

Liberty Utilities (EnergyNorth Natural Gas) Corp. D/B/A Liberty Utilities
Lead-Lag Study
Cash Working Capital Requirement

Line	Description	Test Year	Average Daily Amount	Revenue Lag	Expense Lag	Net (Lead)/Lag Days	Working Capital Requirement
1	Operations and Maintenance Expenses						
2	Labor-Related O&M (Payroll)	\$ 15,165,637	\$ 41,436	56.08	(43.49)	12.59	\$ 521,719
3	Non-Labor O&M	13,253,570	\$ 36,212	56.08	(40.41)	15.67	567,453
4	Total O&M Expenses	\$ 28,419,207	\$ 77,648				\$ 1,089,171
5	Income Taxes						
6	Federal Income Taxes	\$ -	\$ -	56.08	(36.50)	19.58	-
7	Total Federal Income Taxes	\$ -	\$ -				\$ -
8	Taxes Other Than Income Taxes						
9	Payroll Taxes	\$ 1,594,187	\$ 4,356	56.08	(17.46)	38.62	168,237
10	Property Taxes	8,466,333	\$ 23,132	56.08	10.15	66.23	1,531,927
11	Taxes Other Than Income Taxes	\$ 10,060,520	\$ 27,563				\$ 1,700,164
12	Total	\$ 38,479,727	\$ 105,211			26.53	\$ 2,789,336

Liberty Utilities (EnergyNorth Natural Gas) Corp. D/B/A Liberty Utilities
Lead-Lag Study
Revenue Lag

Line	Description	Revenue Lag
1	Service Lag	15.25
2	Billing Lag	4.46
3	Collection Lag	36.37
4	<u>Total Revenue Lag</u>	<u>56.08</u>

Liberty Utilities (EnergyNorth Natural Gas) Corp. D/B/A Liberty Utilities
Lead-Lag Study
Billing Lag

Line	Cycle Bill Read Date	Bill Mail Date	Billing Lag
1	12/30/15	1/5/16	6.00
2	12/31/15	1/6/16	6.00
3	1/4/16	1/7/16	3.00
4	1/5/16	1/8/16	3.00
5	1/6/16	1/11/16	5.00
6	1/7/16	1/12/16	5.00
7	1/8/16	1/13/16	5.00
8	1/11/16	1/14/16	3.00
9	1/12/16	1/15/16	3.00
10	1/12/16	1/19/16	7.00
11	1/14/16	1/20/16	6.00
12	1/15/16	1/21/16	6.00
13	1/19/16	1/22/16	3.00
14	1/20/16	1/25/16	5.00
15	1/20/16	1/26/16	6.00
16	1/22/16	1/27/16	5.00
17	1/25/16	1/28/16	3.00
18	1/25/16	1/28/16	3.00
19	1/26/16	1/29/16	3.00
20	1/26/16	1/29/16	3.00
21	1/29/16	2/3/16	5.00
22	1/29/16	2/4/16	6.00
23	2/2/16	2/5/16	3.00
24	2/3/16	2/8/16	5.00
25	2/4/16	2/10/16	6.00
26	2/5/16	2/12/16	7.00
27	2/8/16	2/12/16	4.00
28	2/9/16	2/12/16	3.00
29	2/10/16	2/16/16	6.00
30	2/11/16	2/17/16	6.00
31	2/12/16	2/18/16	6.00
32	2/12/16	2/19/16	7.00
33	2/16/16	2/19/16	3.00
34	2/17/16	2/22/16	5.00
35	2/18/16	2/24/16	6.00
36	2/22/16	2/25/16	3.00
37	2/22/16	2/26/16	4.00
38	2/24/16	2/26/16	2.00
39	2/24/16	2/29/16	5.00
40	2/25/16	2/29/16	4.00
41	2/29/16	3/3/16	3.00
42	3/1/16	3/4/16	3.00
43	3/2/16	3/7/16	5.00
44	3/2/16	3/8/16	6.00
45	3/4/16	3/9/16	5.00
46	3/8/16	3/11/16	3.00
47	3/9/16	3/14/16	5.00
48	3/10/16	3/15/16	5.00
49	3/11/16	3/16/16	5.00
50	3/11/16	3/17/16	6.00
51	3/15/16	3/18/16	3.00
52	3/16/16	3/21/16	5.00
53	3/17/16	3/22/16	5.00
54	3/18/16	3/23/16	5.00
55	3/21/16	3/25/16	4.00
56	3/23/16	3/29/16	6.00
57	3/24/16	3/29/16	5.00
58	3/25/16	3/30/16	5.00
59	3/25/16	4/1/16	7.00
60	3/29/16	3/31/16	2.00

Liberty Utilities (EnergyNorth Natural Gas) Corp. D/B/A Liberty Utilities
Lead-Lag Study
Billing Lag

Line	Cycle Bill Read Date	Bill Mail Date	Billing Lag
61	3/31/16	4/5/16	5.00
62	4/1/16	4/6/16	5.00
63	4/4/16	4/7/16	3.00
64	4/5/16	4/8/16	3.00
65	4/6/16	4/11/16	5.00
66	4/7/16	4/12/16	5.00
67	4/8/16	4/13/16	5.00
68	4/12/16	4/15/16	3.00
69	4/13/16	4/18/16	5.00
70	4/13/16	4/19/16	6.00
71	4/15/16	4/21/16	6.00
72	4/18/16	4/21/16	3.00
73	4/19/16	4/22/16	3.00
74	4/20/16	4/22/16	2.00
75	4/20/16	4/25/16	5.00
76	4/22/16	4/26/16	4.00
77	4/25/16	4/28/16	3.00
78	4/26/16	4/29/16	3.00
79	4/27/16	5/2/16	5.00
80	4/29/16	5/4/16	5.00
81	5/2/16	5/5/16	3.00
82	5/3/16	5/6/16	3.00
83	5/4/16	5/9/16	5.00
84	5/5/16	5/10/16	5.00
85	5/6/16	5/11/16	5.00
86	5/9/16	5/12/16	3.00
87	5/10/16	5/13/16	3.00
88	5/11/16	5/16/16	5.00
89	5/11/16	5/17/16	6.00
90	5/13/16	5/19/16	6.00
91	5/17/16	5/20/16	3.00
92	5/18/16	5/23/16	5.00
93	5/19/16	5/24/16	5.00
94	5/20/16	5/25/16	5.00
95	5/23/16	5/26/16	3.00
96	5/23/16	5/26/16	3.00
97	5/24/16	5/26/16	2.00
98	5/25/16	5/31/16	6.00
99	5/29/16	5/31/16	2.00
100	5/31/16	6/3/16	3.00
101	6/1/16	6/6/16	5.00
102	6/2/16	6/7/16	5.00
103	6/3/16	6/8/16	5.00
104	6/6/16	6/9/16	3.00
105	6/7/16	6/10/16	3.00
106	6/8/16	6/10/16	2.00
107	6/9/16	6/13/16	4.00
108	6/9/16	6/14/16	5.00
109	6/13/16	6/17/16	4.00
110	6/14/16	6/20/16	6.00
111	6/15/16	6/20/16	5.00
112	6/17/16	6/22/16	5.00
113	6/20/16	6/23/16	3.00
114	6/21/16	6/24/16	3.00
115	6/22/16	6/28/16	6.00
116	6/23/16	6/29/16	6.00
117	6/24/16	6/29/16	5.00
118	6/28/16	6/30/16	2.00
119	6/28/16	6/30/16	2.00
120	6/29/16	7/6/16	7.00
121	7/1/16	7/7/16	6.00

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Lead-Lag Study
Billing Lag

Line	Cycle Bill Read Date	Bill Mail Date	Billing Lag
122	7/1/16	7/8/16	7.00
123	7/6/16	7/11/16	5.00
124	7/7/16	7/12/16	5.00
125	7/8/16	7/13/16	5.00
126	7/11/16	7/14/16	3.00
127	7/12/16	7/15/16	3.00
128	7/13/16	7/18/16	5.00
129	7/14/16	7/19/16	5.00
130	7/15/16	7/20/16	5.00
131	7/19/16	7/22/16	3.00
132	7/20/16	7/25/16	5.00
133	7/21/16	7/26/16	5.00
134	7/22/16	7/27/16	5.00
135	7/25/16	7/28/16	3.00
136	7/26/16	7/29/16	3.00
137	7/26/16	7/28/16	2.00
138	7/27/16	7/29/16	2.00
139	7/28/16	8/1/16	4.00
140	7/29/16	8/3/16	5.00
141	8/1/16	8/4/16	3.00
142	8/2/2016	8/5/16	3.00
143	8/4/16	8/9/16	5.00
144	8/5/16	8/10/16	5.00
145	8/8/16	8/11/16	3.00
146	8/9/16	8/12/16	3.00
147	8/10/16	8/15/16	5.00
148	8/11/16	8/15/16	4.00
149	8/12/16	8/17/16	5.00
150	8/16/16	8/19/16	3.00
151	8/16/16	8/19/16	3.00
152	8/18/16	8/23/16	5.00
153	8/19/16	8/24/16	5.00
154	8/22/16	8/25/16	3.00
155	8/23/16	8/25/16	2.00
156	8/24/16	8/29/16	5.00
157	8/25/16	8/29/16	4.00
158	8/26/16	8/30/16	4.00
159	8/29/16	8/31/16	2.00
160	8/30/16	9/2/16	3.00
161	8/31/16	9/2/16	2.00
162	9/1/16	9/7/16	6.00
163	9/2/16	9/9/16	7.00
164	9/6/16	9/9/16	3.00
165	9/7/16	9/12/16	5.00
166	9/8/16	9/13/16	5.00
167	9/9/16	9/14/16	5.00
168	9/9/16	9/14/16	5.00
169	9/13/16	9/16/16	3.00
170	9/14/16	9/20/16	6.00
171	9/15/16	9/20/16	5.00
172	9/16/16	9/21/16	5.00
173	9/20/16	9/22/16	2.00
174	9/21/16	9/26/16	5.00
175	9/22/16	9/27/16	5.00
176	9/23/16	9/28/16	5.00
177	9/23/16	9/28/16	5.00
178	9/27/16	9/29/16	2.00
179	9/28/16	9/29/16	1.00
180	9/28/16	10/3/16	5.00
181	9/30/16	10/5/16	5.00
182	10/4/16	10/6/16	2.00

Liberty Utilities (EnergyNorth Natural Gas) Corp. D/B/A Liberty Utilities
Lead-Lag Study
Billing Lag

Line	Cycle Bill Read Date	Bill Mail Date	Billing Lag
183	10/4/16	10/7/16	3.00
184	10/5/16	10/10/16	5.00
185	10/5/16	10/11/16	6.00
186	10/7/16	10/12/16	5.00
187	10/11/16	10/14/16	3.00
188	10/11/16	10/17/16	6.00
189	10/13/16	10/18/16	5.00
190	10/13/16	10/18/16	5.00
191	10/17/16	10/20/16	3.00
192	10/18/16	10/21/16	3.00
193	10/19/16	10/24/16	5.00
194	10/19/16	10/25/16	6.00
195	10/20/16	10/26/16	6.00
196	10/24/16	10/27/16	3.00
197	10/25/16	10/27/16	2.00
198	10/26/16	10/31/16	5.00
199	10/26/16	10/31/16	5.00
200	10/28/16	11/2/16	5.00
201	10/28/16	11/3/16	6.00
202	11/1/16	11/4/16	3.00
203	11/2/16	11/9/16	7.00
204	11/2/16	11/8/16	6.00
205	11/4/16	11/9/16	5.00
206	11/7/16	11/10/16	3.00
207	11/8/16	11/14/16	6.00
208	11/8/16	11/15/16	7.00
209	11/10/16	11/16/16	6.00
210	11/11/16	11/17/16	6.00
211	11/14/16	11/18/16	4.00
212	11/16/16	11/21/16	5.00
213	11/16/16	11/21/16	5.00
214	11/16/16	11/22/16	6.00
215	11/18/16	11/23/16	5.00
216	11/21/16	11/29/16	8.00
217	11/21/16	11/30/16	9.00
218	11/23/16	11/30/16	7.00
219	11/28/16	11/30/16	2.00
220	11/30/16	12/2/16	2.00
221	12/1/16	12/6/16	5.00
222	12/2/16	12/7/16	5.00
223	12/5/16	12/8/16	3.00
224	12/6/16	12/9/16	3.00
225	12/7/16	12/9/16	2.00
226	12/8/16	12/13/16	5.00
227	12/9/16	12/14/16	5.00
228	12/12/16	12/15/16	3.00
229	12/15/16	12/16/16	1.00
230	12/14/16	12/19/16	5.00
231	12/14/16	12/20/16	6.00
232	12/15/16	12/21/16	6.00
233	12/15/16	12/22/16	7.00
234	12/19/16	12/22/16	3.00
235	12/21/16	12/27/16	6.00
236	12/22/16	12/28/16	6.00
237	12/22/16	12/29/16	7.00
238	12/23/16	12/30/16	7.00
239	12/23/16	12/30/16	7.00
240	Average		4.46

Liberty Utilities (EnergyNorth Natural Gas) Corp. D/B/A Liberty Utilities
Lead-Lag Study
Collection Lag

Line	Month Start	Month End	Revenues		A/R Balance	
			Monthly Billed Revenues	Daily Average Revenues	Monthly Balance	Collection Lag
1	1/1/2016	1/31/2016	\$ 18,804,741	\$ 606,605	\$ 19,869,135	
2	2/1/2016	2/29/2016	19,926,270	687,113	22,614,092	
3	3/1/2016	3/31/2016	15,833,181	510,748	18,225,667	
4	4/1/2016	4/30/2016	11,970,765	399,026	17,041,432	
5	5/1/2016	5/31/2016	9,199,744	296,766	13,739,217	
6	6/1/2016	6/30/2016	5,674,269	189,142	10,155,013	
7	7/1/2016	7/31/2016	4,705,137	151,779	8,651,547	
8	8/1/2016	8/31/2016	4,266,793	137,638	6,656,391	
9	9/1/2016	9/30/2016	4,346,098	144,870	5,506,282	
10	10/1/2016	10/31/2016	5,277,065	170,228	5,566,677	
11	11/1/2016	11/30/2016	8,652,324	288,411	7,444,281	
12	12/1/2016	12/31/2016	16,079,512	518,694	13,699,410	
		Average		\$ 341,752	\$ 12,430,762	36.37
						36.37

Liberty Utilities (EnergyNorth Natural Gas) Corp. D/B/A Liberty Utilities
 Cash Working Capital Requirement
 Lead-Lag Study
 O&M Expenses

Line	Description	Expense	(Lead)/Lag Days	Dollar Days
1	Labor-Related - O&M Expenses	\$ 15,165,637	(43.49)	\$ (659,536,108)
2	Non-Labor - Other O&M Expenses	4,000,780	(40.41)	\$ (161,669,207)
3	Total O&M Expenses	\$ 19,166,417	(42.85)	\$ (821,205,316)

Liberty Utilities (EnergyNorth Natural Gas) Corp. D/B/A Liberty Utilities
 Lead-Lag Study
 O&M Expenses - Payroll

Line	Description	Expense	Percent	(Lead)/Lag Days	Dollar Days
1	Regular Payroll - Weekly	\$ 8,322,434	63.80%	(8.50)	\$ (70,740,689)
2	Regular Payroll - Bi-Weekly	\$ 4,722,133	36.20%	(12.00)	\$ (56,665,601)
3	Regular Payroll - Total	\$ 13,044,567	100.00%	(9.77)	\$ (127,406,290)
4	Regular Payroll - Regular Pay	\$ 13,044,567	93.61%	(9.77)	\$ (127,406,290)
5	Regular Payroll - Vacation Pay	890,337	6.39%	(192.77)	(171,627,525)
6	Regular Payroll - Adjusted for Vacation Pay - Total	\$ 13,934,904	100.00%	(21.46)	\$ (299,033,815)
7	Annual Performance Incentive Pay	\$ 1,230,733		(292.92)	\$ (360,502,293)
8	Payroll - Total	\$ 15,165,637		(43.49)	\$ (659,536,108)

Liberty Utilities (EnergyNorth Natural Gas) Corp. D/B/A Liberty Utilities
Lead-Lag Study
O&M Expenses - Labor-Related - Regular Payroll - Weekly

Line	Pay Period - Start	Pay Period - End	Pay Period - Midpoint	Pay Date	(Lead)/Lag Days
1	Sunday, December 27, 2015	Saturday, January 02, 2016	Wednesday, December 30, 2015	Friday, January 08, 2016	(8.50)
2	Sunday, January 03, 2016	Saturday, January 09, 2016	Wednesday, January 06, 2016	Friday, January 15, 2016	(8.50)
3	Sunday, January 10, 2016	Saturday, January 16, 2016	Wednesday, January 13, 2016	Friday, January 22, 2016	(8.50)
4	Sunday, January 17, 2016	Saturday, January 23, 2016	Wednesday, January 20, 2016	Friday, January 29, 2016	(8.50)
5	Sunday, January 24, 2016	Saturday, January 30, 2016	Wednesday, January 27, 2016	Friday, February 05, 2016	(8.50)
6	Sunday, January 31, 2016	Saturday, February 06, 2016	Wednesday, February 03, 2016	Friday, February 12, 2016	(8.50)
7	Sunday, February 07, 2016	Saturday, February 13, 2016	Wednesday, February 10, 2016	Friday, February 19, 2016	(8.50)
8	Sunday, February 14, 2016	Saturday, February 20, 2016	Wednesday, February 17, 2016	Friday, February 26, 2016	(8.50)
9	Sunday, February 21, 2016	Saturday, February 27, 2016	Wednesday, February 24, 2016	Friday, March 04, 2016	(8.50)
10	Sunday, February 28, 2016	Saturday, March 05, 2016	Wednesday, March 02, 2016	Friday, March 11, 2016	(8.50)
11	Sunday, March 06, 2016	Saturday, March 12, 2016	Wednesday, March 09, 2016	Friday, March 18, 2016	(8.50)
12	Sunday, March 13, 2016	Saturday, March 19, 2016	Wednesday, March 16, 2016	Friday, March 25, 2016	(8.50)
13	Sunday, March 20, 2016	Saturday, March 26, 2016	Wednesday, March 23, 2016	Friday, April 01, 2016	(8.50)
14	Sunday, March 27, 2016	Saturday, April 02, 2016	Wednesday, March 30, 2016	Friday, April 08, 2016	(8.50)
15	Sunday, April 03, 2016	Saturday, April 09, 2016	Wednesday, April 06, 2016	Friday, April 15, 2016	(8.50)
16	Sunday, April 10, 2016	Saturday, April 16, 2016	Wednesday, April 13, 2016	Friday, April 22, 2016	(8.50)
17	Sunday, April 17, 2016	Saturday, April 23, 2016	Wednesday, April 20, 2016	Friday, April 29, 2016	(8.50)
18	Sunday, April 24, 2016	Saturday, April 30, 2016	Wednesday, April 27, 2016	Friday, May 06, 2016	(8.50)
19	Sunday, May 01, 2016	Saturday, May 07, 2016	Wednesday, May 04, 2016	Friday, May 13, 2016	(8.50)
20	Sunday, May 08, 2016	Saturday, May 14, 2016	Wednesday, May 11, 2016	Friday, May 20, 2016	(8.50)
21	Sunday, May 15, 2016	Saturday, May 21, 2016	Wednesday, May 18, 2016	Friday, May 27, 2016	(8.50)
22	Sunday, May 22, 2016	Saturday, May 28, 2016	Wednesday, May 25, 2016	Friday, June 03, 2016	(8.50)
23	Sunday, May 29, 2016	Saturday, June 04, 2016	Wednesday, June 01, 2016	Friday, June 10, 2016	(8.50)
24	Sunday, June 05, 2016	Saturday, June 11, 2016	Wednesday, June 08, 2016	Friday, June 17, 2016	(8.50)
25	Sunday, June 12, 2016	Saturday, June 18, 2016	Wednesday, June 15, 2016	Friday, June 24, 2016	(8.50)
26	Sunday, June 19, 2016	Saturday, June 25, 2016	Wednesday, June 22, 2016	Friday, July 01, 2016	(8.50)
27	Sunday, June 26, 2016	Saturday, July 02, 2016	Wednesday, June 29, 2016	Friday, July 08, 2016	(8.50)
28	Sunday, July 03, 2016	Saturday, July 09, 2016	Wednesday, July 06, 2016	Friday, July 15, 2016	(8.50)
29	Sunday, July 10, 2016	Saturday, July 16, 2016	Wednesday, July 13, 2016	Friday, July 22, 2016	(8.50)
30	Sunday, July 17, 2016	Saturday, July 23, 2016	Wednesday, July 20, 2016	Friday, July 29, 2016	(8.50)

Liberty Utilities (EnergyNorth Natural Gas) Corp. D/B/A Liberty Utilities
Lead-Lag Study
O&M Expenses - Labor-Related - Regular Payroll - Weekly

Line	Pay Period - Start	Pay Period - End	Pay Period - Midpoint	Pay Date	(Lead)/Lag Days
31	Sunday, July 24, 2016	Saturday, July 30, 2016	Wednesday, July 27, 2016	Friday, August 05, 2016	(8.50)
32	Sunday, July 31, 2016	Saturday, August 06, 2016	Wednesday, August 03, 2016	Friday, August 12, 2016	(8.50)
33	Sunday, August 07, 2016	Saturday, August 13, 2016	Wednesday, August 10, 2016	Friday, August 19, 2016	(8.50)
34	Sunday, August 14, 2016	Saturday, August 20, 2016	Wednesday, August 17, 2016	Friday, August 26, 2016	(8.50)
35	Sunday, August 21, 2016	Saturday, August 27, 2016	Wednesday, August 24, 2016	Friday, September 02, 2016	(8.50)
36	Sunday, August 28, 2016	Saturday, September 03, 2016	Wednesday, August 31, 2016	Friday, September 09, 2016	(8.50)
37	Sunday, September 04, 2016	Saturday, September 10, 2016	Wednesday, September 07, 2016	Friday, September 16, 2016	(8.50)
38	Sunday, September 11, 2016	Saturday, September 17, 2016	Wednesday, September 14, 2016	Friday, September 23, 2016	(8.50)
39	Sunday, September 18, 2016	Saturday, September 24, 2016	Wednesday, September 21, 2016	Friday, September 30, 2016	(8.50)
40	Sunday, September 25, 2016	Saturday, October 01, 2016	Wednesday, September 28, 2016	Friday, October 07, 2016	(8.50)
41	Sunday, October 02, 2016	Saturday, October 08, 2016	Wednesday, October 05, 2016	Friday, October 14, 2016	(8.50)
42	Sunday, October 09, 2016	Saturday, October 15, 2016	Wednesday, October 12, 2016	Friday, October 21, 2016	(8.50)
43	Sunday, October 16, 2016	Saturday, October 22, 2016	Wednesday, October 19, 2016	Friday, October 28, 2016	(8.50)
44	Sunday, October 23, 2016	Saturday, October 29, 2016	Wednesday, October 26, 2016	Friday, November 04, 2016	(8.50)
45	Sunday, October 30, 2016	Saturday, November 05, 2016	Wednesday, November 02, 2016	Friday, November 11, 2016	(8.50)
46	Sunday, November 06, 2016	Saturday, November 12, 2016	Wednesday, November 09, 2016	Friday, November 18, 2016	(8.50)
47	Sunday, November 13, 2016	Saturday, November 19, 2016	Wednesday, November 16, 2016	Friday, November 25, 2016	(8.50)
48	Sunday, November 20, 2016	Saturday, November 26, 2016	Wednesday, November 23, 2016	Friday, December 02, 2016	(8.50)
49	Sunday, November 27, 2016	Saturday, December 03, 2016	Wednesday, November 30, 2016	Friday, December 09, 2016	(8.50)
50	Sunday, December 04, 2016	Saturday, December 10, 2016	Wednesday, December 07, 2016	Friday, December 16, 2016	(8.50)
51	Sunday, December 11, 2016	Saturday, December 17, 2016	Wednesday, December 14, 2016	Friday, December 23, 2016	(8.50)
52	Sunday, December 18, 2016	Saturday, December 24, 2016	Wednesday, December 21, 2016	Friday, December 30, 2016	(8.50)
53				Average	(8.50)

Liberty Utilities (EnergyNorth Natural Gas) Corp. D/B/A Liberty Utilities
Lead-Lag Study
O&M Expenses - Labor-Related - Regular Payroll - Bi-Weekly

Line	Pay Period - Start	Pay Period - End	Pay Period - Midpoint	Pay Date	(Lead)/Lag Days
1	Sunday, December 27, 2015	Saturday, January 09, 2016	Sunday, January 03, 2016	Friday, January 15, 2016	(12.00)
2	Sunday, January 10, 2016	Saturday, January 23, 2016	Sunday, January 17, 2016	Friday, January 29, 2016	(12.00)
3	Sunday, January 24, 2016	Saturday, February 06, 2016	Sunday, January 31, 2016	Friday, February 12, 2016	(12.00)
4	Sunday, February 07, 2016	Saturday, February 20, 2016	Sunday, February 14, 2016	Friday, February 26, 2016	(12.00)
5	Sunday, February 21, 2016	Saturday, March 05, 2016	Sunday, February 28, 2016	Friday, March 11, 2016	(12.00)
6	Sunday, March 06, 2016	Saturday, March 19, 2016	Sunday, March 13, 2016	Friday, March 25, 2016	(12.00)
7	Sunday, March 20, 2016	Saturday, April 02, 2016	Sunday, March 27, 2016	Friday, April 08, 2016	(12.00)
8	Sunday, April 03, 2016	Saturday, April 16, 2016	Sunday, April 10, 2016	Friday, April 22, 2016	(12.00)
9	Sunday, April 17, 2016	Saturday, April 30, 2016	Sunday, April 24, 2016	Friday, May 06, 2016	(12.00)
10	Sunday, May 01, 2016	Saturday, May 14, 2016	Sunday, May 08, 2016	Friday, May 20, 2016	(12.00)
11	Sunday, May 15, 2016	Saturday, May 28, 2016	Sunday, May 22, 2016	Friday, June 03, 2016	(12.00)
12	Sunday, May 29, 2016	Saturday, June 11, 2016	Sunday, June 05, 2016	Friday, June 17, 2016	(12.00)
13	Sunday, June 12, 2016	Saturday, June 25, 2016	Sunday, June 19, 2016	Friday, July 01, 2016	(12.00)
14	Sunday, June 26, 2016	Saturday, July 09, 2016	Sunday, July 03, 2016	Friday, July 15, 2016	(12.00)
15	Sunday, July 10, 2016	Saturday, July 23, 2016	Sunday, July 17, 2016	Friday, July 29, 2016	(12.00)
16	Sunday, July 24, 2016	Saturday, August 06, 2016	Sunday, July 31, 2016	Friday, August 12, 2016	(12.00)
17	Sunday, August 07, 2016	Saturday, August 20, 2016	Sunday, August 14, 2016	Friday, August 26, 2016	(12.00)
18	Sunday, August 21, 2016	Saturday, September 03, 2016	Sunday, August 28, 2016	Friday, September 09, 2016	(12.00)
19	Sunday, September 04, 2016	Saturday, September 17, 2016	Sunday, September 11, 2016	Friday, September 23, 2016	(12.00)
20	Sunday, September 18, 2016	Saturday, October 01, 2016	Sunday, September 25, 2016	Friday, October 07, 2016	(12.00)
21	Sunday, October 02, 2016	Saturday, October 15, 2016	Sunday, October 09, 2016	Friday, October 21, 2016	(12.00)
22	Sunday, October 16, 2016	Saturday, October 29, 2016	Sunday, October 23, 2016	Friday, November 04, 2016	(12.00)
23	Sunday, October 30, 2016	Saturday, November 12, 2016	Sunday, November 06, 2016	Friday, November 18, 2016	(12.00)
24	Sunday, November 13, 2016	Saturday, November 26, 2016	Sunday, November 20, 2016	Friday, December 02, 2016	(12.00)
25	Sunday, November 27, 2016	Saturday, December 10, 2016	Sunday, December 04, 2016	Friday, December 16, 2016	(12.00)
26	Sunday, December 11, 2016	Saturday, December 24, 2016	Sunday, December 18, 2016	Friday, December 30, 2016	(12.00)
				Average	(12.00)

Liberty Utilities (EnergyNorth Natural Gas) Corp. D/B/A Liberty Utilities
 Lead-Lag Study
 O&M Expenses - Labor-Related - Annual Incentive

Line	Accrual Date	Midpoint	Payout Date	(Lead)/Lag Days
1	1/1/2016	1/16/2016	4/20/2017	(460.00)
2	2/1/2016	2/15/2016	4/20/2017	(430.00)
3	3/1/2016	3/16/2016	4/20/2017	(400.00)
4	4/1/2016	4/15/2016	4/20/2017	(369.50)
5	5/1/2016	5/16/2016	4/20/2017	(339.00)
6	6/1/2016	6/15/2016	4/20/2017	(308.50)
7	7/1/2016	7/16/2016	4/20/2017	(278.00)
8	8/1/2016	8/16/2016	4/20/2017	(247.00)
9	9/1/2016	9/15/2016	4/20/2017	(216.50)
10	10/1/2016	10/16/2016	4/20/2017	(186.00)
11	11/1/2016	11/15/2016	4/20/2017	(155.50)
12	12/1/2016	12/16/2016	4/20/2017	(125.00)
			Average	(292.92)

Liberty Utilities (EnergyNorth Natural Gas) Corp. D/B/A Liberty Utilities
Lead-Lag Study
O&M Expenses - Non-Labor O&M Expenses

Line	Service Period Begin	Service Period End	Midpoint of Service	Invoice Date	Payment Date	Payment Amount	Payment (Lead)/Lag Days	Dollar Days
1				01/01/16	02/09/16	\$ 840	(39.00)	\$ (32,760)
2				11/29/16	12/06/16	959	(7.00)	(6,712)
3				11/17/16	12/16/16	64	(29.00)	(1,854)
4				09/28/16	10/21/16	186	(23.00)	(4,271)
5				10/04/16	10/21/16	104	(17.00)	(1,761)
6				03/16/16	04/12/16	25,000	(27.00)	(675,000)
7				02/29/16	04/05/16	2,494	(36.00)	(89,789)
8				11/15/16	12/01/16	135	(16.00)	(2,160)
9				08/17/16	12/16/16	39	(121.00)	(4,742)
10				06/15/16	06/24/16	16,352	(9.00)	(147,168)
11				05/30/16	06/30/16	6,598	(31.00)	(204,524)
12				09/26/16	12/02/16	2,255	(67.00)	(151,080)
13				09/26/16	12/02/16	87	(67.00)	(5,824)
14				10/02/15	03/11/16	1,980	(161.00)	(318,780)
15				05/07/16	05/20/16	1,315	(13.00)	(17,098)
16				01/29/16	02/16/16	1,123	(18.00)	(20,217)
17				10/14/16	12/16/16	1,838	(63.00)	(115,763)
18				12/02/15	01/26/16	1,478	(55.00)	(81,274)
19				07/07/16	08/05/16	23	(29.00)	(665)
20				11/18/16	12/16/16	1,211	(28.00)	(33,900)
21				11/07/16	12/15/16	3,099	(38.00)	(117,753)
22				09/27/16	10/21/16	6,085	(24.00)	(146,047)
23				06/16/16	08/03/16	4,695	(48.00)	(225,348)
24				10/20/15	11/12/15	1,821	(23.00)	(41,873)
25				06/15/16	06/24/16	16,352	(9.00)	(147,168)
26				02/24/16	03/18/16	650	(23.00)	(14,950)
27				09/30/16	11/16/16	660	(47.00)	(31,020)
28				06/30/16	08/01/16	339	(32.00)	(10,848)
29				12/01/15	01/15/16	768	(45.00)	(34,540)
30				06/28/16	07/28/16	18	(30.00)	(541)
31				08/15/16	08/24/16	1,515	(9.00)	(13,638)
32				12/02/15	01/07/16	19	(36.00)	(684)
33				01/31/16	02/19/16	2,617	(19.00)	(49,717)
34				07/19/16	08/16/16	20,780	(28.00)	(581,838)
35				05/16/16	06/07/16	11,700	(22.00)	(257,400)
36				05/24/16	06/10/16	685	(17.00)	(11,652)
37				10/26/16	12/21/16	1,305	(56.00)	(73,080)
38				06/30/16	08/01/16	694	(32.00)	(22,221)
39				01/04/16	01/26/16	360	(22.00)	(7,920)
40				10/12/15	01/07/16	1,229	(87.00)	(106,901)
41				12/15/16	12/19/16	4,601	(4.00)	(18,402)
42				05/24/16	06/16/16	303	(23.00)	(6,963)
43				02/03/16	04/05/16	211	(62.00)	(13,078)
44				06/30/16	07/12/16	179	(12.00)	(2,152)
45				08/01/16	09/09/16	2,075	(39.00)	(80,925)
46				05/10/16	06/09/16	49	(30.00)	(1,470)
47				11/15/16	12/16/16	52	(31.00)	(1,611)
48				07/08/16	08/16/16	413	(39.00)	(16,105)
49				03/22/16	04/25/16	25	(34.00)	(850)
50				03/04/16	04/05/16	259	(32.00)	(8,296)
51				11/17/16	12/16/16	306	(29.00)	(8,881)
52				10/14/16	11/18/16	12	(35.00)	(419)
53				10/05/16	10/18/16	1,520	(13.00)	(19,760)
54				11/17/15	01/06/16	5,079	(50.00)	(253,964)
55				06/02/16	06/23/16	128	(21.00)	(2,678)
56				11/05/16	12/15/16	208	(40.00)	(8,310)
57				07/08/16	11/16/16	2,245	(131.00)	(294,095)
58				06/23/16	07/25/16	153	(32.00)	(4,912)

Liberty Utilities (EnergyNorth Natural Gas) Corp. D/B/A Liberty Utilities
Lead-Lag Study
O&M Expenses - Non-Labor O&M Expenses

Line	Service Period Begin	Service Period End	Midpoint of Service	Invoice Date	Payment Date	Payment Amount	Payment (Lead)/Lag Days	Dollar Days
59				02/08/16	02/17/16	310	(9.00)	(2,790)
60				06/10/16	07/15/16	475	(35.00)	(16,625)
61				12/18/15	01/26/16	166	(39.00)	(6,470)
62				10/31/16	12/02/16	2,625	(32.00)	(84,000)
63				06/15/16	06/30/16	550	(15.00)	(8,250)
64				07/01/16	08/16/16	69	(46.00)	(3,151)
65				04/25/16	05/20/16	30,300	(25.00)	(757,500)
66				12/24/15	01/11/16	67,478	(18.00)	(1,214,598)
67				06/03/16	06/30/16	289	(27.00)	(7,802)
68				09/27/16	10/21/16	2,656	(24.00)	(63,744)
69				01/25/16	02/17/16	2,337	(23.00)	(53,760)
70				10/31/15	01/14/16	518	(75.00)	(38,884)
71				03/03/16	04/25/16	1,801	(53.00)	(95,427)
72				08/25/16	08/29/16	32,390	(4.00)	(129,560)
73				04/19/16	05/04/16	423	(15.00)	(6,342)
74				08/15/16	09/19/16	11	(35.00)	(376)
75				09/01/16	09/29/16	56	(28.00)	(1,568)
76				12/21/15	01/21/16	9,838	(31.00)	(304,963)
77				03/31/16	05/04/16	152	(34.00)	(5,165)
78				12/31/15	01/05/16	2,400	(5.00)	(12,000)
79				04/29/16	05/12/16	164	(13.00)	(2,126)
80				08/16/16	09/19/16	2,558	(34.00)	(86,966)
81				10/31/16	12/02/16	76	(32.00)	(2,446)
82				08/31/16	11/16/16	48,494	(77.00)	(3,734,068)
83				12/17/14	03/10/16	150	(449.00)	(67,350)
84	11/14/2015	12/11/2015	11/27/2015	12/16/15	03/11/16	53,435	(104.50)	(5,583,918)
85				01/14/16	02/17/16	3,026	(34.00)	(102,881)
86				11/13/15	03/03/16	117	(111.00)	(12,987)
87	7/1/2016	6/30/2017	12/30/2016	10/01/16	10/14/16	173,335	77.00	13,346,795
88				04/08/16	05/04/16	71	(26.00)	(1,852)
89				04/13/16	05/04/16	30,000	(21.00)	(630,000)
90				05/17/16	10/06/16	1,030	(142.00)	(146,271)
91				12/03/15	01/26/16	720	(54.00)	(38,880)
92				10/13/16	11/18/16	159	(36.00)	(5,724)
93				05/31/16	06/30/16	1,508	(30.00)	(45,254)
94				01/26/16	02/01/16	350	(6.00)	(2,100)
95				12/21/16	12/22/16	94,907	(1.00)	(94,907)
96				08/30/16	10/27/16	440	(58.00)	(25,491)
97				11/17/16	12/06/16	85	(19.00)	(1,621)
98				01/07/16	01/26/16	204	(19.00)	(3,882)
99				12/31/15	02/10/16	7,345	(41.00)	(301,135)
100				08/15/16	08/30/16	16,569	(15.00)	(248,535)
101				05/12/16	05/26/16	319	(14.00)	(4,471)
102				10/20/15	02/10/16	1,520	(113.00)	(171,715)
103				02/05/16	02/25/16	5,216	(20.00)	(104,327)
104				11/20/15	01/07/16	445	(48.00)	(21,360)
105				09/16/16	10/06/16	158	(20.00)	(3,167)
106				11/20/15	06/27/16	6,983	(220.00)	(1,536,278)
107				11/02/15	01/12/16	146	(71.00)	(10,400)
108				10/30/16	12/02/16	78	(33.00)	(2,589)
109				02/29/16	04/14/16	180	(45.00)	(8,100)
110				06/30/16	07/20/16	139,159	(20.00)	(2,783,178)
111				09/22/15	01/21/16	24	(121.00)	(2,863)
112				11/11/16	12/16/16	1,008	(35.00)	(35,263)
113				12/01/15	02/11/16	13	(72.00)	(927)
114				08/31/16	09/19/16	795	(19.00)	(15,105)
115				08/10/16	09/09/16	0	(30.00)	(0)

Liberty Utilities (EnergyNorth Natural Gas) Corp. D/B/A Liberty Utilities
Lead-Lag Study
O&M Expenses - Non-Labor O&M Expenses

Line	Service Period Begin	Service Period End	Midpoint of Service	Invoice Date	Payment Date	Payment Amount	Payment (Lead)/Lag Days	Dollar Days
116				10/09/15	01/07/16	3,261	(90.00)	(293,445)
117				10/18/16	10/18/16	175	0.00	-
118				12/28/15	01/07/16	4,048	(10.00)	(40,480)
119				08/22/16	09/19/16	48	(28.00)	(1,344)
120				04/25/16	05/20/16	28	(25.00)	(709)
121				11/28/16	12/22/16	651	(24.00)	(15,623)
122				04/30/16	05/13/16	100	(13.00)	(1,300)
123				12/31/15	02/11/16	846	(42.00)	(35,532)
124				04/01/16	05/04/16	181	(33.00)	(5,988)
125				10/09/15	02/10/16	1,219	(124.00)	(151,206)
126				10/16/16	11/01/16	315	(16.00)	(5,040)
127				05/29/16	06/07/16	485	(9.00)	(4,366)
128				05/02/16	05/26/16	525	(24.00)	(12,590)
129				07/08/16	08/05/16	50	(28.00)	(1,407)
130				12/18/15	01/26/16	18	(39.00)	(700)
131				06/21/16	07/15/16	5	(24.00)	(123)
132				12/21/15	01/15/16	12,677	(25.00)	(316,918)
133				07/13/16	08/03/16	620	(21.00)	(13,015)
134				11/26/16	12/21/16	869	(25.00)	(21,725)
135	9/12/2016	9/15/2016	9/13/2016	10/22/16	12/16/16	50,497	(55.00)	(2,777,339)
136				11/19/16	12/16/16	19,351	(27.00)	(522,481)
137				10/31/15	01/21/16	466	(82.00)	(38,232)
138				07/05/16	07/18/16	40	(13.00)	(523)
139				05/09/16	05/20/16	9,867	(11.00)	(108,541)
140				09/07/16	09/09/16	2,936	(2.00)	(5,872)
141				11/03/15	01/07/16	298	(65.00)	(19,341)
142				03/23/16	04/12/16	360	(20.00)	(7,200)
143				11/04/15	01/07/16	1,413	(64.00)	(90,460)
144				09/01/16	09/29/16	1,324	(28.00)	(37,083)
145				09/16/16	10/18/16	69	(32.00)	(2,207)
146				10/17/16	10/24/16	901	(7.00)	(6,304)
147				04/13/16	05/12/16	1,752	(29.00)	(50,804)
148				05/20/16	05/26/16	660	(6.00)	(3,960)
149				06/03/16	06/09/16	37	(6.00)	(224)
150				04/28/16	05/20/16	1,443	(22.00)	(31,743)
151				10/25/16	12/14/16	83	(50.00)	(4,137)
152				03/23/16	06/01/16	99	(70.00)	(6,944)
153				10/01/15	01/07/16	1,125	(98.00)	(110,250)
154				03/24/16	04/25/16	95	(32.00)	(3,040)
155				09/22/16	09/15/16	8	7.00	53
156				05/10/16	06/10/16	19	(31.00)	(577)
157				04/08/16	05/04/16	60	(26.00)	(1,560)
158				06/14/16	06/30/16	1,361	(16.00)	(21,782)
159				08/15/16	08/29/16	1,000	(14.00)	(14,000)
160				03/20/16	04/14/16	172	(25.00)	(4,300)
161				03/22/16	04/25/16	291	(34.00)	(9,903)
162				05/04/16	06/10/16	403	(37.00)	(14,893)
163	9/1/2015	9/30/2015	9/15/2015	12/18/15	01/22/16	236,124	(128.50)	(30,341,970)
164				08/01/16	08/31/16	729	(30.00)	(21,870)
165				08/19/16	12/21/16	1,098	(124.00)	(136,152)
166				12/16/15	01/19/16	93	(34.00)	(3,145)
167				03/25/16	04/14/16	513	(20.00)	(10,269)
168				09/30/16	10/31/16	309	(31.00)	(9,579)
169				11/23/16	12/16/16	860	(23.00)	(19,780)
170				10/31/16	12/02/16	177	(32.00)	(5,655)
171				06/15/16	07/14/16	336	(29.00)	(9,730)
172				05/24/16	06/16/16	1,600	(23.00)	(36,800)

Liberty Utilities (EnergyNorth Natural Gas) Corp. D/B/A Liberty Utilities
Lead-Lag Study
O&M Expenses - Non-Labor O&M Expenses

Line	Service Period Begin	Service Period End	Midpoint of Service	Invoice Date	Payment Date	Payment Amount	Payment (Lead)/Lag Days	Dollar Days
173				02/29/16	03/25/16	158	(25.00)	(3,955)
174				08/24/16	09/19/16	34,493	(26.00)	(896,828)
175				08/17/16	08/30/16	1,639	(13.00)	(21,304)
176				06/27/16	08/16/16	21	(50.00)	(1,050)
177				09/07/16	10/06/16	139	(29.00)	(4,019)
178				05/13/16	06/10/16	37	(28.00)	(1,043)
179				02/09/16	03/10/16	2,751	(30.00)	(82,530)
180				03/02/16	06/16/16	74	(106.00)	(7,844)
181				10/30/15	01/26/16	3,389	(88.00)	(298,188)
182				07/22/16	08/05/16	600	(14.00)	(8,400)
183				09/29/16	10/31/16	49	(32.00)	(1,560)
184				10/21/16	12/02/16	25	(42.00)	(1,050)
185				09/19/16	12/13/16	41	(85.00)	(3,470)
186				03/17/16	04/05/16	3,589	(19.00)	(68,186)
187				03/31/16	05/04/16	617	(34.00)	(20,992)
188				09/27/16	10/21/16	3,700	(24.00)	(88,800)
189				05/16/16	06/09/16	18	(24.00)	(425)
190				07/25/16	08/17/16	181	(23.00)	(4,162)
191				03/25/16	04/25/16	178	(31.00)	(5,512)
192				01/20/16	04/25/16	10	(96.00)	(960)
193				08/23/16	11/03/16	1,975	(72.00)	(142,200)
194				12/23/15	01/26/16	275	(34.00)	(9,350)
195				08/04/16	09/09/16	5,466	(36.00)	(196,786)
196				04/11/16	05/04/16	17,048	(23.00)	(392,112)
197				04/02/16	05/04/16	859	(32.00)	(27,504)
198				01/06/16	01/26/16	3,976	(20.00)	(79,518)
199	8/2/2015	8/29/2015	8/15/2015	09/15/15	01/12/16	62,631	(149.50)	(9,363,311)
200				10/17/15	01/07/16	402	(82.00)	(32,923)
201					Total	\$ 1,411,348	(40.41)	\$ (57,031,749)

Liberty Utilities (EnergyNorth Natural Gas) Corp. D/B/A Liberty Utilities
Lead-Lag Study
Income Tax

Federal Income Tax

Line	Quarter	Service Period Start	Service Period End	Midpoint of Service Period	Payment Date	Percent of Taxes Due	(Lead)/Lag Days		
							Days from Midpoint to Payment Date	(Lead)/Lag Days	
1	First Quarter	1/1/2016	12/31/2016	7/2/2016	4/15/2016	25.00%	78.00	19.50	
2	Second Quarter	1/1/2016	12/31/2016	7/2/2016	6/15/2016	25.00%	17.00	4.25	
3	Third Quarter	1/1/2016	12/31/2016	7/2/2016	9/15/2016	25.00%	(75.00)	(18.75)	
4	Fourth Quarter	1/1/2016	12/31/2016	7/2/2016	12/15/2016	25.00%	(166.00)	(41.50)	
5	<u>Federal Income Tax (Lead)/Lag Days</u>							<u>(36.50)</u>	

Liberty Utilities (EnergyNorth Natural Gas) Corp. D/B/A Liberty Utilities
 Lead-Lag Study
 Taxes Other Than Income Tax

Line	Description	Amount	(Lead)/Lag Days	Dollar Days	Composite (Lead)/Lag Days
<hr/>					
	Payroll Taxes				
1	FICA	\$ 1,500,889	(15.72)	\$ (23,600,589)	
2	Federal Unemployment	11,064	(30.75)	(340,219)	
3	State Unemployment	36,326	(84.91)	(3,084,605)	
4	Total Payroll Taxes	\$ 1,548,279		\$ (27,025,413)	(17.46)
<hr/>					
5	Property Taxes	\$ 9,168,735	10.15	93,021,614	10.15

Liberty Utilities (EnergyNorth Natural Gas) Corp. D/B/A Liberty Utilities
Lead-Lag Study
FICA

Line	Pay-Period End	Payment Date	Amount	(Lead)/Lag Days	Dollar Days
1	1/2/2016	1/8/2016	\$ 13,810	(6.00)	\$ (82,859)
2	1/9/2016	1/15/2016	45,167	(6.00)	(271,004)
3	1/16/2016	1/22/2016	13,811	(6.00)	(82,866)
4	1/23/2016	1/29/2016	44,946	(6.00)	(269,674)
5	1/30/2016	2/5/2016	14,024	(6.00)	(84,145)
6	2/6/2016	2/12/2016	45,381	(6.00)	(272,287)
7	2/13/2016	2/19/2016	14,268	(6.00)	(85,608)
8	2/20/2016	2/26/2016	46,224	(6.00)	(277,342)
9	2/27/2016	3/4/2016	14,997	(6.00)	(89,984)
10	3/5/2016	3/11/2016	45,343	(6.00)	(272,059)
11	3/12/2016	3/18/2016	13,197	(6.00)	(79,185)
12	3/19/2016	3/24/2016	50,606	(5.00)	(253,032)
13	3/26/2016	4/1/2016	13,472	(6.00)	(80,832)
14	4/2/2016	4/8/2016	45,845	(6.00)	(275,072)
15	4/9/2016	4/15/2016	13,910	(6.00)	(83,460)
16	4/16/2016	4/22/2016	45,785	(6.00)	(274,710)
17	4/23/2016	4/29/2016	13,668	(6.00)	(82,009)
18	4/30/2016	5/6/2016	45,932	(6.00)	(275,593)
19	5/7/2016	5/13/2016	3,330	(6.00)	(19,980)
20	5/14/2016	5/20/2016	45,589	(6.00)	(273,535)
21	5/21/2016	5/27/2016	14,527	(6.00)	(87,163)
22	5/28/2016	6/3/2016	45,143	(6.00)	(270,858)
23	6/4/2016	6/10/2016	13,907	(6.00)	(83,443)
24	6/11/2016	6/17/2016	45,942	(6.00)	(275,650)
25	6/18/2016	6/24/2016	13,788	(6.00)	(82,727)
26	6/25/2016	7/1/2016	46,631	(6.00)	(279,783)
27	7/2/2016	7/8/2016	14,202	(6.00)	(85,214)
28	7/9/2016	7/15/2016	43,678	(6.00)	(262,069)
29	7/16/2016	7/22/2016	14,857	(6.00)	(89,142)
30	7/23/2016	7/29/2016	45,310	(6.00)	(271,862)
31	7/30/2016	8/5/2016	16,338	(6.00)	(98,028)
32	8/6/2016	8/12/2016	45,947	(6.00)	(275,684)
33	8/13/2016	8/19/2016	14,414	(6.00)	(86,485)
34	8/20/2016	8/26/2016	43,318	(6.00)	(259,907)
35	8/27/2016	9/2/2016	14,421	(6.00)	(86,524)
36	9/3/2016	9/9/2016	42,841	(6.00)	(257,046)
37	9/10/2016	9/16/2016	14,773	(6.00)	(88,637)
38	9/17/2016	9/23/2016	43,884	(6.00)	(263,301)
39	9/24/2016	9/30/2016	13,762	(6.00)	(82,574)
40	10/1/2016	10/7/2016	41,813	(6.00)	(250,881)
41	10/8/2016	10/14/2016	13,634	(6.00)	(81,805)
42	10/15/2016	10/21/2016	42,351	(6.00)	(254,109)
43	10/22/2016	10/28/2016	13,597	(6.00)	(81,583)
44	10/29/2016	11/4/2016	41,891	(6.00)	(251,347)
45	11/5/2016	11/10/2016	13,325	(5.00)	(66,625)
46	11/12/2016	11/18/2016	41,656	(6.00)	(249,935)
47	11/19/2016	11/25/2016	13,377	(6.00)	(80,262)
48	11/26/2016	12/2/2016	39,209	(6.00)	(235,254)
49	12/3/2016	12/9/2016	13,477	(6.00)	(80,861)
50	12/10/2016	12/16/2016	38,402	(6.00)	(230,414)
51	12/17/2016	12/23/2016	13,720	(6.00)	(82,319)
52	12/24/2016	12/30/2016	37,446	(6.00)	(224,678)
	Total		\$ 1,500,889	(5.96)	\$ (8,941,404)
53	Payroll Lag			(9.77)	
54	Total (Lead)/Lag Days			(15.72)	

Liberty Utilities (EnergyNorth Natural Gas) Corp. D/B/A Liberty Utilities
Lead-Lag Study
Federal Unemployment

Line	Description	Liability Date	Amount	Payment Date	(Lead)/Lag Days
1	First Quarter	3/31/2016	\$ 10,008	4/30/2016	(30.00)
2	Second Quarter	6/30/2016	396	7/31/2016	(31.00)
3	Third Quarter	9/30/2016	453	10/31/2016	(31.00)
4	Fourth Quarter	12/31/2016	206	1/31/2017	(31.00)
5	Total		\$ 11,064		(30.75)

Liberty Utilities (EnergyNorth Natural Gas) Corp. D/B/A Liberty Utilities
Lead-Lag Study
State Unemployment

Line	Pay-Period End	Payment Date	Amount	(Lead)/Lag Days	Dollar Days
1	1/8/2016	4/30/2016	\$ 1,866	(113.00)	\$ (210,909)
2	1/15/2016	4/30/2016	6,183	(106.00)	(655,373)
3	1/22/2016	4/30/2016	1,866	(99.00)	(184,687)
4	1/29/2016	4/30/2016	6,005	(92.00)	(552,504)
5	2/5/2016	4/30/2016	1,809	(85.00)	(153,743)
6	2/12/2016	4/30/2016	5,291	(78.00)	(412,732)
7	2/19/2016	4/30/2016	1,223	(71.00)	(86,837)
8	2/26/2016	4/30/2016	3,333	(64.00)	(213,286)
9	3/4/2016	4/30/2016	607	(57.00)	(34,592)
10	3/11/2016	4/30/2016	1,564	(50.00)	(78,211)
11	3/18/2016	4/30/2016	332	(43.00)	(14,266)
12	3/24/2016	4/30/2016	818	(37.00)	(30,264)
13	3/31/2016	4/30/2016	(0)	(30.00)	1
14	4/1/2016	7/31/2016	266	(121.00)	(32,178)
15	4/8/2016	7/31/2016	466	(114.00)	(53,095)
16	4/15/2016	7/31/2016	233	(107.00)	(24,934)
17	4/22/2016	7/31/2016	360	(100.00)	(36,028)
18	4/29/2016	7/31/2016	226	(93.00)	(21,049)
19	5/4/2016	7/31/2016	403	(88.00)	(35,499)
20	5/6/2016	7/31/2016	239	(86.00)	(20,593)
21	5/13/2016	7/31/2016	153	(79.00)	(12,054)
22	5/20/2016	7/31/2016	215	(72.00)	(15,503)
23	5/27/2016	7/31/2016	124	(65.00)	(8,085)
24	6/3/2016	7/31/2016	127	(58.00)	(7,356)
25	6/10/2016	7/31/2016	55	(51.00)	(2,827)
26	6/17/2016	7/31/2016	126	(44.00)	(5,565)
27	6/24/2016	7/31/2016	43	(37.00)	(1,605)

Liberty Utilities (EnergyNorth Natural Gas) Corp. D/B/A Liberty Utilities
Lead-Lag Study
State Unemployment

Line	Pay-Period End	Payment Date	Amount	(Lead)/Lag Days	Dollar Days
28	6/30/2016	7/31/2016	0	(31.00)	(0)
29	7/1/2016	10/31/2016	160	(122.00)	(19,549)
30	7/8/2016	10/31/2016	91	(115.00)	(10,428)
31	7/15/2016	10/31/2016	71	(108.00)	(7,684)
32	7/22/2016	10/31/2016	113	(101.00)	(11,378)
33	7/29/2016	10/31/2016	127	(94.00)	(11,980)
34	8/5/2016	10/31/2016	105	(87.00)	(9,128)
35	8/12/2016	10/31/2016	167	(80.00)	(13,369)
36	8/19/2016	10/31/2016	94	(73.00)	(6,888)
37	8/26/2016	10/31/2016	200	(66.00)	(13,228)
38	9/2/2016	10/31/2016	92	(59.00)	(5,402)
39	9/9/2016	10/31/2016	157	(52.00)	(8,165)
40	9/16/2016	10/31/2016	80	(45.00)	(3,615)
41	9/23/2016	10/31/2016	97	(38.00)	(3,701)
42	9/30/2016	10/31/2016	53	(31.00)	(1,648)
43	10/7/2016	1/31/2017	76	(116.00)	(8,823)
44	10/14/2016	1/31/2017	40	(109.00)	(4,341)
45	10/21/2016	1/31/2017	71	(102.00)	(7,256)
46	10/28/2016	1/31/2017	32	(95.00)	(3,022)
47	11/4/2016	1/31/2017	62	(88.00)	(5,474)
48	11/10/2016	1/31/2017	31	(82.00)	(2,509)
49	11/18/2016	1/31/2017	71	(74.00)	(5,257)
50	11/25/2016	1/31/2017	23	(67.00)	(1,566)
51	12/2/2016	1/31/2017	81	(60.00)	(4,856)
52	12/9/2016	1/31/2017	22	(53.00)	(1,166)
53	12/16/2016	1/31/2017	108	(46.00)	(4,975)

Liberty Utilities (EnergyNorth Natural Gas) Corp. D/B/A Liberty Utilities
 Lead-Lag Study
 State Unemployment

Line	Pay-Period End	Payment Date	Amount	(Lead)/Lag Days	Dollar Days
54	12/23/2016	1/31/2017	20	(39.00)	(775)
55	12/30/2016	1/31/2017	145	(32.00)	(4,647)
56	Total		\$ 36,326	(84.91)	\$ (3,084,605)
57	Payroll Lag			(9.77)	
58	Total (Lead)/Lag Days			(94.68)	

Liberty Utilities (EnergyNorth Natural Gas) Corp. D/B/A Liberty Utilities
Lead-Lag Study
Property Taxes

Line	Description	Tax Period Start	Tax Period End	Midpoint of Tax Period	Payment Date	Tax Amount	Days from Midpoint to End of Period	(Lead)/Lag Days Payment (Lead)/Lag Days	Total (Lead)/Lag Days	Weighted Dollar-Days	Composite (Lead)/Lag Days
1	TOWN OF ALLENSTOWN	4/1/2016	9/30/2016	7/1/2016	6/24/2016	\$ 28,512	(90.50)	98.00	7.50	\$ 213,837	
2	TOWN OF ALLENSTOWN	10/1/2016	3/31/2017	12/31/2016	11/28/2016	30,482	(90.00)	123.00	33.00	1,005,906	
3	TOWN OF AMHERST	4/1/2016	9/30/2016	7/1/2016	6/1/2016	41,204	(90.50)	121.00	30.50	1,256,722	
4	TOWN OF AMHERST	10/1/2016	3/31/2017	12/31/2016	11/28/2016	48,736	(90.00)	123.00	33.00	1,608,288	
5	TOWN OF AMHERST	4/1/2016	9/30/2016	7/1/2016	6/24/2016	4,129	(90.50)	98.00	7.50	30,968	
6	TOWN OF AMHERST	10/1/2016	3/31/2017	12/31/2016	11/28/2016	3,505	(90.00)	123.00	33.00	115,665	
7	TOWN OF AUBURN	4/1/2016	9/30/2016	7/1/2016	6/24/2016	716	(90.50)	98.00	7.50	5,370	
8	TOWN OF AUBURN	10/1/2016	3/31/2017	12/31/2016	12/1/2016	662	(90.00)	120.00	30.00	19,860	
9	TOWN OF BEDFORD	4/1/2016	9/30/2016	7/1/2016	6/24/2016	30,517	(90.50)	98.00	7.50	228,878	
10	TOWN OF BEDFORD	10/1/2016	3/31/2017	12/31/2016	11/28/2016	36,803	(90.00)	123.00	33.00	1,214,499	
11	TOWN OF BELMONT	4/1/2016	9/30/2016	7/1/2016	6/24/2016	20,966	(90.50)	98.00	7.50	157,248	
12	TOWN OF BELMONT	10/1/2016	3/31/2017	12/31/2016	12/1/2016	20,223	(90.00)	120.00	30.00	606,677	
13	TOWN OF BERLIN	4/1/2016	9/30/2016	7/1/2016	6/24/2016	10,964	(90.50)	98.00	7.50	82,230	
14	TOWN OF BERLIN	10/1/2016	3/31/2017	12/31/2016	12/6/2016	11,317	(90.00)	115.00	25.00	282,925	
15	TOWN OF BOSCAWEN	4/1/2016	9/30/2016	7/1/2016	6/24/2016	7,642	(90.50)	98.00	7.50	57,315	
16	TOWN OF BOSCAWEN	10/1/2016	3/31/2017	12/31/2016	11/28/2016	7,218	(90.00)	123.00	33.00	238,194	
17	TOWN OF BOW	4/1/2016	9/30/2016	7/1/2016	6/24/2016	78,448	(90.50)	98.00	7.50	588,360	
18	TOWN OF BOW	10/1/2016	3/31/2017	12/31/2016	12/1/2016	41,830	(90.00)	120.00	30.00	1,254,900	
19	TOWN OF CANTERBURY	4/1/2016	9/30/2016	7/1/2016	6/24/2016	2,830	(90.50)	98.00	7.50	21,225	
20	TOWN OF CANTERBURY	10/1/2016	3/31/2017	12/31/2016	12/1/2016	2,352	(90.00)	120.00	30.00	70,560	
21	CITY OF CONCORD	4/1/2016	9/30/2016	7/1/2016	6/24/2016	252,015	(90.50)	98.00	7.50	1,890,115	
22	CITY OF CONCORD	4/1/2016	9/30/2016	7/1/2016	10/6/2016	252,015	(90.50)	(6.00)	(96.50)	(24,319,478)	
23	CITY OF CONCORD	10/1/2016	3/31/2017	12/31/2016	12/20/2016	299,311	(90.00)	101.00	11.00	3,292,420	
24	CITY OF CONCORD	10/1/2016	3/31/2017	12/31/2016	3/28/2016	284,326	(90.00)	368.00	278.00	79,042,720	
25	TOWN OF DERRY	4/1/2016	9/30/2016	7/1/2016	6/24/2016	23,029	(90.50)	98.00	7.50	172,717	
26	TOWN OF DERRY	10/1/2016	3/31/2017	12/31/2016	12/1/2016	34,711	(90.00)	120.00	30.00	1,041,322	
27	TOWN OF FRANKLIN	4/1/2016	9/30/2016	7/1/2016	6/24/2016	27,557	(90.50)	98.00	7.50	206,680	
28	TOWN OF FRANKLIN	10/1/2016	3/31/2017	12/31/2016	12/1/2016	28,411	(90.00)	120.00	30.00	852,326	
29	TOWN OF GIFFORD	4/1/2016	9/30/2016	7/1/2016	6/24/2016	3,628	(90.50)	98.00	7.50	27,210	
30	TOWN OF GIFFORD	10/1/2016	3/31/2017	12/31/2016	12/5/2016	3,578	(90.00)	116.00	26.00	93,028	
31	TOWN OF GOFFSTOWN	4/1/2016	9/30/2016	7/1/2016	6/24/2016	30,636	(90.50)	98.00	7.50	229,768	
32	TOWN OF GOFFSTOWN	10/1/2016	3/31/2017	12/31/2016	11/28/2016	29,958	(90.00)	123.00	33.00	988,598	
33	TOWN OF HOLLIS	4/1/2016	9/30/2016	7/1/2016	6/24/2016	2,512	(90.50)	98.00	7.50	18,840	
34	TOWN OF HOLLIS	10/1/2016	3/31/2017	12/31/2016	12/2/2016	2,804	(90.00)	119.00	29.00	81,316	
35	TOWN OF HOOKSETT	4/1/2016	9/30/2016	7/1/2016	6/24/2016	137,891	(90.50)	98.00	7.50	1,034,183	
36	TOWN OF HOOKSETT	10/1/2016	3/31/2017	12/31/2016	12/6/2016	157,510	(90.00)	115.00	25.00	3,937,750	
37	TOWN OF HUDSON	4/1/2016	9/30/2016	7/1/2016	6/24/2016	192,930	(90.50)	98.00	7.50	1,446,977	
38	TOWN OF HUDSON	10/1/2016	3/31/2017	12/31/2016	12/5/2016	238,007	(90.00)	116.00	26.00	6,188,181	
39	TOWN OF LACONIA	4/1/2016	9/30/2016	7/1/2016	6/24/2016	96,883	(90.50)	98.00	7.50	726,623	
40	TOWN OF LACONIA	10/1/2016	3/31/2017	12/31/2016	12/15/2016	123,969	(90.00)	106.00	16.00	1,983,504	
41	TOWN OF LITCHFIELD	4/1/2016	9/30/2016	7/1/2016	6/24/2016	9,383	(90.50)	98.00	7.50	70,373	
42	TOWN OF LITCHFIELD	10/1/2016	3/31/2017	12/31/2016	11/28/2016	10,510	(90.00)	123.00	33.00	346,830	
43	TOWN OF LONDONDERRY	4/1/2016	9/30/2016	7/1/2016	7/1/2016	250,814	(90.50)	91.00	0.50	125,407	
44	TOWN OF LONDONDERRY	10/1/2016	3/31/2017	12/31/2016	12/1/2016	289,013	(90.00)	120.00	30.00	8,670,390	
45	TOWN OF LOUDON	4/1/2016	9/30/2016	7/1/2016	6/24/2016	27,201	(90.50)	98.00	7.50	204,008	
46	TOWN OF LOUDON	10/1/2016	3/31/2017	12/31/2016	12/1/2016	23,308	(90.00)	120.00	30.00	699,240	
47	CITY OF MANCHESTER	4/1/2016	9/30/2016	7/1/2016	6/24/2016	867,011	(90.50)	98.00	7.50	6,502,582	

Liberty Utilities (EnergyNorth Natural Gas) Corp. D/B/A Liberty Utilities
Lead-Lag Study
Property Taxes

Line	Description	Tax Period Start	Tax Period End	Midpoint of Tax Period	Payment Date	Tax Amount	Days from Midpoint to End of Period	(Lead)/Lag Days Payment (Lead)/Lag Days	Total (Lead)/Lag Days	Weighted Dollar-Days	Composite (Lead)/Lag Days
48	CITY OF MANCHESTER	10/1/2016	3/31/2017	12/31/2016	12/15/2016	944,885	(90.00)	106.00	16.00	15,118,153	
49	TOWN OF MERRIMACK	4/1/2016	9/30/2016	7/1/2016	6/24/2016	133,187	(90.50)	98.00	7.50	998,903	
50	TOWN OF MERRIMACK	10/1/2016	3/31/2017	12/31/2016	12/6/2016	206,046	(90.00)	115.00	25.00	5,151,150	
51	TOWN OF MILFORD	4/1/2016	9/30/2016	7/1/2016	6/24/2016	52,786	(90.50)	98.00	7.50	395,898	
52	TOWN OF MILFORD	10/1/2016	3/31/2017	12/31/2016	12/2/2016	54,600	(90.00)	119.00	29.00	1,583,392	
53	CITY OF NASHUA	4/1/2016	9/30/2016	7/1/2016	6/24/2016	665,847	(90.50)	98.00	7.50	4,993,851	
54	CITY OF NASHUA	10/1/2016	3/31/2017	12/31/2016	12/6/2016	698,928	(90.00)	115.00	25.00	17,473,189	
55	STATE OF NH - DEPARTMENT OF REVENUE	1/1/2016	3/31/2016	2/15/2016	4/15/2016	457,633	(44.50)	(15.00)	(59.50)	(27,229,165)	
56	STATE OF NH - DEPARTMENT OF REVENUE	4/1/2016	6/30/2016	5/16/2016	6/9/2016	457,633	(44.50)	21.00	(23.50)	(10,754,376)	
57	STATE OF NH - DEPARTMENT OF REVENUE	7/1/2016	9/30/2016	8/16/2016	9/15/2016	457,633	(45.00)	15.00	(30.00)	(13,728,991)	
58	STATE OF NH - DEPARTMENT OF REVENUE	10/1/2016	12/31/2016	11/16/2016	12/15/2016	457,633	(45.00)	16.00	(29.00)	(13,271,357)	
59	TOWN OF NORTHFIELD	4/1/2016	9/30/2016	7/1/2016	6/24/2016	39,418	(90.50)	98.00	7.50	295,635	
60	TOWN OF NORTHFIELD	10/1/2016	3/31/2017	12/31/2016	11/28/2016	36,945	(90.00)	123.00	33.00	1,219,185	
61	TOWN OF PEMBROKE	4/1/2016	9/30/2016	7/1/2016	6/24/2016	74,484	(90.50)	98.00	7.50	558,630	
62	TOWN OF PEMBROKE	10/1/2016	3/31/2017	12/31/2016	12/6/2016	75,044	(90.00)	115.00	25.00	1,876,100	
63	TOWN OF SANBORTON	4/1/2016	9/30/2016	7/1/2016	6/24/2016	481	(90.50)	98.00	7.50	3,608	
64	TOWN OF SANBORTON	10/1/2016	3/31/2017	12/31/2016	12/8/2016	532	(90.00)	113.00	23.00	12,236	
65	TOWN OF TILTON	4/1/2016	9/30/2016	7/1/2016	6/24/2016	112,216	(90.50)	98.00	7.50	841,620	
66	TOWN OF TILTON	10/1/2016	3/31/2017	12/31/2016	12/6/2016	114,828	(90.00)	115.00	25.00	2,870,700	
						\$ 9,168,735				\$ 93,021,614	10.15