

1 compares to the FPO rate approved for the 2018/2019 winter period of \$0.7611 per therm
2 for residential customers. This represents a \$0.1208 per therm, or 15.8% decrease in the
3 residential FPO rate. The total bill impact on the winter period bills for an average FPO
4 heating customer using 666 therms is a decrease of approximately \$98.27 or 9.75%
5 compared to last winter. The total bill impact reflects the overall rates in effect following
6 implementation of the increases approved in Docket No. DG 19-054, effective July 1,
7 2019, relating to the cast iron/bare steel main replacement program. The estimated
8 winter period bill for an average residential heating customer opting for the FPO would
9 be approximately \$13.32 (or 1.45%) higher than the bill under the proposed cost of gas
10 rates, assuming no monthly adjustments to the COG rate during the course of the winter.
11 Schedule 23 (Bates 196) contains the historical results of the FPO program.

12 **V. LOCAL DELIVERY ADJUSTMENT CLAUSE (“LDAC”)**

13 **Q. What are the surcharges that will be billed under the LDAC?**

14 A. As shown on Proposed Second Revised Page 97 (Bates 054), the Company is submitting
15 for approval an LDAC of \$0.0310 per therm for the residential non-heating class and
16 residential heating class, and \$0.0478 per therm for the commercial/industrial bundled
17 sales classes, effective November 1, 2019. The surcharges proposed to be billed under
18 the LDAC are the Energy Efficiency Charge, the Revenue Decoupling Adjustment
19 Factor, the Energy Efficiency Resource Standard Lost Revenue Adjustment Mechanism,
20 the Environmental Surcharge for Manufactured Gas Plant (“MGP”) remediation, the
21 Residential Low Income Assistance Program charge, and the rate case expense
22 reconciliation surcharge from Docket No. DG 17-048.

1 **Q. Which customers are billed an LDAC?**

2 A. All EnergyNorth customers including those in Keene are billed an LDAC charge. When
3 calculating the LDAC charge, the November 1, 2019, through October 31, 2020,
4 forecasted Keene therm sales of 1,542,677 are added to the EnergyNorth therm sales
5 forecast of 185,636,009 for a total therm sales forecast of 187,178,686 (slightly off due to
6 rounding).

7 **Q. Please explain the Energy Efficiency Charge.**

8 A. The Energy Efficiency Charge is designed to recover the projected expenses associated
9 with the Company's energy efficiency programs for Calendar Year 2019 that will be filed
10 with the Commission in the near future. In the calculation of the Energy Efficiency
11 Charge, the Company has also included the projected prior period under-recovery of the
12 Company's residential and commercial energy efficiency programs as of October 2019.
13 As shown on Schedule 19 Energy Efficiency (Bates 132-134), the proposed Energy
14 Efficiency charge is \$0.0640 per therm for Residential customers and \$0.0426 per therm
15 for commercial and industrial customers.

16 **Q. Please explain the Revenue Decoupling Adjustment Factor ("RDAF").**

17 A. Schedule 19 RDAF (Bates 124-R-129-R) shows the Actual Base Revenue per Customer
18 and the Benchmark Base Revenue per Customer calculation which results in a total over-
19 collection of \$7,016,791 effective November 1, 2019, through October 31, 2020, based
20 on the formulas in the Company's proposed tariff. The Actual Base Revenue per

Liberty Utilities (EnergyNorth Natural Gas) Corp. d/b/a Liberty Utilities

Docket No. DG 19-145

Winter 2019/2020 Cost of Gas & Summer 2020 Cost of Gas

Revised Direct Testimony of David B. Simek and Catherine A. McNamara

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1 Customer proposed tariff change includes weather-normalized actuals as discussed with
2 Commission Staff at the technical session held on September 23, 2019.

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therm is determined by dividing the \$309,225 by the estimated November 2019 through October 2020 sales volumes of 187,178,686 therms.

Q. Has the Company also updated its Company Allowance percentage for the period November 2019 through October 2020 in accordance with Section 8 of the Company's Delivery Terms and Condition?

A. Yes, in Schedule 25 (Bates 198) the Company has recalculated its Company Allowance for the period November 2019 through October 2020. The Company calculated the Company Allowance of 1.92% based on sendout and throughput data for the twelve-month period ending June 2019. The Company proposes to apply this recalculated Company Allowance to all supplier deliveries beginning in November 2019.

VI. CUSTOMER BILL IMPACTS

Q. What are the estimated impacts of the proposed firm sales cost of gas rate and proposed LDAC surcharges on an average heating customer's winter bill as compared to the winter rates in effect last year?

A. The bill impact analysis is presented in Schedule 8 (Bates 092-R) of this filing. These bill impacts reflect the implementation of the increases approved in Docket No. DG 19-054 effective July 1, 2019, relating to the cast iron/bare steel main replacement program. The total bill impact over the winter period for an average residential heating customer is a decrease of approximately \$46.46 or 4.93%. The total bill impact over the winter period for an average commercial/industrial G-41 customer is a decrease of

Liberty Utilities (Energy North Natural Gas) Corp. d/b/a Liberty Utilities
Revenue Decoupling Adjustment Factor (RDAF)
Allowed Base Revenue based on the formula in the tariff

Revised Schedule 19
RDAF
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(1) (2) (3)

Residential Revenue Decoupling Adjustment Factor

1. Allowed Base Revenue	\$	40,585,321	
2. less: Actual and Estimated Base Revenue		<u>44,670,474</u>	
3. Revenue Deficiency / (Excess)	\$		(4,085,153)
4. divided by: Forecasted Residential Sales		<u>65,525,887</u>	
5. Residential Revenue Decoupling Adjustment Factor	\$		<u>(0.0623)</u>

Commercial Revenue Decoupling Adjustment Factor

6. Allowed Base Revenue	\$	31,436,763	
7. less: Actual and Estimated Base Revenue		<u>34,368,401</u>	
8. Revenue Deficiency / (Excess)	\$		(2,931,638)
9. divided by: Forecasted Commercial Sales		<u>121,652,799</u>	
10. Commercial Revenue Decoupling Adjustment Factor	\$		<u>(0.0241)</u>

Liberty Utilities (Energy North Natural Gas) Corp. d/b/a Liberty Utilities
Revenue Decoupling Adjustment Factor (RDAF)
Allowed Base Revenue based on the formula in the tariff

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EnergyNorth Natural Gas Inc

2018-19 Customers (Equivalent Bills)

	S&T Nov-18	S&T Dec-18	S&T Jan-19	S&T Feb-19	S&T Mar-19	S&T Apr-19	S&T May-19	S&T Jun-19	S&T Jul-18	S&T Aug-18	S&T Total
R-1	3,492	3,607	3,611	3,258	3,608	3,489	3,605	3,481	3,574	3,586	35,311
R-3	71,747	74,482	74,676	67,598	74,949	72,450	74,670	72,069	73,360	73,237	729,238
R-4	5,948	6,205	6,210	5,599	6,170	5,875	5,956	5,679	5,777	5,675	59,095
Total Resid.	81,187	84,295	84,496	76,455	84,727	81,814	84,231	81,229	82,711	82,498	823,643
G-41	9,279	9,683	9,716	8,804	9,751	9,385	9,526	9,043	9,125	9,104	93,416
G-42	1,388	1,439	1,441	1,303	1,442	1,386	1,427	1,375	1,452	1,415	14,067
G-43	57	60	60	54	59	56	58	56	55	56	571
G-51	1,291	1,339	1,340	1,209	1,339	1,292	1,328	1,285	1,261	1,298	12,982
G-52	378	391	390	352	392	381	396	384	396	391	3,851
G-53	37	38	37	34	35	34	36	35	38	38	363
G-54	29	30	29	27	30	28	29	28	29	29	288
Total C/I	12,458	12,980	13,013	11,783	13,048	12,563	12,799	12,206	12,357	12,331	125,538
Total All	93,645	97,275	97,509	88,238	97,776	94,377	97,030	93,435	95,068	94,828	949,181

2018-19 Benchmark Base Revenue Per Bill

	S&T Nov-18	S&T Dec-18	S&T Jan-19	S&T Feb-19	S&T Mar-19	S&T Apr-19	S&T May-19	S&T Jun-19	S&T Jul-19	S&T Aug-19
R-1	\$ 23.348	\$ 25.283	\$ 26.012	\$ 25.753	\$ 24.068	\$ 21.406	\$ 20.682	\$ 19.317	\$ 18.581	\$ 18.520
R-3	\$ 57.780	\$ 77.468	\$ 88.801	\$ 83.856	\$ 71.842	\$ 45.379	\$ 33.218	\$ 25.573	\$ 22.855	\$ 22.974
R-4	\$ 22.047	\$ 29.563	\$ 33.409	\$ 31.062	\$ 28.369	\$ 19.541	\$ 12.971	\$ 10.385	\$ 9.239	\$ 9.352
G-41	\$ 139.367	\$ 185.085	\$ 211.254	\$ 201.863	\$ 172.188	\$ 118.730	\$ 88.674	\$ 72.229	\$ 67.581	\$ 67.203
G-42	\$ 821.458	\$ 1,125.575	\$ 1,259.787	\$ 1,167.405	\$ 983.555	\$ 684.624	\$ 472.419	\$ 349.595	\$ 296.514	\$ 289.956
G-43	\$ 6,550.598	\$ 7,502.097	\$ 8,664.543	\$ 7,626.280	\$ 6,553.396	\$ 4,286.167	\$ 2,095.245	\$ 1,460.169	\$ 1,276.137	\$ 1,310.918
G-51	\$ 115.703	\$ 127.293	\$ 130.854	\$ 125.983	\$ 115.870	\$ 99.796	\$ 94.811	\$ 85.816	\$ 86.305	\$ 87.102
G-52	\$ 627.414	\$ 664.356	\$ 662.625	\$ 649.692	\$ 593.999	\$ 514.744	\$ 372.278	\$ 338.050	\$ 345.377	\$ 356.854
G-53	\$ 5,223.263	\$ 6,402.732	\$ 5,376.660	\$ 5,441.929	\$ 5,316.353	\$ 4,644.882	\$ 2,523.664	\$ 2,138.370	\$ 2,145.270	\$ 2,343.537
G-54	\$ 4,462.745	\$ 4,980.221	\$ 4,323.529	\$ 3,728.568	\$ 2,872.867	\$ 3,248.080	\$ 2,004.687	\$ 2,363.392	\$ 2,360.857	\$ 2,675.881

2018-19 Allowed Base Revenue

	S&T Nov-18	S&T Dec-18	S&T Jan-19	S&T Feb-19	S&T Mar-19	S&T Apr-19	S&T May-19	S&T Jun-19	S&T Jul-19	S&T Aug-19	S&T Total
R-1	\$ 81,527	\$ 91,197	\$ 93,922	\$ 83,891	\$ 86,847	\$ 74,680	\$ 74,567	\$ 67,246	\$ 66,414	\$ 66,407	\$ 786,697
R-3	\$ 4,145,546	\$ 5,770,020	\$ 6,631,299	\$ 5,668,528	\$ 5,384,448	\$ 3,287,719	\$ 2,480,407	\$ 1,842,996	\$ 1,676,613	\$ 1,682,555	\$ 38,570,131
R-4	\$ 131,133	\$ 183,445	\$ 207,454	\$ 173,927	\$ 175,042	\$ 114,809	\$ 77,260	\$ 58,978	\$ 53,370	\$ 53,073	\$ 1,228,492
Total Resid.	\$ 4,358,207	\$ 6,044,662	\$ 6,932,675	\$ 5,926,346	\$ 5,646,337	\$ 3,477,208	\$ 2,632,234	\$ 1,969,220	\$ 1,796,397	\$ 1,802,035	\$ 40,585,321
G-41	\$ 1,293,228	\$ 1,792,221	\$ 2,052,443	\$ 1,777,158	\$ 1,678,971	\$ 1,114,268	\$ 844,671	\$ 653,195	\$ 616,699	\$ 611,821	\$ 12,434,674
G-42	\$ 1,139,946	\$ 1,619,826	\$ 1,815,459	\$ 1,521,121	\$ 1,418,584	\$ 948,585	\$ 673,921	\$ 480,758	\$ 430,461	\$ 410,240	\$ 10,458,902
G-43	\$ 370,546	\$ 453,128	\$ 519,296	\$ 412,836	\$ 387,525	\$ 240,740	\$ 121,245	\$ 81,867	\$ 70,230	\$ 73,193	\$ 2,730,605
G-51	\$ 149,337	\$ 170,455	\$ 175,348	\$ 152,337	\$ 155,124	\$ 128,940	\$ 125,890	\$ 110,257	\$ 108,874	\$ 113,043	\$ 1,389,604
G-52	\$ 236,995	\$ 259,433	\$ 258,532	\$ 228,906	\$ 232,868	\$ 196,359	\$ 147,437	\$ 129,752	\$ 136,923	\$ 139,482	\$ 1,966,686
G-53	\$ 193,261	\$ 240,528	\$ 200,011	\$ 182,849	\$ 188,021	\$ 160,248	\$ 90,936	\$ 74,629	\$ 82,021	\$ 89,601	\$ 1,502,104
G-54	\$ 129,420	\$ 149,240	\$ 127,207	\$ 100,837	\$ 86,090	\$ 91,487	\$ 58,002	\$ 66,175	\$ 68,308	\$ 77,422	\$ 954,188
Total C/I	\$ 3,512,731	\$ 4,684,830	\$ 5,148,296	\$ 4,376,043	\$ 4,147,181	\$ 2,880,627	\$ 2,062,103	\$ 1,596,633	\$ 1,513,516	\$ 1,514,802	\$ 31,436,763
Total All	\$ 7,870,938	\$ 10,729,492	\$ 12,080,971	\$ 10,302,389	\$ 9,793,519	\$ 6,357,835	\$ 4,694,336	\$ 3,565,853	\$ 3,309,912	\$ 3,316,837	\$ 72,022,084

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Liberty Utilities (Energy North Natural Gas) Corp. d/b/a Liberty Utilities
Revenue Decoupling Adjustment Factor (RDAF)
Allowed Base Revenue based on the formula in the tariff

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SALES AND TRANSPORT DATA

CUSTOMER COMPONENT

EnergyNorth Natural Gas Inc

2018-19 Customers (Equivalent Bills)

	S&T Nov-18	S&T Dec-18	S&T Jan-19	S&T Feb-19	S&T Mar-19	S&T Apr-19	S&T May-19	S&T Jun-19	S&T Jul-18	S&T Aug-18	S&T Total
R-1	3,492	3,607	3,611	3,258	3,608	3,489	3,605	3,481	3,574	3,586	35,311
R-3	71,747	74,482	74,676	67,598	74,949	72,450	74,670	72,069	73,360	73,237	729,238
R-4	5,948	6,205	6,210	5,599	6,170	5,875	5,956	5,679	5,777	5,675	59,095
Total Resid.	81,187	84,295	84,496	76,455	84,727	81,814	84,231	81,229	82,711	82,498	823,643
G-41	9,279	9,683	9,716	8,804	9,751	9,385	9,526	9,043	9,125	9,104	93,416
G-42	1,388	1,439	1,441	1,303	1,442	1,386	1,427	1,375	1,452	1,415	14,067
G-43	57	60	60	54	59	56	58	56	55	56	571
G-51	1,291	1,339	1,340	1,209	1,339	1,292	1,328	1,285	1,261	1,298	12,982
G-52	378	391	390	352	392	381	396	384	396	391	3,851
G-53	37	38	37	34	35	34	36	35	38	38	363
G-54	29	30	29	27	30	28	29	28	29	29	288
Total C/I	12,458	12,980	13,013	11,783	13,048	12,563	12,799	12,206	12,357	12,331	125,538
Total All	93,645	97,275	97,509	88,238	97,776	94,377	97,030	93,435	95,068	94,828	949,181

2018-19 Customer Charge

	S&T Nov-18	S&T Dec-18	S&T Jan-19	S&T Feb-19	S&T Mar-19	S&T Apr-19	S&T May-19	S&T Jun-19	S&T Jul-19	S&T Aug-19
R-1	\$ 15.02	\$ 15.02	\$ 15.02	\$ 15.02	\$ 15.02	\$ 15.02	\$ 15.02	\$ 15.02	\$ 15.20	\$ 15.20
R-3	\$ 15.02	\$ 15.02	\$ 15.02	\$ 15.02	\$ 15.02	\$ 15.02	\$ 15.02	\$ 15.02	\$ 15.20	\$ 15.20
R-4	\$ 15.02	\$ 15.02	\$ 15.02	\$ 15.02	\$ 15.02	\$ 15.02	\$ 15.02	\$ 15.02	\$ 15.20	\$ 15.20
G-41	\$ 55.68	\$ 55.68	\$ 55.68	\$ 55.68	\$ 55.68	\$ 55.68	\$ 55.68	\$ 55.68	\$ 56.36	\$ 56.36
G-42	\$ 167.06	\$ 167.06	\$ 167.06	\$ 167.06	\$ 167.06	\$ 167.06	\$ 167.06	\$ 167.06	\$ 169.09	\$ 169.09
G-43	\$ 716.95	\$ 716.95	\$ 716.95	\$ 716.95	\$ 716.95	\$ 716.95	\$ 716.95	\$ 716.95	\$ 725.66	\$ 725.66
G-51	\$ 55.68	\$ 55.68	\$ 55.68	\$ 55.68	\$ 55.68	\$ 55.68	\$ 55.68	\$ 55.68	\$ 56.36	\$ 56.36
G-52	\$ 167.06	\$ 167.06	\$ 167.06	\$ 167.06	\$ 167.06	\$ 167.06	\$ 167.06	\$ 167.06	\$ 169.09	\$ 169.09
G-53	\$ 737.84	\$ 737.84	\$ 737.84	\$ 737.84	\$ 737.84	\$ 737.84	\$ 737.84	\$ 737.84	\$ 746.81	\$ 746.81
G-54	\$ 737.84	\$ 737.84	\$ 737.84	\$ 737.84	\$ 737.84	\$ 737.84	\$ 737.84	\$ 737.84	\$ 746.81	\$ 746.81

2018-19 Customer Revenue

	S&T Nov-18	S&T Dec-18	S&T Jan-19	S&T Feb-19	S&T Mar-19	S&T Apr-19	S&T May-19	S&T Jun-19	S&T Jul-19	S&T Aug-19	S&T Total
R-1	\$ 52,451	\$ 54,183	\$ 54,237	\$ 48,932	\$ 54,202	\$ 52,404	\$ 54,158	\$ 52,291	\$ 54,337	\$ 54,511	\$ 531,706
R-3	\$ 1,077,733	\$ 1,118,817	\$ 1,121,723	\$ 1,015,408	\$ 1,125,820	\$ 1,088,293	\$ 1,121,628	\$ 1,082,561	\$ 1,115,259	\$ 1,113,383	\$ 10,980,626
R-4	\$ 89,344	\$ 93,209	\$ 93,275	\$ 84,110	\$ 92,684	\$ 88,256	\$ 89,469	\$ 85,305	\$ 87,820	\$ 86,280	\$ 889,752
Total Resid.	\$ 1,219,528	\$ 1,266,209	\$ 1,269,235	\$ 1,148,451	\$ 1,272,707	\$ 1,228,953	\$ 1,265,255	\$ 1,220,157	\$ 1,257,416	\$ 1,254,174	\$ 12,402,084
G-41	\$ 516,704	\$ 539,197	\$ 540,996	\$ 490,224	\$ 542,960	\$ 522,584	\$ 530,418	\$ 503,568	\$ 514,272	\$ 513,073	\$ 5,213,997
G-42	\$ 231,832	\$ 240,418	\$ 240,749	\$ 217,679	\$ 240,952	\$ 231,472	\$ 238,317	\$ 229,739	\$ 245,475	\$ 239,235	\$ 2,355,869
G-43	\$ 40,556	\$ 43,304	\$ 42,969	\$ 38,811	\$ 42,396	\$ 40,269	\$ 41,488	\$ 40,197	\$ 39,936	\$ 40,516	\$ 410,440
G-51	\$ 71,870	\$ 74,564	\$ 74,618	\$ 67,331	\$ 74,547	\$ 71,945	\$ 73,937	\$ 71,542	\$ 71,094	\$ 73,141	\$ 724,589
G-52	\$ 63,104	\$ 65,238	\$ 65,181	\$ 58,861	\$ 65,493	\$ 63,728	\$ 66,163	\$ 64,122	\$ 67,035	\$ 66,091	\$ 645,016
G-53	\$ 27,300	\$ 27,718	\$ 27,447	\$ 24,791	\$ 26,095	\$ 25,455	\$ 26,587	\$ 25,751	\$ 28,553	\$ 28,553	\$ 268,250
G-54	\$ 21,397	\$ 22,110	\$ 21,709	\$ 19,954	\$ 22,110	\$ 20,782	\$ 21,348	\$ 20,659	\$ 21,608	\$ 21,608	\$ 213,286
Total C/I	\$ 972,763	\$ 1,012,550	\$ 1,013,668	\$ 917,652	\$ 1,014,553	\$ 976,236	\$ 998,257	\$ 955,579	\$ 987,972	\$ 982,217	\$ 9,831,448
Total All	\$ 2,192,291	\$ 2,278,759	\$ 2,282,903	\$ 2,066,103	\$ 2,287,260	\$ 2,205,189	\$ 2,263,512	\$ 2,175,736	\$ 2,245,388	\$ 2,236,391	\$ 22,233,532

Liberty Utilities (Energy North Natural Gas) Corp. d/b/a Liberty Utilities
Revenue Decoupling Adjustment Factor (RDAF)
Allowed Base Revenue based on the formula in the tariff

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ENERGY COMPONENT

HEADBLOCK

2018-19 Decoupling Year Volume Headblock

	S&T Nov-18	S&T Dec-18	S&T Jan-19	S&T Feb-19	S&T Mar-19	S&T Apr-19	S&T May-19	S&T Jun-19	S&T Jul-18	S&T Aug-18	S&T Total
R-1	66,792	87,822	99,362	85,620	83,304	65,051	51,933	39,449	32,291	32,765	644,390
R-3	6,221,642	9,273,573	10,904,070	9,354,740	7,899,041	4,508,297	2,467,008	1,285,515	990,721	989,518	53,894,124
R-4	491,772	735,019	873,656	741,408	632,293	360,273	194,913	104,523	79,984	78,607	4,292,449
Total Resid.	6,780,206	10,096,414	11,877,089	10,181,768	8,614,637	4,933,621	2,713,854	1,429,487	1,102,997	1,100,890	58,830,964
G-41	698,491	844,909	926,015	786,563	812,716	565,676	193,382	74,324	57,111	57,590	5,016,777
G-42	1,241,023	1,392,453	1,480,285	1,260,544	1,375,171	1,112,472	572,704	309,194	259,160	258,160	9,261,165
G-43	1,170,879	1,560,031	1,880,532	1,588,205	1,421,586	921,228	605,797	357,158	250,469	286,023	10,041,907
G-51	89,144	92,287	99,291	84,728	92,222	85,981	84,523	78,530	74,698	80,167	861,572
G-52	367,555	376,179	397,277	337,304	372,033	351,543	342,439	318,213	318,801	332,043	3,513,388
G-53	931,915	1,052,819	1,326,395	1,075,500	1,041,483	836,257	775,207	663,591	645,678	699,787	9,048,631
G-54	1,738,724	1,395,308	1,366,276	1,273,105	1,248,999	1,368,406	1,679,230	1,659,707	1,578,597	1,678,114	14,986,466
Total C/I	6,237,730	6,713,985	7,476,072	6,405,948	6,364,211	5,241,563	4,253,283	3,460,715	3,184,514	3,391,883	52,729,905
Total All	13,017,936	16,810,400	19,353,161	16,587,717	14,978,848	10,175,185	6,967,137	4,890,202	4,287,510	4,492,773	111,560,869

2018-19 Headblock Charge

	S&T Nov-18	S&T Dec-18	S&T Jan-19	S&T Feb-19	S&T Mar-19	S&T Apr-19	S&T May-19	S&T Jun-19	S&T Jul-19	S&T Aug-19
R-1	\$ 0.3741	\$ 0.3741	\$ 0.3741	\$ 0.3741	\$ 0.3741	\$ 0.3741	\$ 0.3741	\$ 0.3741	\$ 0.3786	\$ 0.3786
R-3	\$ 0.5502	\$ 0.5502	\$ 0.5502	\$ 0.5502	\$ 0.5502	\$ 0.5502	\$ 0.5502	\$ 0.5502	\$ 0.5569	\$ 0.5569
R-4	\$ 0.5502	\$ 0.5502	\$ 0.5502	\$ 0.5502	\$ 0.5502	\$ 0.5502	\$ 0.5502	\$ 0.5502	\$ 0.5569	\$ 0.5569
G-41	\$ 0.4566	\$ 0.4566	\$ 0.4566	\$ 0.4566	\$ 0.4566	\$ 0.4566	\$ 0.4566	\$ 0.4566	\$ 0.4621	\$ 0.4621
G-42	\$ 0.4152	\$ 0.4152	\$ 0.4152	\$ 0.4152	\$ 0.4152	\$ 0.4152	\$ 0.4152	\$ 0.4152	\$ 0.4202	\$ 0.4202
G-43	\$ 0.2552	\$ 0.2552	\$ 0.2552	\$ 0.2552	\$ 0.2552	\$ 0.2552	\$ 0.1167	\$ 0.1167	\$ 0.1181	\$ 0.1181
G-51	\$ 0.2752	\$ 0.2752	\$ 0.2752	\$ 0.2752	\$ 0.2752	\$ 0.2752	\$ 0.2752	\$ 0.2752	\$ 0.2785	\$ 0.2785
G-52	\$ 0.2363	\$ 0.2363	\$ 0.2363	\$ 0.2363	\$ 0.2363	\$ 0.2363	\$ 0.1712	\$ 0.1712	\$ 0.1733	\$ 0.1733
G-53	\$ 0.1652	\$ 0.1652	\$ 0.1652	\$ 0.1652	\$ 0.1652	\$ 0.1652	\$ 0.0792	\$ 0.0792	\$ 0.0802	\$ 0.0802
G-54	\$ 0.0630	\$ 0.0630	\$ 0.0630	\$ 0.0630	\$ 0.0630	\$ 0.0630	\$ 0.0342	\$ 0.0342	\$ 0.0346	\$ 0.0346

2018-19 Decoupling Year Volume Headblock Revenue

	S&T Nov-18	S&T Dec-18	S&T Jan-19	S&T Feb-19	S&T Mar-19	S&T Apr-19	S&T May-19	S&T Jun-19	S&T Jul-19	S&T Aug-19	S&T Total
R-1	\$ 24,988	\$ 32,856	\$ 37,173	\$ 32,032	\$ 31,165	\$ 24,337	\$ 19,429	\$ 14,759	\$ 12,227	\$ 12,406	\$ 241,372
R-3	\$ 3,422,977	\$ 5,102,066	\$ 5,999,121	\$ 5,146,722	\$ 4,345,836	\$ 2,480,341	\$ 1,357,280	\$ 707,255	\$ 551,719	\$ 551,049	\$ 29,664,365
R-4	\$ 270,560	\$ 404,388	\$ 480,662	\$ 407,903	\$ 347,870	\$ 198,212	\$ 107,236	\$ 57,505	\$ 44,542	\$ 43,775	\$ 2,362,653
Total Resid.	\$ 3,718,524	\$ 5,539,309	\$ 6,516,956	\$ 5,586,656	\$ 4,724,871	\$ 2,702,891	\$ 1,483,945	\$ 779,519	\$ 608,488	\$ 607,230	\$ 32,268,390
G-41	\$ 318,926	\$ 385,779	\$ 422,812	\$ 359,139	\$ 371,080	\$ 258,283	\$ 88,297	\$ 33,936	\$ 26,394	\$ 26,615	\$ 2,291,261
G-42	\$ 515,277	\$ 578,151	\$ 614,620	\$ 523,383	\$ 570,976	\$ 461,902	\$ 237,789	\$ 128,378	\$ 108,911	\$ 108,490	\$ 3,847,878
G-43	\$ 298,807	\$ 398,119	\$ 479,911	\$ 405,309	\$ 362,788	\$ 235,097	\$ 70,695	\$ 41,679	\$ 29,585	\$ 33,784	\$ 2,355,774
G-51	\$ 24,531	\$ 25,396	\$ 27,324	\$ 23,316	\$ 25,378	\$ 23,661	\$ 23,260	\$ 21,610	\$ 20,807	\$ 22,330	\$ 237,614
G-52	\$ 86,861	\$ 88,899	\$ 93,885	\$ 79,712	\$ 87,920	\$ 83,077	\$ 58,629	\$ 54,481	\$ 55,242	\$ 57,537	\$ 746,244
G-53	\$ 153,908	\$ 173,876	\$ 219,058	\$ 177,622	\$ 172,004	\$ 138,110	\$ 61,431	\$ 52,586	\$ 51,759	\$ 56,097	\$ 1,256,451
G-54	\$ 109,526	\$ 87,894	\$ 86,065	\$ 80,196	\$ 78,677	\$ 86,199	\$ 57,466	\$ 56,798	\$ 54,644	\$ 58,089	\$ 755,554
Total C/I	\$ 1,507,838	\$ 1,738,115	\$ 1,943,674	\$ 1,648,676	\$ 1,668,823	\$ 1,286,330	\$ 597,566	\$ 389,469	\$ 347,342	\$ 362,942	\$ 11,490,775
Total All	\$ 5,226,362	\$ 7,277,424	\$ 8,460,629	\$ 7,235,332	\$ 6,393,695	\$ 3,989,221	\$ 2,081,511	\$ 1,168,988	\$ 955,830	\$ 970,173	\$ 43,759,165

Liberty Utilities (Energy North Natural Gas) Corp. d/b/a Liberty Utilities
Revenue Decoupling Adjustment Factor (RDAF)
Allowed Base Revenue based on the formula in the tariff

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TAILBLOCK

2018-19 Decoupling Year Volume Tailblock

	2	S&T Nov-18	S&T Dec-18	S&T Jan-19	S&T Feb-19	S&T Mar-19	S&T Apr-19	S&T May-19	S&T Jun-19	S&T Jul-18	S&T Aug-18	S&T Total
R-1		-	-	-	-	-	-	-	-	-	-	-
R-3		-	-	-	-	-	-	-	-	-	-	-
R-4		-	-	-	-	-	-	-	-	-	-	-
Total Resid.		-	-	-	-	-	-	-	-	-	-	-
G-41		1,938,614	3,343,950	4,166,822	3,576,457	2,740,654	1,255,821	668,596	279,273	188,281	175,600	18,334,069
G-42		2,451,369	4,101,210	4,969,759	4,330,009	3,389,239	1,645,906	909,929	385,250	248,064	272,512	22,703,247
G-43		-	-	-	-	-	-	-	-	-	-	-
G-51		263,711	349,540	410,409	357,324	332,444	250,801	213,310	170,693	144,292	154,724	2,647,248
G-52		488,052	651,357	760,745	660,694	606,499	430,589	314,228	245,164	222,157	241,924	4,621,407
G-53		-	-	-	-	-	-	-	-	-	-	-
G-54		-	-	-	-	-	-	-	-	-	-	-
Total C/I		5,141,746	8,446,056	10,307,734	8,924,483	7,068,836	3,583,117	2,106,064	1,080,380	802,794	844,759	48,305,971
Total All		5,141,746	8,446,056	10,307,734	8,924,483	7,068,836	3,583,117	2,106,064	1,080,380	802,794	844,759	48,305,971

2018-19 Tailblock Charge

		S&T Nov-18	S&T Dec-18	S&T Jan-19	S&T Feb-19	S&T Mar-19	S&T Apr-19	S&T May-19	S&T Jun-19	S&T Jul-19	S&T Aug-19
R-1	\$	0.3741	\$ 0.3741	\$ 0.3741	\$ 0.3741	\$ 0.3741	\$ 0.3741	\$ 0.3741	\$ 0.3741	\$ 0.3786	\$ 0.3786
R-3	\$	0.5502	\$ 0.5502	\$ 0.5502	\$ 0.5502	\$ 0.5502	\$ 0.5502	\$ 0.5502	\$ 0.5502	\$ 0.5569	\$ 0.5569
R-4	\$	0.2201	\$ 0.2201	\$ 0.2201	\$ 0.2201	\$ 0.2201	\$ 0.2201	\$ 0.2201	\$ 0.2201	\$ 0.2228	\$ 0.2228
G-41	\$	0.3067	\$ 0.3067	\$ 0.3067	\$ 0.3067	\$ 0.3067	\$ 0.3067	\$ 0.3067	\$ 0.3067	\$ 0.3104	\$ 0.3104
G-42	\$	0.2766	\$ 0.2766	\$ 0.2766	\$ 0.2766	\$ 0.2766	\$ 0.2766	\$ 0.2766	\$ 0.2766	\$ 0.2800	\$ 0.2800
G-43	\$	0.2552	\$ 0.2552	\$ 0.2552	\$ 0.2552	\$ 0.2552	\$ 0.2552	\$ 0.2552	\$ 0.1167	\$ 0.1181	\$ 0.1181
G-51	\$	0.1789	\$ 0.1789	\$ 0.1789	\$ 0.1789	\$ 0.1789	\$ 0.1789	\$ 0.1789	\$ 0.1789	\$ 0.1811	\$ 0.1811
G-52	\$	0.1574	\$ 0.1574	\$ 0.1574	\$ 0.1574	\$ 0.1574	\$ 0.1574	\$ 0.0973	\$ 0.0973	\$ 0.0985	\$ 0.0985
G-53	\$	0.1652	\$ 0.1652	\$ 0.1652	\$ 0.1652	\$ 0.1652	\$ 0.1652	\$ 0.0792	\$ 0.0792	\$ 0.0802	\$ 0.0802
G-54	\$	0.0630	\$ 0.0630	\$ 0.0630	\$ 0.0630	\$ 0.0630	\$ 0.0630	\$ 0.0342	\$ 0.0342	\$ 0.0346	\$ 0.0346

2018-19 Decoupling Year Volume Tailblock Revenue

		S&T Nov-18	S&T Dec-18	S&T Jan-19	S&T Feb-19	S&T Mar-19	S&T Apr-19	S&T May-19	S&T Jun-19	S&T Jul-19	S&T Aug-19	S&T Total
R-1	\$	-	\$ -	-	\$ -	-	\$ -	-	\$ -	-	\$ -	-
R-3	\$	-	\$ -	-	\$ -	-	\$ -	-	\$ -	-	\$ -	-
R-4	\$	-	\$ -	-	\$ -	-	\$ -	-	\$ -	-	\$ -	-
Total Resid.	\$	-	\$ -	-	\$ -	-	\$ -	-	\$ -	-	\$ -	-
G-41	\$	594,541	\$ 1,025,534	\$ 1,277,895	\$ 1,096,840	\$ 840,513	\$ 385,139	\$ 205,047	\$ 85,648	\$ 58,448	\$ 54,511	\$ 5,624,116
G-42	\$	678,050	\$ 1,134,397	\$ 1,374,638	\$ 1,197,683	\$ 937,465	\$ 455,258	\$ 251,687	\$ 106,560	\$ 69,448	\$ 76,293	\$ 6,281,480
G-43	\$	-	\$ -	-	\$ -	-	\$ -	-	\$ -	-	\$ -	-
G-51	\$	47,173	\$ 62,526	\$ 73,415	\$ 63,919	\$ 59,468	\$ 44,864	\$ 38,157	\$ 30,534	\$ 26,128	\$ 28,017	\$ 474,200
G-52	\$	76,809	\$ 102,510	\$ 119,726	\$ 103,980	\$ 95,451	\$ 67,766	\$ 30,579	\$ 23,858	\$ 21,879	\$ 23,825	\$ 666,383
G-53	\$	-	\$ -	-	\$ -	-	\$ -	-	\$ -	-	\$ -	-
G-54	\$	-	\$ -	-	\$ -	-	\$ -	-	\$ -	-	\$ -	-
Total C/I	\$	1,396,573	\$ 2,324,967	\$ 2,845,673	\$ 2,462,421	\$ 1,932,897	\$ 953,028	\$ 525,471	\$ 246,601	\$ 175,902	\$ 182,645	\$ 13,046,179
Total All	\$	1,396,573	\$ 2,324,967	\$ 2,845,673	\$ 2,462,421	\$ 1,932,897	\$ 953,028	\$ 525,471	\$ 246,601	\$ 175,902	\$ 182,645	\$ 13,046,179

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Liberty Utilities (Energy North Natural Gas) Corp. d/b/a Liberty Utilities
Revenue Decoupling Adjustment Factor (RDAF)
Allowed Base Revenue based on the formula in the tariff

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HEADBLOCK + TAILBLOCK

2018-19 Decoupling Year Volume Headblock + Tailblock

	S&T Nov-18	S&T Dec-18	S&T Jan-19	S&T Feb-19	S&T Mar-19	S&T Apr-19	S&T May-19	S&T Jun-19	S&T Jul-18	S&T Aug-18	S&T Total
R-1	66,792	87,822	99,362	85,620	83,304	65,051	51,933	39,449	32,291	32,765	644,390
R-3	6,221,642	9,273,573	10,904,070	9,354,740	7,899,041	4,508,297	2,467,008	1,285,515	990,721	989,518	53,894,124
R-4	491,772	735,019	873,656	741,408	632,293	360,273	194,913	104,523	79,984	78,607	4,292,449
Total Resid.	6,780,206	10,096,414	11,877,089	10,181,768	8,614,637	4,933,621	2,713,854	1,429,487	1,102,997	1,100,890	58,830,964
G-41	2,637,105	4,188,859	5,092,837	4,363,020	3,553,370	1,821,497	861,978	353,597	245,393	233,190	23,350,846
G-42	3,692,391	5,493,662	6,450,044	5,590,553	4,764,411	2,758,378	1,482,633	694,444	507,224	530,672	31,964,413
G-43	1,170,879	1,560,031	1,880,532	1,588,205	1,421,586	921,228	605,797	357,158	250,469	286,023	10,041,907
G-51	352,855	441,827	509,700	442,052	424,666	336,783	297,833	249,223	218,990	234,891	3,508,820
G-52	855,608	1,027,535	1,158,022	997,997	978,532	782,132	656,667	563,376	540,958	573,966	8,134,795
G-53	931,915	1,052,819	1,326,395	1,075,500	1,041,483	836,257	775,207	663,591	645,678	699,787	9,048,631
G-54	1,738,724	1,395,308	1,366,276	1,273,105	1,248,999	1,368,406	1,679,230	1,659,707	1,578,597	1,678,114	14,986,466
Total C/I	11,379,477	15,160,041	17,783,806	15,330,432	13,433,046	8,824,681	6,359,347	4,541,096	3,987,308	4,236,643	101,035,876
Total All	18,159,682	25,256,456	29,660,895	25,512,200	22,047,684	13,758,302	9,073,201	5,970,583	5,090,305	5,337,533	159,866,840

2018-19 Decoupling Year Volume Headblock + Tailblock Revenue

	S&T Nov-18	S&T Dec-18	S&T Jan-19	S&T Feb-19	S&T Mar-19	S&T Apr-19	S&T May-19	S&T Jun-19	S&T Jul-19	S&T Aug-19	S&T Total
R-1	\$ 24,988	\$ 32,856	\$ 37,173	\$ 32,032	\$ 31,165	\$ 24,337	\$ 19,429	\$ 14,759	\$ 12,227	\$ 12,406	\$ 241,372
R-3	\$ 3,422,977	\$ 5,102,066	\$ 5,999,121	\$ 5,146,722	\$ 4,345,836	\$ 2,480,341	\$ 1,357,280	\$ 707,255	\$ 551,719	\$ 551,049	\$ 29,664,365
R-4	\$ 270,560	\$ 404,388	\$ 480,662	\$ 407,903	\$ 347,870	\$ 198,212	\$ 107,236	\$ 57,505	\$ 44,542	\$ 43,775	\$ 2,362,653
Total Resid.	\$ 3,718,524	\$ 5,539,309	\$ 6,516,956	\$ 5,586,656	\$ 4,724,871	\$ 2,702,891	\$ 1,483,945	\$ 779,519	\$ 608,488	\$ 607,230	\$ 32,268,390
G-41	\$ 913,467	\$ 1,411,313	\$ 1,700,707	\$ 1,455,979	\$ 1,211,593	\$ 643,423	\$ 293,344	\$ 119,584	\$ 84,842	\$ 81,126	\$ 7,915,378
G-42	\$ 1,193,327	\$ 1,712,548	\$ 1,989,258	\$ 1,721,065	\$ 1,508,442	\$ 917,161	\$ 489,476	\$ 234,939	\$ 178,359	\$ 184,783	\$ 10,129,358
G-43	\$ 298,807	\$ 398,119	\$ 479,911	\$ 405,309	\$ 362,788	\$ 235,097	\$ 70,695	\$ 41,679	\$ 29,585	\$ 33,784	\$ 2,355,774
G-51	\$ 71,704	\$ 87,923	\$ 100,738	\$ 87,235	\$ 84,847	\$ 68,525	\$ 61,417	\$ 52,144	\$ 46,934	\$ 50,346	\$ 711,813
G-52	\$ 163,671	\$ 191,410	\$ 213,611	\$ 183,692	\$ 183,370	\$ 150,843	\$ 89,208	\$ 78,339	\$ 77,120	\$ 81,362	\$ 1,412,626
G-53	\$ 153,908	\$ 173,876	\$ 219,058	\$ 177,622	\$ 172,004	\$ 138,110	\$ 61,431	\$ 52,586	\$ 51,759	\$ 56,097	\$ 1,256,451
G-54	\$ 109,526	\$ 87,894	\$ 86,065	\$ 80,196	\$ 78,677	\$ 86,199	\$ 57,466	\$ 56,798	\$ 54,644	\$ 58,089	\$ 755,554
Total C/I	\$ 2,904,411	\$ 4,063,082	\$ 4,789,347	\$ 4,111,097	\$ 3,601,720	\$ 2,239,358	\$ 1,123,037	\$ 636,070	\$ 523,244	\$ 545,588	\$ 24,536,954
Total All	\$ 6,622,935	\$ 9,602,391	\$ 11,306,303	\$ 9,697,754	\$ 8,326,592	\$ 4,942,248	\$ 2,606,982	\$ 1,415,589	\$ 1,131,732	\$ 1,152,818	\$ 56,805,344

TOTAL REVENUE

2018-19 Decoupling Year Base Revenue

	S&T Nov-18	S&T Dec-18	S&T Jan-19	S&T Feb-19	S&T Mar-19	S&T Apr-19	S&T May-19	S&T Jun-19	S&T Jul-19	S&T Aug-19	S&T Total
R-1	\$ 77,439	\$ 87,039	\$ 91,410	\$ 80,964	\$ 85,368	\$ 76,741	\$ 73,587	\$ 67,049	\$ 66,563	\$ 66,917	\$ 773,078
R-3	\$ 4,500,710	\$ 6,220,883	\$ 7,120,844	\$ 6,162,130	\$ 5,471,656	\$ 3,568,634	\$ 2,478,908	\$ 1,789,816	\$ 1,666,978	\$ 1,664,432	\$ 40,644,991
R-4	\$ 359,903	\$ 497,596	\$ 573,936	\$ 492,013	\$ 440,554	\$ 286,468	\$ 196,705	\$ 142,811	\$ 132,362	\$ 130,055	\$ 3,252,404
Total Resid.	\$ 4,938,052	\$ 6,805,518	\$ 7,786,191	\$ 6,735,107	\$ 5,997,578	\$ 3,931,843	\$ 2,749,200	\$ 1,999,677	\$ 1,865,904	\$ 1,861,400	\$ 44,670,474
G-41	\$ 1,430,171	\$ 1,950,510	\$ 2,241,703	\$ 1,946,203	\$ 1,754,553	\$ 1,166,007	\$ 823,762	\$ 623,152	\$ 599,114	\$ 594,200	\$ 13,129,375
G-42	\$ 1,425,159	\$ 1,952,967	\$ 2,230,006	\$ 1,938,744	\$ 1,749,393	\$ 1,148,633	\$ 727,793	\$ 464,678	\$ 423,835	\$ 424,018	\$ 12,485,227
G-43	\$ 339,363	\$ 441,423	\$ 522,880	\$ 444,120	\$ 405,183	\$ 275,366	\$ 112,182	\$ 81,876	\$ 69,520	\$ 74,301	\$ 2,766,214
G-51	\$ 143,575	\$ 162,487	\$ 175,356	\$ 154,566	\$ 159,394	\$ 140,470	\$ 135,354	\$ 123,686	\$ 118,028	\$ 123,487	\$ 1,436,403
G-52	\$ 226,775	\$ 256,647	\$ 278,792	\$ 242,553	\$ 248,864	\$ 214,572	\$ 155,371	\$ 142,461	\$ 144,155	\$ 147,453	\$ 2,057,643
G-53	\$ 181,208	\$ 201,594	\$ 246,505	\$ 202,413	\$ 198,099	\$ 163,565	\$ 88,018	\$ 78,337	\$ 80,312	\$ 84,650	\$ 1,524,700
G-54	\$ 130,923	\$ 110,004	\$ 107,773	\$ 100,150	\$ 100,788	\$ 106,981	\$ 78,814	\$ 77,458	\$ 76,252	\$ 79,697	\$ 968,840
Total C/I	\$ 3,877,174	\$ 5,075,631	\$ 5,803,015	\$ 5,028,749	\$ 4,616,274	\$ 3,215,593	\$ 2,121,294	\$ 1,591,649	\$ 1,511,216	\$ 1,527,805	\$ 34,368,401
Total All	\$ 8,815,226	\$ 11,881,150	\$ 13,589,206	\$ 11,763,856	\$ 10,613,852	\$ 7,147,437	\$ 4,870,494	\$ 3,591,326	\$ 3,377,119	\$ 3,389,209	\$ 79,038,875

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