. Nationwide Blvd. | P.O. Box 117 | Columbus, OH 43215

sseiple@nisource.com | 614-460-4648 (Office) | 614-595-8331 (Cell)

Final Version of Testimony - CGKY

Kevin Yates to: jspanos
Cc: Matthew Ruth, Mark Katko

05/19/2016 02:38 PM

John,

Since you are traveling and unable to access the tool, we just wanted to relay this current testimony version from the tool for your review. The only change we are aware of from the previous version is that we removed the study as an attachment and included it in a separate filing requirements section.



CGKY - Direct Testimony-Spanos Final.docx

Should you have any questions or changes in the meantime, please feel free to let us know.

Best Regards,

Kevin

Kevin Yates
Lead Financial Analyst
NGD Fixed Assets
work 614-460-4726



RE: CKY Rate Case Items
Spanos, John J. to: kyates@nisource.com
Cc: "mruth@nisource.com"

05/13/2016 05:44 PM

History: This message has been replied to.

2 attachments



CGKY - Direct Testimony - Spanos Final.docx Col Gas KY - FINAL.pdf

Here is the final report and testimony.

From: kyates@nisource.com [mailto:kyates@nisource.com]
Sent: Friday, May 13, 2016 8:28 AM
To: Spanos, John J. <jspanos@GFNET.com>
Cc: mruth@nisource.com
Subject: CKY Rate Case Items

Good Morning John,

The final reviews and for the rate are underway and we currently have two Word files with testimony and two Pdf files with draft depreciatin studies. We are curious which Word file we should delete. We also looking to replace the draft depreciation files with a final in searchable PDF format. We are hoping to finalize and review as soon as possible.

My apology with the delay in following up and with the last minute urgency.

Feel free to contact either myself or Matt if we can be of further assistance.

Regards,

Kevin Yates
Lead Financial Analyst
NGD Fixed Assets
work 614-460-4726



RE: CKY Rate Case Items

Spanos, John J. to: kyates@nisource.com
Cc: "mruth@nisource.com"

05/13/2016 05:44 PM

History: This message has been replied to.

2 attachments



CGKY - Direct Testimony - Spanos Final.docx Col Gas KY - FINAL.pdf

Here is the final report and testimony.

From: kyates@nisource.com [mailto:kyates@nisource.com]
Sent: Friday, May 13, 2016 8:28 AM
To: Spanos, John J. <jspanos@GFNET.com>
Cc: mruth@nisource.com
Subject: CKY Rate Case Items

Good Morning John,

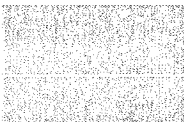
The final reviews and for the rate are underway and we currently have two Word files with testimony and two Pdf files with draft depreciatin studies. We are curious which Word file we should delete. We also looking to replace the draft depreciation files with a final in searchable PDF format. We are hoping to finalize and review as soon as possible.

My apology with the delay in following up and with the last minute urgency.

Feel free to contact either myself or Matt if we can be of further assistance.

Regards,

Kevin Yates
Lead Financial Analyst
NGD Fixed Assets
work 614-460-4726



{In Archive} CKY 114 Item

Kevin Yates to: jspanos
Cc: Matthew Ruth, Xueyang Zhao

02/18/2016 11:04 AM

Archive: This message is being viewed in an archive.

Good Morning John,

Per our discussion, the attached files show the balance of account 114 at Dec. of 2015 from the FMV adjustment of an acquisition. This acquisition was primarily 378.20 however our closing thoughts to treat the classification of these items all to GPA 378.21 for a timeline.



Plant Balance 114 Dec.2015.PDF

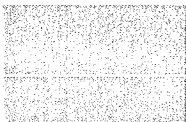


CKY Plant Balance 114 Dec.2015.xlsx

If there is additional information needed or should you have additional questions , please feel free to contact us.

Regards,

Kevin Yates
Lead Financial Analyst
NGD Fixed Assets
work 614-460-4726



{In Archive} CKY 2015 Depreciation Update Parts I and II in zip file

Kevin Yates to: jspanos

01/15/2016 05:19 PM

Cc: fjohnston, Matthew Ruth, Xueyang Zhao

Archive:

This message is being viewed in an archive.

Hello John,

The previous emails may not have been delivered due to the size. The updates for 2015 are all included in the attached zip file. Sorry for the inconvenience.

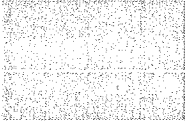


CKY 2016 Rate Case Update 2015 Data.zip

Feel free to contact me if I can be of further assistance or should you have additional questions .

Regards,

Kevin Yates
Lead Financial Analyst
NGD Fixed Assets
work 614-460-4726



{In Archive} CKY Depreciation Study - Part 1

Kevin Yates to: jspanos
Cc: fjohnston, Matthew Ruth

01/15/2016 04:38 PM

Archive: This message is being viewed in an archive.

Please find the attached YE 2015 CKY data regarding the depreciation study. The activity (additions, retirements, and transfers) will follow in part II along with the net salvage activity.

A. Software Intangible Accruals



Software and Intangible Accruals 1-12 2015.xlsx Software and Intangible Accruals 1.2013-12.2015.PDF

B. Plant Activity (Ledger)



CKY Plant Ledger 2015 wARO.xlsx CKY Plant Ledger 2015 wARO.pdf

C. Plant Activity (Reserve)



CKY Reserve Ledger 2015.xlsx

CKY Reserve Ledger 2015.pdf

D. Aged Balances



CKY Mains Services Aged Balances 2015.xlsx CKY Facilities Aged Balances 12-2015.xlsx

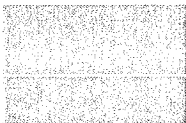


CKY Aged Balances-All 2015.xlsx

Feel free to contact me should you have any questions.

Regards,

Kevin Yates
Lead Financial Analyst
NGD Fixed Assets
work 614-460-4726



{In Archive} CKY Depreciation Study Part II

Kevin Yates to: jspanos

01/15/2016 04:45 PM

Cc: Matthew Ruth, fjohnston, Xueyang Zhao

Archive:

This message is being viewed in an archive.

John,

Please find the attached YE 2015 CKY activity (additions, retirements, and transfers) along with the net salvage activity.



CKY Additions Activity 2015.xlsx



CKY Retirement Activity 2015.xlsx



CKY Transfer Activity 2015.xlsx

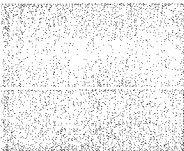


Net salvage activity 2015.xlsx

Please feel free to contact us if we can be of further assistance. The 2016 and 2017 estimates will soon follow once prepared.

Regards,

Please find the
Kevin Yates
Lead Financial Analyst
NGD Fixed Assets
work 614-460-4726



{In Archive} Columbia Gas of Kentucky - Case Forecast 2016-2017

Kevin Yates to: jspanos

01/27/2016 03:59 PM

CC: Matthew Ruth, Mark Katko, fjohnston, Ronnie Neal, Xueyang
Zhao

Archive:

This message is being viewed in an archive.

John,

Please find attached forecasted plant additions and related activity for 2016-2017 by month.

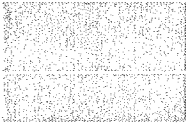



CKY Monthly Projections by Capital Activity 16-17 (GPA) 1.27.16.xlsx

Should you have any questions, please feel free to contact me.

Thanks for your patience.

Kevin Yates
Lead Financial Analyst
NGD Fixed Assets
work 614-460-4726



{In Archive} Re: CGKY 
Kevin Yates to: John Spanos
Cc: ksollie, Matthew Ruth, Ronnie Neal

11/25/2015 12:21 PM

Archive: This message is being viewed in an archive.

John,

Per your request. Please feel free to contact any of us should you have further questions.



CKY 2014 Salvage Data Questions.docx

Regards,

Kevin Yates
Lead Financial Analyst
NGD Fixed Assets
work 614-460-4726

John Spanos Kevin and Kevin: We have developed a few que... 11/20/2015 12:17:32 PM

From: John Spanos <jspanos@gfnet.com>
To: kyates@nisource.com, ksollie@nisource.com,
Date: 11/20/2015 12:17 PM
Subject: CGKY

Kevin and Kevin:

We have developed a few questions related to the Columbia Gas of Kentucky data that we needed some clarification. One of the questions relates to old data but but has become an issue with other companies in KY so I thought I would ask it of you as well.

Thanks
John

John J. Spanos | Senior Vice President
Gannett Fleming Valuation and Rate Consultants, LLC | 207 Senate Avenue, Camp Hill, PA 17011-2378
t 717.763.7212 x2246 | jspanos@gfnet.com
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CKY 2014 Salvage Data Questions.docx



{In Archive} RE: CKY depreciation study data
John Spanos to: kyates
Cc: ksollie

10/27/2015 03:32 PM

History: This message has been replied to.
Archive: This message is being viewed in an archive.

1 attachment



Software & Intangible Accruals 1-12 2012.pdf

Kevin:

There are a few missing items from what you have sent that we normally receive as part of our depreciation assignments. Items 2 and 3 below have been referenced as the plant and reserve ledgers in past submissions. I have included a file that represents what we normally get for 303. Etc.

1. 2015 accrual information for the Amortized Accounts (303 and 375.71)
2. Plant Activity Statements for 2013 and 2014
3. Reserve Activity Statements for 2013 and 2014

Thanks
John

From: kyates@nisource.com [mailto:kyates@nisource.com]
Sent: Thursday, October 22, 2015 7:37 AM
To: jspanos@gfnet.com
Cc: ksollie@nisource.com
Subject: CKY depreciation study data

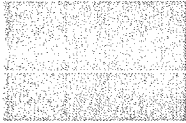
Good Morning John,


Please find the attached files regarding CKY's upcoming depreciation study. These files contain calendar year amounts for 2013-2014 and 2015 amounts will be forthcoming after the year-end close.

Please feel free to contact us should you have any questions or if we can be of further assistance.

Best Regards,

Kevin Yates
Lead Financial Analyst
NGD Fixed Assets
work 614-460-4726



(In Archive) RE: CKY depreciation study data 
Kevin Yates to: John Spanos
Cc: ksollie

10/27/2015 05:06 PM

Archive: This message is being viewed in an archive.

Hello John,

Sorry for the omissions. Please find the following:

1. 2015 accrual information for the Amortized Accounts (303 and 375.71)
Also included Jan-Dec 2013,2014, and YTD 2015 - Sept.



Software and Intangible Accruals 1-12 2013.xlsx Software and Intangible Accruals 1-12 2014.xlsx



Software and Intangible Accruals 1-09 2015.xlsx



Software and Intangible Accruals 2013-2015.pdf

2. Plant Activity Statements for 2013 and 2014



CKY Plant Ledger 2013.xlsx CKY Plant Ledger 2014.xlsx

3. Reserve Activity Statements for 2013 and 2014



CKY Reserve Ledger 2013.xlsx CKY Reserve Ledger 2014.xlsx

Please feel free to contact us if we can be of further assistance or should you have any questions.

Regards,

Kevin Yates
Lead Financial Analyst
NGD Fixed Assets
work 614-460-4726

John Spanos

Kevin: There are a few missing items from what..

10/27/2015 03:32:13 PM

From: John Spanos <jspanos@gfnet.com>
To: kyates@nisource.com,
Cc: ksollie@nisource.com
Date: 10/27/2015 03:32 PM
Subject: RE: CKY depreciation study data

Kevin:

There are a few missing items from what you have sent that we normally receive as part of our depreciation assignments. Items 2 and 3 below have been referenced as the plant and reserve ledgers in past submissions. I have included a file that represents what we normally get for 303. Etc.

1. 2015 accrual information for the Amortized Accounts (303 and 375.71)
2. Plant Activity Statements for 2013 and 2014
3. Reserve Activity Statements for 2013 and 2014

Thanks
John

From: kyates@nisource.com [mailto:kyates@nisource.com]
Sent: Thursday, October 22, 2015 7:37 AM
To: jspanos@gfnet.com
Cc: ksollie@nisource.com
Subject: CKY depreciation study data

Good Morning John,

Please find the attached files regarding CKY's upcoming depreciation study. These files contain calendar year amounts for 2013-2014 and 2015 amounts will be forthcoming after the year-end close.

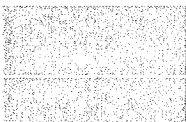
Please feel free to contact us should you have any questions or if we can be of further assistance.

Best Regards,

Kevin Yates
Lead Financial Analyst
NGD Fixed Assets



work 614-460-4726Software & Intangible Accruals 1-12 2012.pdf



{In Archive} CKY Items
Kevin Yates to: jsanos
Cc: Matthew Ruth, Xueyang Zhao

02/23/2016 10:37 AM

Archive: This message is being viewed in an archive.

John,

Thanks for your quick reply regarding CKY's 114 item.

It is most likely that we will request the ELG method to the commission for the rate case . Are there any additional items that we would need to provide to you for selection of this method ?

I do have two additional questions.

1. Since we will be forecasting internally , we were curious if some other components of proposed ELG rates are available for the GPA's such as the life rate portion , COR rate portion , net salvage rate portion and the estimated Cost of Removal percent? Just in case, would these components be available for our ALS calculations as well?
2. Just wanted to confirm if field visits were done .

Thanks again for your assistance and feel free to contact us should you have any questions .

Regards,

Kevin Yates
Lead Financial Analyst
NGD Fixed Assets
work 614-460-4726



{In Archive} RE: CKY Depreciation Study for 2016 Rate Case

John Spanos to: ksollie

10/15/2015 02:05 PM

Cc: xzhao, kyates

Archive: This message is being viewed in an archive.

I will coordinate with you on site visits as soon as I have the data and can put together a plan.

From: ksollie@nisource.com [mailto:ksollie@nisource.com]

Sent: Thursday, October 15, 2015 10:39 AM

To: John Spanos <jspanos@gfnet.com>

Cc: xzhao@nisource.com; kyates@nisource.com

Subject: RE: CKY Depreciation Study for 2016 Rate Case

OK great and thanks, John. We can coordinate a field visit. Give us dates and I can set things up.

Kevin Sollie
Nisource Gas Distribution Companies
Fixed Asset Accounting Manager
(614) 460-5913

From: John Spanos <jspanos@gfnet.com>

To: ksollie@nisource.com,

Cc: xzhao@nisource.com, kyates@nisource.com

Date: 10/15/2015 10:30 AM

Subject: RE: CKY Depreciation Study for 2016 Rate Case

Kevin:

I did not see an attachment but I assume you were referencing Mark Katko's email to you.

If we are able to maintain the same time line of receiving data for 2014 as we have established for CMD, the I do not foresee a problem in meeting the March 1 deadline. I will comment that site visits do not necessarily need to wait until 2016 as they can be conducted during 2015 if it is convenient for all involved.

John

From: ksollie@nisource.com [mailto:ksollie@nisource.com]

Sent: Thursday, October 15, 2015 10:24 AM

To: jspanos@GFNET.com

Cc: xzhao@nisource.com; kyates@nisource.com

Subject: Fw: CKY Depreciation Study for 2016 Rate Case

John, please see attached. Given the February 1st timeline you have committed to completing a study for Columbia Gas of Maryland (CMD), what would be your time commitment availability for completing one for Columbia Gas of Kentucky (CKY), lets say by March 1st?

Like what was agreed upon with CMD, we will forward plant data through 2014 by the end of this month and will follow up with 2015 plant data by mid-January Thanks.

Kevin Sollie
Nisource Gas Distribution Companies
Fixed Asset Accounting Manager
(614) 460-5913

----- Forwarded by Kevin Sollie/NCS/Enterprise on 10/15/2015 10:14 AM -----

From: Mark Katko/NCS/Enterprise
To: Kevin Sollie/NCS/Enterprise@NISOURCE,
Cc: James F Racher/NCS/Enterprise@NISOURCE, Craig Inscho/NCS/Enterprise@NISOURCE
Date: 10/14/2015 03:34 PM
Subject: CKY Depreciation Study for 2016 Rate Case

Kevin,

CKY would like to engage John Spanos of Gannett Fleming to perform a depreciation study and support it as a witness in it's planned 2016 general rate case. Current plans call for the case to be filed on or around May 31, 2016.

Based on the filing date, I would envision that John would complete his review of actual data through December 31, 2015 between late January and early February 2016 and be available to conduct his field audit sometime after that in February. I don't recall the turnaround time required to then produce the depreciation study, but we would be looking for it in late February or early March. As a point of reference, John's last study done in conjunction with CKY's 2013 rate case (same timeline as next year's) included a field audit on February 5th and a February 28th due date for the study.

We do not have a planning calendar at this point, but John would also be subject to normal due dates for the preparation of direct testimony to support the depreciation study.

Let me know if you have any questions.

Mark Katko
Manager, Regulatory Strategy & Support | NiSource
Office: 614-460-4822 | Mobile: 614-546-7349
mkatko@nisource.com



{In Archive} RE: CKY Depreciation Study for 2016 Rate Case

John Spanos to: ksollie

10/15/2015 10:31 AM

Cc: xzhao, kyates

Archive: This message is being viewed in an archive.

Kevin:

I did not see an attachment but I assume you were referencing Mark Katko's email to you.

If we are able to maintain the same time line of receiving data for 2014 as we have established for CMD, the I do not foresee a problem in meeting the March 1 deadline. I will comment that site visits do not necessarily need to wait until 2016 as they can be conducted during 2015 if it is convenient for all involved.

John

From: ksollie@nisource.com [mailto:ksollie@nisource.com]

Sent: Thursday, October 15, 2015 10:24 AM

To: jspanos@GFNET.com

Cc: xzhao@nisource.com; kyates@nisource.com

Subject: Fw: CKY Depreciation Study for 2016 Rate Case

John, please see attached. Given the February 1st timeline you have committed to completing a study for Columbia Gas of Maryland (CMD), what would be your time commitment availability for completing one for Columbia Gas of Kentucky (CKY), lets say by March 1st?

Like what was agreed upon with CMD, we will forward plant data through 2014 by the end of this month and will follow up with 2015 plant data by mid-January Thanks.

Kevin Sollie
Nisource Gas Distribution Companies
Fixed Asset Accounting Manager
(614) 460-5913

----- Forwarded by Kevin Sollie/NCS/Enterprise on 10/15/2015 10:14 AM -----

From: Mark Katko/NCS/Enterprise

To: Kevin Sollie/NCS/Enterprise@NISOURCE,

Cc: James F Racher/NCS/Enterprise@NISOURCE, Craig Inscho/NCS/Enterprise@NISOURCE

Date: 10/14/2015 03:34 PM

Subject: CKY Depreciation Study for 2016 Rate Case

Kevin,

CKY would like to engage John Spanos of Gannett Fleming to perform a depreciation study and support it as a witness in it's planned 2016 general rate case. Current plans call for the case to be filed on or around May 31, 2016.

Based on the filing date, I would envision that John would complete his review of actual data through

December 31, 2015 between late January and early February 2016 and be available to conduct his field audit sometime after that in February. I don't recall the turnaround time required to then produce the depreciation study, but we would be looking for it in late February or early March. As a point of reference, John's last study done in conjunction with CKY's 2013 rate case (same timeline as next year's) included a field audit on February 5th and a February 28th due date for the study.

We do not have a planning calendar at this point, but John would also be subject to normal due dates for the preparation of direct testimony to support the depreciation study.

Let me know if you have any questions.

Mark Katko
Manager, Regulatory Strategy & Support | NiSource
Office: 614-460-4822 | Mobile: 614-546-7349
mkatko@nisource.com

CKY Rate Case Items

Kevin Yates to: jspanos
Cc: Matthew Ruth

05/13/2016 08:28 AM

Follow Up: Low Priority.

Good Morning John,

The final reviews and for the rate are underway and we currently have two Word files with testimony and two Pdf files with draft depreciatin studies. We are curious which Word file we should delete. We also looking to replace the draft depreciation files with a final in searchable PDF format. We are hoping to finalize and review as soon as possible.

My apology with the delay in following up and with the last minute urgency.

Feel free to contact either myself or Matt if we can be of further assistance.

Regards,

Kevin Yates
Lead Financial Analyst
NGD Fixed Assets
work 614-460-4726

Depreciation Study Testimony Questions

Kevin Yates to: jsanos
Cc: Matthew Ruth

05/17/2016 12:56 PM

Good Afternoon John,

The rate case core team has the following questions/comments after reviewing testimony for your response and they are:

1. Why did John believe there was no need for a site visitation for the 2016 study? He just references visitations made in 2002, 2008 & 2013, which relate to the 3 immediately preceding studies/rate cases.
2. In the 2014 LG&E case, John filed an ASL study as was done in past cases. Was this the utility's preference? We know that John prefers ELG and CKY has approved using this methodology both in this case and in prior cases, but would just like to make sure that John can explain and support the reason for ELG when he has also supported ASL in KY.

We realize the first question may have already been answered in another inquiry being within 5 years, but just wanted to be sure.

Thanks again for your patience and assistance.

Regards,

Kevin Yates
Lead Financial Analyst
NGD Fixed Assets
work 614-460-4726

Fw: Witness Affidavit
Kevin Yates to: jspanos
Cc: Matthew Ruth

05/18/2016 10:12 AM

Follow Up: Low Priority.

John,

If you could send to Cheryl MacDonald per her email, it would be greatly appreciated, If already sent, no problem.

Sorry for the confusion and again, her address is:

Cheryl A MacDonald | Sr. Paralegal
NiSource Corporate Services Company
290 W. Nationwide Blvd. | Columbus, Ohio 43215

Best Regards,

Kevin Yates
Lead Financial Analyst
NGD Fixed Assets
work 614-460-4726

----- Forwarded by Kevin Yates/NCS/Enterprise on 05/18/2016 10:09 AM -----

From: Kevin Yates/NCS/Enterprise
To: "Spanos, John J." <jspanos@GFNET.com>,
Cc: Matthew Ruth/NCS/Enterprise@NISOURCE
Date: 05/18/2016 09:44 AM
Subject: RE: Witness Affidavit

Good Morning John,

Please send to:

NiSource , Attn: Kevin Yates
290 W. Nationwide Blvd
Columbus, OH 43215

Thanks,

Kevin Yates
Lead Financial Analyst
NGD Fixed Assets
work 614-460-4726

"Spanos, John J." Kevin: Please advise me as to where the signed...

05/18/2016 09:35:37 AM

From: "Spanos, John J." <jspanos@GFNET.com>
To: "kyates@nisource.com" <kyates@nisource.com>,
Cc: "sseiple@nisource.com" <sseiple@nisource.com>, "cmacdonald@nisource.com" <cmacdonald@nisource.com>, "measter@nisource.com" <measter@nisource.com>, "mruth@nisource.com" <mruth@nisource.com>
Date: 05/18/2016 09:35 AM
Subject: RE: Witness Affidavit

Kevin:

Please advise me as to where the signed affidavit needs to be sent. I am only in the office today.

Thanks
John

From: kyates@nisource.com [mailto:kyates@nisource.com]
Sent: Monday, May 16, 2016 1:36 PM
To: Spanos, John J. <jspanos@GFNET.com>
Cc: sseiple@nisource.com; cmacdonald@nisource.com; measter@nisource.com; mruth@nisource.com
Subject: Witness Affidavit

Good Afternoon John

We are compiling the affidavits for the upcoming testimony and have attached an affidavit which would need signed the presence of a notary. The original would need to be returned to us and is in MS-Word version so if any revisions need to be made, it can be done on your end.

Our goal is to have the originals in our hands early next week on or before Monday the 23rd.

Please let me know if you have any questions or need anything further from us.

Thanks again for your assistance.

Regards,

Kevin Yates
Lead Financial Analyst
NGD Fixed Assets
work 614-460-4726



RE: CKY Depreciation Study

Spanos, John J. to: kyates@nisource.com
Cc: "clai@nisource.com"

05/25/2016 11:22 AM

History: This message has been replied to.

Kevin:

The attached email trail was the early stage process for engaging Gannett Fleming to conduct a depreciation study for Columbia Gas of Kentucky. Given our long history with NiSource, we historically have not been asked to formalize an engagement letter. I did have a call with Kevin Sollie after this email trail to establish a depreciation study budget of \$30,500.

Hopefully this meets your expectations.

John

Kevin:

I did not see an attachment but I assume you were referencing Mark Katko's email to you.

If we are able to maintain the same time line of receiving data for 2014 as we have established for CMD, the I do not foresee a problem in meeting the March 1 deadline. I will comment that site visits do not necessarily need to wait until 2016 as they can be conducted during 2015 if it is convenient for all involved.

John

From: ksollie@nisource.com [mailto:ksollie@nisource.com]

Sent: Thursday, October 15, 2015 10:24 AM

To: jspanos@GFNET.com

Cc: xzhao@nisource.com; kyates@nisource.com

Subject: Fw: CKY Depreciation Study for 2016 Rate Case

John, please see attached. Given the February 1st timeline you have committed to completing a study for Columbia Gas of Maryland (CMD), what would be your time commitment availability for completing one for Columbia Gas of Kentucky (CKY), lets say by March 1st?

Like what was agreed upon with CMD, we will forward plant data through 2014 by the end of this month and will follow up with 2015 plant data by mid-January Thanks.

Kevin Sollie
Nisource Gas Distribution Companies
Fixed Asset Accounting Manager
(614) 460-5913

----- Forwarded by Kevin Sollie/NCS/Enterprise on 10/15/2015 10:14 AM -----

From: Mark Katko/NCS/Enterprise

To: Kevin Sollie/NCS/Enterprise@NISOURCE,
Cc: James F Racher/NCS/Enterprise@NISOURCE, Craig Inscho/NCS/Enterprise@NISOURCE
Date: 10/14/2015 03:34 PM
Subject: CKY Depreciation Study for 2016 Rate Case

Kevin,

CKY would like to engage John Spanos of Gannett Fleming to perform a depreciation study and support it as a witness in it's planned 2016 general rate case. Current plans call for the case to be filed on or around May 31, 2016.

Based on the filing date, I would envision that John would complete his review of actual data through December 31, 2015 between late January and early February 2016 and be available to conduct his field audit sometime after that in February. I don't recall the turnaround time required to then produce the depreciation study, but we would be looking for it in late February or early March. As a point of reference, John's last study done in conjunction with CKY's 2013 rate case (same timeline as next year's) included a field audit on February 5th and a February 28th due date for the study.

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Let me know if you have any questions.

Mark Katko
Manager, Regulatory Strategy & Support | NiSource
Office: 614-460-4822 | Mobile: 614-546-7349
mkatko@nisource.com

From: kyates@nisource.com [mailto:kyates@nisource.com]
Sent: Wednesday, May 25, 2016 10:13 AM
To: Spanos, John J. <jspanos@GFNET.com>
Cc: clai@nisource.com
Subject: CKY Depreciation Study

Good Morning John,

We have been asked to provide a letter of proposal or engagement letter from you to do the depreciation study for this 2016 CKY case. We may have been provided one but have not been able to locate yet. Would you be able to provide a copy if available or any correspondence of estimate or RFP if available?

Thanks again for your assistance and we apologize for any inconvenience,

Best Regards,

Kevin Yates
Lead Financial Analyst
NGD Fixed Assets
work 614-460-4726



RE: Columbia Gas of KY - Staff Data Request 1 - 25

Spanos, John J. to: mkatko@nsource.com, Johnston Jr.,
Frederick B.

05/18/2016 12:58 PM

Cc: "kyates@nsource.com", "mruth@nsource.com",
"cinscho@nsource.com"

Mark:

I am comfortable with your approach to responding to No.25. I can submit the draft response or if you have a specific wording in mind then send to me for approval.

John

-----Original Message-----

From: mkatko@nsource.com [mailto:mkatko@nsource.com]
Sent: Monday, May 16, 2016 5:13 PM
To: Johnston Jr., Frederick B. <fjohnston@GFNET.com>
Cc: Spanos, John J. <jspanos@GFNET.com>; kyates@nsource.com;
'mruth@nsource.com' <mruth@nsource.com>; cinscho@nsource.com
Subject: Re: Columbia Gas of KY - Staff Data Request 1 - 25

Fred,

Based on the response we provided in the 2013 rate case, which is attached below, we will assume that Staff is requesting a copy of the study to be filed with the 2016 case. Therefore, the response to No. 25 will simply be to reference it.

We will be filing electronically, so I don't yet know what specific tab or other bookmark we will direct them to, or even if we need such a reference. If you agree with the approach, we will draft the response and forward for your review.

Craig - Can you provide Fred with the current rates as requested?

(See attached file: CKY 2013 Rate Case PSC DR Set 1 No. 025.docx)

Mark Katko

Manager, Regulatory Strategy & Support

Office: 614-460-4822 | Mobile: 614-546-7349 mkatko@nsource.com

From: "Johnston Jr., Frederick B." <fjohnston@GFNET.com>
To: "'mruth@nsource.com'" <mruth@nsource.com>,
"kyates@nsource.com" <kyates@nsource.com>,
"mkatko@nsource.com" <mkatko@nsource.com>,
Cc: "Spanos, John J." <jspanos@GFNET.com>
Date: 05/16/2016 12:29 PM
Subject: Columbia Gas of KY - Staff Data Request 1 - 25

Matt, Kevin and Mark,

I am working with John Spanos to respond to Data Request #25 from Staff's first set of data requests. We are trying to determine if Staff is requesting a copy of the Depreciation Study completed as of December 31, 2012 or the most recent Depreciation Study completed as of December 31, 2015. Can you tell us which study Staff is seeking in this Data Request?

Also, can you provide a schedule of the current depreciation rates being utilized by Columbia Gas of KY?

Thank you for your help with this clarification.

Fred

Fred Johnston
Associate Analyst
Gannett Fleming, Inc.
717-763-7212, x2296
fjohnston@gfnet.com



Re: Depreciation Study Testimony Questions

Spanos, John J. to: kyates@nisource.com

Cc: "mruth@nisource.com"

05/17/2016 01:52 PM

History: This message has been replied to and forwarded.

Kevin

Since I am traveling I cannot get onto the tool to review testimony or answer questions until tomorrow.

- 1). Site visits are generally performed every 5-6 years so based on discussions with the company it was determined that we would not need another site visit since we took one in 2013
- 2). In past CKY cases and LGE/KU cases we had recommended ELG over ASL but companies have settled on ASL. For LGE the company decided not to propose ELG due to some many other factors in the case

Sent from my iPhone

On May 17, 2016, at 11:57 AM, "kyates@nisource.com" <kyates@nisource.com> wrote:

Good Afternoon John,

The rate case core team has the following questions/comments after reviewing testimony for your response and they are:

1. Why did John believe there was no need for a site visitation for the 2016 study? He just references visitations made in 2002, 2008 & 2013, which relate to the 3 immediately preceding studies/rate cases.
2. In the 2014 LG&E case, John filed an ASL study as was done in past cases. Was this the utility's preference? We know that John prefers ELG and CKY has approved using this methodology both in this case and in prior cases, but would just like to make sure that John can explain and support the reason for ELG when he has also supported ASL in KY.

We realize the first question may have already been answered in another inquiry being within 5 years, but just wanted to be sure.

Thanks again for your patience and assistance.

Regards,

Kevin Yates
Lead Financial Analyst
NGD Fixed Assets
work 614-460-4726



RE: Final Version of Testimony - CGKY
Spanos, John J. to: kyates@nisource.com
Cc: "mruth@nisource.com", "mkatko@nisource.com"

05/19/2016 09:53 PM

Follow Up: Low Priority.

I am okay with this version as final

From: kyates@nisource.com [mailto:kyates@nisource.com]
Sent: Thursday, May 19, 2016 2:38 PM
To: Spanos, John J. <jspanos@GFNET.com>
Cc: mruth@nisource.com; mkatko@nisource.com
Subject: Final Version of Testimony - CGKY

John,

Since you are traveling and unable to access the tool, we just wanted to relay this current testimony version from the tool for your review. The only change we are aware of from the previous version is that we removed the study as an attachment and included it in a separate filing requirements section.

Should you have any questions or changes in the meantime, please feel free to let us know.

Best Regards,

Kevin

Kevin Yates
Lead Financial Analyst
NGD Fixed Assets
work 614-460-4726



KY Rate Case - AG 1-8(a) text
Joseph Clark to: josephclark

07/18/2016 01:18 PM

Follow Up: Normal Priority.

a. Provide a copy of all communications between the Company and/or NiSource and Mr. Spanos, including, but not limited to, the request for proposal, proposal, engagement letter, contract, purchase order, letters, memos, emails, and/or notes taken by the Company, NiSource, Gannett Fleming, and/or Mr. Spanos.

In a telephone conversation on July 12, 2016, between counsel for Columbia (Stephen Seiple) and counsel for the Attorney General (Kent Chandler), the AG and Columbia agreed to the following two revisions to this subpart (a) that would narrow the scope of the data request:

(1) The request is for a copy of all communications between Columbia and and/or NiSource and Mr. Spanos for purposes of the depreciation study in this case; and,

(2) With regard to emails, Columbia can limit the email search to those individuals most likely to have had contact with Mr. Spanos for purposes of this case, and those individuals may manually search their email for such communications.

Answer - a) The attached file sets forth the email correspondence between Columbia and/or NiSource and Mr. Spanos during the conduct of the depreciation study.

Joe Clark | Senior Counsel
NiSource Corporate Services Company
290 W. Nationwide Blvd. | Columbus, Ohio 43215

josephclark@nisource.com | 614-460-6988 (Office) | 614-460-8403 (Fax)



KY Rate Case - AG 1-8(a) text
Joseph Clark to: josephclark

07/18/2016 01:18 PM

Follow Up: Normal Priority.

a. Provide a copy of all communications between the Company and/or NiSource and Mr. Spanos, including, but not limited to, the request for proposal, proposal, engagement letter, contract, purchase order, letters, memos, emails, and/or notes taken by the Company, NiSource, Gannett Fleming, and/or Mr. Spanos.

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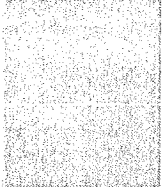
(1) The request is for a copy of all communications between Columbia and and/or NiSource and Mr. Spanos for purposes of the depreciation study in this case; and,

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Answer - a) The attached file sets forth the email correspondence between Columbia and/or NiSource and Mr. Spanos during the conduct of the depreciation study.

Joe Clark | Senior Counsel
NiSource Corporate Services Company
290 W. Nationwide Blvd. | Columbus, Ohio 43215

josephclark@nisource.com | 614-460-6988 (Office) | 614-460-8403 (Fax)



Fw: KY PSC Case No. 2016-00162 - Columbia Gas of Kentucky Rate Case - AG 1-8(a)

Mark Katko to: Cheryl MacDonald

07/13/2016 11:11 AM

Cc: Steve Seiple, Herbert A Miller, Judy Cooper, James F Racher, jspanos, Matthew Ruth, Kevin Yates

Cheryl,

Attached below is a pdf file containing all of the e-mail strings between John Spanos and me regarding the depreciation study for the CKY rate case. Please note that the e-mail sent by me to John dated 3/22/16 was the official company authorization to have John proceed with the ELG study.

It is my understanding that, subject to legal review, you will add the appropriate attachment headers and save into the database.

Please let me know if you have any questions. Thanks for your help.



AG 1-8 (a) - Spanos & CKY Communications .pdf

Mark Katko
Manager, Regulatory Strategy & Support
Office: 614-460-4822 | Mobile: 614-546-7349
mkatko@nisource.com

----- Forwarded by Mark Katko/NCS/Enterprise on 07/13/2016 11:05 AM -----

From: Steve Seiple/NCS/Enterprise
To: Herbert A Miller/CKY/Enterprise@NiSource, Judy Cooper/CKY/Enterprise@NiSource, James F Racher/NCS/Enterprise@NiSource, Mark Katko/NCS/Enterprise@NiSource, Matthew Ruth/NCS/Enterprise@NiSource,
Cc: Joseph Clark/NCS/Enterprise@NISOURCE, Kimra Cole/NCS/Enterprise@NISOURCE, Linda Rumpke/CKY/Enterprise@NISOURCE, kscuccia@nisource.com, Cheryl MacDonald/NCS/Enterprise@NiSource
Date: 07/12/2016 10:21 AM
Subject: KY PSC Case No. 2016-00162 - Columbia Gas of Kentucky Rate Case - AG 1-8(a)

Herb, Judy, Jim, Mark and Matt,

I had a discussion with one of the Kentucky AGs this morning about the overbroad nature of AG data request #8(a). In order to avoid CKY having to object to the question, we agreed to two modifications to the question:

(1) the request is for a copy of all communications between CKY and and/or NiSource and Mr. Spanos *for purposes of the depreciation study in this case.*

(2) with regard to emails, CKY can limit the email search to those individuals most likely to have had contact with Mr. Spanos for purposes of this case, and those individuals may manually search their email for such communications.

Matt, I suspect you had the bulk of the contact with Mr. Spanos. Is there anyone else who may had contact with Mr. Spanos for purposes of this case to whom this email should be forwarded?

For each of you (Herb, Judy, Jim, Mark and Matt) please search your inbox, sent mail and any relevant folders for any email correspondence related to the depreciation study in this case that you may have with Mr. Spanos. Please copy those emails into a pdf file and send the pdf file to Cheryl MacDonald (with me on the cc: list for the email) so that she can include them as part of the response to AG #8(a). Even if you have no such correspondence please send Cheryl an email so that we will know you conducted the search.

Thanks!

Stephen B. Seiple | Assistant General Counsel

290 W. Nationwide Blvd. | P.O. Box 117 | Columbus, OH 43215

sseiple@nisource.com | 614-460-4648 (Office) | 614-595-8331 (Cell)



RE: CKY Depreciation Rate Confirmation

Spanos, John J. to: mkatko@nsource.com

04/27/2016 03:19 PM

Cc: "cinscho@nsource.com", "mruth@nsource.com" ,
"kyates@nsource.com"

History: This message has been replied to.

The rates you have listed agree with my study. however, there are a few accounts that we did not study that you have listed.

For example 301, 304.1, 394.13

-----Original Message-----

From: mkatko@nsource.com [mailto:mkatko@nsource.com]
Sent: Wednesday, April 27, 2016 1:47 PM
To: Spanos, John J. <jspanos@GFNET.com>
Cc: cinscho@nsource.com; mruth@nsource.com; kyates@nsource.com
Subject: CKY Depreciation Rate Confirmation

John,

Attached below are the ELG depreciation rates that are in our CKY cost of service model; these rates are based on the ELG & ASL summary results you provided to Matt Ruth and Kevin Yates in Asset Accounting on 2/2/16. Please review and confirm that these are the final rates that you will be supporting in your depreciation study.

Thank you.

(See attached file: ELG Rates in Cost of Service Model.xlsx)

Mark Katko
Manager, Regulatory Strategy & Support
Office: 614-460-4822 | Mobile: 614-546-7349 mkatko@nsource.com

From: "Spanos, John J." <jspanos@GFNET.com>
To: "mkatko@nsource.com" <mkatko@nsource.com>,
Cc: "kyates@nsource.com" <kyates@nsource.com>,
"cinscho@nsource.com" <cinscho@nsource.com>
Date: 04/20/2016 06:26 PM
Subject: RE: CKY Depreciation Rate Question

The assets in 375.2 and 375.4 are included in Acct 375.34. That has been a consistent practice for all Columbia companies for many studies

-----Original Message-----

From: mkatko@nsource.com [mailto:mkatko@nsource.com]
Sent: Wednesday, April 20, 2016 6:16 PM
To: Spanos, John J. <jspanos@GFNET.com>
Cc: kyates@nsource.com; cinscho@nsource.com
Subject: CKY Depreciation Rate Question

John,

In the actual information provided to you by our Asset Accounting group, there should have been balances @ 12/31/15 in gas plant accounts 375.2 and 375.4. In your study summary, I see GPA 375.34. What does this represent? Can we assume that the ELG rate of .0318 in your study can be used to calculate expense and reserve for both 375.2 and 375.4?

Mark Katko

Manager, Regulatory Strategy & Support

Office: 614-460-4822 | Mobile: 614-546-7349 mkatko@nisource.com



RE: CKY Rate Case Depreciation Study
Spanos, John J. to: mkatko@nisource.com

03/24/2016 02:00 PM

History: This message has been replied to and forwarded.

Mark:

I do think you have oversimplified the situation as there are many components to the development of a rate. For CKY, the life is generally getting a little longer however, there are many forces of retirement to consider. A counter affect to the life getting longer is the fact that cost of removal is increasing. Therefore, the theoretically you are behind so the rate increases even though the life gets longer. There are other things in play but that is the general response to mains and services

I am not sure I can easily explain the differences between ASL and ELG, but what I can tell you is: if the plant balance is growing ELG will produce a higher rate. That is because ELG is a better matching of the life characteristics than ASL. ELG is designed to recover the short lived assets in an account while they are in service and the long lived assets while they are in service. ASL just recovers all assets over the average life. Thus, when your plant balance increases the depreciation expense for the short lived assets is greater than the long lived assets so ELG is greater than ASL.

Hope that helps
John

-----Original Message-----

From: mkatko@nisource.com [mailto:mkatko@nisource.com]
Sent: Wednesday, March 23, 2016 5:02 PM
To: Spanos, John J. <jspanos@GFNET.com>
Subject: RE: CKY Rate Case Depreciation Study

John,

One oversimplified question I have is regarding the proposed new rates (using either ELG or ASL) versus our current rates that have been in effect since around 2002 or 2003. The new rates for Mains & Services, for example, are higher than current rates (which I assume are based on ASL). I would think that we would have more plastic, coated, etc. in the ground now than when the early-2000s study was done and that there would now be longer lived assets, resulting in a lower rate. Perhaps that is an incorrect assumption. I'm sure there are many factors that go into the study that I am not taking into account but would appreciate any insight.

Also, can you provide me with a high level summary of the difference between ELG and ASL including why ELG is always higher? I think I understood the difference at one time (probably when you were doing our 2013 rate case study) but am not able to find anything that refreshes my memory.

Thanks.

Mark Katko
Manager, Regulatory Strategy & Support
Office: 614-460-4822 | Mobile: 614-546-7349 mkatko@nisource.com

From: "Spanos, John J." <jspanos@GFNET.com>
To: "mkatko@nisource.com" <mkatko@nisource.com>,
Cc: "kyates@nisource.com" <kyates@nisource.com>,
"mruth@nisource.com" <mruth@nisource.com>,
"jfracher@nisource.com" <jfracher@nisource.com>,
"hamiller@nisource.com" <hamiller@nisource.com>,
"bleslie@nisource.com" <bleslie@nisource.com>
Date: 03/23/2016 07:23 AM
Subject: RE: CKY Rate Case Depreciation Study

Mark:

I will look over the depreciation numbers again to make sure there has not been any changes or if there should be any changes.

My past experiences have been mixed with the Lotus Notes database. We can attempt to make that the process but if I develop issues we will modify the process.

John

-----Original Message-----

From: mkatko@nisource.com [mailto:mkatko@nisource.com]
Sent: Tuesday, March 22, 2016 4:42 PM
To: Spanos, John J. <jspanos@GFNET.com>
Cc: kyates@nisource.com; mruth@nisource.com; jfracher@nisource.com;
hamiller@nisource.com; bleslie@nisource.com
Subject: CKY Rate Case Depreciation Study

John,

The CKY rate case core team has made the decision to have you proceed with supporting the depreciation study based on the ELG methodology. Accordingly, I will incorporate the ELG rates included in the summary results you provided to Matt Ruth and Kevin Yates on 2/2/16 in the calculation of depreciation/amortization reserve and depreciation/amortization expense for forecasted test period rate base and cost of service, respectively. Please let me know if any of the rates have changed subsequent to that communication.

I will forward you the latest rate case timeline; in the meantime, please note that the first draft of testimony is currently due on Friday, April 8. The direct testimony templates are being created. I can't recall but have you historically been able to work on testimony within the Company's Lotus Notes database?

Finally, please let me know if this communication is sufficient or if you need anything else.

Thank you for your contribution to the case.

Mark Katko
Manager, Regulatory Strategy & Support
Office: 614-460-4822 | Mobile: 614-546-7349 mkatko@nisource.com

From: "Spanos, John J." <jspanos@GFNET.com>
 To: "mkatko@nisource.com" <mkatko@nisource.com>,
 Cc: "mruth@nisource.com" <mruth@nisource.com>,
 "kyates@nisource.com" <kyates@nisource.com>
 Date: 03/03/2016 08:07 AM
 Subject: RE: CKY results

Mark:

You are correct the next steps are to decide on the methodology for CKY. Also, if there is an account estimate or rate that does not make sense we can discuss as well.

I look forward to any follow up questions you or others may have.

John

-----Original Message-----

From: mkatko@nisource.com [mailto:mkatko@nisource.com]
 Sent: Wednesday, March 2, 2016 12:56 PM
 To: Spanos, John J. <jspanos@GFNET.com>
 Cc: mruth@nisource.com; kyates@nisource.com
 Subject: Fw: CKY results

Hi John.

I assume that the next step is for CKY to decide which methodology to file in the rate case, correct?

I will be setting up a meeting to discuss the options with our rate case team. There may be follow-up questions for you before a decision is made.

Just an FYI - I am the rate base witness in the CKY rate case.

Mark Katko
 Manager, Regulatory Strategy & Support
 Office: 614-460-4822 | Mobile: 614-546-7349 mkatko@nisource.com

----- Forwarded by Mark Katko/NCS/Enterprise on 03/02/2016 12:52 PM -----

From: Kevin Yates/NCS/Enterprise
 To: Mark
 Katko/NCS/Enterprise@NiSource,
 Cc: Matthew
 Ruth/NCS/Enterprise@NiSource, Ronnie
 Neal/NCS/Enterprise@NiSource, Xueyang
 Zhao/NCS/Enterprise@NiSource, Chad
 Notestone/NCS/Enterprise@NISOURCE, Jana
 Croom/COH/Enterprise@NISOURCE
 Date: 02/03/2016 09:35 AM
 Subject: Fw: CKY results

Mark,

Please find the attached depreciation study completed for CKY.

Regards,

Kevin Yates
Lead Financial Analyst
NGD Fixed Assets
work 614-460-4726

----- Forwarded by Kevin Yates/NCS/Enterprise on 02/03/2016 09:17 AM -----

From: "Spanos, John J."
<jspanos@GFNET.com>
To: "kyates@nisource.com"
<kyates@nisource.com>,
"mruth@nisource.com" <mruth@nisource.com>,
Date: 02/02/2016 12:28 PM
Subject: CKY results

Kevin and Matt:

Attached are the results of the Columbia Gas of Kentucky study. The difference in the two versions is the depreciation procedure(ELG vs ASL).

Please note that we have proposed ELG in the last two cases but settled on ASL. This is why there is such a big difference in the two studies.

Let me know if we need to discuss.

John

John J. Spanos | Senior Vice President
Gannett Fleming Valuation and Rate Consultants, LLC | 207 Senate Avenue, Camp Hill, PA 17011-2378 t 717.763.7212 x2246 | jspanos@gfnet.com Excellence Delivered As Promised Gannett Fleming is ISO 9001:2008 Certified. www.gannettfleming.com | Stay connected: Twitter | Facebook | LinkedIn | YouTube

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[attachment "cky 2015-v1-asl.xls" deleted by Mark Katko/NCS/Enterprise]
[attachment "cky 2015-v1-elg.xls" deleted by Mark Katko/NCS/Enterprise]

NiSource Fw: 2016-00162 - AG Data Requests
James F Racher to: Steve Seiple, Cheryl MacDonald

07/17/2016 04:42 PM

1 of 2

Thanks,
Jim

Jim Racher
Regulatory Strategy and Support

(614) 460-5978 - office
(614) 917-9137 - cell
jfracher@nisource.com

----- Forwarded by James F Racher/NCS/Enterprise on 07/17/2016 04:42 PM -----

From: James F Racher/NCS/Enterprise
To: jspanos@GFNET.com, prmoul@verizon.net,
Cc: Kevin Yates/NCS/Enterprise@NISOURCE, Matthew Ruth/NCS/Enterprise@NISOURCE, Mark Katko/NCS/Enterprise@NISOURCE, Monica Easter/NCS/Enterprise@NiSource, Judy Cooper/CKY/Enterprise@NISOURCE
Date: 07/08/2016 06:08 PM
Subject: Fw: 2016-00162 - AG Data Requests

John and Paul,

Here are the requests from the AG.

Thanks,
Jim

Jim Racher
Regulatory Strategy and Support

(614) 460-5978 - office
(614) 917-9137 - cell
jfracher@nisource.com

----- Forwarded by James F Racher/NCS/Enterprise on 07/08/2016 05:49 PM -----

From: Judy Cooper/CKY/Enterprise
To: CKY Rate Case - Expanded Team,
Date: 07/08/2016 05:47 PM
Subject: 2016-00162

Link to AG First data request. 45 questions with numerous sub parts.

http://psc.ky.gov/pscecf/2016-00162/rateintervention%40ky.gov/07082016052725/OAG_Initial_RFI.pdf

Sent from my iPhone



OAG_Initial_RFI.pdf

NiSource Fw: CKY Rate Case - Procedural Schedule
James F Racher to: Steve Seiple, Cheryl MacDonald

07/17/2016 04:43 PM

2 of 2

Thanks,
Jim

Jim Racher
Regulatory Strategy and Support

(614) 460-5978 - office
(614) 917-9137 - cell
jfracher@nisource.com

----- Forwarded by James F Racher/NCS/Enterprise on 07/17/2016 04:42 PM -----

From: James F Racher/NCS/Enterprise
To: Jspanos@gfnet.com,
Cc: Steve Seiple/NCS/Enterprise@NISOURCE, Matthew Ruth/NCS/Enterprise@NISOURCE, Mark Katko/NCS/Enterprise@NISOURCE, Judy Cooper
Date: 06/28/2016 02:28 PM
Subject: CKY Rate Case - Procedural Schedule

Hi John,

Attached is the procedural schedule. I don't know if you have received this via the web or from some one at CKY. The schedule indicates that parties will issue requests by July 8. Judy has indicated that parties typically wait until this day to issue their requests.

June 27	Intervention deadline
July 8	Deadline for first round of data requests to be submitted to CKY
July 22	Deadline for CKY to respond to first round of data requests
August 5	Deadline for second round of data requests to be submitted to CKY
August 19	Deadline for CKY to respond to second round of data requests
September 2	Intervenor testimony deadline
September 16	Deadline for data requests to intervenors
September 30	Deadline for intervenor responses to data requests
October 14	CKY rebuttal testimony deadline
TBD	Last day for CKY to publish notice of hearing
TBD	Hearing
TBD	Briefs



2016-06-10 Procedural ORDER.pdf

The following parties have filed for intervention in the case:

Attorney General
Lexington Fayette Urban County Government
Community Action Council
Interstate Gas Supply
Direct Energy

As shown on the attached schedule, yesterday was the last day parties can file requests for intervention.

Finally, files with the CKY's full rate application are available on the PSC web site.

Thanks,
Jim

Jim Racher
Regulatory Strategy and Support

(614) 460-5978 - office
(614) 917-9137 - cell
jfracher@nisource.com



Fw: Rate Case -- Discovery Response -- Staff Set 1-025
Herbert A Miller to: Cheryl MacDonald, Steve Seiple

07/12/2016 11:04 AM

Cheryl and Steve - the following is the only communication I have with John Spanos in this case. Thank you.

Herb

Herbert A. Miller, Jr.
President
Columbia Gas of Kentucky, Inc.
2001 Mercer Road
Lexington, KY 40511
859-288-0275 (w)
859-533-3572 (cell)
859-288-0258 (fax)
hamiller@nisource.com

----- Forwarded by Herbert A Miller/CKY/Enterprise on 07/12/2016 11:03 AM -----

From: CKY Regulatory Proceedings (Herbert A Miller)
To: John Spanos/NCS/Enterprise@NISOURCE@NiSource, Kevin Yates/NCS/Enterprise@NISOURCE@NiSource, Matthew Ruth/NCS/Enterprise@NISOURCE@NiSource,
Cc: Cheryl MacDonald/NCS/Enterprise@NISOURCE@NiSource, Herbert A Miller/CKY/Enterprise@NISOURCE@NiSource, James F Racher/NCS/Enterprise@NISOURCE@NiSource, Jana Croom/COH/Enterprise@NISOURCE@NiSource, Joseph Clark/NCS/Enterprise@NISOURCE@NiSource, Judy Cooper/CKY/Enterprise@NISOURCE@NiSource, Kimra Cole/NCS/Enterprise@NISOURCE@NiSource, Linda Rumpke/CKY/Enterprise@NISOURCE@NiSource, Mark Katko/NCS/Enterprise@NISOURCE@NiSource, Steve Seiple/NCS/Enterprise@NISOURCE@NiSource, jspanos@gfnet.com@NiSource
Date: 05/29/2016 04:44 PM
Subject: Rate Case -- Discovery Response -- Staff Set 1-025
Sent by: CKY Regulatory Proceedings


I'm OK with this Response

Link to document: 

Your CKY Regulatory Case Management Database Administrators are:

Steve Seiple - 614-460-4648
Cheryl MacDonald - 614-460-6855



Re: KY PSC Case No. 2016-00162 - Columbia Gas of Kentucky Rate Case -
AG 1-8(a) 

Judy Cooper to: Cheryl MacDonald

07/14/2016 10:06 AM

History: This message has been replied to.

Cheryl,

I do not have any emails to John Spanos about depreciation.

I only have one email at all from him and it is an out of office reply to a notification sent through the Lotus Notes tool about testimony being ready to review. I think it was my testimony.

Thanks,
Judy

Steve Seiple

Herb, Judy, Jim, Mark and Matt, I had a discussi...

07/12/2016 10:21:30 AM

From: Steve Seiple/NCS/Enterprise
To: Herbert A Miller/CKY/Enterprise@NiSource, Judy Cooper/CKY/Enterprise@NiSource, James F Racher/NCS/Enterprise@NiSource, Mark Katko/NCS/Enterprise@NiSource, Matthew Ruth/NCS/Enterprise@NiSource,
Cc: Joseph Clark/NCS/Enterprise@NISOURCE, Kimra Cole/NCS/Enterprise@NISOURCE, Linda Rumpke/CKY/Enterprise@NISOURCE, kscuccia@nisource.com, Cheryl MacDonald/NCS/Enterprise@NiSource
Date: 07/12/2016 10:21 AM
Subject: KY PSC Case No. 2016-00162 - Columbia Gas of Kentucky Rate Case - AG 1-8(a)

Herb, Judy, Jim, Mark and Matt,

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Matt, I suspect you had the bulk of the contact with Mr. Spanos. Is there anyone else who may had contact with Mr. Spanos for purposes of this case to whom this email should be forwarded?

For each of you (Herb, Judy, Jim, Mark and Matt) please search your inbox, sent mail and any relevant folders for any email correspondence related to the depreciation study in this case that you may have with Mr. Spanos. Please copy those emails into a pdf file and send the pdf file to Cheryl MacDonald (with me on the cc: list for the email) so that she can include them as part of the response to AG #8(a). Even if you have no such correspondence please send Cheryl an email so that we will know you conducted the search.

Thanks!

Stephen B. Seiple | Assistant General Counsel

290 W. Nationwide Blvd. | P.O. Box 117 | Columbus, OH 43215

sseiple@nisource.com | 614-460-4648 (Office) | 614-595-8331 (Cell)



Fw: KY PSC Case No. 2016-00162 - Columbia Gas of Kentucky Rate Case -
AG 1-8(a)

Matthew Ruth to: Cheryl MacDonald
Cc: Kevin Yates

07/13/2016 04:47 PM

History: This message has been replied to.

Hi Cheryl,

I wanted to let you know that Kevin Yates was the primary contact point for John Spanos for the CKY Rate Case for the purposes of the depreciation study. I did a scan of my email and they are all where I have been copied in from Kevin. Please let me know if you need anything additional.

Matthew Ruth
NiSource

Columbia Gas Companies
Asset Accounting Manager
Phone: 614-460-4741

----- Forwarded by Matthew Ruth/NCS/Enterprise on 07/13/2016 04:46 PM -----

From: Steve Seiple/NCS/Enterprise
To: Herbert A Miller/CKY/Enterprise@NiSource, Judy Cooper/CKY/Enterprise@NiSource, James F Racher/NCS/Enterprise@NiSource, Mark Katko/NCS/Enterprise@NiSource, Matthew Ruth/NCS/Enterprise@NiSource,
Cc: Joseph Clark/NCS/Enterprise@NISOURCE, Kimra Cole/NCS/Enterprise@NISOURCE, Linda Rumpke/CKY/Enterprise@NISOURCE, kscuccia@nisource.com, Cheryl MacDonald/NCS/Enterprise@NiSource
Date: 07/12/2016 10:21 AM
Subject: KY PSC Case No. 2016-00162 - Columbia Gas of Kentucky Rate Case - AG 1-8(a)

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Thanks!

Stephen B. Seiple | Assistant General Counsel

290 W. Nationwide Blvd. | P.O. Box 117 | Columbus, OH 43215

sseiple@nisource.com | 614-460-4648 (Office) | 614-595-8331 (Cell)

COLUMBIA GAS OF KENTUCKY, INC.
RESPONSE TO ATTORNEY GENERAL'S INITIAL
REQUEST FOR INFORMATION
DATED JULY 8, 2016

9. Refer to page 13, lines 17-18 of Mr. Spanos' Direct Testimony wherein he states:

I have conducted depreciation calculations using both the average service life and equal life group procedures.

Provide the depreciation rates using the ALG procedure. Provide all schedules, data, assumptions, workpapers, including all electronic spreadsheets with formulas intact.

Response:

The attached schedule, Attachment A to AG 1-9 -, sets forth the depreciation rates utilizing the Average Service Life procedure. All other schedules, data, assumptions, workpapers and spreadsheets are the same.

COLUMBIA GAS OF KENTUCKY, INC.

ESTIMATED SURVIVOR CURVES, NET SALVAGE, ORIGINAL COST, BOOK RESERVE AND
CALCULATED ANNUAL DEPRECIATION ACCRUALS RELATED TO GAS PLANT AS OF DECEMBER 31, 2015

DEPRECIABLE GROUP		SURVIVOR	NET	ORIGINAL COST	BOOK	FUTURE	CALCULATED		COMPOSITE
(1)		CURVE	SALVAGE	AS OF	RESERVE	BOOK	ANNUAL ACCRUAL	RATE	REMAINING
		(2)	(3)	DECEMBER 31, 2015	(5)	ACCRUALS	AMOUNT	(8)=(7)/(4)	LIFE
				(4)		(6)	(7)		(9)=(6)/(7)
DEPRECIABLE PLANT									
DISTRIBUTION PLANT									
LAND AND LAND RIGHTS									
374.4	LAND RIGHTS	70-R2	0	661,305.66	168,767	492,539	9,266	1.40	53.2
374.5	RIGHTS-OF-WAY	75-S4	0	<u>2,666,575.55</u>	<u>901,108</u>	<u>1,765,468</u>	<u>32,709</u>	1.23	54.0
TOTAL ACCOUNT 374				<u>3,327,881.21</u>	<u>1,069,875</u>	<u>2,258,007</u>	<u>41,975</u>	1.26	
STRUCTURES AND IMPROVEMENTS									
375.34	MEASURING AND REGULATING	52-R1.5	(20)	1,868,813.92	487,435	1,755,142	40,589	2.17	43.2
375.7	OTHER DISTRIBUTION SYSTEM								
	DISTRIBUTION SYSTEM STRUCTURES	Square *	0	7,807,297.57	3,119,082	4,688,215	165,874	2.12	28.3
	OTHER BUILDINGS	37-S2	0	<u>162,502.60</u>	<u>74,524</u>	<u>87,979</u>	<u>4,079</u>	2.51	21.6
TOTAL ACCOUNT 375.7				<u>7,969,800.17</u>	<u>3,193,606</u>	<u>4,776,194</u>	<u>169,953</u>	2.13	
TOTAL ACCOUNT 375				9,838,614.09	3,681,041	6,531,336	210,542	2.14	
376	MAINS								
	CAST IRON	70-R1.5 *	(20)	222,637.37	213,724	53,441	3,014	1.35	17.7
	BARE STEEL	70-R1.5 *	(20)	17,458,363.07	16,341,933	4,608,103	252,501	1.45	18.2
	COATED STEEL	70-R1.5	(20)	62,001,629.58	16,608,049	57,793,906	1,027,902	1.66	56.2
	PLASTIC	70-R1.5	(20)	<u>118,726,602.05</u>	<u>23,167,366</u>	<u>119,304,556</u>	<u>1,987,830</u>	1.67	60.0
TOTAL ACCOUNT 376				198,409,232.07	56,331,072	181,760,006	3,271,247	1.65	
378	MEASURING AND REGULATING STATION EQUIPMENT - GENERAL	41-S0	(15)	9,992,551.53	3,572,331	7,919,103	219,546	2.20	36.1
379.1	MEASURING AND REGULATING STATION EQUIPMENT - CITY GATE	40-R1.5	(15)	254,900.59	267,731	25,405	1,324	0.52	19.2
380	SERVICES	40-R1.5	(65)	115,258,005.47	57,280,572	132,895,137	4,377,717	3.80	30.4
381	METERS	37-R2	4	13,270,915.01	4,679,195	8,060,883	347,552	2.62	23.2
381.1	METERS - AMI	15-S2.5	0	8,705,079.06	335,815	8,369,264	627,908	7.21	13.3
382	METER INSTALLATIONS	42-S2	(5)	8,991,831.33	4,450,213	4,991,210	187,105	2.08	26.7
383	HOUSE REGULATORS	45-S1.5	(5)	5,504,717.40	1,447,854	4,332,099	123,594	2.25	35.1
384	HOUSE REGULATOR INSTALLATIONS	45-S1.5	0	2,257,522.00	1,744,500	513,022	18,755	0.83	27.4
385	INDUSTRIAL MEASURING AND REGULATING STATION EQUIPMENT	32-R0.5	(10)	3,047,363.19	855,577	2,496,523	110,970	3.64	22.5
387.4	OTHER EQUIPMENT - CUSTOMER INFORMATION SERVICES	33-R2.5	(5)	<u>4,461,168.45</u>	<u>1,535,314</u>	<u>3,148,913</u>	<u>139,528</u>	3.13	22.6
TOTAL DISTRIBUTION PLANT				383,319,781.40	137,251,090	363,300,908	9,677,763	2.52	
GENERAL PLANT									
OFFICE FURNITURE AND EQUIPMENT									
391.1	FURNITURE	20-SQ	0	713,480.71	182,802	530,679	35,683	5.00	14.9
391.11	EQUIPMENT	15-SQ	0	18,815.57	13,169	5,647	1,255	6.67	4.5
391.12	INFORMATION SYSTEMS	5-SQ	0	668,137.98	480,697	187,441	133,649	20.00	1.4
392.2	TRANSPORTATION EQUIPMENT - TRAILERS	16-L4	10	120,240.20	24,303	83,913	9,949	8.27	8.4
394	TOOLS, SHOP AND GARAGE EQUIPMENT	25-SQ	0	2,945,416.95	1,195,493	1,749,924	117,696	4.00	14.9
395	LABORATORY EQUIPMENT	20-SQ	0	9,257.77	7,106	2,152	463	5.00	4.6
396	POWER OPERATED EQUIPMENT	18-S0.5	10	258,254.72	182,667	49,762	5,440	2.11	9.1

COLUMBIA GAS OF KENTUCKY, INC.

ESTIMATED SURVIVOR CURVES, NET SALVAGE, ORIGINAL COST, BOOK RESERVE AND
CALCULATED ANNUAL DEPRECIATION ACCRUALS RELATED TO GAS PLANT AS OF DECEMBER 31, 2015

DEPRECIABLE GROUP		SURVIVOR CURVE	NET SALVAGE	ORIGINAL COST AS OF DECEMBER 31, 2015	BOOK RESERVE	FUTURE BOOK ACCRUALS	CALCULATED ANNUAL ACCRUAL		COMPOSITE REMAINING LIFE
							AMOUNT	RATE	
(1)		(2)	(3)	(4)	(5)	(6)	(7)	(8)=(7)/(4)	(9)=(6)/(7)
398	MISCELLANEOUS EQUIPMENT								
	FULLY ACCRUED	FULLY ACCRUED		3,290.19	3,290	0	0	-	-
	AMORTIZED	15-SQ	0	87,786.75	32,535	55,252	5,857	6.67	9.4
	TOTAL ACCOUNT 398			91,076.94	35,825	55,252	5,857	6.43	
TOTAL GENERAL PLANT				4,824,680.84	2,122,062	2,664,770	309,992	6.43	
TOTAL DEPRECIABLE PLANT				388,144,462.24	139,373,152	365,965,678	9,987,755	2.57	
UNRECOVERED RESERVE TO BE AMORTIZED									
391.1	FURNITURE				(269,654)		89,885	***	
391.11	EQUIPMENT				(26,413)		8,804	***	
391.12	INFORMATION SYSTEMS				39,733		(13,244)	***	
394	EQUIPMENT				58,023		(19,341)	***	
395	LABORATORY EQUIPMENT				(44)		15	***	
398	MISCELLANEOUS EQUIPMENT				(16,625)		5,542	***	
TOTAL UNRECOVERED RESERVE TO BE AMORTIZED					(214,980)		71,660		
AMORTIZABLE PLANT									
303	MISCELLANEOUS INTANGIBLE PLANT			5,340,619.47	2,072,601	3,268,018	767,437	**	
375.71	STRUCTURES AND IMPROVEMENTS - LEASEHOLDS			259,808.94	145,132	114,677	58,686	**	
378.21	MEASURING AND REGULATING STATION EQUIPMENT - FMV			(777,092.00)		(777,092)	(25,903)	****	
TOTAL AMORTIZABLE PLANT				4,823,336.41	2,217,733	2,605,603	800,220		
NONDEPRECIABLE AND NOT STUDIED PLANT									
301	ORGANIZATION			521.20					
374.1	LAND			206.00					
374.2	LAND			877,756.18	(523)				
376.02	MAINS - ARO			814,307.71	267,592				
376.03	MAINS - ARO			124,320.94	10,384				
TOTAL NONDEPRECIABLE PLANT				1,817,112.03	277,453				
TOTAL GAS PLANT				394,784,910.68	141,653,358	368,571,281	10,859,635		

* Indicates the use of an interim survivor curve. Each asset class has a probable retirement date.

** Accrual rate based on individual asset amortization.

*** 3-Year amortization of unrecovered reserve related to implementation of amortization accounting.

**COLUMBIA GAS OF KENTUCKY, INC.
RESPONSE TO ATTORNEY GENERAL'S INITIAL
REQUEST FOR INFORMATION
DATED JULY 8, 2016**

10. Provide a detailed explanation of the methodology used by Mr. Spanos to “normalize” the retirement data and net salvage data for the plant eligible for the pipeline replacement program given that this actual historic experience is not likely to be repeated for the replacement plant. Indicate if Mr. Spanos separated the plant data in any manner to make this distinction between the plant actually retired and still eligible for retirement compared to the replacement plant. If not, indicate why he did not do so in the depreciation study. If so, provide all notes, data, parameters, and workpapers, including electronic spreadsheets in live format and with formulas intact used to “normalize” this experience for application to the replacement plant.

Response:

Mr. Spanos did not specifically attempt to “normalize” the retirement data and net salvage data for the plant eligible for the pipeline replacement program. As stated on pages 17 and 18 of Mr. Spanos’ direct testimony, the historical data

did not maintain a pipe type identifier. For this reason, all mains data was studied together and one common service life and net salvage estimate was developed for all types of mains. As described in part III and IV of the depreciation study, informed judgment was a factor in determining life and net salvage parameters. This includes an understanding of the retirements and associated net salvage amounts. The pipe replacement program is not unique to old assets as similar activities could occur in the future.

COLUMBIA GAS OF KENTUCKY, INC.
RESPONSE TO ATTORNEY GENERAL'S INITIAL
REQUEST FOR INFORMATION
DATED JULY 8, 2016

11. Provide a detailed explanation of the Company's plant accounting for the plant eligible for the pipeline replacement program. Specifically address the Company's retirement and construction accounting, including, but not limited to, cost of removing retired plant compared to capital expenditures for replacement plant, and the manner in which the Company separates these costs where there is an overlap in retirement and construction activity, such as trenching and cutover from the retired to the replacement pipe. Specifically address the manner in which the Company tags the plant retirement or construction costs in its accounting records to identify and tie the costs to the pipeline replacement program. Provide a copy of all procedures and guidelines relied on by the Company in accounting for the retirement and construction costs and the separation of such costs where there is an overlap in activity.

Response:

Columbia creates a job order to capture the cost associated with the retirement of an asset and creates a separate job order to capture the cost associated with the construction of an asset. The retirement job order is charged directly when field operations personnel perform the work to remove or retire assets. These costs are subsequently closed and recognized as costs of removal, while the original cost of the asset retired is removed from Columbia's continuing property records.

The construction job order is charged when field operations personnel perform the construction work for an asset and the cost is closed to plant in-service. The creation of two separate job orders, one for retirement and one for construction, allows the replacement costs to be recognized as costs of removal and the construction costs be capitalized to plant-in-service.

During the creation of the job order (both construction and retirement) in the Work Management System the field operations personnel will identify whether the job order pertains to the pipeline replacement program and add the project code of "AMRCB". This project code is then interfaced into the asset accounting system so the costs associated with that project are identified as related to the pipeline replacement program.

There is no formal written policy that addresses the retirement and construction costs and the separation of such costs where is an overlap in activity.