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November 15, 2013

Jeff Derouen
Executive Director
Public Service Commission
211 Sower Blvd.
Frankfort, KY 40601

Re: Atmos Energy Corporation
Case No. 2013-00148

Dear Mr. Derouen:

Atmos Energy Corporation submits its Supplemental Response to the Staff's Second Data request 2-48. I certify that the electronic documents are true and correct copies of the original documents to be filed.

If you have any questions about this filing, please contact me.

Submitted By:

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AFFIDAVIT

COMMONWEALTH OF KENTUCKY

BEFORE THE PUBLIC SERVICE COMMISSION

IN THE MATTER OF)
RATE APPLICATION OF) Case No. 2013-00148
ATMOS ENERGY CORPORATION)

AFFIDAVIT

The Affiant, James H. Vander Weide, PH.D., being duly sworn, deposes and states that the attached responses to Commission Staff's second request for information are true and correct to the best of his knowledge and belief.

James H. Vander Weide
James H. Vander Weide, PH.D.

STATE OF NORTH CAROLINA
COUNTY OF DURHAM

SUBSCRIBED AND SWORN to before me by James H. Vander Weide, PH.D. on this
the 20 day of August, 2013.

Christiana S Chamberlain
Notary Republic
My Commission Expires: 8/18/14



Case No. 2013-00148
Atmos Energy Corporation, Kentucky Division
Staff RFI Set No. 2
Question No. 2-48 (Supplement 1)
Page 1 of 1

SUPPLEMENTAL RESPONSE (11/15/2013)

REQUEST:

Provide an electronic copy of the excel spreadsheets supporting the Vander Weide Testimony and the responses to the items in this request for information, where appropriate, with the underlying data and formulas intact.

SUPPLEMENTAL RESPONSE:

The Company is submitting this supplemental response to include Dr. James Vander Weide's updated cost of equity studies. The attached studies in this supplemental response use capital market data through September 2013. Please see supplemental Attachment 1.

ATTACHMENT:

ATTACHMENT 1 - Atmos Energy Corporation, Staff_2-48_Att1_Suppl - Vander Weide Workpaper Support.xlsx, 53 Pages.

Respondent: Dr. James Vander Weide

Supplemental Schedule 1

Summary of Discounted Cash Flow Analysis for Natural Gas Utilities

Line	Company	d_0	P_0	Growth	Market Cap \$	
					(Mil)	Model Result
1	AGL Resources	0.470	44.843	5.00%	5,340	9.8%
2	Atmos Energy	0.350	42.127	6.20%	3,758	10.1%
3	Laclede Group	0.425	45.162	4.70%	1,460	9.0%
4	NiSource Inc.	0.250	29.989	6.70%	9,537	10.5%
5	Northwest Nat. Gas	0.455	42.432	4.00%	1,117	8.8%
6	Piedmont Natural Gas	0.310	33.463	5.00%	2,421	9.2%
7	South Jersey Inds.	0.443	58.893	6.00%	1,829	9.5%
8	WGL Holdings Inc.	0.420	43.468	5.25%	2,162	9.6%
9	Market-weighted Average					9.9%

Schedule 2

CASE NO. 2013-00148
ATTACHMENT 1
TO STAFF DR NO. 2-48
(SUPPLEMENT, 11-15-13)

EXHIBIT_(JWW-1)

Schedule 2

Summary of Discounted Cash Flow Analysis for Water Utilities

Line	Company	d_0	P_0	Value Line EPS Growth	I/B/E/S Growth	Ave EPS Growth	Market Cap \$ (Mil)	Model Result
1	Amer. Water Works	0.280	41.222	10.00%	7.50%	8.75%	7,252	11.8%
2	Aqua America	0.152	25.590	8.00%	5.80%	6.90%	4,309	9.5%
3	California Water	0.160	20.464	6.50%	6.00%	6.25%	952	9.9%
4	Conn. Water Services	0.247	30.505	5.50%	5.00%	5.25%	342	8.9%
5	Middlesex Water	0.188	20.990	4.00%	2.70%	3.35%	324	7.4%
6	SJW Corp.	0.182	26.942	7.50%	14.00%	10.75%	548	14.0%
7	York Water Co. (The)	0.138	20.347	4.00%	4.90%	4.45%	257	7.5%
8	Market-weighted Average							10.8%
9	Average							9.9%
10	Average Line 8, 9							10.3%

EXHIBIT_(IVW-1)

Schedule 3

Comparison of DCF Expected Return
on an Equity Investment in Natural Gas Distribution Companies
to the Interest Rate on Moody's A-rated Utility Bonds

=B - C

X Y

Adjusted RP = RP - coefficient >

Regression of Relationship Between Risk Pren Adjusted Yld = Yld - coefficient
on an investment in Natural Gas Distribution Companies

and Yield to Maturity on Moody's A-Rated Utli intercept coefficient =

Serial correlation coefficient r estimated via n 0.01286 0.0129

 $Y_t = a(1-r) + rY_{t-1} + bX_t - brX_{t-1} + e_t$ / (1-0.847) 0.15270.8473 RP_t -.847 x RP_t -0.5608 -0.5608

S&P 500 Average Yt-1 Xt-1 Y X

Line	Date	DCF	Bond Yield	Risk Premium	Bond Premium	Lag Bond Yield	Adjusted Risk Premium	Adjusted Bond Yield	Forecast Bond RP
Line	Date	DCF	Bond Yield	Risk Premium					
1	Jun-98	0.1154	0.0703	0.0451	0.0451	0.0703	0.01016	0.0107	0.0448
2	Jul-98	0.1186	0.0703	0.0483	0.0483	0.0703	0.01240	0.0104	0.0450
3	Aug-98	0.1234	0.0700	0.0534	0.0534	0.0700	0.01283	0.0100	0.0454
4	Sep-98	0.1273	0.0693	0.0580	0.0580	0.0693	0.00719	0.0109	0.0452
5	Oct-98	0.1260	0.0696	0.0564	0.0564	0.0696	0.00305	0.0113	0.0448
6	Nov-98	0.1211	0.0703	0.0508	0.0508	0.0703	0.00630	0.0095	0.0455
7	Dec-98	0.1185	0.0691	0.0494	0.0494	0.0691	0.00801	0.0111	0.0452
8	Jan-99	0.1195	0.0697	0.0498	0.0498	0.0697	0.01119	0.0118	0.0445
9	Feb-99	0.1243	0.0709	0.0534	0.0534	0.0709	0.00782	0.0125	0.0435
10	Mar-99	0.1257	0.0726	0.0531	0.0531	0.0726	0.00887	0.0107	0.0438
11	Apr-99	0.1260	0.0722	0.0538	0.0538	0.0722	0.00180	0.0135	0.0424
12	May-99	0.1221	0.0747	0.0474	0.0474	0.0747	0.00318	0.0141	0.0408
13	Jun-99	0.1208	0.0774	0.0434	0.0474	0.0774	0.00838	0.0115	0.0410
14	Jul-99	0.1222	0.0771	0.0451	0.0434	0.0771	0.00471	0.0138	0.0399
15	Aug-99	0.1220	0.0791	0.0429	0.0451	0.0791	0.00691	0.0123	0.0398
16	Sep-99	0.1226	0.0793	0.0433	0.0429	0.0793	0.00601	0.0134	0.0390
17	Oct-99	0.1233	0.0806	0.0427	0.0433	0.0806	0.00843	0.0111	0.0397
18	Nov-99	0.1240	0.0794	0.0446	0.0427	0.0806	0.00878	0.0141	0.0386
19	Dec-99	0.1280	0.0814	0.0466	0.0446	0.0794	0.00709	0.0145	0.0374
20	Jan-00	0.1301	0.0835	0.0466	0.0466	0.0814	0.01243	0.0117	0.0380
21	Feb-00	0.1344	0.0825	0.0519	0.0466	0.0835	0.00769	0.0129	0.0378
22	Mar-00	0.1344	0.0828	0.0516	0.0519	0.0825	0.0127	0.0378	
23	Apr-00	0.1316	0.0829	0.0487	0.0516	0.0828	0.00498	0.0127	
24	May-00	0.1292	0.0870	0.0422	0.0487	0.0829	0.00088	0.0168	
25	Jun-00	0.1295	0.0836	0.0459	0.0422	0.0870	0.01020	0.0099	
26	Jul-00	0.1317	0.0825	0.0492	0.0459	0.0836	0.01025	0.0117	
27	Aug-00	0.1290	0.0813	0.0477	0.0492	0.0825	0.00607	0.0114	
28	Sep-00	0.1257	0.0823	0.0434	0.0477	0.0813	0.00297	0.0134	
29	Oct-00	0.1260	0.0814	0.0446	0.0434	0.0823	0.00776	0.0117	
30	Nov-00	0.1251	0.0811	0.0440	0.0446	0.0814	0.00626	0.0121	
31	Dec-00	0.1239	0.0784	0.0455	0.0440	0.0811	0.00818	0.0097	
32	Jan-01	0.1261	0.0780	0.0481	0.0455	0.0784	0.00960	0.0116	
33	Feb-01	0.1261	0.0774	0.0487	0.0481	0.0780	0.00790	0.0113	
34	Mar-01	0.1275	0.0768	0.0507	0.0487	0.0774	0.00949	0.0112	
35	Apr-01	0.1227	0.0794	0.0433	0.0507	0.0768	0.00030	0.0143	
36	May-01	0.1302	0.0799	0.0503	0.0433	0.0794	0.01366	0.0126	
37	Jun-01	0.1304	0.0785	0.0519	0.0503	0.0799	0.00927	0.0108	
38	Jul-01	0.1338	0.0778	0.0560	0.0519	0.0785	0.01202	0.0113	
39	Aug-01	0.1327	0.0759	0.0568	0.0560	0.0778	0.00934	0.0100	
40	Sep-01	0.1268	0.0775	0.0493	0.0568	0.0759	0.00113	0.0132	
41	Oct-01	0.1268	0.0763	0.0505	0.0493	0.0775	0.00880	0.0106	
42	Nov-01	0.1268	0.0757	0.0511	0.0505	0.0763	0.00831	0.0110	
43	Dec-01	0.1254	0.0783	0.0471	0.0511	0.0757	0.00380	0.0142	
44	Jan-02	0.1236	0.0766	0.0470	0.0471	0.0783	0.00711	0.0103	
45	Feb-02	0.1241	0.0754	0.0487	0.0470	0.0766	0.00887	0.0105	
46	Mar-02	0.1189	0.0776	0.0413	0.0487	0.0754	0.00002	0.0137	
47	Apr-02	0.1159	0.0757	0.0402	0.0413	0.0776	0.00520	0.0099	
48	May-02	0.1162	0.0752	0.0410	0.0402	0.0757	0.00696	0.0111	
49	Jun-02	0.1170	0.0741	0.0429	0.0410	0.0752	0.00815	0.0104	
50	Jul-02	0.1242	0.0731	0.0511	0.0429	0.0741	0.01473	0.0103	
51	Aug-02	0.1234	0.0717	0.0517	0.0511	0.0731	0.00842	0.0098	
52	Sep-02	0.1260	0.0708	0.0552	0.0517	0.0717	0.01136	0.0100	
53	Oct-02	0.1250	0.0723	0.0527	0.0552	0.0708	0.00597	0.0123	

↳ lag RP
x lag yield

Value Line, EIA A-rated utility forecast yield 6.64%

Cost of Equity

Ex Ante Risk Premium Cost of Equity Gas Companies

0.1156
0.1153
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Month	NFG	STR	Mkt Cap	Ave. DCF
Jun-98	1.57	1.51	15.72	11.54%
Jul-98	1.49	1.43	15.20	11.86%
Aug-98	1.49	1.26	19.84	12.34%
Sep-98	1.72	1.50	20.43	12.78%
Oct-98	1.73	1.53	19.62	12.60%
Nov-98	1.68	1.51	19.62	12.11%
Dec-98	1.67	1.52	19.62	11.85%
Jan-99	1.57	1.31	19.78	11.95%
Feb-99	1.50	1.42	19.82	12.43%
Mar-99	1.47	1.34	20.47	12.57%
Apr-99	1.64	1.45	19.57	12.60%
May-99	1.79	1.53	19.94	12.21%
Jun-99	1.84	1.53	20.20	12.08%
Jul-99	1.78	1.51	20.77	12.22%
Aug-99	1.79	1.53	20.79	12.20%
Sep-99	1.81	1.47	20.79	12.26%
Oct-99	1.88	1.46	20.99	12.33%
Nov-99	1.92	1.40	20.90	12.40%
Dec-99	1.80	1.22	20.56	12.80%
Jan-00	1.74	1.25	18.97	13.01%
Feb-00	1.60	1.15	18.85	13.44%
Mar-00	1.74	1.50	19.56	13.44%
Apr-00	1.85	1.52	18.14	13.16%
May-00	2.03	1.62	17.34	12.92%
Jun-00	1.91	1.55	17.62	12.95%
Jul-00	1.93	1.56	20.83	13.17%
Aug-00	2.06	1.74	21.26	12.90%
Sep-00	2.20	2.23	22.47	12.57%
Oct-00	2.11	2.17	23.89	12.60%
Nov-00	2.24	2.23	23.36	12.51%
Dec-00	2.47	2.42	23.05	12.39%
Jan-01	2.07	2.24	23.83	12.61%
Feb-01	2.05	2.21	23.73	12.61%
Mar-01	2.12	2.21	24.17	12.75%
Apr-01	2.20	2.58	25.44	12.27%
May-01	2.26	2.50	26.55	13.02%
Jun-01	2.06	2.09	25.60	13.04%
Jul-01	1.90	1.90	24.36	13.38%
Aug-01	1.90	1.83	24.00	13.27%
Sep-01	1.83	1.63	22.48	12.68%
Oct-01	1.86	1.78	22.54	12.68%
Nov-01	1.78	1.89	22.55	12.68%
Dec-01	1.96	2.04	22.53	12.54%
Jan-02	1.82	1.95	22.00	12.36%
Feb-02	1.95	1.82	22.52	12.41%
Mar-02	1.94	2.09	23.22	11.89%
Apr-02	1.90	2.28	23.46	11.59%
May-02	1.86	2.25	24.17	11.62%
Jun-02	1.80	2.02	25.38	11.70%
Jul-02	1.55	1.85	24.95	12.42%
Aug-02	1.63	2.04	22.89	12.34%
Sep-02	1.59	1.87	23.09	12.60%
Oct-02	1.62	2.11	24.06	12.50%
Nov-02	1.66	2.14	24.13	12.21%
Dec-02	1.67	2.28	24.34	12.16%
Jan-03	1.66	2.25	24.43	12.19%
Feb-03	1.57	2.28	24.33	12.32%
Mar-03	1.76	2.43	23.76	11.95%
Apr-03	1.89	2.48	23.99	11.62%
May-03	2.07	2.67	24.47	11.26%
Jun-03	2.10	2.77	29.22	11.14%
Jul-03	1.95	2.64	28.81	11.27%
Aug-03	1.88	2.66	28.80	11.39%
Sep-03	1.86	2.55	27.74	11.27%
Oct-03	1.82	2.63	27.79	11.23%
Nov-03	1.88	2.83	28.05	10.89%
Dec-03	1.99	2.92	29.01	10.71%
Jan-04	1.90	2.80	27.43	10.59%
Feb-04	1.90	2.80	28.83	10.39%
Mar-04	2.10	3.00	28.10	10.37%
Apr-04	2.10	3.00	28.10	10.41%
May-04	2.10	3.00	26.33	10.45%
Jun-04	2.00	3.10	25.25	10.36%
Jul-04	2.00	3.40	29.58	10.11%
Aug-04	2.00	3.40	31.13	10.08%
Sep-04	2.30	3.40	27.83	9.76%
Oct-04	2.30	4.00	27.50	9.74%
Nov-04	2.30	4.00	27.50	9.62%
Dec-04		4.00	26.08	9.70%
Jan-05		4.20	29.62	9.90%
Feb-05		4.10	30.41	9.79%
Mar-05		4.40	31.23	9.79%
Apr-05		5.50	33.04	9.88%
May-05		5.50	33.04	9.81%
Jun-05		6.64	35.98	9.76%
Jul-05		6.64	36.99	9.66%
Aug-05		6.64	36.99	9.69%
Sep-05	2.57	6.78	37.72	9.80%
Oct-05	2.57	6.78	37.72	9.90%
Nov-05	2.57	6.78	35.93	10.49%
Dec-05	2.75	6.74	37.34	10.45%
Jan-06	2.75	6.74	39.17	9.82%
Feb-06		6.74	19.71	11.24%

Month	NFG	STR	Mkt Cap	Ave. DCF
Mar-06		6.84	19.64	11.27%
Apr-06		6.84	27.42	11.00%
May-06	2.94	6.13	34.27	10.56%
Jun-06	2.94	6.13	32.85	10.49%
Jul-06	3.26	7.65	35.44	10.87%
Aug-06	3.17	7.65	35.36	10.41%
Sep-06	3.17	7.65	33.97	10.53%
Oct-06	3.18	7.05	35.25	10.30%
Nov-06	3.29	7.49	35.02	10.33%
Dec-06	3.26	7.52	35.00	10.35%
Jan-07	3.56	7.06	38.86	10.13%
Feb-07	3.43	7.08	36.28	10.18%
Mar-07	3.89	8.41	40.05	10.18%
Apr-07	3.89	8.41	40.05	10.07%
May-07	3.68	9.29	40.40	9.67%
Jun-07	3.68	9.29	40.40	9.70%
Jul-07	3.98	8.95	35.33	10.06%
Aug-07	3.98	8.95	35.33	10.21%
Sep-07	3.98	8.95	35.33	10.14%
Oct-07	3.89	9.50	37.00	10.80%
Nov-07	3.89	9.50	37.00	10.83%
Dec-07	3.89	9.50	37.00	10.84%
Jan-08	3.84	8.88	36.58	11.13%
Feb-08		10.80	40.07	11.39%
Mar-08		10.80	40.07	11.47%
Apr-08		10.80	40.63	11.67%
May-08		12.27	46.03	10.69%
Jun-08		12.27	44.66	10.62%
Jul-08		8.99	36.95	10.86%
Aug-08		9.00	36.99	11.23%
Sep-08		5.98	28.52	11.30%
Oct-08		5.99	27.58	12.13%
Nov-08		5.58	26.57	12.21%
Dec-08		5.82	29.77	11.62%
Jan-09		6.25	31.56	11.31%
Feb-09		5.00	26.03	11.55%
Mar-09		5.82	29.04	11.98%
Apr-09		5.82	29.04	11.46%
May-09			21.97	12.25%
Jun-09			21.97	12.08%
Jul-09	3.62		34.05	11.45%
Aug-09	3.65		34.57	11.09%
Sep-09	3.65		34.57	11.09%
Oct-09	6.33		27.97	11.46%
Nov-09	6.33		27.97	11.48%
Dec-09	6.33		27.97	11.23%
Jan-10	3.94		25.55	11.98%
Feb-10	4.18		26.78	11.67%
Mar-10	4.23		26.02	10.74%
Apr-10	3.70		24.26	9.34%
May-10	3.70		24.26	9.70%
Jun-10	3.70		27.38	9.53%
Jul-10	4.35		30.26	10.50%
Aug-10	4.35		30.26	10.38%
Sep-10	4.35		30.26	10.34%
Oct-10	5.37		28.24	10.50%
Nov-10	5.37		28.24	10.41%
Dec-10	5.65		28.88	10.29%
Jan-11	6.03	3.11	32.84	10.19%
Feb-11	6.03	3.11	32.84	10.04%
Mar-11	6.21	3.09	33.36	10.14%
Apr-11	3.08		31.39	10.31%
May-11	3.04		31.66	10.18%
Jun-11	3.20		30.44	10.20%
Jul-11	3.24		31.12	10.35%
Aug-11	3.14		26.31	11.79%
Sep-11	3.14		25.94	11.55%
Oct-11			24.19	11.50%
Nov-11	3.43		29.09	11.20%
Dec-11	3.53		31.73	10.92%
Jan-12	3.43		30.73	10.78%
Feb-12	3.44		33.27	10.81%
Mar-12	3.53		33.57	10.81%
Apr-12			30.73	11.31%
May-12			28.00	12.01%
Jun-12			20.54	10.11%
Jul-12	3.77		25.22	9.77%
Aug-12	3.63		26.25	10.23%
Sep-12			22.63	10.38%
Oct-12			23.21	10.11%
Nov-12			23.21	10.32%
Dec-12			23.21	10.23%
Jan-13			24.59	10.13%
Feb-13			26.47	9.82%
Mar-13			27.28	10.18%
Apr-13			27.28	10.01%
May-13			27.28	10.00%
Jun-13			26.72	10.00%
Jul-13			26.72	9.83%
Aug-13			26.72	9.82%
Sep-13			27.62	9.91%

132	May-09	0.1225	0.0649	0.0576	0.0576	0.0498	0.0649	0.0648	0.0155	0.0100	0.0070
133	Jun-09	0.1208	0.0620	0.0588	0.0588	0.0576	0.0620	0.0649	0.0100		
134	Jul-09	0.1145	0.0597	0.0548	0.0548	0.0588	0.0597	0.0620	0.0049	0.0072	
135	Aug-09	0.1109	0.0571	0.0538	0.0538	0.0548	0.0571	0.0597	0.0074	0.0065	
136	Sep-09	0.1109	0.0553	0.0556	0.0556	0.0538	0.0553	0.0571	0.0099	0.0069	
137	Oct-09	0.1146	0.0555	0.0592	0.0592	0.0556	0.0555	0.0553	0.0121	0.0086	
138	Nov-09	0.1148	0.0564	0.0584	0.0584	0.0592	0.0564	0.0555	0.0082	0.0094	
139	Dec-09	0.1123	0.0579	0.0544	0.0544	0.0584	0.0579	0.0564	0.0049	0.0101	
140	Jan-10	0.1198	0.0577	0.0621	0.0621	0.0544	0.0577	0.0579	0.0161	0.0086	
141	Feb-10	0.1167	0.0587	0.0580	0.0580	0.0621	0.0587	0.0577	0.0053	0.0098	
142	Mar-10	0.1074	0.0584	0.0490	0.0490	0.0580	0.0584	0.0587	-0.0001	0.0087	
143	Apr-10	0.0934	0.0582	0.0352	0.0352	0.0490	0.0582	0.0584	-0.0063	0.0087	
144	May-10	0.0970	0.0552	0.0418	0.0418	0.0352	0.0552	0.0582	0.0120	0.0059	
145	Jun-10	0.0953	0.0546	0.0407	0.0407	0.0418	0.0546	0.0552	0.0052	0.0079	
146	Jul-10	0.1050	0.0526	0.0524	0.0524	0.0407	0.0526	0.0546	0.0179	0.0063	
147	Aug-10	0.1038	0.0501	0.0537	0.0537	0.0524	0.0501	0.0526	0.0094	0.0055	
148	Sep-10	0.1034	0.0501	0.0533	0.0533	0.0537	0.0501	0.0501	0.0077	0.0077	
149	Oct-10	0.1050	0.0510	0.0540	0.0540	0.0533	0.0510	0.0501	0.0088	0.0086	
150	Nov-10	0.1041	0.0536	0.0505	0.0505	0.0540	0.0536	0.0510	0.0048	0.0104	
151	Dec-10	0.1029	0.0557	0.0472	0.0472	0.0505	0.0557	0.0536	0.0044	0.0102	
152	Jan-11	0.1019	0.0557	0.0462	0.0462	0.0472	0.0557	0.0557	0.0062	0.0085	
153	Feb-11	0.1004	0.0568	0.0436	0.0436	0.0462	0.0568	0.0557	0.0045	0.0096	
154	Mar-11	0.1014	0.0556	0.0458	0.0458	0.0436	0.0556	0.0568	0.0088	0.0075	
155	Apr-11	0.1031	0.0555	0.0476	0.0476	0.0458	0.0555	0.0556	0.0088	0.0084	
156	May-11	0.1018	0.0532	0.0486	0.0486	0.0476	0.0532	0.0555	0.0083	0.0062	
157	Jun-11	0.1020	0.0526	0.0494	0.0494	0.0486	0.0526	0.0532	0.0082	0.0075	
158	Jul-11	0.1035	0.0527	0.0508	0.0508	0.0494	0.0527	0.0526	0.0090	0.0081	
159	Aug-11	0.1179	0.0469	0.0710	0.0710	0.0508	0.0469	0.0527	0.0279	0.0022	
160	Sep-11	0.1155	0.0448	0.0707	0.0707	0.0710	0.0448	0.0469	0.0105	0.0051	
161	Oct-11	0.1150	0.0452	0.0698	0.0698	0.0707	0.0452	0.0448	0.0099	0.0072	
162	Nov-11	0.1120	0.0425	0.0695	0.0695	0.0698	0.0425	0.0452	0.0103	0.0042	
163	Dec-11	0.1092	0.0435	0.0657	0.0657	0.0695	0.0435	0.0425	0.0068	0.0075	
164	Jan-12	0.1078	0.0434	0.0644	0.0644	0.0657	0.0434	0.0435	0.0087	0.0065	
165	Feb-12	0.1081	0.0436	0.0645	0.0645	0.0644	0.0436	0.0434	0.0099	0.0068	
166	Mar-12	0.1081	0.0448	0.0633	0.0633	0.0645	0.0448	0.0436	0.0087	0.0079	
167	Apr-12	0.1131	0.0440	0.0691	0.0691	0.0633	0.0440	0.0448	0.0155	0.0060	
168	May-12	0.1201	0.0420	0.0781	0.0781	0.0691	0.0420	0.0440	0.0195	0.0047	
169	Jun-12	0.1011	0.0408	0.0603	0.0603	0.0781	0.0408	0.0420	-0.0059	0.0052	
170	Jul-12	0.0977	0.0393	0.0584	0.0584	0.0603	0.0393	0.0408	0.0073	0.0047	
171	Aug-12	0.1023	0.0400	0.0623	0.0623	0.0584	0.0400	0.0393	0.0128	0.0067	
172	Sep-12	0.1038	0.0402	0.0636	0.0636	0.0623	0.0402	0.0400	0.0108	0.0063	
173	Oct-12	0.1011	0.0391	0.0620	0.0620	0.0636	0.0391	0.0402	0.0081	0.0050	
174	Nov-12	0.1032	0.0384	0.0648	0.0648	0.0620	0.0384	0.0391	0.0123	0.0053	
175	Dec-12	0.1023	0.0400	0.0623	0.0623	0.0648	0.0400	0.0384	0.0074	0.0075	
176	Jan-13	0.1013	0.0415	0.0598	0.0598	0.0623	0.0415	0.0400	0.0071	0.0076	
177	Feb-13	0.0982	0.0418	0.0564	0.0564	0.0598	0.0418	0.0415	0.0057	0.0066	
178	Mar-13	0.1018	0.0420	0.0598	0.0598	0.0564	0.0420	0.0418	0.0120	0.0066	
179	Apr-13	0.1001	0.0400	0.0601	0.0601	0.0598	0.0400	0.0420	0.0095	0.0044	
180	May-13	0.1000	0.0417	0.0583	0.0583	0.0601	0.0417	0.0400	0.0074	0.0078	
181	Jun-13	0.1000	0.0453	0.0547	0.0547	0.0583	0.0453	0.0417	0.0053	0.0100	
182	Jul-13	0.0983	0.0468	0.0515	0.0515	0.0547	0.0468	0.0453	0.0051	0.0084	
183	Aug-13	0.0982	0.0473	0.0509	0.0509	0.0515	0.0473	0.0468	0.0072	0.0076	
184	Sep-13	0.0991	0.0480	0.0511	0.0511	0.0509	0.0480	0.0473	0.0080	0.0079	

Simple Regression - Risk Premium vs. Bond Yield
Dependent variable: Risk Premium
Independent variable: Bond Yield
Linear model: $Y = a + b \cdot X$

Coefficients

Parameter	Least Squares Estimate	Standard Error	T Statistic	P-Value
Intercept	0.0680328	0.00282537	24.0792	0
Slope	-0.298924	0.0443212	-6.74448	0

Analysis of Variance

Source	Sum of Squares	Df	Mean Square	F-Ratio	P-Value
Model	0.00223755	1	0.00223755	45.49	0
Residual	0.00895253	182	4.91897E-05		
Total (Corr.)	0.0111901	183			

Correlation Coefficient = -0.447167

R-squared = 19.9958 percent

R-squared (adjusted for d.f.) = 19.5562 percent

Standard Error of Est. = 0.00701354

Mean absolute error = 0.00564292

Durbin-Watson statistic = 0.315564 ($P=0.0000$)

Lag 1 residual autocorrelation = 0.841639

Multiple Regression - Risk Premium_1

Dependent variable: Risk Premium_1

Independent variables:

Lag Risk Premium

A Bond Yield

Lag Yield

Parameter	Estimate	Standard Error	T Statistic	P-Value
CONSTANT	0.00982069	0.00303247	3.23852	0.0014
Lag Risk Premium	0.847336	0.038813	21.8312	0
A Bond Yield	-0.831994	0.142386	-5.84323	0
Lag Yield	0.794312	0.143706	5.52734	0

Analysis of Variance

Source	Sum of Squares	Df	Mean Square	F-Ratio	P-Value
Model	0.00876295	3	0.00292098	217.01	0.00
Residual	0.0024094	179	1.34603E-05		
Total (Corr.)	0.0111724	182			

R-squared = 78.4343 percent

R-squared (adjusted for d.f.) = 78.0728 percent

Standard Error of Est. = 0.00366883

Mean absolute error = 0.00248158

Durbin-Watson statistic = 1.89562 (P=0.2408)

Lag 1 residual autocorrelation = 0.0503745

Simple Regression - Adjusted Risk Premium vs. Adjusted Bond Yield

Dependent variable: Adjusted Risk Premium

Independent variable: Adjusted Bond Yield

Linear model: $Y = a + b^*X$

Coefficients

Parameter	Least Squares Estimate	Standard Error	T Statistic	P-Value
Intercept	0.0128625	0.00107043	12.0161	0
Slope	-0.560845	0.10937	-5.12793	0

Analysis of Variance

Source	Sum of Squares	Df	Mean Square	F-Ratio
Model	0.000367747	1	0.000367747	26.3
Residual	0.00253129	181	1.39851E-05	
Total (Corr.)	0.00289904	182		

Correlation Coefficient = -0.356162

R-squared = 12.6851 percent

R-squared (adjusted for d.f.) = 12.2027 percent

Standard Error of Est. = 0.00373966

Mean absolute error = 0.00260822

Durbin-Watson statistic = 1.88823 (P=0.2256)

Lag 1 residual autocorrelation = 0.0536441

Value Line Selection & Opinion, August 23, 2013

Aaa-rated Corporate Forecast	6.00%
10-Year Treasury Note Forecast	4.00%

Aug-13	Spread	Forecast
Aaa-rated Corporate	4.54%	
A-rated Utility	4.73%	0.19% 6.19%
Baa-rated Utility	5.28%	0.74% 6.74%
10-Year Treasury Note	2.74%	
20-year Treasury	3.49%	0.75% 4.75%

Energy Information Administration April 2013

AA Utility Bond Rate Forecast	6.88%
10-Year Treasury Note Forecast	4.84%
http://www.eia.gov/forecasts/aeo/IF_all.cfm	

Aug-13	Spread	Forecast
AA-rated utility bond	4.53%	
A-rated utility bond	4.73%	0.20% 7.08%
BBB-rated Utility	5.28%	0.75% 7.63%
10-Year Treasury Note	2.74%	
20-year Treasury	3.49%	0.75% 5.59%

Average, VL and EIA

AA-rated Utility Forecast	6.64%
BBB-rated Utility Forecast	7.19%
20-year Treasury Forecast	5.17%

Value Line Selection & Opinion (August 23, 2013) projects an AAA-rated Corporate bond yield equal to 6.0 percent. The August 2013 average spread between A-rated utility bonds and Aaa-rated Corporate bonds is nineteen basis points (A-rated utility, 4.73 percent, less Aaa-rated Corporate, 4.54 percent, equals nineteen basis points). Adding nineteen basis points to the 6.0 percent Value Line AAA Corporate bond forecast equals a forecast yield of 6.19 percent for the A-rated utility bonds. The EIA at April 2013 forecasts an AA-rated utility bond yield equal to 6.88 percent. The average spread between AA-rated utility and A-rated utility bonds at August 2013 is twenty basis points (4.73 percent less 4.53 percent). Adding twenty basis points to EIA's 6.88 percent AA-utility bond yield forecast equals a forecast yield for A-rated utility bonds equal to 7.08 percent. The average of the forecasts (6.19 percent using Value Line data and 7.08 percent using EIA data) is 6.64 percent.

Value Line forecasts a yield on 10-year Treasury notes equal to 4.0 percent. The current spread between the average August 2013 yield on 10-year Treasury notes (2.74 percent) and 20-year Treasury bonds (3.49 percent) is seventy-five basis points. Adding seventy-five basis points to Value Line's 4.0 percent forecasted yield on 10-year Treasury notes produces a forecasted yield of 4.75 percent for 20-year Treasury bonds (see Value Line Investment Survey, Selection & Opinion, August 23, 2013). EIA forecasts a yield of 4.84 percent on 10-year Treasury notes. Adding the seventy-five basis point spread between 10-year Treasury notes and 20-year Treasury bonds to the EIA forecast of 4.84 percent for 10-year Treasury notes produces an EIA forecast for 20-year Treasury bonds equal to 5.59 percent. The average of the forecasts is 5.17 percent (4.75 percent using Value Line data and 5.59 percent using EIA data).

Schedule 4

Comparative Returns on S&P 500 Stock Index
and Moody's A-Rated Utility Bonds 1937 - 2013

Line	Year	S&P 500 Stock	Stock	A-rated Bond			
		Price	Dividend Yield	Stock Return	Price	Bond Return	Risk Premium
1	2013	1,481.11	0.0220		\$97.45		
2	2012	1,300.58	0.0214	16.02%	\$94.36	7.52%	8.50%
3	2011	1,282.62	0.0185	3.25%	\$77.36	27.14%	-23.89%
4	2010	1,123.58	0.0203	16.18%	\$75.02	8.44%	7.74%
5	2009	865.58	0.0310	32.91%	\$68.43	15.48%	17.43%
6	2008	1,378.76	0.0206	-35.16%	\$72.25	0.24%	-35.40%
7	2007	1,424.16	0.0181	-1.38%	\$72.91	4.59%	-5.97%
8	2006	1,278.72	0.0183	13.20%	\$75.25	2.20%	11.01%
9	2005	1,181.41	0.0177	10.01%	\$74.91	5.80%	4.21%
10	2004	1,132.52	0.0162	5.94%	\$70.87	11.34%	-5.40%
11	2003	895.84	0.0180	28.22%	\$62.26	20.27%	7.95%
12	2002	1,140.21	0.0138	-20.05%	\$57.44	15.35%	-35.40%
13	2001	1,335.63	0.0116	-13.47%	\$56.40	8.93%	-22.40%
14	2000	1,425.59	0.0118	-5.13%	\$52.60	14.82%	-19.95%
15	1999	1,248.77	0.0130	15.46%	\$63.03	-10.20%	25.66%
16	1998	963.35	0.0162	31.25%	\$62.43	7.38%	23.87%
17	1997	766.22	0.0195	27.68%	\$56.62	17.32%	10.36%
18	1996	614.42	0.0231	27.02%	\$60.91	-0.48%	27.49%
19	1995	465.25	0.0287	34.93%	\$50.22	29.26%	5.68%
20	1994	472.99	0.0269	1.05%	\$60.01	-9.65%	10.71%
21	1993	435.23	0.0288	11.56%	\$53.13	20.48%	-8.93%
22	1992	416.08	0.0290	7.50%	\$49.56	15.27%	-7.77%
23	1991	325.49	0.0382	31.65%	\$44.84	19.44%	12.21%
24	1990	339.97	0.0341	-0.85%	\$45.60	7.11%	-7.96%
25	1989	285.41	0.0364	22.76%	\$43.06	15.18%	7.58%
26	1988	250.48	0.0366	17.61%	\$40.10	17.36%	0.25%
27	1987	264.51	0.0317	-2.13%	\$48.92	-9.84%	7.71%
28	1986	208.19	0.0390	30.95%	\$39.98	32.36%	-1.41%
29	1985	171.61	0.0451	25.83%	\$32.57	35.05%	-9.22%
30	1984	166.39	0.0427	7.41%	\$31.49	16.12%	-8.72%
31	1983	144.27	0.0479	20.12%	\$29.41	20.65%	-0.53%
32	1982	117.28	0.0595	28.96%	\$24.48	36.48%	-7.51%
33	1981	132.97	0.0480	-7.00%	\$29.37	-3.01%	-3.99%
34	1980	110.87	0.0541	25.34%	\$34.69	-3.81%	29.16%
35	1979	99.71	0.0533	16.52%	\$43.91	-11.89%	28.41%
36	1978	90.25	0.0532	15.80%	\$49.09	-2.40%	18.20%
37	1977	103.80	0.0399	-9.06%	\$50.95	4.20%	-13.27%
38	1976	96.86	0.0380	10.96%	\$43.91	25.13%	-14.17%
39	1975	72.56	0.0507	38.56%	\$41.76	14.75%	23.81%
40	1974	96.11	0.0364	-20.86%	\$52.54	-12.91%	-7.96%
41	1973	118.40	0.0269	-16.14%	\$58.51	-3.37%	-12.77%
42	1972	103.30	0.0296	17.58%	\$56.47	10.69%	6.89%
43	1971	93.49	0.0332	13.81%	\$53.93	12.13%	1.69%
44	1970	90.31	0.0356	7.08%	\$50.46	14.81%	-7.73%
45	1969	102.00	0.0306	-8.40%	\$62.43	-12.76%	4.36%
46	1968	95.04	0.0313	10.45%	\$66.97	-0.81%	11.26%
47	1967	84.45	0.0351	16.05%	\$78.69	-9.81%	25.86%
48	1966	93.32	0.0302	-6.48%	\$86.57	4.48%	-2.00%
49	1965	86.12	0.0299	11.35%	\$91.40	-0.91%	12.26%
50	1964	76.45	0.0305	15.70%	\$92.01	3.68%	12.02%
51	1963	65.06	0.0331	20.82%	\$93.56	2.61%	18.20%
52	1962	69.07	0.0297	-2.84%	\$89.60	8.89%	-11.73%
53	1961	59.72	0.0328	18.94%	\$89.74	4.29%	14.64%
54	1960	58.03	0.0327	6.18%	\$84.36	11.13%	-4.95%
55	1959	55.62	0.0324	7.57%	\$91.55	-3.49%	11.06%

Schedule 4

CASE NO. 2013-00148
ATTACHMENT 1
TO STAFF DR NO. 2-48
(SUPPLEMENT, 11-15-13)

56	1958	41.12	0.0448	39.74%	\$101.22	-5.60%	45.35%
57	1957	45.43	0.0431	-5.18%	\$100.70	4.49%	-9.67%
58	1956	44.15	0.0424	7.14%	\$113.00	-7.35%	14.49%
59	1955	35.60	0.0438	28.40%	\$116.77	0.20%	28.20%
60	1954	25.46	0.0569	45.52%	\$112.79	7.07%	38.45%
61	1953	26.18	0.0545	2.70%	\$114.24	2.24%	0.46%
62	1952	24.19	0.0582	14.05%	\$113.41	4.26%	9.79%
63	1951	21.21	0.0634	20.39%	\$123.44	-4.89%	25.28%
64	1950	16.88	0.0665	32.30%	\$125.08	1.89%	30.41%
65	1949	15.36	0.0620	16.10%	\$119.82	7.72%	8.37%
66	1948	14.83	0.0571	9.28%	\$118.50	4.49%	4.79%
67	1947	15.21	0.0449	1.99%	\$126.02	-2.79%	4.79%
68	1946	18.02	0.0356	-12.03%	\$126.74	2.59%	-14.63%
69	1945	13.49	0.0460	38.18%	\$119.82	9.11%	29.07%
70	1944	11.85	0.0495	18.79%	\$119.82	3.34%	15.45%
71	1943	10.09	0.0554	22.98%	\$118.50	4.49%	18.49%
72	1942	8.93	0.0788	20.87%	\$117.63	4.14%	16.73%
73	1941	10.55	0.0638	-8.98%	\$116.34	4.55%	-13.52%
74	1940	12.30	0.0458	-9.65%	\$112.39	7.08%	-16.73%
75	1939	12.50	0.0349	1.89%	\$105.75	10.05%	-8.16%
76	1938	11.31	0.0784	18.36%	\$99.83	9.94%	8.42%
77	1937	17.59	0.0434	-31.36%	\$103.18	0.63%	-31.99%
78	Average			11.1%		6.7%	4.4%

Schedule 5

Comparative Returns on S&P Utility Stock Index
and Moody's A-Rated Utility Bonds 1937 - 2013

Line	Year	S&P Utility	Stock	A-rated Bond		
		Stock Price	Dividend Yield	Stock Return	Price	Bond Return
1	2013				\$97.45	
2	2012			2.09%	\$94.36	7.52%
3	2011			19.99%	\$77.36	27.14%
4	2010			7.04%	\$75.02	8.44%
5	2009			10.71%	\$68.43	15.48%
6	2008			-25.90%	\$72.25	0.24%
7	2007			16.56%	\$72.91	4.59%
8	2006			20.76%	\$75.25	2.20%
9	2005			16.05%	\$74.91	5.80%
10	2004			22.84%	\$70.87	11.34%
11	2003			23.48%	\$62.26	20.27%
12	2002			-14.73%	\$57.44	15.35%
13	2001	243.79	0.0362		\$57.44	
14	2000	307.70	0.0287	-17.90%	\$56.40	8.93%
15	1999	239.17	0.0413	32.78%	\$52.60	14.82%
16	1998	253.52	0.0394	-1.72%	\$63.03	-10.20%
17	1997	228.61	0.0457	15.47%	\$62.43	7.38%
18	1996	201.14	0.0492	18.58%	\$56.62	17.32%
19	1995	202.57	0.0454	3.83%	\$60.91	-0.48%
20	1994	153.87	0.0584	37.49%	\$50.22	29.26%
21	1993	168.70	0.0496	-3.83%	\$60.01	-9.65%
22	1992	159.79	0.0537	10.95%	\$53.13	20.48%
23	1991	149.70	0.0572	12.46%	\$49.56	15.27%
24	1990	138.38	0.0607	14.25%	\$44.84	19.44%
25	1989	146.04	0.0558	0.33%	\$45.60	7.11%
26	1988	114.37	0.0699	34.68%	\$43.06	15.18%
27	1987	106.13	0.0704	14.80%	\$40.10	17.36%
28	1986	120.09	0.0588	-5.74%	\$48.92	-9.84%
29	1985	92.06	0.0742	37.87%	\$39.98	32.36%
30	1984	75.83	0.0860	30.00%	\$32.57	35.05%
31	1983	68.50	0.0925	19.95%	\$31.49	16.12%
32	1982	61.89	0.0948	20.16%	\$29.41	20.65%
33	1981	51.81	0.1074	30.20%	\$24.48	36.48%
34	1980	52.01	0.0978	9.40%	\$29.37	-3.01%
35	1979	50.26	0.0953	13.01%	\$34.69	12.41%
36	1978	50.33	0.0893	8.79%	\$43.91	16.83%
37	1977	50.40	0.0791	3.96%	\$49.09	-11.89%
38	1976	54.01	0.0714	4.16%	\$50.95	-2.40%
39	1975	46.99	0.0776	22.70%	\$43.91	4.20%
40	1974	38.19	0.0920	32.24%	\$41.76	-0.04%
41	1973	48.60	0.0713	-14.29%	\$52.54	14.75%
42	1972	60.01	0.0556	-13.45%	\$58.51	-1.38%
43	1971	60.19	0.0542	5.12%	\$56.47	-10.69%
44	1970	63.43	0.0504	-0.07%	\$53.93	-5.57%
45	1969	63.72	0.0561	19.45%	\$50.46	-12.13%
46	1968	68.65	0.0445	-14.38%	\$62.43	4.64%
47	1967	68.02	0.0435	5.28%	\$66.97	-1.62%
48	1966	70.63	0.0392	0.22%	\$78.69	6.08%
49	1965	74.50	0.0347	-1.72%	\$86.57	-9.81%
50	1964	75.87	0.0315	1.34%	\$91.40	10.03%
51	1963	67.26	0.0331	16.11%	\$92.01	2.61%
52	1962	63.35	0.0330	9.47%	\$93.56	6.86%
53	1961	62.69	0.0320	4.25%	\$89.60	-4.64%
		52.73	0.0358	22.47%	\$89.74	2.25%

Schedule 5

Comparative Returns on S&P Utility Stock Index
and Moody's A-Rated Utility Bonds 1937 - 2013

Line	Year	S&P Utility	Stock	A-rated Bond		
		Stock Price	Dividend Yield	Stock Return	Price	Bond Return
54	1960	44.50	0.0403	22.52%	\$84.36	11.13%
55	1959	43.96	0.0377	5.00%	\$91.55	-3.49%
56	1958	33.30	0.0487	36.88%	\$101.22	-5.60%
57	1957	32.32	0.0487	7.90%	\$100.70	4.49%
58	1956	31.55	0.0472	7.16%	\$113.00	-7.35%
59	1955	29.89	0.0461	10.16%	\$116.77	0.20%
60	1954	25.51	0.0520	22.37%	\$112.79	7.07%
61	1953	24.41	0.0511	9.62%	\$114.24	2.24%
62	1952	22.22	0.0550	15.36%	\$113.41	4.26%
63	1951	20.01	0.0606	17.10%	\$123.44	-4.89%
64	1950	20.20	0.0554	4.60%	\$125.08	1.89%
65	1949	16.54	0.0570	27.83%	\$119.82	7.72%
66	1948	16.53	0.0535	5.41%	\$118.50	4.49%
67	1947	19.21	0.0354	-10.41%	\$126.02	-2.79%
68	1946	21.34	0.0298	-7.00%	\$126.74	2.59%
69	1945	13.91	0.0448	57.89%	\$119.82	9.11%
70	1944	12.10	0.0569	20.65%	\$119.82	3.34%
71	1943	9.22	0.0621	37.45%	\$118.50	4.49%
72	1942	8.54	0.0940	17.36%	\$117.63	4.14%
73	1941	13.25	0.0717	-28.38%	\$116.34	4.55%
74	1940	16.97	0.0540	-16.52%	\$112.39	7.08%
75	1939	16.05	0.0553	11.26%	\$105.75	10.05%
76	1938	14.30	0.0730	19.54%	\$99.83	9.94%
77	1937	24.34	0.0432	-36.93%	\$103.18	0.63%
78	Average			10.5%		6.7%
						3.7%

Ex Post Regressions

CASE NO. 2013-00148
ATTACHMENT 1
TO STAFF DR NO. 2-48
(SUPPLEMENT, 11-15-13)

Time	SP500 Return	Bond Return	SP500 Risk Premium	SPIUtilities Return	SPUtilRiskPremium
2012	0.1602	0.0752	0.0850	0.0209	-0.0543
2011	0.0325	0.2714	-0.2389	0.1999	-0.0715
2010	0.1618	0.0844	0.0774	0.0704	-0.0140
2009	0.3291	0.1548	0.1743	0.1071	-0.0477
2008	-0.3519	0.0024	-0.3543	-0.2590	-0.2614
2007	-0.0127	0.0459	-0.0586	0.1656	0.1196
2006	0.1320	0.0220	0.1101	0.2076	0.1856
2005	0.1001	0.0580	0.0421	0.1605	0.1025
2004	0.0594	0.1134	-0.0540	0.2284	0.1150
2003	0.2822	0.2027	0.0795	0.2348	0.0321
2002	-0.2005	0.1535	-0.3540	-0.1473	-0.3008
2001	-0.1347	0.0893	-0.2240	-0.1790	-0.2683
2000	-0.0513	0.1482	-0.1995	0.3278	0.1796
1999	0.1546	-0.1020	0.2566	-0.0172	0.0848
1998	0.3125	0.0738	0.2387	0.1547	0.0809
1997	0.2768	0.1732	0.1036	0.1858	0.0126
1996	0.2702	-0.0048	0.2749	0.0383	0.0431
1995	0.3493	0.2926	0.0568	0.3749	0.0823
1994	0.0105	-0.0965	0.1071	-0.0383	0.0582
1993	0.1156	0.2048	-0.0893	0.1095	-0.0954
1992	0.0750	0.1527	-0.0777	0.1246	-0.0281
1991	0.3165	0.1944	0.1221	0.1425	-0.0519
1990	-0.0085	0.0711	-0.0796	0.0033	-0.0678
1989	0.2276	0.1518	0.0758	0.3468	0.1951
1988	0.1761	0.1736	0.0025	0.1480	-0.0255
1987	-0.0213	-0.0984	0.0771	-0.0574	0.0410
1986	0.3095	0.3236	-0.0141	0.3787	0.0551
1985	0.2583	0.3505	-0.0922	0.3000	-0.0504
1984	0.0741	0.1612	-0.0872	0.1995	0.0383
1983	0.2012	0.2065	-0.0053	0.2016	-0.0049
1982	0.2896	0.3648	-0.0751	0.3020	-0.0628
1981	-0.0700	-0.0301	-0.0399	0.0940	0.1241
1980	0.2534	-0.0381	0.2916	0.1301	0.1683
1979	0.1652	-0.1189	0.2841	0.0879	0.2068
1978	0.1580	-0.0240	0.1820	0.0396	0.0636
1977	-0.0906	0.0420	-0.1327	0.0416	-0.0004
1976	0.1096	0.2513	-0.1417	0.2270	-0.0243
1975	0.3856	0.1475	0.2381	0.3224	0.1749
1974	-0.2086	-0.1291	-0.0796	-0.1429	-0.0138
1973	-0.1614	-0.0337	-0.1277	-0.1345	-0.1008
1972	0.1758	0.1069	0.0689	0.0512	-0.0557
1971	0.1381	0.1213	0.0169	-0.0007	-0.1219
1970	0.0708	0.1481	-0.0773	0.1945	0.0464
1969	-0.0840	-0.1276	0.0436	-0.1438	-0.0162
1968	0.1045	-0.0081	0.1126	0.0528	0.0608
1967	0.1605	-0.0981	0.2586	0.0022	0.1003
1966	-0.0648	-0.0448	-0.0200	-0.0172	0.0276
1965	0.1135	-0.0091	0.1226	0.0134	0.0225
1964	0.1570	0.0368	0.1202	0.1611	0.1243
1963	0.2082	0.0261	0.1820	0.0947	0.0686
1962	-0.0284	0.0889	-0.1173	0.0425	-0.0464
1961	0.1894	0.0429	0.1464	0.2247	0.1818
1960	0.0618	0.1113	-0.0495	0.2252	0.1139
1959	0.0757	-0.0349	0.1106	0.0500	0.0849
1958	0.3974	-0.0560	0.4535	0.3688	0.4248
1957	-0.0518	0.0449	-0.0967	0.0790	0.0341

Ex Post Regressions

CASE NO. 2013-00148
ATTACHMENT 1
TO STAFF DR NO. 2-48
(SUPPLEMENT, 11-15-13)

1956	0.0714	-0.0735	0.1449	0.0716	0.1451
1955	0.2840	0.0020	0.2820	0.1016	0.0997
1954	0.4552	0.0707	0.3845	0.2237	0.1530
1953	0.0270	0.0224	0.0046	0.0962	0.0738
1952	0.1405	0.0426	0.0979	0.1536	0.1110
1951	0.2039	-0.0489	0.2528	0.1710	0.2199
1950	0.3230	0.0189	0.3041	0.0460	0.0271
1949	0.1610	0.0772	0.0837	0.2783	0.2010
1948	0.0928	0.0449	0.0479	0.0541	0.0092
1947	0.0199	-0.0279	0.0479	-0.1041	-0.0762
1946	-0.1203	0.0259	-0.1463	-0.0700	-0.0959
1945	0.3818	0.0911	0.2907	0.5789	0.4879
1944	0.1879	0.0334	0.1545	0.2065	0.1731
1943	0.2298	0.0449	0.1849	0.3745	0.3296
1942	0.2087	0.0414	0.1673	0.1736	0.1322
1941	-0.0898	0.0455	-0.1352	-0.2838	-0.3292
1940	-0.0965	0.0708	-0.1673	-0.1652	-0.2360
1939	0.0189	0.1005	-0.0816	0.1126	0.0121
1938	0.1836	0.0994	0.0842	0.1954	0.0959
1937	-0.3136	0.0063	-0.3199	-0.3693	-0.3755

1937

S&P 500 Risk Premium vs. Time

SUMMARY OUTPUT

Regression Statistics	
Multiple R	0.1836
R Square	0.0337
Adjusted R Square	0.0207
Standard Error	0.1670
Observations	76

ANOVA

	df	SS	MS	F	Significance F
Regression	1	0.0720	0.0720	2.5821	0.1123
Residual	74	2.0627	0.0279		
Total	75	2.1346			

	Coefficients	Standard Error	t Stat	P-value	Lower 95%	Upper 95%	Lower 95.0%	Upper 95.0%
Intercept	2.8134	1.7238	1.6321	0.1069	(0.6214)	6.2482	(0.6214)	6.2482
Time	(0.0014)	0.0009	(1.6069)	0.1123	(0.0031)	0.0003	(0.0031)	0.0003

SUMMARY OUTPUT

Regression Statistics	
Multiple R	0.1558
R Square	0.0243
Adjusted R Square	0.0111
Standard Error	0.1473
Observations	76

ANOVA

	df	SS	MS	F	Significance F
Regression	1	0.0400	0.0400	1.8406	0.1790
Residual	74	1.6066	0.0217		
Total	75	1.6465			

	Coefficients	Standard Error	t Stat	P-value	Lower 95%	Upper 95%	Lower 95.0%	Upper 95.0%
Intercept	2.1010	1.5213	1.3811	0.1714	(0.9303)	5.1324	(0.9303)	5.1324
Time	(0.0010)	0.0008	(1.3567)	0.1790	(0.0026)	0.0005	(0.0026)	0.0005

Table 2**REGRESSION OUTPUT FOR RISK PREMIUM ON S&P 500**

Line		Intercept	Time	Adjusted R Square	F
1	Coefficient	2.813	(0.001)	0.021	2.582
2	T Statistic	1.632	(1.607)		

Table 3**REGRESSION OUTPUT FOR RISK PREMIUM ON S&P UTILITIES**

Line		Intercept	Time	Adjusted R Square	F
1	Coefficient	2.101	(0.001)	0.011	1.841
2	T Statistic	1.381	(1.357)		

EX POST RISK PREMIUM COST OF EQUITY

Risk Premium S&P 500	4.4%
Risk Premium S&P Utilities	3.7%
Average Risk Premium	4.1%
Forecast Yield A-utility bond	6.6%
Flotation	0.21%
Risk Premium Cost of Equity	10.9%

Schedule 6
Using the Arithmetic Mean to Estimate
the Cost of Equity Capital

End Year 1

	<i>Ending Wealth</i>	<i>Probability</i>
	\$1.30	0.5
	\$0.90	0.5

End of Year 2

	<i>Ending Wealth</i>	<i>Value</i>	<i>Probability</i>	<i>Value x</i>
				<i>Probability</i>
	(1.30) (1.30)	\$ 1.69	0.25	\$ 0.42
	(1.30) (.9)	\$ 1.17	0.50	\$ 0.59
	(.9) (.9)	\$ 0.81	0.25	\$ 0.20
	Expected Wealth	=		\$ 1.21

$$\text{Cost of Equity} = 1(1+k)^2 = 1.21$$

$$\text{Cost of Equity} = k = (1.21/1)^{.5} - 1 = 10\%$$

$$\text{Arithmetic mean} = (30\%) (.5) + (-10\%) (.5) = 10\%$$

$$\text{Geometric mean} = [(1.3) (.9)]^{.5} - 1 = .082 = 8.2\%$$

Thus, the geometric mean is not equal to the cost of equity capital.

For an investment with an uncertain outcome, the arithmetic mean is the best measure of the cost of equity capital

EXHIBIT_(JWW-1)

SCHEDULE 7

CALCULATION OF CAPITAL ASSET PRICING MODEL COST OF EQUITY
USING THE IBBOTSON® SBBI® 6.7 PERCENT RISK PREMIUM

Line	Value	Description
1	Risk-free Rate	5.17% Long-term Treasury bond yield forecast
2	Beta	0.74 Average Beta Gas Utilities
3	Risk Premium	6.7% Long-horizon SBBI risk premium
4	Beta x Risk Premium	5.0%
5	Flotation	0.21%
6	Model Result	10.34%

Ibbotson SBBI risk premium
from 2013 Ibbotson® SBBI®
Stocks, Bonds, Bills, and
Inflation® Valuation Yearbook;
Value Line beta for comparable
companies October 2013.
Forecast 20-year Treasury
bond yield from Value Line
Selection & Opinion, August 23,
2013 and EIA April 2013.

Line	Company	Value Line Beta	Market Cap \$ (Mil)
1	AGL Resources	0.75	5,340
2	Atmos Energy	0.70	3,758
3	Laclede Group	0.60	1,460
4	NiSource Inc.	0.85	9,537
5	Northwest Nat. Gas	0.60	1,117
6	Piedmont Natural Gas	0.70	2,421
7	South Jersey Inds.	0.65	1,829
8	WGL Holdings Inc.	0.65	2,162
9	Average	0.69	
10	Market-weighted Average	0.74	

EXHIBIT_(JWV-1)

SCHEDULE 8

CALCULATION OF CAPITAL ASSET PRICING MODEL COST OF EQUITY
USING DCF ESTIMATE OF THE EXPECTED RATE OF RETURN ON THE MARKET PORTFOLIO

Line	Value	Description
1	Risk-free Rate	5.17% Long-term Treasury bond yield forecast
2	Beta	0.74 Average Beta Gas Utilities
3	DCF S&P 500	12.4% DCF Cost of Equity S&P 500 (see following)
4	Risk Premium	7.26%
5	Beta * Risk Premium	5.37%
6	Flotation cost	0.21%
7	Model Result	10.8%

Value Line beta for
comparable companies
October 2013. Forecast 20-
year Treasury bond yield from
Value Line Selection &
Opinion, August 23, 2013 and
EIA April 2013.

Schedule 8 Continued

Calculation of Capital Asset Pricing Model Cost of Equity
Using DCF Estimate of the Expected Rate of Return
on the Market Portfolio

Line	Company	P ₀	D ₀	Growth	Model Result
1	3M	115.59	2.54	10.67%	13.1%
2	ABBOTT LABORATORIES	34.93	0.56	11.87%	13.7%
3	AETNA	64.44	0.80	11.57%	13.0%
4	AIR PRDS.& CHEMS.	104.61	2.84	9.07%	12.1%
5	AIRGAS	102.58	1.92	12.57%	14.7%
6	ALLERGAN	89.34	0.20	13.41%	13.7%
7	ALLSTATE	50.21	1.00	9.33%	11.5%
8	ALTERA	35.75	0.60	12.00%	13.9%
9	AMERICAN EXPRESS	75.15	0.92	11.80%	13.2%
10	AMERICAN INTL.GP.	47.55	0.40	11.46%	12.4%
11	AMGEN	108.97	1.88	8.95%	10.8%
12	ANALOG DEVICES	47.57	1.36	11.00%	14.2%
13	AON CLASS A	68.39	0.70	10.03%	11.2%
14	ASSURANT	53.86	1.00	9.00%	11.0%
15	AT&T	34.75	1.80	6.44%	12.1%
16	AUTOMATIC DATA PROC.	71.71	1.74	9.67%	12.4%
17	BALL	44.78	0.52	9.50%	10.8%
18	BAXTER INTL.	70.90	1.96	8.81%	11.8%
19	BECTON DICKINSON	100.41	1.98	9.16%	11.3%
20	BOEING	107.20	1.94	12.88%	14.9%
21	BRISTOL MYERS SQUIBB	43.92	1.40	8.20%	11.7%
22	C R BARD	114.28	0.84	10.02%	10.8%
23	CARDINAL HEALTH	50.59	1.21	10.50%	13.2%
24	CHEVRON	122.53	4.00	7.03%	10.6%
25	CHUBB	86.41	1.76	9.97%	12.2%
26	CIGNA	77.86	0.04	10.93%	11.0%
27	CINTAS	48.43	0.64	10.27%	11.7%
28	CISCO SYSTEMS	24.65	0.68	9.10%	12.1%
29	COACH	54.37	1.35	9.79%	12.5%
30	COCA COLA	39.45	1.12	7.73%	10.8%
31	COLGATE-PALM.	59.13	1.36	9.20%	11.7%
32	CONAGRA FOODS	34.53	1.00	9.40%	12.6%
33	COSTCO WHOLESALE	115.11	1.24	13.50%	14.7%
34	COVIDIEN	60.83	1.28	8.65%	11.0%
35	CSX	25.23	0.60	12.10%	14.8%
36	DANAHER	66.95	0.10	11.37%	11.5%
37	DEERE	83.12	2.04	8.00%	10.7%
38	DOMINION RESOURCES	59.00	2.25	7.03%	11.2%
39	DOVER	85.72	1.50	12.53%	14.5%
40	DOW CHEMICAL	36.68	1.28	7.63%	11.4%
41	DR PEPPER SNAPPLE GROUP	46.04	1.52	7.53%	11.1%
42	E I DU PONT DE NEMOURS	57.64	1.80	7.73%	11.1%
43	EASTMAN CHEMICAL	77.44	1.20	9.03%	10.7%
44	EATON	67.08	1.68	11.87%	14.7%
45	EMERSON ELECTRIC	61.11	1.64	9.50%	12.5%
46	EOG RES.	153.88	0.75	12.00%	12.5%
47	ESTEE LAUDER COS.'A'	67.53	0.72	12.97%	14.2%
48	EXPEDIA	51.80	0.60	10.97%	12.3%
49	FAMILY DOLLAR STORES	69.93	1.04	11.29%	13.0%
50	FEDEX	108.52	0.60	13.27%	13.9%
51	FIDELITY NAT.INFO.SVS.	45.09	0.88	12.18%	14.4%
52	FLUOR	64.60	0.64	13.53%	14.7%
53	FMC	66.32	0.54	11.96%	12.9%

Schedule 8 Continued

Calculation of Capital Asset Pricing Model Cost of Equity
Using DCF Estimate of the Expected Rate of Return
on the Market Portfolio

Line	Company	P ₀	D ₀	Growth	Model Result
54	GENERAL ELECTRIC	23.91	0.76	9.80%	13.3%
55	GENERAL MILLS	50.02	1.52	7.83%	11.1%
56	HASBRO	46.82	1.60	8.47%	12.2%
57	HONEYWELL INTL.	82.27	1.64	10.53%	12.8%
58	HUMANA	91.65	1.08	9.27%	10.6%
59	INGERSOLL-RAND	61.14	0.84	11.03%	12.6%
60	INTERNATIONAL BUS.MCHS.	191.11	3.80	9.95%	12.2%
61	INTERPUBLIC GP.	16.29	0.30	10.86%	12.9%
62	JOY GLOBAL	51.18	0.70	10.33%	11.8%
63	KELLOGG	63.09	1.84	7.40%	10.6%
64	KRAFT FOODS GROUP	55.00	2.10	6.47%	10.6%
65	KROGER	38.06	0.66	9.07%	11.0%
66	L BRANDS	56.66	1.20	11.37%	13.7%
67	LINCOLN NAT.	42.05	0.48	9.33%	10.6%
68	LINEAR TECH.	39.65	1.04	10.49%	13.4%
69	LOCKHEED MARTIN	121.45	5.32	6.45%	11.2%
70	LYONDELLBASELL IND.S.CLA	69.87	2.00	11.10%	14.3%
71	M&T BANK	114.86	2.80	7.83%	10.5%
72	MACY'S	46.70	1.00	12.32%	14.7%
73	MARRIOTT INTL.'A'	41.54	0.68	11.80%	13.6%
74	MARSH & MCLENNAN	41.92	1.00	12.13%	14.8%
75	MCCORMICK & CO NV.	69.26	1.36	8.37%	10.5%
76	MCDONALDS	97.44	3.24	8.39%	12.0%
77	MEAD JOHNSON NUTRITION	75.52	1.36	9.30%	11.3%
78	METLIFE	48.37	1.10	8.63%	11.1%
79	MICROSOFT	33.03	1.12	8.70%	12.4%
80	MONDELEZ INTERNATIONAL CL.A	31.09	0.56	11.16%	13.2%
81	MOODY'S	66.19	1.00	13.23%	15.0%
82	MORGAN STANLEY	26.75	0.20	10.17%	11.0%
83	NASDAQ OMX GROUP	31.90	0.52	11.77%	13.6%
84	NATIONAL OILWELL VARCO	73.84	1.04	10.37%	11.9%
85	NETAPP	41.57	0.60	13.18%	14.8%
86	NEWELL RUBBERMAID	26.58	0.60	9.37%	11.9%
87	NIKE 'B'	65.79	0.84	11.37%	12.8%
88	NORDSTROM	59.20	1.20	11.08%	13.3%
89	NORTHEAST UTILITIES	42.27	1.47	7.62%	11.4%
90	NVIDIA	14.67	0.30	12.00%	14.3%
91	OMNICOM GP.	63.96	1.60	8.73%	11.5%
92	ORACLE	32.35	0.48	10.56%	12.2%
93	PATTERSON COMPANIES	40.31	0.64	11.33%	13.1%
94	PAYCHEX	38.87	1.40	10.00%	14.0%
95	PEOPLES UNITED FINANCIAL	14.83	0.65	7.41%	12.2%
96	PEPSICO	82.11	2.27	8.25%	11.3%
97	PERKINELMER	35.60	0.28	11.25%	12.1%
98	PHILIP MORRIS INTL.	87.53	3.76	9.73%	14.5%
99	PPG INDUSTRIES	159.39	2.44	8.95%	10.6%
100	PRAXAIR	118.91	2.40	11.28%	13.5%
101	PREC.CASTPARTS	229.69	0.12	13.55%	13.6%
102	PROCTER & GAMBLE	78.42	2.41	8.20%	11.6%
103	PROGRESSIVE OHIO	25.96	0.28	10.46%	11.7%
104	PVH	127.89	0.15	11.73%	11.9%
105	QUEST DIAGNOSTICS	59.64	1.20	10.83%	13.1%
106	RALPH LAUREN CL.A	173.44	1.60	11.25%	12.3%

Schedule 8 Continued

Calculation of Capital Asset Pricing Model Cost of Equity
Using DCF Estimate of the Expected Rate of Return
on the Market Portfolio

Line	Company	P ₀	D ₀	Growth	Model Result
107	REYNOLDS AMERICAN	49.49	2.52	7.70%	13.3%
108	ROCKWELL AUTOMATION	96.90	2.08	11.83%	14.3%
109	ROSS STORES	68.07	0.58	12.37%	13.5%
110	SCRIPPS NETWORKS INTACT. 'A'	73.43	0.60	14.00%	14.9%
111	SHERWIN-WILLIAMS	175.78	2.00	13.00%	14.3%
112	ST.JUDE MEDICAL	51.12	1.00	9.08%	11.2%
113	SYMANTEC	25.36	0.60	8.94%	11.5%
114	TARGET	67.66	1.72	10.45%	13.3%
115	THE HERSHEY COMPANY	92.67	1.94	9.93%	12.3%
116	TIFFANY & CO	78.27	1.36	12.09%	14.0%
117	TIME WARNER	62.42	1.15	12.72%	14.8%
118	TJX COS.	52.97	0.58	11.28%	12.5%
119	TRAVELERS COS.	82.57	2.00	8.70%	11.4%
120	UNITED PARCEL SER.'B'	88.12	2.48	11.05%	14.2%
121	UNITEDHEALTH GP.	71.54	1.12	8.78%	10.5%
122	UNUM GROUP	30.81	0.58	8.47%	10.5%
123	US.ACME	18.79	0.20	12.86%	14.1%
124	V F	195.43	3.48	11.04%	13.0%
125	VALERO ENERGY	35.32	0.90	7.83%	10.6%
126	VERIZON COMMUNICATIONS	48.63	2.12	9.36%	14.2%
127	VIACOM 'B'	76.65	1.20	12.33%	14.1%
128	WAL MART STORES	75.49	1.88	9.13%	11.9%
129	WALT DISNEY	64.28	0.75	12.48%	13.8%
130	WESTERN UNION	17.99	0.50	7.90%	10.9%
131	WYNN RESORTS	140.01	4.00	10.50%	13.7%
132	XILINX	44.76	1.00	9.80%	12.3%
133	YUM! BRANDS	71.75	1.48	11.43%	13.7%
134	Market-weighted Average				12.4%

EXHIBIT__(JWW-1)

Schedule 9

Comparison of Risk Premia on
S&P500 and S&P Utilities 1937 – 2013

Year	S&P Utilities Stock Return	SP500 Stock Return	10-Yr. Treasury Bond Yield	Utilities Risk Premium	Market Risk Premium
2012	0.0209	0.1602	0.0180	0.0029	0.1422
2011	0.1999	0.0325	0.0278	0.1721	0.0047
2010	0.0704	0.1618	0.0322	0.0382	0.1296
2009	0.1071	0.3291	0.0326	0.0745	0.2965
2008	-0.2590	-0.3516	0.0367	-0.2957	-0.3883
2007	0.1656	-0.0138	0.0463	0.1193	-0.0601
2006	0.2076	0.1320	0.0479	0.1597	0.0841
2005	0.1605	0.1001	0.0429	0.1176	0.0572
2004	0.2284	0.0594	0.0427	0.1857	0.0167
2003	0.2348	0.2822	0.0401	0.1947	0.2421
2002	-0.1473	-0.2005	0.0461	-0.1934	-0.2466
2001	-0.1790	-0.1347	0.0502	-0.2292	-0.1849
2000	0.3278	-0.0513	0.0603	0.2675	-0.1116
1999	-0.0172	0.1546	0.0564	-0.0736	0.0982
1998	0.1547	0.3125	0.0526	0.1021	0.2599
1997	0.1858	0.2768	0.0635	0.1223	0.2133
1996	0.0383	0.2702	0.0644	-0.0261	0.2058
1995	0.3749	0.3493	0.0658	0.3091	0.2835
1994	-0.0383	0.0105	0.0708	-0.1091	-0.0603
1993	0.1095	0.1156	0.0587	0.0508	0.0569
1992	0.1246	0.0750	0.0701	0.0545	0.0049
1991	0.1425	0.3165	0.0786	0.0639	0.2379
1990	0.0033	-0.0085	0.0855	-0.0822	-0.0940
1989	0.3468	0.2276	0.0850	0.2618	0.1426
1988	0.1480	0.1761	0.0884	0.0596	0.0877
1987	-0.0574	-0.0213	0.0838	-0.1412	-0.1051
1986	0.3787	0.3095	0.0768	0.3019	0.2327
1985	0.3000	0.2583	0.1062	0.1938	0.1521
1984	0.1995	0.0741	0.1244	0.0751	-0.0503
1983	0.2016	0.2012	0.1110	0.0906	0.0902
1982	0.3020	0.2896	0.1300	0.1720	0.1596
1981	0.0940	-0.0700	0.1391	-0.0451	-0.2091
1980	0.1301	0.2534	0.1146	0.0155	0.1388
1979	0.0879	0.1652	0.0944	-0.0065	0.0708
1978	0.0396	0.1580	0.0841	-0.0445	0.0739
1977	0.0416	-0.0906	0.0742	-0.0326	-0.1648
1976	0.2270	0.1096	0.0761	0.1509	0.0335
1975	0.3224	0.3856	0.0799	0.2425	0.3057
1974	-0.1429	-0.2086	0.0756	-0.2185	-0.2842
1973	-0.1345	-0.1614	0.0684	-0.2029	-0.2298
1972	0.0512	0.1758	0.0621	-0.0109	0.1137
1971	-0.0007	0.1381	0.0616	-0.0623	0.0765
1970	0.1945	0.0708	0.0735	0.1210	-0.0027
1969	-0.1438	-0.0840	0.0667	-0.2105	-0.1507
1968	0.0528	0.1045	0.0565	-0.0037	0.0480
1967	0.0022	0.1605	0.0507	-0.0485	0.1098
1966	-0.0172	-0.0648	0.0492	-0.0664	-0.1140

EXHIBIT (JVW-1)

Schedule 9

Comparison of Risk Premia on
S&P500 and S&P Utilities 1937 – 2013

Year	S&P Utilities Stock Return	SP500 Stock Return	10-Yr. Treasury Bond Yield	Utilities Risk Premium	Market Risk Premium
1965	0.0134	0.1135	0.0428	-0.0294	0.0707
1964	0.1611	0.1570	0.0419	0.1192	0.1151
1963	0.0947	0.2082	0.0400	0.0547	0.1682
1962	0.0425	-0.0284	0.0395	0.0030	-0.0679
1961	0.2247	0.1894	0.0388	0.1859	0.1506
1960	0.2252	0.0618	0.0412	0.1840	0.0206
1959	0.0500	0.0757	0.0433	0.0067	0.0324
1958	0.3688	0.3974	0.0332	0.3356	0.3642
1957	0.0790	-0.0518	0.0365	0.0425	-0.0883
1956	0.0716	0.0714	0.0318	0.0398	0.0396
1955	0.1016	0.2840	0.0282	0.0734	0.2558
1954	0.2237	0.4552	0.0240	0.1997	0.4312
1953	0.0962	0.0270	0.0281	0.0681	-0.0011
1952	0.1536	0.1405	0.0248	0.1288	0.1157
1951	0.1710	0.2039	0.0241	0.1469	0.1798
1950	0.0460	0.3230	0.0205	0.0255	0.3025
1949	0.2783	0.1610	0.0193	0.2590	0.1417
1948	0.0541	0.0928	0.0215	0.0326	0.0713
1947	-0.1041	0.0199	0.0185	-0.1226	0.0014
1946	-0.0700	-0.1203	0.0174	-0.0874	-0.1377
1945	0.5789	0.3818	0.0173	0.5616	0.3645
1944	0.2065	0.1879	0.0209	0.1856	0.1670
1943	0.3745	0.2298	0.0207	0.3538	0.2091
1942	0.1736	0.2087	0.0211	0.1525	0.1876
1941	-0.2838	-0.0898	0.0199	-0.3037	-0.1097
1940	-0.1652	-0.0965	0.0220	-0.1872	-0.1185
1939	0.1126	0.0189	0.0235	0.0891	-0.0046
1938	0.1954	0.1836	0.0255	0.1699	0.1581
1937	-0.3693	-0.3136	0.0269	-0.3962	-0.3405
Risk Premium 1937---2013				0.0514	0.0578
RP Utilities/RP SP500				0.89	

Table 3 Model Results

CASE NO. 2013-00148
ATTACHMENT 1
TO STAFF DR NO. 2-48
(SUPPLEMENT, 11-15-13)

Atmos Kentucky

Cost of Equity Model Results	Sep-13
Model	Model Result
Discounted Cash Flow --LDC	9.9%
Discounted Cash Flow --Water Utilities	10.3%
Ex Ante Risk Premium	11.3%
Ex Post Risk Premium	10.9%
CAPM - Historical	10.3%
CAPM - DCF Based	10.8%
Average	10.6%
Average without CAPM	10.6%

Response to Staff 41, subpart f

Earned Returns on Equity Gas and Water Utilities 2012

Line	Company	Earned ROE
1	AGL Resources	8.0%
2	Atmos Energy	8.1%
3	Laclede Group	10.6%
4	New Jersey Resources	13.9%
5	NISource Inc.	7.4%
6	Northwest Nat. Gas	8.2%
7	Piedmont Natural Gas	11.7%
8	South Jersey Inds.	12.7%
9	WGL Holdings Inc.	11.0%

Line	Company	Earned ROE
1	Amer. States Water	11.9%
2	Amer. Water Works	8.4%
3	Aqua America	11.0%
4	California Water	9.0%
5	Conn. Water Services	7.3%
6	Middlesex Water	7.8%
7	SJW Corp.	8.1%

Source: Value Line Investment Survey

Gas utilities	7-Jun-13
water utilities	19-Jul-13

Line	Company	Most Recent ROE	Date
1.	<u>American States Water:</u>		
	Golden State Water Company (CA)	9.99%	7/12/2012
2	<u>American Water Works:</u>		
	New York American Water	9.65%	3/20/2012
	New Jersey American Water	10.15%	5/1/2012
	Pennsylvania American Water	10.25%	10/6/2011
	Virginia American Water	9.75%	12/13/2012
	West Virginia American Water	9.75%	4/18/2011
	Maryland American Water	10.75%	9/1/2009
	Tennessee American Water	10.00%	10/15/2012
	Kentucky American Water	9.70%	12/14/2010
	Indiana American Water	9.70%	6/6/2012
	Michigan American Water	Not Regulated	Not Regulated
	Illinois American Water	9.34%	9/20/2012
	Iowa American Water	9.40%	2/23/2013
	Missouri American Water	10.00%	3/16/2012
	California American Water	9.99%	7/12/2012
	Hawaii American Water	N/A {Sewer Only}	N/A {Sewer Only}
3	<u>Aqua America:</u>		
	Aqua Florida *	9.26%	3/5/2012
	Aqua Illinois	9.49%	2/26/2012
	Aqua Indiana (settlement)	N/A	6/10/2009
	Aqua New Jersey	10.15%	4/11/2012
	Aqua North Carolina	10.20%	9/13/2011
	Aqua Ohio (Settlement)	N/A	6/13/2012
	Aqua Pennsylvania (settlement)	10.20%	6/7/2012
	Aqua Texas (6)	12.00%	7/13/2004
	Aqua Virginia (stipulated)	10.40%	10/29/2010
4	<u>California Water:</u>		
	California Water Service Company	9.99%	7/12/2012
5	<u>Connecticut Water Service</u>		
	Connecticut Water Company	9.75%	2013
	Maine Water Company	10.00%	2013
	Biddeford & Saco Water Company	10.00%	2013
6	<u>Middlesex Water (NJ):</u>		
		10.15%	7/20/2012
7	<u>SJW Corp:</u>		
	San Jose Water Company	9.99%	7/12/2012