

REDACTED

**STATE OF NEW HAMPSHIRE
BEFORE THE
PUBLIC UTILITIES COMMISSION**

Docket No. DG 22-045

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

Winter 2022/2023 Cost of Gas
Summer 2023 Cost of Gas

**DIRECT TESTIMONY
OF
HEATHER M. TEBBETTS**

September 1, 2022



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1 **I. INTRODUCTION**

2 **Q. Please state your full name and business address.**

3 A. My name is Heather M. Tebbetts, my business address is 15 Buttrick Road, Londonderry,
4 New Hampshire, and I am employed by LUSC. I am the Director of Business
5 Development and in this role I am responsible for strategic growth and technology
6 opportunities for New Hampshire.

7 **Q. Please describe your educational background and your business and professional**
8 **experience.**

9 A. I graduated from Franklin Pierce University in 2004 with a Bachelor of Science degree in
10 Finance. I received a Master's of Business Administration from Southern New
11 Hampshire University in 2007. I joined Liberty in October 2014. Prior to my
12 employment at Liberty, I was employed by PSNH as a Senior Analyst in NH Revenue
13 Requirements from 2010 to 2014. Prior to my position in NH Revenue Requirements, I
14 was a Staff Accountant in PSNH's Property Tax group from 2007 to 2010 and a
15 Customer Service Representative III in PSNH's Customer Service Department from 2004
16 to 2007.

17 **Q. Ms. Tebbetts, have you previously testified in regulatory proceedings before the**
18 **New Hampshire Public Utilities Commission (the "Commission")?**

19 A. Yes, I have.

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

2 A. The purpose of my testimony is to explain the Company's updated proposed firm sales
3 cost of gas rates for the 2022/2023 Winter (Peak) Period and 2023 Summer (Off-Peak)
4 Period.

5 **II. WINTER 2022/2023 COST OF GAS FACTOR**

6 **Q. What are the proposed firm Winter sales and firm transportation cost of gas rates?**

7 A. The Company proposes a firm sales cost of gas rate of \$1.7335 per therm for residential
8 customers, \$1.7336 per therm for commercial/industrial high winter use customers, and
9 \$1.7331 per therm for commercial/industrial low winter use customers as shown on
10 Proposed Seventh Revised Page 95. The Company proposes a firm transportation cost of
11 gas rate of \$0.0098 per therm as shown on Proposed Second Revised Page 98.

12 **Q. Please explain tariff page Proposed Seventh Revised Page 95.**

13 A. Proposed Seventh Revised Page 95, contains the calculation of the 2022/2023 Winter
14 Period Cost of Gas Rate and summarizes the Company's forecast of firm gas costs and
15 firm gas sales. As shown on Page 95, the proposed 2022/2023 Average Cost of Gas of
16 \$1.7335 per therm is derived by adding the Direct Cost of Gas Rate of \$1.6754 per therm
17 to the Indirect Cost of Gas Rate of \$0.0581 per therm. The estimated total Anticipated
18 Direct Cost of Gas, derived on Proposed Seventh Revised Page 95, is \$155,443,989. The
19 estimated Indirect Cost of Gas, also derived on Page 95, is \$5,391,889. The Direct Cost
20 of Gas Rate of \$1.6754 and the Indirect Cost of Gas Rate of \$0.0581 are determined by
21 dividing each of these total cost figures by the projected winter period firm sales volumes
22 of 92,780,984 therms.

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1 To calculate the total Anticipated Direct Cost of Gas, the Company adds a list of
 2 allowable adjustments from deferred gas cost accounts to the projected demand and
 3 commodity costs for the winter period supply portfolio. These allowable adjustments,
 4 shown on Proposed Second Revised Page 96, total \$2,514,711. These adjustments are
 5 added to the Unadjusted Anticipated Cost of Gas of \$152,929,278 to determine the Total
 6 Anticipated Direct Cost of Gas of \$155,443,989.

7 **Q. What are the components of the Unadjusted Anticipated Cost of Gas?**

8 A. The Unadjusted Anticipated Cost of Gas shown on Proposed Second Page 96 consists of
 9 the following components:

10	1.	Purchased Gas Demand Costs	\$11,510,320
11	2.	Purchased Gas Commodity Costs	121,326,019
12	3.	Storage Demand and Capacity Costs	999,899
13	4.	Storage Commodity Costs	12,469,948
14	5.	Produced Gas Cost	12,645,303
15		Hedge Underground Storage Contract (saving)/Loss	<u>(6,022,210)</u>
16		Total	<u>\$152,929,278</u>

17 **Q. What are the components of the allowable adjustments to the Cost of Gas?**

18 A. The allowable adjustments to gas costs, listed on Proposed Second Revised Page 96, are
 19 as follows:

20	1.	Deferred Gas Cost Prior Period Under Collection	\$4,089,654
21	2.	Interest	(48,335)
22	3.	Fuel Inventory Revenue Requirement	515,609
23	4.	Broker Revenues	(3,600)
24	5.	Transportation COG Revenue	(422,021)
25	6.	Capacity Release Margin	(1,676,512)
26	7.	Fixed Price Administrative Cost	<u>59,917</u>
27		Total Adjustments	<u>\$2,514,711</u>

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1 These allowable adjustments are standard adjustments made to the deferred gas cost
 2 balance through the operation of the Company’s cost of gas adjustment clause. We
 3 discuss the factors contributing to the prior period under-collection later in this testimony.

4 **Q. How does the proposed average cost of gas rate in this filing compared to the**
 5 **average cost of gas rate approved by the Commission in Docket No. DG 21-130 for**
 6 **the 2021/2022 winter period?**

7 A. The table below contains the comparison of the cost of gas rate approved in Docket No.
 8 DG 21-130, to the proposed rate in this filing.

	Rates Effective November 1, 2021 (Order No. 26,541)	November 1, 2022 Proposed Rate	Change	% Change
Residential – R3	\$1.1339	\$1.7335	\$0.5996	53%
C& I - G41	\$1.1341	\$1.7336	\$0.5995	53%
C&I - G42	\$1.1341	\$1.7336	\$0.5995	53%
C& I - G52	\$1.1324	\$1.7331	\$0.6007	53%

9

10 **Q. How does the proposed firm transportation winter cost of gas rate compare to the**
 11 **rate approved by the Commission for the 2020/2021 winter period?**

12 A. The proposed firm transportation winter cost of gas rate is \$0.0098 per therm. The rate
 13 approved in Docket No. DG 21-130 was \$0.0002 per therm. There is a \$0.0096 increase
 14 in the firm transportation rate. The increase is due to the increase in anticipated gas costs,

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1 due to market pricing. Market changes are discussed more in-depth in Ms. Gilbertson’s
 2 testimony in this docket.

	Rates Effective November 1, 2021 (Order No. 26,541)	November 1, 2022 Proposed Rate	Change	% Change
Transportation	\$0.0002	\$0.0098	\$0.0096	4800%

3

4 **Q. In the calculation of its firm transportation winter cost of gas rate, has the Company**
 5 **updated the estimated percentage used for pressure support purposes?**

6 A. No. The pressure support purposes rate of 8.7% stayed the same based on the marginal
 7 cost study used for the rate design approved in Docket No. DG 20-105.

8 **Q. Did the Company include a fuel inventory revenue requirement calculation in this**
 9 **filing?**

10 A. Yes. The calculation is provided on Schedule 26. The Company is proposing to collect
 11 \$515,609 in fuel inventory revenue requirement consistent with the approved rate of
 12 return in Order No. 26,505 (July 30, 2021) in Docket No. DG 20-105. The impact of this
 13 amount to the overall Cost of Gas rate is \$0.0056 per therm, which is determined by
 14 dividing the \$515,609 by the estimated November 2022 through April 2023 COG sales
 15 volumes of 92,780,984 therms.

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1 **Q. How was the statutory tax rate of 27.08% on Schedule 26 calculated?**

2 A. The statutory rate of 27.08% was calculated by using a 21% federal tax rate and a 7.7%
 3 tax rate for the State of New Hampshire ($0.21 + 0.077 - (0.21 \times 0.077) = 0.27083$).

4 **Q. How was the common equity pre-tax rate of 6.64% on Schedule 26 calculated?**

5 A. The common equity pre-tax rate of 6.64% was calculated by dividing the 9.30% rate of
 6 return on common equity, approved in Docket No. DG 20-105, by 0.72917 ($1 - 0.27083$)
 7 [statutory tax rate – see previous question] and multiplied by 52.00% (equity component
 8 of the capital structure approved in DG 20-105) [$0.093 / 0.72917 \times 0.5200 = 0.06664$].

9 **Q. Has the bad debt percentage in this filing of 0.86% changed from the bad debt
 10 percentage calculated in the Winter 2021/2022 Cost of Gas Reconciliation?**

11 A. Yes. The bad debt percentage of 0.86% used in this filing is the calculated rate for the
 12 period of May 2021–April 2022. The bad debt percentage that was calculated in the
 13 Winter 2021/2022 Cost of Gas Reconciliations for the period of May 2020–April 2021
 14 was 0.70%.

	Approved Rate Docket No. DG 21-130	Proposed Rate	Change
Bad Debt %	0.70%	0.86%	0.16%

15

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1 **Q. What was the actual weighted average firm sales cost of gas rate for the 2021/2022**
 2 **winter period?**

3 A. The weighted average cost of gas rate was \$0.8411 per therm. This was calculated by
 4 applying the actual monthly cost of gas rates for November 2021 through April 2022 to
 5 the monthly therm usage of an average residential heating customer using 621 therms for
 6 the six winter period months. Below is a table showing various rate classes and their
 7 change:

	Average COG Rate Winter 2021/2022	Proposed Rate	Change	% Change
Residential – R3	\$0.8411	\$1.7335	\$0.8924	106%
C& I - G41	\$0.8311	\$1.7336	\$0.9025	109%
C&I - G42	\$0.8432	\$1.7336	\$0.8904	106%
C& I - G52	\$0.8729	\$1.7331	\$0.8602	99%

8

9 **Q. What is the current percentage used to calculate the maximum increase in the Cost**
 10 **of Gas rate?**

11 A. The current percentage used to calculate the maximum allowed increase to the Cost of
 12 Gas rate is 25% for both the Winter and Summer period Cost of Gas rates.

1 **III. PRIOR WINTER PERIOD UNDER-COLLECTION**

2 **Q. Please explain the prior period under-collection of \$5,177,233.**

3 A. The prior period under-collection is detailed in the 2021/2022 winter period
4 reconciliation that was filed with the Commission on July 29, 2022. The \$5,177,233
5 under-collection is the sum of the deferred gas cost, bad debt, and working capital over-
6 and under-collection balances as of April 30, 2022. The under-collection was driven by
7 the lag in the timing of monthly cost of gas rate adjustments as compared to changes in
8 the underlying costs and a \$2,143,632 increase in costs that were charged to summer for
9 storage contracts that should have been charged to winter. This was found during the
10 preparation of the reconciliation by the Company.

11 **IV. FIXED PRICE OPTION**

12 **Q. Has the Company established a winter period fixed price pursuant to its Fixed Price
13 Option Program?**

14 A. Yes. Pursuant to Order No. 24,515 in Docket No. DG 05-127, the Fixed Price Option
15 Program (“FPO”) rates are set at \$0.0200 per therm higher than the initial proposed COG
16 rate. Proposed Second Revised Page 94 contains the FPO rate for the 2022/2023 winter
17 period, which is \$1.7535 per therm for residential customers. This compares to the FPO
18 rate approved for the 2021/2022 winter period of \$1.1539 per therm for residential
19 customers. This represents a \$0.5996 per therm or 52% increase in the residential FPO
20 rate. The total bill impact on the winter period bills for an average FPO heating customer
21 using 621 therms is an increase of approximately \$434.57 or 35% compared to last

1 winter's approved FPO rate. Schedule 23 contains the historical results of the FPO
2 program.

	Winter 2022/2023 FPO Bill Impact	Winter 2022/2023 Non-FPO Bill Impact
Residential - R3	\$434.57 or 35%	\$616.30 or 59%

3
4 **Q. Has the Company also updated its Company Allowance percentage for the period**
5 **November 2021 through October 2022 in accordance with Section 8 of the**
6 **Company's Delivery Terms and Conditions?**

7 A. Yes, in Schedule 25 the Company has recalculated its Company Allowance for the period
8 November 2022 through October 2023. The Company calculated the Company
9 Allowance of 2.5% based on sendout and throughput data for the twelve months ending
10 June 2022. The Company proposes to apply this recalculated Company Allowance to all
11 supplier deliveries beginning in November 2022.

12 **V. CUSTOMER BILL IMPACTS**

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

16 A. The bill impact analysis is presented in Schedule 8 of this filing. These bill impacts
17 reflect the implementation of the step increase approved in Docket No. DG 20-105
18 effective August 1, 2022, relating to the EnergyNorth distribution rate case. The bill

1 impacts also include the LDAC rates included in the September 1, 2022, filing. Below is
2 a summary of the total bill impacts of the proposed rates.

	Winter 2022/2023 Bill Impact	Summer 2023 Bill Impact	Annual Bill Impact
Residential - R3	\$616 or 59%	\$96 or 39%	\$713 or 55%
Residential - R3 FPO	\$434 or 35%	N/A	\$434 or 35%
Residential – R4 GAP	\$367 or 46%	N/A	\$367 or 46%
C& I - G41	\$1,891 or 68%	\$213 or 34%	\$2,104 or 62%
C&I - G42	\$16,652 or 71%	\$1,854 or 65%	\$18,507 or 70%
C& I - G52	\$14,864 or 109%	\$8906 or 85%	\$23,769 or 99%

3

4 **VI. OTHER TARIFF CHANGES**

5 **Q. Is the Company updating its Delivery Terms and Conditions in the filing?**

6 A. Yes. The Company is submitting Proposed Second Revised Page 153 relating to Supplier
7 Balancing and Peaking Demand Charges and Proposed Second Revised Page 154 relating
8 to Capacity Allocation.

9 **Q. Please describe the changes to tariff Page 153.**

10 A. In Proposed Second Revised Page 153, the Company is updating the Peaking Demand
11 Charge from \$54.72 per MMBtu of Peak MDQ to \$56.69 per MMBtu of Peak MDQ.
12 This calculation is also presented in Schedule 21.

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1 **Q. Please describe the changes to tariff Page 154.**

2 A. Proposed Second Revised Page 154 updates the Capacity Allocator percentages used to
3 allocate pipeline, storage, and local peaking capacity to high and low load factor
4 customers under the mandatory capacity assignment requirement for firm transportation
5 service. Schedule 22 contains the six-page worksheet that backs up the calculations for
6 the updated allocators.

7 **VII. SUMMER 2021 COST OF GAS FACTOR**

8 **Q. What are the proposed 2023 summer firm sales cost of gas rates?**

9 A. The Company proposes a firm sales cost of gas rate of \$1.0109 per therm for residential
10 customers, \$1.0111 per therm for commercial/industrial high winter use customers, and
11 \$1.0106 per therm for commercial/industrial low winter use customers as shown on
12 Proposed Fourth Revised Page 92.

13 **Q. Please explain tariff pages Proposed Third Revised Page 91 and Proposed Fourth
14 Revised Page 92.**

15 A. Proposed Third Revised Page 91 and Proposed Fourth Revised Page 92 contain the
16 calculation of the 2022 Summer Period Cost of Gas Rate and summarize the Company's
17 forecast of firm gas sales, firm gas sendout, and gas costs. On Proposed Fourth Revised
18 Page 92, the 2022 Average Cost of Gas of \$1.0109 per therm is derived by adding the
19 Direct Cost of Gas Rate of \$0.9544 per therm to the Indirect Cost of Gas Rate of
20 \$0.0565 per therm. The estimated total Anticipated Direct Cost of gas is \$22,570,412
21 and the estimated Indirect Cost of Gas is \$1,335,482. The Direct Cost of Gas Rate and
22 the Indirect Cost of Gas Rates are determined by dividing each of these total cost figures

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1 by the projected summer firm sales volumes of 23,648,905 therms. Proposed Fourth
2 Revised Page 92 further shows that the Residential Cost of Gas Rate of \$1.0109 per
3 therm is equal to the Average Cost of Gas for all firm sales customers. It also shows the
4 calculation of the Commercial/Industrial High Winter Use Cost of Gas Rate of \$1.0111
5 per therm and the Commercial/Industrial Low Winter Use Cost of Gas Rate of \$1.0106
6 per therm.

7 The calculation of the Anticipated Direct Cost of Gas is shown on Proposed Third
8 Revised Page 91. To derive the total Anticipated Direct Cost of Gas of \$22,570,412 the
9 Company starts with the Unadjusted Anticipated Cost of Gas of \$14,718,754 and adds
10 the Net Adjustment totaling \$7,851,658.

11 **Q. What are the components of the Unadjusted Anticipated Cost of Gas?**

12 A. The components of the unadjusted cost of gas can be found on the Off-Peak Summary
13 schedule, lines 9–23. The Unadjusted Anticipated Cost of Gas consists of the following:

14	1. Purchased Gas Demand Costs	\$3,233,514
15	2. Purchased Gas Supply Costs	11,326,100
16	3. Produced Gas Costs	<u>159,140</u>
17	Total Unadjusted Anticipated Cost of Gas	<u>\$14,718,754</u>

18 **Q. What are the components of the adjustments to the cost of gas?**

19 A. The components of the adjustments to the cost of gas can be found on the Off-Peak
20 Summary schedule, lines 25–40. The adjustments to gas costs, listed on Proposed Third
21 Revised Page 91 are as follows:

22	1. Prior Period (Over)/Under Collection	\$7,499,663
23	2. Interest	<u>351,995</u>

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1 Total Adjustments \$7,851,658

2 **Q. How does the proposed average Summer cost of gas rates in this filing compare to**
 3 **the cost of gas rates approved by Order No. 26,541, dated October 29, 2021, in**
 4 **Docket No. DG 21-130 for the 2022 Summer Period?**

5 A. See the table below.

	Rates Effective May 1, 2022 (Order No. 26,541)	Proposed Rate	Change	% Change
Residential – R3	\$0.5587	\$1.0109	\$0.4422	81%
C& I - G41	\$0.5593	\$1.0111	\$0.4518	81%
C&I - G42	\$0.5593	\$1.0111	\$0.4518	81%
C& I - G52	\$0.5580	\$1.0106	\$0.4422	81%

6

7 **Q. How does the proposed average Summer cost of gas rates in this filing compare to**
 8 **the cost of gas rates approved by Order No. 26,649 in Docket No. DG 21-130 for the**
 9 **2022 Summer Period?**

10 A. See the table below.

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	Per Order No. 26,649 (Jul. 15, 2022) in Docket No. DG 21-130	Proposed Rate	Change	% Change
Residential – R3	\$1.2295	\$1.0109	(\$0.2186)	-18%
C& I - G41	\$1.2303	\$1.0111	(\$0.2194)	-18%
C&I - G42	\$1.2303	\$1.0111	(\$0.2194)	-18%
C& I - G52	\$1.2284	\$1.0106	(\$0.2178)	-18%

1

2 **VIII. CONCLUSION**

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

4 **A. Yes, it does.**

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**DIRECT TESTIMONY
OF
DEBORAH M. GILBERTSON**

September 1, 2022



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

2 A. My name is Deborah M. Gilbertson. I am Senior Manager, Energy Procurement for
3 Liberty Utilities Service Corp. (“LUSC”), which provides services to Liberty Utilities
4 (EnergyNorth Natural Gas) Corp. (“Liberty” or “the Company”). My business address is
5 15 Buttrick Road, Londonderry, New Hampshire.

6 **Q. Please summarize your educational background and your business and professional**
7 **experience.**

8 A. I graduated from Bentley College in Waltham, Massachusetts, in 1996 with a Bachelor of
9 Science in Management. In 1997, I was hired by Texas Ohio Gas where I was employed
10 as a Transportation Analyst. In 1999, I joined Reliant Energy, located in Burlington,
11 Massachusetts, as an Operations Analyst. From 2000 to 2003, I was employed by Smart
12 Energy as a Sr. Energy Analyst. In 2004, I joined Keyspan Energy Trading as a Sr.
13 Resource Management Analyst, and from 2008 to 2011, I was employed by National
14 Grid as a Lead Analyst in the Project Management Office. In 2011, I was hired by LUSC
15 as a Natural Gas Scheduler and was promoted to Manager of Retail Choice in 2012. In
16 2016, I was promoted to Sr. Manager of Energy Procurement. In this capacity, I provide
17 gas procurement services to Liberty.

18 **Q. Have you previously testified in regulatory proceedings?**

19 A. Yes, I have testified before the New Hampshire Public Utilities Commission
20 (“Commission”) on prior occasions.

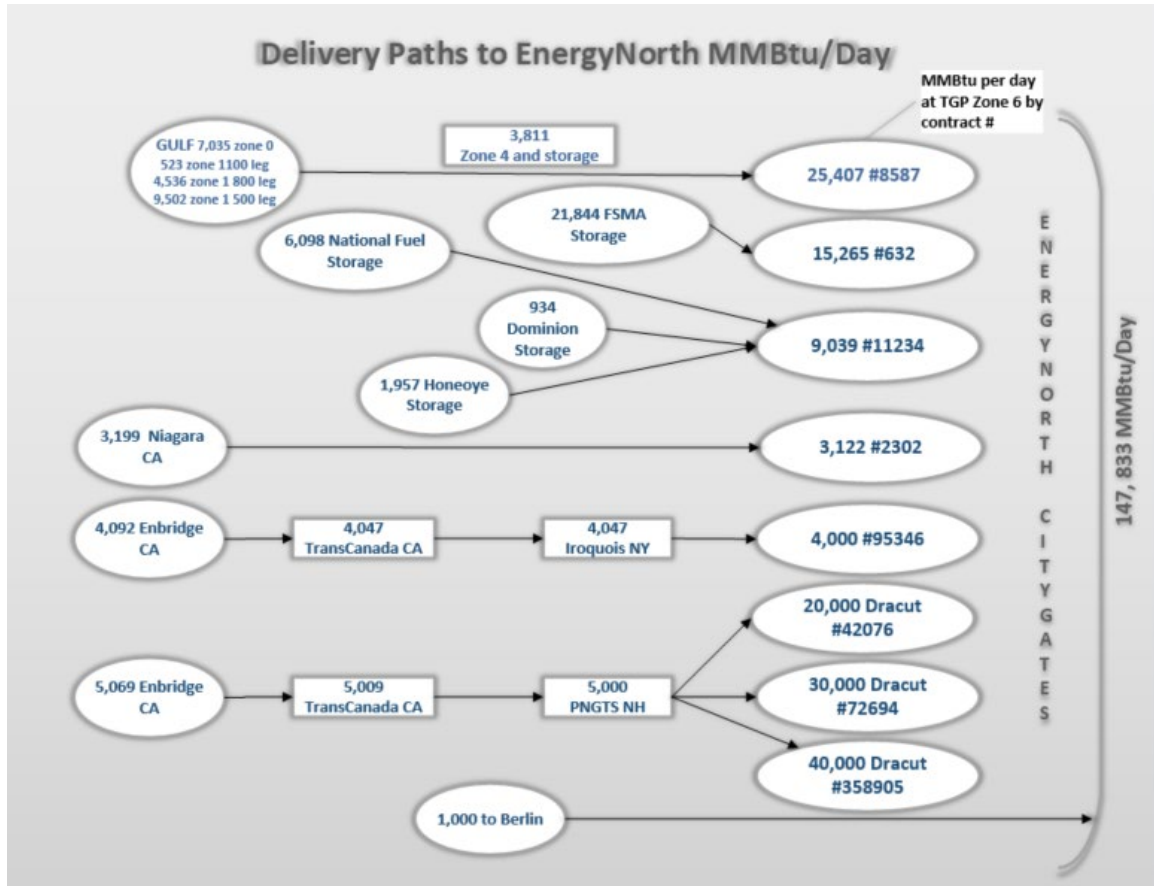
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1 **Q. What is the purpose of your testimony in this proceeding?**

2 A. The purpose of this testimony is to summarize the gas supply and firm transportation
3 portfolio and the forecasted sendout requirements for Liberty for the 2022/2023 peak and
4 off-peak seasons. This information is provided in significantly more detail in the
5 schedules that the Company is including with this filing.

6 **Q. Please describe the firm transportation contract portfolio that the Company now**
7 **holds.**

8 A. The Company currently holds firm transportation contracts on Tennessee Gas Pipeline
9 (“Tennessee”) (146,833 MMBtu/day) and Portland Natural Gas Transmission System
10 (“PNGTS”) (1,000 MMBtu/day) to provide a daily deliverability of 147,833 MMBtu/day
11 to its citygate stations. In addition to these citygate delivery contracts, the Company also
12 holds other transportation contracts further upstream on other pipelines that feed into the
13 citygate delivery transportation contracts. Schedule 12, page 1, in the Company's filing is
14 a schematic diagram of the transportation contracts, (example below), and Schedule 12,
15 page 2, is a table listing these contracts. These transportation contracts provide delivery
16 of natural gas from three sources.



1

2

3

First, the Company holds firm transportation contracts to allow for delivery of up to 13,122 MMBtu/day of Canadian supply. These consist of the following:

4

5

6

7

8

- The Company can receive up to 4,000 MMBtu/day of firm Canadian supply from Dawn, Ontario. This supply is delivered to the Company on Company-held firm transportation contracts on Enbridge Inc. (formally Union Gas Limited), (“Enbridge”), TC Energy Corporation (formally TransCanada Pipelines Limited) (“TC Energy”), Iroquois Gas Transmission System (“Iroquois”), and Tennessee.

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- 1 • The Company can receive up to 5,000 MMBtu/day of firm Canadian supply from
2 Dawn, Ontario. This supply is delivered to the Company on Company-held firm
3 transportation contracts on Enbridge, TC Energy, PNGTS, and Tennessee.
- 4 • The Company can receive up to 3,122 MMBtu/day of firm Canadian supply from
5 the Canadian/New York border at Niagara Falls, NY. This supply is delivered to
6 the Company on Company-held firm transportation contracts on Tennessee.
- 7 • The Company can receive up to 1,000 MMBtu/day of firm Canadian supply from
8 a Company-held firm transportation contract PNGTS for delivery to its Berlin
9 service territory.

10 Second, the Company holds the following firm transportation contracts to allow for
11 delivery of up to 106,596 MMBtu/day of domestic supply from the producing and market
12 areas within the United States.

- 13 • The Company can receive up to 21,596 MMBtu/day of firm domestic supplies
14 from Texas and Louisiana production areas. These supplies are delivered to the
15 Company on firm transportation contracts on Tennessee.
- 16 • The Company can receive up to 85,000¹ MMBtu/day of firm supply from
17 Tennessee's Dracut receipt point located in Dracut, Massachusetts. This supply is
18 delivered to the Company on three firm transportation contracts on Tennessee.

1 An additional 5,000 MMBtu/day of Dracut capacity is used to transport the previously described 5,000 MMBtu/day of firm Canadian supply from Dawn, Ontario via Enbridge, TC Energy, and PNGTS.

1 Third, the Company holds the following firm transportation contracts to allow for
2 delivery of up to 28,115 MMBtu/day of domestic supply from underground storage fields
3 in the New York/Pennsylvania area or the purchase of flowing supply in or downstream
4 of Tennessee Zones 4 and 5.

- 5 • The Company can receive up to 19,076 MMBtu/day of firm domestic supplies
6 from its Tennessee FS-MA storage contract. This contract allows for a storage
7 inventory capacity of 1,560,391 MMBtu. These supplies are delivered to the
8 Company on firm transportation contracts on Tennessee.
- 9 • The Company can receive up to 9,039 MMBtu/day of firm domestic supplies
10 from its storage contracts with National Fuel Gas Supply Corporation, Honeoye
11 Storage Corporation, and Dominion Transmission, Inc. In aggregate, these
12 contracts allow for a storage inventory capacity of 1,019,740 MMBtu. These
13 supplies are delivered to the Company on a firm transportation contract on
14 Tennessee.

15 **Q. Please describe the source of gas supplies used with the firm transportation**
16 **contracts described previously.**

17 A. The firm transportation contracts that interconnect at the Canadian border allow the
18 Company to purchase firm gas supplies from both Eastern and Western Canada. The
19 Company's domestic long-haul firm transportation contracts provide the Company with
20 ability to buy firm gas supplies primarily from the U.S. Gulf Coast during the winter
21 period and also provide access to natural gas supplies in the Marcellus Shale region.

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1 Supplies purchased at the Dracut receipt point, on the other hand, may originate from any
2 number of locations. Note that the Dracut receipt point is located in the same market area
3 as Liberty's citygates, which is Zone 6 on Tennessee Gas Pipeline. The Dracut purchase
4 point is notably one of the most expensive places to buy gas in the nation during peak
5 periods.

6 **Q. Why does the Company have more than half of its pipeline capacity from Dracut**
7 **with no upstream capacity to less expensive purchase points?**

8 A. The reason that the Company holds so much of its transportation capacity from Dracut,
9 with no additional upstream path to less expensive sources of gas, is a function of history
10 and the lack of new pipelines being built to serve New England. The Company's
11 transportation contracts that originate from less expensive areas for buying gas, such as
12 from Canada or in Gulf zones, have been in the Liberty portfolio for decades, having
13 been signed when pipeline capacity to New England was roughly sufficient to meet
14 demand. As Liberty and other gas utilities in the region grew, those existing pipelines
15 became fully subscribed and fewer new pipelines were being built. The Company thus
16 had no other option but to take the Dracut capacity that was available or else declare a
17 moratorium on growth due to an insufficient portfolio of resources needed to serve peak
18 winter loads.

1 **Q. Will there be any changes in the portfolio of supply contracts held by the Company**
2 **as compared to the portfolio of contracts that existed when the Company submitted**
3 **its Winter 2021/2022 Cost of Gas (“COG”) Filing?**

4 A. Yes. Typically, the Company negotiates a number of different supply contracts for
5 delivery during the peak period. Since its 2021/2022 COG filing, the Company has
6 issued several requests for proposals (“RFP”) for supply for the upcoming winter period.
7 These include a baseload Tennessee Zone 6 citygate or Dracut supply; a Canadian firm
8 transportation capacity interconnecting with Iroquois supply; a Tennessee long-haul
9 capacity from the Gulf Coast and the Zone 4 market areas supply; two requests for
10 proposals for a Tennessee Zone 6 citygate or Dracut swing supply with a call option; and
11 a Canadian firm transportation capacity interconnecting with Tennessee at Dracut supply.
12 Each of these RFPs for the 2022/2023 peak period supply is consistent with the RFPs
13 issued for the 2021/2022 peak period with slight modifications to baseload supplies at
14 certain points.

15 **Q. Please describe the status of these RFPs and when the Company expects the related**
16 **contracts to be in place.**

17 A. The Company is still in the process of obtaining and analyzing bids and expects most
18 contracts to be in place by November 1st.

19 **Q. Please provide the status of the Company’s storage refill plan.**

20 A. During the 2022 off-peak period, the Company has been injecting supplies into its
21 underground storage fields. The Company plans to have all storage fields, except for its

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1 Tennessee FS-MA storage, full by November 1, 2022. The Tennessee FS-MA field is
2 targeted to be approximately 95 percent full by November 1, 2022. The approximate five
3 percent unfilled portion of FS-MA storage provides a buffer that allows the Company
4 operational flexibility to inject some of its supply into storage if needed due to weather
5 fluctuations during the month of November. By December 1, 2022, the Company plans
6 to have all of its storage fields full.

7 **Q. Would you describe the additional sources of gas supply available to the Company**
8 **that does not require pipeline transportation capacity?**

9 A. The Company has two additional sources of gas supply available. First, the Company has
10 contracted for dedicated LNG with trucking to refill its LNG storage inventory. Since the
11 Company's LNG storage capacity is limited, having dedicated LNG trucks allows the
12 Company to replenish inventory as it is used, provides supply security for its customers,
13 and enables the Company to adhere to its seven-day storage inventory requirement
14 established by Puc 506.03.

15 Second, the Company has contracted for dedicated deliveries to the Company's three
16 propane facilities including the refill of its propane storage facility located in Amherst,
17 New Hampshire.

18 **Q. Please describe these supplemental gas supply facilities available to the Company.**

19 A. The Company owns three LNG vaporization facilities in Concord, Manchester, and
20 Tilton that have a combined design vaporization rate of approximately 22,800
21 MMBtu/day, but they are limited operationally by the combined workable storage

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1 capacity of approximately 12,600 MMBtu. As described previously, the Company
2 solicited bids for LNG refill and associated trucking to utilize more vaporization capacity
3 from its LNG facilities.

4 Additionally, the Company owns four propane facilities in Amherst, Manchester, Nashua,
5 and Tilton that have historically been designated as having a combined design
6 vaporization capacity of approximately 34,600 MMBtu/day and a combined workable
7 storage capacity of approximately 122,590 MMBtu. The Company has allocated
8 approximately 12,000 MMBtu of the Amherst propane storage capacity to its Keene
9 Division, leaving approximately 110,600 MMBtu of combined workable storage capacity
10 for Liberty. The Company's propane facilities were refilled during the summer of 2022,
11 and they are ready for the 2022/2023 peak period. The Company will seek to have
12 arrangements in place for its propane trucking needs for the upcoming peak period.

13 Together, these LNG and propane facilities provide the Company and its customers with
14 necessary system pressure support during peak days as well as a critical gas supply
15 source to meet design day requirements. These facilities contribute to the Company's
16 reliable, flexible, and least-cost resource portfolio.

17 **Q. In the 2021/2022 COG testimony, the Company stated that it would conduct a**
18 **propane study to determine the actual vaporization capacity of the propane**
19 **facilities. Has that study been completed?**

20 **A.** Yes. Because the propane facilities have aged while the Company continues to rely on
21 the legacy nameplate vaporization capacity of 34,600 MMBtus per day, the Company

1 decided that a test would be prudent to ensure that the plants could vaporize at those
2 nameplate capacities. The Company was concerned that the actual vaporization
3 capability of the plants was not quite as high as it may have been decades ago.

4 **Q. What were the findings of the study?**

5 A. The Company concluded that the plants could not vaporize to the same capacity as years
6 ago. For example, the Manchester facility, which has a nameplate vaporization capacity
7 of 900 MMBtus per hour, could not perform at that capacity but could perform at 600
8 MMBtus per hour. Similarly, the Tilton plant has a nameplate max flow rate of 100
9 MMBtus per hour, however, the study concluded that this facility also could not perform
10 at that rate but could perform at a vaporization rate of 75 MMBtus per hour. The Nashua
11 plant, on the other hand, performed at the same level as years prior, which was 500
12 MMBtus per hour. In total it was determined that the maximum vaporization rate of the
13 three plants was not 34,600 MMBtus per day. Rather, the maximum vaporization rate in
14 a single day is 28,200 MMBtus, which is 81.5 percent of the historical measure.

15 **Q. Is the Company concerned that propane facilities cannot meet the demands of a**
16 **design day, considering the outcome of the propane study?**

17 A. No. The Company is not concerned about meeting design day demand needs for the
18 upcoming peak period because it has secured an additional 40,000 MMBtus of capacity
19 on the Tennessee Gas pipeline. This contract was approved in 2021. For the years
20 beyond 2022/2023, the Company is in the process of compiling data for its Least Cost
21 Integrated Resource Plan (“LCIRP”) and updating design day forecasts. Once that

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1 information is available, the Company will make determinations as to whether additional
2 resources are needed.

3 **Q. Ms. Gilbertson, what was the source of the projected sendout requirements and**
4 **costs used in this filing?**

5 A. As in prior cost of gas filings, the Company used projected sendout requirements and
6 costs from its forecasts and portfolio of resources.

7 **Q. Have there been any changes to the Company's planning standards from**
8 **2021/2022?**

9 A. Yes, the Company has historically calculated the design planning standards based on the
10 available weather data since 1977. As part of the settlement agreement in Docket No.
11 DG 21-008, the Company agreed to "present its design day analysis for the 2022 LCIRP
12 based on weather data from the 30 years immediately preceding the year of the LCIRP
13 filing." By limiting the data set to thirty years, the results have reflected a warmer
14 weather trend which equates to a slightly lower demand forecast, including a lower
15 design day forecast. For example, the design day planning standard calculated based on
16 the most recent 40-year weather history rendered an HDD of 71.6 last year. Relying on
17 30 years of weather data in this proceeding resulted in a design day planning standard of
18 69.4 HDD. The resulting lower HDD will reduce the amount of gas the company will be
19 required to contract for to meet a Design Day.

1 **Q. Is a thirty-year data set consistent with industry standards and how other Local**
2 **Distribution Companies forecast weather demand?**

3 A. Yes, while the forty-year weather set had been approved in legacy LCIRPs, the thirty-
4 year standard is also used by other Local Distribution Companies.

5 **Q. Please describe the forecasted sendout requirements for the peak period of**
6 **2022/2023.**

7 A. Schedule 11A of the Company's filing shows the Company's forecasted sendout
8 requirements for sales customers at 92,395,519 therms over the period November 1,
9 2022, to April 30, 2023, under normal weather conditions, which is down from last year's
10 forecasted volume of 94,216,591 therms for the period November 1, 2021, to April 30,
11 2022. In comparison, the normalized actual sendout for firm sales customers for the
12 November 1, 2021, to April 30, 2022, period was 95,398,577 therms (Reconciliation
13 Filing, Summary Page 5, 'Total Volume Weather Variance,' Column B).

14 Schedule 11B shows the Company's forecasted sendout requirements for sales customers
15 of 103,384,244 therms over the period November 1, 2022, to April 30, 2023, under
16 design weather conditions, which is down from last year's forecasted volume of
17 104,530,752 therms for the period November 1, 2021, to April 30, 2022. For the current
18 peak period forecast, design weather requirements are approximately 10 percent greater
19 than normal sendout requirements for weather that is 10 percent colder than normal.

20 In Schedule 11C, the Company summarizes the normal and design year sendout
21 requirements, the seasonally available contract quantities (inclusive of assigned and

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1 Company Managed capacity), and the utilization rates of its pipeline firm transportation
2 and storage contracts.

3 Schedule 11D shows the Company's forecasted design day sendout for sales customers
4 for the upcoming 2022/2023 winter period of 1,237,481 therms, which is down from last
5 year's figure of 1,283,926 therms.

6 **Q. Please describe the forecasted sendout requirements for the off-peak period of 2023.**

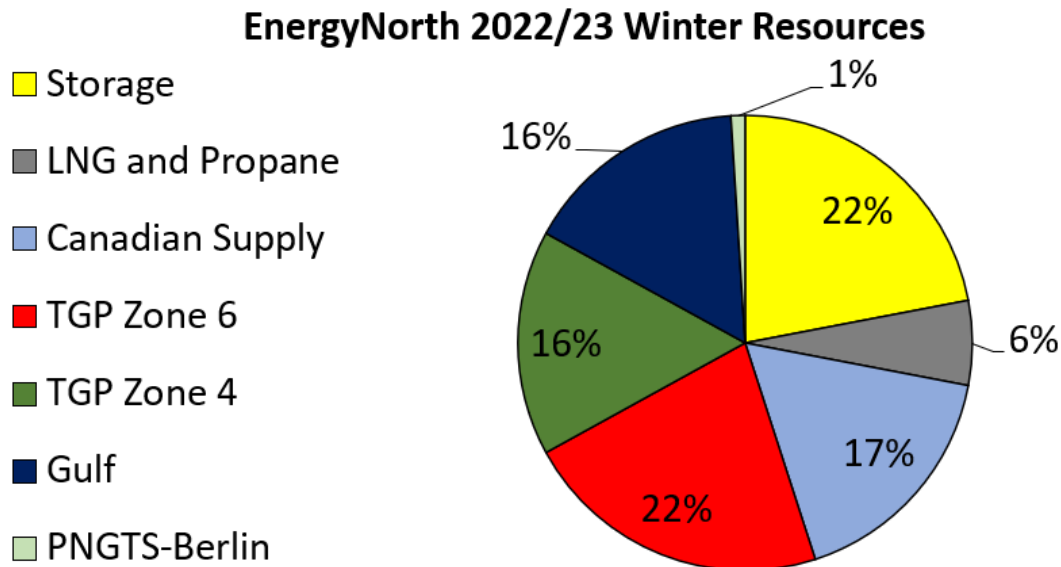
7 A. Schedule 11A of the Company's filing shows the Company's forecasted sendout
8 requirements of 26,067,561 therms over the period May 1 to October 31, 2023, under
9 normal weather conditions, which is higher than last year's forecasted volume of
10 22,950,820 therms over the period May 1 to October 31, 2022.

11 Schedule 11B shows the Company's forecasted sendout requirements of 25,137,055
12 therms over the period May 1 to October 31, 2023, under design weather conditions,
13 which is higher than last year's forecasted volume of 22,928,033 therms over the period
14 May 1 to October 31, 2022.

15 In Schedule 11C, the Company summarizes the normal and design off-peak sendout
16 requirements, the seasonally available contract quantities (inclusive of assigned and
17 Company Managed capacity), and the calculated utilization rates of its pipeline
18 transportation and storage contracts based on the normal and design off-peak forecasts
19 contained in Schedules 11A and 11B.

1 **Q. Using Schedule 11C, which depicts normal sendout volumes for a normal winter**
2 **forecast, can you illustrate the Company’s planned gas purchases and dispatch**
3 **strategy over the winter of 2022/2023?**

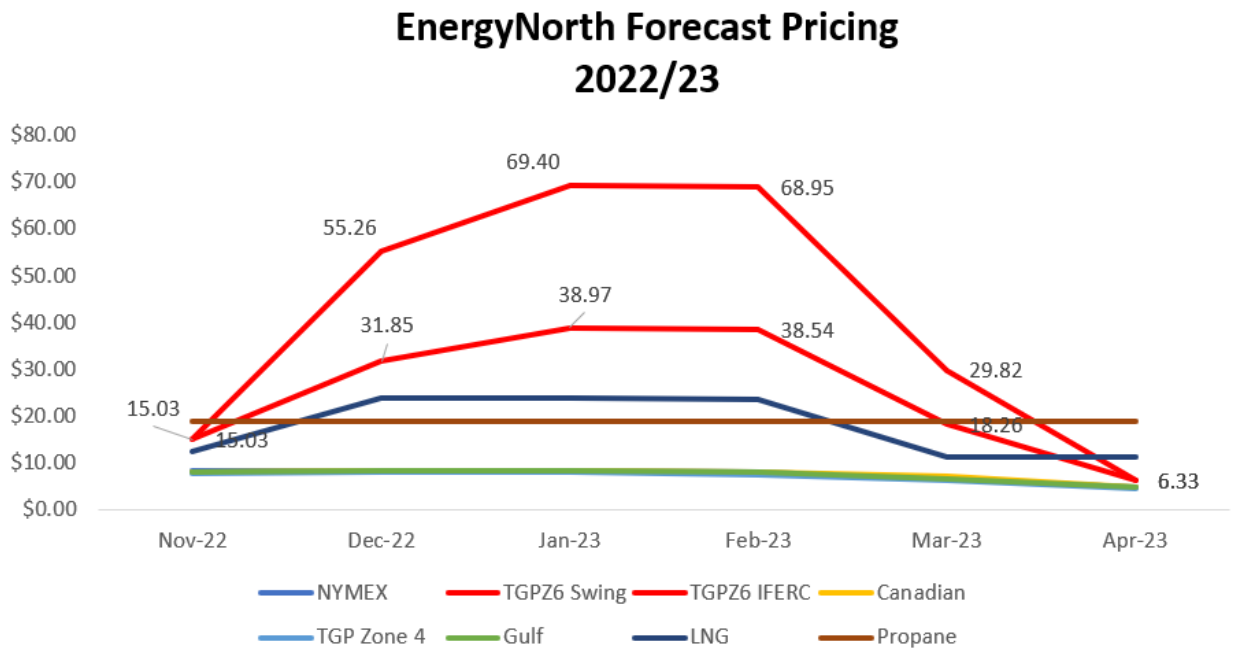
4 A. Yes, the chart below shows the expected purchase and dispatch of natural gas using the
5 Company’s transportation resources described above. The Company will purchase gas at
6 the least cost using pricing at the various receipt points to which the Company has access.
7 Because prices are lowest using Canadian, TGP Zone 4, and Gulf assets, the Company
8 purchases these gas quantities first, before calling upon gas at higher price points. The
9 Company will dispatch gas according to a scale of least-cost gas followed by the next
10 least-cost gas and so on, as determined by the available transportation resources
11 described in the paragraphs above.



12

1 **Q. What are the current index prices forecasted to be at each supply point on the above**
2 **chart?**

3 A. As shown in the figure below, the TGPZ6 Swing is the most expensive gas followed by
4 the TGPZ6 IFERC. The difference between these prices is that Swing is a daily price
5 (call option) whereas IFERC would be a first-of-the-month price for baseload quantities
6 of gas. (Baseload quantities are contracted quantities of equal volumes for every day in
7 the month). Note, to meet the demands of a normal winter, twenty-two percent of natural
8 gas purchases will need to be made at TGP Zone 6 (TGPZ6).



9

10 **Q. How does the price of LNG and propane costs compare to the other receipt**
11 **prices including the prices at TGP Zone 6?**

12 A. The chart above shows that pricing for Canadian, TGP Zone 4, and Gulf supplies all
13 hover around the NYMEX benchmark price. In 2022/2023, propane is projected to be

1 the next least cost, followed by LNG. The next tier is baseload TGPZ6 IFERC followed
2 by TGPZ6 Swing.

3 **Q. Ms. Gilbertson, can you comment on these prices, and what do market analysts use**
4 **to determine the price predictions?**

5 A. Yes, in projecting where prices are trending domestically, experts rely on several factors
6 to gauge the health of the U.S. natural gas market. These factors include U.S. natural gas
7 production, U.S. Liquefied Natural Gas (“LNG”) exports, U.S. power generation, and
8 U.S. industrial demand. These factors, together, strongly correlate to where the U.S. five-
9 year storage balances are predicted to be at certain times of the year. At the risk of
10 oversimplifying, if storage balances are predicted to be below average, the market grows
11 concerned about a supply shortage, and therefore prices go up. When storage balances
12 are above the five-year average, the market pricing retracts as the market is encouraged
13 that supply will be sufficient to meet demand.

14 **Q. Can you explain where the U.S. five-year storage balances are currently?**

15 A. Because of the persistent summer heat that has dominated the US over the last few
16 months, there has been an increased cooling demand giving rise to a record power burn in
17 many areas of the nation that rely on natural gas to fuel their electric generation. As a
18 result, storage inventories are below the five-year average by roughly twelve percent.
19 Going forward, if temperatures trend toward a cooler pattern across the bulk of the
20 country, it will open the door for demand to abate, which will, in turn, lead to the

1 potential for a chain of large weekly gas storage injections. Should temperatures trend
2 even cooler it would set the stage for NYMEX gas futures to fall further.

3 **Q. What strategies did the Company employ to stabilize and mitigate costs for winter**
4 **2022/2023?**

5 A. The Company engaged in several strategies to reduce and stabilize costs for customers.
6 First, as described above, over the summer period the Company injected gas into the
7 storage facilities using off-peak summer pricing from the least cost supply points as
8 determined by transportation and storage capacity assets. Next, the Company initiated
9 requests for proposals, or RFPs, from suppliers to obtain the lowest price for supply
10 services. The Company also issued RFPs from suppliers to enter into asset management
11 agreements where the Company allows the winning bidder to use capacity that Liberty
12 holds on various pipelines in exchange for a baseload supply or natural gas call options.
13 This technique results in monthly payments to Liberty, all to the benefit of customers.
14 These cost mitigation efforts continue all year and not just in winter.

15 **Q. How much does the Company expect to recover through asset management fees and**
16 **capacity release activities over the upcoming winter?**

17 A. The Company expects to recover approximately [REDACTED] in asset management fees over the
18 winter period. These credits will contribute to reducing customer costs.

19 **Q. Has the Company considered any other hedging strategies?**

20 A. Yes, the Company has reviewed the hedging strategies used in other areas of the
21 Company, mainly the use of financial hedging of NYMEX. The Company contends that

1 these strategies are not a measure to reduce costs, but a mechanism to stabilize costs.

2 Over the many years that the Company used financial hedging to stabilize NYMEX in
3 other Liberty territories, there are few years where the mechanism resulted in a
4 substantial gain to customers

5 **Q. What did the Company conclude from this review?**

6 A. The Company concluded that although these tools can be useful in stabilizing costs in
7 other territories such as the Midwest, they are not the answer to reducing costs at Zone 6
8 in the Northeast. The Company believes that the strategy of reducing costs by using asset
9 management arrangements and capacity releases when feasible is a results-driven action
10 that will reduce bottom line costs to customers. As noted above, the Company expects to
11 receive █████ in fees payable to the Company.

12 **Q. Please provide the results of the Company's basis hedging program for the winter of**
13 **2020/21.**

14 A. For the winter of 2021/2022 the Company hedged the Tennessee Zone 6 basis² through
15 the purchase of physical supply from Dracut for the months of December, January, and
16 February as provided for in Docket No. DG 14-133 and approved in Order No. 25,691.
17 When comparing the difference between the TGP Zone 6 IFERC price and the physical
18 basis hedge contract price, the result showed a benefit of approximately \$3,400,000.
19 Although the Company cannot predict whether the hedge program will result in a benefit

² The "basis" is the difference in cost from a distant pricing point such as NYMEX to the price charged in Tennessee Zone 6.

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1 or loss each year, it does support the use of this price stabilization against fluctuations in
2 the market prices during peak periods.

3 **Q. Has the Company hedged the Tennessee Zone 6 basis for winter 2022/2023?**

4 A. No. The Company has conducted a series of RFPs to solicit physical supply basis bids
5 for the months of December, January, and February. The Company continues to seek
6 conforming bids for this service at a fair price.

7 **Q. Does this conclude your pre-filed direct testimony in this proceeding?**

8 A. Yes, it does.

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II RATE SCHEDULES
FIRM RATE SCHEDULES

	Rates Effective November 1, 2022 - April 30, 2023 Winter Period				Rates Effective May 1, 2023 - October 31, 2023 Summer Period			
	Delivery Charge	Cost of Gas Rate Page 95	LDAC Page 101	Total Rate	Delivery Charge	Cost of Gas Rate Page 92	LDAC Page 101	Total Rate
Residential Non Heating - R-1								
Customer Charge per Month per Meter	\$ 15.39			\$ 15.39	\$ 15.39			\$ 15.39
All therms	\$ 0.4873	\$ 1.7335	\$ 0.1508	\$ 2.3716	\$ 0.4873	\$ 1.0109	\$ 0.1508	\$ 1.6490
Residential Heating - R-3								
Customer Charge per Month per Meter	\$ 15.39			\$ 15.39	\$ 15.39			\$ 15.39
Size of the first block	all therms				all therms			
Therms in the first block per month at	\$ 0.6337	\$ 1.7335	\$ 0.1508	\$ 2.5180	\$ 0.6337	\$ 1.0109	\$ 0.1508	\$ 1.7954
Residential Heating - R-4								
Customer Charge per Month per Meter	\$ 8.47			\$ 8.47	\$ 15.39			\$ 15.39
Size of the first block	all therms				all therms			
Therms in the first block per month at	\$ 0.3485	\$ 0.9534	\$ 0.1508	\$ 1.4527	\$ 0.6337	\$ 1.0109	\$ 0.1508	\$ 1.7954
Commercial/Industrial - G-41								
Customer Charge per Month per Meter	\$ 62.03			\$ 62.03	\$ 62.03			\$ 62.03
Size of the first block	100 therms				20 therms			
Therms in the first block per month at	\$ 0.5007	\$ 1.7336	\$ 0.0915	\$ 2.3258	\$ 0.5007	\$ 1.0111	\$ 0.0915	\$ 1.6033
All therms over the first block per month at	\$ 0.3469	\$ 1.7336	\$ 0.0915	\$ 2.1720	\$ 0.3469	\$ 1.0111	\$ 0.0915	\$ 1.4495
Commercial/Industrial - G-42								
Customer Charge per Month per Meter	\$ 186.03			\$ 186.03	\$ 186.03			\$ 186.03
Size of the first block	1000 therms				400 therms			
Therms in the first block per month at	\$ 0.4558	\$ 1.7336	\$ 0.0915	\$ 2.2809	\$ 0.4558	\$ 1.0111	\$ 0.0915	\$ 1.5584
All therms over the first block per month at	\$ 0.3136	\$ 1.7336	\$ 0.0915	\$ 2.1387	\$ 0.3136	\$ 1.0111	\$ 0.0915	\$ 1.4162
Commercial/Industrial - G-43								
Customer Charge per Month per Meter	\$ 796.32			\$ 796.32	\$ 796.32			\$ 796.32
All therms over the first block per month at	\$ 0.2814	\$ 1.7336	\$ 0.0915	\$ 2.1065	\$ 0.1392	\$ 1.0111	\$ 0.0915	\$ 1.2418
Commercial/Industrial - G-51								
Customer Charge per Month per Meter	\$ 62.08			\$ 62.08	\$ 62.08			\$ 62.08
Size of the first block	100 therms				100 therms			
Therms in the first block per month at	\$ 0.3020	\$ 1.7331	\$ 0.0915	\$ 2.1266	\$ 0.3020	\$ 1.0106	\$ 0.0915	\$ 1.4041
All therms over the first block per month at	\$ 0.2034	\$ 1.7331	\$ 0.0915	\$ 2.0280	\$ 0.2034	\$ 1.0106	\$ 0.0915	\$ 1.3055
Commercial/Industrial - G-52								
Customer Charge per Month per Meter	\$ 185.80			\$ 185.80	\$ 185.80			\$ 185.80
Size of the first block	1000 therms				1000 therms			
Therms in the first block per month at	\$ 0.2602	\$ 1.7331	\$ 0.0915	\$ 2.0848	\$ 0.1933	\$ 1.0106	\$ 0.0915	\$ 1.2954
All therms over the first block per month at	\$ 0.1791	\$ 1.7331	\$ 0.0915	\$ 2.0037	\$ 0.1174	\$ 1.0106	\$ 0.0915	\$ 1.2195
Commercial/Industrial - G-53								
Customer Charge per Month per Meter	\$ 821.64			\$ 821.64	\$ 821.64			\$ 821.64
All therms over the first block per month at	\$ 0.1819	\$ 1.7331	\$ 0.0915	\$ 2.0065	\$ 0.0936	\$ 1.0106	\$ 0.0915	\$ 1.1957
Commercial/Industrial - G-54								
Customer Charge per Month per Meter	\$ 821.64			\$ 821.64	\$ 821.64			\$ 821.64
All therms over the first block per month at	\$ 0.0693	\$ 1.7331	\$ 0.0915	\$ 1.8939	\$ 0.0397	\$ 1.0106	\$ 0.0915	\$ 1.1418

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President

Title:

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NHPUC NO. 11 - GAS
LIBERTY UTILITIES

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II RATE SCHEDULES
FIRM RATE SCHEDULES

	Rates Effective March 1, 2022 - April 30, 2023				Rates Effective May 1, 2023 - October 31, 2024			
	Winter Period				Summer Period			
	<u>Delivery Charge</u>	<u>Cost of Gas Rate Page 95</u>	<u>LDAC Page 101</u>	<u>Total Rate</u>	<u>Delivery Charge</u>	<u>Cost of Gas Rate Page 92</u>	<u>LDAC Page 101</u>	<u>Total Rate</u>
Residential Non Heating - R-5								
Customer Charge per Month per Meter	\$ 20.01			\$ 20.01	\$ 20.01			\$ 20.01
All Therms	\$ 0.6335	\$ 1.7335	\$ 0.1508	\$ 2.5178	\$ 0.6335	\$ 1.0109	\$ 0.1508	\$ 1.7952
Residential Heating - R-6								
Customer Charge per Month per Meter	\$ 20.01			\$ 20.01	\$ 20.01			\$ 20.01
Therms in the first block per month at	\$ 0.8238	\$ 1.7335	\$ 0.1508	\$ 2.7081	\$ 0.8238	\$ 1.0109	\$ 0.1508	\$ 1.9855
Residential Heating - R-7								
Customer Charge per Month per Meter	\$ 11.01			\$ 11.01	\$ 20.01			\$ 20.01
Therms in the first block per month at	\$ 0.4531	\$ 0.9534	\$ 0.1508	\$ 1.5573	\$ 0.8238	\$ 1.0109	\$ 0.1508	\$ 1.9855
Commercial/Industrial - G-44								
Customer Charge per Month per Meter	\$ 80.64			\$ 80.64	\$ 80.64			\$ 80.64
Size of the first block		100 therms			20 therms			
Therms in the first block per month at	\$ 0.6509	\$ 1.7336	\$ 0.0915	\$ 2.4760	\$ 0.6509	\$ 1.0111	\$ 0.0915	\$ 1.7535
All therms over the first block per month at	\$ 0.4509	\$ 1.7336	\$ 0.0915	\$ 2.2760	\$ 0.4509	\$ 1.0111	\$ 0.0915	\$ 1.5535
Commercial/Industrial - G-45								
Customer Charge per Month per Meter	\$ 241.83			\$ 241.83	\$ 241.83			\$ 241.83
Size of the first block		1000 therms			400 therms			
Therms in the first block per month at	\$ 0.5925	\$ 1.7336	\$ 0.0915	\$ 2.4176	\$ 0.5925	\$ 1.0111	\$ 0.0915	\$ 1.6951
All therms over the first block per month at	\$ 0.4077	\$ 1.7336	\$ 0.0915	\$ 2.2328	\$ 0.4077	\$ 1.0111	\$ 0.0915	\$ 1.5103
Commercial/Industrial - G-46								
Customer Charge per Month per Meter	\$ 1,035.22			\$ 1,035.22	\$ 1,035.22			\$ 1,035.22
All therms over the first block per month at	\$ 0.3659	\$ 1.7336	\$ 0.0915	\$ 2.1910	\$ 0.1810	\$ 1.0111	\$ 0.0915	\$ 1.2836
Commercial/Industrial - G-55								
Customer Charge per Month per Meter	\$ 80.70			\$ 80.70	\$ 80.70			\$ 80.70
Size of the first block		100 therms			100 therms			
Therms in the first block per month at	\$ 0.3927	\$ 1.7331	\$ 0.0915	\$ 2.2173	\$ 0.3927	\$ 1.0106	\$ 0.0915	\$ 1.4948
All therms over the first block per month at	\$ 0.2645	\$ 1.7331	\$ 0.0915	\$ 2.0891	\$ 0.2645	\$ 1.0106	\$ 0.0915	\$ 1.3666
Commercial/Industrial - G-56								
Customer Charge per Month per Meter	\$ 241.54			\$ 241.54	\$ 241.54			\$ 241.54
Size of the first block		1000 therms			1000 therms			
Therms in the first block per month at	\$ 0.3383	\$ 1.7331	\$ 0.0915	\$ 2.1629	\$ 0.2513	\$ 1.0106	\$ 0.0915	\$ 1.3534
All therms over the first block per month at	\$ 0.2328	\$ 1.7331	\$ 0.0915	\$ 2.0574	\$ 0.1526	\$ 1.0106	\$ 0.0915	\$ 1.2547
Commercial/Industrial - G-57								
Customer Charge per Month per Meter	\$ 1,068.14			\$ 1,068.14	\$ 1,068.14			\$ 1,068.14
All therms over the first block per month at	\$ 0.2365	\$ 1.7331	\$ 0.0915	\$ 2.0611	\$ 0.1217	\$ 1.0106	\$ 0.0915	\$ 1.2238
Commercial/Industrial - G-58								
Customer Charge per Month per Meter	\$ 1,068.14			\$ 1,068.14	\$ 1,068.14			\$ 1,068.14
All therms over the first block per month at	\$ 0.0901	\$ 1.7331	\$ 0.0915	\$ 1.9147	\$ 0.0516	\$ 1.0106	\$ 0.0915	\$ 1.1537

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NHPUC NO. 11 - GAS
LIBERTY UTILITIES

Proposed Second Revised Page 94
Superseding Proposed First Revised Page 94

II. RATE SCHEDULES
CALCULATION OF FIXED WINTER PERIOD COST OF GAS RATE
PERIOD COVERED WINTER PERIOD, NOVEMBER 1, 2022 THROUGH APRIL 30, 2023
(Refer to Text in Section 17(A) Fixed Price Option Program)

(Col 1)	(Col 2)	(Col 3)
1 Total Anticipated Direct Cost of Gas	\$ 155,443,989	
2 Projected Prorated Sales (11/01/22 - 04/30/23)	92,780,984	
3 Direct Cost of Gas Rate		\$ 1.6754 per therm
4 Demand Cost of Gas Rate	\$ 12,510,219	\$ 0.1348 per therm
5 Commodity Cost of Gas Rate	146,441,270	\$ 1.5784 per therm
6 Adjustment Cost of Gas Rate	2,514,711	\$ 0.0271 per therm
7 Hedge Underground Storage Contract (Savings)/Loss	\$ (6,022,210)	\$ (0.0387) per therm
8 Total Direct Cost of Gas Rate	\$ 155,443,989	\$ 1.6754 per therm
9 Total Anticipated Indirect Cost of Gas	\$ 5,391,889	
10 Projected Prorated Sales (11/01/22 - 04/30/23)	92,780,984	
11 Indirect Cost of Gas		\$ 0.0581 per therm
12 TOTAL PERIOD AVERAGE COST OF GAS EFFECTIVE (11/01/22)		\$ 1.7335
13 Calculation of FPO Excluding Low Income - Rate Code R-3		
14 TOTAL PERIOD AVERAGE COST OF GAS EFFECTIVE (11/01/19)		\$ 1.7335
15 FPO Risk Premium		\$ 0.0200
16 TOTAL PERIOD FIXED PRICE OPTION COST OF GAS RATE EFFECTIVE (11/01/22)		\$ 1.7535
17 RESIDENTIAL COST OF GAS RATE - EXCLUDING LOW INCOME - (R-3) 11/01/22	COGwr	\$ 1.7535 /therm
18 Calculation of FPO for Gas Assistance Program - Rate Code R-4		
19 TOTAL PERIOD AVERAGE COST OF GAS EFFECTIVE (11/01/20) FPO (Line 13 * 0.55)		\$ 0.9534
20 FPO Risk Premium (Line 14 * 0.55)		\$ 0.0110
21 TOTAL PERIOD FIXED PRICE OPTION COST OF GAS RATE EFFECTIVE (11/01/19) (Line 15 * 0.55)		\$ 0.9644
22 RESIDENTIAL COST OF GAS RATE - LOW INCOME - (R-4) 11/01/22	COGwr	\$ 0.9644 /therm

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**NHPUC NO. 11 - GAS
LIBERTY UTILITIES**

**Proposed Seventh Revised Page 95
Superseding Proposed Sixth Revised Page 95**

**CALCULATION OF FIRM SALES COST OF GAS RATE
PERIOD COVERED WINTER PERIOD, NOVEMBER 1, 2022 THROUGH APRIL 30, 2023
(Refer to Text in Section 17 Cost of Gas Clause)**

(Col 1)	(Col 2)	(Col 3)
Total Anticipated Direct Cost of Gas	\$ 155,443,989	
Projected Prorated Sales (11/01/2022 - 04/30/2023)	92,780,984	
Direct Cost of Gas Rate		\$ 1.6754 per therm
Demand Cost of Gas Rate	\$ 12,510,219	\$ 0.1348 per therm
Commodity Cost of Gas Rate	146,441,270	\$ 1.5784 per therm
Adjustment Cost of Gas Rate	2,514,711	\$ 0.0271
Hedge Contract (Savings)	\$ (6,022,210)	\$ (0.0649) per therm
Total Direct Cost of Gas Rate	\$ 155,443,989	\$ 1.6754 per therm
Total Anticipated Indirect Cost of Gas	\$ 5,391,889	
Projected Prorated Sales (11/01/2022 - 04/30/2023)	92,780,984	
Indirect Cost of Gas		\$ 0.0581 per therm
TOTAL PERIOD AVERAGE COST OF GAS EFFECTIVE 11/01/22		\$ 1.7335 per therm

RESIDENTIAL COST OF GAS RATE - EXCLUDING LOW INCOME - 11/01/22	COGwr	\$ 1.7335 /therm
---	--------------	-------------------------

Maximum (COG + 25%) \$ 2.1669

GAS ASSISTANCE PLAN RESIDENTIAL COST OF GAS RATE R-4 - 11/01/22	COGwr	\$ 0.9534 /therm
--	--------------	-------------------------

Maximum (COG + 25%) \$ 1.1918

C&I HIGH WINTER USE COST OF GAS RATE - 11/01/22	COGwh	\$ 1.7336 /therm
--	--------------	-------------------------

Average Demand Cost of Gas Rate Effective 11/01/22	\$ 0.1348		
Times: High Winter Use Ratio (Winter)	1.0005	Maximum (COG + 25%)	\$ 2.1670
Times: Correction Factor	1.0001		
Adjusted Demand Cost of Gas Rate	\$ 0.1349		
Commodity Cost of Gas Rate	\$ 1.5784		
Adjustment Cost of Gas Rate	\$ 0.0271		
Indirect Cost of Gas Rate	\$ 0.0581		
Hedge Contract (Savings)	\$ (0.0649)		
Adjusted C&I High Winter Use Cost of Gas Rate	\$ 1.7336		

C&I LOW WINTER USE COST OF GAS RATE - 11/01/22	COGwl	\$ 1.7331 /therm
---	--------------	-------------------------

Average Demand Cost of Gas Rate Effective 11/01/22	\$ 0.1348		
Times: Low Winter Use Ratio (Winter)	0.9971	Maximum (COG + 25%)	\$ 2.1664
Times: Correction Factor	1.0001		
Adjusted Demand Cost of Gas Rate	\$ 0.1344		
Commodity Cost of Gas Rate	\$ 1.5784		
Adjustment Cost of Gas Rate	\$ 0.0271		
Indirect Cost of Gas Rate	\$ 0.0581		
Hedge Contract (Savings)	\$ (0.0649)		
Adjusted C&I Low Winter Use Cost of Gas Rate	\$ 1.7331		

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**NHPUC NO. 11 - GAS
LIBERTY UTILITIES**

**Proposed Second Revised Page 96
Superseding Proposed First Revised Page 96**

Anticipated Cost of Gas
PERIOD COVERED: WINTER PERIOD, NOVEMBER 1, 2022 THROUGH APRIL 30, 2023
(REFER TO TEXT ON IN SECTION 17 COST OF GAS CLAUSE)

(Col 1)	(Col 2)	(Col 3)
ANTICIPATED DIRECT COST OF GAS		
Purchased Gas		
Demand Costs:	\$ 11,510,320	
Supply Costs:	121,326,019	
Storage Gas		
Demand, Capacity:	\$ 999,899	
Commodity Costs:	12,469,948	
Produced Gas	12,645,303	
Hedged Contract (Saving)/Loss	(6,022,210)	
Hedge Underground Storage Contract (Saving)/Loss	<u>-</u>	
Unadjusted Anticipated Cost of Gas		\$ 152,929,278
Adjustments		
Prior Period (Over)/Under Recovery (as of 05/01/20)	\$ 4,089,654	
Interest	(48,335)	
Fuel Inventory Revenue Requirement	515,609	
Broker Revenues	(3,600)	
Refunds from Suppliers	-	
Fuel Financing	-	
Transportation CGA Revenues	(422,021)	
Interruptible Sales Margin	-	
Capacity Release and Off System Sales Margins	(1,676,512)	
Hedging Costs	-	
Fixed Price Option Administrative Costs	59,917	
Total Adjustments	<u>59,917</u>	<u>2,514,711</u>
Total Anticipated Direct Cost of Gas		\$ 155,443,989
Anticipated Indirect Cost of Gas		
Working Capital		
Total Unadjusted Anticipated Cost of Gas 11/01/20 - 04/30/21	\$ 152,929,278	
Working Capital Rate: Lead Lag Days / 365	0.0705	
Prime Rate	5.50%	
Working Capital Percentage	0.388%	
Working Capital	\$ 592,695	
Plus: Working Capital Reconciliation (Acct 142.20)	<u>(43,864)</u>	
Total Working Capital Allowance		548,831
Bad Debt		
Total Unadjusted Anticipated Cost of Gas 11/01/20 - 04/30/21	\$ 152,929,278	
Less: Refunds	-	
Plus: Total Working Capital	548,831	
Plus: Prior Period (Over)/Under Recovery	<u>4,089,654</u>	
Subtotal	\$ 157,567,763	
Bad Debt Percentage	<u>0.86%</u>	
Bad Debt Allowance	\$ 1,356,898	
Plus: Bad Debt Reconciliation (Acct 175.52)	<u>(199,297)</u>	
Total Bad Debt Allowance		\$ 1,157,601
Production and Storage Capacity		\$ 3,685,458
Miscellaneous Overhead 11/01/20 - 04/30/21	\$ -	
Times Winter Sales	92,781	
Divided by Total Sales	<u>116,430</u>	
Miscellaneous Overhead		<u>-</u>
Total Anticipated Indirect Cost of Gas		\$ 5,391,889
Total Cost of Gas		<u>\$ 160,835,879</u>

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**NHPUC NO. 11 - GAS
LIBERTY UTILITIES**

**Proposed Second Revised Page 98
Superseding Proposed First Revised Page 98**

II. RATE SCHEDULES

**Calculation of Firm Transportation Cost of Gas Rate
PERIOD COVERED: WINTER PERIOD, NOVEMBER 1, 2022 THROUGH APRIL 30, 2023
(Refer to text in Section 16(Q) Firm Transportation Cost of Gas Clause)**

(Col 1)	(Col 2)	(Col 3)	(Col 4)
ANTICIPATED COST OF SUPPLEMENTAL GAS SUPPLIES:			
PROPANE	\$ 2,297,840		
LNG	<u>10,347,463</u>		
TOTAL ANTICIPATED COST OF SUPPLEMENTAL GAS SUPPLIES	12,645,303		
ESTIMATED PERCENTAGE USED FOR PRESSURE SUPPORT PURPOSES	<u>8.7%</u>		
ESTIMATED COST OF LIQUIDS USED FOR PRESSURE SUPPORT PURPOSES	<u>\$ 1,100,141</u>		
PROJECTED FIRM THROUGHPUT (THERMS):			
FIRM SALES	92,780,984	68.3%	
FIRM TRANSPORTATION SUBJECT TO FTCCG	<u>43,122,920</u>	<u>31.7%</u>	
TOTAL FIRM THROUGHPUT SUBJECT TO COST OF GAS CHARGE	135,903,904	100.0%	
TRANSPORTATION SHARE OF SUPPLEMENTAL GAS SUPPLIES	31.7%	x	\$ 1,100,141 = \$ 349,080
PRIOR (OVER) OR UNDER COLLECTION			<u>72,941</u>
NET AMOUNT TO COLLECT FROM (RETURNED TO) TRANSPORTATION CUSTOMERS			\$ 422,021
PROJECTED FIRM TRANSPORTATION THROUGHPUT			43,122,920
FIRM TRANSPORTATION COST OF GAS			\$ 0.0098

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**NHPUC NO. 11 - GAS
LIBERTY UTILITIES**

**Proposed Second Revised Page 153
Superseding Proposed First Revised Page 153**

ATTACHMENT B
Schedule of Administrative Fees and Charges

I. Supplier Balancing Charge:	\$	0.2100	per MMBtu of Daily Imbalance Volumes")
II. Capacity Mitigation Fee			15% of the Proceeds from the Marketing of
III. Peaking Demand Charge	\$	56.69	MMBTU of Peak MDQ
IV. Company Allowance Calculation (per Schedule 25)			
		170,377,710	Total Sendout - Therms Jul -2021 - Jun-2022
		<u>166,126,573</u>	Total Throughput - Therms Jul-2021 - Jun-2022
		4,251,137	Variance (Sendout - Throughput)
Company Allowance Percentage 2020-21		2.5%	Variance / Total Sendout

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**NHPUC NO. 11 - GAS
LIBERTY UTILITIES**

**Proposed Second Revised Page 154
Superseding Proposed First Revised Page 154**

ATTACHMENT C

CAPACITY ALLOCATORS

Rate Class		Pipeline	Storage	Peaking	Total
G-41	Low Annual /High Winter Use	71.5%	17.4%	11.0%	100.0%
G-51	Low Annual /Low Winter Use	79.5%	12.6%	7.9%	100.0%
G-42	Medium Annual / High Winter	71.5%	17.4%	11.0%	100.0%
G-52	High Annual / Low Winter Use	79.5%	12.6%	7.9%	100.0%
G-43	High Annual / High Winter	71.5%	17.4%	11.0%	100.0%
G-53	High Annual / Load Factor < 90%	79.5%	12.6%	7.9%	100.0%
G-54	High Annual / Load Factor < 90%	79.5%	12.6%	7.9%	100.0%

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NHPUC NO. 11 - GAS
LIBERTY UTILITIES

Proposed Fifteenth Revised Page 87
Superseding Proposed Fourteenth Revised Page 87

II RATE SCHEDULES
FIRM RATE SCHEDULES

Rates effective April 1, 2022 – April 30, 2022
Rates effective November 1, 2022 - April 30, 2023
Winter Period

Rates Effective August 1, 2022 – October 31, 2022
Rates Effective May 1, 2023 - October 31, 2023
Summer Period

	Cost of				Total Rate	Cost of			
	Delivery Charge	Gas Rate Page 95	LDAC Page 101	Total Rate		Delivery Charge	Gas Rate Page 92	LDAC Page 101	Total Rate
Residential Non Heating - R-1	\$ 15.39			\$ 15.39	\$ 15.39				\$ 15.39
Customer Charge per Month per Meter	\$ 15.39			\$ 15.39	\$ 15.39				\$ 15.39
All Therms	\$ 0.4873	\$ 1.7335	\$ 0.1508	\$ 2.3716	\$ 0.4873	\$ 1.0109	\$ 0.1508	\$ 1.6490	\$ 1.6490
	\$ 0.3844	\$ 1.1747	\$ 0.1318	\$ 1.6909	\$ 0.4873	\$ 1.2295	\$ 0.1318	\$ 1.8486	\$ 1.8486
Residential Heating - R-3	\$ 15.39			\$ 15.39	\$ 15.39				\$ 15.39
Customer Charge per Month per Meter	\$ 15.39			\$ 15.39	\$ 15.39				\$ 15.39
Size of the first block									
all therms	\$ 0.6337	\$ 1.7335	\$ 0.1508	\$ 2.5180	\$ 0.6337	\$ 1.0109	\$ 0.1508	\$ 1.7954	\$ 1.7954
All Therms	\$ 0.5632	\$ 1.1747	\$ 0.1318	\$ 1.8697	\$ 0.6337	\$ 1.2295	\$ 0.1318	\$ 1.9950	\$ 1.9950
Residential Heating - R-4	\$ 8.47			\$ 8.47	\$ 8.47				\$ 8.47
Customer Charge per Month per Meter	\$ 8.47			\$ 8.47	\$ 8.47				\$ 8.47
Size of the first block									
all therms	\$ 0.3485	\$ 0.9534	\$ 0.1508	\$ 1.4527	\$ 0.6337	\$ 1.0109	\$ 0.1508	\$ 1.7954	\$ 1.7954
All Therms	\$ 0.3098	\$ 0.6464	\$ 0.1318	\$ 1.0877	\$ 0.6337	\$ 1.2295	\$ 0.1318	\$ 1.9950	\$ 1.9950
Commercial/Industrial - G-41	\$ 57.06			\$ 57.06	\$ 62.03				\$ 62.03
Customer Charge per Month per Meter	\$ 57.06			\$ 57.06	\$ 62.03				\$ 62.03
Size of the first block									
100 therms	\$ 0.5007	\$ 1.7336	\$ 0.0915	\$ 2.3258	\$ 0.5007	\$ 1.0111	\$ 0.0915	\$ 1.6033	\$ 1.6033
Therms in the first block per month at	\$ 0.4688	\$ 1.1749	\$ 0.0994	\$ 1.7428	\$ 0.5007	\$ 1.2303	\$ 0.0994	\$ 1.8301	\$ 1.8301
All therms over the first block per month at	\$ 0.3469	\$ 1.7336	\$ 0.0915	\$ 2.1720	\$ 0.3469	\$ 1.0111	\$ 0.0915	\$ 1.4495	\$ 1.4495
	\$ 0.3149	\$ 1.1749	\$ 0.0994	\$ 1.5899	\$ 0.3469	\$ 1.2303	\$ 0.0994	\$ 1.6763	\$ 1.6763
Commercial/Industrial - G-42	\$ 171.19			\$ 171.19	\$ 186.03				\$ 186.03
Customer Charge per Month per Meter	\$ 171.19			\$ 171.19	\$ 186.03				\$ 186.03
Size of the first block									
1000 therms	\$ 0.4284	\$ 1.7336	\$ 0.0915	\$ 2.2535	\$ 0.4558	\$ 1.0111	\$ 0.0915	\$ 1.5584	\$ 1.5584
Therms in the first block per month at	\$ 0.4261	\$ 1.1749	\$ 0.0994	\$ 1.7001	\$ 0.4558	\$ 1.2303	\$ 0.0994	\$ 1.7852	\$ 1.7852
All therms over the first block per month at	\$ 0.2855	\$ 1.7336	\$ 0.0915	\$ 2.1106	\$ 0.3136	\$ 1.0111	\$ 0.0915	\$ 1.4162	\$ 1.4162
	\$ 0.2839	\$ 1.1749	\$ 0.0994	\$ 1.5579	\$ 0.3136	\$ 1.2303	\$ 0.0994	\$ 1.6430	\$ 1.6430
Commercial/Industrial - G-43	\$ 734.69			\$ 734.69	\$ 796.32				\$ 796.32
Customer Charge per Month per Meter	\$ 734.69			\$ 734.69	\$ 796.32				\$ 796.32
All therms over the first block per month at	\$ 0.2814	\$ 1.7336	\$ 0.0915	\$ 2.1065	\$ 0.1392	\$ 1.0111	\$ 0.0915	\$ 1.2418	\$ 1.2418
	\$ 0.2620	\$ 1.1749	\$ 0.0994	\$ 1.5369	\$ 0.1392	\$ 1.2303	\$ 0.0994	\$ 1.4686	\$ 1.4686
Commercial/Industrial - G-51	\$ 67.06			\$ 67.06	\$ 62.08				\$ 62.08
Customer Charge per Month per Meter	\$ 67.06			\$ 67.06	\$ 62.08				\$ 62.08
Size of the first block									
100 therms	\$ 0.3020	\$ 1.7331	\$ 0.0915	\$ 2.1266	\$ 0.3020	\$ 1.0106	\$ 0.0915	\$ 1.4041	\$ 1.4041
Therms in the first block per month at	\$ 0.2819	\$ 1.1732	\$ 0.0994	\$ 1.5542	\$ 0.3020	\$ 1.2284	\$ 0.0994	\$ 1.6295	\$ 1.6295
All therms over the first block per month at	\$ 0.2034	\$ 1.7331	\$ 0.0915	\$ 2.0280	\$ 0.2034	\$ 1.0106	\$ 0.0915	\$ 1.3055	\$ 1.3055
	\$ 0.1833	\$ 1.1732	\$ 0.0994	\$ 1.4566	\$ 0.2034	\$ 1.2284	\$ 0.0994	\$ 1.5309	\$ 1.5309
Commercial/Industrial - G-52	\$ 171.19			\$ 171.19	\$ 185.80				\$ 185.80
Customer Charge per Month per Meter	\$ 171.19			\$ 171.19	\$ 185.80				\$ 185.80
Size of the first block									
1000 therms	\$ 0.2439	\$ 1.7331	\$ 0.0915	\$ 2.0685	\$ 0.1933	\$ 1.0106	\$ 0.0915	\$ 1.2954	\$ 1.2954
Therms in the first block per month at	\$ 0.2428	\$ 1.1732	\$ 0.0994	\$ 1.5161	\$ 0.1933	\$ 1.2284	\$ 0.0994	\$ 1.5208	\$ 1.5208
All therms over the first block per month at	\$ 0.1791	\$ 1.7331	\$ 0.0915	\$ 2.0037	\$ 0.1174	\$ 1.0106	\$ 0.0915	\$ 1.2195	\$ 1.2195
	\$ 0.1617	\$ 1.1732	\$ 0.0994	\$ 1.4340	\$ 0.1174	\$ 1.2284	\$ 0.0994	\$ 1.4449	\$ 1.4449
Commercial/Industrial - G-53	\$ 821.64			\$ 821.64	\$ 821.64				\$ 821.64
Customer Charge per Month per Meter	\$ 821.64			\$ 821.64	\$ 821.64				\$ 821.64
All therms over the first block per month at	\$ 0.1819	\$ 1.7331	\$ 0.0915	\$ 2.0065	\$ 0.0936	\$ 1.0106	\$ 0.0915	\$ 1.1957	\$ 1.1957
	\$ 0.1697	\$ 1.1732	\$ 0.0994	\$ 1.4420	\$ 0.0936	\$ 1.2284	\$ 0.0994	\$ 1.4211	\$ 1.4211
Commercial/Industrial - G-54	\$ 756.10			\$ 756.10	\$ 821.64				\$ 821.64
Customer Charge per Month per Meter	\$ 756.10			\$ 756.10	\$ 821.64				\$ 821.64
All therms over the first block per month at	\$ 0.0650	\$ 1.7331	\$ 0.0915	\$ 1.8896	\$ 0.0397	\$ 1.0106	\$ 0.0915	\$ 1.1418	\$ 1.1418
	\$ 0.0648	\$ 1.1732	\$ 0.0994	\$ 1.3371	\$ 0.0397	\$ 1.2284	\$ 0.0994	\$ 1.3672	\$ 1.3672

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NHPUC NO. 11 - GAS
LIBERTY UTILITIES

Proposed Fifteenth Revised Page 89
Superseding Proposed Fourteenth Revised Page 89

II RATE SCHEDULES
FIRM RATE SCHEDULES

Rates effective April 1, 2022 - April 30, 2022
Rates effective November 1, 2022 - April 30, 2023
Winter Period

Rates Effective August 1, 2022 - October 31, 2022
Rates Effective May 1, 2023 - October 31, 2023
Summer Period

	Delivery Charge	Cost of Gas Rate Page 95	LDAC Page 101	Total Rate	Delivery Charge	Cost of Gas Rate Page 92	LDAC Page 101	Total Rate
Residential Non Heating - R-5	\$ 20.04			\$ 20.04	\$ 20.04			\$ 20.04
Customer Charge per Month per Meter	\$ 20.01			\$ 20.01	\$ 20.01			\$ 20.01
All Therms	\$ 0.6335	\$ 1.7335	\$ 0.1508	\$ 2.5178	\$ 0.6335	\$ 1.0109	\$ 0.1508	\$ 1.7952
	\$ -0.4997	\$ -1.1747	\$ -0.1318	\$ -1.8062	\$ -0.6335	\$ -1.2295	\$ -0.1318	\$ -1.9948
Residential Heating - R-6	\$ 20.04			\$ 20.04	\$ 20.04			\$ 20.04
Customer Charge per Month per Meter	\$ 20.01			\$ 20.01	\$ 20.01			\$ 20.01
Size of the first block								
All Therms	\$ 0.8238	\$ 1.7335	\$ 0.1508	\$ 2.7081	\$ 0.8238	\$ 1.0109	\$ 0.1508	\$ 1.9855
Therms in the first block per month at	\$ -0.7322	\$ -1.1747	\$ -0.1318	\$ -2.0387	\$ -0.8238	\$ -1.2295	\$ -0.1318	\$ -2.1851
Residential Heating - R-7	\$ 11.01			\$ 11.01	\$ 20.04			\$ 20.04
Customer Charge per Month per Meter	\$ 11.01			\$ 11.01	\$ 20.01			\$ 20.01
Size of the first block								
All Therms	\$ 0.4531	\$ 0.9534	\$ 0.1508	\$ 1.5573	\$ 0.8238	\$ 1.0109	\$ 0.1508	\$ 1.9855
Therms in the first block per month at	\$ -0.4027	\$ -0.6461	\$ -0.1318	\$ -1.1806	\$ -0.8238	\$ -1.2295	\$ -0.1318	\$ -2.1851
Commercial/Industrial - G-44	\$ 74.18			\$ 74.18	\$ 80.64			\$ 80.64
Customer Charge per Month per Meter	\$ 80.64			\$ 80.64	\$ 80.64			\$ 80.64
Size of the first block								
100 therms	\$ 0.6509	\$ 1.7336	\$ 0.0915	\$ 2.4760	\$ 0.6509	\$ 1.0111	\$ 0.0915	\$ 1.7535
Therms in the first block per month at	\$ -0.6094	\$ -1.1749	\$ -0.0994	\$ -1.8834	\$ -0.6509	\$ -1.2303	\$ -0.0994	\$ -1.9803
All therms over the first block per month at	\$ 0.4510	\$ 1.7336	\$ 0.0915	\$ 2.2761	\$ 0.4510	\$ 1.0111	\$ 0.0915	\$ 1.5536
	\$ -0.4094	\$ -1.1749	\$ -0.0994	\$ -1.6834	\$ -0.4510	\$ -1.2303	\$ -0.0994	\$ -1.7804
Commercial/Industrial - G-45	\$ 222.55			\$ 222.55	\$ 241.83			\$ 241.83
Customer Charge per Month per Meter	\$ 241.84			\$ 241.84	\$ 241.83			\$ 241.83
Size of the first block								
1000 therms	\$ 0.5569	\$ 1.7336	\$ 0.0915	\$ 2.3820	\$ 0.5925	\$ 1.0111	\$ 0.0915	\$ 1.6951
Therms in the first block per month at	\$ -0.5539	\$ -1.1749	\$ -0.0994	\$ -1.8279	\$ -0.5925	\$ -1.2303	\$ -0.0994	\$ -1.9219
All therms over the first block per month at	\$ 0.3712	\$ 1.7336	\$ 0.0915	\$ 2.1963	\$ 0.4077	\$ 1.0111	\$ 0.0915	\$ 1.5103
	\$ -0.3694	\$ -1.1749	\$ -0.0994	\$ -1.6431	\$ -0.4077	\$ -1.2303	\$ -0.0994	\$ -1.7371
Commercial/Industrial - G-46	\$ 955.10			\$ 955.10	\$ 1,035.22			\$ 1,035.22
Customer Charge per Month per Meter	\$ 1,035.22			\$ 1,035.22	\$ 1,035.22			\$ 1,035.22
All therms over the first block per month at	\$ 0.3658	\$ 1.7336	\$ 0.0915	\$ 2.1909	\$ 0.1810	\$ 1.0111	\$ 0.0915	\$ 1.2836
	\$ -0.3406	\$ -1.1749	\$ -0.0994	\$ -1.6146	\$ -0.1810	\$ -1.2303	\$ -0.0994	\$ -1.5104
Commercial/Industrial - G-55	\$ 74.18			\$ 74.18	\$ 80.70			\$ 80.70
Customer Charge per Month per Meter	\$ 80.70			\$ 80.70	\$ 80.70			\$ 80.70
Size of the first block								
100 therms	\$ 0.3926	\$ 1.7331	\$ 0.0915	\$ 2.2172	\$ 0.3926	\$ 1.0106	\$ 0.0915	\$ 1.4947
Therms in the first block per month at	\$ -0.3665	\$ -1.1732	\$ -0.0994	\$ -1.6388	\$ -0.3927	\$ -1.2284	\$ -0.0994	\$ -1.7202
All therms over the first block per month at	\$ 0.2383	\$ 1.7331	\$ 0.0915	\$ 2.0629	\$ 0.2644	\$ 1.0106	\$ 0.0915	\$ 1.3665
	\$ -0.2383	\$ -1.1732	\$ -0.0994	\$ -1.5106	\$ -0.2645	\$ -1.2284	\$ -0.0994	\$ -1.5920
Commercial/Industrial - G-56	\$ 222.55			\$ 222.55	\$ 241.54			\$ 241.54
Customer Charge per Month per Meter	\$ 241.54			\$ 241.54	\$ 241.54			\$ 241.54
Size of the first block								
1000 therms	\$ 0.3171	\$ 1.7331	\$ 0.0915	\$ 2.1417	\$ 0.2513	\$ 1.0106	\$ 0.0915	\$ 1.3534
Therms in the first block per month at	\$ -0.3157	\$ -1.1732	\$ -0.0994	\$ -1.5880	\$ -0.2513	\$ -1.2284	\$ -0.0994	\$ -1.5788
All therms over the first block per month at	\$ 0.2328	\$ 1.7331	\$ 0.0915	\$ 2.0574	\$ 0.1526	\$ 1.0106	\$ 0.0915	\$ 1.2547
	\$ -0.2102	\$ -1.1732	\$ -0.0994	\$ -1.4825	\$ -0.1526	\$ -1.2284	\$ -0.0994	\$ -1.4801
Commercial/Industrial - G-57	\$ 982.93			\$ 982.93	\$ 1,068.14			\$ 1,068.14
Customer Charge per Month per Meter	\$ 1,068.13			\$ 1,068.13	\$ 1,068.14			\$ 1,068.14
All therms over the first block per month at	\$ 0.2366	\$ 1.7331	\$ 0.0915	\$ 2.0612	\$ 0.1217	\$ 1.0106	\$ 0.0915	\$ 1.2238
	\$ -0.2207	\$ -1.1732	\$ -0.0994	\$ -1.4930	\$ -0.1217	\$ -1.2284	\$ -0.0994	\$ -1.4492
Commercial/Industrial - G-58	\$ 982.93			\$ 982.93	\$ 1,068.14			\$ 1,068.14
Customer Charge per Month per Meter	\$ 1,068.13			\$ 1,068.13	\$ 1,068.14			\$ 1,068.14
All therms over the first block per month at	\$ 0.0845	\$ 1.7331	\$ 0.0915	\$ 1.9091	\$ 0.0516	\$ 1.0106	\$ 0.0915	\$ 1.1537
	\$ -0.0842	\$ -1.1732	\$ -0.0994	\$ -1.3565	\$ -0.0516	\$ -1.2284	\$ -0.0994	\$ -1.3791

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NHPUC NO. 11 - GAS
LIBERTY UTILITIES

Proposed Second Revised Page 94
Superseding Proposed First Revised Page 94

II. RATE SCHEDULES
CALCULATION OF FIXED WINTER PERIOD COST OF GAS RATE
PERIOD COVERED: WINTER PERIOD, NOVEMBER 1, 2022 THROUGH APRIL 30, 2023
PRIOR PERIOD COVERED: WINTER PERIOD, NOVEMBER 1, 2021 THROUGH APRIL 30, 2022
(Refer to Text in Section 17(A) Fixed Price Option Program)

(Col 1)	(Col 2)	(Col 3)	(Col 2)	(Col 3)
Total Anticipated Direct Cost of Gas	\$ 74,822,730		\$ 155,443,989	
Projected Prorated Sales (11/01/21 - 4/30/22) (11/01/22 - 04/30/23)	92,780,984		92,780,984	
Direct Cost of Gas Rate		\$ 0.8567		\$ 1.6754 per therm
Demand Cost of Gas Rate	\$ 13,859,546	\$ 0.1585	\$ 12,510,219	\$ 0.1348
Commodity Cost of Gas Rate	60,820,834	0.6955	146,441,270	1.5784
Adjustment Cost of Gas Rate	142,353	0.0016	2,514,711	0.0271
Total Direct Cost of Gas Rate	\$ 74,822,730	\$ 0.8567	\$ 155,443,989	\$ 1.6754
Total Anticipated Indirect Cost of Gas	\$ 4,360,293		\$ 5,391,889	
Projected Prorated Sales (11/01/21 - 4/30/22) (11/01/22 - 04/30/23)	87,443,741		92,780,984	
Indirect Cost of Gas		\$ 0.0499		\$ 0.0581 per therm
TOTAL PERIOD AVERAGE COST OF GAS EFFECTIVE (11/01/21) (11/01/22)		\$ 0.9066		\$ 1.7335
Calculation of FPO				
TOTAL PERIOD AVERAGE COST OF GAS EFFECTIVE (11/01/21) (11/01/22)		\$ 0.9066		\$ 1.7335
FPO Risk Premium		\$ 0.0200		\$ 0.0200
TOTAL PERIOD FIXED PRICE OPTION COST OF GAS RATE EFFECTIVE (11/01/21) (11/01/22)		\$ 0.9266		\$ 1.7535
RESIDENTIAL COST OF GAS RATE - EXCLUDING GAP - (11/01/21) (11/1/2022)	/therm	\$ 0.9266	/therm	\$ 1.7535
Total Anticipated Direct Cost of Gas	\$ 74,822,730		\$ 155,443,989	
Projected Prorated Sales (11/01/21 - 4/30/22) (11/01/22 - 04/30/23)	92,780,984		92,780,984	
Direct Cost of Gas Rate		\$ 0.8567		\$ 1.6754 per therm
Demand Cost of Gas Rate	\$ 13,859,546	\$ 0.1585	\$ 12,510,219	\$ 0.1348
Commodity Cost of Gas Rate	60,820,834	0.6955	146,441,270	1.5784
Adjustment Cost of Gas Rate	142,353	0.0016	2,514,711	0.0271
Total Direct Cost of Gas Rate	74,822,730	0.8567	161,466,199	1.7403
Total Anticipated Indirect Cost of Gas	\$ 4,360,293		\$ 5,391,889	
Projected Prorated Sales (11/01/21 - 4/30/22) (11/01/22 - 04/30/23)	87,443,741		92,780,984	
Indirect Cost of Gas		\$ 0.0499		\$ 0.0581 per therm
TOTAL PERIOD AVERAGE COST OF GAS EFFECTIVE (11/01/21) (11/01/22)		\$ 0.9066		\$ 1.7984
Calculation of FPO				
TOTAL PERIOD AVERAGE COST OF GAS EFFECTIVE (11/01/21) (11/01/22)		\$ 0.4984		\$ 0.9534
FPO Risk Premium		\$ 0.0110		\$ 0.0110
TOTAL PERIOD FIXED PRICE OPTION COST OF GAS RATE EFFECTIVE (11/01/21) (11/01/22)		\$ 0.5094		\$ 0.9644
RESIDENTIAL COST OF GAS RATE - GAP - (11/01/21) (11/1/2022)	/therm	\$ 0.5094	/therm	\$ 0.9644

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NHPUC NO. 11 - GAS
LIBERTY UTILITIES

Proposed Seventh Revised Page 95
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CALCULATION OF FIRM SALES COST OF GAS RATE
PERIOD COVERED: WINTER PERIOD, NOVEMBER 1, 2022 THROUGH APRIL 30, 2023
~~PRIOR PERIOD COVERED: WINTER PERIOD, NOVEMBER 1, 2021 THROUGH APRIL 30, 2022~~
(Refer to Text in Section 17 Cost of Gas Clause)

(Col 1)	(Col 2)	(Col 3)	(Col 2)	(Col 3)
Total Anticipated Direct Cost of Gas	\$ 94,810,894		\$ 155,443,989	
Projected Prorated Sales (11/01/21 - 04/30/22) (11/01/20 - 04/30/21)	87,443,744		\$ 92,780,984	
Direct Cost of Gas Rate		1.0843		\$ 1.6754 per therm
Demand Cost of Gas Rate	\$ 13,868,897	0.1586	\$ 12,510,219	\$ 0.1348
Commodity Cost of Gas Rate	80,780,853	0.9238	146,441,270	1.5784
Adjustment Cost of Gas Rate	161,144	0.0018	2,514,711	0.0271
Hedge Contract (Savings)			(6,022,210)	(0.0649)
Total Direct Cost of Gas Rate	\$ 94,810,894	1.0843	\$ 155,443,989	1.6754
Total Anticipated Indirect Cost of Gas	\$ 4,338,002		\$ 5,391,889	
Projected Prorated Sales (11/01/21 - 04/30/22) (11/01/20 - 04/30/21)	87,443,744		92,780,984	
Indirect Cost of Gas		0.0496		\$ 0.0581 per therm
TOTAL PERIOD AVERAGE COST OF GAS EFFECTIVE 11/01/22				\$ 1.7335 per Therm
TOTAL PERIOD AVERAGE COST OF GAS EFFECTIVE 11/01/21		1.1339		

RESIDENTIAL COST OF GAS RATE 11/01/22	COGwr	\$ 1.7335 /therm
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RESIDENTIAL COST OF GAS RATE 11/01/21	COGwr	\$ 1.1339 /therm
--	------------------	-----------------------------

Maximum (COG + 25%) \$ 4.74 \$ 2.1669

GAS ASSISTANCE PLAN RESIDENTIAL COST OF GAS RATE R 4 & R 7 11/01/22	\$ 0.9534 /therm
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GAS ASSISTANCE PLAN RESIDENTIAL COST OF GAS RATE R 4 & R 7 11/01/21	\$ 0.6236 /therm
--	-----------------------------

Maximum (COG + 25%) \$ 0.7796 \$ 1.1918

C&I HIGH WINTER USE COST OF GAS RATE 11/01/22	COGwh	\$ 1.7336 /therm
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C&I HIGH WINTER USE COST OF GAS RATE 11/01/21	COG-h	\$ 1.1344 /th
--	------------------	--------------------------

Average Demand Cost of Gas Rate Effective 0-2-11/01/22	\$ 0.586	\$	0.1348	Maximum (COG + 25%)	\$ 4.76	\$ 2.2481
Times High Winter Use Ratio (Winter)	1.0017		1.0005			
Times Correction Factor	0.00		1.0001			
Adjusted Demand Cost of Gas Rate	0.589	\$	0.1349			
Commod by Cost of Gas Rate	0.9238	\$	1.5784	Minimum		
Adjustment Cost of Gas Rate	0.008		0.0271	Maximum		
Indirect Cost of Gas Rate	0.0496		0.0581			
Hedge Contract (Savings)			(0.0649)			
Adjusted C&I High Winter Use Cost of Gas Rate	0.34	\$	1.7985			

C&I LOW WINTER USE COST OF GAS RATE 11/01/22	COGwl	\$ 1.7331 /therm
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C&I LOW WINTER USE COST OF GAS RATE 11/01/21	COGwl	\$ 1.1324 /therm
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Average Demand Cost of Gas Rate Effective 0-20-11/01/21	\$ 0.1586	\$	0.1348	Maximum (COG + 25%)	\$ 1.4155	\$ 2.1664
Times Low Winter Use Ratio (Winter)	0.990		0.9971			
Times Correction Factor	0.00		1.0001			
Adjusted Demand Cost of Gas Rate	0.1572	\$	0.1344			
Commod by Cost of Gas Rate	0.9238	\$	1.5784			
Adjustment Cost of Gas Rate	0.0018		0.0271			
Indirect Cost of Gas Rate	0.0496		0.0581			
Hedge Contract (Savings)			(0.0649)			
Adjusted C&I Low Winter Use Cost of Gas Rate	1.1924	\$	1.7331			

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NHPUC NO. 11 - GAS
LIBERTY UTILITIES

Proposed Second Revised Page 96
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Anticipated Cost of Gas
PERIOD COVERED: WINTER PERIOD, NOVEMBER 1, 2022 THROUGH APRIL 30, 2023
~~PRIOR PERIOD COVERED - WINTER PERIOD, NOVEMBER 1, 2021 THROUGH APRIL 30, 2022~~
(REFER TO TEXT ON IN SECTION 17 COST OF GAS CLAUSE)

(Col 1)	(Col 2)	(Col 3)	(Col 2)	(Col 3)
ANTICIPATED DIRECT COST OF GAS				
Purchased Gas:				
Demand Costs:	\$ 12,887,000		\$ 11,510,320	
Supply Costs:	72,354,034		121,326,019	
Storage Gas:				
Demand, Capacity:	\$ 981,898		\$ 999,899	
Commodity Costs:	6,130,436		12,469,948	
Produced Gas:				
	2,299,384		12,645,303	
Hedged Contract (Saving)/Loss				
Hedge Underground Storage Contract (Saving)/Loss			(6,022,210)	
Unadjusted Anticipated Cost of Gas		\$ 94,649,754		\$ 152,929,278
Adjustments:				
Prior Period (Over)/Under Recovery (as of 05/01/22)	\$ 1,431,639		\$ 4,089,654	
Interest	44,085		(48,335)	
Fuel Inventory Revenue Requirement	336,667		515,609	
Broker Revenues	(3,600)		(3,600)	
Refunds from Suppliers			-	
Fuel Financing			-	
Transportation CGA Revenues	(6,938)		(422,021)	
Interruptible Sales Margin			-	
Capacity Release and Off System Sales Margins	(1,676,542)		(1,676,512)	
Hedging Costs			-	
Fixed Price Option Administrative Costs	36,800		59,917	
Total Adjustments		<u>461,144</u>		<u>2,514,711</u>
Total Anticipated Direct Cost of Gas		\$ 94,810,891		\$ 155,443,989
Anticipated Indirect Cost of Gas				
Working Capital:				
Total Unadjusted Anticipated Cost of Gas 11/01/21 - 04/30/22	\$ 94,649,754		\$ 152,929,278	
Working Capital Rate: Lead Lag Days / 365	0.0705		0.0705	
Prime Rate	3.25%		5.50%	
Working Capital Percentage	<u>0.229%</u>		<u>0.388%</u>	
Working Capital	\$ 216,764		\$ 592,695	
Plus: Working Capital Reconciliation (Acct 142.20)	(14,859)		(43,864)	
Total Working Capital Allowance		<u>201,902</u>		<u>548,831</u>
Bad Debt:				
Total Unadjusted Anticipated Cost of Gas 11/01/21 - 04/30/22	\$ 94,649,754		\$ 152,929,278	
Less: Refunds			-	
Plus: Total Working Capital	201,902		548,831	
Plus: Prior Period (Over)/Under Recovery	1,431,639		4,089,654	
Subtotal	\$ 96,283,294		\$ 157,567,763	
Bad Debt Percentage	<u>0.70%</u>		<u>0.86%</u>	
Bad Debt Allowance	\$ 673,983		\$ 1,356,898	
Plus: Bad Debt Reconciliation (Acct 175.52)	(223,340)		(199,297)	
Total Bad Debt Allowance		\$ 450,643		\$ 1,157,601
Production and Storage Capacity				
	\$ 3,685,458		\$ 3,685,458	
Miscellaneous Overhead 11/01/21 - 04/30/22	\$ -		\$ -	
Times Winter Sales	91,677		92,781	
Divided by Total Sales	<u>115,043</u>		<u>116,430</u>	
Miscellaneous Overhead			-	
Total Anticipated Indirect Cost of Gas		\$ 4,338,002		\$ 5,391,889
Total Cost of Gas		\$ <u>99,148,894</u>		\$ <u>160,835,879</u>

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NHPUC NO. 11 - GAS
LIBERTY UTILITIES

Proposed Second Revised Page 98
Superseding Proposed First Revised Page 98

II. RATE SCHEDULES
Calculation of Firm Transportation Cost of Gas Rate
PERIOD COVERED WINTER PERIOD, NOVEMBER 1, 2022 THROUGH APRIL 30, 2023
~~PRIOR PERIOD COVERED WINTER PERIOD NOVEMBER 1, 2021 THROUGH APRIL 30, 2022~~
(Refer to text in Section 16(Q) Firm Transportation Cost of Gas Clause)

(Col 1)	(Col 2)	(Col 3)	(Col 4)	(Col 2)	(Col 3)	(Col 4)
ANTICIPATED COST OF SUPPLEMENTAL GAS SUPPLIES:						
PROPANE	\$ 920,459			\$ 2,297,840		
LNG	\$ 1,378,925			<u>10,347,463</u>		
TOTAL ANTICIPATED COST OF SUPPLEMENTAL GAS SUPPLIES	<u>2,299,384</u>			12,645,303		
ESTIMATED PERCENTAGE USED FOR PRESSURE SUPPORT PURPOSES	<u>8.7%</u>			<u>8.7%</u>		
ESTIMATED COST OF LIQUIDS USED FOR PRESSURE SUPPORT PURPOSES	<u>200,046</u>			<u>\$ 1,100,141</u>		
PROJECTED FIRM THROUGHPUT (THERMS):						
FIRM SALES	<u>91,676,680</u>	68.3%		92,780,984	68.3%	
FIRM TRANSPORTATION SUBJECT TO FTCCG	<u>42,583,790</u>	<u>31.7%</u>		<u>43,122,920</u>	<u>31.7%</u>	
TOTAL FIRM THROUGHPUT SUBJECT TO COST OF GAS CHARGE	<u>134,260,470</u>	100.0%		135,903,904	100.0%	
TRANSPORTATION SHARE OF SUPPLEMENTAL GAS SUPPLIES	31.7%	x	200,046	=	\$ 63,449	31.7% x \$ 1,100,141 = \$ 349,080
PRIOR (OVER) OR UNDER COLLECTION				(56,511)		<u>72,941</u>
NET AMOUNT TO COLLECT FROM (RETURNED TO) TRANSPORTATION CUSTOMERS				\$ 6,938		\$ 422,021
PROJECTED FIRM TRANSPORTATION THROUGHPUT				42,583,790		43,122,920
FIRM TRANSPORTATION COST OF GAS				\$ 0.0002		\$ 0.0098

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III DELIVERY TERMS AND CONDITIONS

NHPUC NO. 11 - GAS
LIBERTY UTILITIES

Proposed Second Revised Page 153
Superseding Proposed First Revised Page 153

2 ATTACHMENT B
Schedule of Administrative Fees and Charges

I	Supplier Balancing Charge:	\$	0.18	\$	0.21	
II	Capacity Mitigation Fee		15%		15% of the Proceeds from the Marketing of Capacity for Mitigation	
III	Peaking Demand Charge	\$	54.72	\$	56.69	
IV	Company Allowance Calculation (per Schedule 25)					
			165,850,380		170,377,710	Total Sendout - Therms Jul -2021 - Jun-2022
						Total Sendout - Therms Jul -2020 - Jun-2021
			163,831,092		<u>166,126,573</u>	Total Throughput - Therms Jul-2021 - Jun-2022
						Total Throughput - Therms Jul 2020 - Jun 2021
			2,028,288		4,251,137	Variance (Sendout - Throughput)
Company Allowance Percentage	2022-23	2021-22	4.2%		2.5%	Variance / Total Sendout

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III DELIVERY TERMS AND CONDITIONS

NHPUC NO. 11 - GAS
LIBERTY UTILITIES

Proposed Second Revised Page 154
Superseding Proposed First Revised Page 154

ATTACHMENT C

CAPACITY ALLOCATORS

Rate Class		Pipeline	Storage	Peaking	Total
G-41	Low Annual /High Winter Use	69.1% 71.5%	46.8% 17.4%	14.1% 11.0%	100 0%
G-51	Low Annual /Low Winter Use	76.2% 79.5%	42.9% 12.6%	40.9% 7.9%	100 0%
G-42	Medium Annual / High Winter	69.1% 71.5%	46.8% 17.4%	14.1% 11.0%	100 0%
G-52	High Annual / Low Winter Use	76.2% 79.5%	42.9% 12.6%	40.9% 7.9%	100 0%
G-43	High Annual / High Winter	69.1% 71.5%	46.8% 17.4%	14.1% 11.0%	100 0%
G-53	High Annual / Load Factor < 90%	76.2% 79.5%	42.9% 12.6%	40.9% 7.9%	100 0%
G-54	High Annual / Load Factor > 90%	76.2% 79.5%	42.9% 12.6%	40.9% 7.9%	100 0%

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Liberty Utilities (EnergyNorth Natural Gas) Corp. d/b/a Liberty
d/b/a Liberty
Peak 2022 - 2023 Winter Cost of Gas Filing

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4	Schedule 4	Adjustments to Gas Costs
5	Schedule 5A Schedule 5B Schedule 5C Schedule 5D	Demand Costs Demand Volumes Demand Rates Pipeline Tariff Sheets
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11	Schedule 11A Schedule 11B Schedule 11C Schedule 11D	Normal and Design Year Volumes Normal Year Normal and Design Year Volumes Design Year Capacity Utilization Forecast of Upcoming Winter Period Design Day Report
12	Schedule 12, Page 1 Schedule 12, Page 2	Transportation Available for Pipeline Supply and Storage Agreements for Gas Supply and Transportation
13	Schedule 13	Load Migration From Sales to Transportation in the C&I High and Low Winter Use Classes
14	Schedule 14	Delivered Costs of Winter Supplies to Pipeline Delivered Supplies from the Prior Year
15	Schedule 15	July and August Consumption of C&I High and Low Winter Classes as a Percentage of Their Annual Consumption
16	Schedule 16	Storage Inventory, Underground, LPG and LNG including Calculation of Money Pool Interest Costs Associated with Natural Gas
17	Schedule 17	Forecast of Firm Transportation Volumes and Cost of Gas Revenues
18	Schedule 18	Winter 2018-2019 Cost of Gas Reconciliation is no longer included in this filing
19	Schedule 19	Local Distribution Adjustment Charge Calculation
20	Schedule 20	Environmental Surcharge
21	Schedule 21	Supplier Balancing Charge and Peaking Demand Charge Calculations
22	Schedule 22	Capacity Allocators Calculation
23	Schedule 23	Fixed Price Option (FPO) Historical Summary
24	Schedule 24	Short-Term Debt Limitations
25	Schedule 25	Company Allowance and Lost and Unaccounted For Gas (LAUF) Calculation
26	Schedule 26	Fuel Inventory Revenue Requirement

1 **Liberty Utilities (EnergyNorth Natural Gas) Corp. d/b/a Liberty**
2 **d/b/a Liberty**
3 **Peak 2022 - 2023 Winter Cost of Gas Filing**
4 **Summary**

	Reference	PK 22-23 Nov - Apr
(a)	(b)	(c)
Anticipated Direct Cost of Gas		
Purchased Gas:		
Demand Costs:	Sch. 5A, col (k), In 46	\$ 11,510,320
Supply Costs	Sch. 6, col (i), In 47	121,326,019
Storage Gas:		
Demand, Capacity:	Sch. 5A, col (k), In 61	\$ 999,899
Commodity Costs:	Sch. 6, col (i), In 50	12,469,948
Produced Gas:	Sch. 6, col (i), In 56	\$ 12,645,303
Hedge Contract (Savings)	Sch. 6, col (i), In 58	\$ (6,022,210)
Hedge Underground Storage Contract (Savings)/Loss	Sch. 16, col (e), In 172	\$ -
Total Unadjusted Cost of Gas		\$ 152,929,278
Adjustments		
Prior Period (Over)/Under Recovery)	Sch. 3, col (c) In 28	\$ 4,089,654
Interest 05/01/2022 - 4/30/23	Sch. 3, col (q) In 189	(48,335)
Fuel Inventory Revenue Req	Sch. 26, col (b) In 8	515,609
Refunds from Suppliers	Sch. 4, In 26 col (c)	-
Broker Revenues	Sch. 4, In 26 col (d)	(3,600)
Fuel Financing	Sch. 4, In 26 col (e)	-
Transportation CGA Revenues	Sch. 4, In 26 col (f)	(422,021)
Interruptible Sales Margin	Sch. 4, In 26 col (g)	-
Capacity Release and Off System Sales Margins	Sch. 4, In 26 col (h) + col (i)	(1,676,512)
Hedging Costs	Sch. 4, In 26 col (j)	-
Fixed Price Option Administrative Costs	Sch. 4, In 26 col (k)	59,917
Total Adjustments		\$ 2,514,711
Total Anticipated Direct Costs	Ins 23 + 39	\$ 155,443,989
Anticipated Indirect Cost of Gas		
Working Capital		
Total Unadjusted Anticipated Cost of Gas	Ln 23	\$ 152,929,278
Lead Lag Days / 365	DG 20-105, 25.72/ 365	0.0705
Prime Rate		5.50%
Working Capital Percentage	per GTC 18(f), In 47 * In 48	0.388%
Working Capital	In 45 * In 48	592,695
Plus: Working Capital Reconciliation	Sch. 3, col (c), In 94	(43,864)
Total Working Capital Allowance	Ins 49 + 50	\$ 548,831
Bad Debt		
Total Unadjusted Anticipated Cost of Gas	In 23	\$ 152,929,278
Less Refunds	In 30	-
Plus Working Capital	In 52	548,831
Plus Prior Period (Over) Under Recovery	In 27	4,089,654
Subtotal		\$ 157,567,763
Bad Debt Percentage	per GTC 18(f)	0.86%
Bad Debt Allowance	In 59 * In 60	\$ 1,356,898
Prior Period Bad Debt Allowance	Sch. 3, col (c), In 169	(199,297)
Total Bad Debt Allowance	Ins 62 + 63	\$ 1,157,601
Production and Storage Capacity	per GTC18(f)	\$ 3,685,458
Miscellaneous Overhead		
Sales Volume	Sch. 10B, In 23/1000	\$ 92,781
Divided by Total Sales	Sch. 10B, In 23/1000	116,430
Ratio		79.69%
Miscellaneous Overhead	Ins 69 * 72	\$ -
Total Anticipated Indirect Cost of Gas	Ins 52 + 65 + 67 + 70	\$ 5,391,889
Total Cost of Gas	Ins 41 + 72	\$ 160,835,879
Projected Forecast Sales (Therms)	Sch. 3, col (q), In 52	92,780,984

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Schedule 1
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7 For Month of:	(a)	(b)	Peak Costs May 21 - Oct 21 (c)	Nov-22 (d)	Dec-22 (e)	Jan-23 (f)	Feb-23 (g)	Mar-23 (h)	Apr-23 (i)	May-23 (j)	Peak Period Nov - Apr (k)
9 I. Gas Volumes (Therms)										2,292,267	2.5%
11 A. Firm Demand Volumes											
12 Firm Gas Sales	Sch. 10B, ln 23		-	3,196,308	17,917,229	21,029,207	17,732,977	15,124,179	9,139,216	4,380,770	88,519,885
13 Lost Gas (Unaccounted for)			-	285,912	384,395	488,262	419,171	353,351	241,485		2,172,577
14 Company Use			-	15,751	21,177	26,899	23,093	19,466	13,304		119,689
15 Unbilled Therms			-	8,661,334	(1,975,210)	(779,531)	(348,687)	(469,669)	875,901	(4,380,770)	1,583,367
17 Total Firm Volumes	Sch. 6, ln 97		-	12,159,305	16,347,591	20,764,836	17,826,554	15,027,327	10,269,906		92,395,519
19 B. Supply Volumes (Therms)											
20 Pipeline Gas:											
21 Dawn Supply	Sch. 6, ln 66		-	874,251	924,161	926,671	839,868	910,477	771,345		5,246,775
22 Niagara Supply	Sch. 6, ln 67		-	689,540	728,492	730,471	661,898	717,705	678,639		4,206,745
23 TGP Supply (Direct)	Sch. 6, ln 68		-	4,621,463	3,096,843	3,105,255	2,814,958	3,050,989	641,701		17,331,210
24 Dracut Supply 1 - Baseload	Sch. 6, ln 69		-	-	-	3,100,000	1,400,000	-	-		4,500,000
25 Dracut Supply 2 - Swing	Sch. 6, ln 70		-	2,068,620	1,628,571	574,992	2,290,420	4,186,862	1,559,349		12,308,813
26 Dracut Supply 3 - Swing	Sch. 6, ln 71		-	1,267,959	112,886	75,462	292,325	1,410,944	36,213		3,195,790
27 Constellation COMBO	Sch. 6, ln 72		-	-	-	-	-	-	-		-
28 LNG Truck	Sch. 6, ln 73		-	117,744	1,270,345	1,451,131	1,484,347	110,473	-		4,434,041
29 Propane Truck	Sch. 6, ln 74		-	-	-	691,985	-	-	55,769		747,754
30 PNGTS	Sch. 6, ln 75		-	218,563	231,040	231,668	209,778	227,619	196,277		1,314,945
31 Portland Natural Gas	Sch. 6, ln 76		-	1,067,793	1,128,109	1,131,173	1,025,411	1,111,405	840,151		6,304,043
32 TGP Supply (Z4)	Sch. 6, ln 77		-	1,816,941	1,919,817	1,925,032	1,744,865	1,891,391	5,458,808		14,756,854
33 Subtotal Pipeline Volumes			-	12,742,875	11,040,265	13,943,840	12,763,870	13,617,866	10,238,252		74,346,969
35 Storage Gas:											
36 TGP Storage	Sch. 6, ln 82		-	1,157,573	5,220,027	6,244,468	5,052,839	1,498,432	1,000,000		20,173,339
38 Produced Gas:											
39 LNG Vapor	Sch. 6, ln 85		-	119,952	1,357,644	1,456,414	1,485,862	21,502	21,004		4,462,377
40 Propane	Sch. 6, ln 86		-	-	-	1,263,231	8,331	-	-		1,271,562
41 Subtotal Produced Gas			-	119,952	1,357,644	2,719,645	1,494,192	21,502	21,004		5,733,939
43 Less - Gas Refill:											
44 LNG Truck	Sch. 6, ln 91		-	(117,744)	(1,270,345)	(1,451,131)	(1,484,347)	(110,473)	-		(4,434,041)
45 Propane	Sch. 6, ln 92		-	-	-	(691,985)	-	-	(55,769)		(747,754)
46 TGP Storage Refill	Sch. 6, ln 93		-	(1,743,351)	-	-	-	-	(933,581)		(2,676,933)
47 Subtotal Refills			-	(1,861,095)	(1,270,345)	(2,143,116)	(1,484,347)	(110,473)	(989,350)		(7,858,728)
49 Total Firm Sendout Volumes	Ins 33 + 36 + 41 + 47		-	12,159,305	16,347,591	20,764,836	17,826,554	15,027,327	10,269,906		92,395,519

1 Liberty Utilities (EnergyNorth Natural Gas) Corp. d/b/a Liberty
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3 Peak 2022 - 2023 Winter Cost of Gas Filing
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51 II. Gas Costs
52 A.
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56 For Month of:
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58 Supply
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64 Pipeline:
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86 Peaking Supply:
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94 Storage:
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Demand Costs

(a) (b)

Peak Costs	Nov-22	Dec-22	Jan-23	Feb-23	Mar-23	Apr-23	May-23	Peak Period
May 21 - Oct 21	(d)	(e)	(f)	(g)	(h)	(i)	(j)	Nov - Apr
(c)	(d)	(e)	(f)	(g)	(h)	(i)	(j)	(k)
Niagara Supply								
Subtotal Supply Demand								
Less Capacity Credit								
Net Pipeline Demand Costs								
Iroquois Gas Trans Service RTS 470-0								
Tenn Gas Pipeline 95346 Z5-Z6								
Tenn Gas Pipeline 2302 Z5-Z6								
Tenn Gas Pipeline 8587 Z0-Z6								
Tenn Gas Pipeline 8587 Z1-Z6								
Tenn Gas Pipeline 8587 Z4-Z6								
Tenn Gas Pipeline (Dracut) 42076 Z6-Z6								
Tenn Gas Pipeline (Dracut) 358905 Z6-Z7								
Tenn Gas Pipeline (Concord Lateral) Z6-Z6								
Portland Natural Gas Trans Service								
Portland Natural Gas								
ANE (TransCanada via Union to Iroquois)								
TransCanada via Union to Portland								
Tenn Gas Pipeline Z4-Z6 stg 632								
Tenn Gas Pipeline Z4-Z6 stg 11234								
Tenn Gas Pipeline Z5-Z6 stg 11234								
National Fuel FST 2358								
Subtotal Pipeline Demand	\$ 3,907,220	\$ 1,596,276	\$ 1,596,276	\$ 1,596,276	\$ 1,596,276	\$ 1,596,276	\$ 1,596,276	\$ 13,484,875
Less Capacity Credit	(1,323,375)	(403,698)	(403,698)	(403,698)	(403,698)	(403,698)	(403,698)	(3,745,564)
Net Pipeline Demand Costs	\$ 2,583,844	\$ 1,192,578	\$ 1,192,578	\$ 1,192,578	\$ 1,192,578	\$ 1,192,578	\$ 1,192,578	\$ 9,739,311
Tenn Gas Pipeline (Concord Lateral) Z6-Z6								
Demand FLS								
Peaking Demand								
Subtotal Peaking Demand								
Less Capacity Credit								
Net Peaking Supply Demand Costs								
Dominion - Demand								
Dominion - Storage								
Honeoye - Demand								
National Fuel - Demand								
National Fuel - Capacity								
Tenn Gas Pipeline - Demand								
Tenn Gas Pipeline - Capacity								
Subtotal Storage Demand	\$ 709,954	\$ 118,326	\$ 118,326	\$ 118,326	\$ 118,326	\$ 118,326	\$ 118,326	\$ 1,419,908
Less Capacity Credit	(240,461)	(29,925)	(29,925)	(29,925)	(29,925)	(29,925)	(29,925)	(420,009)
Net Storage Demand Costs	\$ 469,493	\$ 88,401	\$ 88,401	\$ 88,401	\$ 88,401	\$ 88,401	\$ 88,401	\$ 999,899
Total Demand Charges	\$ 4,617,174	\$ 2,188,704	\$ 2,188,704	\$ 2,188,704	\$ 2,188,704	\$ 2,188,704	\$ 1,714,602	\$ 17,275,294
Total Capacity Credit	(1,563,837)	(553,523)	(553,523)	(553,523)	(553,523)	(553,523)	(433,623)	(4,765,075)
Net Demand Charges	\$ 3,053,337	\$ 1,635,181	\$ 1,635,181	\$ 1,635,181	\$ 1,635,181	\$ 1,635,181	\$ 1,280,979	\$ 12,510,219

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1 Liberty Utilities (EnergyNorth Natural Gas) Corp. d/b/a Liberty
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3 Peak 2022 - 2023 Winter Cost of Gas Filing
4 Summary of Supply and Demand Forecast

111 B. Commodity Costs			REDACTED							Schedule 1	
			Page 3 of 4								
			Peak Costs							Peak Period	
			May 21 - Oct 21	Nov-22	Dec-22	Jan-23	Feb-23	Mar-23	Apr-23	May-23	Nov - Apr
			(c)	(d)	(e)	(f)	(g)	(h)	(i)	(j)	(k)
118	Pipeline:	(a)	(b)								
119	Dawn Supply		Sch. 6, In 12								
120	Niagara Supply		Sch. 6, In 13								
121	TGP Supply (Direct)		Sch. 6, In 14								
122	Dracut Supply 1 - Baseload		Sch. 6, In 15								
123	Dracut Supply 2 - Swing		Sch. 6, In 16								
	Dracut Supply 3 - Swing		Sch. 6, In 17								
124	Constellation COMBO		Sch. 6, In 18								
125	LNG Truck		Sch. 6, In 19								
126	Propane Truck		Sch. 6, In 20								
127	PNGTS		Sch. 6, In 21								
128	Portland Natural Gas		Sch. 6, In 22								
129	TGP Supply (Z4)		Sch. 6, In 23								
130	Subtotal Pipeline Commodity Costs			\$ -	\$ 14,236,355	\$ 21,290,694	\$ 31,572,749	\$ 36,538,761	\$ 24,107,873	\$ 5,643,470	\$ 133,389,902
131											
132	Storage:										
133	TGP Storage - Withdrawals		Sch. 6, In 50	\$ -	\$ 717,844	\$ 3,237,085	\$ 3,872,370	\$ 3,133,407	\$ 929,220	\$ 580,022	\$ 12,469,948
134											
135	Produced Gas Costs:										
136	LNG Vapor		Sch. 6, In 53								
137	Propane		Sch. 6, In 54								
138	Subtotal Produced Gas Costs			\$ -	\$ 165,051	\$ 3,099,142	\$ 5,778,047	\$ 3,535,110	\$ 34,374	\$ 33,579	\$ 12,645,303
139											
140	Less Storage Refills:										
141	LNG Truck		Sch. 6, In 40								
142	Propane		Sch. 6, In 41								
143	TGP Storage Refill		Sch. 6, In 42								
144	Storage Refill (Trans.)		Sch. 6, In 43								
145	Subtotal Storage Refill			\$ -	\$ (1,877,207)	\$ (3,046,288)	\$ (4,799,129)	\$ (3,514,340)	\$ (124,702)	\$ (579,483)	\$ (13,941,150)
146											
147	Total Supply Commodity Costs			\$ -	\$ 13,242,043	\$ 24,580,633	\$ 36,424,037	\$ 39,692,938	\$ 24,946,765	\$ 5,677,587	\$ 144,564,002
148											
149	C. Supply Volumetric Transportation Costs:										
150	Dawn Supply		Sch. 6, In 28								
151	Niagara Supply		Sch. 6, In 29								
152	TGP Supply (Direct)		Sch. 6, In 30								
153	Dracut Supply 1 - Baseload		Sch. 6, In 31								
154	Dracut Supply 2 - Swing		Sch. 6, In 32								
	Dracut Supply 3 - Swing		Sch. 6, In 33								
155	Subtotal Pipeline Volumetric Trans. Costs			\$ -	\$ 369,128	\$ 262,693	\$ 290,901	\$ 260,510	\$ 242,323	\$ 61,554	\$ 1,487,110
156											
157	TGP Storage - Withdrawals		Sch. 6, In 35	\$ -	\$ 22,422	\$ 101,111	\$ 120,955	\$ 97,873	\$ 29,024	\$ 18,772	\$ 390,158
158											
159	Total Supply Volumetric Trans. Costs		Ins 155 + 157	\$ -	\$ 391,550	\$ 363,805	\$ 411,856	\$ 358,383	\$ 271,347	\$ 80,327	\$ 1,877,268
160											
161	Total Commodity Gas & Trans. Costs		Ins 147 + 159	\$ -	\$ 13,633,593	\$ 24,944,437	\$ 36,835,893	\$ 40,051,320	\$ 25,218,112	\$ 5,757,914	\$ 146,441,270

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1 Liberty Utilities (EnergyNorth Natural Gas) Corp. d/b/a Liberty
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4 Summary of Supply and Demand Forecast

164 D. Supply and Demand Costs by Source

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Schedule 1
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			Peak Costs							Peak Period		
	(a)	(b)	(c)	Nov-22	Dec-22	Jan-23	Feb-23	Mar-23	Apr-23	May-23	Nov - Apr	
				(d)	(e)	(f)	(g)	(h)	(i)	(j)	(k)	
171	<u>Purchased Gas Demand Costs</u>											
172	Pipeline Gas Demand Costs	Ins 60 + 82	\$ 3,907,220	\$ 1,596,276	\$ 1,596,276	\$ 1,596,276	\$ 1,596,276	\$ 1,596,276	\$ 1,596,276	\$ 1,596,276	\$ 13,484,875	
173	Peaking Gas Demand Costs	In 90	-	474,102	474,102	474,102	474,102	474,102	-	-	2,370,511	
174	Subtotal Purchased Gas Demand Costs		\$ 3,907,220	\$ 2,070,378	\$ 2,070,378	\$ 2,070,378	\$ 2,070,378	\$ 2,070,378	\$ 1,596,276		\$ 15,855,386	
175	Less Capacity Credit	Ins 61 + 83 + 91	(1,323,375)	(523,599)	(523,599)	(523,599)	(523,599)	(523,599)	(403,698)		(4,345,067)	
176	Net Purchased Gas Demand Costs		\$ 2,583,844	\$ 1,546,780	\$ 1,546,780	\$ 1,546,780	\$ 1,546,780	\$ 1,546,780	\$ 1,192,578		\$ 11,510,320	
177	<u>Storage Gas Demand Costs</u>											
179	Storage Demand	In 102	\$ 709,954	\$ 118,326	\$ 118,326	\$ 118,326	\$ 118,326	\$ 118,326	\$ 118,326		\$ 1,419,908	
180	Less Capacity Credit	In 103	(240,461)	(29,925)	(29,925)	(29,925)	(29,925)	(29,925)	(29,925)		(420,009)	
181	Net Storage Demand Costs		\$ 469,493	\$ 88,401	\$ 88,401	\$ 88,401	\$ 88,401	\$ 88,401	\$ 88,401		\$ 999,899	
182	<u>Total Demand Costs</u>											
183		Ins 176 + 181	\$ 3,053,337	\$ 1,635,181	\$ 1,635,181	\$ 1,635,181	\$ 1,635,181	\$ 1,635,181	\$ 1,280,979		\$ 12,510,219	
184	<u>Purchased Gas Supply</u>											
186	Commodity Costs	In 130	[REDACTED]									\$ 120,935,861
187	Less Storage Inj. (TGP Storage)	In 143	[REDACTED]									
188	Less Storage Transportation	In 144	[REDACTED]									
189	Less LNG Truck	In 141	[REDACTED]									
190	Less Propane Truck	In 142	[REDACTED]									
191	Plus Transportation Costs	In 155	[REDACTED]									
192	Subtotal Purchased Gas Supply		\$ -	\$ 12,728,276	\$ 18,507,098	\$ 27,064,521	\$ 33,284,931	\$ 24,225,494	\$ 5,125,541		\$ 120,935,861	
193	<u>Storage Commodity Costs</u>											
195	Commodity Costs	In 133	\$ -	\$ 717,844	\$ 3,237,085	\$ 3,872,370	\$ 3,133,407	\$ 929,220	\$ 580,022		\$ 12,469,948	
196	Transportation Costs	In 157	-	22,422	101,111	120,955	97,873	29,024	18,772		390,158	
197	Subtotal Storage Commodity Costs		\$ -	\$ 740,266	\$ 3,338,197	\$ 3,993,324	\$ 3,231,280	\$ 958,244	\$ 598,794		\$ 12,860,106	
198	<u>Produced Gas Commodity Costs</u>											
199		In 138	\$ -	\$ 165,051	\$ 3,099,142	\$ 5,778,047	\$ 3,535,110	\$ 34,374	\$ 33,579		\$ 12,645,303	
200	<u>Subtotal Commodity Costs</u>											
201		Ins 192 + 197 + 199	\$ -	\$ 13,633,593	\$ 24,944,437	\$ 36,835,893	\$ 40,051,320	\$ 25,218,112	\$ 5,757,914		\$ 146,441,270	
202	<u>Hedge Contract (Savings)/Loss</u>											
203			\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -		\$ -	
204	<u>Total Commodity Costs</u>											
205		Ins 201 + 203	\$ -	\$ 13,633,593	\$ 24,944,437	\$ 36,835,893	\$ 40,051,320	\$ 25,218,112	\$ 5,757,914		\$ 146,441,270	
206	<u>Total Demand Costs</u>											
207		In 108	\$ 3,053,337	\$ 1,635,181	\$ 1,635,181	\$ 1,635,181	\$ 1,635,181	\$ 1,635,181	\$ 1,280,979		\$ 12,510,219	
208	<u>Total Supply Costs</u>	In 205	-	13,633,593	24,944,437	36,835,893	40,051,320	25,218,112	5,757,914		146,441,270	
209	<u>Total Direct Gas Costs</u>											
210		Ins 207 + 208	\$ 3,053,337	\$ 15,268,774	\$ 26,579,618	\$ 38,471,073	\$ 41,686,501	\$ 26,853,293	\$ 7,038,893		\$ 158,951,489	

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Schedule 2
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1 **Liberty Utilities (EnergyNorth Natural Gas) Corp. d/b/a Liberty**

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4 **Peak 2022 - 2023 Winter Cost of Gas Filing**
5 **Contracts Ranked on a per Unit Cost Basis**

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10 **Demand Costs**

	Supplier (a)	Contract (b)	Contract Type (c)	Contract Unit (d)	Unit Dth (MDQ/ACQ) (e)	Peak Period Cost per Unit Dth (f)
11						
12	Dominion - Capacity Reservation	GSS 300076	Storage	ACQ	102,700	
13	Tenn Gas Pipeline - Cap. Reservations	FS-MA 523	Storage	ACQ	1,560,391	
14	National Fuel - Capacity Reservation	FSS-002357	Storage	ACQ	670,800	
15	Tenn Gas Pipeline - Demand	FS-MA 523	Storage	MDQ	21,844	
16	Dominion - Demand	GSS 300076	Storage	MDQ	934	
17	National Fuel - Demand	FSS-002357	Storage	MDQ	6,098	
18	National Fuel	FST N02358	Transportation	MDQ	6,098	
19	Tenn Gas Pipeline	42076 FTA Z6-Z6	Transportation	MDQ	20,000	
20	Tenn Gas Pipeline	358905 FTA Z6-Z6	Transportation	MDQ	40,000	
21	Iroquois Gas Trans Service	RTS 470-01	Transportation	MDQ	4,047	
22	Honeoye - Demand	SS-NY	Storage	MDQ	1,362	
23	Tenn Gas Pipeline	2302 Z5-Z6	Transportation	MDQ	3,122	
24	Tenn Gas Pipeline	95346 Z5-Z6	Transportation	MDQ	4,000	
25	Tenn Gas Pipeline (short haul)	11234 Z5-Z6(stg)	Transportation	MDQ	1,957	
26	Tenn Gas Pipeline (short haul)	11234 Z4-Z6(stg)	Transportation	MDQ	7,082	
27	Tenn Gas Pipeline (short haul)	8587 Z4-Z6	Transportation	MDQ	3,811	
28	Tenn Gas Pipeline (short haul)	632 Z4-Z6 (stg)	Transportation	MDQ	15,265	
29	Tenn Gas Pipeline (Concord Lateral) Z6-Z6	Firm Transportation	Transportation	MDQ	30,000	
30	ANE (TransCanada via Union to Iroquois)	Dawn - Parkway to Iroquois	Transportation	MDQ	4,047	
31	TransCanada via Union to Portland	Dawn -Parkway to Portland	Transportation	MDQ	5,077	
32	Tenn Gas Pipeline (long haul)	8587 Z1-Z6	Transportation	MDQ	14,561	
33	Tenn Gas Pipeline (long haul)	8587 Z0-Z6	Transportation	MDQ	7,035	
34	Portland Natural Gas Trans Service	FT-208544	Transportation	MDQ	1,000	
35	Portland Natural Gas	FT 233320	Transportation	MDQ	5,000	
36	Peaking Demand	NSB041	Peaking	MDQ	4,000	
37						

38 **Supply Costs - Commodity**

39	TGP Supply (Z4)		Pipeline	Dkt	1,475,685	
40	Niagara Supply		Pipeline	Dkt	420,674	
41	Constellation COMBO		Pipeline	Dkt	-	
42	TGP Supply (Direct)		Pipeline	Dkt	1,733,121	
43	Dawn Supply		Pipeline	Dkt	524,677	
44	Dracut Supply 1 - Baseload		Pipeline	Dkt	450,000	
45	TGP Storage		Storage	Dkt	2,017,334	
46	PNGTS		Pipeline	Dkt	131,494	
47	Propane Truck		Pipeline	Dkt	74,775	
48	LNG Truck		Pipeline	Dkt	443,404	
49	Dracut Supply 2 - Swing		Pipeline	Dkt	1,230,881	
50	Dracut Supply 3 - Swing		Pipeline	Dkt	319,579	
51	Portland Natural Gas		Pipeline	Dkt	630,404	
52	Propane		Produced	Dkt	127,156	
53	LNG Vapor (Storage)		Produced	Dkt	446,238	
54						

55 **Supply Costs - Volumetric Transportation**

56	Dracut Supply 1 - Baseload		Pipeline	Dkt	450,000	
57	Dracut Supply 2 - Swing		Pipeline	Dkt	1,230,881	
58	Niagara Supply		Pipeline	Dkt	420,674	
59	Dawn Supply		Pipeline	Dkt	524,677	
60	TGP Storage - Withdrawals		Pipeline	Dkt	2,017,334	
61	TGP Supply (Direct)		Pipeline	Dkt	1,733,121	

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1 Liberty Utilities (EnergyNorth Natural Gas) Corp. d/b/a Liberty
2 d/b/a Liberty
3 Peak 2022 2023 Winter Cost of Gas Filing
4 COG (Over)/Under Cumulative Recovery Balances and Interest Calculation

Schedule 3
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		Prior Period Bal Apr-22	May-22	Jun-22	Jul-22	Aug-22	Sep-22	Oct-22	Nov-22	Dec-22	Jan-23	Feb-23	Mar-23	Apr-23	May-23	Peak Period Total	
		Ending Bal	31	30	31	31	30	31	30	31	31	28	31	30	31		
		Plus May Billings	(d)	(e)	(f)	(g)	(h)	(i)	(j)	(k)	(l)	(m)	(n)	(o)	(p)	(q)	
		(c)															
10	Account 1920 1740 COG (Over)/Under Balance	Interest Calculation															
11																	
12	Beginning Balance	Account 1920-1740 1/	\$ 5,378,797	\$ 4,089,654	\$ 3,227,763	\$ 2,133,737	\$ 2,652,261	\$ 3,174,728	\$ 3,699,119	\$ 4,226,477	\$ (1,462,386)	\$ (2,924,726)	\$ 126,507	\$ 11,342,988	\$ 12,435,789	\$ 1,648,154	\$ 5,378,797
13	Fcst Direct Gas Costs(Inc U/G Hedges)	Schedule 5A	-	-	-	508,889	508,889	508,889	508,889	14,265,072	25,575,916	37,467,372	40,682,799	25,849,591	6,035,191	-	151,911,499
14	Production & Storage & Misc Overhead		-	-	-	-	-	-	-	614,243	614,243	614,243	614,243	614,243	-	3,685,458	
15	Projected Revenues w/o Int.	In 52 * 59	(6,301,686)	(382,999)	-	-	-	-	-	(20,259,277)	(30,662,672)	(35,988,359)	(30,347,352)	(25,882,782)	(15,640,409)	-	(165,465,536)
16	Projected Unbilled Revenue		-	-	-	-	-	-	-	(33,312)	3,346,966	4,681,018	5,277,745	6,081,514	4,582,540	-	23,936,472
17	Reverse Prior Month Unbilled		5,574,361	-	-	-	-	-	-	-	33,312	(3,346,966)	(4,681,018)	(5,277,745)	(6,081,514)	(4,582,540)	(18,362,111)
18	Adjustment		(147,338)	(5,348)	-	-	-	-	-	(281,823)	(359,882)	(369,554)	(354,081)	(347,428)	(329,449)	-	(152,686)
19	Add Net Adjustments	Schedule 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	(2,042,217)
20	Gas Cost Billed	Account 1920-1740 2/	-1289143	-	(714,479)	-	-	-	-	-	-	-	-	-	-	-	(714,479)
21	Monthly (Over)/Under Recovery		\$ 4,089,654	\$ 3,214,990	\$ 2,124,938	\$ 2,642,626	\$ 3,161,150	\$ 3,683,617	\$ 4,208,009	\$ (1,468,620)	\$ (2,914,503)	\$ 133,027	\$ 11,318,843	\$ 12,380,380	\$ 1,616,392	\$ (2,934,386)	\$ (1,824,803)
22	Average Monthly Balance	(In 12 + 21)/2	\$ 4,296,894	\$ 2,676,350	\$ 2,388,181	\$ 2,906,705	\$ 3,429,173	\$ 3,953,564	\$ 1,378,928	\$ (2,188,445)	\$ (1,395,849)	\$ 5,722,675	\$ 11,861,684	\$ 7,026,090	\$ (643,116)		
23																	
24	Interest Rate	Prime Rate		3.50%	4.00%	4.75%	5.50%	5.50%	5.50%	5.50%	5.50%	5.50%	5.50%	5.50%	5.50%		
25																	
26	Interest Applied	In 22 * In 24 / 365 * Days of Month	\$ 12,773	\$ 8,799	\$ 9,635	\$ 13,578	\$ 15,502	\$ 18,468	\$ 6,234	\$ (10,223)	\$ (6,520)	\$ 24,145	\$ 55,409	\$ 31,762	\$ -	\$ 179,560	
27																	
28	(Over)/Under Balance	In 21 + In 26	\$ 4,089,654	\$ 3,227,763	\$ 2,133,737	\$ 2,652,261	\$ 3,174,728	\$ 3,699,119	\$ 4,226,477	\$ (1,462,386)	\$ (2,924,726)	\$ 126,507	\$ 11,342,988	\$ 12,435,789	\$ 1,648,154	\$ (2,934,386)	\$ (1,645,243)
29																	
30																	
31	Calculation of COG with Interest																
32																	
33	Beginning Balance	In 12	\$ 5,378,797	\$ 5,378,797	\$ (1,063,824)	\$ (2,171,960)	\$ (1,670,806)	\$ (1,168,533)	\$ (663,775)	\$ (156,798)	\$ (5,865,472)	\$ (7,347,327)	\$ (4,316,343)	\$ 6,881,634	\$ 7,953,980	\$ (2,854,321)	\$ 5,378,797
34	Fcst Direct Gas Costs(Inc U/G Hedges)	In 13	-	-	-	508,889	508,889	508,889	508,889	14,265,072	25,575,916	37,467,372	40,682,799	25,849,591	6,035,191	-	151,911,499
35	Prod Storage & Misc Overhead	In 14	-	-	-	-	-	-	-	614,243	614,243	614,243	614,243	614,243	-	3,685,458	
36	Projected Revenues with int.	In 52 * In 61	(6,301,686)	(382,999)	-	-	-	-	-	(20,259,277)	(30,662,672)	(35,988,359)	(30,347,352)	(25,882,782)	(15,640,409)	-	(165,465,536)
37	Projected Unbilled Revenue		-	-	-	-	-	-	-	(33,322)	3,348,030	4,682,506	5,279,422	6,083,447	4,583,996	-	23,944,080
38	Reverse Prior Month Unbilled		-	-	-	-	-	-	-	-	33,322	(3,348,030)	(4,682,506)	(5,279,422)	(6,083,447)	(4,583,996)	(23,944,080)
39	Add Net Adjustments	In 19	-	(147,338)	(5,348)	-	-	-	-	(281,823)	(359,882)	(369,554)	(354,081)	(347,428)	(329,449)	-	(2,194,903)
40	Gas Cost Billed	In 20	-	-	(714,479)	-	-	-	-	-	-	-	-	-	-	-	(714,479)
41	Add Interest	In 26	-	-	-	-	-	-	-	6,234	(10,223)	(6,520)	24,145	55,409	31,762	-	100,806
42	(Over)/Under Balance		\$ 5,378,797	\$ (1,070,227)	\$ (2,166,649)	\$ (1,663,070)	\$ (1,161,916)	\$ (659,643)	\$ (154,886)	\$ (5,865,672)	\$ (7,326,737)	\$ (4,295,670)	\$ 6,900,328	\$ 7,974,691	\$ (2,834,131)	\$ (7,438,317)	\$ (7,298,358)
43																	
44	Average Monthly Balance		\$ 2,154,285	\$ (1,615,236)	\$ (1,917,515)	\$ (1,416,361)	\$ (914,088)	\$ (409,330)	\$ (3,001,235)	\$ (6,596,105)	\$ (5,821,498)	\$ 1,291,992	\$ 7,428,162	\$ 2,559,925	\$ (5,146,319)		
45																	
46	Interest Applied	In 24 * In 44 / 365 * Days of Month	6,404	(5,310)	(7,736)	(6,616)	(4,132)	(1,912)	(13,567)	(30,812)	(27,194)	5,451	34,699	11,572	-	(39,153)	
47																	
48	(Over)/Under Balance	-In 41 +In 42 + In 46	\$ 5,378,797	\$ (1,063,824)	\$ (2,171,960)	\$ (1,670,806)	\$ (1,168,533)	\$ (663,775)	\$ (156,798)	\$ (5,865,472)	\$ (7,347,327)	\$ (4,316,343)	\$ 6,881,634	\$ 7,953,980	\$ (2,854,321)	\$ (7,438,317)	\$ (7,438,317)
49																	
50																	
51	Forecast Sendout Therms	Sch 1							12,159,305	16,347,591	20,764,836	17,826,554	15,027,327	10,269,906		92,395,519	
52	Less Forecast Billing Therm Sales	Sch. 10B, In 23 Nov - May							11,838,176	17,917,229	21,029,207	17,732,977	15,124,179	9,139,216		92,780,984	
53	Less Forecast Unaccounted For	Sch 1							285,912	384,395	488,262	419,171	353,351	241,485		2,172,577	
54	Less Forecast Company Use	Sch 1							15,751	21,177	26,899	23,093	19,466	13,304		119,689	
55	Unbilled Volumes								19,465	-1,975,210	-779,531	-348,687	-469,669	875,901	0	(2,677,732)	
56	Gross Unbilled								19,465	-1,955,745	-2,735,276	-3,083,964	-3,553,633	-2,677,732	-2,677,732		
57																	
58																	
59	COB w/o Interest	Sch. 3, pg. 4, In 207 col. (c)							\$1,7114	\$1,7114	\$1,7114	\$1,7114	\$1,7114	\$1,7114	\$1,7114		
60																	
61	COG W th Interest	Sch. 3 pg. 4 In 207 col. (d)							\$1,7119	\$1,7119	\$1,7119	\$1,7119	\$1,7119	\$1,7119	\$1,7119		
62																	

1 Liberty Utilities (EnergyNorth Natural Gas) Corp. d/b/a Liberty
2 d/b/a Liberty
3 Peak 2022 2023 Winter Cost of Gas Filing
4 COG (Over)/Under Cumulative Recovery Balances and Interest Calculation

		Prior Period Bal	May-22	Jun-22	Jul-22	Aug-22	Sep-22	Oct-22	Nov-22	Dec-22	Jan-23	Feb-23	Mar-23	Apr-23	May-23	Peak Period	
	Days in Month	Apr-22	31	30	31	31	30	31	30	31	31	28	31	30	31	Total	
(a)	(b)	Ending Bal + May Collections	(c)	(d)	(e)	(f)	(g)	(h)	(i)	(j)	(k)	(l)	(m)	(n)	(o)	(p)	
Account 1163 1422 Working Capital (Over)/Under Balance Interest Calculation																	
71																	
72	Beginning Balance	Account 1163-1422 1/	\$ (30,998)	(43,864)	(46,934)	(49,705)	(48,198)	(46,447)	(44,680)	(42,912)	(58,515)	(54,657)	(30,316)	23,746	36,742	535	(30,998)
73																	
74	Days Lag		0.0705	0.0705	0.0705	0.0705	0.0705	0.0705	0.0705	0.0705	0.0705	0.0705	0.0705	0.0705	0.0705		
75	Prime Rate		3.50%	4.00%	4.75%	5.50%	5.50%	5.50%	5.50%	5.50%	5.50%	5.50%	5.50%	5.50%	5.50%		
76	Forecast Working Capital	In 34 * 0.091%	-	-	1,703	1,972	1,972	1,972	55,286	99,122	145,209	157,671	100,183	23,390	-	588,482	
77																	
78	Projected Revenues w/o Int.	In 116 * In 120	-	-	-	-	-	-	(70,545)	(106,771)	(125,315)	(105,673)	(90,127)	(54,462)	-	(552,893)	
79	Projected Unbilled Revenue								(116)	11,655	16,300	18,378	21,177	15,957	-	83,349	
80	Reverse Prior Month Unbilled									116	(11,655)	(16,300)	(18,378)	(21,177)	(15,957)	(83,349)	
81																	
82	Add Net Adjustments		(2,954)	(1,637)	-	-	-	-	-	-	-	-	-	-	-	(4,591)	
83																	
84	Working Capital B led	Account 1163-1422 2/	(12,866)	(975)												(13,841)	
85																	
86	Monthly (Over)/Under Recovery		\$ (43,864)	(46,818)	(49,546)	(48,001)	(46,226)	(44,474)	(42,708)	(58,287)	(54,393)	(30,118)	23,760	36,601	451	(15,422)	(13,841)
87																	
88	Average Monthly Balance	(In 72 + In 86)/2	\$ (38,908)	(48,240)	(48,853)	(47,212)	(45,460)	(43,694)	(50,599)	(56,454)	(42,388)	(3,278)	30,174	18,597	(7,443)		
89																	
90	Interest Rate	Prime Rate	3.50%	4.00%	4.75%	5.50%	5.50%	5.50%	5.50%	5.50%	5.50%	5.50%	5.50%	5.50%	5.50%		
91																	
92	Interest Applied	In 88 * In 90 / 365 * Days of Month	\$ (116)	(159)	(197)	(221)	(206)	(204)	(229)	(264)	(198)	(14)	141	84	-	(1,581)	
93																	
94	(Over)/Under Balance	In 86 + In 92	\$ (43,864)	(46,934)	(49,705)	(48,198)	(46,447)	(44,680)	(42,912)	(58,515)	(54,657)	(30,316)	23,746	36,742	535	(15,422)	(15,422)
95																	
96																	
97	Calculation of Working Capital with Interest																
98																	
99																	
100	Beginning Balance	In 72	\$ (30,998)	(43,864)	(46,934)	(49,705)	(48,198)	(46,447)	(44,680)	(42,912)	(58,482)	(54,578)	(30,179)	23,933	36,972	795	(30,998)
101	Forecast Working Capital	In 76	-	-	1,703	1,972	1,972	1,972	55,286	99,122	145,209	157,671	100,183	23,390	-	588,482	
102	Projected Rev. with Interest	In 116 * In 122	-	-	-	-	-	-	(70,511)	(106,720)	(125,255)	(105,622)	(90,083)	(54,436)	-	(552,627)	
103	Projected Unbilled Revenue								(116)	11,649	16,292	18,369	21,166	15,949	-	83,309	
104	Reverse Prior Month Unbilled									116	(11,649)	(16,292)	(18,369)	(21,166)	(15,949)	(83,309)	
105	Add Net Adjustments	In 82	(2,954)	(1,637)	-	-	-	-	-	-	-	-	-	-	-	(4,591)	
106	Working Capital Billed	In 84	(12,866)	(975)	-	-	-	-	-	-	-	-	-	-	-	(13,841)	
107	Add Interest	In 92	-	-	-	-	-	-	(229)	(264)	(198)	(14)	141	84	-	(479)	
108	Monthly (Over)/Under Recovery		\$ (43,864)	(46,818)	(49,546)	(48,001)	(46,226)	(44,474)	(42,708)	(58,482)	(54,578)	(30,179)	23,932	36,971	794	(15,154)	(14,055)
109																	
110	Average Monthly Balance		\$ (38,908)	(48,240)	(48,853)	(47,212)	(45,460)	(43,694)	(50,697)	(56,530)	(42,379)	(3,124)	30,452	18,883	(7,179)		
111																	
112	Interest Applied	In 90 * In 110 / 365 * Days of Month	(116)	(159)	(197)	(221)	(206)	(204)	(229)	(264)	(198)	(13)	142	85	-	(1,578)	
113																	
114	(Over)/Under Balance	-In 107 +In 108 + In 112	\$ (43,864)	(46,934)	(49,705)	(48,198)	(46,447)	(44,680)	(42,912)	(58,482)	(54,578)	(30,179)	23,933	36,972	795	(15,154)	(15,154)
115																	
116	Forecast Therm Sales	In 52							11,838,176	17,917,229	21,029,207	17,732,977	15,124,179	9,139,216	0	92,780,984	
117	Unbilled Therm	In 55							19,465	(1,975,210)	(779,531)	(348,687)	(469,669)	875,901			
118	Gross Unbilled								19,465	(1,955,745)	(2,735,276)	(3,083,964)	(3,553,633)	(2,677,732)			
119																	
120	Working Cap. Rate w/out Int.	Sch. 3, pg. 4, In 224 col. (c)							\$0.0060	\$0.0060	\$0.0060	\$0.0060	\$0.0060	\$0.0060	\$0.0060	\$0.0060	
121																	
122	Working Capital Rate w/ Int.	Sch. 3, pg. 4, In 224 col. (d)							\$0.0060	\$0.0060	\$0.0060	\$0.0060	\$0.0060	\$0.0060	\$0.0060	\$0.0060	

1 Liberty Utilities (EnergyNorth Natural Gas) Corp. d/b/a Liberty
2 d/b/a Liberty
3 Peak 2022 2023 Winter Cost of Gas Filing
4 COG (Over)/Under Cumulative Recovery Balances and Interest Calculation

		Prior Period Bal	May-22	Jun-22	Jul-22	Aug-22	Sep-22	Oct-22	Nov-22	Dec-22	Jan-23	Feb-23	Mar-23	Apr-23	May-23	Demand/Period	
	Days in Month	Apr-22	31	30	31	31	30	31	30	31	31	28	31	30	31	Total	
(a)	(b)	Ending Bal + May Collections	(c)	(d)	(e)	(f)	(g)	(h)	(i)	(j)	(k)	(l)	(m)	(n)	(o)	(p)	
Account 1920 1743 Bad Debt (Over)/Under Balance Interest Calculation																	
132	Forecast Direct Gas Costs	In 34	\$ -	\$ -	\$ 508,889	\$ 508,889	\$ 508,889	\$ 508,889	\$ 14,265,072	\$ 25,575,916	\$ 37,467,372	\$ 40,682,799	\$ 25,849,591	\$ 6,035,191	\$ -	151,911,499	
133	Forecast Working Capital	In 101	-	-	1,703	1,972	1,972	1,972	11,421	99,122	145,209	157,671	100,183	23,390	-	544,617	
134	Prior Period Balance	In 42	-	-	-	-	-	-	681,609	681,609	681,609	681,609	681,609	681,609	-	4,089,654	
135	Total Forecast Direct Gas Costs & Working Capital		-	-	510,593	510,862	510,862	510,862	14,958,102	26,356,648	38,294,190	41,522,079	26,631,383	6,740,190	-	152,456,117	
136																	
137	Beginning Balance	Account 1920-1743 1/	\$ (170,566)	\$ (199,297)	\$ (208,905)	\$ (216,811)	\$ (213,280)	\$ (209,867)	\$ (206,407)	\$ (202,961)	\$ (223,806)	\$ (197,731)	\$ (122,637)	\$ 16,709	\$ 62,462	\$ (4,954)	\$ (170,566)
138																	
139	Forecast Bad Debt	In 135 * 0.00861151933369296	-	-	4,397	4,399	4,399	4,399	128,812	226,971	329,771	357,568	229,337	58,043	-	1,348,097	
140																	
141	Projected Revenues w/o int	In 178 * In 182	-	-	-	-	-	-	(148,451)	(224,682)	(263,706)	(222,372)	(189,657)	(114,606)	-	(1,163,474)	
142	Projected Unbilled Revenue		-	-	-	-	-	-	(244)	24,525	34,300	38,673	44,563	33,579	-	175,396	
143	Reverse Prior Month Unbilled		-	-	-	-	-	-	-	244	(24,525)	(34,300)	(38,673)	(44,563)	(33,579)	(175,396)	
144																	
145	Bad Debt Billed	Account 1920-1743 2/	(28,732)	(2,195)	-	-	-	-	-	-	-	-	-	-	-	(30,927)	
146																	
147	Add Net Adjustments		(9,045)	(5,013)	-	-	-	-	-	-	-	-	-	-	-	(14,057)	
148																	
149	Monthly (Over)/Under Recovery		\$ (199,297)	\$ (208,342)	\$ (216,113)	\$ (212,415)	\$ (208,881)	\$ (205,468)	\$ (202,007)	\$ (222,844)	\$ (196,749)	\$ (121,891)	\$ 16,932	\$ 62,278	\$ (5,084)	\$ (38,533)	\$ (30,927)
150																	
151	Average Monthly Balance	In 137 + In 149)/2	\$ (189,454)	\$ (212,509)	\$ (214,613)	\$ (211,081)	\$ (207,667)	\$ (204,207)	\$ (212,903)	\$ (210,278)	\$ (159,811)	\$ (52,853)	\$ 39,493	\$ 28,689	\$ (21,744)		
152																	
153	Interest Rate	Prime Rate	3.50%	4.00%	4.75%	5.50%	5.50%	5.50%	5.50%	5.50%	5.50%	5.50%	5.50%	5.50%			
154																	
155	Interest Applied	In 151 * In 153 / 365 * Days of Month	\$ (563)	\$ (699)	\$ (866)	\$ (986)	\$ (939)	\$ (954)	\$ (962)	\$ (982)	\$ (747)	\$ (223)	\$ 184	\$ 130		\$ (7,606)	
156																	
157	(Over)/Under Balance	In 149 + In 155	\$ (199,297)	\$ (208,905)	\$ (216,811)	\$ (213,280)	\$ (209,867)	\$ (206,407)	\$ (223,806)	\$ (197,731)	\$ (122,637)	\$ 16,709	\$ 62,462	\$ (4,954)	\$ (38,533)	\$ (38,533)	
158																	
159																	
Calculation of Bad Debt with Interest																	
161																	
162	Beginning Balance	In 137	\$ (170,566)	\$ (199,297)	\$ (208,905)	\$ (216,811)	\$ (213,280)	\$ (209,867)	\$ (202,961)	\$ (223,806)	\$ (197,731)	\$ (122,637)	\$ 16,709	\$ 62,462	\$ (4,954)	\$ (170,566)	
163	Forecast Bad Debt	In 139	-	-	4,397	4,399	4,399	4,399	128,812	226,971	329,771	357,568	229,337	58,043	-	1,348,097	
164	Projected Revenues with int.	In 178 * In 184	-	-	-	-	-	-	(147,725)	(223,583)	(262,417)	(221,284)	(188,730)	(114,045)	-	(1,157,784)	
165	Projected Unbilled Revenue		-	-	-	-	-	-	(243)	24,405	34,133	38,484	44,345	33,415	-	174,538	
166	Reverse Prior Month Unbilled		-	-	-	-	-	-	-	243	(24,405)	(34,133)	(38,484)	(44,345)	(33,415)	(174,538)	
167	Bad Debt Billed	In 145	(28,732)	(2,195)	-	-	-	-	-	-	-	-	-	-	-	(30,927)	
168	Add Interest	In 155	-	-	-	-	-	-	(982)	(982)	(747)	(223)	184	130	-	(2,600)	
169	Add Net Adjustments	In 147	(9,045)	(5,013)	-	-	-	-	-	-	-	-	-	-	-	(14,057)	
170	Monthly (Over)/Under Recovery		\$ (199,297)	\$ (208,342)	\$ (216,113)	\$ (212,415)	\$ (208,881)	\$ (205,468)	\$ (202,007)	\$ (223,079)	\$ (196,027)	\$ (119,688)	\$ 20,724	\$ 67,377	\$ 574	\$ (32,840)	\$ (27,837)
171																	
172	Average Monthly Balance		\$ (189,454)	\$ (212,509)	\$ (214,613)	\$ (211,081)	\$ (207,667)	\$ (204,207)	\$ (213,020)	\$ (209,553)	\$ (157,856)	\$ (49,482)	\$ 44,051	\$ 33,975	\$ (16,133)		
173																	
174	Interest Applied	In 153 * In 172 / 365 * Days of Month	(563)	(699)	(866)	(986)	(939)	(954)	(963)	(979)	(747)	(223)	184	130	-	(7,603)	
175																	
176	(Over)/Under Balance	-In 168 +In 170 + In 174	\$ (199,297)	\$ (208,905)	\$ (216,811)	\$ (213,280)	\$ (209,867)	\$ (206,407)	\$ (223,080)	\$ (196,023)	\$ (119,688)	\$ 20,724	\$ 67,377	\$ 574	\$ (32,840)	\$ (32,840)	
177																	
178	Forecast Term Sales	In 52	-	-	-	-	-	-	11,838,176	17,917,229	21,029,207	17,732,977	15,124,179	9,139,216	0	92,780,984	
179	Unbilled Term	In 55	-	-	-	-	-	-	19,465	(1,975,210)	(779,531)	(348,687)	(469,669)	875,901	-	-	
180	Gross Unbilled		-	-	-	-	-	-	19,465	(1,955,745)	(2,735,276)	(3,083,964)	(3,553,633)	(2,677,732)	-	-	
181																	
182	COG Rate Without Interest	Sch. 3, pg. 4, In 241 col. (c)	\$0.0125	\$0.0125	\$0.0125	\$0.0125	\$0.0125	\$0.0125	\$0.0125	\$0.0125	\$0.0125	\$0.0125	\$0.0125	\$0.0125	\$0.0125	\$0.0125	
183																	
184	COG W th Interest	Sch. 3, pg. 4, In 241 col. (d)	\$0.0125	\$0.0125	\$0.0125	\$0.0125	\$0.0125	\$0.0125	\$0.0125	\$0.0125	\$0.0125	\$0.0125	\$0.0125	\$0.0125	\$0.0125	\$0.0125	
185																	
186																	
187																	
188																	
189	Total Interest	Ins 46 + 112 + 174	\$ -	\$ 5,725	\$ (6,168)	\$ (8,799)	\$ (7,823)	\$ (5,276)	\$ (3,070)	\$ (14,759)	\$ (32,055)	\$ (28,138)	\$ 5,215	\$ 35,025	\$ 11,787	\$ -	\$ (48,335)

1 Liberty Utilities (EnergyNorth Natural Gas) Corp. d/b/a Liberty
 2 d/b/a Liberty
 3 Peak 2022 - 2023 Winter Cost of Gas Filing
 4 Adjustments to Gas Costs
 5

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 Schedule 4
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6	Adjustments	Prior Period Adjustments	Refunds from Suppliers	Broker Revenue	Inventory Finance Charges	Transportation CGA Revenues (Schedule 17)	Interruptible Sales Margin	Off System Sales Margin	Capacity Release	Net Option Premiums	Fixed Price Option Administrative Costs	Total Adjustments
7	(a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)	(i)	(j)	(k)	(m)
9	May-20	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -			\$ -	\$ -	\$ -
10	Jun-20	-	-	-	-	-	-			-	-	-
11	Jul-20 1/	-	-	-	-	-	-			-	-	-
12	Aug-20 1/	-	-	-	-	-	-			-	-	-
13	Sep-20 1/	-	-	-	-	-	-			-	-	-
14	Oct-20 1/	-	-	-	-	-	-			-	-	-
15	Nov-20 1/	-	-	(47)	-	(62,864)	-			-	59,917	(281,823)
16	Dec-20 1/	-	-	(624)	-	(77,703)	-			-	-	(359,882)
17	Jan-21 1/	-	-	(751)	-	(87,373)	-			-	-	(369,554)
18	Feb-21 1/	-	-	(816)	-	(72,905)	-			-	-	(354,081)
19	Mar-21 1/	-	-	(757)	-	(69,548)	-			-	-	(347,428)
20	Apr-21 1/	-	-	(605)	-	(51,628)	-			-	-	(329,449)
21												
22	Subtotal May 21 - Oct 21	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
23												
24	Subtotal Nov 21 - Apr 22	\$ -	\$ -	(3,600)	\$ -	(422,021)	\$ -	\$ -	(1,676,512)	\$ -	59,917	\$ (2,042,217)
25												
26	Total Peak Period	\$ -	\$ -	(3,600)	\$ -	(422,021)	\$ -	\$ -	(1,676,512)	\$ -	59,917	\$ (2,042,217)
27												

1/ Es imates are based on prior years actual, except transportation revenue is calculated on Schedule 17. and Inventory Finance Charges for Nov 22 - Apr 23 calculated on Schedule 16

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1 Liberty Utilities (EnergyNorth Natural Gas) Corp. d/b/a Liberty
2 d/b/a Liberty
3 Peak 2022 - 2023 Winter Cost of Gas Filing
4 Demand Costs

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Schedule 5A
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	Peak (b)	Reference (c)	Deferred to Peak May 22 -Oct 22 (d)	Nov-22 (e)	Dec-22 (f)	Jan-23 (g)	Feb-23 (h)	Mar-23 (i)	Apr-23 (j)	Peak Nov-Apr Total (k)
11 Supply										
12 Niagara Supply	Sch 5B, In 9 *	Sch 5C In 9 x days								
13 Subtotal Supply Demand & Reservation Charges										
15 Pipeline										
16 Iroquois Gas Trans Service RTS 470-0	Sch 5B, In 12 *	Sch 5C In 12 x days								
17 Tenn Gas Pipeline 95346 Z5-Z6	Sch 5B, In 13 *	Sch 5C In 14 x days								
18 Tenn Gas Pipeline 2302 Z5-Z6	Sch 5B, In 14 *	Sch 5C In 16 x days								
19 Tenn Gas Pipeline 8587 Z0-Z6	Sch 5B, In 15 *	Sch 5C In 18 x days								
20 Tenn Gas Pipeline 8587 Z1-Z6	Sch 5B, In 16 *	Sch 5C In 20 x days								
21 Tenn Gas Pipeline 8587 Z4-Z6	Sch 5B, In 17 *	Sch 5C In 22 x days								
22 Tenn Gas Pipeline (Dracut) 42076 Z6-Z6 peak	Sch 5B, In 18 *	Sch 5C In 24 x days								
23 Tenn Gas Pipeline (Dracut) 358905 Z6-Z7 peak	Sch 5B, In 19 *	Sch 5C In 25 x days								
24 Tenn Gas Pipeline (Concord Lateral) Z6-Z6 peak	Sch 5B, In 20 *	Sch 5C In 28 x days								
25 Portland Natural Gas Trans Service	Sch 5B, In 21 *	Sch 5C In 30 x days								
26 Portland Natural Gas	Sch 5B, In 22 *	Sch 5C In 31 x days								
27 ANE (TransCanada via Union to Iroquois)	Sch 5B, In 23 *	Sch 5C In 32 x days								
28 TransCanada via Union to Portland	Sch 5B, In 24 *	Sch 5C In 33 x days								
29 Tenn Gas Pipeline Z4-Z6 stg 632 peak	Sch 5B, In 25 *	Sch 5C In 34 x days								
30 Tenn Gas Pipeline Z4-Z6 stg 11234 peak	Sch 5B, In 26 *	Sch 5C In 36 x days								
31 Tenn Gas Pipeline Z5-Z6 stg 11234 peak	Sch 5B, In 27 *	Sch 5C In 38 x days								
32 National Fuel FST 2358 peak	Sch 5B, In 28 *	Sch 5C In 40 x days								
34 Subtotal Pipeline Demand Charges			\$ 3,907,220	\$ 1,596,276	\$ 1,596,276	\$ 1,596,276	\$ 1,596,276	\$ 1,596,276	\$ 1,596,276	\$ 13,484,875
36 Peaking Supply										
37 Tenn Gas Pipeline (Concord Lateral) Z6-Z6 peak	Sch 5B, In 31 *	Sch 5C In 28 x days								
38 Demand FLS peak	Per Contract									
39 Peaking Demand peak	Per Contract									
40 Subtotal Peaking Demand Charges			\$ -	\$ 474,102	\$ 474,102	\$ 474,102	\$ 474,102	\$ 474,102	\$ -	\$ 2,370,511
42 Subtotal Supply, Pipeline & Peaking	In 13 + In 34 + In 40		\$ 3,907,220	\$ 2,070,378	\$ 2,070,378	\$ 2,070,378	\$ 2,070,378	\$ 2,070,378	\$ 1,596,276	\$ 15,855,386
44 Less Transportation Capacity Credit			\$ (1,323,375)	\$ (523,599)	\$ (523,599)	\$ (523,599)	\$ (523,599)	\$ (523,599)	\$ (403,698)	\$ (4,345,067)
46 Total Supply, Pipeline & Peaking Demand			\$ 2,583,844	\$ 1,546,780	\$ 1,546,780	\$ 1,546,780	\$ 1,546,780	\$ 1,546,780	\$ 1,192,578	\$ 11,510,320
49 Dominion - Demand peak	Sch 5B, In 36 *	Sch 5C In 64 x days	\$ 18,240	\$ 3,040	\$ 3,040	\$ 3,040	\$ 3,040	\$ 3,040	\$ 3,040	\$ 36,480
50 Dominion - Storage peak	Sch 5B, In 37 *	Sch 5C In 65 x days	19,595	3,266	3,266	3,266	3,266	3,266	3,266	39,190
51 Honeoye - Demand peak	Sch 5B, In 38 *	Sch 5C In 68 x days	50,105	8,351	8,351	8,351	8,351	8,351	8,351	100,211
52 National Fuel - Demand peak	Sch 5B, In 40 *	Sch 5C In 70 x days	97,207	16,201	16,201	16,201	16,201	16,201	16,201	194,414
53 National Fuel - Capacity peak	Sch 5B, In 41 *	Sch 5C In 71 x days	193,190	32,198	32,198	32,198	32,198	32,198	32,198	386,381
54 Tenn Gas Pipeline - Demand peak	Sch 5B, In 42 *	Sch 5C In 74 x days	167,775	27,963	27,963	27,963	27,963	27,963	27,963	335,550
55 Tenn Gas Pipeline - Capacity peak	Sch 5B, In 43 *	Sch 5C In 75 x days	163,841	27,307	27,307	27,307	27,307	27,307	27,307	327,682
57 Subtotal Storage Demand Costs			\$ 709,954	\$ 118,326	\$ 118,326	\$ 118,326	\$ 118,326	\$ 118,326	\$ 118,326	\$ 1,419,908
59 Less Transportation Capacity Credit			\$ (240,461)	\$ (29,925)	\$ (29,925)	\$ (29,925)	\$ (29,925)	\$ (29,925)	\$ (29,925)	\$ (420,009)
61 Total Storage Demand Costs	In 57 + In 59		\$ 469,493	\$ 88,401	\$ 88,401	\$ 88,401	\$ 88,401	\$ 88,401	\$ 88,401	\$ 999,899
63 Total Demand Charges	In 42 + In 57		\$ 4,617,174	\$ 2,188,704	\$ 2,188,704	\$ 2,188,704	\$ 2,188,704	\$ 2,188,704	\$ 1,714,602	\$ 17,275,294
65 Total Transportation Capacity Credit	In 44 + In 59		\$ (1,563,837)	\$ (553,523)	\$ (553,523)	\$ (553,523)	\$ (553,523)	\$ (553,523)	\$ (433,623)	\$ (4,765,075)
67 Total Demand Charges less Cap. Cr.	In 63 + In 65		\$ 3,053,337	\$ 1,635,181	\$ 1,635,181	\$ 1,635,181	\$ 1,635,181	\$ 1,635,181	\$ 1,280,979	\$ 12,510,219

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1 **Liberty Utilities (EnergyNorth Natural Gas) Corp. d/b/a Liberty**
 2 **d/b/a Liberty**
 3 **Peak 2022 - 2023 Winter Cost of Gas Filing**
 4 **Demand Volumes**

Schedule 5B
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	(a)	Peak (b)	Reference (c)	Nov-22 (d)	Dec-22 (e)	Jan-23 (f)	Feb-23 (g)	Mar-23 (h)	Apr-23 (i)
Supply									
	Niagara Supply			-	-	-	-	-	-
Pipeline									
	Iroquois Gas Trans Service		RTS 470-01	4,047	4,047	4,047	4,047	4,047	4,047
	Tenn Gas Pipeline		95346 Z5-Z6	4,000	4,000	4,000	4,000	4,000	4,000
	Tenn Gas Pipeline		2302 Z5-Z6	3,122	3,122	3,122	3,122	3,122	3,122
	Tenn Gas Pipeline (long haul)		8587 Z0-Z6	7,035	7,035	7,035	7,035	7,035	7,035
	Tenn Gas Pipeline (long haul)		8587 Z1-Z6	14,561	14,561	14,561	14,561	14,561	14,561
	Tenn Gas Pipeline (short haul)		8587 Z4-Z6	3,811	3,811	3,811	3,811	3,811	3,811
	Tenn Gas Pipeline	peak	42076 FTA Z6-Z6	20,000	20,000	20,000	20,000	20,000	20,000
	Tenn Gas Pipeline	peak	358905 FTA Z6-Z6	40,000	40,000	40,000	40,000	40,000	40,000
	Tenn Gas Pipeline (Concord Lateral)	peak	Firm Transportation	30,000	30,000	30,000	30,000	30,000	30,000
	Portland Natural Gas Trans Service		FT-208544	1,000	1,000	1,000	1,000	1,000	1,000
	Portland Natural Gas		FT 233320	5,000	5,000	5,000	5,000	5,000	5,000
	ANE (TransCanada via Union to Iroquois)		Dawn - Parkway to Iroquois	4,047	4,047	4,047	4,047	4,047	4,047
	TransCanada via Union to Portland		Dawn -Parkway to Portland	5,077	5,077	5,077	5,077	5,077	5,077
	Tenn Gas Pipeline (short haul)	peak	632 Z4-Z6 (stg)	15,265	15,265	15,265	15,265	15,265	15,265
	Tenn Gas Pipeline (short haul)	peak	11234 Z4-Z6(stg)	7,082	7,082	7,082	7,082	7,082	7,082
	Tenn Gas Pipeline (short haul)	peak	11234 Z5-Z6(stg)	1,957	1,957	1,957	1,957	1,957	1,957
	National Fuel	peak	FST N02358	6,098	6,098	6,098	6,098	6,098	6,098
Peaking									
	Tenn Gas Pipeline (Concord Lateral)	peak		-	-	-	-	-	-
	Demand FLS	peak		-	-	-	-	-	-
	Peaking Demand	peak	NSB041	4,000	4,000	4,000	4,000	4,000	-
Storage									
	Dominion - Demand	peak	GSS 300076	934	934	934	934	934	934
	Dominion - Capacity Reservation	peak	GSS 300076	102,700	102,700	102,700	102,700	102,700	102,700
	Honeoye - Demand	peak	SS-NY	1,362	1,362	1,362	1,362	1,362	1,362
	Honeoye - Capacity	peak	SS-NY	245,380	245,380	245,380	245,380	245,380	245,380
	National Fuel - Demand	peak	FSS-O02357	6,098	6,098	6,098	6,098	6,098	6,098
	National Fuel - Capacity Reservation	peak	FSS-O02357	670,800	670,800	670,800	670,800	670,800	670,800
	Tenn Gas Pipeline - Demand	peak	FS-MA 523	21,844	21,844	21,844	21,844	21,844	21,844
	Tenn Gas Pipeline - Cap. Reservations	peak	FS-MA 523	1,560,391	1,560,391	1,560,391	1,560,391	1,560,391	1,560,391

1 **Liberty Utilities (EnergyNorth Natural Gas) Corp. d/b/a L**
 2 **d/b/a Liberty**
 3 **Peak 2022 - 2023 Winter Cost of Gas Filing**
 4 **Demand Rates**

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 Schedule 5C
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				Nov-22	Dec-22	Jan-23	Feb-23	Mar-23	Apr-23	Nov - Apr	
				30	31	31	28	31	30	181	
				Unit Rate	Unit Rate	Unit Rate	Unit Rate	Unit Rate	Unit Rate	Avg Rate	
5											
6	Tariff Rates										
7											
8	Supply										
9	Niagara Supply										
10											
11	Pipeline										
12	Iroquois Gas Trans Service	RTS 470-01	\$ 5.2357	Forth Revised Sheet No. 4	\$ 0.1745	\$ 0.1689	\$ 0.1689	\$ 0.1870	\$ 0.1689	\$ 0.1745	\$ 0.1738
13	Tenn Gas Pipeline	95346 Z5-Z6	\$ 6.1635	19th Rev Sheet No. 14	\$ 0.2055	\$ 0.1988	\$ 0.1988	\$ 0.2201	\$ 0.1988	\$ 0.2055	\$ 0.2046
14	Tenn Gas Pipeline	2302 Z5-Z6	\$ 6.1635	19th Rev Sheet No. 14	\$ 0.2055	\$ 0.1988	\$ 0.1988	\$ 0.2201	\$ 0.1988	\$ 0.2055	\$ 0.2046
15	Tenn Gas Pipeline	8587 Z0-Z6	\$ 19.9267	FT-A (Z0 - Z6)	\$ 0.6642	\$ 0.6428	\$ 0.6428	\$ 0.7117	\$ 0.6428	\$ 0.6642	\$ 0.6614
16	Tenn Gas Pipeline	8587 Z1-Z6	\$ 17.6917	FT-A (Z1 - Z6)	\$ 0.5897	\$ 0.5707	\$ 0.5707	\$ 0.6318	\$ 0.5707	\$ 0.5897	\$ 0.5872
17	Tenn Gas Pipeline	8587 Z4-Z6	\$ 7.1720	FT-A (Z4 - Z6)	\$ 0.2391	\$ 0.2314	\$ 0.2314	\$ 0.2561	\$ 0.2314	\$ 0.2391	\$ 0.2381
18	TGP Dracut	42076 FTA Z6-Z6	\$ 4.0968	19th Rev Sheet No. 14	\$ 0.1366	\$ 0.1322	\$ 0.1322	\$ 0.1463	\$ 0.1322	\$ 0.1366	\$ 0.1360
19	TGP Dracut	358905 FTA Z6-Z6	\$ 4.0968	19th Rev Sheet No. 14	\$ 0.1366	\$ 0.1322	\$ 0.1322	\$ 0.1463	\$ 0.1322	\$ 0.1366	\$ 0.1360
20	TGP Concord Lateral	Firm Transportatio	\$ 12.2188	Per contract	\$ 0.4073	\$ 0.3942	\$ 0.3942	\$ 0.4364	\$ 0.3942	\$ 0.4073	\$ 0.4056
21	Portland Natural Gas	FT-208544	\$ 18.2633	Negot Dmd /CMDY=Part 4.1 V€	\$ 0.6088	\$ 0.5891	\$ 0.5891	\$ 0.6523	\$ 0.5891	\$ 0.6088	\$ 0.6062
22	Portland Natural Gas	FT 233320	\$ 22.7943	Negot Dmd /CMDY=Part 4.1 V€	\$ 0.7598	\$ 0.7353	\$ 0.7353	\$ 0.8141	\$ 0.7353	\$ 0.7598	\$ 0.7566
23	Tenn Gas Pipeline	632 Z4-Z6 (stg)	\$ 7.1720	19th Rev Sheet No. 14	\$ 0.2391	\$ 0.2314	\$ 0.2314	\$ 0.2561	\$ 0.2314	\$ 0.2391	\$ 0.2381
24	Tenn Gas Pipeline	11234 Z4-Z6(stg)	\$ 7.1720	19th Rev Sheet No. 14	\$ 0.2391	\$ 0.2314	\$ 0.2314	\$ 0.2561	\$ 0.2314	\$ 0.2391	\$ 0.2381
25	Tenn Gas Pipeline	11234 Z5-Z6(stg)	\$ 6.1635	19th Rev Sheet No. 14	\$ 0.2055	\$ 0.1988	\$ 0.1988	\$ 0.2201	\$ 0.1988	\$ 0.2055	\$ 0.2046
26	National Fuel	FST N02358	\$ 4.9801	4.020 Version 28.0.0 Pg 1	\$ 0.1660	\$ 0.1606	\$ 0.1606	\$ 0.1779	\$ 0.1606	\$ 0.1660	\$ 0.1653

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

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2 d/b/a Liberty

Schedule 5C

3 Peak 2022 - 2023 Winter Cost of Gas Filing

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43	ANE	Union Gas	\$	3.6890																
44		TransCanada Pipelines Limited	\$	11.9690	Dawn - Parkway to Iroquois															
45		Delivery Pressure Demand Charge	\$	0.6083	Dawn - Parkway to Iroquois															
46		Sub Total Demand Charges	\$	16.2663																
47		Conversion rate GJ to MMBTU	\$	1.0551																
48		Conversion rate to US\$	\$	1.2706	1/0/1900															
49		Demand Rate/US\$	\$	13.5069		\$	0.4502	\$	0.4357	\$	0.4357	\$	0.4824	\$	0.4357	\$	0.4502	\$	0.4483	
50																				
51		Union Gas	\$	3.6890																
52		TransCanada Pipelines Limited	\$	20.3913	Dawn -Parkway to Portland															
53		Delivery Pressure Demand Charge	\$	0.6083	Dawn -Parkway to Portland															
54		Sub Total Demand Charges	\$	24.6887																
55		Conversion rate GJ to MMBTU	\$	1.0551																
56		Conversion rate to US\$	\$	1.2706	1/0/1900															
57		Demand Rate/US\$	\$	20.5005		\$	0.6833	\$	0.6613	\$	0.6613	\$	0.7322	\$	0.6613	\$	0.6833	\$	0.6805	
58																				
59	Peaking																			
60		Demand FLS																		
61		Subtotal Peaking Demand Charges																		
62																				
63	Storage																			
64		Dominion - Demand	GSS 300076	\$	3.2548	GSS Settled,Tariff Rec #10.30 \	\$	0.1085	\$	0.1050	\$	0.1050	\$	0.1162	\$	0.1050	\$	0.1085	\$	0.1079
65		Dominion - Capacity	GSS 300076	\$	0.0318	GSS Settled,Tariff Rec #10.30 \	\$	0.0011	\$	0.0010	\$	0.0010	\$	0.0011	\$	0.0010	\$	0.0011	\$	0.0011
66				\$	3.2866		\$	0.1096	\$	0.1060	\$	0.1060	\$	0.1174	\$	0.1060	\$	0.1096	\$	0.1090
67																				
68		Honeoye - Demand	SS-NY	\$	6.1299	Sub 1st Rev Sheet No. 5	\$	0.2043	\$	0.1977	\$	0.1977	\$	0.2189	\$	0.1977	\$	0.2043	\$	0.2033
69																				
70		National Fuel - Demand	FSS-O02357	\$	2.6568	4.020 Version 28.0.0 Pg 1	\$	0.0886	\$	0.0857	\$	0.0857	\$	0.0949	\$	0.0857	\$	0.0886	\$	0.0881
71		National Fuel - Capacity	FSS-O02357	\$	0.0480	4.020 Version 28.0.0 Pg 1	\$	0.0016	\$	0.0015	\$	0.0015	\$	0.0017	\$	0.0015	\$	0.0016	\$	0.0016
72				\$	2.7048		\$	0.0902	\$	0.0873	\$	0.0873	\$	0.0966	\$	0.0873	\$	0.0902	\$	0.0897
73																				
74		Tenn Gas Pipeline	FS-MA 523	\$	1.2801	22nd Rev Sheet No.61	\$	0.0427	\$	0.0413	\$	0.0413	\$	0.0457	\$	0.0413	\$	0.0427	\$	0.0425
75		Tenn Gas Pipeline - Space	FS-MA 523	\$	0.0175	22nd Rev Sheet No.61	\$	0.0006	\$	0.0006	\$	0.0006	\$	0.0006	\$	0.0006	\$	0.0006	\$	0.0006
76				\$	1.2976		\$	0.0433	\$	0.0419	\$	0.0419	\$	0.0463	\$	0.0419	\$	0.0433	\$	0.0430
77																				
78																				

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Tennessee Gas Pipeline Company, L.L.C.
 FERC NGA Gas Tariff
 Sixth Revised Volume No. 1

Nineteenth Revised Sheet No. 14
 Superseding
 Eighteenth Revised Sheet No. 14

RATES PER DEKATHERM

FIRM TRANSPORTATION RATES
 RATE SCHEDULE FOR FT-A

Base Reservation Rates	RECEIPT ZONE	DELIVERY ZONE							
		0	L	1	2	3	4	5	6
	0	\$4.7485		\$9.92300	\$13.3478	\$13.5840	\$14.9261	\$15.8434	\$19.8779
	L		\$4.2156						
	1	\$7.1485		\$6.8524	\$9.1192	\$12.9182	\$12.7224	\$14.3480	\$17.6429
	2	\$13.3479		\$9.0644	\$4.7144	\$4.4071	\$5.6390	\$7.7558	\$10.0118
	3	\$13.5840		\$7.1799	\$4.7525	\$3.4286	\$5.2666	\$9.5251	\$11.0065
	4	\$17.2471		\$15.9003	\$6.0594	\$9.2085	\$4.5075	\$4.8747	\$6.9640
	5	\$20.5647		\$14.4505	\$6.3563	\$7.6911	\$5.0074	\$4.6970	\$6.1147
	6	\$23.7895		\$16.5974	\$11.4230	\$12.5841	\$8.8889	\$4.6763	\$4.0480

Daily Base Reservation Rate 1/	RECEIPT ZONE	DELIVERY ZONE							
		0	L	1	2	3	4	5	6
	0	\$0.1561		\$0.3262	\$0.4388	\$0.4466	\$0.4907	\$0.5209	\$0.6535
	L		\$0.1386						
	1	\$0.2350		\$0.2253	\$0.2998	\$0.4247	\$0.4183	\$0.4717	\$0.5800
	2	\$0.4388		\$0.2980	\$0.1550	\$0.1449	\$0.1854	\$0.2550	\$0.3292
	3	\$0.4466		\$0.2361	\$0.1562	\$0.1127	\$0.1731	\$0.3132	\$0.3619
	4	\$0.5670		\$0.5227	\$0.1992	\$0.3027	\$0.1482	\$0.1603	\$0.2290
	5	\$0.6761		\$0.4751	\$0.2090	\$0.2529	\$0.1646	\$0.1544	\$0.2010
	6	\$0.7821		\$0.5457	\$0.3756	\$0.4137	\$0.2922	\$0.1537	\$0.1331

Maximum Reservation Rates 2 /, 3 /	RECEIPT ZONE	DELIVERY ZONE							
		0	L	1	2	3	4	5	6
	0	\$4.7973		\$9.9718	\$13.3966	\$13.6328	\$14.9749	\$15.8922	\$19.9267
	L		\$4.2644						
	1	\$7.1973		\$6.9012	\$9.1680	\$12.9670	\$12.7712	\$14.3968	\$17.6917
	2	\$13.3967		\$9.1132	\$4.7632	\$4.4559	\$5.6878	\$7.8046	\$10.0606
	3	\$13.6328		\$7.2287	\$4.8013	\$3.4774	\$5.3154	\$9.5739	\$11.0553
	4	\$17.2959		\$15.9491	\$6.1082	\$9.2573	\$4.5563	\$4.9235	\$7.0128
	5	\$20.6135		\$14.4993	\$6.4051	\$7.7399	\$5.0562	\$4.7458	\$6.1635
	6	\$23.8383		\$16.6462	\$11.4718	\$12.6329	\$8.9377	\$4.7251	\$4.0968

Notes:

- 1/ Applicable to demand charge credits and secondary points under discounted rate agreements.
- 2/ Includes a per Dth charge for the PCB Surcharge Adjustment per Article XXXII of the General Terms and Conditions of \$0.0000.
- 3/ Includes a per Dth charge for the PS/GHG Surcharge Adjustment per Article XXXVIII of the General Terms and Conditions of \$0.0488.

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Tennessee Gas Pipeline Company, L.L.C.
 FERC NGA Gas Tariff
 Sixth Revised Volume No. 1

Twenty First Revised Sheet No. 15
 Superseding
 Twentieth Revised Sheet No. 15

RATES PER DEKATHERM

COMMODITY RATES
 RATE SCHEDULE FOR FT-A

Base
 Commodity Rates

RECEIPT ZONE	DELIVERY ZONE							
	0	L	1	2	3	4	5	6
0	\$0.0032		\$0.0115	\$0.0177	\$0.0219	\$0.2286	\$0.2182	\$0.2597
L		\$0.0012						
1	\$0.0042		\$0.0081	\$0.0147	\$0.0179	\$0.1944	\$0.1983	\$0.2264
2	\$0.0167		\$0.0087	\$0.0012	\$0.0028	\$0.0629	\$0.1009	\$0.1118
3	\$0.0207		\$0.0169	\$0.0026	\$0.0002	\$0.0841	\$0.1164	\$0.1271
4	\$0.0250		\$0.0205	\$0.0087	\$0.0105	\$0.0389	\$0.0550	\$0.0892
5	\$0.0284		\$0.0256	\$0.0100	\$0.0118	\$0.0548	\$0.0543	\$0.0674
6	\$0.0346		\$0.0300	\$0.0143	\$0.0163	\$0.0843	\$0.0457	\$0.0277

Minimum
 Commodity Rates 1/, 2/

RECEIPT ZONE	DELIVERY ZONE							
	0	L	1	2	3	4	5	6
0	\$0.0032		\$0.0115	\$0.0177	\$0.0219	\$0.0250	\$0.0284	\$0.0346
L		\$0.0012						
1	\$0.0042		\$0.0081	\$0.0147	\$0.0179	\$0.0210	\$0.0256	\$0.0300
2	\$0.0167		\$0.0087	\$0.0012	\$0.0028	\$0.0056	\$0.0100	\$0.0143
3	\$0.0207		\$0.0169	\$0.0026	\$0.0002	\$0.0081	\$0.0118	\$0.0163
4	\$0.0250		\$0.0205	\$0.0087	\$0.0105	\$0.0028	\$0.0046	\$0.0092
5	\$0.0284		\$0.0256	\$0.0100	\$0.0118	\$0.0046	\$0.0046	\$0.0066
6	\$0.0346		\$0.0300	\$0.0143	\$0.0163	\$0.0086	\$0.0041	\$0.0020

Maximum
 Commodity Rates 1/, 2/, 3/

RECEIPT ZONE	DELIVERY ZONE							
	0	L	1	2	3	4	5	6
0	\$0.0051		\$0.0134	\$0.0196	\$0.0238	\$0.2305	\$0.2201	\$0.2616
L		\$0.0031						
1	\$0.0061		\$0.0100	\$0.0166	\$0.0198	\$0.1963	\$0.2002	\$0.2283
2	\$0.0186		\$0.0106	\$0.0031	\$0.0047	\$0.0648	\$0.1028	\$0.1137
3	\$0.0226		\$0.0188	\$0.0045	\$0.0021	\$0.0860	\$0.1183	\$0.1290
4	\$0.0269		\$0.0224	\$0.0106	\$0.0124	\$0.0408	\$0.0569	\$0.0911
5	\$0.0303		\$0.0275	\$0.0119	\$0.0137	\$0.0567	\$0.0562	\$0.0693
6	\$0.0365		\$0.0319	\$0.0162	\$0.0182	\$0.0862	\$0.0476	\$0.0296

Notes:

- 1/ Rates stated above exclude the ACA Surcharge as revised annually and posted on the FERC website at <http://www.ferc.gov> on the Annual Charges page of the Natural Gas section. The ACA Surcharge is incorporated by reference into Transporter's Tariff and shall apply to all transportation under this Rate Schedule as provided in Article XXIV of the General Terms and Conditions.
- 2/ The applicable F&LR's and EPCR's, determined pursuant to Article XXXVII of the General Terms and Conditions, are listed on Sheet No. 32.
- 3/ Includes a per Dth charge for the PS/GHG Surcharge Adjustment per Article XXXVIII of the General Terms and Conditions of \$0.0019.

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Tennessee Gas Pipeline Company, L.L.C.
 FERC NGA Gas Tariff
 Sixth Revised Volume No. 1

Twentieth Revised Sheet No. 19A
 Superseding
 Nineteenth Revised Sheet No. 19A

FIRM TRANSPORTATION RATES
 RATE SCHEDULE FT-A

 Recourse Rates Applicable to Shippers Utilizing Capacity
 Pursuant to Incremental Capacity Expansions

	Base Tariff Rate	Total Rate
CP11-161-000 Northeast Upgrade Project		
Reservation Charge:		
Maximum	\$7.7389	\$7.7877 1/, 4/
Minimum	\$0.0000	\$0.0000
Commodity Charge:		
Maximum	\$0.0000	\$0.0019 2/, 3/, 4/
Minimum	\$0.0000	\$0.0000 2/, 3/
CP14-88-000 Niagara Expansion Project		
Reservation Charge:		
Maximum	\$8.7163	\$8.7651 1/, 4/
Minimum	\$0.0000	\$0.0000
Commodity Charge:		
Maximum	\$0.0000	\$0.0019 2/, 3/, 4/, 5/
Minimum	\$0.0000	\$0.0000 2/, 3/, 5/
CP14-529-000 Connecticut Expansion Project		
Reservation Charge:		
Maximum	\$16.9478	\$16.9966 1/, 4/
Minimum	\$0.0000	\$0.0000
Commodity Charge:		
Maximum	\$0.0674	\$0.0693 2/, 3/, 4/
Minimum	\$0.0066	\$0.0066 2/, 3/
CP15-77-000 Broad Run Expansion Project – Market Component		
Reservation Charge:		
Maximum	\$26.1755	\$26.2243 1/, 4/
Minimum	\$0.0000	\$0.0000
Commodity Charge:		
Maximum	\$0.0336	\$0.0355 2/, 3/, 4/
Minimum	\$0.0336	\$0.0336 2/, 3/
CP15-148-000 Susquehanna West Project		
Reservation Charge:		
Maximum	\$14.9795	\$15.0283 1/, 4/
Minimum	\$0.0000	\$0.0000
Commodity Charge:		
Maximum	\$0.0389	\$0.0408 2/, 3/, 4/
Minimum	\$0.0028	\$0.0028 2/, 3/
CP15-520-000 Triad Expansion Project		
Reservation Charge:		
Maximum	\$6.5881	\$6.6369 1/, 4/
Minimum	\$0.0000	\$0.0000
Commodity Charge:		
Maximum	\$0.0389	\$0.0408 2/, 3/, 4/
Minimum	\$0.0028	\$0.0028 2/, 3/

Notes:

- 1/ Includes a per Dth charge for the PCB Surcharge Adjustment per Article XXXII of the General Terms and Conditions of \$0.0000.
- 2/ Rates stated above exclude the ACA Surcharge as revised annually and posted on the FERC website at <http://www.ferc.gov> on the Annual Charges page of the Natural Gas section. The ACA Surcharge is incorporated by reference into Transporter's Tariff and shall apply to all transportation under this Rate Schedule as provided in Article XXIV of the General Terms and Conditions.
- 3/ The applicable F&LR's and EPCR's, determined pursuant to Article XXXVII of the General Terms and Conditions, are listed on Sheet No. 32.
- 4/ Includes a per Dth charge for the PS/GHG Surcharge Adjustment per Article XXXVIII of the General Terms and Conditions of \$0.0488 Reservation, \$0.0019 Commodity.
- 5/ Applicable fuel and lost and unaccounted for charges pursuant to the National Fuel Lease.

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Tennessee Gas Pipeline Company, L.L.C.
 FERC NGA Gas Tariff
 Sixth Revised Volume No. 1

Eighteenth Revised Sheet No. 32
 Superseding
 Substitute Seventeenth Revised Sheet No. 32

FUEL AND EPCR

F&LR 1/, 2/, 3/, 4/ ----- RECEIPT ZONE	DELIVERY ZONE							
	0	L	1	2	3	4	5	6
0	0.61%		1.85%	2.81%	3.45%	4.14%	4.68%	5.31%
L		0.32%						
1	0.77%		1.35%	2.31%	2.85%	3.39%	4.08%	4.64%
2	2.74%		1.44%	0.31%	0.56%	1.02%	1.74%	2.32%
3	3.35%		2.78%	0.56%	0.17%	1.41%	2.00%	2.66%
4	3.99%		3.15%	1.43%	1.70%	0.58%	0.88%	1.49%
5	4.68%		4.08%	1.74%	2.03%	0.87%	0.86%	1.09%
6	5.58%		4.85%	2.32%	2.66%	1.40%	0.69%	0.36%

Broad Run Expansion Project – Market Component (Z3-Z1): 5/ 6.21%

EPCR 3/, 4/ ----- RECEIPT ZONE	DELIVERY ZONE							
	0	L	1	2	3	4	5	6
0	\$0.0034		\$0.0132	\$0.0204	\$0.0254	\$0.0307	\$0.0349	\$0.0419
L		\$0.0011						
1	\$0.0046		\$0.0093	\$0.0169	\$0.0207	\$0.0257	\$0.0315	\$0.0362
2	\$0.0204		\$0.0099	\$0.0011	\$0.0030	\$0.0067	\$0.0122	\$0.0167
3	\$0.0254		\$0.0207	\$0.0030	\$0.0000	\$0.0097	\$0.0144	\$0.0192
4	\$0.0307		\$0.0238	\$0.0099	\$0.0120	\$0.0032	\$0.0055	\$0.0104
5	\$0.0349		\$0.0315	\$0.0122	\$0.0144	\$0.0055	\$0.0054	\$0.0072
6	\$0.0419		\$0.0362	\$0.0167	\$0.0192	\$0.0097	\$0.0041	\$0.0015

Broad Run Expansion Project – Market Component (Z3-Z1): 5/ \$0.0515

- 1/ Included in the above F&LR is the Losses component of the F&LR equal to 0.13%.
- 2/ For service that is rendered entirely by displacement and for gas scheduled and allocated for receipt at the Dracut, Massachusetts receipt point, Shipper shall render only the quantity of gas associated with Losses of 0.13%.
- 3/ The F&LR's and EPCR's listed above are applicable to FT-A, FT-BH, FT-G, FT-GS, and IT.
- 4/ The F&LR's and EPCR's determined pursuant to Article XXXVII of the General Terms and Conditions.
- 5/ The incremental F&LR and EPCR set forth above are applicable to a Shipper(s) utilizing capacity on the Broad Run Expansion Project – Market Component facilities, from any receipt point(s) to any delivery point(s) located on the project's transportation path. Any service provided to a Shipper(s) outside the project's transportation path shall be subject to the greater of the incremental F&LR and EPCR for the project or the applicable F&LR and EPCR for the applicable receipt(s) and delivery point(s) as shown in the rate matrices above. Included in the above F&LR is the Losses component of the F&LR equal to 0.13%.

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Tennessee Gas Pipeline Company, L.L.C.
 FERC NGA Gas Tariff
 Sixth Revised Volume No. 1

Twenty Second Revised Sheet No. 61
 Superseding
 Twenty First Revised Sheet No. 61

RATES PER DEKATHERM

FIRM STORAGE SERVICE
 RATE SCHEDULE FS

Rate Schedule and Rate	=====			
	Base Tariff Rate	Max Tariff Rate	F&LR 2/, 3/	EPCR 2/

FIRM STORAGE SERVICE (FS) - PRODUCTION AREA				

Deliverability Rate	\$1.7426	\$1.7426 1/		
Space Rate	\$0.0177	\$0.0177 1/		
Injection Rate	\$0.0073	\$0.0073	1.81%	\$0.0000
Withdrawal Rate	\$0.0073	\$0.0073		
Overrun Rate	\$0.2091	\$0.2091 1/		
FIRM STORAGE SERVICE (FS) - MARKET AREA				

Deliverability Rate	\$1.2801	\$1.2801 1/		
Space Rate	\$0.0175	\$0.0175 1/		
Injection Rate	\$0.0087	\$0.0087	1.81%	\$0.0000
Withdrawal Rate	\$0.0087	\$0.0087		
Overrun Rate	\$0.1537	\$0.1537 1/		

Notes:

- 1/ Includes a per Dth charge for the PCB Surcharge Adjustment per Article XXXII of the General Terms and Conditions of \$0.000.
- 2/ The F&LR's and EPCR's determined pursuant to Article XXXVII of the General Terms and Conditions.
- 3/ The applicable F&LR pursuant to Article XXXVII of the General Terms and Conditions, associated with Losses is equal to 0.15%.

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Iroquois Gas Transmission System, L.P.
 FERC Gas Tariff
 Second Revised Volume No. 1

Fourth Revised Sheet No. 4
 Superseding
 Third Revised Sheet No. 4

----- NON-EASTCHESTER RATES (All in \$ Per Dth) 1/ -----

	Minimum	RP16-301 Rates 2/ Maximum			RP19-445 Rates Maximum	
		Effective 9/1/2016	Effective 9/1/2017	Effective 9/1/2018	Effective 3/1/2019	Effective 4/1/2020
RTS DEMAND (Monthly):						
Zone 1	\$0.0000	\$ 6.1928	\$ 5.9982	\$ 5.5997	\$5.4177	\$5.2357
Zone 2	\$0.0000	\$ 5.3381	\$ 5.1678	\$ 4.7998	\$4.6438	\$4.4878
Inter-Zone	\$0.0000	\$10.4755	\$ 9.8672	\$ 8.8026	\$8.5165	\$8.2304
RTS COMMODITY (Daily):						
Zone 1	\$0.0034	\$ 0.0034	\$ 0.0034	\$ 0.0034	\$0.0034	\$0.0034
Zone 2	\$0.0022	\$ 0.0022	\$ 0.0022	\$ 0.0022	\$0.0022	\$0.0022
Inter-Zone	\$0.0056	\$ 0.0056	\$ 0.0056	\$ 0.0056	\$0.0056	\$0.0056
ITS COMMODITY (Daily):						
Zone 1	\$0.0034	\$ 0.2070	\$ 0.2006	\$ 0.1875	\$0.1815	\$0.1755
Zone 2	\$0.0022	\$ 0.1777	\$ 0.1721	\$ 0.1600	\$0.1549	\$0.1497
Inter-Zone	\$0.0056	\$ 0.3500	\$ 0.3300	\$ 0.2950	\$0.2856	\$0.2762
VOLUMETRIC CAPACITY RELEASE (Daily) 3/:						
Zone 1	\$0.0000	\$ 0.2036	\$ 0.1972	\$ 0.1841	\$0.1781	\$0.1721
Zone 2	\$0.0000	\$ 0.1755	\$ 0.1699	\$ 0.1578	\$0.1527	\$0.1475
Inter-Zone	\$0.0000	\$ 0.3444	\$ 0.3244	\$ 0.2894	\$0.2800	\$0.2706

**SEE SHEET NOS. 4A, 4B, AND 4C FOR ADJUSTMENTS TO RATES WHICH MAY BE APPLICABLE

(Footnotes continued on Sheet 4.01)

Issued On: June 12, 2019

Effective On: July 1, 2019

National Fuel Gas Supply Corporation
 FERC Gas Tariff
 Fifth Revised Volume No. 1

Part 4 - Applicable Rates
 § 4.010 - Transportation Rates
 Version 34.0.0
 Page 1 of 1

RATES FOR TRANSPORTATION SERVICES

Rate Sch. (1)	Rate Component ^{1/} (2)		Base Rate (3)	TSCA (4)	TSCA Surch. (5)	Current Rate ^{2/} (6)
FT/FT-S	Reservation	(Max)	\$4.9375	-	-	\$4.9375 ^{4/}
		(Min)	0.0000	-	-	\$0.0000
	Commodity	(Max)	0.0140	-	-	\$0.0140 plus ACA ^{3/}
		(Min)	0.0140	-	-	\$0.0140 plus ACA ^{3/}
	Overrun	(Max)	0.1763	-	-	\$0.1763 plus ACA ^{3/}
		(Min)	0.0140	-	-	\$0.0140 plus ACA ^{3/}
EFT	Reservation	(Max)	\$5.0811	0.0000	0.0000	\$5.0811 ^{4/}
		(Min)	0.0000	0.0000	0.0000	\$0.0000
	Commodity	(Max)	0.0148	0.0000	0.0000	\$0.0148 plus ACA ^{3/}
		(Min)	0.0148	0.0000	0.0000	\$0.0148 plus ACA ^{3/}
	Overrun	(Max)	0.1818	-	-	\$0.1818 plus ACA ^{3/}
		(Min)	0.0148	-	-	\$0.0148 plus ACA ^{3/}
FST	Reservation	(Max)	\$4.9375	-	-	\$4.9375 ^{4/}
		(Min)	0.0000	-	-	\$0.0000
	Commodity	(Max)	0.0140	-	-	\$0.0140 plus ACA ^{3/}
		(Min)	0.0140	-	-	\$0.0140 plus ACA ^{3/}
	Overrun	(Max)	0.1763	-	-	\$0.1763 plus ACA ^{3/}
		(Min)	0.0140	-	-	\$0.0140 plus ACA ^{3/}
IT	Commodity	(Max)	\$0.1763	-	-	\$0.1763 plus ACA ^{3/}
		(Min)	0.0000	-	-	\$0.0000 plus ACA ^{3/}
	Overrun	(Max)	0.1763	-	-	\$0.1763 plus ACA ^{3/}
		(Min)	0.0000	-	-	\$0.0000 plus ACA ^{3/}

The NA15 Retention is 1.10% applicable to use of the Northern Access 2015 Lease.^{2/ 3/}

- 1/ The unit of measure for each rate component is Dth unless otherwise indicated.
- 2/ All rates exclusive of Transportation Fuel and Company Use Retention and Transportation LAUF Retention. The Transportation Fuel and Company Use Retention for all applicable rate schedules is 0.79% and the Transportation LAUF Retention for all applicable rate schedules is 0.36%. Transporter may from time to time identify point pair transactions where the Transportation Fuel and Company Use Retention shall be zero ("Zero Fuel Point Pair Transactions"). Zero Fuel Point Pair Transactions will be assessed the applicable Transportation LAUF Retention.
- 3/ Pursuant to Section 19 of the General Terms and Conditions, the ACA unit charge, as revised annually and posted on the Commission's website, will be charged in addition to the specified rate.
- 4/ Pursuant to Section 42 of the General Terms and Conditions, a per Dth charge of \$0.0426 shall be added as a Transmission PS/GHG Surcharge, in addition to the specified rate.

Effective On: April 1, 2022

National Fuel Gas Supply Corporation
 FERC Gas Tariff
 Fifth Revised Volume No. 1

Part 4 - Applicable Rates
 § 4.020 - Part 284 Storage Rates
 Version 28.0.0
 Page 1 of 1

RATES FOR PART 284 STORAGE SERVICES

Rate Sch. (1)	Rate Component ^{1/} (2)		Rate ^{2/} (3)
ESS	Demand	(Max)	\$2.6433 ^{5/}
		(Min)	\$0.0000
	Capacity	(Max)	\$0.0485 ^{6/}
		(Min)	\$0.0000
	Injection/Withdrawal	(Max)	\$0.0458 plus ACA ^{3/}
		(Min)	\$0.0000
Storage Balance Transfer	(Max) ^{4/}	\$3.8600	
	(Min) ^{4/}	\$0.0000	
ISS	Injection	(Max)	\$1.1271 plus ACA ^{3/}
		(Min)	\$0.0000
	Storage Balance Transfer	(Max) ^{4/}	\$3.8600
		(Min) ^{4/}	\$0.0000
FSS	Demand	(Max)	\$2.5326 ^{5/}
		(Min)	\$0.0000
	Capacity	(Max)	\$0.0462 ^{6/}
		(Min)	\$0.0000
	Injection/Withdrawal	(Max)	\$0.0439 plus ACA ^{3/}
		(Min)	\$0.0000
Storage Balance Transfer	(Max) ^{4/}	\$3.8600	
	(Min) ^{4/}	\$0.0000	

- 1/ The unit of measure for each rate component is Dth unless otherwise indicated.
 2/ All rates exclusive of Storage Operating and LAUF Retention, where applicable. The Storage Operating and LAUF Retention for all applicable rate schedules is 0.46%.
 3/ Pursuant to Section 19 of the General Terms and Conditions, the ACA unit charge, as revised annually and posted on the Commission's website, will be charged in addition to the specified rate.
 4/ Rate per nomination.
 5/ Pursuant to Section 42 of the General Terms and Conditions, a per Dth charge of \$0.1242 shall be added as a Storage PS/GHG Demand/Deliverability Surcharge, in addition to the specified rate.
 6/ Pursuant to Section 42 of the General Terms and Conditions, a per Dth charge of \$0.0018 shall be added as a Storage PS/GHG Capacity Surcharge, in addition to the specified rate.

Effective On: April 1, 2022

Eastern Gas Transmission and Storage, Inc.
 FERC Gas Tariff
 Sixth Revised Volume No. 1

GSS, GSS-E & ISS Rates
 Tariff Record No. 10.30.
 Version 4.1.0
 Superseding Version 4.0.0

RATES APPLICABLE TO RATE SCHEDULES IN
 FERC GAS TARIFF, VOLUME NO. 1
 (\$ per DT)

Rate Schedule	Rate Component	Base Tariff Rate [1]	Current Acct 858 Base (4)	Current EPCA Base (5)	TCRA [5] Surcharge (6)	EPCA [6] Surcharge (7)	Current Rate [7] (8)	FERC ACA (9)
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
GSS [2], [3]								
	Maximum Storage Demand	\$3.1957	\$0.0604	\$0.0041	(\$0.0026)	(\$0.0028)	\$3.2548	-
	Storage Capacity	\$0.0318	-	-	-	-	\$0.0318	-
	Injection Charge	\$0.0252	-	\$0.0106	\$0.0000	(\$0.0001)	\$0.0357	-
	Withdrawal Charge	\$0.0252	-	-	\$0.0000	(\$0.0001)	\$0.0251	[8]
	GSS-TE Surcharge	-	-	-	(\$0.0002)	-	(\$0.0002)	-
	From Customers Balance	\$0.8777	\$0.0126	\$0.0008	(\$0.0005)	(\$0.0007)	\$0.8899	[8]
	Minimum Storage Demand	\$0.0000	-	-	-	-	\$0.0000	-
	Storage Capacity	\$0.0000	-	-	-	-	\$0.0000	-
	Injection Charge	\$0.0252	-	-	-	-	\$0.0252	-
	Withdrawal Charge	\$0.0252	-	-	-	-	\$0.0252	[8]
	GSS-TE Surcharge	\$0.0000	-	-	-	-	\$0.0000	-
	From Customers Balance	\$0.8777	\$0.0126	\$0.0008	(\$0.0005)	(\$0.0007)	\$0.8899	[8]
GSS-E [2], [3]								
	Maximum Storage Demand	\$3.0200	\$0.0604	\$0.0041	(\$0.0026)	(\$0.0028)	\$3.0791	-
	Storage Capacity	\$0.0503	-	-	-	-	\$0.0503	-
	Injection Charge	\$0.0252	-	\$0.0106	\$0.0000	(\$0.0001)	\$0.0357	-
	Withdrawal Charge	\$0.0252	-	-	\$0.0000	(\$0.0001)	\$0.0251	[8]
	Authorized Overruns	\$1.7409	\$0.0126	\$0.0008	(\$0.0005)	(\$0.0007)	\$1.7531	[8]
	Minimum Storage Demand	\$0.0000	-	-	-	-	\$0.0000	-
	Storage Capacity	\$0.0000	-	-	-	-	\$0.0000	-
	Injection Charge	\$0.0252	-	-	-	-	\$0.0252	-
	Withdrawal Charge	\$0.0252	-	-	-	-	\$0.0252	[8]
	Authorized Overruns	\$1.7409	\$0.0126	\$0.0008	(\$0.0005)	(\$0.0007)	\$1.7531	[8]

Issued On: March 31, 2022

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Effective On: April 1, 2022

Eastern Gas Transmission and Storage, Inc.
 FERC Gas Tariff
 Sixth Revised Volume No. 1

GSS, GSS-E & ISS Rates
 Tariff Record No. 10.30.
 Version 4.1.0
 Superseding Version 4.0.0

Rate Schedule (1)	Rate Component (2)	Base Tariff Rate [1] (3)	Current Acct 858 Base (4)	Current EPCA Base (5)	TCRA [5] Surcharge (6)	EPCA [6] Surcharge (7)	Current Rate [7] (8)	FERC ACA (9)
ISS [2]								
	Maximum							
	ISS Capacity	\$0.1369	\$0.0020	\$0.0001	(\$0.0001)	(\$0.0001)	\$0.1388	-
	Injection Charge	\$0.0252	-	\$0.0106	\$0.0000	(\$0.0001)	\$0.0357	-
	Withdrawal Charge	\$0.0252	-	-	\$0.0000	(\$0.0001)	\$0.0251	[8]
	Authorized Overrun/from Cust. Bal	\$0.8777	\$0.0126	\$0.0008	(\$0.0005)	(\$0.0007)	\$0.8899	[8]
	Excess Injection Charge	\$0.5200	-	\$0.0106	\$0.0000	(\$0.0001)	\$0.5305	-
	Minimum							
	ISS Capacity	\$0.0000	-	-	-	-	\$0.0000	-
	Injection Charge	\$0.0252	-	-	-	-	\$0.0252	-
	Withdrawal Charge	\$0.0252	-	-	-	-	\$0.0252	[8]
	Authorized Overrun/from Cust. Bal	\$0.8777	\$0.0126	\$0.0008	(\$0.0005)	(\$0.0007)	\$0.8899	[8]
	Excess Injection Charge	\$0.5200	-	\$0.0106	\$0.0000	(\$0.0001)	\$0.5305	-

- [1] The base tariff rate is the effective rate on file with the FERC, excluding adjustments approved by the Commission.
- [2] Storage Service Fuel Retention Percentage is 1.43%.
- [3] Applies to withdrawals made under Rate Schedule GSS, Section 5.1.G.
- [4] Daily Capacity Release Rate for GSS per Dt is \$0.8648. Daily Capacity Release Rate for GSS-E per Dt is \$1.7280.
- [5] 858 over/under from previous TCRA period.
- [6] Electric over/under from previous EPCA period.
- [7] The Current Rate shall be increased for the Annual Charge Adjustment (ACA) as applicable.
- [8] The applicable ACA rate is set forth on the FERC website (<https://www.ferc.gov/industries-data/natural-gas/overview/general-information/annual-charges>).

Portland Natural Gas Transmission System
 FERC Gas Tariff
 Third Revised Volume No. 1

PART 4.1
 Part 4.1 - Stmtnt of Rates
 Recourse Reservation and Usage Rates
 v.8.0.0 Superseding v.7.0.0

Statement of Transportation Rates
 (Rates per DTH)

Rate Schedule	Rate Component	Base Rate	ACA Unit Charge 1/
FT	Recourse Reservation Rate		
	-- Maximum	\$25.9843	-----
	-- Minimum	\$00.0000	-----
	Seasonal Recourse Reservation Rate		
	-- Maximum	\$49.3701	-----
	-- Minimum	\$00.0000	-----
	Recourse Usage Rate		
	-- Maximum	\$00.0000	2/
	-- Minimum	\$00.0000	2/
	-- PXP Project	\$00.0091	
FT-FLEX	Recourse Reservation Rate		
	--Maximum	\$17.4406	-----
	--Minimum	\$00.0000	-----
	Recourse Usage Rate		
	--Maximum	\$00.2809	2/
	--Minimum	\$00.0000	2/

The following adjustment applies to all Rate Schedules above:

MEASUREMENT VARIANCE FACTOR-LAUF:

Minimum down to -1.00%
 Maximum up to +1.00%

MEASUREMENT VARIANCE FACTOR-FUEL 3/

1/ ACA assessed where applicable under Section 154.402 of the Commission's regulations and will be charged pursuant to Section 6.18 of the General Terms and Conditions at such time that initial and successive ACA assessments are made.

2/ The currently effective ACA unit charge as published on the Commission's website (www.ferc.gov) is incorporated herein by reference.

Effective
 2022-07-01
 Rate M12
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ENBRIDGE GAS INC.
UNION SOUTH
TRANSPORTATION RATES

(A) Applicability

The charges under this schedule shall be applicable to a Shipper who enters into a Transportation Service Contract with Union.

Applicable Points

Dawn as a receipt point: Dawn (TCPL), Dawn (Facilities), Dawn (Tecumseh), Dawn (Vector) and Dawn (TSLE).
 Dawn as a delivery point: Dawn (Facilities).

(B) Services

Transportation Service under this rate schedule shall be for transportation on Union's Dawn - Parkway facilities.

(C) Rates

The identified rates represent maximum prices for service. These rates may change periodically.
 Multi-year prices may also be negotiated, which may be higher than the identified rates.

	Monthly Demand Charges (applied to daily contract demand) Rate/GJ	Fuel and Commodity Charges		
		Union Supplied Fuel Fuel and Commodity Charge Rate/GJ	Shipper Supplied Fuel	
			Fuel Ratio %	AND
<u>Firm Transportation (1), (5)</u>				
Dawn to Parkway	\$3.689	Monthly fuel and commodity rates shall be in accordance with schedule "C".	Monthly fuel ratios shall be in accordance with schedule "C".	
Dawn to Kirkwall	\$3.130			
Kirkwall to Parkway	\$0.559			
<u>M12-X Firm Transportation</u>				
Between Dawn, Kirkwall and Parkway	\$4.560	Monthly fuel and commodity rates shall be in accordance with schedule "C".	Monthly fuel ratios shall be in accordance with schedule "C".	
<u>Limited Firm/Interruptible Transportation (1)</u>				
Dawn to Parkway – Maximum	\$8.854	Monthly fuel and commodity rates shall be in accordance with schedule "C".	Monthly fuel ratios shall be in accordance with schedule "C".	
Dawn to Kirkwall – Maximum	\$8.854			
Parkway (TCPL / EGT) to Parkway (Cons) / Lisgar (2)	n/a			
<u>Carbon Charge (applied to all quantities transported)</u>				
Facility Carbon Charge		\$0.004		\$0.004

TransCanada PipeLines Limited
 Mainline Tolls - effective January 1, 2022 to December 31, 2026 (CER Order TG-014-2020)
 Abandonment Surcharges - effective January 1, 2022 to December 31, 2022 (CER Order TG-008-2021)

Storage Transportation Service

Line No.	Particulars	Monthly Toll (\$/GJ/Month)	Daily Equivalent (\$/GJ)	Abandonment Surcharge (\$/GJ/Month)	Daily Equivalent Abandonment Surcharge (\$/GJ)
	(a)	(b)	(c)	(d)	(e)
1	Centram MDA	4.14883	0.1364	0.23421	0.0077
2	Union WDA	23.89229	0.7855	1.98317	0.0652
3	Union NDA	13.80004	0.4537	0.66004	0.0217
4	Union EDA	9.02158	0.2966	0.43192	0.0142
5	KPUC EDA	8.94250	0.2940	0.42583	0.0140
6	Energir EDA	15.63721	0.5141	0.87296	0.0287
7	Enbridge CDA	4.55946	0.1499	0.13383	0.0044
8	Enbridge EDA	12.02067	0.3952	0.63267	0.0208
9	Corwall	12.21838	0.4017	0.64483	0.0212

Firm Transportation - Short Notice

Line No.	Particulars	Monthly Toll (\$/GJ/Month)	Daily Equivalent (\$/GJ)	Abandonment Surcharge (\$/GJ/Month)	Daily Equivalent Abandonment Surcharge (\$/GJ)
	(a)	(b)	(c)	(d)	(e)
10	Kirkwall to Thorold CDA	5.28946	0.1739	0.14904	0.0049
11	Union Parkway Belt to Goreway CDA	3.82946	0.1259	0.06083	0.0020
12	Union Parkway Belt to Victoria Square #2 CDA	4.59900	0.1512	0.10950	0.0036
13	Union Parkway Belt to Schomberg #2 CDA	4.54729	0.1495	0.10646	0.0035
14	Union Parkway Belt to Napanee #2 EDA	9.17063	0.3015	0.38629	0.0127

Dawn Long Term Fixed Price

Line No.	Particulars	Monthly Toll (\$/GJ/Month)	Daily Equivalent (\$/GJ)
	(a)	(b)	(c)
15	For All Dawn LTFP Contract Demand except any portion subject to a reduced term for the final 24 months of such reduced term	23.42083	0.7700
16	Any portion of Contract Demand reduced in term by 12 months for months 85 through 108	26.46250	0.8700
17	Any portion of Contract Demand reduced in term by 24 months for months 73 through 96	28.89583	0.9500
18	Any portion of Contract Demand reduced in term by 36 months for months 61 through 84	30.41667	1.0000
19	Any portion of Contract Demand reduced in term by 48 months for months 49 through 72	31.63333	1.0400
20	Any portion of Contract Demand reduced in term by 60 months for months 37 through 60	31.93750	1.0500

Notes: The tolls are inclusive of Delivery Pressure Toll and Abandonment Surcharge.
 The Abandonment Surcharges are the same as the Empress to Emerson 2 Abandonment Surcharges for FT service.

Herbert Long Term Fixed Price

Line No.	Particulars	Monthly Toll (\$/GJ/Month)	Daily Equivalent (\$/GJ)	Abandonment Surcharge (\$/GJ/Month)	Daily Equivalent Abandonment Surcharge (\$/GJ)
	(a)	(b)	(c)	(d)	(e)
21	Empress to Herbert	3.65000	0.1200	0.27983	0.0092

North Bay Junction Long Term Fixed Price (NBJ LTFF) Service

Line No.	Particulars	Monthly Toll (\$/GJ/Month)	Daily Equivalent (\$/GJ)
	(a)	(b)	(c)
1	NBJ LTFF	28.28750	0.9300
2	NBJ LTFF Differential Surcharge	0.00000	0.0000

Note: The toll for NBJ LTFF is inclusive of the applicable Abandonment Surcharge for FT service from Empress to North Bay Junction. The NBJ LTFF Differential Surcharge is zero provided the Abandonment Surcharge for FT service from Empress to North Bay Junction is equal or less than \$6.69167/GJ/Month.

Enhanced Market Balancing Service

Line No.	Particulars	Monthly Toll (\$/GJ/Month)	Daily Equivalent (\$/GJ)	Abandonment Surcharge (\$/GJ/Month)	Daily Equivalent Abandonment Surcharge (\$/GJ)
	(a)	(b)	(c)	(d)	(e)
3	Union Parkway Belt to Union EDA	9.92374	0.3262	0.43192	0.0142

Delivery Pressure

Line No.	Particulars	Monthly Toll (\$/GJ/Month)	Daily Equivalent (\$/GJ)
	(a)	(b)	(c)
4	Average Delivery Pressure Toll	0.60833	0.0200

Note: Delivery Pressure toll applies to the following locations: Emerson 1, Emerson 2, Union SWDA, Enbridge SWDA, Dawn Export, Niagara Falls, Iroquois, Chippawa and East Hereford. The Daily Equivalent Toll is only applicable to STS Injections, IT, Diversions and STFT.

Union Dawn Receipt Point Surcharge

Line No.	Particulars	Monthly Toll (\$/GJ/Month)	Daily Equivalent (\$/GJ)
	(a)	(b)	(c)
5	Union Dawn Receipt Point Surcharge	0.13135	0.0043

Short Notice Balancing (SNB) Service

Line No.	Particulars	Monthly Toll (\$/GJ/Month)	Daily Equivalent (\$/GJ)
	(a)	(b)	(c)
6	SNB Toll	2.97597	0.0978

Note: This SNB Toll is a representative toll for the Eastern Region.

Energy Deficient Gas Allowance (EDGA) Service

Line No.	Particulars	Capacity Charge (\$/GJ/D)
	(a)	(b)
7	Western Section	0.9388
8	Eastern Section	0.3302

Note: The EDGA Service capacity charge for the Western Section is the effective Empress to North Bay Junction FT Toll and the capacity charge for the Eastern Section is the effective Parkway to North Bay Junction FT Toll. The EDGA Service fuel charge for the Western Section includes the effective Empress to North Bay Junction monthly fuel ratio and the fuel charge for the Eastern Section includes the effective Parkway to North Bay Junction monthly fuel ratio.

Line No.	Receipt Point	Delivery Point	FT Toll (\$/G/Month)	Daily Equivalent FT for T1 STFT (\$/G)	Abandonment Surcharge (\$/G/Month)	Daily Equivalent Abandonment Surcharge (\$/G)
1	Union NDA	Enbridge CDA	-	0.4482	-	0.0214
2	Union NDA	Enbridge Parkway CDA	-	0.4537	-	0.0217
3	Union NDA	Enbridge EDA	-	0.4769	-	0.0233
4	Union NDA	KPLUC EDA	-	0.5748	-	0.0298
5	Union NDA	Energir EDA	-	0.6348	-	0.0338
6	Union NDA	Enbridge SWDA	-	0.6014	-	0.0316
7	Union NDA	Union SWDA	-	0.6020	-	0.0317
8	Union NDA	Chippewa	-	0.5417	-	0.0276
9	Union NDA	Comwall	-	0.5224	-	0.0263
10	Union NDA	East Hereford	-	0.7544	-	0.0418
11	Union NDA	Emerson 1	-	0.6135	-	0.0704
12	Union NDA	Emerson 2	-	0.6135	-	0.0704
13	Union NDA	Iroquois	-	0.5008	-	0.0249
14	Union NDA	Kirkwall	-	0.4785	-	0.0234
15	Union NDA	Napierville	-	0.6225	-	0.0330
16	Union NDA	Niagara Falls	-	0.5401	-	0.0275
17	Union NDA	North Bay Junction	-	0.1241	-	0.0061
18	Union NDA	Philipsburg	-	0.6339	-	0.0338
19	Union NDA	Spruce	-	0.5665	-	0.0262
20	Union NDA	St. Clair	-	0.6170	-	0.0326
21	Union NDA	Weylyn	-	0.6959	-	0.0612
22	Union NDA	Dawn Export	-	0.6014	-	0.0316
23	Union Parkway Belt	Empress	36.52433	1.2008	3.78079	0.1243
24	Union Parkway Belt	TransGas SSSDA	32.93821	1.0629	3.30933	0.1098
25	Union Parkway Belt	Centram SSSDA	30.35888	0.9981	2.97171	0.0977
26	Union Parkway Belt	Centram MDA	27.81908	0.9146	2.64017	0.0868
27	Union Parkway Belt	Centrat MDA	28.49738	0.9369	2.58846	0.0851
28	Union Parkway Belt	Union WDA	23.89229	0.7855	1.98317	0.0652
29	Union Parkway Belt	Npigon WDA	21.31217	0.7204	1.72463	0.0567
30	Union Parkway Belt	Union NDA	13.60004	0.4537	0.66004	0.0217
31	Union Parkway Belt	Calstock NDA	18.57850	0.6108	1.28663	0.0423
32	Union Parkway Belt	Tunis NDA	15.95354	0.5245	0.94292	0.0310
33	Union Parkway Belt	Energir NDA	13.73008	0.4514	0.65092	0.0214
34	Union Parkway Belt	Union SSSMDA	16.31854	0.5365	1.12846	0.0371
35	Union Parkway Belt	Union NCDA	6.64604	0.2185	0.27375	0.0090
36	Union Parkway Belt	Union CDA	4.16100	0.1368	0.10646	0.0035
37	Union Parkway Belt	Union ECDA	3.47358	0.1142	0.06083	0.0020
38	Union Parkway Belt	Union EDA	9.02158	0.2986	0.43192	0.0142
39	Union Parkway Belt	Union Parkway Belt	2.92000	0.0960	0.02433	0.0008
40	Union Parkway Belt	Enbridge CDA	4.59946	0.1499	0.13383	0.0044
41	Union Parkway Belt	Enbridge Parkway CDA	2.92000	0.0960	0.02433	0.0008
42	Union Parkway Belt	Enbridge EDA	12.02067	0.3952	0.63267	0.0208
43	Union Parkway Belt	KPLUC EDA	8.94250	0.2940	0.42583	0.0140
44	Union Parkway Belt	Energir EDA	15.63721	0.5141	0.87296	0.0287
45	Union Parkway Belt	Enbridge SWDA	7.41558	0.2438	0.32546	0.0107
46	Union Parkway Belt	Union SWDA	7.45817	0.2452	0.32850	0.0108
47	Union Parkway Belt	Chippewa	5.59667	0.1640	0.20379	0.0067
48	Union Parkway Belt	Comwall	12.21838	0.4017	0.64483	0.0212
49	Union Parkway Belt	East Hereford	19.27504	0.6337	1.11629	0.0367
50	Union Parkway Belt	Emerson 1	26.21004	0.8617	2.42725	0.0798
51	Union Parkway Belt	Emerson 2	26.21004	0.8617	2.42725	0.0798
52	Union Parkway Belt	Iroquois	11.37868	0.3741	0.59008	0.0194
53	Union Parkway Belt	Kirkwall	3.67738	0.1209	0.07604	0.0025
54	Union Parkway Belt	Napierville	15.26004	0.5017	0.84863	0.0279
55	Union Parkway Belt	Niagara Falls	5.55104	0.1825	0.20075	0.0066
56	Union Parkway Belt	North Bay Junction	10.04358	0.3302	0.49883	0.0164
57	Union Parkway Belt	Philipsburg	15.60679	0.5131	0.86992	0.0286
58	Union Parkway Belt	Spruce	28.49738	0.9369	2.58846	0.0851
59	Union Parkway Belt	St. Clair	7.88704	0.2593	0.35588	0.0117
60	Union Parkway Belt	Weylyn	30.35888	0.9981	2.97171	0.0977
61	Union Parkway Belt	Dawn Export	7.41558	0.2438	0.32546	0.0107
62	Union SSSMDA	Empress	-	0.8020	-	0.0951
63	Union SSSMDA	TransGas SSSDA	-	0.6841	-	0.0796
64	Union SSSMDA	Centram SSSDA	-	0.5994	-	0.0685
65	Union SSSMDA	Centram MDA	-	0.5158	-	0.0576
66	Union SSSMDA	Centrat MDA	-	0.5100	-	0.0568
67	Union SSSMDA	Union WDA	-	0.6741	-	0.0783
68	Union SSSMDA	Npigon WDA	-	1.0178	-	0.0852
69	Union SSSMDA	Union NDA	-	0.4110	-	0.0561
70	Union SSSMDA	Calstock NDA	-	0.9678	-	0.0786
71	Union SSSMDA	Tunis NDA	-	0.8815	-	0.0673
72	Union SSSMDA	Energir NDA	-	0.8084	-	0.0577
73	Union SSSMDA	Union SSSMDA	-	0.0960	-	0.0008
74	Union SSSMDA	Union NCDA	-	0.6590	-	0.0453
75	Union SSSMDA	Union CDA	-	0.5295	-	0.0367
76	Union SSSMDA	Union ECDA	-	0.5541	-	0.0383
77	Union SSSMDA	Union EDA	-	0.7371	-	0.0505
78	Union SSSMDA	Union Parkway Belt	-	0.5365	-	0.0371
79	Union SSSMDA	Enbridge CDA	-	0.5637	-	0.0403
80	Union SSSMDA	Enbridge Parkway CDA	-	0.5365	-	0.0371
81	Union SSSMDA	Enbridge EDA	-	0.8357	-	0.0571

1 Liberty Utilities (EnergyNorth Natural Gas) Corp. d/b/a Liberty
2 d/b/a Liberty
3 Peak 2022 - 2023 Winter Cost of Gas Filing
4 Supply and Commodity Costs, Volumes and Rates

REDACTED
Schedule 6
Page 1 of 5

5	6 For Month of:	Reference	Nov-22	Dec-22	Jan-23	Feb-23	Mar-23	Apr-23	Peak
7	(a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)	Nov- Apr
8									(i)
9	Supply and Commodity Costs								
10	Pipeline Gas:								
12	Dawn Supply	In 66 * In 107							
13	Niagara Supply	In 67 * In 112							
14	TGP Supply (Direct)	In 68 * In 132							
15	Dracut Supply 1 - Baseload	In 69 * In 117							
16	Dracut Supply 2 - Swing	In 70 * In 122							
17	Dracut Supply 3 - Swing	In 71 * In 123							
18	Constellation COMBO	In 72 * In 138							
19	LNG Truck	In 73 * In 140							
20	Propane Truck	In 74 * In 142							
21	PNGTS	In 75 * In 147							
22	Portland Natural Gas	In 76 * In 152							
23	TGP Supply (Z4)	In 77 * In 157							
24									
25	Subtotal Pipeline Gas Costs		\$ 14,236,355	\$ 21,290,694	\$ 31,572,749	\$ 36,538,761	\$ 24,107,873	\$ 5,643,470	\$ 133,389,902
26									
27	Volumetric Transportation Costs								
28	Dawn Supply	In 66 * In 204							
29	Niagara Supply	In 67 * In 215							
30	TGP Supply (Direct)	In 68 * In 242							
31	Dracut Supply 1 - Baseload	In 69 * In 263							
32	Dracut Supply 2 - Swing	In 70 * In 263							
33	Dracut Supply 3 - Swing	In 71 * In 264							
34	Constellation COMBO	In 72 * In 263							
35	TGP Storage - Withdrawals	In 82 * In 179							
36									
37	Total Volumetric Transportation Costs		\$ 391,550	\$ 363,805	\$ 411,856	\$ 358,383	\$ 271,347	\$ 80,327	\$ 1,877,268
38									
39	Less - Gas Refill:								
40	LNG Truck	In 91 * In 164							
41	Propane	In 92 * In 165							
42	TGP Storage Refill	In 93 * In 130							
43	Storage Refill (Trans.)	In 93 * In 242							
44									
45	Subtotal Refills		\$ (1,877,207)	\$ (3,046,288)	\$ (4,799,129)	\$ (3,514,340)	\$ (124,702)	\$ (579,483)	\$ (13,941,150)
46									
47	Total Supply & Pipeline Commodity Costs	In 25 + In 37 + In 45	\$ 12,750,699	\$ 18,608,210	\$ 27,185,476	\$ 33,382,804	\$ 24,254,518	\$ 5,144,313	\$ 121,326,019
48									
49	Storage Gas:								
50	TGP Storage - Withdrawals	In 82 * In 171	\$ 717,844	\$ 3,237,085	\$ 3,872,370	\$ 3,133,407	\$ 929,220	\$ 580,022	\$ 12,469,948
51									
52	Produced Gas:								
53	LNG Vapor	In 85 * In 159							
54	Propane	In 86 * In 161							
55									
56	Total Produced Gas	In 53 + In 54	\$ 165,051	\$ 3,099,142	\$ 5,778,047	\$ 3,535,110	\$ 34,374	\$ 33,579	\$ 12,645,303
57									
58	AMA Credits		\$ (1,003,702)	\$ (1,003,702)	\$ (1,003,702)	\$ (1,003,702)	\$ (1,003,702)	\$ (1,003,702)	\$ (6,022,210)
59	Total Commodity Gas & Trans. Costs	In 47 + In 50 + In 56	\$ 12,629,891	\$ 23,940,736	\$ 35,832,191	\$ 39,047,619	\$ 24,214,411	\$ 4,754,212	\$ 140,419,060
60									\$ 92,395,519
61									

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1 Liberty Utilities (EnergyNorth Natural Gas) Corp. d/b/a Liberty
 2 d/b/a Liberty
 3 Peak 2022 - 2023 Winter Cost of Gas Filing
 4 Supply and Commodity Costs, Volumes and Rates

Schedule 6
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5	Reference	Nov-22	Dec-22	Jan-23	Feb-23	Mar-23	Apr-23	Peak
6 For Month of:	(b)	(c)	(d)	(e)	(f)	(g)	(h)	Nov- Apr
7 (a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)	(i)
62								
63	Volumes (Therms)							
64								
65	Pipeline Gas:							
66	Dawn Supply	874,251	924,161	926,671	839,868	910,477	771,345	5,246,775
67	Niagara Supply	689,540	728,492	730,471	661,898	717,705	678,639	4,206,745
68	TGP Supply (Direct)	4,621,463	3,096,843	3,105,255	2,814,958	3,050,989	641,701	17,331,210
69	Dracut Supply 1 - Baseload	-	-	3,100,000	1,400,000	-	-	4,500,000
70	Dracut Supply 2 - Swing	2,068,620	1,628,571	574,992	2,290,420	4,186,862	1,559,349	12,308,813
71	Dracut Supply 3 - Swing	1,267,959	112,886	75,462	292,325	1,410,944	36,213	3,195,790
72	Constellation COMBO	-	-	-	-	-	-	-
73	LNG Truck	117,744	1,270,345	1,451,131	1,484,347	110,473	-	4,434,041
74	Propane Truck	-	-	691,985	-	-	55,769	747,754
75	PNGTS	218,563	231,040	231,668	209,778	227,619	196,277	1,314,945
76	Portland Natural Gas	1,067,793	1,128,109	1,131,173	1,025,411	1,111,405	840,151	6,304,043
77	TGP Supply (Z4)	1,816,941	1,919,817	1,925,032	1,744,865	1,891,391	5,458,808	14,756,854
78								
79	Subtotal Pipeline Volumes	12,742,875	11,040,265	13,943,840	12,763,870	13,617,866	10,238,252	74,346,969
80								
81	Storage Gas:							
82	TGP Storage	1,157,573	5,220,027	6,244,468	5,052,839	1,498,432	1,000,000	20,173,339
83								
84	Produced Gas:							
85	LNG Vapor	119,952	1,357,644	1,456,414	1,485,862	21,502	21,004	4,462,377
86	Propane	-	-	1,263,231	8,331	-	-	1,271,562
87								
88	Subtotal Produced Gas	119,952	1,357,644	2,719,645	1,494,192	21,502	21,004	5,733,939
89								
90	Less - Gas Refill:							
91	LNG Truck	(117,744)	(1,270,345)	(1,451,131)	(1,484,347)	(110,473)	-	(4,434,041)
92	Propane	-	-	(691,985)	-	-	(55,769)	(747,754)
93	TGP Storage Refill	(1,743,351)	-	-	-	-	(933,581)	(2,676,933)
94								
95	Subtotal Refills	(1,861,095)	(1,270,345)	(2,143,116)	(1,484,347)	(110,473)	(989,350)	(7,858,728)
96								
97	Total Sendout Volumes	12,159,305	16,347,591	20,764,836	17,826,554	15,027,327	10,269,906	92,395,519
98								
99								
100								

1 Liberty Utilities (EnergyNorth Natural Gas) Corp. d/b/a Liberty
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 3 Peak 2022 - 2023 Winter Cost of Gas Filing
 4 Supply and Commodity Costs, Volumes and Rates

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 Schedule 6
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5	6	7	Nov-22	Dec-22	Jan-23	Feb-23	Mar-23	Apr-23	Peak
		Reference	(c)	(d)	(e)	(f)	(g)	(h)	Nov- Apr
		(b)							(i)
101	Gas Costs and Volumetric Transportation Rates								
102									
103	Pipeline Gas:								
104	Dawn Supply								Average Rate
105	NYMEX Price	Sch 7, In 10/10							
106	Basis Differential								
107	Net Commodity Costs								
108									
109	Niagara Supply								
110	NYMEX Price	Sch 7, In 10/10							
111	Basis Differential								
112	Net Commodity Costs								
113									
114	Dracut Supply 1 - Baseload								
115	Commodity Costs - NYMEX Price	Sch 7, In 10 / 10							
116	Basis Differential								
117	Net Commodity Costs								
118									
119	Dracut Supply 2 - Swing								
120	Commodity Costs - NYMEX Price	Sch 7, In 10 / 10							
121	Basis Differential								
122	Net Commodity Costs								
123									
124	Dracut Supply 3 - Swing								
125	Commodity Costs - NYMEX Price	Sch 7, In 10 / 10							
126	Basis Differential								
127	Net Commodity Costs								
128									
129	TGP Supply (Direct)								
130	NYMEX Price	Sch 7, In 10/10							
131	Basis Differential								
132	Net Commodity Costs								
133									
134									
135	Constellation COMBO								
136	NYMEX Price	Sch 7, In 10/10							
137	Basis Differential								
138	Net Commodity Costs								
139									
140	LNG Truck	Sch 7, In 10/10							
141									
142	Propane Truck	Propane WACOG							
143									
144	PNGTS								
145	NYMEX Price	Sch 7, In 10/10							
146	Basis Differential								
147	Net Commodity Cost								
148									
149	PNGTS EXP								
150	NYMEX Price	Sch 7, In 10/10							
151	Basis Differential								
152	Net Commodity Cost								
153									
154	TGP Supply (Z4)								
155	NYMEX Price	Sch 7, In 10/10							
156	Basis Differential								
157	Net Commodity Cost								
158									
159	LNG Vapor (Storage)	Sch 16, In 95 /10							
160									
161	Propane	Sch 16, In 66 /10							
162									
163	Storage Refill:								
164	LNG Truck	In 140							
165	Propane	In 142							
166									
167									

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1 Liberty Utilities (EnergyNorth Natural Gas) Corp. d/b/a Liberty									REDACTED
2 d/b/a Liberty									Schedule 6
3 Peak 2022 - 2023 Winter Cost of Gas Filing									Page 4 of 5
4 Supply and Commodity Costs, Volumes and Rates									
5									Peak
6 For Month of:	Reference	Nov-22	Dec-22	Jan-23	Feb-23	Mar-23	Apr-23	Nov- Apr	
7 (a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)	(i)	
168									
169									
170	TGP Storage								
171	Commodity Costs - Storage withdrawal	Sch 16, ln 34 /10	\$0.6201	\$0.6201	\$0.6201	\$0.6201	\$0.6201	\$0.5800	\$0.6134
172									
173	TGP - Max Commodity - Z 4-6	21st Rev Sheet No. 15	\$0.00911	\$0.00911	\$0.00911	\$0.00911	\$0.00911	\$0.00911	\$0.00911
174	TGP - Max Comm. ACA Rate - Z 4-6	21st Rev Sheet No. 15	\$0.00015	\$0.00015	\$0.00015	\$0.00015	\$0.00015	\$0.00015	\$0.00015
175	Subtotal TGP - Trans Charge - Max Commodity Rate - Z 4-6		\$0.00926	\$0.00926	\$0.00926	\$0.00926	\$0.00926	\$0.00926	\$0.00926
176	TGP - Fuel Charge % - Z 4-6	18th Rev Sheet No. 32	1.49%	1.49%	1.49%	1.49%	1.49%	1.49%	1.49%
177	TGP - Fuel Charge % - Z 4-6 - (NYMEX * Percentage)		\$0.00924	\$0.00924	\$0.00924	\$0.00924	\$0.00924	\$0.00864	\$0.00914
178	TGP - Withdrawal Charge	22nd Rev Sheet No.61	\$0.00087	\$0.00087	\$0.00087	\$0.00087	\$0.00087	\$0.00087	\$0.00087
179	Total Volumetric Transportation Rate - TGP (Storage)		\$0.01937	\$0.01937	\$0.01937	\$0.01937	\$0.01937	\$0.01877	\$0.01927
180									
181	Total TGP - Comm. & Vol. Trans. Rate	ln 171 + ln 179	\$0.63950	\$0.63950	\$0.63950	\$0.63950	\$0.63950	\$0.59879	\$0.63271
182									
183									
184	Per Unit Volumetric Transportation Rates								
185	Dawn Supply Volumetric Transportation Charge								
186	Commodity Costs	ln 107	\$0.9150	\$0.9270	\$0.9298	\$0.9134	\$0.7974	\$0.5555	\$0.8397
187									
188	TransCanada - Commodity Rate/GJ	Dawn - Parkway to Iroquois	\$0.00040	\$0.00040	\$0.00040	\$0.00040	\$0.00040	\$0.00040	\$0.00040
189	Conversion Rate GL to MMBTU		1.0551	1.0551	1.0551	1.0551	1.0551	1.0551	1.0551
190	Conversion Rate to US\$	1/0/1900	1.2706	1.2706	1.2706	1.2706	1.2706	1.2706	1.2706
191	Commodity Rate/US\$	ln 188 x ln 189 x ln 190	\$0.00054	\$0.00054	\$0.00054	\$0.00054	\$0.00054	\$0.00054	\$0.00054
192	TransCanada Fuel %	Dawn - Parkway to Iroquois	0.87%	0.99%	1.10%	1.04%	1.07%	0.82%	0.98%
193	TransCanada Fuel * Percentage	ln 186 x ln 192	\$0.00791	\$0.00916	\$0.01018	\$0.00949	\$0.00857	\$0.00454	\$0.00831
194	Subtotal TransCanada		\$0.00845	\$0.00970	\$0.01072	\$0.01002	\$0.00910	\$0.00508	\$0.00885
195	IGTS - Z1 RTS Commodity	Forth Revised Sheet No. 4	\$0.00034	\$0.00034	\$0.00034	\$0.00034	\$0.00034	\$0.00034	\$0.00034
196	IGTS - Z1 RTS ACA Rate Commodity	Forth Revised Sheet No. 4	\$0.00015	\$0.00015	\$0.00015	\$0.00015	\$0.00015	\$0.00015	\$0.00015
197	IGTS - Z1 RTS Deferred Asset Surcharge	Forth Revised Sheet No. 4	\$0.00000	\$0.00000	\$0.00000	\$0.00000	\$0.00000	\$0.00000	\$0.00000
198	Subtotal IGTS - Trans Charge - Z1 RTS Commodity		\$0.00049	\$0.00049	\$0.00049	\$0.00049	\$0.00049	\$0.00049	\$0.00049
199	TGP NET-NE - Comm. Segments 3 & 4	21st Rev Sheet No. 15	\$0.00015	\$0.00015	\$0.00015	\$0.00015	\$0.00015	\$0.00015	\$0.00015
200	IGTS -Fuel Use Factor - Percentage	Forth Revised Sheet No. 4	1.00%	1.00%	1.00%	1.00%	1.00%	1.00%	1.00%
201	IGTS -Fuel Use Factor - Fuel * Percentage	ln 186 x ln 200	\$0.00915	\$0.00927	\$0.00930	\$0.00913	\$0.00797	\$0.00556	\$0.00840
202	TGP FTA Fuel Charge % Z 5-6	18th Rev Sheet No. 32	1.09%	1.09%	1.09%	1.09%	1.09%	1.09%	1.09%
203	TGP FTA Fuel * Percentage	ln 186 x ln 202	\$0.00997	\$0.01010	\$0.01013	\$0.00996	\$0.00869	\$0.00605	\$0.00915
204	Total Volumetric Transportation Charge - Dawn Supply		\$0.02821	\$0.02971	\$0.03079	\$0.02975	\$0.02641	\$0.01733	\$0.02704
205									
206									
207	Niagara Supply Volumetric Transportation Charge								
208	Commodity Costs	Ln 112							
209									
210	TGP FTA - FTA Z 5-6 Comm. Rate	21st Rev Sheet No. 15	\$0.00693	\$0.00693	\$0.00693	\$0.00693	\$0.00693	\$0.00693	\$0.00693
211	TGP FTA - FTA Z 5-6 - ACA Rate	21st Rev Sheet No. 15	\$0.00015	\$0.0002	\$0.0002	\$0.0002	\$0.0002	\$0.0002	\$0.0002
212	Subtotal TGP FTA - FTA Z 5-6 Commodity Rate		\$0.00708	\$0.0071	\$0.0071	\$0.0071	\$0.0071	\$0.0071	\$0.0071
213	TGP FTA Fuel Charge % Z 5-6	18th Rev Sheet No. 32	1.09%	1.09%	1.09%	1.09%	1.09%	1.09%	1.09%
214	TGP FTA Fuel * Percentage	ln 208 x ln 213							
215	Total Volumetric Transportation Rate - Niagara Supply								
216									
217									

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1 Liberty Utilities (EnergyNorth Natural Gas) Corp. d/b/a Liberty
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3 Peak 2022 - 2023 Winter Cost of Gas Filing
4 Supply and Commodity Costs, Volumes and Rates

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Schedule 6
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5	6 For Month of:	Reference	Nov-22	Dec-22	Jan-23	Feb-23	Mar-23	Apr-23	Peak
7	(a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)	Nov- Apr
									(i)
218									
219									
220									
221	TGP Direct Volumetric Transportation Charge								Average Rate
222	Commodity Costs								Ln 130
223									
224	TGP - Max Comm. Base Rate - Z 0-6	21st Rev Sheet No. 15	\$0.02616	\$0.02616	\$0.02616	\$0.02616	\$0.02616	\$0.02616	\$0.02616
225	TGP - Max Commodity ACA Rate - Z 0-6	21st Rev Sheet No. 15	\$0.00015	\$0.00015	\$0.00015	\$0.00015	\$0.00015	\$0.00015	\$0.00015
226	Subtotal TGP - Max Comm. Rate Z 0-6		\$0.02631	\$0.02631	\$0.02631	\$0.02631	\$0.02631	\$0.02631	\$0.02631
227	Prorated Percentage		32.60%	32.60%	32.60%	32.60%	32.60%	32.60%	32.60%
228	Prorated TGP - Max Commodity Rate - Z 0-6		\$0.00858	\$0.00858	\$0.00858	\$0.00858	\$0.00858	\$0.00858	\$0.00858
229	TGP - Max Comm. Base Rate - Z 1-6	21st Rev Sheet No. 15	\$0.02283	\$0.02283	\$0.02283	\$0.02283	\$0.02283	\$0.02283	\$0.02283
230	TGP - Max Commodity ACA Rate - Z 1-6	21st Rev Sheet No. 15	\$0.00015	\$0.00015	\$0.00015	\$0.00015	\$0.00015	\$0.00015	\$0.00015
231	Subtotal TGP - Max Commodity Rate - Z 1-6		\$0.02298	\$0.02298	\$0.02298	\$0.02298	\$0.02298	\$0.02298	\$0.02298
232	Prorated Percentage		67.40%	67.40%	67.40%	67.40%	67.40%	67.40%	67.40%
233	Prorated TGP - Trans Charge - Max Commodity Rate - Z 1-6		\$0.01549	\$0.01549	\$0.01549	\$0.01549	\$0.01549	\$0.01549	\$0.01549
234	TGP - Fuel Charge % - Z 0-6	18th Rev Sheet No. 32	5.31%	5.31%	5.31%	5.31%	5.31%	5.31%	5.31%
235	Prorated Percentage		32.6%	32.6%	32.6%	32.6%	32.6%	32.6%	32.6%
236	Prorated TGP Fuel Charge % - Z 0-6		1.73%	1.73%	1.73%	1.73%	1.73%	1.73%	1.73%
237	TGP - Fuel Charge % - Z 1-6	18th Rev Sheet No. 32	4.64%	4.64%	4.64%	4.64%	4.64%	4.64%	4.64%
238	Prorated Percentage		67.40%	67.40%	67.40%	67.40%	67.40%	67.40%	67.40%
239	Prorated TGP Fuel Charge - Fuel Charge % - Z 1-6		3.13%	3.13%	3.13%	3.13%	3.13%	3.13%	3.13%
240	TGP - Fuel Charge % - Z 0-6	In 222 x In 236	\$0.01597	\$0.01619	\$0.01630	\$0.01546	\$0.01293	\$0.00985	\$0.01445
241	TGP - Fuel Charge % - Z 1-6	In 222 x In 239	\$0.02885	\$0.02924	\$0.02945	\$0.02792	\$0.02336	\$0.01779	\$0.02610
242	Total Volumetric Transportation Rate - TGP (Direct)		\$0.06888	\$0.06949	\$0.06982	\$0.06745	\$0.06035	\$0.05171	\$0.06462
243									
244	TGP (Zone 6 Purchase) Volumetric Transportation Charge								
245	Commodity Costs								Ln 130
246									
247	TGP - Max Comm. Base Rate - Z 6-6	21st Rev Sheet No. 15	\$0.00296	\$0.00296	\$0.00296	\$0.00296	\$0.00296	\$0.00296	\$0.00296
248	TGP - Max Commodity ACA Rate - Z 6-6	21st Rev Sheet No. 15	\$0.00015	\$0.00015	\$0.00015	\$0.00015	\$0.00015	\$0.00015	\$0.00015
249	Subtotal TGP - Max Commodity Rate - Z 6-6		\$0.00311	\$0.00311	\$0.00311	\$0.00311	\$0.00311	\$0.00311	\$0.00311
250	TGP - Fuel Charge % - Z 6-6	18th Rev Sheet No. 32	0.13%	0.13%	0.13%	0.13%	0.13%	0.13%	0.13%
251	TGP - Fuel Charge	In 245 x In 250	\$0.00120	\$0.00122	\$0.00122	\$0.00116	\$0.00097	\$0.00074	\$0.00109
252	Total Vol. Trans. Rate - TGP (Zone 6)		\$0.00431	\$0.00433	\$0.00433	\$0.00427	\$0.00408	\$0.00385	\$0.00420
253									
254									
255	TGP Dracut								
256	Commodity Costs - NYMEX Price								Ln 117
257									
258	TGP - Trans Charge - Comm. - Z 6-6	21st Rev Sheet No. 15	\$0.00296	\$0.00296	\$0.00296	\$0.00296	\$0.00296	\$0.00296	\$0.00296
259	TGP - Trans Charge - ACA Rate - Z 6-6	21st Rev Sheet No. 15	\$0.00015	\$0.00015	\$0.00015	\$0.00015	\$0.00015	\$0.00015	\$0.00015
260	Subtotal TGP - Trans Charge - Max Commodity Rate - Z 6-6		\$0.00311	\$0.00311	\$0.00311	\$0.00311	\$0.00311	\$0.00311	\$0.00311
261	TGP - Fuel Charge % - Z 6-6	18th Rev Sheet No. 32	0.13%	0.13%	0.13%	0.13%	0.13%	0.13%	0.13%
262	TGP - Fuel Charge	In 256 x In 261							
263	Total Volumetric Transportation Rate - TGP Dracut								
264									
265									

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1 Liberty Utilities (EnergyNorth Natural Gas) Corp. d/b/a Liberty
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 3 Peak 2022 - 2023 Winter Cost of Gas Filing
 4 NYMEX Futures @ Henry Hub
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Peak

6 For Month of:	(a)	Reference (b)	Nov-22 (c)	Dec-22 (d)	Jan-23 (e)	Feb-23 (f)	Mar-23 (g)	Apr-23 (h)	Strip Average (i)
8 I. NYMEX Opening Prices as of	8/23/2022								
9 Opening Prices			\$9 2250	\$9.3500	\$9.4180	\$8.9290	\$7.4690	\$5 6900	\$8.3468
10 NYMEX		Filed COG	\$9 2250	\$9.3500	\$9.4180	\$8.9290	\$7.4690	\$5 6900	\$8.3468

Liberty Utilities (EnergyNorth Natural Gas) Corp. d/b/a Liberty
d/b/a Liberty
Peak 2022 - 2023 Winter Cost of Gas Filing
Annual Bill Comparisons, Nov 21 - Apr 22 Actual Rates vs Nov 22 - Apr 23

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Annual Bill Comparisons, Nov 21 - Apr 22 Actual Rates vs Nov 22 - Apr 23 -

1 Non FPO Rate

2 November 1, 2021 - April 30, 2022

3 Residential Heating (R3)

			(1)	(2)	(3)	(4)	(5)	(6)	(7)
4 PROPOSED			Nov-22	Dec-22	Jan-23	Feb-23	Mar-23	Apr-23	Winter Nov-Apr
5			45	92	117	148	130	88	621
6	average Usage (Therms)								
7		8/1/2022 - Current							
8	Winter								
9	Cust. Chg	\$ 15.39	\$ 15.39	\$ 15.39	\$ 15.39	\$ 15.39	\$ 15.39	\$ 15.39	\$ 92.34
10	Headblock	\$ 0.6337							
11	Tailblock	\$ 0.6337	\$ 28.41	\$ 58.57	\$ 74.27	\$ 93.79	\$ 82.64	\$ 55.68	\$ 393.36
12	HB Threshold	-							
13									
20	Total Base Rate Amount		\$ 43.80	\$ 73.96	\$ 89.66	\$ 109.18	\$ 98.03	\$ 71.07	\$ 485.70
21									
22	COG Rate - (Seasonal)		\$ 1.7335	\$ 1.7335	\$ 1.7335	\$ 1.7335	\$ 1.7335	\$ 1.7335	\$ 1.7335
23	COG amount		\$ 77.71	\$ 160.21	\$ 203.17	\$ 256.57	\$ 226.07	\$ 152.30	\$ 1,076.04
24									
25	LDAC		\$ 0.1508	\$ 0.1508	\$ 0.1508	\$ 0.1508	\$ 0.1508	\$ 0.1508	\$ 0.1508
26	LDAC amount		\$ 6.76	\$ 13.94	\$ 17.67	\$ 22.32	\$ 19.67	\$ 13.25	\$ 93.61
27									
28	Total Bill		\$ 128.27	\$ 248.10	\$ 310.51	\$ 388.07	\$ 343.77	\$ 236.62	\$ 1,655.34
29									

30 November 1, 2020 - April 30, 2021

31 Residential Heating (R3)

			Nov-21	Dec-21	Jan-22	Feb-22	Mar-22	Apr-22	Winter Nov-Apr
32	CURRENT		45	92	117	148	130	88	621
33	average Usage (Therms)								
34									
35									
36	Winter	8/1/2021 - 7/31/2022 8/1/2022 - Current							
37	Cust. Chg	\$ 15.39 \$ 15.39	\$ 15.39	\$ 15.39	\$ 15.39	\$ 15.39	\$ 15.39	\$ 15.39	\$ 92.34
38	Headblock	\$ 0.5632 \$ 0.6337							
39	Tailblock	\$ 0.5632 \$ 0.6337	\$ 25.25	\$ 52.05	\$ 66.01	\$ 83.36	\$ 73.45	\$ 49.48	\$ 349.60
40	HB Threshold	-							
41									
48	Total Base Rate Amount		\$ 40.64	\$ 67.44	\$ 81.40	\$ 98.75	\$ 88.84	\$ 64.87	\$ 441.94
49									
50	COG Rate - (Seasonal)		\$ 1.1339	\$ 1.0173	\$ 0.7246	\$ 0.5956	\$ 0.7743	\$ 1.1747	\$ 0.8411
51	COG amount		\$ 50.83	\$ 94.02	\$ 84.93	\$ 88.15	\$ 100.98	\$ 103.21	\$ 522.12
52									
53	LDAC		\$ 0.1397	\$ 0.1012	\$ 0.1154	\$ 0.1154	\$ 0.1318	\$ 0.1318	\$ 0.1208
54	LDAC amount		\$ 6.26	\$ 9.35	\$ 13.53	\$ 17.08	\$ 17.19	\$ 11.58	\$ 74.99
55									
56	Total Bill		\$ 97.73	\$ 170.81	\$ 179.85	\$ 203.98	\$ 207.01	\$ 179.66	\$ 1,039.04
57									

58 DIFFERENCE

59	Total Bill		\$30.54	\$77.29	\$130.66	\$184.09	\$136.77	\$56.96	\$616.30
60	% Change		31.25%	45.25%	72.65%	90.25%	66.07%	31.70%	59.31%
61									
62	Base Rate		\$ 3.16	\$ 6.52	\$ 8.26	\$ 10.43	\$ 9.19	\$ 6.19	\$ 43.76
63	% Change		7.78%	9.66%	10.15%	10.57%	10.35%	9.55%	9.90%
64									
65	COG & LDAC		\$ 27.38	\$ 70.78	\$ 122.40	\$ 173.65	\$ 127.57	\$ 50.76	\$ 572.54
66	% Change		47.95%	68.47%	124.32%	165.02%	107.96%	44.23%	95.89%

Liberty Utilities (EnergyNorth Natural Gas) Corp. d/b/a Liberty
d/b/a Liberty
Peak 2022 - 2023 Winter Cost of Gas Filing
Annual Bill Comparisons, Nov 21 - Apr 22 Actual Rates vs Nov 22 - Apr 23

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			(1)	(2)	(3)	(4)	(5)	(6)	(7)
1	FPO Rate								
2	November 1, 2021 - April 30, 2022								
3	Residential Heating (R3-FPO)								
4	PROPOSED								Winter
5			Nov-22	Dec-22	Jan-23	Feb-23	Mar-23	Apr-23	Nov-Apr
6	average Usage (Therms)		45	92	117	148	130	88	621
7		8/1/2022 - Current							
8	Winter								
9	Cust. Chg	\$ 15.39	\$ 15.39	\$ 15.39	\$ 15.39	\$ 15.39	\$ 15.39	\$ 15.39	\$ 92.34
10	Headblock	\$ 0.6337							
11	Tailblock	\$ 0.6337	\$ 28.41	\$ 58.57	\$ 74.27	\$ 93.79	\$ 82.64	\$ 55.68	\$ 393.36
12	HB Threshold	-							
13									
20	Total Base Rate Amount		\$ 43.80	\$ 73.96	\$ 89.66	\$ 109.18	\$ 98.03	\$ 71.07	\$ 485.70
21									
22	COG Rate - (Seasonal)		\$ 1.7535	\$ 1.7535	\$ 1.7535	\$ 1.7535	\$ 1.7535	\$ 1.7535	\$ 1.7535
23	COG amount		\$ 78.61	\$ 162.06	\$ 205.52	\$ 259.53	\$ 228.68	\$ 154.06	\$ 1,088.45
24									
25	LDAC		\$ 0.1508	\$ 0.1508	\$ 0.1508	\$ 0.1508	\$ 0.1508	\$ 0.1508	\$ 0.1508
26	LDAC amount		\$ 6.76	\$ 13.94	\$ 17.67	\$ 22.32	\$ 19.67	\$ 13.25	\$ 93.61
27									
28	Total Bill		\$ 129.17	\$ 249.95	\$ 312.85	\$ 391.03	\$ 346.38	\$ 238.37	\$ 1,667.76
29									
30	November 1, 2020 - April 30, 2021								
31	Residential Heating (R3-FPO)								
32	CURRENT								Winter
33			Nov-21	Dec-21	Jan-22	Feb-22	Mar-22	Apr-22	Nov-Apr
34	average Usage (Therms)		45	92	117	148	130	88	621
35									
36	Winter								
37	Cust. Chg	\$ 15.39	\$ 15.39	\$ 15.39	\$ 15.39	\$ 15.39	\$ 15.39	\$ 15.39	\$ 92.34
38	Headblock	\$ 0.5632							
39	Tailblock	\$ 0.5632	\$ 25.25	\$ 52.05	\$ 66.01	\$ 83.36	\$ 73.45	\$ 49.48	\$ 349.60
40	HB Threshold	-							
41									
48	Total Base Rate Amount		\$ 40.64	\$ 67.44	\$ 81.40	\$ 98.75	\$ 88.84	\$ 64.87	\$ 441.94
49									
50	COG Rate - (Seasonal)		\$ 1.1539	\$ 1.1539	\$ 1.1539	\$ 1.1539	\$ 1.1539	\$ 1.1539	\$ 1.1539
51	COG amount		\$ 51.73	\$ 106.64	\$ 135.24	\$ 170.78	\$ 150.49	\$ 101.38	\$ 716.26
52									
53	LDAC		\$ 0.1397	\$ 0.1012	\$ 0.1154	\$ 0.1154	\$ 0.1318	\$ 0.1318	\$ 0.1208
54	LDAC amount		\$ 6.26	\$ 9.35	\$ 13.53	\$ 17.08	\$ 17.19	\$ 11.58	\$ 74.99
55									
56	Total Bill		\$ 98.63	\$ 183.44	\$ 230.17	\$ 286.61	\$ 256.51	\$ 177.83	\$ 1,233.19
57									
58	DIFFERENCE								
59	Total Bill		\$30.54	\$66.51	\$82.69	\$104.42	\$89.87	\$60.54	\$434.57
60	% Change		30.96%	36.26%	35.93%	36.43%	35.03%	34.05%	35.24%
61									
62	Base Rate		\$ 3.16	\$ 6.52	\$ 8.26	\$ 10.43	\$ 9.19	\$ 6.19	\$ 43.76
63	% Change		7.78%	9.66%	10.15%	10.57%	10.35%	9.55%	9.90%
64									
65	COG & LDAC		\$ 27.38	\$ 60.00	\$ 74.42	\$ 93.98	\$ 80.67	\$ 54.35	\$ 390.81
66	% Change		47.21%	51.72%	50.03%	50.03%	48.11%	48.11%	49.39%

Liberty Utilities (EnergyNorth Natural Gas) Corp. d/b/a Liberty
d/b/a Liberty
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			(1)	(2)	(3)	(4)	(5)	(6)	(7)
1	GAP Rate								
2	November 1, 2021 - April 30, 2022								
3	Residential Heating (R4-GAP)								
4	PROPOSED								Winter
5			Nov-22	Dec-22	Jan-23	Feb-23	Mar-23	Apr-23	Nov-Apr
6	average Usage (Therms)		45	92	117	148	130	88	621
7		<u>8/1/2022 - Current</u>							
8	Winter								
9	Cust. Chg	\$ 15.39	\$ 15.39	\$ 15.39	\$ 15.39	\$ 15.39	\$ 15.39	\$ 15.39	\$ 92.34
10	Headblock	\$ 0.6337							
11	Tailblock	\$ 0.6337	\$ 28.41	\$ 58.57	\$ 74.27	\$ 93.79	\$ 82.64	\$ 55.68	\$ 393.36
12	HB Threshold	-							
13									
20	Total Base Rate Amount		\$ 43.80	\$ 73.96	\$ 89.66	\$ 109.18	\$ 98.03	\$ 71.07	\$ 485.70
21									
22	COG Rate - (Seasonal)		\$ 0.9534	\$ 0.9534	\$ 0.9534	\$ 0.9534	\$ 0.9534	\$ 0.9534	\$ 0.9534
23	COG amount		\$ 42.74	\$ 88.12	\$ 111.75	\$ 141.11	\$ 124.34	\$ 83.77	\$ 591.82
24									
25	LDAC		\$ 0.1508	\$ 0.1508	\$ 0.1508	\$ 0.1508	\$ 0.1508	\$ 0.1508	\$ 0.1508
26	LDAC amount		\$ 6.76	\$ 13.94	\$ 17.67	\$ 22.32	\$ 19.67	\$ 13.25	\$ 93.61
27									
28	Total Bill		\$ 93.30	\$ 176.01	\$ 219.08	\$ 272.61	\$ 242.04	\$ 168.08	\$ 1,171.12
29									
30	November 1, 2020 - April 30, 2021								
31	Residential Heating (R4-GAP)								
32	CURRENT								Winter
33			Nov-21	Dec-21	Jan-22	Feb-22	Mar-22	Apr-22	Nov-Apr
34	average Usage (Therms)		45	92	117	148	130	88	621
35									
36	Winter								
37	Cust. Chg	\$ 15.39	\$ 15.39	\$ 15.39	\$ 15.39	\$ 15.39	\$ 15.39	\$ 15.39	\$ 92.34
38	Headblock	\$ 0.5632							
39	Tailblock	\$ 0.5632	\$ 25.25	\$ 52.05	\$ 66.01	\$ 83.36	\$ 73.45	\$ 49.48	\$ 349.60
40	HB Threshold	-							
41									
48	Total Base Rate Amount		\$ 40.64	\$ 67.44	\$ 81.40	\$ 98.75	\$ 88.84	\$ 64.87	\$ 441.94
49									
50	COG Rate - (Seasonal)		\$ 0.6236	\$ 0.5595	\$ 0.3985	\$ 0.3276	\$ 0.4259	\$ 0.6461	\$ 0.4626
51	COG amount		\$ 27.96	\$ 51.71	\$ 46.71	\$ 48.48	\$ 55.54	\$ 56.76	\$ 287.16
52									
53	LDAC		\$ 0.1397	\$ 0.1012	\$ 0.1154	\$ 0.1154	\$ 0.1318	\$ 0.1318	\$ 0.1208
54	LDAC amount		\$ 6.26	\$ 9.35	\$ 13.53	\$ 17.08	\$ 17.19	\$ 11.58	\$ 74.99
55									
56	Total Bill		\$ 74.86	\$ 128.50	\$ 141.63	\$ 164.31	\$ 161.57	\$ 133.21	\$ 804.09
57									
58	DIFFERENCE								
59	Total Bill		\$18.44	\$47.50	\$77.45	\$108.30	\$80.47	\$34.87	\$367.04
60	% Change		24.64%	36.97%	54.68%	65.91%	49.81%	26.17%	45.65%
61									
62	Base Rate		\$ 3.16	\$ 6.52	\$ 8.26	\$ 10.43	\$ 9.19	\$ 6.19	\$ 43.76
63	% Change		7.78%	9.66%	10.15%	10.57%	10.35%	9.55%	9.90%
64									
65	COG & LDAC		\$ 15.28	\$ 40.99	\$ 69.19	\$ 97.87	\$ 71.28	\$ 28.67	\$ 323.27
66	% Change		44.66%	67.13%	114.86%	149.27%	98.01%	41.95%	89.26%

Liberty Utilities (EnergyNorth Natural Gas) Corp. d/b/a Liberty
d/b/a Liberty
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			(1)	(2)	(3)	(4)	(5)	(6)	(7)
1	Rate G-41								
2	November 1, 2021 - April 30, 2022								
3	Commercial Rate (G-41)								
4	PROPOSED								
5			Nov-22	Dec-22	Jan-23	Feb-23	Mar-23	Apr-23	Winter Nov-Apr
6	average Usage (Therms)		111	274	376	483	425	270	1,939
7									
8	Winter	<u>8/1/2022 - Current</u>							
9	Cust. Chg	\$ 62.03	\$ 62.03	\$ 62.03	\$ 62.03	\$ 62.03	\$ 62.03	\$ 62.03	\$ 372.18
10	Headblock	\$ 0.5007	\$ 50.07	\$ 50.07	\$ 50.07	\$ 50.07	\$ 50.07	\$ 50.07	\$ 300.42
11	Tailblock	\$ 0.3469	\$ 3.97	\$ 60.34	\$ 95.65	\$ 133.01	\$ 112.57	\$ 58.95	\$ 464.49
12	HB Threshold	100							
13									
20	Total Base Rate Amount		\$ 116.07	\$ 172.44	\$ 207.75	\$ 245.11	\$ 224.67	\$ 171.05	\$ 1,137.09
21									
22	COG Rate - (Seasonal)		\$ 1.7336	\$ 1.7336	\$ 1.7336	\$ 1.7336	\$ 1.7336	\$ 1.7336	\$ 1.7336
23	COG amount		\$ 193.20	\$ 474.89	\$ 651.37	\$ 838.08	\$ 735.92	\$ 467.96	\$ 3,361.42
24									
25	LDAC		\$ 0.0915	\$ 0.0915	\$ 0.0915	\$ 0.0915	\$ 0.0915	\$ 0.0915	\$ 0.0915
26	LDAC amount		\$ 10.20	\$ 25.06	\$ 34.38	\$ 44.23	\$ 38.84	\$ 24.70	\$ 177.42
27									
28	Total Bill		\$319.47	\$672.39	\$893.50	\$1,127.42	\$999.43	\$663.71	\$4,675.92
29									
30	November 1, 2020 - April 30, 2021								
31	Commercial Rate (G-41)								
32	CURRENT								
33			Nov-21	Dec-21	Jan-22	Feb-22	Mar-22	Apr-22	Winter Nov-Apr
34	average Usage (Therms)		111	274	376	483	425	270	1,939
35									
36	Winter	<u>8/1/2021 - 7/31/2022</u> <u>8/1/2022 - Current</u>							
37	Cust. Chg	\$ 57.06 \$ 62.03	\$ 57.06	\$ 57.06	\$ 57.06	\$ 57.06	\$ 57.06	\$ 57.06	\$ 342.36
38	Headblock	\$ 0.4688 \$ 0.5007	\$ -	\$ 46.88	\$ 46.88	\$ 46.88	\$ 46.88	\$ 46.88	\$ 234.40
39	Tailblock	\$ 0.3149 \$ 0.3469	\$ 3.60	\$ 54.77	\$ 86.83	\$ 120.74	\$ 102.19	\$ 53.51	\$ 421.64
40	HB Threshold	100 100							
41									
48	Total Base Rate Amount		\$ 60.66	\$ 158.71	\$ 190.77	\$ 224.68	\$ 206.13	\$ 157.45	\$ 998.40
49									
50	COG Rate - (Seasonal)		\$ 1.1341	\$ 1.0175	\$ 0.7248	\$ 0.5958	\$ 0.7745	\$ 1.1749	\$ 0.8311
51	COG amount		\$ 126.39	\$ 278.73	\$ 272.33	\$ 288.03	\$ 328.78	\$ 317.15	\$ 1,611.40
52									
53	LDAC		\$ 0.0831	\$ 0.0749	\$ 0.0891	\$ 0.0891	\$ 0.0991	\$ 0.0991	\$ 0.0903
54	LDAC amount		\$ 9.26	\$ 20.52	\$ 33.48	\$ 43.07	\$ 42.07	\$ 26.75	\$ 175.15
55									
56	Total Bill		\$196.31	\$457.96	\$496.58	\$555.79	\$576.97	\$501.35	\$2,784.95
57									
58	DIFFERENCE								
59	Total Bill		\$ 123.15	\$ 214.44	\$ 396.92	\$ 571.64	\$ 422.46	\$ 162.36	\$ 1,890.97
60	% Change		62.73%	46.82%	79.93%	102.85%	73.22%	32.38%	67.90%
61									
62	Base Rate		\$ 55.41	\$ 13.73	\$ 16.98	\$ 20.43	\$ 18.54	\$ 13.60	\$ 138.69
63	% Change		91.33%	8.65%	8.90%	9.09%	9.00%	8.64%	13.89%
64									
65	COG & LDAC		\$ 67.75	\$ 200.71	\$ 379.94	\$ 551.21	\$ 403.91	\$ 148.76	\$ 1,752.28
66	% Change		49.94%	67.07%	124.24%	166.48%	108.92%	43.26%	98.08%

Liberty Utilities (EnergyNorth Natural Gas) Corp. d/b/a Liberty
d/b/a Liberty
Peak 2022 - 2023 Winter Cost of Gas Filing
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Annual Bill Comparisons, Nov 19 - Apr 20 vs Nov 20 - Apr 21 - Commercial

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			(1)	(2)	(3)	(4)	(5)	(6)	(7)
1	Rate G-42								
2	November 1, 2021 - April 30, 2022								
3	C&I High Winter Use Medium G-42								
4	PROPOSED								Winter
5			Nov-22	Dec-22	Jan-23	Feb-23	Mar-23	Apr-23	Nov-Apr
6	average Usage (Therms)		1,369	2,729	3,456	4,165	3,658	2,463	17,839
7		<u>8/1/2022 - Current</u>							
8	Winter								
9	Cust. Chg	\$ 186.03	\$ 186.03	\$ 186.03	\$ 186.03	\$ 186.03	\$ 186.03	\$ 186.03	\$ 1,116.18
10	Headblock	\$ 0.4558	\$ 455.80	\$ 455.80	\$ 455.80	\$ 455.80	\$ 455.80	\$ 455.80	\$ 2,734.80
11	Tailblock	\$ 0.3136	\$ 115.68	\$ 542.10	\$ 770.21	\$ 992.39	\$ 833.43	\$ 458.89	\$ 3,712.70
12	HB Threshold	1,000							
13									
20	Total Base Rate Amount		\$ 757.51	\$ 1,183.93	\$ 1,412.04	\$ 1,634.22	\$ 1,475.26	\$ 1,100.72	\$ 7,563.68
21									
22	COG Rate - (Seasonal)		\$ 1.7336	\$ 1.7336	\$ 1.7336	\$ 1.7336	\$ 1.7336	\$ 1.7336	\$ 1.7336
23	COG amount		\$ 2,373.07	\$ 4,730.38	\$ 5,991.35	\$ 7,219.62	\$ 6,340.86	\$ 4,270.35	\$ 30,925.63
24									
25	LDAC		\$ 0.0915	\$ 0.0915	\$ 0.0915	\$ 0.0915	\$ 0.0915	\$ 0.0915	\$ 0.0915
26	LDAC amount		\$ 125.25	\$ 249.67	\$ 316.23	\$ 381.05	\$ 334.67	\$ 225.39	\$ 1,632.27
27									
28	Total Bill		\$ 3,255.83	\$ 6,163.99	\$ 7,719.61	\$ 9,234.90	\$ 8,150.79	\$ 5,596.45	\$ 40,121.57
29									
30	November 1, 2020 - April 30, 2021								
31	C&I High Winter Use Medium G-42								
32	CURRENT								Winter
33			Nov-21	Dec-21	Jan-22	Feb-22	Mar-22	Apr-22	Nov-Apr
34	average Usage (Therms)		1,369	2,729	3,456	4,165	3,658	2,463	17,839
35									
36	Winter								
37	Cust. Chg	\$ 171.19	\$ 171.19	\$ 171.19	\$ 171.19	\$ 171.19	\$ 171.19	\$ 171.19	\$ 1,027.14
38	Headblock	\$ 0.4261	\$ 426.10	\$ 426.10	\$ 426.10	\$ 426.10	\$ 426.10	\$ 426.10	\$ 2,556.60
39	Tailblock	\$ 0.2839	\$ 104.72	\$ 490.76	\$ 697.26	\$ 898.41	\$ 754.50	\$ 415.43	\$ 3,361.08
40	HB Threshold	1,000							
41									
48	Total Base Rate Amount		\$ 702.01	\$ 1,088.05	\$ 1,294.55	\$ 1,495.70	\$ 1,351.79	\$ 1,012.72	\$ 6,944.82
49									
50	COG Rate - (Seasonal)		\$ 1.1341	\$ 1.0175	\$ 0.7248	\$ 0.5958	\$ 0.7745	\$ 1.1749	\$ 0.8432
51	COG amount		\$ 1,552.43	\$ 2,776.40	\$ 2,504.92	\$ 2,481.22	\$ 2,832.83	\$ 2,894.11	\$ 15,041.92
52									
53	LDAC		\$ 0.0831	\$ 0.0831	\$ 0.0831	\$ 0.0831	\$ 0.0831	\$ 0.0831	\$ 0.0831
54	LDAC amount		\$ 113.75	\$ 226.75	\$ 287.19	\$ 346.07	\$ 303.95	\$ 204.70	\$ 1,482.42
55									
56	Total Bill		\$ 2,368.20	\$ 4,091.20	\$ 4,086.67	\$ 4,322.99	\$ 4,488.57	\$ 4,111.53	\$ 23,469.16
57									
58	DIFFERENCE								
59	Total Bill		\$ 887.63	\$ 2,072.79	\$ 3,632.94	\$ 4,911.90	\$ 3,662.22	\$ 1,484.93	\$ 16,652.42
60	% Change		37.48%	50.66%	88.90%	113.62%	81.59%	36.12%	70.95%
61									
62	Base Rate		\$ 55.50	\$ 95.88	\$ 117.48	\$ 138.53	\$ 123.47	\$ 88.00	\$ 618.86
63	% Change		7.91%	8.81%	9.08%	9.26%	9.13%	8.69%	8.91%
64									
65	COG & LDAC		\$ 832.14	\$ 1,976.91	\$ 3,515.46	\$ 4,773.38	\$ 3,538.75	\$ 1,396.93	\$ 16,033.56
66	% Change		49.94%	65.83%	125.91%	168.83%	112.81%	45.08%	97.03%

Liberty Utilities (EnergyNorth Natural Gas) Corp. d/b/a Liberty
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Annual Bill Comparisons, Nov 19 - Apr 20 vs Nov 20 - Apr 21 - Commercial

1 Rate G-52

2 November 1, 2021 - April 30, 2022

3 Commercial Rate (G-52)

			(1)	(2)	(3)	(4)	(5)	(6)	(7)
4 PROPOSED			Nov-22	Dec-22	Jan-23	Feb-23	Mar-23	Apr-23	Winter Nov-Apr
5	6	average Usage (Therms)	1,340	1,718	1,891	2,207	1,964	1,672	10,793
7	8	Winter <u>8/1/2022 - Current</u>							
9		Cust. Chg \$ 185.80	\$ 185.80	\$ 185.80	\$ 185.80	\$ 185.80	\$ 185.80	\$ 185.80	\$ 1,114.80
10		Headblock \$ 0.2602	\$ 260.20	\$ 260.20	\$ 260.20	\$ 260.20	\$ 260.20	\$ 260.20	\$ 1,561.20
11		Tailblock \$ 0.1791	\$ 60.88	\$ 128.67	\$ 159.64	\$ 216.18	\$ 172.66	\$ 120.40	\$ 858.44
12		HB Threshold 1,000							
13									
20		Total Base Rate Amount	\$ 506.88	\$ 574.67	\$ 605.64	\$ 662.18	\$ 618.66	\$ 566.40	\$ 3,534.44
21									
22		COG Rate - (Seasonal)	\$ 1.7331	\$ 1.7331	\$ 1.7331	\$ 1.7331	\$ 1.7331	\$ 1.7331	\$ 1.7331
23		COG amount	\$ 2,322.25	\$ 2,978.23	\$ 3,277.91	\$ 3,825.06	\$ 3,403.89	\$ 2,898.15	\$ 18,705.50
24									
25		LDAC	\$ 0.0915	\$ 2.0848	\$ -	\$ 0.1933	\$ 1.0106	\$ 0.0915	\$ 0.5809
26		LDAC amount	\$ 122.60	\$ 3,582.61	\$ -	\$ 426.62	\$ 1,984.87	\$ 153.01	\$ 6,269.72
27									
28		Total Bill	\$2,951.74	\$7,135.51	\$3,883.55	\$4,913.87	\$6,007.42	\$3,617.56	\$28,509.66

30 November 1, 2020 - April 30, 2021

31 Commercial Rate (G-52)

			Nov-21	Dec-21	Jan-22	Feb-22	Mar-22	Apr-22	Winter Nov-Apr
32	32 CURRENT								
33	34	average Usage (Therms)	1,340	1,718	1,891	2,207	1,964	1,672	10,793
35	36	Winter <u>8/1/2021 - 7/31/2022</u> <u>8/1/2022 - Current</u>							
37		Cust. Chg \$ 171.19 \$ 185.80	\$ 171.19	\$ 171.19	\$ 171.19	\$ 171.19	\$ 171.19	\$ 171.19	\$ 1,027.14
38		Headblock \$ 0.2428 \$ 0.2602	\$ 242.80	\$ 242.80	\$ 242.80	\$ 242.80	\$ 242.80	\$ 242.80	\$ 1,456.80
39		Tailblock \$ 0.1617 \$ 0.1791	\$ 54.97	\$ 116.17	\$ 144.13	\$ 195.18	\$ 155.89	\$ 108.70	\$ 775.04
40		HB Threshold 1,000 1,000							
41									
48		Total Base Rate Amount	\$ 468.96	\$ 530.16	\$ 558.12	\$ 609.17	\$ 569.88	\$ 522.69	\$ 3,258.98
49									
50		COG Rate - (Seasonal)	\$ 1.1324	\$ 1.0158	\$ 0.7231	\$ 0.5941	\$ 0.7728	\$ 1.1732	\$ 0.8729
51		COG amount	\$ 1,517.35	\$ 1,745.59	\$ 1,367.64	\$ 1,311.22	\$ 1,517.82	\$ 1,961.87	\$ 9,421.48
52									
53		LDAC	\$ 0.0831	\$ 0.0749	\$ 0.0891	\$ 0.0891	\$ 0.0991	\$ 0.0991	\$ 0.0895
54		LDAC amount	\$ 111.35	\$ 128.71	\$ 168.52	\$ 196.65	\$ 194.64	\$ 165.72	\$ 965.59
55									
56		Total Bill	\$2,097.66	\$2,404.47	\$2,094.28	\$2,117.04	\$2,282.33	\$2,650.28	\$13,646.05

58 DIFFERENCE

59		Total Bill	\$ 854.08	\$ 4,731.05	\$ 1,789.27	\$ 2,796.83	\$ 3,725.09	\$ 967.28	\$ 14,863.61
60		% Change	40.72%	196.76%	85.44%	132.11%	163.21%	36.50%	108.92%
61									
62		Base Rate	\$ 37.93	\$ 44.51	\$ 47.52	\$ 53.01	\$ 48.78	\$ 43.71	\$ 275.46
63		% Change	8.09%	8.40%	8.51%	8.70%	8.56%	8.36%	8.45%
64									
65		COG & LDAC	\$ 816.16	\$ 4,686.54	\$ 1,741.75	\$ 2,743.82	\$ 3,676.31	\$ 923.58	\$ 14,588.15
66		% Change	50.11%	250.04%	113.38%	181.97%	214.68%	43.41%	140.45%

Liberty Utilities (EnergyNorth Natural Gas) Corp. d/b/a Liberty
d/b/a Liberty
Peak 2022 - 2023 Winter Cost of Gas Filing
Annual Bill Comparisons, Nov 21 - Apr 22 Actual Rates vs Nov 22 - Apr 23

Schedule 8
Page 7 of 7

1 **Residential Heating**

2		<u>Winter 2021-22</u>	<u>Winter 2022-2023</u>
3	Customer Charge	\$ 15.39	\$ 15.39
4	First 100 Therms	\$ 0.5632	\$ 0.6337
5	Excess 100 Therms	\$ 0.5632	\$ 0.6337
6	LDAC	\$ 0.1208	\$ 0.1508
7	COG	\$ 0.8411	\$ 1.7335
8	Total Adjust	\$ 0.9619	\$ 1.8843

9				Total		Base Rate		COG		LDAC	
10				\$ Impact	% Impact	\$ Impact	% Impact	\$ Impact	% Impact	\$ Impact	% Impact
11		<u>Winter 2021-22 @</u>	<u>Winter 2022-23 @</u>								
12		\$0.9619	\$1.8843	\$0.92	96%						
13											
14	16 Cooking alone	5 \$23.37	\$27.98	\$4.61	19.74%	\$0.00	0%	\$4.46	16%	\$0.15	0.64%
15											
16	18	10 \$31.35	\$40.57	\$9.22	29.42%	\$0.00	0%	\$8.92	22%	\$0.30	0.96%
17											
18	20	20 \$47.30	\$65.75	\$18.45	39.00%	\$0.00	0%	\$17.85	27%	\$0.60	1.27%
19											
20	22 Water Heating alone	30 \$63.26	\$90.93	\$27.67	43.74%	\$0.00	0%	\$26.77	29%	\$0.90	1.42%
21											
22	24	45 \$87.19	\$128.70	\$41.51	47.60%	\$0.00	0%	\$40.16	31%	\$1.35	1.55%
23											
24	26	50 \$95.17	\$141.29	\$46.12	48.46%	\$0.00	0%	\$44.62	32%	\$1.50	1.58%
25											
26	28 Heating Alone	80 \$135.06	\$204.24	\$69.18	51.22%	\$0.00	0%	\$66.93	33%	\$2.25	1.67%
27											
28	30	125 \$227.61	\$350.28	\$122.67	53.90%	\$0.00	0%	\$118.69	34%	\$3.99	1.75%
29											
30	32	150 \$254.74	\$393.09	\$138.35	54.31%	\$0.00	0%	\$133.86	34%	\$4.50	1.77%
31											
32	34	200 \$334.52	\$518.99	\$184.47	55.15%	\$0.00	0%	\$178.47	34%	\$6.00	1.79%
33											
34											
35											

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

Schedule 9
Page 1 of 1

3 **Peak 2022 - 2023 Winter Cost of Gas Filing**

4 **Variance Analysis of the Components of the Winter 2021-2022 Actual Results vs Proposed Winter 2022-2023 Cost of Gas Rate**

	WINTER 2021-2022 ACTUAL RESULTS			WINTER 2022-2023		
	(6 months actual)			(6 months Proposed)		
	THERM	COSTS	EFFECT	THERM	COSTS	EFFECT
	SENDOUT		ON COST	SENDOUT		ON COST
			OF GAS			OF GAS
11 Therm Sales (COG)	84,205,453			92,780,984		
16 Demand Charges		\$ 11,731,449	\$ 0.1393		\$ 12,510,219	\$ 0.1348
18 Purchased Gas		64,509,427	0.7661	66,488,241	121,326,019	1.3077
20 Storage/Produced Gas		-	-	25,907,278	25,115,250	0.2707
22 Hedging (Gain)/Loss		-	-		-	-
25 Total Volumes and Cost	<u>90,819,934</u>	<u>\$ 76,240,876</u>	<u>\$ 0.9054</u>	<u>92,395,519</u>	<u>\$ 158,951,489</u>	<u>\$ 1.7132</u>
27 Direct Costs						
28 Prior Period Balance		\$ (3,130,571)	\$ (0.0372)		\$ 4,089,654	\$ 0.0441
29 Interest		2,832	0.0000		(48,335)	(0.0005)
30 Prior Period Adjustment		2,143,613	0.0255		515,609	0.0056
31 Broker Revenues		(396,197)	(0.0047)		(3,600)	(0.0000)
32 Refunds from Suppliers		-	-		-	-
33 Fuel Financing		-	-		-	-
34 Transportation CGA Revenues		72,941	0.0009		(422,021)	(0.0045)
35 280 Day Margin		-	-		-	-
36 Interruptible Sales Margin		-	-		-	-
37 Capacity Release and Off System Sales Margins		(1,462,297)	(0.0174)		(1,676,512)	(0.0181)
38 Hedging Costs		-	-		-	-
39 FPO Admin Costs		-	-		59,917	0.0006
40 Indirect Costs		-	-		-	-
41 Misc Overhead		-	-		-	-
42 Occupant Disallowance/Credits		-	-		-	-
43 Production & Storage		3,685,458	0.0438		3,685,458	0.0397
44 Bad Debt Adjustment %		-	-		1,706,431	0.0184
45 Cashout, Broker penalty, Canadian Managed,...		-	-		-	-
46 Total Adjusted Cost	<u>\$ 77,156,654</u>	<u>\$ 0.9163</u>	<u>\$ 166,858,089</u>	<u>\$ 1.7984</u>		

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

Peak 2022 - 2023 Winter Cost of Gas Filing
Capacity Assignment Calculations 2020-2021
Derivation of Class Assignments and Weightings

Schedule 10A
Page 1 of 3

Basic assumptions:

- 1 Residential class pays average seasonal gas cost rate (using MBA method to allocate costs to seasons)
- 2 Residual gas costs are allocated to C&I HLF and LLF classes based on MBA method
- 3 The MBA method allocates capacity costs based on design day demands in two pieces:
 - a The base use portion of the class design day demand based on base use
 - b The remaining portion of design day demand based on remaining design day demand
- 4 Base demand is composed solely of pipeline supplies
- 5 Remaining demand consists of a portion of pipeline and all storage and peaking supplies

		Column A	Column B	Column C	Column D	Column E	Column F
		Design Day Demand, Dktherm	Adjusted Design Day Demand, Dt	Percent of Total		Avg Daily Base Use Load, Dt	Remaining Design Day Demand
1	RATE R-1-Resi Non-Htg	639	641	0.4%		97	544
2	RATE R-3-Resi Htg	71,962	72,211	43.6%		3,484	68,728
3	RATE G-41 (T)	30,001	30,106	18.2%		968	29,139
4	RATE G-51 (S)	2,639	2,646	1.6%		742	1,904
5	RATE G-42 (V)	38,016	38,148	23.0%		1,839	36,309
6	RATE G-52	5,466	5,480	3.3%		1,742	3,738
7	RATE G-43	9,590	9,623	5.8%		645	8,977
8	RATE G-53	5,350	5,363	3.2%		1,871	3,492
9	RATE G-54	1,417	1,421	0.9%		419	1,001
10							
11	Total	165,079	165,638	100.0%		11,806	153,832
12							
13	Residential Total	72,601	72,852	43.983%		3,581	69,272
14	LLF Total	77,606	77,877	47.016%		3,452	74,425
15	HLF Total	<u>14,872</u>	<u>14,909</u>	9.001%		<u>4,774</u>	<u>10,135</u>
16	Total	165,079	165,638	100.0%		11,806	153,832
17							
18	C&I Breakdown						
19	LLF Total					3,452	74,425
20	HLF Total					4,774	10,135
21	Total					8,226	84,560
22							
23	C&I Breakdown Percentage						
24	LLF Total					41.961%	88.014%
25	HLF Total					58.039%	11.986%
26	Total					100.0%	100.0%
27							
28		Capacity Cost	MDQ, Dt	\$/Dt-Mo.			
29	Pipeline	\$16,149,021	119,718	\$11.2410			
30	Storage	\$4,130,365	28,115	\$12.2425			
31							
32	Peaking	\$2,370,511					
33	Peaking Additional Costs						
34	Subtotal Peaking Costs	<u>\$2,370,511</u>	<u>17,805</u>	<u>\$11.0948</u>			
35	Total	\$22,649,897	165,638	\$11.3953			
36							
37		Capacity Cost	MDQ, Dt	\$/Dt-Mo.			
38	Pipeline - Baseload	1,592,596	11,806	\$11.2410			
39	Pipeline - Remaining	14,556,425	107,912	\$11.2410			
40	Storage	4,130,365	28,115	\$12.2425			
41	Peaking	<u>2,370,511</u>	<u>17,805</u>	<u>\$11.0948</u>			
42	Total	22,649,897	165,638	\$11.3953			
43							
44							
45	Residential Allocation						
46	Pipeline - Base	Line 38 * Line 13 Col C	700,471	5,193	\$11.2410		
47	Pipeline - Remaining	Line 39 * Line 13 Col C	6,402,344	47,463	\$11.2410		
48	Storage	Line 40 * Line 13 Col C	1,816,663	12,366	\$12.2425		
49	Peaking	Line 41 * Line 13 Col C	<u>1,042,601</u>	<u>7,831</u>	<u>\$11.0948</u>		
50	Total	43.983%	9,962,098	72,852	\$11.3953		

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

Peak 2022 - 2023 Winter Cost of Gas Filing
Capacity Assignment Calculations 2020-2021
Derivation of Class Assignments and Weightings

Schedule 10A
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					Ratios for COG	
51						
52						
53	C&I Allocation		Capacity Cost	MDQ, Dt	\$/Dt-Mo.	
54	Pipeline - Base	Line 38 - Line 46	892,125	6,614	\$11.2410	
55	Pipeline - Remaining	Line 39 - Line 47	8,154,081	60,449	\$11.2410	
56	Storage	Line 40 - Line 48	2,313,702	15,749	\$12.2424	
57	Peaking	Line 41 - Line 49	1,327,910	9,974	\$11.0948	
58	Total		56.017% 12,687,818	92,786	\$11.3953	1.0000
59						
60						
61	LLF - C&I Allocation		Capacity Cost	MDQ, Dt	\$/Dt-Mo.	
62	Pipeline - Base	Line 54 * Line 24 Col E	374,343	2,775	\$11.2415	
63	Pipeline - Remaining	Line 55 * Line 24 Col F	7,176,761	53,204	\$11.2409	
64	Storage	Line 56 * Line 24 Col F	2,036,390	13,862	\$12.2420	
65	Peaking	Line 57 * Line 24 Col F	1,168,752	8,779	\$11.0942	
66	Total		47.4892% 10,756,246	78,620	\$11.4011	1.0005
67			41.961%	85%		(Line 66 / Line 58)
68						
69	HLF - C&I Allocation		Capacity Cost	MDQ, Dt	\$/Dt-Mo.	
70	Pipeline - Base	Line 54 - Line 62	517,782	3,839	\$11.2395	
71	Pipeline - Remaining	Line 55 - Line 63	977,320	7,245	\$11.2413	
72	Storage	Line 56 - Line 64	277,312	1,887	\$12.2466	
73	Peaking	Line 57 - Line 65	159,158	1,195	\$11.0989	
74	Total		8.5280% 1,931,572	14,166	\$11.3627	0.9971
75						(Line 74 / Line 58)
76						
77	Unit Cost		Residential	LLF C&I	HLF C&I	
78						
79	Pipeline		\$ 11.2410	\$ 11.2410	\$ 11.2410	
80	Storage		\$ 12.2425	\$ 12.2425	\$ 12.2425	
81	Peaking		\$ -	\$ -	\$ -	
82	Total		\$ 11.3953	\$ 11.4011	\$ 11.3627	
83						
84						
85	Load Makeup		Residential	LLF C&I	HLF C&I	
86						
87	Pipeline		72.28%	71.20%	78.24%	
88	Storage		16.97%	17.63%	13.32%	
89	Peaking		10.75%	11.17%	8.44%	
90	Total		100.00%	100.00%	100.00%	
91						
92						
93	Supply Makeup		Residential	LLF C&I	HLF C&I	Total
94						
95	Pipeline		43.98%	46.76%	9.26%	100.00%
96	Storage		43.98%	49.30%	6.71%	100.00%
97	Peaking		43.98%	49.31%	6.71%	100.00%

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

Schedule 10A

2 **0**

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3 **2022 - 2023 Winter Cost of Gas Filing**

4 **Correction Factor Calculation**

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8 Data Source: Schedule 10B

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	d	e	f	g	h	i	Total Sales
	Nov	Dec	Jan	Feb	Mar	Apr	
G-41	2,024,090	3,305,230	3,990,080	3,360,930	2,728,610	1,602,400	17,011,340
G-42	1,638,690	2,577,550	3,049,640	2,578,010	2,207,610	1,222,890	13,274,390
G-43	356,550	540,700	658,270	547,120	495,700	292,490	2,890,830
High Winter Use	4,019,330	6,423,480	7,697,990	6,486,060	5,431,920	3,117,780	33,176,560
G-51	279,050	363,480	398,180	331,040	342,590	216,120	1,930,460
G-52	328,800	421,730	457,600	372,490	381,360	245,600	2,207,580
G-53	364,036	444,039	483,757	396,097	410,759	345,126	2,443,814
G-54	36,310	41,220	17,430	15,680	16,970	14,010	141,620
Low Winter Use	1,008,196	1,270,469	1,356,967	1,115,307	1,151,679	820,856	6,723,474
Gross Total	5,027,526	7,693,949	9,054,957	7,601,367	6,583,599	3,938,636	39,900,034

39,900,034

6,723,474

0.9971 Schedule 10A p 2, In 74

33,176,560

1.0005 Schedule 10A p 2, In 66

Total Sales/((Low Winter Use x Winter Ratio for Low Winter Use)+(High Winter Use x Winter Ratio for High Winter Use))

100.0073%

36 **Allocation Calculation for Miscellaneous Overhead**

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11/1/22- 4/30/23

92,780,984 Sch.10B, In 23

11/1/22 - 10/31/23

116,429,889 Sch.10B, In 23

79.69%

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

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7 Firm Sales

Dry Therms

	Nov-22	Dec-22	Jan-23	Feb-23	Mar-23	Apr-23	Subtotal PK 22-23	May-23	Jun-23	Jul-23	Aug-23	Sep-23	Oct-23	Subtotal OP 23	Total
9 R-1	68,950	88,860	102,240	87,330	87,040	65,450	499,870	52,140	39,450	34,490	34,700	38,650	52,460	251,890	751,760
10 R-3	6,285,460	9,460,770	11,083,750	9,374,930	7,887,130	4,769,830	48,861,870	2,698,720	1,310,080	1,017,330	1,041,040	1,740,970	4,150,980	11,959,120	60,820,990
11 R-4	456,240	673,650	788,260	669,350	566,410	365,300	3,519,210	206,240	101,740	77,310	76,480	120,880	287,900	870,550	4,389,760
12 Total Residential.	6,810,650	10,223,280	11,974,250	10,131,610	8,540,580	5,200,580	52,880,950	2,957,100	1,451,270	1,129,130	1,152,220	1,900,500	4,491,340	13,081,560	65,962,510
13															
14 G-41	2,024,090	3,305,230	3,990,080	3,360,930	2,728,610	1,602,400	17,011,340	747,050	280,900	206,300	208,340	367,080	958,770	2,768,440	19,779,780
15 G-42	1,638,690	2,577,550	3,049,640	2,578,010	2,207,610	1,222,890	13,274,390	699,850	303,310	225,260	233,780	406,410	879,510	2,748,120	16,022,510
16 G-43	356,550	540,700	658,270	547,120	495,700	292,490	2,890,830	182,490	74,810	59,600	60,370	102,490	207,170	686,930	3,577,760
17 G-51	279,050	363,480	398,180	331,040	342,590	216,120	1,930,460	204,580	181,150	182,590	182,770	188,450	244,780	1,184,320	3,114,780
18 G-52	328,800	421,730	457,600	372,490	381,360	245,600	2,207,580	226,060	205,490	216,980	216,330	215,810	260,610	1,341,280	3,548,860
19 G-53	364,036	444,039	483,757	396,097	410,759	345,126	2,443,814	309,892	269,892	270,211	265,876	271,048	323,306	1,710,225	4,154,039
20 G-54	36,310	41,220	17,430	15,680	16,970	14,010	141,620	15,380	19,010	22,810	24,340	22,210	24,280	128,030	269,650
21 Total C/I	5,027,526	7,693,949	9,054,957	7,601,367	6,583,599	3,938,636	39,900,034	2,385,302	1,334,562	1,183,751	1,191,806	1,573,498	2,898,426	10,567,345	50,467,379
22															
23 Sales Volume	11,838,176	17,917,229	21,029,207	17,732,977	15,124,179	9,139,216	92,780,984	5,342,402	2,785,832	2,312,881	2,344,026	3,473,998	7,389,766	23,648,905	116,429,889
24															
25 Transportation Sales															
26 G-41	582,770	880,040	1,055,350	869,770	774,950	457,900	4,620,780	265,850	143,190	108,120	97,250	159,240	331,950	1,105,600	5,726,380
27 G-42	1,997,440	2,956,400	3,441,830	2,872,700	2,552,380	1,546,030	15,366,780	919,290	503,450	400,550	403,990	669,630	1,280,150	4,177,060	19,543,840
28 G-43	778,960	1,055,230	1,249,450	1,050,480	981,780	544,520	5,660,420	369,150	239,600	215,710	243,220	342,610	535,700	1,945,990	7,606,410
29 G-51	87,610	108,870	116,400	96,830	101,020	83,010	593,740	78,680	65,660	61,970	61,670	64,120	76,290	408,390	1,002,130
30 G-52	515,770	638,420	695,870	577,050	589,970	437,350	3,454,430	396,040	365,860	371,740	366,710	375,870	444,530	2,320,750	5,775,180
31 G-53	871,410	1,003,760	1,096,490	926,310	943,320	847,150	5,688,440	731,010	625,610	627,450	662,150	677,440	792,690	4,116,350	9,804,790
32 G-54	1,589,640	1,297,120	1,272,510	1,056,470	1,163,130	1,359,460	7,738,330	1,562,310	1,567,620	1,631,390	1,738,910	1,681,980	1,754,440	9,936,650	17,674,980
33															
34 Total Trans. Sales	6,423,600	7,939,840	8,927,900	7,449,610	7,106,550	5,275,420	43,122,920	4,322,330	3,510,990	3,416,930	3,573,900	3,970,890	5,215,750	24,010,790	67,133,710
35															
36 Total All Sales	18,261,776	25,857,069	29,957,107	25,182,587	22,230,729	14,414,636	135,903,904	9,664,732	6,296,822	5,729,811	5,917,926	7,444,888	12,605,516	47,659,695	183,563,599

1 Liberty Utilities (EnergyNorth Natural Gas) Corp. d/
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3 Peak 2022 - 2023 Winter Cost of Gas Filing
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7 Volumes (Therms)

Normal Year

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9 For the Months of May 21 - October 21
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	Nov-22	Dec-22	Jan-23	Feb-23	Mar-23	Apr-23	Peak Nov - Apr
13 Pipeline Gas:							
14 Dawn Supply	874,251	924,161	926,671	839,868	910,477	771,345	5,246,775
15 Niagara Supply	689,540	728,492	730,471	661,898	717,705	678,639	4,206,745
16 TGP Supply (Gulf)	4,621,463	3,096,843	3,105,255	2,814,958	3,050,989	641,701	17,331,210
17 Dracut Supply 1 - Baseload			3,100,000	1,400,000		-	4,500,000
18 Dracut Supply 2 - Swing	2,068,620	1,628,571	574,992	2,290,420	4,186,862	1,559,349	12,308,813
19 Dracut Supply 3 - Swing	1,267,959	112,886	75,462	292,325	1,410,944	36,213	3,195,790
20 Constellation Combo							0
21 LNG Truck	117,744	1,270,345	1,451,131	1,484,347	110,473	-	4,434,041
22 Propane Truck	-	-	691,985	-	-	55,769	747,754
23 PNGTS	218,563	231,040	231,668	209,778	227,619	196,277	1,314,945
24 Portland Natural Gas	1,067,793	1,128,109	1,131,173	1,025,411	1,111,405	840,151	6,304,043
25 TGP Supply (Z4)	1,816,941	1,919,817	1,925,032	1,744,865	1,891,391	5,458,808	14,756,854
26 Subtotal Pipeline Volumes	12,742,875	11,040,265	13,943,840	12,763,870	13,617,866	10,238,252	74,346,969
27							
28 Storage Gas:							
29 TGP Storage	1,157,573	5,220,027	6,244,468	5,052,839	1,498,432	1,000,000	20,173,339
30							
31 Produced Gas:							
32 LNG Vapor	119,952	1,357,644	1,456,414	1,485,862	21,502	21,004	4,462,377
33 Propane	-	-	1,263,231	8,331	-	-	1,271,562
34 Subtotal Produced Gas	119,952	1,357,644	2,719,645	1,494,192	21,502	21,004	5,733,939
35							
36 Less - Gas Refills:							
37 LNG Truck	(117,744)	(1,270,345)	(1,451,131)	(1,484,347)	(110,473)	-	(4,434,041)
38 Propane	-	-	(691,985)	-	-	(55,769)	(747,754)
39 TGP Storage Refill	(1,743,351)	-	-	-	-	(933,581)	(2,676,933)
40 Subtotal Refills	(1,861,095)	(1,270,345)	(2,143,116)	(1,484,347)	(110,473)	(989,350)	(7,858,728)
41							
42 Total Sendout Volumes	12,159,305	16,347,591	20,764,836	17,826,554	15,027,327	10,269,906	92,395,519
43							

Schedule 11A

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1 Liberty Utilities (EnergyNorth Natural Gas) Corp. d/
2

3 Peak 2022 - 2023 Winter Cost of Gas Filing

44 Normal and Design Year Volumes

Schedule 11B

Page 1 of 1

47 Volumes (Therms)

Design Year

1,310,745 2,460,817
3100000.238 1399999.54

49 For the Months of May 21 - October 21

	Nov-22	Dec-22	Jan-23	Feb-23	Mar-23	Apr-23	Peak Nov - Apr
53 Pipeline Gas:							
54 Dawn Supply	1,067,793	1,128,109	1,131,173	1,025,411	1,111,405	836,530	6,300,421
55 Niagara Supply	689,540	728,492	730,471	661,898	717,705	678,639	4,206,745
56 TGP Supply (Gulf)	4,620,727	3,096,843	3,105,255	2,814,958	3,050,989	635,907	17,324,680
57 Dracut Supply 1 - Baseload			3,100,000	1,400,000			4,500,000
58 Dracut Supply 2 - Swing	2,618,338	4,157,974	2,220,815	4,195,080	5,065,458	211,486	18,469,150
59 Dracut Supply 3 - Swing	2,210,649	305,545	1,091,178	657,354	2,425,963	1,346,414	8,037,103
60 Constellation Combo							0
61 LNG Truck	117,744	1,140,150	1,599,791	1,467,686	108,990	-	4,434,362
62 Propane Truck	-	-	691,985	-	-	83,291	775,276
63 PNGTS	218,563	231,040	231,668	209,778	227,619	195,552	1,314,220
64 Portland Natural Gas	874,251	924,161	926,671	839,868	910,477	769,897	5,245,326
65 TGP Supply (Z4)	1,816,941	1,919,817	1,925,032	1,744,865	1,891,391	5,457,359	14,755,405
66 Subtotal Pipeline Volumes	14,234,547	13,632,132	16,754,039	15,016,897	15,509,998	10,215,076	85,362,689
67							
68 Storage Gas:							
69 TGP Storage	1,111,948	4,910,719	6,399,165	5,235,353	1,470,999	1,000,000	20,128,183
70							0
71 Produced Gas:							0
72 LNG Vapor	119,952	1,189,067	1,642,804	1,468,443	21,502	21,004	4,462,772
73 Propane	-	-	1,271,532	-	-	-	1,271,532
74 Subtotal Produced Gas	119,952	1,189,067	2,914,337	1,468,443	21,502	21,004	5,734,305
75							
76 Less - Gas Refills:							
77 LNG Truck	(117,744)	(1,140,150)	(1,599,791)	(1,467,686)	(108,990)	-	-4,434,362
78 Propane	-	-	(691,985)	-	-	(83,291)	-775,276
79 TGP Storage Refill	(1,696,989)	-	-	-	-	(934,306)	-2,631,295
80 Subtotal Refills	(1,814,734)	(1,140,150)	(2,291,776)	(1,467,686)	(108,990)	(1,017,597)	(7,840,933)
81							
82 Total Sendout Volumes	13,651,713	18,591,768	23,775,764	20,253,007	16,893,509	10,218,483	103,384,244

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

Schedule 11C
Page 1 of 1

2

3 **Peak 2022 - 2023 Winter Cost of Gas Filing**

4 **Capacity Utilization**

5 **Volumes (Therms)**

6

7	Peak Period				Peak Period				
8	Normal Year		Seasonal		Design Year		Seasonal		
9	Use	MDQ	Quantity	Utilization	Use	MDQ	Quantity	Utilization	
10	(Therms)	(MMBtu/day)	(Therms)	Rate	(Therms)	(MMBtu/day)	(Therms)	Rate	
11	Pipeline Gas:								
12	Dawn Supply	5,246,775	4,000	7,240,000	72%	6,300,421	4,000	7,240,000	87%
13	Niagara Supply	4,206,745	3,122	5,650,820	74%	4,206,745	3,122	5,650,820	74%
14	TGP Supply (Gulf + Z4)	32,088,064	21,596	39,088,760	82%	32,080,085	21,596	39,088,760	82%
15	Dracut Supply 1 & 2 & 3	20,004,603	90,000	162,900,000	12%	31,006,253	90,000	162,900,000	19%
16	LNG Truck	4,434,041	-	-	-	4,434,362	-	-	-
17	Propane Truck	747,754	-	-	-	775,276	-	-	-
18	PNGTS	1,314,945	1,000	1,810,000	73%	1,314,220	1,000	1,810,000	73%
19	Portland Natural Gas	6,304,043	5,000	9,050,000	70%	5,245,326	5,000	9,050,000	58%
20	Constellation Vapor	-	-	-	-	-	-	-	-
21									
22									
23	Subtotal Pipeline Volumes	74,346,969				85,362,689			
24									
25	Storage Gas:								
26	TGP Storage	20,173,339		25,791,710	78%	20,128,183		25,791,710	78%
27									
28	Produced Gas:								
29	LNG Vapor	4,462,377				4,462,772			
30	Propane	1,271,561.8				1,271,532			
31									
32	Subtotal Produced Gas	5,733,939				5,734,305			
33									
34	Less - Gas Refills:								
35	LNG Truck	(4,434,041)				(4,434,362)			
36	Propane	(747,754)				(775,276)			
37	TGP Storage Refill	(2,676,933)				(2,631,295)			
38									
39	Subtotal Refills	(7,858,728)				(7,840,933)			
40									
41	Total Sendout Volumes	92,395,519				103,384,244			

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

Schedule 11D

2

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3 **Peak 2022 - 2023 Winter Cost of Gas Filing**

4

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Forecast of Upcoming Winter Period

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Design Day Report

7

2022/ 2023 Heating Season

8

(Therms)

9

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Liberty Utilities (EnergyNorth Natural Gas) Corp.

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d/b/a Liberty

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Requirements

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19

Firm Sales

1,237,481

20

Interruptible Sales

0

21

Firm Transportation

418,899

22

Interruptible Transportation

0

23

24

Total Requirements

1,656,380

25

26

27

Resources

28

29

Purchased Pipeline Gas

1,197,180

30

Underground Storage Gas

281,150

31

Propane Air Production

52,050

32

LNG Produced Gas

126,000

33

Third-Party Supply

34

35

Total Resources

1,656,380

36

37

38

Please refer to the ENNG 2013 IRP filing (DG 13-313)

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for a complete description of the methodology and

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assumptions used in the derivation of this data.

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Preparation of this report was supervised by:

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Deborah Gilbertson

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Sr. Manager, Energy Procurement

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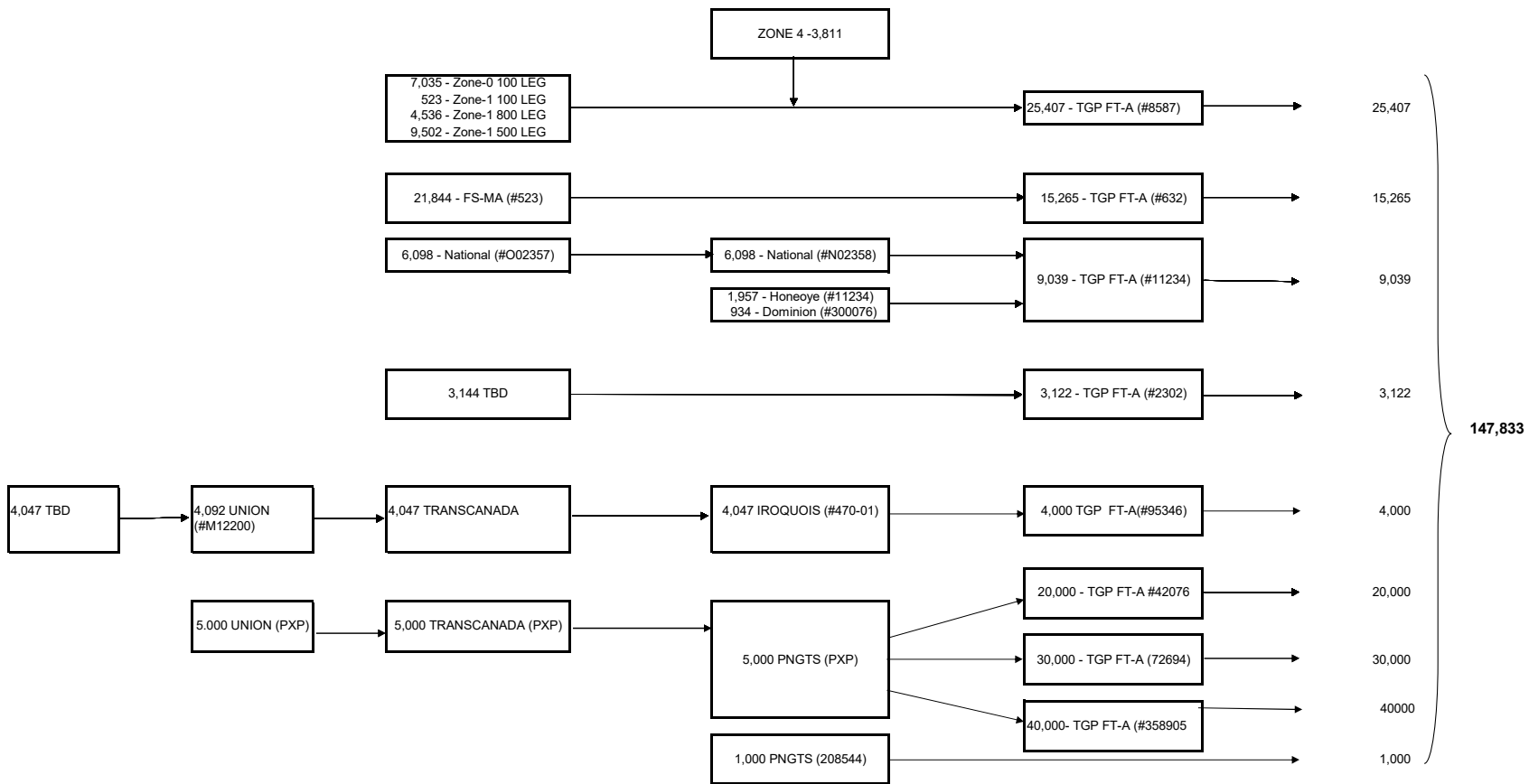
Note: Forecasted Firm Transportation volumes are for customers

53

using utility capacity only.

LIBERTY UTILITIES (ENERGYNORTH NATURAL GAS) CORP.
Peak 2022 - 2023 Winter Cost of Gas Filing
Transportation Available for Pipeline Supply and Storage
(MMBtu)

Schedule 12
Page 1 of 2



LIBERTY UTILITIES (ENERGYNORTH NATURAL GAS) CORP.
Peak 2022 - 2023 Winter Cost of Gas Filing
Transportation Available for Pipeline Supply and Storage

Schedule 12
Page 2 of 2

Agreements for Gas Supply and Transportation

SOURCE	RATE SCHEDULE	CONTRACT NUMBER	TYPE	MDQ MMBTU	MAQ * MMBTU	EXPIRATION DATE	NOTIFICATION DATE	RENEWAL OPTIONS
ANE	NA	NA	Supply	4,047	611,097	Peak Only	N/A	Terminates
Constellation	FCS		Firm Combination Liquid and Vapor Svc	Up to 10 trucks	665,000	3/31/2022 Peak Only	N/A	Terminates
Dracut or Z6	NA	NA	Supply	Up to 20,000 / day	1,412,000	2/28/2022	N/A	Terminates
TGP Long-Haul	NA	NA	Supply	21,596	3,908,876	4/30/2023	N/A	Terminates
Northern Transport	NA	NA	Trucking	28,000 Gallons	500,000 gallons	3/31/2023	N/A	Terminates
Dominion Transmission Incorporated	GSS	300076	Storage	934	102,700	3/31/2025	3/31/2023	Mutually agreed upon
Honeye Storage Corporation	SS-NY	11234	Storage	1,957	245,380	3/31/2024	12 months notice	Evergreen Provision
National Fuel Gas Supply Corporation	FSS	002358	Storage	6,098	670,800	3/31/2024	3/31/2023	Evergreen Provision
National Fuel Gas Supply Corporation	FSST	N02358	Transportation	6,098	670,800	3/31/2024	3/31/2023	Evergreen Provision
Iroquois Gas Transmission System	RTS	47001	Transportation	4,047	1,477,155	11/1/2027	11/1/2026	Evergreen Provision
Portland Natural Gas Transmission System	FT	208544	Transportation	1,000	365,000	11/30/2032	11/30/2031	Evergreen Provision
Portland Natural Gas Transmission System	FT	PXP	Transportation	5,000	1,825,000	10/31/2040	10/31/2039	Precedent Agreement
Tennessee Gas Pipeline Company	FS-MA	523	Storage	21,844	1,560,391	10/31/2025	10/31/2024	Evergreen Provision
Tennessee Gas Pipeline Company	FTA	8587	Transportation	25,407	9,273,555	10/31/2025	10/31/2024	Evergreen Provision
Tennessee Gas Pipeline Company	FTA	2302	Transportation	3,122	1,139,530	10/31/2025	10/31/2024	Evergreen Provision
Tennessee Gas Pipeline Company	FTA	632	Transportation	15,265	5,571,725	10/31/2025	10/31/2024	Evergreen Provision
Tennessee Gas Pipeline Company	FTA	11234	Transportation	9,039	3,299,235	10/31/2025	10/31/2024	Evergreen Provision
Tennessee Gas Pipeline Company	FTA	72694	Transportation	30,000	10,950,000	10/31/2029	10/31/2028	Evergreen Provision
Tennessee Gas Pipeline Company	FTA	95346	Transportation	4,000	1,460,000	11/30/2023	11/30/2022	Evergreen Provision
Tennessee Gas Pipeline Company	FTA	42076	Transportation	20,000	7,300,000	10/31/2025	10/31/2024	Evergreen Provision
Tennessee Gas Pipeline Company	FTA	358905	Transportation	40,000	14,600,000	10/31/2041	10/31/2040	Evergreen Provision
TransCanada Pipeline	FT	41232	Transportation	4,047	1,477,155	10/31/2026	10/31/2024	Evergreen Provision
TransCanada Pipeline	FT	PXP	Transportation	5,000	1,825,000	10/31/2040	10/31/2039	Precedent Agreement
Union Gas Limited	M12	M12200	Transportation	4,092	1,493,580	10/31/2024	10/31/2022	Evergreen Provision
Union Gas Limited	M12	PXP	Transportation	5,000	1,825,000	10/31/2040	10/31/2039	Precedent Agreement

* MAQ is calculated on a 365 day calendar year.

1 **Liberty Utilities (EnergyNorth Natural Gas) Corp. d/b/a Liberty**
2 **Peak 2022 - 2023 Winter Cost of Gas Filing**

3

4 **Load Migration From Sales to Transportation in the C&I High and Low Winter Use Classes**

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6 **July 2021 - June 2022 Normalized Sales and Transportation Volumes (Therms)**

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10 **C&I Rate Classes**

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	Annual	% of Total	% of Sales
	Sales	by Class	to Total Volume
			by Class
G-41	19,166,867	46.40%	78.50%
G-42	16,268,328	39.38%	45.29%
G-43	4,210,173	10.19%	33.83%
G-51	3,030,027	7.33%	76.58%
G-52	2,850,332	6.90%	33.27%
G-53	219,876	0.53%	2.11%
G-54	(4,433,944)	-10.73%	-29.14%
Total C/I	41,311,658	100.00%	

	Annual	% of Total	% of Transportation
	Transportation	by Class	to Total Volume
			by Class
G-41	5,250,441	7.54%	21.50%
G-42	19,650,487	28.22%	54.71%
G-43	8,233,094	11.82%	66.17%
G-51	926,670	1.33%	23.42%
G-52	5,717,816	8.21%	66.73%
G-53	10,207,700	14.66%	97.89%
G-54	19,648,661	28.22%	129.14%
Total C/I	69,634,870	100.00%	

	Total	% of Total	
		by Class	
G-41	24,417,308	22.01%	100.00%
G-42	35,918,815	32.37%	100.00%
G-43	12,443,268	11.22%	100.00%
G-51	3,956,697	3.57%	100.00%
G-52	8,568,147	7.72%	100.00%
G-53	10,427,576	9.40%	100.00%
G-54	15,214,716	13.71%	100.00%
Total C/I	110,946,528	100.00%	

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

Schedule 14

2 **Peak 2022 - 2023 Winter Cost of Gas Filing**

Page 1 of 1

3

4 **Delivered Costs of Winter Supplies to Pipeline Delivered Supplies from the Prior Year**

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	Off-Peak	Peak	Total
	May 21 - Oct 21	Nov 21-Apr 22	May 21 - Oct 22
	(Therms)	(Therms)	(Therms)
Pipeline Deliveries	17,089,850	88,448,634	105,538,484
All Others	97,860	2,371,300	2,469,160
	<u>17,187,710</u>	<u>90,819,934</u>	<u>108,007,644</u>

Ratio	
Total Winter Supplies	90,819,934
Total Pipeline Deliveries	105,538,484
Ratio Winter Supplies to Pipeline Supplies	0.861

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

Schedule 15

2 **Peak 2022 - 2023 Winter Cost of Gas Filing**

Page 1 of 1

3

4 **July and August Consumption of C&I High and Low Winter Classes as a Percentage of Their Annual Consumption**

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7

C&I Sales

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Normalized (Therms) Jul-21 Aug-21 Jul - Aug 2021 Total Total Annual % of Jul-Aug to Total

9

(a) (b) (c) (e)=(c)+(d) (f) (g)=(e)/(f)

10 G-41 203,980 164,223 368,203 19,166,867 1.92%

11 G-42 198,671 75,257 273,928 16,268,328 1.68%

12 G-43 112,543 113,302 225,845 4,210,173 5.36%

13 G-51 193,352 180,705 374,056 3,030,027 12.34%

14 G-52 205,194 202,459 407,652 2,850,332 14.30%

15 G-53 68,611 61,778 130,389 219,876 59.30%

16 G-54 31,618 33,493 65,111 (4,433,944) -1.47%

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19 Total C/I 1,013,969 831,216 1,845,185 41,311,658 4.47%

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1 Liberty Utilities (EnergyNorth Natural Gas) Corp. d/b/a Liberty
2 Peak 2022 - 2023 Winter Cost of Gas Filing

3
4 Storage Inventory, Underground, LPG and LNG including Calculation of Money Pool Interest Costs Associated with Natural Gas

5
6 Underground Storage Gas

	May-22 (Actual)	Jun-22 (Actual)	Jul-22 (Actual)	Aug-22 (Estimate)	Sep-22 (Estimate)	Oct-22 (Estimate)	Nov-22 (Estimate)	Dec-22 (Estimate)	Jan-23 (Estimate)	Feb-23 (Estimate)	Mar-23 (Estimate)	Apr-23 (Estimate)	Total
Beginning Balance (MMBtu)	531,016	808,417	1,005,342	1,245,383	1,508,568	1,771,753	2,034,938	1,919,181	1,397,178	772,731	267,447	117,604	531,016
Injections (MMBtu) Sch 11A In 39 /10	281,796	199,940	243,767	263,185	263,185	263,185	-	-	-	-	-	93,358	1,608,416
Subtotal	812,812	1,008,357	1,249,109	1,508,568	1,771,753	2,034,938	2,034,938	1,919,181	1,397,178	772,731	267,447	210,962	
Storage Sale/Adjustments	(4,395)	(3,015)	(3,726)	-	-	-	-	-	-	-	-	-	(11,136)
Withdrawals (MMBtu) Sch 11A In 29 /10	-	-	-	-	-	-	(115,757)	(522,003)	(624,447)	(505,284)	(149,843)	(100,000)	(2,017,334)
Ending Balance (MMBtu)	808,417	1,005,342	1,245,383	1,508,568	1,771,753	2,034,938	1,919,181	1,397,178	772,731	267,447	117,604	110,962	110,962
Beginning Balance	\$ 1,962,850	\$ 3,828,588	\$ 5,462,121	\$ 6,904,920	\$ 8,809,687	\$ 10,714,454	\$ 12,619,222	\$ 11,901,378	\$ 8,664,293	\$ 4,791,923	\$ 1,658,516	\$ 729,296	\$ 1,962,850
Injections In 11 * In 36	\$ 1,859,310	\$ 1,628,729	\$ 1,443,037	\$ 1,904,767	\$ 1,904,767	\$ 1,904,767	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 494,331	\$ 11,139,710
Subtotal	\$ 3,822,160	\$ 5,457,317	\$ 6,905,159	\$ 8,809,687	\$ 10,714,454	\$ 12,619,222	\$ 12,619,222	\$ 11,901,378	\$ 8,664,293	\$ 4,791,923	\$ 1,658,516	\$ 1,223,627	
Storage Sale/Adjustments	\$ 6,428	\$ 4,804	\$ (239)	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	
Withdrawals In 17 * In 34	-	-	-	-	-	-	(717,844)	(3,237,085)	(3,872,370)	(3,133,407)	(929,220)	(580,022)	\$ (12,469,948)
Ending Balance	\$ 3,828,588	\$ 5,462,121	\$ 6,904,920	\$ 8,809,687	\$ 10,714,454	\$ 12,619,222	\$ 11,901,378	\$ 8,664,293	\$ 4,791,923	\$ 1,658,516	\$ 729,296	\$ 643,605	\$ 632,613
Average Rate For Withdrawals In 22 /In 9	\$ 4.7024	\$ 5.4121	\$ 5.5281	\$ 5.8398	\$ 6.0474	\$ 6.2013	\$ 6.2013	\$ 6.2013	\$ 6.2013	\$ 6.2013	\$ 6.2013	\$ 6.2013	\$ 5.8002
TGP Storage Rate for Injections Actual or NYMEX plus TGP Transportation	\$ 6.5981	\$ 8.1461	\$ 5.9197	\$ 7.2374	\$ 7.2374	\$ 7.2374	\$ 8.5550	\$ 8.8075	\$ 8.9355	\$ 8.5915	\$ 7.1215	\$ 5.2950	
For Informational Purposes							Nov-22	Dec-22	Jan-23	Feb-23	Mar-23	Apr-23	Total
Summer Hedge Contracts - Vols Dth							\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Average Hedge Price NYMEX							\$ 9.2250	\$ 9.3500	\$ 9.4180	\$ 8.9290	\$ 7.4690	\$ 5.6900	
Hedged Volumes at Hedged Price							\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Less Hedged Volumes at NYMEX							\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Hedge (Savings)/Loss							\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Month Dollar Average In (22 + In 32) /2				\$ 7,857,303	\$ 9,762,071	\$ 11,666,838	\$ 12,260,300	\$ 10,282,835	\$ 6,728,108	\$ 3,225,219	\$ 1,193,906	\$ 686,451	
Money Pool Finance Rate (per Nov 10 - Apr 11 Actuals)				0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	
Inventory Finance Charge In 47 * In 49	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Financial Expenses	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Total Inventory Finance Charges	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -

Liquid Propane Gas (LPG)		May-22 (Actual)	Jun-22 (Actual)	Jul-22 (Actual)	Aug-22 (Estimate)	Sep-22 (Estimate)	Oct-22 (Estimate)	Nov-22 (Estimate)	Dec-22 (Estimate)	Jan-23 (Estimate)	Feb-23 (Estimate)	Mar-23 (Estimate)	Apr-23 (Estimate)	Total
39														
40														
41														
42														
43														
44	Beginning Balance	32,352	32,015	31,856	42,889	65,583	88,277	110,971	110,971	110,971	53,846	53,013	53,013	32,352
45	Injections	Sch 11A In 38 /10	-	-	14,266	22,694	22,694	-	-	69,199	-	-	5,577	157,123
46	Subtotal		32,352	32,015	46,122	65,583	88,277	110,971	110,971	110,971	180,170	53,846	53,013	58,590
47	Withdrawals	Sch 11A In 33 /10	-	-	-	-	-	-	-	(126,323)	(833)	-	-	(127,156)
48	Adjustment for change in temperature		(337)	(159)	(3,233)	-	-	-	-	-	-	-	-	(3,729)
49	Adjustment for Transfer		-	-	-	-	-	-	-	-	-	-	-	-
50	Ending Balance		32,015	31,856	42,889	65,583	88,277	110,971	110,971	110,971	53,846	53,013	53,013	58,590
51														
52														
53														
54														
55														
56														
57	Beginning Balance	\$ 477,921	\$ 472,943	\$ 470,594	\$ 654,434	\$ 1,085,620	\$ 1,516,806	\$ 1,947,992	\$ 1,947,992	\$ 1,947,992	\$ 973,058	\$ 958,004	\$ 958,004	\$ 477,921
58	Injections	In 46 * In 69	-	-	231,600	431,186	431,186	-	-	1,307,852	-	-	-	2,833,010
59	Subtotal		\$ 477,921	\$ 472,943	\$ 702,194	\$ 1,085,620	\$ 1,516,806	\$ 1,947,992	\$ 1,947,992	\$ 1,947,992	\$ 3,255,844	\$ 973,058	\$ 958,004	\$ 958,004
60	Withdrawals/ Adjust	In 52 * In 67	(4,978)	(2,349)	(47,760)	-	-	-	-	(2,282,786)	(15,054)	-	-	(2,352,927)
61	Ending Balance		\$ 472,943	\$ 470,594	\$ 654,434	\$ 1,085,620	\$ 1,516,806	\$ 1,947,992	\$ 1,947,992	\$ 1,947,992	\$ 973,058	\$ 958,004	\$ 958,004	\$ 958,004
62														
63	Average Rate For Withdrawals		\$14.7725	\$14.7725	\$15.2247	\$16.5534	\$17.1823	\$17.5541	\$17.5541	\$17.5541	\$18.0710	\$18.0710	\$18.0710	\$16.3509
64	Propane Rate for Injections	Actual or Sch. 6, In 165 * 10	\$14.7725	\$14.7725	\$15.2247	\$16.5534	\$17.1823	\$17.5541	\$18.9000	\$18.9000	\$18.9000	\$18.9000	\$18.9000	\$0.0000
65														
66	Month Dollar Average	In (57 + In 65) /2			\$ 870,027	\$ 1,301,213	\$ 1,732,399	\$ 1,947,992	\$ 1,947,992	\$ 1,460,525	\$ 965,531	\$ 958,004	\$ 958,004	
67	Money Pool Finance Rate (per Nov 10 - Apr 11 Actuals)				0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	
68	Inventory Finance Charge	In 72 * In 74			\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
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1 **Liberty Utilities (EnergyNorth Natural Gas) Corp. d/b/a Liberty**
2 **Peak 2022 - 2023 Winter Cost of Gas Filing**

3
4 **Forecast of Firm Transportation Volumes and Cost of Gas Revenues**

5
6
7 **Firm Transportation**

	Therms 1/	Cost of Gas Rate 2/	Cost of Gas Revenue
14 Nov-22	6,423,600	\$ 0.0098	\$ 62,864
15 Dec-22	7,939,840	0.0098	77,703
16 Jan-23	8,927,900	0.0098	87,373
17 Feb-23	7,449,610	0.0098	72,905
18 Mar-23	7,106,550	0.0098	69,548
19 Apr-23	<u>5,275,420</u>	0.0098	<u>51,628</u>
20			
21 Total	<u>43,122,920</u>		<u>\$ 422,021</u>

22
23
24 1/ Per Schedule 10B, line 34. Excludes special contract volumes subject to transportation cost of gas.

25 2/ Refer to Proposed Second Revised Page 98 for calculation of rate.

III DELIVERY TERMS AND CONDITIONS

ATTACHMENT B

Schedule of Administrative Fees and Charges

I.	Supplier Balancing Charge:	\$	0.21	
II.	Capacity Mitigation Fee			15% of the Proceeds from the Marketing of Capacity for Mitigation.
III.	Peaking Demand Charge	\$	56.69	MMBTU of Peak MDQ
IV.	Company Allowance Calculation (per Schedule 25)			
			170,377,710	Total Sendout - Therms Jul-2018 - Jun-2019
			<u>166,126,573</u>	Total Throughput - Therms Jul-2018 - Jun-2019
			4,251,137	Variance (Sendout - Throughput)
	Company Allowance Percentage 2022-23		2.5%	Variance / Total Sendout

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

**Calculation of Supplier Balancing Charge
2022-2023**

Rate: \$ 0.2109 /MMBtu

	Rate	Volume	Total
Injection Cost	\$ 0.0087	331,633	\$ 2,885
Fuel 1.81%	\$ 0.0498	331,633	\$ 16,507
Withdrawal Cost	\$ 0.0087	229,846	\$ 2,000
Delivery Rate	\$ 0.0421	229,846	\$ 9,678
FTA Demand Charge	\$ 0.2359	229,846	\$ 54,226
FTA Commodity Charge	\$ 0.1030	229,846	\$ 23,674
Fuel 1.49%	\$ 0.0410	229,846	\$ 9,418
		Total Cost	\$ 118,388
		Absolute Value of the Sendout Error	561,480 MMBtu
		Rate	\$ 0.2109 /MMBTU

NOTES: See Tennessee Gas Pipeline Tariff Pages in PK Schedule 6

TGP FSMA Injection Charge	\$	0.0087	/ MMBtu
TGP FSMA Withdrawal Charge	\$	0.0087	/ MMBtu
TGP FSMA Deliverability Charge	\$	1.2801	/ MMBtu per month
	\$	0.0421	/ MMBtu per day
TGP Z4-6 Demand Charge	\$	7.1720	/ MMBtu per month
	\$	0.2359	/ MMBtu per day
TGP Z4-6 Commodity Charge	\$	0.1030	/ MMBtu

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

Calculation of Supplier Balancing Charge
2022-2023
Estimated Monthly Imbalances

<u>Date</u>	<u>Forecasted DD</u>	<u>Actual DD</u>	<u>Forecaster Error DD</u>	<u>Forecasted Sendout (MMBtu)</u>	<u>Actual Sendout (MMBtu)</u>	<u>Sendout Error (MMBtu)</u>	<u>Abs.Value Sendout Error (MMBtu)</u>	<u>Injections (MMBtu)</u>	<u>Withdrawals (MMBtu)</u>
Nov	696	694	2	1,568,263	1,564,464	3,799	60,784	32,291	28,492
Dec	913	913	-	2,117,278	2,117,278	(0)	80,260	40,130	40,130
Jan	1,315	1,293	22	3,086,621	3,043,588	43,033	117,362	80,197	37,165
Feb	990	975	15	2,369,504	2,342,994	26,510	92,936	59,723	33,213
Mar	761	736	25	1,732,238	1,692,369	39,870	84,524	62,197	22,327
Apr	455	459	(4)	1,094,027	1,100,826	(6,799)	64,589	28,895	35,694
May	185	181	4	607,712	604,152	3,559	23,135	13,347	9,788
Jun	4	6	(2)	205,729	206,626	(897)	897	-	897
Jul	18	21	(3)	478,760	479,522	(762)	1,701	470	1,232
Aug	-	-	-	346,071	346,071	-	-	-	-
Sep	19	22	(3)	363,716	365,812	(2,095)	3,492	698	2,794
Oct	248	252	(4)	696,565	700,996	(4,431)	31,800	13,685	18,115
Total	5,604	5,552	52	14,666,484	14,564,697	101,787	561,480	331,633	229,846

**Liberty Utilities (EnergyNorth Natural Gas) Corp. d/b/a Liberty
Calculation of Supplier Balancing Charge
2021-2022
Estimated Daily Imbalances**

Date	Predicted MAN HDD	Actual MAN HDD	Forecaster Error MAN HDD	Calculated on Predicted MAN HDD	Calculated on Actual MAN HDD	Sendout Error (MMBtu)	Abs.Value Sendout Error (MMBtu)	Injections (MMBtu)	Withdrawals (MMBtu)
Apr 1, 2021	28	30	-2	58280.60622	61680.04141	-3399.43519	3399.43519	0	3399.435186
Apr 2, 2021	32	34	-2	65079.47659	68478.91178	-3399.43519	3399.43519	0	3399.435186
Apr 3, 2021	25	26	-1	53181.45344	54881.17104	-1699.71759	1699.71759	0	1699.717593
Apr 4, 2021	16	14	2	37883.9951	34484.55992	3399.43519	3399.43519	3399.43519	0
Apr 5, 2021	17	15	2	39583.7127	36184.27751	3399.43519	3399.43519	3399.43519	0
Apr 6, 2021	14	13	1	34484.55992	32784.84232	1699.71759	1699.71759	1699.71759	0
Apr 7, 2021	11	8	3	29385.40714	24286.25436	5099.15278	5099.15278	5099.15278	0
Apr 8, 2021	10	10	0	27685.68955	27685.68955	0	0	0	0
Apr 9, 2021	5	6	-1	19187.10158	20886.81917	-1699.71759	1699.71759	0	1699.717593
Apr 10, 2021	2	1	1	14087.9488	12388.23121	1699.71759	1699.71759	1699.71759	0
Apr 11, 2021	16	17	-1	37883.9951	39583.7127	-1699.71759	1699.71759	0	1699.717593
Apr 12, 2021	19	19	0	42983.14788	42983.14788	0	0	0	0
Apr 13, 2021	11	10	1	29385.40714	27685.68955	1699.71759	1699.71759	1699.71759	0
Apr 14, 2021	13	12	1	32784.84232	31085.12473	1699.71759	1699.71759	1699.71759	0
Apr 15, 2021	21	22	-1	46382.58307	48082.30066	-1699.71759	1699.71759	0	1699.717593
Apr 16, 2021	26	27	-1	54881.17104	56580.88863	-1699.71759	1699.71759	0	1699.717593
Apr 17, 2021	20	20	0	44682.86548	44682.86548	0	0	0	0
Apr 18, 2021	15	14	1	36184.27751	34484.55992	1699.71759	1699.71759	1699.71759	0
Apr 19, 2021	9	10	-1	25985.97195	27685.68955	-1699.71759	1699.71759	0	1699.717593
Apr 20, 2021	7	7	0	22586.53677	22586.53677	0	0	0	0
Apr 21, 2021	17	22	-5	39583.7127	48082.30066	-8498.58797	8498.58797	0	8498.587966
Apr 22, 2021	24	25	-1	51481.73585	53181.45344	-1699.71759	1699.71759	0	1699.717593
Apr 23, 2021	13	13	0	32784.84232	32784.84232	0	0	0	0
Apr 24, 2021	7	4	3	22586.53677	17487.38399	5099.15278	5099.15278	5099.15278	0
Apr 25, 2021	16	16	0	37883.9951	37883.9951	0	0	0	0
Apr 26, 2021	17	18	-1	39583.7127	41283.43029	-1699.71759	1699.71759	0	1699.717593
Apr 27, 2021	9	7	2	25985.97195	22586.53677	3399.43519	3399.43519	3399.43519	0
Apr 28, 2021	9	11	-2	25985.97195	29385.40714	-3399.43519	3399.43519	0	3399.435186
Apr 29, 2021	12	14	-2	31085.12473	34484.55992	-3399.43519	3399.43519	0	3399.435186
Apr 30, 2021	14	14	0	34484.55992	34484.55992	0	0	0	0
May 1, 2021	12	11	1	24971.178	24081.36584	889.812165	889.812165	889.812165	0
May 2, 2021	4	0	4	17852.68068	14293.43202	3559.24866	3559.24866	3559.24866	0
May 3, 2021	11	9	2	24081.36584	22301.74151	1779.62433	1779.62433	1779.62433	0
May 4, 2021	14	12	2	26750.80233	24971.178	1779.62433	1779.62433	1779.62433	0
May 5, 2021	13	15	-2	25860.99016	27640.61449	-1779.62433	1779.62433	0	1779.624329
May 6, 2021	13	9	4	25860.99016	22301.74151	3559.24866	3559.24866	3559.24866	0
May 7, 2021	13	14	-1	25860.99016	26750.80233	-889.812165	889.812165	0	889.8121646
May 8, 2021	11	11	0	24081.36584	24081.36584	0	0	0	0
May 9, 2021	7	8	-1	20522.11718	21411.92934	-889.812165	889.812165	0	889.8121646
May 10, 2021	9	7	2	22301.74151	20522.11718	1779.62433	1779.62433	1779.62433	0
May 11, 2021	11	11	0	24081.36584	24081.36584	0	0	0	0
May 12, 2021	8	8	0	21411.92934	21411.92934	0	0	0	0
May 13, 2021	4	5	-1	17852.68068	18742.49285	-889.812165	889.812165	0	889.8121646
May 14, 2021	0	0	0	14293.43202	14293.43202	0	0	0	0
May 15, 2021	0	0	0	14293.43202	14293.43202	0	0	0	0
May 16, 2021	0	0	0	14293.43202	14293.43202	0	0	0	0
May 17, 2021	0	0	0	14293.43202	14293.43202	0	0	0	0
May 18, 2021	0	0	0	14293.43202	14293.43202	0	0	0	0
May 19, 2021	0	0	0	14293.43202	14293.43202	0	0	0	0
May 20, 2021	0	0	0	14293.43202	14293.43202	0	0	0	0
May 21, 2021	0	0	0	14293.43202	14293.43202	0	0	0	0
May 22, 2021	0	0	0	14293.43202	14293.43202	0	0	0	0
May 23, 2021	0	0	0	14293.43202	14293.43202	0	0	0	0
May 24, 2021	2	4	-2	16073.05635	17852.68068	-1779.62433	1779.62433	0	1779.624329
May 25, 2021	0	0	0	14293.43202	14293.43202	0	0	0	0
May 26, 2021	0	0	0	14293.43202	14293.43202	0	0	0	0
May 27, 2021	0	1	-1	14293.43202	15183.24419	-889.812165	889.812165	0	889.8121646
May 28, 2021	11	14	-3	24081.36584	26750.80233	-2669.43649	2669.43649	0	2669.436494
May 29, 2021	17	17	0	29420.23882	29420.23882	0	0	0	0
May 30, 2021	16	16	0	28530.42666	28530.42666	0	0	0	0
May 31, 2021	9	9	0	22301.74151	22301.74151	0	0	0	0
Jun 1, 2021	0	0	0	11329.70941	11329.70941	0	0	0	0
Jun 2, 2021	0	0	0	11329.70941	11329.70941	0	0	0	0
Jun 3, 2021	0	0	0	11329.70941	11329.70941	0	0	0	0
Jun 4, 2021	0	0	0	11329.70941	11329.70941	0	0	0	0
Jun 5, 2021	0	0	0	11329.70941	11329.70941	0	0	0	0

Liberty Utilities (EnergyNorth Natural Gas) Corp.
Calculation of Supplier Balancing Charge
2019-2020
Estimated Daily Imbalances

Date	Predicted	Actual	Forecaster	Calculated	Calculated	Sendout	Abs. Value	Injections	Withdrawals
	MAN HDD	MAN HDD	MAN HDD	on Predicted MAN HDD	on Actual MAN HDD	Error (MMBtu)	Sendout Error (MMBtu)		
Jun 6, 2021	0	0	0	11329.70941	11329.70941	0	0	0	0
Jun 7, 2021	0	0	0	11329.70941	11329.70941	0	0	0	0
Jun 8, 2021	0	0	0	11329.70941	11329.70941	0	0	0	0
Jun 9, 2021	0	0	0	11329.70941	11329.70941	0	0	0	0
Jun 10, 2021	0	0	0	11329.70941	11329.70941	0	0	0	0
Jun 11, 2021	4	5	-1	13123.90543	13572.45443	-448.549004	448.549004	0	448 5490037
Jun 12, 2021	0	0	0	11329.70941	11329.70941	0	0	0	0
Jun 13, 2021	0	0	0	11329.70941	11329.70941	0	0	0	0
Jun 14, 2021	0	0	0	11329.70941	11329.70941	0	0	0	0
Jun 15, 2021	0	0	0	11329.70941	11329.70941	0	0	0	0
Jun 16, 2021	0	1	-1	11329.70941	11778.25842	-448.549004	448.549004	0	448 5490037
Jun 17, 2021	0	0	0	11329.70941	11329.70941	0	0	0	0
Jun 18, 2021	0	0	0	11329.70941	11329.70941	0	0	0	0
Jun 19, 2021	0	0	0	11329.70941	11329.70941	0	0	0	0
Jun 20, 2021	0	0	0	11329.70941	11329.70941	0	0	0	0
Jun 21, 2021	0	0	0	11329.70941	11329.70941	0	0	0	0
Jun 22, 2021	1	2	-1	11778 25842	12226.80742	-448.549004	448.549004	0	448 5490037
Jun 23, 2021	0	0	0	11329.70941	11329.70941	0	0	0	0
Jun 24, 2021	0	0	0	11329.70941	11329.70941	0	0	0	0
Jun 25, 2021	0	0	0	11329.70941	11329.70941	0	0	0	0
Jun 26, 2021	0	0	0	11329.70941	11329.70941	0	0	0	0
Jun 27, 2021	0	0	0	11329.70941	11329.70941	0	0	0	0
Jun 28, 2021	0	0	0	11329.70941	11329.70941	0	0	0	0
Jun 29, 2021	0	0	0	11329.70941	11329.70941	0	0	0	0
Jun 30, 2021	0	0	0	11329.70941	11329.70941	0	0	0	0
Jul 1, 2021	0	0	0	11323 09467	11323.09467	0	0	0	0
Jul 2, 2021	5	7	-2	12106 04958	12419.23155	-313.181965	313.181965	0	313.1819651
Jul 3, 2021	7	8	-1	12419 23155	12575.82253	-156.590983	156.590983	0	156 5909826
Jul 4, 2021	5	2	3	12106 04958	11636.27663	469.772948	469.772948	469.772948	0
Jul 5, 2021	0	0	0	11323 09467	11323.09467	0	0	0	0
Jul 6, 2021	0	0	0	11323 09467	11323.09467	0	0	0	0
Jul 7, 2021	0	0	0	11323 09467	11323.09467	0	0	0	0
Jul 8, 2021	0	2	-2	11323 09467	11636.27663	-313.181965	313.181965	0	313.1819651
Jul 9, 2021	0	0	0	11323 09467	11323.09467	0	0	0	0
Jul 10, 2021	0	0	0	11323 09467	11323.09467	0	0	0	0
Jul 11, 2021	0	0	0	11323 09467	11323.09467	0	0	0	0
Jul 12, 2021	0	0	0	11323 09467	11323.09467	0	0	0	0
Jul 13, 2021	0	0	0	11323 09467	11323.09467	0	0	0	0
Jul 14, 2021	0	0	0	11323 09467	11323.09467	0	0	0	0
Jul 15, 2021	0	0	0	11323 09467	11323.09467	0	0	0	0
Jul 16, 2021	0	0	0	11323 09467	11323 09467	0	0	0	0
Jul 17, 2021	0	0	0	11323 09467	11323 09467	0	0	0	0
Jul 18, 2021	0	0	0	11323 09467	11323 09467	0	0	0	0
Jul 19, 2021	0	0	0	11323 09467	11323 09467	0	0	0	0
Jul 20, 2021	0	0	0	11323.09467	11323 09467	0	0	0	0
Jul 21, 2021	0	0	0	11323.09467	11323 09467	0	0	0	0
Jul 23, 2021	0	0	0	11323.09467	11323 09467	0	0	0	0
Jul 23, 2021	0	0	0	11323.09467	11323 09467	0	0	0	0
Jul 24, 2021	0	0	0	11323.09467	11323 09467	0	0	0	0
Jul 25, 2021	0	0	0	11323.09467	11323 09467	0	0	0	0
Jul 26, 2021	0	0	0	11323.09467	11323 09467	0	0	0	0
Jul 27, 2021	0	0	0	11323.09467	11323 09467	0	0	0	0
Jul 28, 2021	0	0	0	11323.09467	11323 09467	0	0	0	0
Jul 29, 2021	0	0	0	11323.09467	11323 09467	0	0	0	0
Jul 30, 2021	0	0	0	11323.09467	11323 09467	0	0	0	0
Jul 31, 2021	0	0	0	11323.09467	11323 09467	0	0	0	0
Aug 1, 2021	0	0	0	11158.25093	11158 25093	0	0	0	0
Aug 2, 2021	0	0	0	11158.25093	11158 25093	0	0	0	0
Aug 3, 2021	0	0	0	11158.25093	11158 25093	0	0	0	0
Aug 4, 2021	0	0	0	11158.25093	11158 25093	0	0	0	0
Aug 5, 2021	0	0	0	11158.25093	11158 25093	0	0	0	0
Aug 6, 2021	0	0	0	11158.25093	11158 25093	0	0	0	0
Aug 7, 2021	0	0	0	11158.25093	11158 25093	0	0	0	0
Aug 8, 2021	0	0	0	11158.25093	11158 25093	0	0	0	0
Aug 8, 2021	0	0	0	11158.25093	11158 25093	0	0	0	0
Aug 10, 2021	0	0	0	11158.25093	11158 25093	0	0	0	0
Aug 11, 2021	0	0	0	11158.25093	11158 25093	0	0	0	0

Liberty Utilities (EnergyNorth Natural Gas) Corp.
Calculation of Supplier Balancing Charge
2019-2020
Estimated Daily Imbalances

Date	Predicted	Actual	Forecaster	Calculated	Calculated	Sendout	Abs. Value	Injections	Withdrawals
	MAN HDD	MAN HDD	MAN HDD	on Predicted MAN HDD	on Actual MAN HDD	Error (MMBtu)	Sendout Error (MMBtu)		
8/12/2021	0	0	0	11158.25093	11158.25093	0	0	0	0
8/13/2021	0	0	0	11158.25093	11158.25093	0	0	0	0
8/14/2021	0	0	0	11158.25093	11158.25093	0	0	0	0
8/15/2021	0	0	0	11158.25093	11158.25093	0	0	0	0
8/16/2021	0	0	0	11158.25093	11158.25093	0	0	0	0
8/17/2021	0	0	0	11158.25093	11158.25093	0	0	0	0
8/18/2021	0	0	0	11158.25093	11158.25093	0	0	0	0
8/19/2021	0	0	0	11158.25093	11158.25093	0	0	0	0
8/20/2021	0	0	0	11158.25093	11158.25093	0	0	0	0
8/21/2021	0	0	0	11158.25093	11158.25093	0	0	0	0
8/22/2021	0	0	0	11158.25093	11158.25093	0	0	0	0
8/23/2021	0	0	0	11158.25093	11158.25093	0	0	0	0
8/24/2021	0	0	0	11158.25093	11158.25093	0	0	0	0
8/25/2021	0	0	0	11158.25093	11158.25093	0	0	0	0
8/26/2021	0	0	0	11158.25093	11158.25093	0	0	0	0
8/27/2021	0	0	0	11158.25093	11158.25093	0	0	0	0
8/28/2021	0	0	0	11158.25093	11158.25093	0	0	0	0
8/29/2021	0	0	0	11158.25093	11158.25093	0	0	0	0
8/30/2021	0	0	0	11158.25093	11158.25093	0	0	0	0
8/31/2021	0	0	0	11158.25093	11158.25093	0	0	0	0
9/1/2021	0	1	-1	11699.57295	12398.01574	-698.442789	698.442789	0	698.4427892
9/2/2021	1	0	1	12398.01574	11699.57295	698.442789	698.442789	698.442789	0
9/3/2021	0	0	0	11699.57295	11699.57295	0	0	0	0
9/4/2021	0	0	0	11699.57295	11699.57295	0	0	0	0
9/5/2021	0	0	0	11699.57295	11699.57295	0	0	0	0
9/6/2021	0	0	0	11699.57295	11699.57295	0	0	0	0
9/7/2021	0	0	0	11699.57295	11699.57295	0	0	0	0
9/8/2021	0	0	0	11699.57295	11699.57295	0	0	0	0
9/9/2021	0	0	0	11699.57295	11699.57295	0	0	0	0
9/10/2021	1	1	0	12398.01574	12398.01574	0	0	0	0
9/11/2021	0	0	0	11699.57295	11699.57295	0	0	0	0
9/12/2021	0	0	0	11699.57295	11699.57295	0	0	0	0
9/13/2021	0	0	0	11699.57295	11699.57295	0	0	0	0
9/14/2021	0	0	0	11699.57295	11699.57295	0	0	0	0
9/15/2021	0	0	0	11699.57295	11699.57295	0	0	0	0
9/16/2021	0	0	0	11699.57295	11699.57295	0	0	0	0
9/17/2021	0	0	0	11699.57295	11699.57295	0	0	0	0
9/18/2021	0	0	0	11699.57295	11699.57295	0	0	0	0
9/19/2021	1	1	0	12398.01574	12398.01574	0	0	0	0
9/20/2021	2	2	0	13096.45853	13096.45853	0	0	0	0
9/21/2021	0	0	0	11699.57295	11699.57295	0	0	0	0
9/22/2021	0	0	0	11699.57295	11699.57295	0	0	0	0
9/23/2021	0	0	0	11699.57295	11699.57295	0	0	0	0
9/24/2021	0	0	0	11699.57295	11699.57295	0	0	0	0
9/25/2021	0	0	0	11699.57295	11699.57295	0	0	0	0
9/26/2021	1	3	-2	12398.01574	13794.90132	-1396.88558	1396.88558	0	1396.885578
9/27/2021	0	0	0	11699.57295	11699.57295	0	0	0	0
9/28/2021	5	6	-1	15191.7869	15890.22969	-698.442789	698.442789	0	698.4427892
9/29/2021	8	8	0	17287.11527	17287.11527	0	0	0	0
9/30/2021	10	11	-1	18684.00084	19382.44363	-698.442789	698.442789	0	698.4427892
10/1/2021	8	9	-1	22268.44474	23512.51636	-1244.07162	1244.07162	0	1244.071617
10/2/2021	2	3	-1	14804.01504	16048.08666	-1244.07162	1244.07162	0	1244.071617
10/3/2021	6	6	0	19780.30151	19780.30151	0	0	0	0
10/4/2021	10	9	1	24756.58798	23512.51636	1244.07162	1244.07162	1244.07162	0
10/5/2021	9	7	2	23512.51636	21024.37313	2488.14324	2488.14324	2488.14324	0
10/6/2021	4	3	1	17292.15828	16048.08666	1244.07162	1244.07162	1244.07162	0
10/7/2021	2	2	0	14804.01504	14804.01504	0	0	0	0
10/8/2021	4	4	0	17292.15828	17292.15828	0	0	0	0
10/9/2021	9	8	1	23512.51636	22268.44474	1244.07162	1244.07162	1244.07162	0
10/10/2021	6	4	2	19780.30151	17292.15828	2488.14324	2488.14324	2488.14324	0
10/11/2021	4	4	0	17292.15828	17292.15828	0	0	0	0
10/12/2021	1	1	0	13559.94342	13559.94342	0	0	0	0
10/13/2021	0	0	0	12315.87181	12315.87181	0	0	0	0
10/14/2021	0	0	0	12315.87181	12315.87181	0	0	0	0
10/15/2021	0	0	0	12315.87181	12315.87181	0	0	0	0
10/16/2021	0	0	0	12315.87181	12315.87181	0	0	0	0
10/17/2021	8	10	-2	22268.44474	24756.58798	-2488.14324	2488.14324	0	2488.143235

Liberty Utilities (EnergyNorth Natural Gas) Corp.
Calculation of Supplier Balancing Charge
2019-2020
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Date	Predicted	Actual	Forecaster	Calculated	Calculated	Sendout	Abs.Value	Injections	Withdrawals
	MAN HDD	MAN HDD	MAN HDD	on Predicted MAN HDD	on Actual MAN HDD	Error (MMBtu)	Sendout Error (MMBtu)		
10/18/2021	14	14	0	29732.87445	29732.87445	0	0	0	0
10/19/2021	10	11	-1	24756.58798	26000.6596	-1244.07162	1244.07162	0	1244.071617
10/20/2021	4	3	1	17292.15828	16048.08666	1244.07162	1244.07162	1244.07162	0
10/21/2021	0	1	-1	12315.87181	13559.94342	-1244.07162	1244.07162	0	1244.071617
10/22/2021	7	8	-1	21024.37313	22268.44474	-1244.07162	1244.07162	0	1244.071617
10/23/2021	16	17	-1	32221.01768	33465.0893	-1244.07162	1244.07162	0	1244.071617
10/24/2021	16	15	1	32221.01768	30976.94607	1244.07162	1244.07162	1244.07162	0
10/25/2021	16	17	-1	32221.01768	33465.0893	-1244.07162	1244.07162	0	1244.071617
10/26/2021	13	13	0	28488.80283	28488.80283	0	0	0	0
10/27/2021	17	16	1	33465.0893	32221.01768	1244.07162	1244.07162	1244.07162	0
10/28/2021	20	22	-2	37197.30415	39685.44739	-2488.14324	2488.14324	0	2488.143235
10/29/2021	16	17	-1	32221.01768	33465.0893	-1244.07162	1244.07162	0	1244.071617
10/30/2021	8	10	-2	22268.44474	24756.58798	-2488.14324	2488.14324	0	2488.143235
10/31/2021	8	7	1	22268.44474	21024.37313	1244.07162	1244.07162	1244.07162	0
11/1/2021	16	16	0	38599.13528	38599.13528	0	0	0	0
11/2/2021	20	18	2	46197.08616	42398.11072	3798.97544	3798.97544	3798.97544	0
11/3/2021	23	24	-1	51895.54933	53795.03705	-1899.48772	1899.48772	0	1899.487721
11/4/2021	25	24	1	55694.52477	53795.03705	1899.48772	1899.48772	1899.48772	0
11/5/2021	26	27	-1	57594.01249	59493.50021	-1899.48772	1899.48772	0	1899.487721
11/6/2021	24	26	-2	53795.03705	57594.01249	-3798.97544	3798.97544	0	3798.975442
11/7/2021	21	22	-1	48096.57389	49996.06161	-1899.48772	1899.48772	0	1899.487721
11/8/2021	17	18	-1	40498.623	42398.11072	-1899.48772	1899.48772	0	1899.487721
11/9/2021	12	7	5	31001.1844	21503.74579	9497.43861	9497.43861	9497.43861	0
11/10/2021	19	21	-2	44297.59844	48096.57389	-3798.97544	3798.97544	0	3798.975442
11/11/2021	16	14	2	38599.13528	34800.15984	3798.97544	3798.97544	3798.97544	0
11/12/2021	15	16	-1	36699.64756	38599.13528	-1899.48772	1899.48772	0	1899.487721
11/13/2021	19	19	0	44297.59844	44297.59844	0	0	0	0
11/14/2021	21	21	0	48096.57389	48096.57389	0	0	0	0
11/15/2021	24	24	0	53795.03705	53795.03705	0	0	0	0
11/16/2021	28	27	1	61392.98793	59493.50021	1899.48772	1899.48772	1899.48772	0
11/17/2021	19	20	-1	44297.59844	46197.08616	-1899.48772	1899.48772	0	1899.487721
11/18/2021	13	11	2	32900.67212	29101.69668	3798.97544	3798.97544	3798.97544	0
11/19/2021	27	27	0	59493.50021	59493.50021	0	0	0	0
11/20/2021	26	25	1	57594.01249	55694.52477	1899.48772	1899.48772	1899.48772	0
11/21/2021	16	17	-1	38599.13528	40498.623	-1899.48772	1899.48772	0	1899.487721
11/22/2021	25	25	0	55694.52477	55694.52477	0	0	0	0
11/23/2021	34	34	0	72789.91426	72789.91426	0	0	0	0
11/24/2021	30	31	-1	65191.96337	67091.4511	-1899.48772	1899.48772	0	1899.487721
11/25/2021	23	20	3	51895.54933	46197.08616	5698.46316	5698.46316	5698.46316	0
11/26/2021	27	28	-1	59493.50021	61392.98793	-1899.48772	1899.48772	0	1899.487721
11/27/2021	35	36	-1	74689.40198	76588.8897	-1899.48772	1899.48772	0	1899.487721
11/28/2021	31	31	0	67091.4511	67091.4511	0	0	0	0
11/29/2021	34	35	-1	72789.91426	74689.40198	-1899.48772	1899.48772	0	1899.487721
11/30/2021	30	30	0	65191.96337	65191.96337	0	0	0	0
12/1/2021	28	27	1	65872.09732	64200.02408	1672.07324	1672.07324	1672.07324	0
12/2/2021	20	23	-3	52495.5114	57511.73112	-5016.21972	5016.21972	0	5016.219721
12/3/2021	34	33	1	75904.53677	74232.46352	1672.07324	1672.07324	1672.07324	0
12/4/2021	29	30	-1	67544.17056	69216.2438	-1672.07324	1672.07324	0	1672.07324
12/5/2021	26	25	1	62527.95084	60855.8776	1672.07324	1672.07324	1672.07324	0
12/6/2021	19	19	0	50823.43816	50823.43816	0	0	0	0
12/7/2021	31	32	-1	70888.31704	72560.39028	-1672.07324	1672.07324	0	1672.07324
12/8/2021	34	37	-3	75904.53677	80920.75649	-5016.21972	5016.21972	0	5016.219721
12/9/2021	33	35	-2	74232.46352	77576.61001	-3344.14648	3344.14648	0	3344.14648
12/10/2021	30	33	-3	69216.2438	74232.46352	-5016.21972	5016.21972	0	5016.219721
12/11/2021	17	21	-4	47479.29168	54167.58464	-6688.29296	6688.29296	0	6688.292961
12/12/2021	25	25	0	60855.8776	60855.8776	0	0	0	0
12/13/2021	22	20	2	55839.65788	52495.5114	3344.14648	3344.14648	3344.14648	0
12/14/2021	30	28	2	69216.2438	65872.09732	3344.14648	3344.14648	3344.14648	0
12/15/2021	23	25	-2	57511.73112	60855.8776	-3344.14648	3344.14648	0	3344.14648
12/16/2021	14	13	1	42463.07196	40790.99872	1672.07324	1672.07324	1672.07324	0
12/17/2021	26	21	5	62527.95084	54167.58464	8360.3662	8360.3662	8360.3662	0
12/18/2021	32	33	-1	72560.39028	74232.46352	-1672.07324	1672.07324	0	1672.07324
12/19/2021	41	42	-1	87609.04945	89281.12269	-1672.07324	1672.07324	0	1672.07324
12/20/2021	37	38	-1	80920.75649	82592.82973	-1672.07324	1672.07324	0	1672.07324
12/21/2021	34	32	2	75904.53677	72560.39028	3344.14648	3344.14648	3344.14648	0
12/22/2021	36	32	4	79248.68325	72560.39028	6688.29296	6688.29296	6688.29296	0
12/23/2021	42	42	0	89281.12269	89281.12269	0	0	0	0

Liberty Utilities (EnergyNorth Natural Gas) Corp.
Calculation of Supplier Balancing Charge
2019-2020
Estimated Daily Imbalances

Date	Predicted	Actual	Forecaster	Calculated	Calculated	Sendout	Abs. Value	Injections	Withdrawals
	MAN HDD	MAN HDD	MAN HDD	on Predicted	on Actual	Error	Sendout Error		
				MAN HDD	MAN HDD	(MMBtu)	(MMBtu)	(MMBtu)	(MMBtu)
12/24/2021	39	38	1	84264.90297	82592.82973	1672.07324	1672.07324	1672.07324	0
12/25/2021	32	32	0	72560.39028	72560.39028	0	0	0	0
12/26/2021	35	33	2	77576.61001	74232.46352	3344.14648	3344.14648	3344.14648	0
12/27/2021	34	34	0	75904.53677	75904.53677	0	0	0	0
12/28/2021	30	28	2	69216.2438	65872.09732	3344.14648	3344.14648	3344.14648	0
12/29/2021	28	28	0	65872.09732	65872.09732	0	0	0	0
12/30/2021	27	28	-1	64200.02408	65872.09732	-1672.07324	1672.07324	0	1672.07324
12/31/2021	25	26	-1	60855.8776	62527.95084	-1672.07324	1672.07324	0	1672.07324
1/1/2022	23	25	-2	61583.49549	65495.56413	-3912.06864	3912.06864	0	3912.068638
1/2/2022	36	33	3	87011.94163	81143.83868	5868.10296	5868.10296	5868.10296	0
1/3/2022	44	46	-2	102660.2162	106572.2848	-3912.06864	3912.06864	0	3912.068638
1/4/2022	38	37	1	90924.01027	88967.97595	1956.03432	1956.03432	1956.03432	0
1/5/2022	27	30	-3	69407.63276	75275.73572	-5868.10296	5868.10296	0	5868.102957
1/6/2022	36	33	3	87011.94163	81143.83868	5868.10296	5868.10296	5868.10296	0
1/7/2022	43	42	1	100704.1819	98748.14755	1956.03432	1956.03432	1956.03432	0
1/8/2022	44	44	0	102660.2162	102660.2162	0	0	0	0
1/9/2022	34	31	3	83099.87299	77231.77004	5868.10296	5868.10296	5868.10296	0
1/10/2022	50	48	2	114396.4221	110484.3535	3912.06864	3912.06864	3912.06864	0
1/11/2022	57	58	-1	128088.6623	130044.6966	-1956.03432	1956.03432	0	1956.034319
1/12/2022	41	34	7	96792.11323	83099.87299	13692.2402	13692.2402	13692.2402	0
1/13/2022	34	32	2	83099.87299	79187.80436	3912.06864	3912.06864	3912.06864	0
1/14/2022	48	48	0	110484.3535	110484.3535	0	0	0	0
1/15/2022	58	60	-2	130044.6966	133956.7653	-3912.06864	3912.06864	0	3912.068638
1/16/2022	38	39	-1	90924.01027	92880.04459	-1956.03432	1956.03432	0	1956.034319
1/17/2022	33	30	3	81143.83868	75275.73572	5868.10296	5868.10296	5868.10296	0
1/18/2022	47	45	2	108528.3191	104616.2505	3912.06864	3912.06864	3912.06864	0
1/19/2022	28	26	2	71363.66708	67451.59844	3912.06864	3912.06864	3912.06864	0
1/20/2022	49	47	2	112440.3878	108528.3191	3912.06864	3912.06864	3912.06864	0
1/21/2022	53	54	-1	120264.5251	122220.5594	-1956.03432	1956.03432	0	1956.034319
1/22/2022	46	47	-1	106572.2848	108528.3191	-1956.03432	1956.03432	0	1956.034319
1/23/2022	44	38	6	102660.2162	90924.01027	11736.2059	11736.2059	11736.2059	0
1/24/2022	39	38	1	92880.04459	90924.01027	1956.03432	1956.03432	1956.03432	0
1/25/2022	40	39	1	94836.07891	92880.04459	1956.03432	1956.03432	1956.03432	0
1/26/2022	53	54	-1	120264.5251	122220.5594	-1956.03432	1956.03432	0	1956.034319
1/27/2022	41	42	-1	96792.11323	98748.14755	-1956.03432	1956.03432	0	1956.034319
1/28/2022	40	38	2	94836.07891	90924.01027	3912.06864	3912.06864	3912.06864	0
1/29/2022	52	52	0	118308.4907	118308.4907	0	0	0	0
1/30/2022	52	54	-2	118308.4907	122220.5594	-3912.06864	3912.06864	0	3912.068638
1/31/2022	47	49	-2	108528.3191	112440.3878	-3912.06864	3912.06864	0	3912.068638
2/1/2022	35	36	-1	83559.5075	85316.06341	-1756.55591	1756.55591	0	1756.55591
2/2/2022	27	25	2	69507.06022	65993.9484	3513.11182	3513.11182	3513.11182	0
2/3/2022	28	25	3	71263.61613	65993.9484	5269.66773	5269.66773	5269.66773	0
2/4/2022	43	42	1	97611.95478	95855.39887	1756.55591	1756.55591	1756.55591	0
2/5/2022	54	50	4	116934.0698	109907.8462	7026.22364	7026.22364	7026.22364	0
2/6/2022	48	44	4	106394.7343	99368.5107	7026.22364	7026.22364	7026.22364	0
2/7/2022	29	32	-3	73020.17204	78289.83977	-5269.66773	5269.66773	0	5269.667731
2/8/2022	32	30	2	78289.83977	74776.72795	3513.11182	3513.11182	3513.11182	0
2/9/2022	30	30	0	74776.72795	74776.72795	0	0	0	0
2/10/2022	28	27	1	71263.61613	69507.06022	1756.55591	1756.55591	1756.55591	0
2/11/2022	19	17	2	55454.61293	51941.50111	3513.11182	3513.11182	3513.11182	0
2/12/2022	26	25	1	67750.50431	65993.9484	1756.55591	1756.55591	1756.55591	0
2/13/2022	40	41	-1	92342.28705	94098.84296	-1756.55591	1756.55591	0	1756.55591
2/14/2022	50	50	0	109907.8462	109907.8462	0	0	0	0
2/15/2022	46	45	1	102881.6225	101125.0666	1756.55591	1756.55591	1756.55591	0
2/16/2022	20	21	-1	57211.16884	58967.72475	-1756.55591	1756.55591	0	1756.55591
2/17/2022	8	7	1	36132.49792	34375.94201	1756.55591	1756.55591	1756.55591	0
2/18/2022	37	39	-2	87072.61932	90585.73114	-3513.11182	3513.11182	0	3513.111821
2/19/2022	39	42	-3	90585.73114	95855.39887	-5269.66773	5269.66773	0	5269.667731
2/20/2022	32	34	-2	78289.83977	81802.95159	-3513.11182	3513.11182	0	3513.111821
2/21/2022	26	24	2	67750.50431	64237.39249	3513.11182	3513.11182	3513.11182	0
2/22/2022	12	14	-2	43158.72156	46671.83338	-3513.11182	3513.11182	0	3513.111821
2/23/2022	29	28	1	73020.17204	71263.61613	1756.55591	1756.55591	1756.55591	0
2/24/2022	39	41	-2	90585.73114	94098.84296	-3513.11182	3513.11182	0	3513.111821
2/25/2022	46	47	-1	102881.6225	104638.1784	-1756.55591	1756.55591	0	1756.55591
2/26/2022	44	40	4	99368.5107	92342.28705	7026.22364	7026.22364	7026.22364	0
2/27/2022	41	39	2	94098.84296	90585.73114	3513.11182	3513.11182	3513.11182	0
2/28/2022	51	48	3	111664.4021	106394.7343	5269.66773	5269.66773	5269.66773	0

Liberty Utilities (EnergyNorth Natural Gas) Corp.
Calculation of Supplier Balancing Charge
2019-2020
Estimated Daily Imbalances

Date	Predicted	Actual	Forecaster	Calculated	Calculated	Sendout	Abs. Value	Injections	Withdrawals
	MAN HDD	MAN HDD	MAN HDD	on Predicted	on Actual	Error	Sendout Error		
3/1/2022	31	32	-1	66725.24099	68320.02821	-1594.78723	1594.78723	0	1594.787227
3/2/2022	34	32	2	71509.60267	68320.02821	3189.57445	3189.57445	3189.57445	0
3/3/2022	46	44	2	90647.04939	87457.47494	3189.57445	3189.57445	3189.57445	0
3/4/2022	43	40	3	85862.68771	81078.32603	4784.36168	4784.36168	4784.36168	0
3/5/2022	30	28	2	65130.45376	61940.87931	3189.57445	3189.57445	3189.57445	0
3/6/2022	12	10	2	36424.28368	33234.70922	3189.57445	3189.57445	3189.57445	0
3/7/2022	19	21	-2	47587.79427	50777.36872	-3189.57445	3189.57445	0	3189.574454
3/8/2022	31	31	0	66725.24099	66725.24099	0	0	0	0
3/9/2022	32	35	-3	68320.02821	73104.38989	-4784.36168	4784.36168	0	4784.36168
3/10/2022	27	27	0	60346.09208	60346.09208	0	0	0	0
3/11/2022	23	21	2	53966.94317	50777.36872	3189.57445	3189.57445	3189.57445	0
3/12/2022	38	38	0	77888.75157	77888.75157	0	0	0	0
3/13/2022	36	34	2	74699.17712	71509.60267	3189.57445	3189.57445	3189.57445	0
3/14/2022	23	21	2	53966.94317	50777.36872	3189.57445	3189.57445	3189.57445	0
3/15/2022	21	20	1	50777.36872	49182.58149	1594.78723	1594.78723	1594.78723	0
3/16/2022	20	17	3	49182.58149	44398.21981	4784.36168	4784.36168	4784.36168	0
3/17/2022	14	13	1	39613.85813	38019.0709	1594.78723	1594.78723	1594.78723	0
3/18/2022	9	6	3	31639.922	26855.56032	4784.36168	4784.36168	4784.36168	0
3/19/2022	16	21	-5	42803.43258	50777.36872	-7973.93613	7973.93613	0	7973.936134
3/20/2022	17	16	1	44398.21981	42803.43258	1594.78723	1594.78723	1594.78723	0
3/21/2022	22	20	2	52372.15595	49182.58149	3189.57445	3189.57445	3189.57445	0
3/22/2022	28	25	3	61940.87931	57156.51763	4784.36168	4784.36168	4784.36168	0
3/23/2022	23	22	1	53966.94317	52372.15595	1594.78723	1594.78723	1594.78723	0
3/24/2022	24	25	-1	55561.7304	57156.51763	-1594.78723	1594.78723	0	1594.787227
3/25/2022	16	14	2	42803.43258	39613.85813	3189.57445	3189.57445	3189.57445	0
3/26/2022	21	19	2	50777.36872	47587.79427	3189.57445	3189.57445	3189.57445	0
3/27/2022	29	30	-1	63535.66653	65130.45376	-1594.78723	1594.78723	0	1594.787227
3/28/2022	41	42	-1	82673.11326	84267.90048	-1594.78723	1594.78723	0	1594.787227
3/29/2022	34	33	1	71509.60267	69914.81544	1594.78723	1594.78723	1594.78723	0
3/30/2022	24	22	2	55561.7304	52372.15595	3189.57445	3189.57445	3189.57445	0
3/31/2022	8	9	-1	30045.13477	31639.922	-1594.78723	1594.78723	0	1594.787227

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

**Docket DE 98-124 Gas Restructuring
Peaking Demand Rate**

Source:

1	Peak Day		165,638	Dekatherm	
2					
3	Pipeline MDQ				Attachment B Page 2 of 3: EnergyNorth Capacity Resources
4		PNGTS	1,000	Dekatherm	
5		TGP NET-NE 95346	4,000		
6		TGP FT-A (Z5-Z6) 2302	3,122		
7		TGP FT-A (Z0-Z6) 8587	7,035		
8		TGP FT-A (Z1-Z6) 8587	14,561		
9		TGP FT-A (Z6-Z6) 42076	20,000		
		TGP FT-A (Z6-Z6) 358905	40,000		
		TGP FT-A (Z6-Z6) 72694	30,000		
10			119,718	Dekatherm	
11					
12	Underground Storage MDQ				Attachment B Page 3 of 3: EnergyNorth Capacity Resources
13		TGP FT-A (Z4-Z6) 632	15,265	Dekatherm	
14		TGP FT-A (Z4-Z6) 8587	3,811		
15		TGP FT-A (Z4-Z6) 11234	7,082		
16		TGP FT-A (Z5-Z6) 11234	1,957		
17			28,115		
18					
19					
20	Peaking MDQ		17,805	Dekatherm	Line 1 - Line 10 - Line 18
21					
22					
23	Peaking Costs				
23	Gas Supply		\$ 2,370,511		Attachment B Page 3 Line 11
25	Indirect Production & Storage Capacity		\$ 3,685,458		Summary Page Line 68
26	Granite Ridge		\$ -		Attachment B Page 3 Line 1
27	Total		\$ 6,055,969		Sum Line 24 - 26
28					
29	Annual Peaking Rate per MDQ		\$ 340.13		Line 27 divided by Line 20
30					
31	Monthly Peaking MDQ		\$ 56.69	/Dekatherm	Line 29 divided by 6 month

Liberty Utilities (EnergyNorth Natural Gas) Corp.

Tennessee Allocations

Resource Type	High Load Factor	Low Load Factor
Pipeline	79.5%	71.5%
Storage	12.6%	17.4%
Peaking	7.9%	11.0%
TOTAL:	100.00%	100.00%

Capacity Resources effective November 1, 2022*

*proposed

Resource	Pipeline Company	Rate Schedule	Contract #	Peak MDQ/ MDWQ	Storage MSQ	Rate \$/Dth/Month Demand	Storage Capacity	Termination Date	LDC Managed
Pipeline									
	TCPL + Union	FT to Parkway & IGTS	M12200 & 41232	4,000		\$13 5069		10/31/2026	
	Iroquois	RTS to Wright	470-01	4,047		\$5 2357		11/1/2022	
	TGP	NET-NE (Z5-Z6)	95346	4,000		\$6 1635		11/30/2022	
	TGP	FT-A (Z5-Z6)	2302	3,122		\$6 1635		10/31/2025	
	TGP	FT-A (Z0-Z6)	8587	7,035		\$19 9267		10/31/2025	
	TGP	FT-A (Z1-Z6)	8587	14,561		\$17 6917		10/31/2025	
	TCPL + Union	FT to Parkway & PNGT	M12284 & TC	5,000		\$20 5005		10/31/2040	
	PNGTS	FT	225800	5,000		\$22 7943		10/31/2040	
	TGP	FT-A (Z6-Z6)	42076	20,000		\$4 0968		10/31/2025	
	TGP	FT-A (Z6-Z6)	358905	40,000		\$4 0968		10/31/2041	
	TGP	FT-A (Z6-Z6)	72694	30,000		\$12 2188		10/31/2029	
Storage									
	TGP	FS-MA (Storage)	523*	21,844	1,560,391	\$1 2801	\$0 0175	10/31/2025	
	TGP	FT-A (Z4-Z6)	632	15,265		\$7 0128		10/31/2025	
	TGP	FT-A (Z4-Z6)	8587	3,811		\$7 0128		10/31/2025	
	National Fuel	FSS-1 (Storage)	O02357*	6,098	670,800	\$2 6568	\$0 0480	3/31/2023	
	National Fuel	FST (Transport)	N02358	6,098		\$4 9801		3/31/2023	
	TGP	FT-A (Z4-Z6)	11234	6,150		\$7.0128		10/31/2025	
	Honeoye	SS-NY (Storage)	SS-NY**	1,957	245,380	\$4.2672	\$0 0000	3/31/2023	X
	TGP	FT-A (Z5-Z6)	11234	1,957		\$6.1635		10/31/2025	
	Dominion	GSS (Storage)	300076*	934	102,700	\$3 2548	\$0 0318	3/31/2024	
	TGP	FT-A (Z4-Z6)	11234	932		\$7.0128		10/31/2025	
Peaking									
	Energy North	LNG/Propane****		17,805	-	\$56.6900	\$0 0000		X

* All gas transferred for storage contracts will be based on LDC's monthly WACOG


**All commodity volumes nominated will be invoiced at LDC's WACOG + fuel retention Demand charge applicable for 6 months

Note All capacity will be released at maximum tariff rates. Above rates are maximum tariff rates effective 11/01/22. Because rates can change, please refer to the applicable pipeline tariff for current rates.

Above capacity is for all customers in the EnergyNorth Service territory with the exception of Berlin, NH. Any customers behind the Berlin citygate will be allocated 100% PNGTS capacity at a demand rate of \$18.2633 /dth.

ENERGYNORTH NATURAL GAS, INC.

**Docket 98-124 Gas Restructuring
Peaking Demand Rate
Peaking Costs**

	Volume	Rate	Monthly Cost	Months/Year	Annual Cost
1					
2					
3					
4 Subtotal					\$ 2,370,511.00 *
5					
6 Total					\$ 2,370,511.00

* Effective November 2022

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Liberty Utilities (EnergyNorth Natural Gas) Corp

**Calculation of Capacity Allocators
Docket No DE 98-124**

Capacity Assignment Table

			Pipeline	% of Peak Day Requirement		Total
				Storage	Peaking	
G-41	LAHW	Low Annual C&I - High Winter Use	71.5%	17.4%	11.0%	100.0%
G-51	LALW	Low Annual C&I - Low Winter Use	79.5%	12.6%	7.9%	100.0%
G-42	MAHW	Medium C&I - High Winter Use	71.5%	17.4%	11.0%	100.0%
G-52	MALW	Medium C&I - Low Winter Use	79.5%	12.6%	7.9%	100.0%
G-43	HAHW	High Annual C&I - High Winter Use	71.5%	17.4%	11.0%	100.0%
G-53	HALW90	High Annual C&I - LF < 90%	79.5%	12.6%	7.9%	100.0%
G-54	HALWG90	High Annual C&I - LF > 90%	79.5%	12.6%	7.9%	100.0%

HLF	High Load Factor	79.50%	12.55%	7.95%	100%
LLF	Low Load Factor	71.53%	17.43%	11.04%	100%
	Total	72.28%	16.97%	10.75%	100%

Liberty Utilities (EnergyNorth Natural Gas) Corp

Calculation of Capacity Allocators
Docket No DE 98-124

Allocation of Peak Day

Design Day Throughput Allocated to Rate Classes

Design DD	69.390		
	Base load	Heat load	Total
HLF R-1 RNSH	97	544	641
LLF R-3 RSH	3,484	68,728	72,211
LLF G-41 SL	968	29,139	30,106
HLF G-51 SH	742	1,904	2,646
LLF G-42 ML	1,839	36,309	38,148
HLF G-52 MH	1,742	3,738	5,480
LLF G-43 LL	645	8,977	9,623
HLF G-53 LLL90	1,871	3,492	5,363
HLF G-54 LLG90	419	1,001	1,421
TOTAL	11,806	153,832	165,638

HLF	4,871	10,679	15,550
LLF	6,935	143,152	150,088
Total	11,806	153,832	165,638

Allocate Class Design Day Throughput to Supply Sources

	Base			Sub-total			Storage	Peaking	Total
	Pipeline	Remaining Pipeline	Pipeline	Pipeline	Pipeline	Pipeline			
R-1 RNSH	97	382	478	99	62.97	641			
R-3 RSH	3,484	48,212	51,696	12,561	7,955	72,211			
G-41 SL	968	20,441	21,408	5,326	3,373	30,106			
G-51 SH	742	1,336	2,078	348	220	2,646			
G-42 ML	1,839	25,470	27,309	6,636	4,203	38,148			
G-52 MH	1,742	2,622	4,364	683	433	5,480			
G-43 LL	645	6,298	6,943	1,641	1,039	9,623			
G-53 LLL90	1,871	2,449	4,320	638	404	5,363			
G-54 LLG90	419	702	1,122	183	116	1,421			
TOTAL	11,806	107,912	119,718	28,115	17,805	165,638			

HLF	4,871	7,491	12,362	1,952	1,236	15,550
LLF	6,935	100,420	107,356	26,163	16,569	150,088
Total	11,806	107,912	119,718	28,115	17,805	165,638

% of Peak Day Requirement

	Pipeline	Storage	Peaking	Total
R-1 RNSH	74.7%	15.5%	9.8%	100.0%
R-3 RSH	71.6%	17.4%	11.0%	100.0%
G-41 SL	71.1%	17.7%	11.2%	100.0%
G-51 SH	78.5%	13.2%	8.3%	100.0%
G-42 ML	71.6%	17.4%	11.0%	100.0%
G-52 MH	79.6%	12.5%	7.9%	100.0%
G-43 LL	72.2%	17.1%	10.8%	100.0%
G-53 LLL90	80.6%	11.9%	7.5%	100.0%
G-54 LLG90	79.0%	12.9%	8.2%	100.0%
TOTAL	72.3%	17.0%	10.7%	100.0%

High Load Factor	79.50%	12.55%	7.95%	100%
Low Load Factor	71.53%	17.43%	11.04%	100%
Total	72.28%	16.97%	10.75%	100%

Liberty Utilities (EnergyNorth Natural Gas) Corp

**Calculation of Capacity Allocators
Docket No DE 98-124**

Allocate Design Day Sendout

Calculate Design Day Throughput (BBTU)

Design DD	69.39			
	Daily Baseload * 1000	Heating Factor * 1000	Heat load (Heating Factor * Design DD)	Total
R-1 RNSH	97	7.81	542	639
R-3 RSH	3,484	986.86	68,478	71,962
G-41 SL	968	418.40	29,033	30,001
G-51 SH	742	27.34	1,897	2,639
G-42 ML	1,839	521.36	36,177	38,016
G-52 MH	1,742	53.67	3,724	5,466
G-43 LL	645	128.91	8,945	9,590
G-53 LLL90	1,871	50.14	3,479	5,350
G-54 LLG90	419	14.38	998	1,417
TOTAL	11,806	2,152.00	153,273	165,079
HLF	4,871	153	10,640	15,511
LLF	6,935	1,999	142,633	149,568
Total	11,806	2,152	153,273	165,079
Design Day from 2022-2023 COG				165,638
Design Day from Gas Load Calculation				165,079
Variance				559

**Allocate Design Day Sendout to
Rate Classes**

	Baseload as % of Total Class Load	Heat Load as % of Total	Base Load	Heat Load	Total
	15%	0.354%	97	544	641
	5%	44.677%	3,484	68,728	72,211
	3%	18.942%	968	29,139	30,106
	28%	1.238%	742	1,904	2,646
	5%	23.603%	1,839	36,309	38,148
	32%	2.430%	1,742	3,738	5,480
	7%	5.836%	645	8,977	9,623
	35%	2.270%	1,871	3,492	5,363
	30%	0.651%	419	1,001	1,421
		100.000%	11,806	153,832	165,638

Liberty Utilities (EnergyNorth Natural Gas) Corp

Calculation of Capacity Allocators
Docket No DE 98-124

Schedule 22
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CALCULATION OF NORMAL SALES VOLUMES

Actual Volumes

Total Core Sales Volumes(000's) MMBTU

		Nov-21	Dec-21	Jan-22	Feb-22	Mar-22	Apr-22	May-21	Jun-21	Jul-21	Aug-21	Sep-21	Oct-21	Total	Monthly Baseload	Daily Baseload
															(Jul+Aug)/2	Daily Baseload
HLF	R-1 RNSH	7	9	10	9	9	6	5	4	3	3	4	5	74	3 000	0 097
LLF	R-3 RSH	671	1,009	1,175	993	835	507	285	139	108	110	183	435	6,450	108 000	3 484
LLF	G-41 SL	257	412	497	416	345	203	98	41	30	30	51	125	2,505	30 000	0 968
HLF	G-51 SH	35	46	50	42	44	29	26	23	23	23	24	31	396	23 000	0 742
LLF	G-42 ML	351	533	626	525	457	265	151	74	57	58	102	205	3,404	57 000	1 839
HLF	G-52 MH	82	103	113	93	95	67	58	54	56	56	57	68	902	54 000	1 742
LLF	G-43 LL	87	127	153	128	119	65	42	24	20	22	33	53	873	20 000	0 645
HLF	G-53 LLL90	80	93	106	87	91	82	67	58	59	60	63	74	920	58 000	1 871
HLF	G-54 LLL110	17	21	19	16	17	20	15	14	14	14	13	16	196	13 000	0 419
HLF	G-99 LLG110															
	TOTAL	1,587	2,353	2,749	2,309	2,012	1,244	747	431	370	376	530	1,012	15,720	373 000	12 032
	HLF	221	272	298	247	256	204	171	153	155	156	161	194	2,488	151 000	5 016
	LLF	1,366	2,081	2,451	2,062	1,756	1,040	576	278	215	220	369	818	13,232	215 000	7 016

Baseload (= the lesser of actual volumes or the average of July and August volumes)

		Nov-21	Dec-21	Jan-22	Feb-22	Mar-22	Apr-22	May-21	Jun-21	Jul-21	Aug-21	Sep-21	Oct-21	Total
		30	31	31	28	31	30	31	30	31	31	30	31	365
HLF	R-1 RNSH	3	3	3	3	3	3	3	3	3	3	3	3	35
LLF	R-3 RSH	105	108	108	98	108	105	108	105	108	110	105	108	1,272
LLF	G-41 SL	29	30	30	27	30	29	30	29	30	30	29	30	353
HLF	G-51 SH	22	23	23	21	23	22	23	22	23	23	22	23	271
LLF	G-42 ML	55	57	57	51	57	55	57	55	57	58	55	57	671
HLF	G-52 MH	52	54	54	49	54	52	54	52	56	56	52	54	636
LLF	G-43 LL	19	20	20	18	20	19	20	19	20	22	19	20	235
HLF	G-53 LLL90	56	58	58	52	58	56	58	56	59	60	56	58	683
HLF	G-54 LLL110	13	13	13	12	13	13	13	13	14	14	13	13	153
HLF	G-63 LLL110	0	0	0	0	0	0	0	0	0	0	0	0	0
	TOTAL	354	366	366	331	366	354	366	354	370	376	354	366	4,309
	HLF	146	151	151	136	151	146	151	146	155	156	146	151	1,778
	LLF	208	215	215	194	215	208	215	208	215	220	208	215	2,531

Liberty Utilities (EnergyNorth Natural Gas) Corp

Calculation of Capacity Allocators
Docket No DE 98-124

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Heating Volumes (= Actual Volumes - Baseload)

	Nov-21	Dec-21	Jan-22	Feb-22	Mar-22	Apr-22	May-21	Jun-21	Jul-21	Aug-21	Sep-21	Oct-21	Total
HLF R-1 RNSH	4	6	7	6	6	3	2	1	0	0	1	2	39
LLF R-3 RSH	566	901	1,067	895	727	402	177	34	0	0	78	327	5,178
LLF G-41 SL	228	382	467	389	315	174	68	12	0	0	22	95	2,152
HLF G-51 SH	13	23	27	21	21	7	3	1	0	0	2	8	125
LLF G-42 ML	296	476	569	474	400	210	94	19	0	0	47	148	2,733
HLF G-52 MH	30	49	59	44	41	15	4	2	0	0	5	14	266
LLF G-43 LL	68	107	133	110	99	46	22	5	0	0	14	33	638
HLF G-53 LLL90	24	35	48	35	33	26	9	2	0	0	7	16	237
HLF G-54 LLL110	4	8	6	4	4	7	2	1	0	0	0	3	43
HLF G-63 LLG110	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL	1,233	1,987	2,383	1,978	1,646	890	381	77	0	0	176	646	11,411

HLF	75	121	147	111	105	58	20	7	0	0	15	43	710
LLF	1,158	1,866	2,236	1,868	1,541	832	361	70	0	0	161	603	10,701

Actual HDD	694.0	913.0	1293.0	943.0	768.0	516.0	181.0	8.0	19.0	0.0	33.0	241.0	5609.0
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Heat Factors

	Nov-21	Dec-21	Jan-22	Feb-22	Mar-22	Apr-22	May-21	Jun-21	Jul-21	Aug-21	Sep-21	Oct-21	Total	AVG	AVG Peak
HLF R-1 RNSH	0.0059	0.0066	0.0054	0.0067	0.0078	0.0060	0.0110	0.1371	0.0000	0.0000	0.0332	0.0083	0.0078	0.0190	0.0064
LLF R-3 RSH	0.8163	0.9869	0.8252	0.9496	0.9466	0.7800	0.9779	4.3105	0.0000	0.0000	2.3783	1.3568	0.9496	1.1940	0.8841
LLF G-41 SL	0.3285	0.4184	0.3612	0.4124	0.4102	0.3371	0.3757	1.4960	0.0000	0.0000	0.6657	0.3942	0.4124	0.4333	0.3780
HLF G-51 SH	0.0184	0.0252	0.0209	0.0225	0.0273	0.0131	0.0166	0.0927	0.0000	0.0000	0.0528	0.0332	0.0273	0.0269	0.0212
LLF G-42 ML	0.4263	0.5214	0.4401	0.5021	0.5208	0.4067	0.5193	2.3548	0.0000	0.0000	1.4194	0.6141	0.5208	0.6437	0.4696
HLF G-52 MH	0.0429	0.0537	0.0456	0.0469	0.0534	0.0286	0.0221	0.2177	0.0000	0.0000	0.1437	0.0581	0.0534	0.0594	0.0452
LLF G-43 LL	0.0975	0.1172	0.1029	0.1166	0.1289	0.0885	0.1215	0.5806	0.0000	0.0000	0.4135	0.1369	0.1289	0.1587	0.1086
HLF G-53 LLL90	0.0344	0.0383	0.0371	0.0367	0.0430	0.0501	0.0497	0.2339	0.0000	0.0000	0.2082	0.0664	0.0430	0.0665	0.0399
HLF G-54 LLL110	0.0064	0.0088	0.0046	0.0045	0.0052	0.0144	0.0110	0.1774	0.0000	0.0000	0.0127	0.0124	0.0088	0.0215	0.0073
HLF G-63 LLG110	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
TOTAL	1.7764	2.1763	1.8430	2.0980	2.1432	1.7244	2.1050	9.6008	0.0000	0.0000	5.3275	2.6805	2.1520	2.6229	1.9602

Liberty Utilities (EnergyNorth Natural Gas) Corp

Calculation of Capacity Allocators
Docket No DE 98-124

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Actual HDD	694.0	913.0	1,293.0	943.0	768.0	516.0	181.0	8.0	19.0	0.0	33.0	241.0	5609.0
Norm HDD	717.0	1,044.0	1,220.0	1,041.0	896.0	516.0	231.0	49.0	5.0	8.0	101.0	405.0	6233.0

Normal Volumes (= Heating Volumes * Normal HDD/Actual HDD + Baseload)

		Nov-21	Dec-21	Jan-22	Feb-22	Mar-22	Apr-22	May-21	Jun-21	Jul-21	Aug-21	Sep-21	Oct-21	Total
HLF	R-1 RNSH	7	10	10	10	10	6	6	10	3	3	6	6	86
LLF	R-3 RSH	690	1,138	1,115	1,086	956	507	334	316	108	110	345	658	7,362
LLF	G-41 SL	265	467	471	456	398	203	117	102	30	30	96	190	2,824
HLF	G-51 SH	35	49	48	44	48	29	27	27	23	23	28	36	418
LLF	G-42 ML	361	601	594	574	524	265	177	171	57	58	199	306	3,886
HLF	G-52 MH	83	110	110	98	102	67	59	63	56	56	67	78	947
LLF	G-43 LL	89	142	145	139	136	65	48	48	20	22	61	75	991
HLF	G-53 LLL90	81	98	103	91	97	82	69	68	59	60	77	85	969
HLF	G-54 LLL110	17	22	19	16	18	20	16	21	14	14	14	18	209
HLF	G-63 LLG110	-	-	-	-	-	-	-	-	-	-	-	-	-
	TOTAL	1,628	2,638	2,614	2,515	2,286	1,244	852	825	370	376	892	1,452	17,692

HLF	223	289	290	258	274	204	177	188	155	156	192	223	2,629
LLF	1,404	2,349	2,325	2,256	2,013	1,040	676	636	215	220	701	1,228	15,063

Liberty Utilities (EnergyNorth Natural Gas) Corp. d/b/a Liberty
Peak 2022 - 2023 Winter Cost of Gas Filing
Fixed Price Option

	Participation	Premium	FPO Volumes	Premium Revenue	Residential					C&I						
					FPO Rate	Average COG Rate	Residential Total Bill FPO Rate	Residential Total Bill COG Rate	Difference	% Difference	FPO Rate	Average COG Rate	C&I Total Bill FPO Rate	C&I Total Bill COG Rate	Difference	% Difference
1 Nov 98 - Mar 99	6.0%				0.3927	0.3722	943.3700	926.9333	\$ 16.44	1.77%	0.3927	0.3736	\$ 1,570.86	\$ 1,546.08	\$ 24.79	1.60%
2 Nov 99 - Mar 00	9.0%				0.4724	0.4628	679.8500	672.2235	\$ 7.63	1.13%	0.4724	0.4636	\$ 1,161.81	\$ 1,149.15	\$ 12.67	1.10%
3 Nov 00 - Mar 01	20.0%				0.6408	0.7656	816.2500	916.0900	\$ (99.84)	-10.90%	0.6408	0.7189	\$ 1,376.64	\$ 1,533.43	\$ (156.79)	-10.22%
4 Nov 01 - Apr 02	24.0%				0.5141	0.4818	790.6522	760.5504	\$ 30.10	3.96%	0.5238	0.4928	\$ 1,301.07	\$ 1,256.88	\$ 44.19	3.52%
5 Nov 02 - Apr 03	24.0%	0.0051	25,107,016	\$ 128,045.78	0.5553	0.5758	821.3224	840.4371	\$ (19.11)	-2.27%	0.5658	0.5860	\$ 1,344.02	\$ 1,372.86	\$ (28.84)	-2.10%
6 Nov 03 - Apr 04	23.0%	0.0219	25,220,575	\$ 552,330.59	0.8597	0.8220	1,115.5548	1,080.4628	\$ 35.09	3.25%	0.8759	0.8352	\$ 1,798.38	\$ 1,740.30	\$ 58.08	3.34%
7 Nov 04 - Apr 05	29.6%	0.0100	27,378,128	\$ 273,781.28	0.8925	0.9425	1,142.9556	1,189.5541	\$ (46.60)	-3.92%	0.9092	0.9562	\$ 1,844.75	\$ 1,911.86	\$ (67.10)	-3.51%
8 Nov 05 - Apr 06	29.8%	0.0200	25,944,091	\$ 518,881.82	1.2951	1.1342	1,526.0076	1,376.0122	\$ 150.00	10.90%	1.3192	1.1686	\$ 2,450.66	\$ 2,235.77	\$ 214.89	9.61%
9 Nov 06 - Apr 07	15.1%	0.0200	13,135,684	\$ 262,713.68	1.2664	1.1656	1,509.7908	1,415.8032	\$ 93.99	6.64%	1.2666	1.1647	\$ 2,321.15	\$ 2,175.70	\$ 145.45	6.68%
10 Nov 07 - Apr 08	15.8%	0.0200	14,078,553	\$ 281,571.06	1.2043	1.1746	1,433.0900	1,405.4000	\$ 27.69	1.97%	1.2044	1.1725	\$ 2,232.39	\$ 2,186.92	\$ 45.47	2.08%
11 Nov 08 - Apr 09	15.2%	0.0200	13,041,335	\$ 260,826.70	1.2835	1.0888	1,555.3140	1,373.8536	\$ 181.46	13.21%	1.2836	1.0958	\$ 2,467.49	\$ 2,199.54	\$ 267.95	12.18%
12 Nov 09 - Apr 10	11.4%	0.0200	8,405,413	\$ 168,108.26	0.9863	0.9416	1,250.8032	1,209.1161	\$ 41.69	3.45%	0.9865	0.9408	\$ 1,984.29	\$ 1,919.03	\$ 65.26	3.40%
13 Nov 10 - Apr 11	12.6%	0.0200	10,379,804	\$ 207,596.08	0.8420	0.8029	1,175.0264	1,138.5767	\$ 36.45	3.20%	0.8434	0.8030	\$ 1,880.96	\$ 1,823.34	\$ 57.63	3.16%
14 Nov 11 - Apr 12	11.9%	0.0200	7,835,197	\$ 156,703.94	0.8126	0.7309	1,165.6100	1,089.4400	\$ 76.17	6.99%	0.8129	0.7327	\$ 1,845.28	\$ 1,730.88	\$ 114.40	6.61%
15 Nov 12 - Apr 13	10.9%	0.0200	8,179,524	\$ 163,590.48	0.6919	0.7680	743.0298	792.4756	\$ (49.45)	-6.24%	0.6936	0.7724	\$ 1,989.86	\$ 2,132.90	\$ (143.03)	-6.71%
16 Nov 13 - Apr 14	10.5%	0.0200	8,930,779	\$ 178,615.58	0.9095	1.1086	857.7200	981.2100	\$ (123.49)	-12.59%	0.9108	1.1158	\$ 2,972.34	\$ 3,369.75	\$ (397.41)	-11.79%
17 Nov 14 - Apr 15	15.1%	0.0795	8,779,742	\$ 697,989.49	1.2425	0.8411	1,127.6600	948.0700	\$ 179.59	18.94%	0.5143	1.7336	\$ 2,135.42	\$ 2,340.00	\$ (204.58)	-8.74%
18 Nov 15 - Apr 16	15.3%	0.0200	4,941,157	\$ 98,823.14	0.7716	0.7516	869.1500	712.7315	\$ 156.42	21.95%						
19 Nov 16 - Apr 17	11.5%	0.0106	5,419,967	\$ 57,451.65	0.7268	0.7162	827.1400	812.3754	\$ 14.76	1.82%						
20 Nov 17 - Apr 18	10.6%	0.0200	5,298,900	\$ 105,978.00	0.6645	0.6445	878.7000	865.9400	\$ 12.76	1.47%						
21 Nov 18 - Apr 19	10.8%	0.0200	5,708,925	\$ 114,178.50	0.7611	0.7411	984.8300	972.1200	\$ 12.71	1.31%						
22 Nov 19 - Apr 20	7.2%	0.0200	3,447,167	\$ 68,943.34	0.6403	0.6203	930.4600	917.7400	\$ 12.72	1.39%						
23 Nov 20 - Apr 21	11.1%	0.0200	5,373,268	\$ 107,465.36	0.5771	0.5571	895.3200	882.6000	\$ 12.72	1.44%						
24 Nov 21 - Apr 22	12.0%	0.0200	5,800,339	\$ 116,006.78	1.1539	1.1339	1,333.3500	1,320.6300	\$ 12.72	0.96%						
25 Nov 22 - Apr 23					1.7535	1.7335	1,667.7565	1,655.3419	\$ 12.41	0.75%						
24 Total									\$ 785.03						\$ 53.01	

**Liberty Utilities (EnergyNorth Natural Gas) Corp. d/b/a Liberty
Peak 2022 - 2023 Winter Cost of Gas Filing
Short-Term Debt Limitations**

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	<u>For Purposes of Fuel Financing</u>	
Total Direct Gas Costs	\$	155,443,989
Total Indirect Gas Costs		<u>5,391,889</u>
Total Gas Costs	\$	160,835,879
% of Debt to Total Gas Costs		30%
Short Term Debt	\$	48,250,764
	<u>For Purposes Other Than Fuel Financing</u>	
12/31/2023 Projected Net Plant	\$	576,165,518
% of Debt to Net Plant		20%
Short Term Debt	\$	115,233,104

Liberty Utilities (EnergyNorth Natural Gas) Corp. d/b/a Liberty
2022 - 2023 Winter Cost of Gas Filing
Company Allowance Calculation &
Lost and Unaccounted For Gas ("LAUF") Calculation

Company Allowance Calculation

	Jul-2021	Aug-2021	Sep-2021	Oct-2021	Nov-2021	Dec-2021	Jan-2022	Feb-2022	Mar-2022	Apr-2022	May-2022	Jun-2022	Total
Total Sendout- Therms	5,442,090	5,497,110	5,819,000	8,688,720	17,720,430	23,111,810	32,399,870	24,437,270	20,340,550	13,464,370	7,737,350	5,719,140	170,377,710
Total Throughput- Therms	5,660,411	5,151,765	5,330,413	5,973,857	9,442,192	19,179,124	24,588,310	28,267,925	25,235,810	17,808,587	12,357,817	7,130,362	166,126,573
Variance	(218,321)	345,345	488,587	2,714,863	8,278,238	3,932,686	7,811,560	(3,830,655)	(4,895,260)	(4,344,217)	(4,620,467)	(1,411,222)	4,251,137
Company Allowance													2.50%

Lost and Unaccounted For Gas ("LAUF") Calculation

	Jul-2021	Aug-2021	Sep-2021	Oct-2021	Nov-2021	Dec-2021	Jan-2022	Feb-2022	Mar-2022	Apr-2022	May-2022	Jun-2022	Total
Total Sendout- Therms	5,442,090	5,497,110	5,819,000	8,688,720	17,720,430	23,111,810	32,399,870	24,437,270	20,340,550	13,464,370	7,737,350	5,719,140	170,377,710
Total Throughput- Therms	5,660,411	5,151,765	5,330,413	5,973,857	9,442,192	19,179,124	24,588,310	28,267,925	25,235,810	17,808,587	12,357,817	7,130,362	166,126,573
Company Use	4,279	3,683	4,176	5,423	15,918	27,834	54,807	49,573	39,450	25,474	9,761	4,516	244,895
Variance	(222,601)	341,662	484,411	2,709,440	8,262,320	3,904,852	7,756,752	(3,880,228)	(4,934,710)	(4,369,691)	(4,630,228)	(1,415,738)	4,006,241
LAUF													2.35%

Liberty Utilities (EnergyNorth Natural Gas) Corp. d/b/a Liberty
Fuel Inventory Revenue Requirement

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	(a)	(b)	(c)	(d)	(e)	(f)	(g)
1		5 Quarter Avg	Q2 2021	Q3 2021	Q4 2021	Q1 2022	Q2 2022
2	Gas Stored Underground	\$ 3,558,724	\$ 2,088,182	\$ 4,691,440	\$ 4,613,879	\$ 937,996	\$ 5,462,121
3	Fuel Stock - Propane	\$ 999,078	\$ 835,646	\$ 1,493,834	\$ 1,469,329	\$ 629,733	\$ 566,849
4	UG Storage - LNG	\$ 75,141	\$ 44,351	\$ 45,826	\$ 90,614	\$ 75,930	\$ 118,983
5		\$ 4,632,943					
6	ROR	8.76%	Pre-Tax Rate of 6.64% and Statutory Tax Rate of 27.08%				
		\$ 405,726					
7	Income Tax Gross-up	1.2708					
8	Revenue Requirement	<u>\$ 515,609</u>					

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II RATE SCHEDULES

FIRM RATE SCHEDULES EXCLUDING KEENE CUSTOMERS

Rates effective November 1, 2022 - April 30, 2023
Winter Period

Rates Effective May 1, 2023 - October 31, 2023
Summer Period

	<u>Delivery Charge</u>	<u>Cost of Gas Rate Page 95</u>	<u>LDAC Page 101</u>	<u>Total Rate</u>	<u>Delivery Charge</u>	<u>Cost of Gas Rate Page 92</u>	<u>LDAC Page 101</u>	<u>Total Rate</u>
Residential Non Heating - R-1								
Customer Charge per Month per Meter	\$ 15.39			\$ 15.39	\$ 15.39			\$ 15.39
All therms	\$ 0.4873	\$ 1.7335	\$ 0.1508	\$ 2.37	\$ 0.4873	\$ 1.0109	\$ 0.1508	\$ 1.6490
Residential Heating - R-3								
Customer Charge per Month per Meter	\$ 15.39			\$ 15.39	\$ 15.39			\$ 15.39
All therms								
Therms in the first block per month at	\$ 0.6337	\$ 1.7335	\$ 0.1508	\$ 2.5180	\$ 0.6337	\$ 1.0109	\$ 0.1508	\$ 1.7954
Residential Heating - R-4								
Customer Charge per Month per Meter	\$ 8.47			\$ 8.47	\$ 15.39			\$ 15.39
All therms								
Therms in the first block per month at	\$ 0.3485	\$ 0.9534	\$ 0.1508	\$ 1.4527	\$ 0.6337	\$ 1.0109	\$ 0.1508	\$ 1.7954
Commercial/Industrial - G-41								
Customer Charge per Month per Meter	\$ 62.03			\$ 62.03	\$ 62.03			\$ 62.03
Size of the first block	100 therms				20 therms			
Therms in the first block per month at	\$ 0.5007	\$ 1.7336	\$ 0.0926	\$ 2.3269	\$ 0.5007	\$ 1.0111	\$ 0.0926	\$ 1.6044
All therms over the first block per month at	\$ 0.3469	\$ 1.7336	\$ 0.0926	\$ 2.1731	\$ 0.3469	\$ 1.0111	\$ 0.0926	\$ 1.4506
Commercial/Industrial - G-42								
Customer Charge per Month per Meter	\$ 186.03			\$ 186.03	\$ 186.03			\$ 186.03
Size of the first block	1000 therms				400 therms			
Therms in the first block per month at	\$ 0.4558	\$ 1.7336	\$ 0.0915	\$ 2.2809	\$ 0.4558	\$ 1.0111	\$ 0.0926	\$ 1.5595
All therms over the first block per month at	\$ 0.3136	\$ 1.7336	\$ 0.0915	\$ 2.1387	\$ 0.3136	\$ 1.0111	\$ 0.0926	\$ 1.4173
Commercial/Industrial - G-43								
Customer Charge per Month per Meter	\$ 796.32			\$ 796.32	\$ 796.32			\$ 796.32
All therms over the first block per month at	\$ 0.2814	\$ 1.7336	\$ 0.0915	\$ 2.1065	\$ 0.1392	\$ 1.0111	\$ 0.0926	\$ 1.2429
Commercial/Industrial - G-51								
Customer Charge per Month per Meter	\$ 62.08			\$ 62.08	\$ 62.08			\$ 62.08
Size of the first block	100 therms				100 therms			
Therms in the first block per month at	\$ 0.3020	\$ 1.7331	\$ 0.0915	\$ 2.1266	\$ 0.3020	\$ 1.0106	\$ 0.0926	\$ 1.4052
All therms over the first block per month at	\$ 0.2034	\$ 1.7331	\$ 0.0915	\$ 2.0280	\$ 0.2034	\$ 1.0106	\$ 0.0926	\$ 1.3066
Commercial/Industrial - G-52								
Customer Charge per Month per Meter	\$ 185.80			\$ 185.80	\$ 185.80			\$ 185.80
Size of the first block	1000 therms				1000 therms			
Therms in the first block per month at	\$ 0.2602	\$ 1.7331	\$ 0.0915	\$ 2.0848	\$ 0.1933	\$ 1.0106	\$ 0.0926	\$ 1.2965
All therms over the first block per month at	\$ 0.1791	\$ 1.7331	\$ 0.0915	\$ 2.0037	\$ 0.1174	\$ 1.0106	\$ 0.0926	\$ 1.2206
Commercial/Industrial - G-53								
Customer Charge per Month per Meter	\$ 821.64			\$ 821.64	\$ 821.64			\$ 821.64
All therms over the first block per month at	\$ 0.1819	\$ 1.7331	\$ 0.0915	\$ 2.0065	\$ 0.0936	\$ 1.0106	\$ 0.0926	\$ 1.1968
Commercial/Industrial - G-54								
Customer Charge per Month per Meter	\$ 821.64			\$ 821.64	\$ 821.64			\$ 821.64
All therms over the first block per month at	\$ 0.0693	\$ 1.7331	\$ 0.0915	\$ 1.8939	\$ 0.0397	\$ 1.0106	\$ 0.0926	\$ 1.1429

Issued: ~~October xx, 2024~~ October xx, 2022
Effective: ~~November 1, 2024~~ November 1, 2022

Issued by: _____
Neil Proudman
Title: President

Issued in compliance with NHPUC Order No. xx,xxx dated xxxx xx, 2022 in Docket DG 22-xxx.
~~Issued in compliance with NHPUC Order No. 26,664 dated July 27, 2022 in Docket DG 20-105~~

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II RATE SCHEDULES
FIRM RATE SCHEDULES

	Rates effective November 1, 2022 - April 30, 2023 Winter Period				Rates Effective May 1, 2023 - October 31, 2023 Summer Period			
	Delivery Charge	Cost of Gas Rate Page 95	LDAC Page 101	Total Rate	Delivery Charge	Cost of Gas Rate Page 92	LDAC Page 101	Total Rate
Residential Non Heating - R-5								
Customer Charge per Month per Meter	\$ 20.01			\$ 20.01	\$ 20.01			\$ 20.01
All therms	\$ 0.6335	\$ 1.7335	\$ 0.1492	\$ 2.5162	\$ 0.6335	\$ 1.0109	\$ 0.1508	\$ 1.7952
Residential Heating - R-6								
Customer Charge per Month per Meter	\$ 20.01			\$ 20.01	\$ 20.01			\$ 20.01
All therms	\$ 0.8238	\$ 1.7335	\$ 0.1492	\$ 2.7065	\$ 0.8238	\$ 1.0109	\$ 0.1508	\$ 1.9855
Residential Heating - R-7								
Customer Charge per Month per Meter	\$ 11.01			\$ 11.01	\$ 20.01			\$ 20.01
All therms	\$ 0.4531	\$ 0.9534	\$ 0.1492	\$ 1.5557	\$ 0.8238	\$ 1.0109	\$ 0.1508	\$ 1.9855
Commercial/Industrial - G-44								
Customer Charge per Month per Meter	\$ 80.64			\$ 80.64	\$ 80.64			\$ 80.6400
Size of the first block	100 therms							
Therms in the first block per month at	\$ 0.6509	\$ 1.7336	\$ 0.0915	\$ 2.4760	\$ 0.6509	\$ 1.0111	\$ 0.0915	\$ 1.7535
All therms over the first block per month at	\$ 0.4509	\$ 1.7336	\$ 0.0926	\$ 2.2771	\$ 0.4509	\$ 1.0111	\$ 0.0915	\$ 1.5103
Commercial/Industrial - G-45								
Customer Charge per Month per Meter	\$ 241.83			\$ 241.83	\$ 241.83			\$ 241.83
Size of the first block	1000 therms				400 therms			
Therms in the first block per month at	\$ 0.5925	\$ 1.7336	\$ 0.0926	\$ 2.4187	\$ 0.5925	\$ 1.0111	\$ 0.0915	\$ 1.6951
All therms over the first block per month at	\$ 0.4077	\$ 1.7336	\$ 0.0926	\$ 2.2339	\$ 0.4077	\$ 1.0111	\$ 0.0915	\$ 1.5103
Commercial/Industrial - G-46								
Customer Charge per Month per Meter	\$ 1,035.22			\$ 1,035.22	\$ 1,035.22			\$ 1,035.22
All therms over the first block per month at	\$ 0.3659	\$ 1.7336	\$ 0.0926	\$ 2.1921	\$ 0.1810	\$ 1.0111	\$ 0.0915	\$ 1.2836
Commercial/Industrial - G-55								
Customer Charge per Month per Meter	\$ 80.70			\$ 80.70	\$ 80.70			\$ 80.70
Size of the first block	100 therms				100 therms			
Therms in the first block per month at	\$ 0.3927	\$ 1.7331	\$ 0.0926	\$ 2.2184	\$ 0.3927	\$ 1.0106	\$ 0.0915	\$ 1.4948
All therms over the first block per month at	\$ 0.2645	\$ 1.7331	\$ 0.0926	\$ 2.0902	\$ 0.2645	\$ 1.0106	\$ 0.0915	\$ 1.3666
Commercial/Industrial - G-56								
Customer Charge per Month per Meter	\$ 241.54			\$ 241.54	\$ 241.54			\$ 241.54
Size of the first block	1000 therms				1000 therms			
Therms in the first block per month at	\$ 0.3383	\$ 1.7331	\$ 0.0926	\$ 2.1640	\$ 0.2513	\$ 1.0106	\$ 0.0915	\$ 1.3534
All therms over the first block per month at	\$ 0.2328	\$ 1.7331	\$ 0.0926	\$ 2.0585	\$ 0.1526	\$ 1.0106	\$ 0.0915	\$ 1.2547
Commercial/Industrial - G-57								
Customer Charge per Month per Meter	\$ 1,068.14			\$ 1,068.14	\$ 1,068.14			\$ 1,068.14
All therms over the first block per month at	\$ 0.2365	\$ 1.7331	\$ 0.0926	\$ 2.0622	\$ 0.1217	\$ 1.0106	\$ 0.0915	\$ 1.2238
Commercial/Industrial - G-58								
Customer Charge per Month per Meter	\$ 1,068.14			\$ 1,068.14	\$ 1,068.14			\$ 1,068.14
All therms over the first block per month at	\$ 0.0901	\$ 1.7331	\$ 0.0926	\$ 1.9158	\$ 0.0516	\$ 1.0106	\$ 0.0915	\$ 1.1537

Issued: ~~October xx, 2021~~

October xx, 2022

Issued by:

Effective: November 1, 2024

November 1, 2022

Neil Proudman
President

Issued in compliance with NHPUC Order No. xx,xxx dated xxxx xx, 2022 in Docket DG 22-xxx.

**NHPUC NO. 11 - GAS
LIBERTY UTILITIES**

**Proposed Third Revised Page 91
Superseding Proposed Second Revised Page 91**

Anticipated Cost of Gas

**PERIOD COVERED SUMMER PERIOD, MAY 1, 2023 THROUGH OCTOBER 31, 2023
(REFER TO TEXT IN SECTION 16 COST OF GAS CLAUSE)**

(Col 1)	(Col 2)	(Col 3)
<u>ANTICIPATED DIRECT COST OF GAS</u>		
Purchased Gas		
Demand Costs:	\$ 3,233,514	
Supply Costs:	11,326,100	
Storage Gas		
Demand, Capacity:	\$ -	
Commodity Costs:	-	
Produced Gas		
	\$ 159,140	
Hedged Contract (Savings)/Loss		
	<u>\$ -</u>	
Unadjusted Anticipated Cost of Gas		\$ 14,718,754
Adjustments		
Prior Period (Over)/Under Recovery (as of 9/1/2022 estimated COG)	\$ 7,499,663	
Interest	351,995	
Prior Period Adjustments	-	
Broker Revenues	-	
Refunds from Suppliers	-	
Fuel Financing	-	
Transportation CGA Revenues	-	
Interruptible Sales Margin	-	
Capacity Release Margin	-	
Hedging Costs	-	
Fixed Price Option Administrative Costs	-	
Total Adjustments		<u>7,851,658</u>
Total Anticipated Direct Cost of Gas		\$ 22,570,412
Anticipated Indirect Cost of Gas		
Working Capital		
Total Unadjusted Anticipated Cost of Gas 05/01/23 - 10/31/23)	\$ 14,718,754	
Working Capital Rate - Lead Lag Days / 365	0.0039	
Prime Rate	5.50%	
Working Capital Percentage	0.021%	
Working Capital	\$ 3,137	
Plus: Working Capital Reconciliation (Acct 1163-1424)	<u>69,182</u>	
Total Working Capital Allowance		\$ 72,320
Bad Debt		
Total Unadjusted Anticipated Cost of Gas 05/01/23 - 10/31/23)	\$ 14,718,754	
Less: Refunds	-	
Plus: Total Working Capital	72,320	
Plus: Prior Period (Over)/Under Recovery	<u>7,499,663</u>	
Subtotal	\$ 22,290,737	
Bad Debt Percentage	<u>0.86%</u>	
Bad Debt Allowance	\$ 191,957	
Plus: Bad Debt Reconciliation (Acct 1163-1754)	<u>1,016,834</u>	
Total Bad Debt Allowance		1,208,791
Production and Storage Capacity		
Miscellaneous Overhead (05/01/19 - 10/31/19)	\$ -	
Times Summer Sales	23,649	
Divided by Total Sales	<u>116,430</u>	
Miscellaneous Overhead		<u>-</u>
Total Anticipated Indirect Cost of Gas		\$ 1,281,111
Total Cost of Gas		\$ 23,851,523

Issued: October xx, 2022

Issued by: _____

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Title: Neil Proudman
President

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NHPUC NO. 11 - GAS
LIBERTY UTILITIES

Proposed Fourth Revised Page 92
Superseding Proposed Third Revised Page 92

CALCULATION OF FIRM SALES COST OF GAS RATE
PERIOD COVERED: SUMMER PERIOD, MAY 1, 2023 THROUGH OCTOBER 31, 2023
(Refer to Text in Section 17 Cost of Gas Clause)

(Col 1)	(Col 2)	(Col 3)
Total Anticipated Direct Cost of Gas	\$ 22,570,412	
Projected Prorated Sales (05/01/23 - 10/31/23)	23,648,905	
Direct Cost of Gas Rate		\$ 0.9544 per therm
Demand Cost of Gas Rate	\$ 3,233,514	\$ 0.1367 per therm
Commodity Cost of Gas Rate	11,485,240	\$ 0.4857 per therm
Adjustment Cost of Gas Rate	<u>7,851,658</u>	<u>\$ 0.3320 per therm</u>
Total Direct Cost of Gas Rate	\$ 22,570,412	\$ 0.9544 per therm
Total Anticipated Indirect Cost of Gas	\$ 1,335,482	
Projected Prorated Sales (05/01/23 - 10/31/23)	23,648,905	
Indirect Cost of Gas		\$ 0.0565 per therm
TOTAL PERIOD AVERAGE COST OF GAS EFFECTIVE 05/01/23:		\$ 1.0109 per therm

RESIDENTIAL COST OF GAS RATE - 05/01/2023:	COGsr	\$ 1.0109 /therm
---	--------------	-------------------------

COM/IND HIGH WINTER USE COST OF GAS RATE - 05/01/2023:	COGsh	\$ 1.0111 /therm
---	--------------	-------------------------

Average Demand Cost of Gas Rate Effective 05/01/23	\$ 0.1367		
Times: High Winter Use Ratio (Summer)	1.0005	Maximum (COG + 25%)	\$ 1.2639
Times: Correction Factor	<u>1.0009</u>		
Adjusted Demand Cost of Gas Rate	<u>\$ 0.1369</u>		
Commodity Cost of Gas Rate	\$ 0.4857		
Adjustment Cost of Gas Rate	0.3320		
Indirect Cost of Gas Rate	<u>0.0565</u>		
Adjusted Com/Ind High Winter Use Cost of Gas Rate	<u>\$ 1.0111</u>		

Maximum (COG + 25%) \$ 1.2636

COM/IND LOW WINTER USE COST OF GAS RATE - 05/01/2023:	COGsl	\$ 1.0106 /therm
--	--------------	-------------------------

Average Demand Cost of Gas Rate Effective 05/01/23	\$ 0.1367		
Times: Low Winter Use Ratio (Summer)	0.9971	Maximum (COG + 25%)	\$ 1.2633
Times: Correction Factor	<u>1.0009</u>		
Adjusted Demand Cost of Gas Rate	<u>\$ 0.1364</u>		
Commodity Cost of Gas Rate	\$ 0.4857		
Adjustment Cost of Gas Rate	0.3320		
Indirect Cost of Gas Rate	<u>0.0565</u>		
Adjusted Com/Ind Low Winter Use Cost of Gas Rate	<u>\$ 1.0106</u>		

Issued: October xx, 2024 October xx, 2022
Effective: November 1, 2024 November 1, 2022

Issued by: _____
Neil Proudman
Title: President

Issued in compliance with NHPUC Order No. xx,xxx dated xxxx xx, 2022 in Docket DG 22-xxx.

NHPUC NO. 11 - GAS
LIBERTY UTILITIES

Proposed Sixteenth Revised Page 87
Superseding Proposed Fifteenth Revised Page 87

II RATE SCHEDULES
FIRM RATE SCHEDULES

Rates effective November 1, 2022 - April 30, 2023
Rates effective November 1, 2021 - April 30, 2021

Rates Effective May 1, 2023 - October 31, 2023
Rates Effective May 1, 2021 - October 31, 2021

	Winter Period				Summer Period			
	Delivery Charge	Cost of Gas Rate Page 95	LDAC Page 101	Total Rate	Delivery Charge	Cost of Gas Rate Page 92	LDAC Page 101	Total Rate
Residential Non Heating - R-1	\$ 15.39			\$ 15.39	\$ 15.39			\$ 15.39
Customer Charge per Month per Meter	\$ 15.39			\$ 15.39	\$ 15.39			\$ 15.39
All Therms	\$ 0.4873	\$ 1.7335	\$ 0.1508	\$ 2.3716	\$ 0.4873	\$ 1.0109	\$ 0.1508	\$ 1.6490
	\$ 0.3844	\$ 1.1747	\$ 0.1318	\$ 1.6909	\$ 0.4873	\$ 0.4914	\$ 0.1318	\$ 1.1105
Residential Heating - R-3	\$ 15.39			\$ 15.39	\$ 15.39			\$ 15.39
Customer Charge per Month per Meter	\$ 15.39			\$ 15.39	\$ 15.39			\$ 15.39
Size of the first block								
all therms	\$ 0.6337	\$ 1.7335	\$ 0.1508	\$ 2.5180	\$ 0.6337	\$ 1.0109	\$ 0.1508	\$ 1.7954
Therms in the first block per month at	\$ 0.5632	\$ 1.1747	\$ 0.1318	\$ 1.8697	\$ 0.6337	\$ 0.4914	\$ 0.1318	\$ 1.2569
	\$ 8.47			\$ 8.47	\$ 15.39			\$ 15.39
Residential Heating - R-4	\$ 8.47			\$ 8.47	\$ 15.39			\$ 15.39
Customer Charge per Month per Meter	\$ 8.47			\$ 8.47	\$ 15.39			\$ 15.39
Size of the first block								
all therms	\$ 0.3485	\$ 0.9534	\$ 0.1508	\$ 1.4527	\$ 0.6337	\$ 1.0109	\$ 0.1508	\$ 1.7954
Therms in the first block per month at	\$ 0.3098	\$ 0.6464	\$ 0.1318	\$ 1.0877	\$ 0.6337	\$ 0.4914	\$ 0.1318	\$ 1.2569
	\$ 57.06			\$ 57.06	\$ 62.03			\$ 62.03
Commercial/Industrial - G-41	\$ 62.03			\$ 62.03	\$ 62.03			\$ 62.03
Customer Charge per Month per Meter	\$ 62.03			\$ 62.03	\$ 62.03			\$ 62.03
Size of the first block								
100 therms	\$ 0.5007	\$ 1.7336	\$ 0.0926	\$ 2.3269	\$ 0.5007	\$ 1.0111	\$ 0.0926	\$ 1.6044
Therms in the first block per month at	\$ 0.4688	\$ 1.1749	\$ 0.0994	\$ 1.7428	\$ 0.5007	\$ 0.4868	\$ 0.0994	\$ 1.0866
All therms over the first block per month at	\$ 0.3469	\$ 1.7336	\$ 0.0926	\$ 2.1731	\$ 0.3469	\$ 1.0111	\$ 0.0926	\$ 1.4506
	\$ 0.3149	\$ 1.1749	\$ 0.0994	\$ 1.5899	\$ 0.3469	\$ 0.4868	\$ 0.0994	\$ 0.9328
	\$ 171.19			\$ 171.19	\$ 186.03			\$ 186.03
Commercial/Industrial - G-42	\$ 186.03			\$ 186.03	\$ 186.03			\$ 186.03
Customer Charge per Month per Meter	\$ 186.03			\$ 186.03	\$ 186.03			\$ 186.03
Size of the first block								
1000 therms	\$ 0.4558	\$ 1.7336	\$ 0.0915	\$ 2.2809	\$ 0.4558	\$ 1.0111	\$ 0.0926	\$ 1.5595
Therms in the first block per month at	\$ 0.4261	\$ 1.1749	\$ 0.0994	\$ 1.7094	\$ 0.4558	\$ 0.4868	\$ 0.0994	\$ 1.0417
All therms over the first block per month at	\$ 0.3136	\$ 1.7336	\$ 0.0915	\$ 2.1387	\$ 0.3136	\$ 1.0111	\$ 0.0926	\$ 1.4173
	\$ 0.2839	\$ 1.1749	\$ 0.0994	\$ 1.5579	\$ 0.3136	\$ 0.4868	\$ 0.0994	\$ 0.8995
	\$ 734.69			\$ 734.69	\$ 796.32			\$ 796.32
Commercial/Industrial - G-43	\$ 796.32			\$ 796.32	\$ 796.32			\$ 796.32
Customer Charge per Month per Meter	\$ 796.32			\$ 796.32	\$ 796.32			\$ 796.32
All therms over the first block per month at	\$ 0.2814	\$ 1.7336	\$ 0.0915	\$ 2.1065	\$ 0.1392	\$ 1.0111	\$ 0.0926	\$ 1.2429
	\$ 0.2620	\$ 1.1749	\$ 0.0994	\$ 1.5360	\$ 0.1392	\$ 0.4868	\$ 0.0994	\$ 0.7254
	\$ 57.06			\$ 57.06	\$ 62.08			\$ 62.08
Commercial/Industrial - G-51	\$ 62.08			\$ 62.08	\$ 62.08			\$ 62.08
Customer Charge per Month per Meter	\$ 62.08			\$ 62.08	\$ 62.08			\$ 62.08
Size of the first block								
100 therms	\$ 0.3020	\$ 1.7331	\$ 0.0926	\$ 2.1277	\$ 0.3020	\$ 1.0106	\$ 0.0926	\$ 1.4052
Therms in the first block per month at	\$ 0.2819	\$ 1.1732	\$ 0.0994	\$ 1.5542	\$ 0.3020	\$ 0.4985	\$ 0.0994	\$ 0.8996
All therms over the first block per month at	\$ 0.2034	\$ 1.7331	\$ 0.0926	\$ 2.0291	\$ 0.2034	\$ 1.0106	\$ 0.0926	\$ 1.3066
	\$ 0.1833	\$ 1.1732	\$ 0.0994	\$ 1.4556	\$ 0.2034	\$ 0.4985	\$ 0.0994	\$ 0.8040
	\$ 171.19			\$ 171.19	\$ 185.80			\$ 185.80
Commercial/Industrial - G-52	\$ 185.80			\$ 185.80	\$ 185.80			\$ 185.80
Customer Charge per Month per Meter	\$ 185.80			\$ 185.80	\$ 185.80			\$ 185.80
Size of the first block								
1000 therms	\$ 0.2602	\$ 1.7331	\$ 0.0915	\$ 2.0848	\$ 0.1933	\$ 1.0106	\$ 0.0926	\$ 1.2965
Therms in the first block per month at	\$ 0.2428	\$ 1.1732	\$ 0.0994	\$ 1.5151	\$ 0.1933	\$ 0.4985	\$ 0.0994	\$ 0.7909
All therms over the first block per month at	\$ 0.1791	\$ 1.7331	\$ 0.0915	\$ 2.0037	\$ 0.1174	\$ 1.0106	\$ 0.0926	\$ 1.2206
	\$ 0.1617	\$ 1.1732	\$ 0.0994	\$ 1.4340	\$ 0.1174	\$ 0.4985	\$ 0.0994	\$ 0.7160
	\$ 756.40			\$ 756.40	\$ 821.64			\$ 821.64
Commercial/Industrial - G-53	\$ 821.64			\$ 821.64	\$ 821.64			\$ 821.64
Customer Charge per Month per Meter	\$ 821.64			\$ 821.64	\$ 821.64			\$ 821.64
All therms over the first block per month at	\$ 0.1819	\$ 1.7331	\$ 0.0915	\$ 2.0065	\$ 0.0936	\$ 1.0106	\$ 0.0926	\$ 1.1968
	\$ 0.1697	\$ 1.1732	\$ 0.0994	\$ 1.4420	\$ 0.0936	\$ 0.4985	\$ 0.0994	\$ 0.6912
	\$ 756.40			\$ 756.40	\$ 821.64			\$ 821.64
Commercial/Industrial - G-54	\$ 821.64			\$ 821.64	\$ 821.64			\$ 821.64
Customer Charge per Month per Meter	\$ 821.64			\$ 821.64	\$ 821.64			\$ 821.64
All therms over the first block per month at	\$ 0.0693	\$ 1.7331	\$ 0.0915	\$ 1.8939	\$ 0.0397	\$ 1.0106	\$ 0.0926	\$ 1.1429
	\$ 0.0648	\$ 1.1731	\$ 0.0915	\$ 1.8894	\$ 0.0397	\$ 0.4985	\$ 0.0994	\$ 0.6373

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President

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NHPUC NO. 11 - GAS
LIBERTY UTILITIES

Proposed Sixteenth Revised Page 89
Superseding Proposed Fifteenth Revised Page 89

Rates effective November 1, 2022 - April 30, 2023
Rates effective November 1, 2021 - April 30, 2024
Winter Period

Rates Effective May 1, 2023 - October 31, 2023
Rates Effective May 1, 2021 - October 31, 2024
Summer Period

	Delivery Charge	Cost of Gas Rate Page 92	LDAC Charge	Total Rate	Delivery Charge	Cost of Gas Rate Page 89	LDAC Page 97	Total Rate
Residential Non Heating - R-5	\$ 20.04			\$ 20.04	\$ 20.04			\$ 20.04
Customer Charge per Month per Meter	\$ 20.01			\$ 20.01	\$ 20.01			\$ 20.01
All therms	\$ 0.6335	\$ 1.7335	\$ 0.1492	\$ 2.5162	\$ 0.6335	\$ 1.0109	\$ 0.1508	\$ 1.7952
	\$ 0.4997	\$ 1.1747	\$ 0.1318	\$ 1.8062	\$ 0.6335	\$ 1.2295	\$ 0.1318	\$ 1.9948
Residential Heating - R-6	\$ 20.04			\$ 20.04	\$ 20.04			\$ 20.04
Customer Charge per Month per Meter	\$ 20.01			\$ 20.01	\$ 20.01			\$ 20.01
All therms	\$ 0.8238	\$ 1.7335	\$ 0.1492	\$ 2.7065	\$ 0.8238	\$ 1.0109	\$ 0.1508	\$ 1.9855
	\$ 0.7322	\$ 1.1747	\$ 0.1318	\$ 2.0387	\$ 0.8238	\$ 1.2295	\$ 0.1318	\$ 2.1854
Residential Heating - R-7	\$ 11.04			\$ 11.04	\$ 20.04			\$ 20.04
Customer Charge per Month per Meter	\$ 11.01			\$ 11.01	\$ 20.01			\$ 20.01
All therms	\$ 0.4531	\$ 0.9534	\$ 0.1492	\$ 1.5557	\$ 0.8238	\$ 1.0109	\$ 0.1508	\$ 1.9855
	\$ 0.4027	\$ 0.6464	\$ 0.1318	\$ 1.1806	\$ 0.8238	\$ 1.2295	\$ 0.1318	\$ 2.1854
Commercial/Industrial - G-44	\$ 74.18			\$ 74.18	\$ 80.64			\$ 80.64
Customer Charge per Month per Meter	\$ 80.64			\$ 80.64	\$ 80.64			\$ 80.64
Size of the first block	100 therms				20 therms			
Therms in the first block per month at	\$ 0.6509	\$ 1.7336	\$ 0.0915	\$ 2.4760	\$ 0.5925	\$ 1.0111	\$ 0.0915	\$ 1.6951
	\$ 0.6094	\$ 1.1749	\$ 0.0994	\$ 1.8834	\$ 0.6509	\$ 1.2303	\$ 0.0994	\$ 1.9803
All therms over the first block per month a	\$ 0.4509	\$ 1.7336	\$ 0.0915	\$ 2.2760	\$ 0.4077	\$ 1.0111	\$ 0.0915	\$ 1.5103
	\$ 0.4094	\$ 1.1749	\$ 0.0994	\$ 1.6834	\$ 0.4510	\$ 1.2303	\$ 0.0994	\$ 1.7804
Commercial/Industrial - G-45	\$ 222.55			\$ 222.55	\$ 241.83			\$ 241.83
Customer Charge per Month per Meter	\$ 241.83			\$ 241.83	\$ 241.83			\$ 241.83
Size of the first block	1000 therms				400 therms			
Therms in the first block per month at	\$ 0.5925	\$ 1.7336	\$ 0.0926	\$ 2.4187	\$ 0.5925	\$ 1.0111	\$ 0.0915	\$ 1.6951
	\$ 0.5539	\$ 1.1749	\$ 0.0994	\$ 1.8279	\$ 0.5925	\$ 1.2303	\$ 0.0994	\$ 1.9219
All therms over the first block per month a	\$ 0.4077	\$ 1.7336	\$ 0.0926	\$ 2.2339	\$ 0.4077	\$ 1.0111	\$ 0.0915	\$ 1.5103
	\$ 0.3694	\$ 1.1749	\$ 0.0994	\$ 1.6434	\$ 0.4077	\$ 1.2303	\$ 0.0994	\$ 1.7374
Commercial/Industrial - G-46	\$ 965.10			\$ 965.10	\$ 961.78			\$ 961.78
Customer Charge per Month per Meter	\$ 1,035.22			\$ 1,035.22	\$ 1,035.22			\$ 1,035.22
All therms over the first block per month a	\$ 0.3659	\$ 1.7336	\$ 0.0926	\$ 2.1921	\$ 0.1810	\$ 1.0111	\$ 0.0915	\$ 1.2836
	\$ 0.3406	\$ 1.1749	\$ 0.0994	\$ 1.6146	\$ 0.1810	\$ 1.2303	\$ 0.0994	\$ 1.5104
Commercial/Industrial - G-55	\$ 74.18			\$ 74.18	\$ 80.70			\$ 80.70
Customer Charge per Month per Meter	\$ 80.70			\$ 80.70	\$ 80.70			\$ 80.70
Size of the first block	100 therms				100 therms			
Therms in the first block per month at	\$ 0.3927	\$ 1.7331	\$ 0.0926	\$ 2.2184	\$ 0.3927	\$ 1.0106	\$ 0.0915	\$ 1.4948
	\$ 0.3665	\$ 1.1732	\$ 0.0994	\$ 1.6388	\$ 0.3927	\$ 1.2284	\$ 0.0994	\$ 1.7202
All therms over the first block per month a	\$ 0.2645	\$ 1.7331	\$ 0.0926	\$ 2.0902	\$ 0.2645	\$ 1.0106	\$ 0.0915	\$ 1.3666
	\$ 0.2383	\$ 1.1732	\$ 0.0994	\$ 1.6106	\$ 0.2645	\$ 1.2284	\$ 0.0994	\$ 1.5920
Commercial/Industrial - G-56	\$ 222.55			\$ 222.55	\$ 241.54			\$ 241.54
Customer Charge per Month per Meter	\$ 241.54			\$ 241.54	\$ 241.54			\$ 241.54
Size of the first block	1000 therms				1000 therms			
Therms in the first block per month at	\$ 0.3383	\$ 1.7331	\$ 0.0926	\$ 2.1640	\$ 0.2513	\$ 1.0106	\$ 0.0915	\$ 1.3534
	\$ 0.3157	\$ 1.1732	\$ 0.0994	\$ 1.5880	\$ 0.2513	\$ 1.2284	\$ 0.0994	\$ 1.5788
All therms over the first block per month a	\$ 0.2328	\$ 1.7331	\$ 0.0926	\$ 2.0585	\$ 0.1526	\$ 1.0106	\$ 0.0915	\$ 1.2547
	\$ 0.2102	\$ 1.1732	\$ 0.0994	\$ 1.4825	\$ 0.1526	\$ 1.2284	\$ 0.0994	
Commercial/Industrial - G-57	\$ 982.93			\$ 982.93	\$ 1,068.14			\$ 1,068.14
Customer Charge per Month per Meter	\$ 1,068.14			\$ 1,068.14	\$ 1,068.14			\$ 1,068.14
All therms over the first block per month a	\$ 0.2365	\$ 1.7331	\$ 0.0926	\$ 2.0622	\$ 0.1217	\$ 1.0106	\$ 0.0915	\$ 1.2238
	\$ 0.2207	\$ 1.1732	\$ 0.0994	\$ 1.4930	\$ 0.1217	\$ 1.2284	\$ 0.0994	\$ 1.4492
Commercial/Industrial - G-58	\$ 982.93			\$ 982.93	\$ 1,068.14			\$ 1,068.14
Customer Charge per Month per Meter	\$ 1,068.14			\$ 1,068.14	\$ 1,068.14			\$ 1,068.14
All therms over the first block per month a	\$ 0.0901	\$ 1.7331	\$ 0.0926	\$ 1.9158	\$ 0.0516	\$ 1.0106	\$ 0.0915	\$ 1.1537
	\$ 0.0842	\$ 1.1732	\$ 0.0994	\$ 1.3565	\$ 0.0516	\$ 1.2284	\$ 0.0994	\$ 1.3794

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Neil Proudman
Title: President

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NHPUC NO. 11 - GAS
LIBERTY UTILITIES

Proposed Third Revised Page 91
Superseding Proposed Second Revised Page 91

Anticipated Cost of Gas
PERIOD COVERED SUMMER PERIOD, MAY 1, 2023 THROUGH OCTOBER 31, 2023
~~PERIOD COVERED SUMMER PERIOD, MAY 1, 2022 THROUGH OCTOBER 31, 2022~~
(REFER TO TEXT ON IN SECTION 16 COST OF GAS CLAUSE)

(Col 1)	(Col 2)	(Col 3)	(Col 2)	(Col 3)
ANTICIPATED DIRECT COST OF GAS				
Purchased Gas				
Demand Costs:	\$ 3,276,842		\$ 3,233,514	
Supply Costs:	6,974,475		11,326,100	
Storage Gas				
Demand, Capacity:	_____		-	
Commodity Costs:	_____		-	
Produced Gas				
	82,504		159,140	
Hedged Contract Savings				
	_____		-	
	_____		-	
Unadjusted Anticipated Cost of Gas		\$ 40,330,824		\$ 14,718,754
Adjustments				
Prior Period (Over)/Under Recovery as of September 1, 2021 September 01, 2022 (monthly adjustment filin	\$ 4,472,186		\$ 7,499,663	
Interest	222,837		351,995	
Prior Period Adjustments	_____		-	
Broker Revenues	_____		-	
Refunds from Suppliers	_____		-	
Fuel Financing	-		-	
Transportation CGA Revenues	_____		-	
Interruptible Sales Margin	_____		-	
Capacity Release and Off System Sales Margin	_____		-	
Hedging Costs	_____		-	
Fixed Price Option Administrative Costs	_____		-	
Total Adjustments		4,695,023		7,851,658
Total Anticipated Direct Cost of Gas		\$ 15,025,844		\$ 22,570,412
Anticipated Indirect Cost of Gas				
Working Capital				
Total anticipated Direct Cost of Gas (05/01/22 - 10/31/22) (05/01/23 - 10/31/23)	\$ 10,330,824		\$ 14,718,754	
Working Capital Rate	0.0000		-	
Prime Rate	3.25%		5.50%	
Working Capital Percentage	0.007%		0.02%	
Working Capital	769		\$ 3,137	
Plus: Working Capital Reconciliation (Acct 142-29) (Acct 1163-1424)	4,555		69,182	
Total Working Capital Allowance		\$ 5,324		\$ 72,320
Bad Debt				
Total anticipated Direct Cost of Gas (05/01/22 - 10/31/22) (05/01/23 - 10/31/23)	\$ 10,330,824		\$ 14,718,754	
Less: Refunds	-		-	
Plus: Total Working Capital	5,324		72,320	
Plus: Prior Period (Over)/Under Recovery	4,472,186		7,499,663	
Subtotal	\$ 14,808,334		\$ 22,290,737	
Bad Debt Percentage	0.70%		0.86%	
Bad Debt Allowance	103,658		191,957	
Plus: Bad Debt Reconciliation (Acct 175-52) (Acct 1163-1754)	23,159		1,016,834	
Total Bad Debt Allowance		126,817		1,208,791
Production and Storage Capacity				
Miscellaneous Overhead (05/01/22 - 10/31/22) (05/01/23 - 10/31/23)	\$ _____		\$ -	
Times Summer Winter Sales	23,366		23,649	
Divided by Total Sales	115,043		116,430	
Miscellaneous Overhead	_____		-	
Total Anticipated Indirect Cost of Gas		\$ 132,144		\$ 1,281,111
Total Cost of Gas		\$ 15,157,985		\$ 23,851,523

Issued: ~~October xx, 2021~~ October xx, 2022
Effective: ~~November 1, 2021~~ November 1, 2022

Issued by: _____
Neil Proudman
Title: President

Issued in compliance with NHPUC Order No. xx.xxx dated xxxx xx, 2022 in Docket DG 22-xxx.
~~Issued in compliance with NHPUC Order No. 26,541 dated October 29, 2021 in Docket DG 21-130~~

NHPUC NO. 11 - GAS
LIBERTY UTILITIES

Proposed Fourth Revised Page 92
Superseding Proposed Third Revised Page 92

CALCULATION OF FIRM SALES COST OF GAS RATE
PERIOD COVERED: SUMMER PERIOD, MAY 1, 2023 THROUGH OCTOBER 31, 2023
~~PERIOD COVERED—SUMMER PERIOD, MAY 1, 2022 THROUGH OCTOBER 31, 2022~~
(Refer to Text in Section 17 Cost of Gas Clause)

(Col 1)	(Col-2)	(Col-3)	(Col 2)	(Col 3)
Total Anticipated Direct Cost of Gas	\$ 9,653,380		\$ 22,570,412	
Projected Prorated Sales (05/01/23 - 10/31/23) (05/01/22 - 10/31/22)	20,973,034		23,648,905	
Direct Cost of Gas Rate		\$ 0.4603		\$ 0.9544 per therm
Demand Cost of Gas Rate	\$ 4,548,346	\$ 0.2169	\$ 3,233,514	\$ 0.1367
Commodity Cost of Gas Rate	3,136,847	\$ 0.1496	11,485,240	\$ 0.4857
Adjustment Cost of Gas Rate	1,968,188	\$ 0.0938	7,851,658	\$ 0.3320
Total Direct Cost of Gas Rate	\$ 9,653,380	\$ 0.4603	\$ 22,570,412	\$ 0.9544
Total Anticipated Indirect Cost of Gas	\$ (174,662)		\$ 1,335,482	
Projected Prorated Sales (05/01/23 - 10/31/23) (05/01/22 - 10/31/22)	20,973,034		23,648,905	
Indirect Cost of Gas		\$ (0.0083)		\$ 0.0565 per therm
TOTAL PERIOD AVERAGE COST OF GAS EFFECTIVE 05/01/23				\$ 1.0109 per Therm
TOTAL PERIOD AVERAGE COST OF GAS EFFECTIVE 05/01/22		\$ 0.4620		

RESIDENTIAL COST OF GAS RATE 05/01/2023	COGsr	\$ 1.0109 /therm
	Maximum (COG + 25%)	\$ 1.2636 \$ 1.2636

COM/IND LOW WINTER USE COST OF GAS RATE 05/01/2023	COGsl	\$ 1.0106 /therm
Average Demand Cost of Gas Rate Effective 05-0-22 05/01/2023	\$ 0.2169	\$ 0.1367 Maximum (COG + 25%) \$ 1.2633 \$ 1.2633
Times Low Winter Use Ratio (Summer)	0.465	0.9971
Times Correction Factor	0.9867	1.0009
Adjusted Demand Cost of Gas Rate	\$ 0.2240	\$ 0.1364
Commodity Cost of Gas Rate	\$ 0.1496	\$ 0.4857
Adjustment Cost of Gas Rate	0.0938	0.3320
Indirect Cost of Gas Rate	(0.0083)	0.0565
Adjusted Com/Ind Low Winter Use Cost of Gas Rate	\$ 0.459	\$ 1.0106

COM/IND HIGH WINTER USE COST OF GAS RATE 05/01/2023	COGsh	\$ 1.0111 /therm
Average Demand Cost of Gas Rate Effective 05-0-22 05/01/2023	\$ 0.2169	\$ 0.1367 Maximum (COG + 25%) \$ 0.5683 \$ 1.2639
Times High Winter Use Ratio (Summer)	0.998	1.0005
Times Correction Factor	0.9867	1.0009
Adjusted Demand Cost of Gas Rate	\$ 0.2123	\$ 0.1369
Commodity Cost of Gas Rate	\$ 0.1496	\$ 0.4857 Minimum
Adjustment Cost of Gas Rate	0.0938	0.3320 Maximum
Indirect Cost of Gas Rate	(0.0083)	0.0565
Adjusted Com/Ind High Winter Use Cost of Gas Rate	\$ 0.4474	\$ 1.0111

Issued: ~~October xx, 2024~~ October xx, 2022
Effective: ~~November 1, 2024~~ November 1, 2022

Issued by: _____
Title: Neil Proudman
President

Issued in compliance with NHPUC Order No. xx,xxx dated xxxx xx, 2022 in Docket DG 22-xxx.
~~Issued in compliance with NHPUC Order No. 26,649 dated July 15, 2022 in Docket DG 21-130.~~

Liberty Utilities (EnergyNorth Natural Gas) Corp.

Off Peak 2023 Summer Cost of Gas Filing

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4	Schedule 4	Adjustments to Gas Costs
5	Schedule 5A Schedule 5B Schedule 5C	Demand Costs Demand Volumes Demand Rates
6	Schedule 6 Attachment	Supply and Commodity Costs, Volumes and Rates Pipeline Tariff Sheets
7	Schedule 7	NYMEX Futures @ Henry Hub and Hedged Contracts
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9	Schedule 9	This schedule is no longer relevant
10	Schedule 10A Pages 1-2 Schedule 10A Page 3 Schedule 10B	Capacity Assignment Calculations 2020-2021 Derivation of Class Assignments and Weightings Correction Factor Calculation Off Peak 2023 Summer Cost of Gas Filing
11	Schedule 11A Schedule 11B Schedule 11C	Normal and Design Year Volumes Normal Year Normal and Design Year Volumes Design Year Capacity Utilization
12	Schedule 12, Page 1 Schedule 12, Page 2	Transportation Available for Pipeline Supply and Storage Agreements for Gas Supply and Transportation
13	Schedule 13	Storage Inventory

1 Liberty Utilities (EnergyNorth Natural Gas) Corp.		Off Peak Summary	
2		Page 1 of 1	
3	Off Peak 2023 Summer Cost of Gas Filing		
4	Summary		
5			OP 23
6			May - Oct
7	(a)	Reference	(c)
8		(b)	
9	Anticipated Direct Cost of Gas		
10	Purchased Gas:		
11	Demand Costs:	Sch. 5A, col (j), In 46	\$ 3,233,514
12	Supply Costs	Sch. 6, col (i), In 45	11,326,100
13			
14	Storage Gas:		
15	Demand, Capacity:	Sch. 5A, col (j), In 61	\$ -
16	Commodity Costs:	Sch. 6, col (i), In 48	-
17			
18	Produced Gas:	Sch. 6, col (i), In 54	\$ 159,140
19			
20	Hedge Contract (Savings)/Loss		\$ -
21			
22			
23	Total Unadjusted Cost of Gas		<u>\$ 14,718,754</u>
24			
25	Adjustments		
26			
27	Prior Period (Over)/Under Recovery	Sch. 3, col (c) In 28	\$ 7,499,663
28	Interest 11/01/19 - 10/31/20	Sch. 3, col (q) In 193	351,995
29	Prior Period Adjustments	Sch. 4, In 24 col (b)	-
30	Refunds from Suppliers	Sch. 4, In 24 col (c)	-
31	Broker Revenue	Sch. 4, In 24 col (d)	-
32	Fuel Financing	Sch. 4, In 24 col (e)	-
33	Transportation CGA Revenues	Sch. 4, In 24 col (f)	-
34	Interruptible Sales Margin	Sch. 4, In 24 col (g)	-
35	Capacity Release and Off System Sales Margins	Sch. 4, In 24 col (h) + col (i)	-
36	Hedging Costs	Sch. 4, In 24 col (j)	-
37	FPO Premium - Collection		-
38	Fixed Price Option Administrative Costs	Sch. 4, In 24 col (k)	-
39			
40	Total Adjustments		<u>\$ 7,851,658</u>
41			
42	Total Anticipated Direct Costs	Ins 23 + 40	<u>\$ 22,570,412</u>
43			
44	Anticipated Indirect Cost of Gas		
45	Working Capital		
46	Total Unadjusted Anticipated Cost of Gas	Ln 23	\$ 14,718,754
47	Lead Lag Days / 365	DG 20-105, 25.72/ 365	0.0705
48	Prime Rate		5.50%
49	Working Capital Percentage	In 47 * In 48	0.388%
50	Working Capital	In 46 * In 49	57,044
51	Plus: Working Capital Reconciliation	Sch. 3, col (c), In 98	69,182
52			
53	Total Working Capital Allowance	Ins 50 + 51	<u>\$ 126,227</u>
54			
55	Bad Debt		
56	Total Unadjusted Anticipated Cost of Gas	In 23	\$ 14,718,754
57	Less Refunds	In 30	-
58	Plus Working Capital	In 53	126,227
59	Plus Prior Period (Over) Under Recovery	In 27	7,499,663
60	Subtotal		<u>\$ 22,344,644</u>
61	Bad Debt Percentage	per GTC 17(f)	0.86%
62			
63	Bad Debt Allowance	In 60 * In 61	\$ 192,421
64	Prior Period Bad Debt Allowance	Sch. 3, col (c), In 163	1,016,834
65			
66	Total Bad Debt Allowance	Ins 63 + 64	<u>\$ 1,209,255</u>
67			
68	Production and Storage Capacity	per GTC17(f)	<u>\$ -</u>
69			
70	Miscellaneous Overhead	per GTC 17(f)	\$ -
71	Sales Volume	Sch. 10B, In 23/1000	23,649
72	Divided by Total Sales	Sch. 10B, In 23/1000	116,430
73	Ratio		<u>20.31%</u>
74			
75	Miscellaneous Overhead	Ins 70 * 73	<u>\$ -</u>
76			
77	Total Anticipated Indirect Cost of Gas	Ins 53 + 66 + 68 + 75	<u>\$ 1,335,482</u>
78			
79	Total Cost of Gas	Ins 42 + 77	<u>\$ 23,905,894</u>
80			
81	Projected Forecast Sales (Therms)	Sch. 3, col (q), In 52	<u>23,648,905</u>

1 Liberty Utilities (EnergyNorth Natural Gas) Corp. d/b/a Liberty
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4 Summary of Supply and Demand Forecasts

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5	6	7 For Month of:	May-23	Jun-23	Jul-23	Aug-23	Sep-23	Oct-23	Nov-23	Off Peak Period
8	(a)	(b)	(c)	(d)	(e)	(d)	(e)	(f)	(g)	May - Oct
9	I. Gas Volumes (Therms)									
10	A. Firm Demand Volumes									
11	Firm Gas Sales	Sch. 10B, ln 23	106,848	278,583	231,288	234,403	347,400	738,977	427,392	23,648,905
12	Lost Gas (Unaccounted for)		127,414	82,682	69,188	75,413	88,009	170,244		612,950
13	Company Use		3,341	2,168	1,814	1,978	2,308	4,464		16,074
14	Unbilled Therms		4,219,447	645,605	558,542	785,768	178,525	(324,333)	(4,273,922)	1,789,632
15	Total Firm Volumes	Sch. 6, ln 93	5,418,683	3,516,286	2,942,425	3,207,185	3,742,840	7,240,141		26,067,561
16	B. Supply Volumes (Therms)									
17	Pipeline Gas:									
18	Dawn Supply	Sch. 6, ln 63	842,983	655,282	518,079	495,174	712,922	601,154		3,825,595
19	Niagara Supply	Sch. 6, ln 64	667,764	585,319	584,500	583,125	598,573	687,845		3,707,126
20	TGP Supply (Gulf)	Sch. 6, ln 65	29,663	-	-	-	-	327,579		357,242
21	Dracut Supply 1 - Baseload	Sch. 6, ln 66	-	-	-	-	-	-		-
22	Dracut Supply 2 - Swing	Sch. 6, ln 67	-	-	-	-	-	435,588		435,588
23	City Gate Delivered Supply	Sch. 6, ln 68	-	-	-	-	-	-		-
24	LNG Truck	Sch. 6, ln 69	-	-	4,831	10,843	17,887	110,141		143,701
25	Propane Truck	Sch. 6, ln 70	79,331	71,837	69,440	69,276	73,464	81,717		445,066
26	PNCTS	Sch. 6, ln 71	211,780	185,528	182,354	184,937	189,729	218,149		1,172,479
27	Portland Natural Gas	Sch. 6, ln 72	889,892	29,984	-	-	-	522,990		1,442,866
28	TGP Supply (Zone 4)	Sch. 6, ln 73	5,379,362	4,713,785	4,706,794	4,696,924	4,822,444	5,548,240		29,867,549
29	Subtotal Pipeline Volumes		8,100,776	6,241,736	6,065,997	6,040,279	6,415,019	8,533,404		41,397,212
30	Storage Gas:									
31	TGP Storage	Sch. 6, ln 78	-	-	-	-	-	-		-
32	Produced Gas:									
33	LNG Vapor	Sch. 6, ln 81	20,005.32	18,115.53	17,510.84	17,469.64	18,525.75	20,606.94		112,234.02
34	Propane	Sch. 6, ln 82	-	-	-	-	-	-		-
35	Subtotal Produced Gas		20,005.32	18,115.53	17,510.84	17,469.64	18,525.75	20,606.94		112,234.02
36	Less - Gas Refill:									
37	LNG Truck	Sch. 6, ln 87	-	-	(4,830.58)	(10,843.23)	(17,886.93)	(110,140.53)		(143,701.26)
38	Propane	Sch. 6, ln 88	(79,331.45)	(71,837.44)	(69,439.55)	(69,276.17)	(73,464.17)	(81,717.17)		(445,065.94)
39	TGP Storage Refill	Sch. 6, ln 89	(2,622,766.74)	(2,671,727.92)	(3,066,812.74)	(2,770,444.31)	(2,599,354.02)	(1,122,012.26)		(14,853,117.98)
40	Subtotal Refills		(2,702,098.19)	(2,743,565.35)	(3,141,082.87)	(2,850,563.70)	(2,690,705.12)	(1,313,869.96)		(15,441,885.18)
41	Total Firm Sendout Volumes	Ins 32 + 35 + 40 + 46	5,418,682.98	3,516,286.29	2,942,425.38	3,207,185.36	3,742,839.81	7,240,141.15		26,067,560.98

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50 II. Gas Costs

52 A. Demand Costs

53 Supply

54 Niagara Supply Sch.5A, In 12
55 Subtotal Supply Demand
56 Less Capacity Credit
57 Net Pipeline Demand Costs

[REDACTED]

59 Pipeline:

60 Iroquois Gas Trans Service RTS 470-0 Sch.5A, In 16
61 Tenn Gas Pipeline 95346 Z5-Z6 Sch.5A, In 17
62 Tenn Gas Pipeline 2302 Z5-Z6 Sch.5A, In 18
63 Tenn Gas Pipeline 8587 Z0-Z6 Sch.5A, In 19
64 Tenn Gas Pipeline 8587 Z1-Z6 Sch.5A, In 20
65 Tenn Gas Pipeline 8587 Z4-Z6 Sch.5A, In 21
66 Tenn Gas Pipeline (Dracut) 42076 Z6-Z6 Sch.5A, In 22
67 Tenn Gas Pipeline (Dracut) 358905 Z6-Z7 Sch.5A, In 23
68 Tenn Gas Pipeline (Concord Lateral) Z6-Z6 Sch.5A, In 24
69 Portland Natural Gas Trans Service Sch.5A, In 25
70 ANE (TransCanada via Union to Iroquois) Sch.5A, In 27
71 Portland Natural Gas Sch.5A, In 25
72 TransCanada via Union to Portland Sch.5A, In 27
73 Tenn Gas Pipeline Z4-Z6 stg 632 Sch.5A, In 29
74 Tenn Gas Pipeline Z4-Z6 stg 11234 Sch.5A, In 30
75 Tenn Gas Pipeline Z5-Z6 stg 11234 Sch.5A, In 31
76 National Fuel FST 2358 Sch.5A, In 32

[REDACTED]

77 Subtotal Pipeline Demand	\$	812,659	\$	815,395	\$	815,395	\$	815,395	\$	815,395	\$	815,395	\$	3,674,232	\$	4,889,632
78 Less Capacity Credit		(275,248)		(276,174)		(276,174)		(276,174)		(276,174)		(276,174)		(1,244,462)		(1,656,118)
79 Net Pipeline Demand Costs	\$	537,411	\$	539,220	\$	539,220	\$	539,220	\$	539,220	\$	539,220	\$	2,429,770	\$	3,233,514

81 Peaking Supply:

82 Tenn Gas Pipeline (Concord Lateral) Z6-Z6 Sch.5A, In 37
83 Granite Ridge Demand Sch.5A, In 38
84 DOMAC Demand NSB041 Sch.5A, In 39
85 Subtotal Peaking Demand
86 Less Capacity Credit
87 Net Peaking Supply Demand Costs

[REDACTED]

89 Storage:

90 Dominion - Demand Sch.5A, In 49
91 Dominion - Storage Sch.5A, In 50
92 Honeoye - Demand Sch.5A, In 51
93 National Fuel - Demand Sch.5A, In 52
94 National Fuel - Capacity Sch.5A, In 53
95 Tenn Gas Pipeline - Demand Sch.5A, In 54
96 Tenn Gas Pipeline - Capacity Sch.5A, In 55
97 Subtotal Storage Demand
98 Less Capacity Credit
99 Net Storage Demand Costs

[REDACTED]

101 Total Demand Charges	Ins 55 + 77 + 85 + 97	\$	812,659	\$	815,395	\$	815,395	\$	815,395	\$	815,395	\$	815,395	\$	3,674,232	\$	4,889,632
102 Total Capacity Credit	Ins 56 + 78 + 86 + 98		(275,248)		(276,174)		(276,174)		(276,174)		(276,174)		(276,174)		(1,244,462)		(1,656,118)
103 Net Demand Charges		\$	537,411	\$	539,220	\$	539,220	\$	539,220	\$	539,220	\$	539,220	\$	2,429,770	\$	3,233,514

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105									
106									
107	B. Commodity Costs								
108	<u>Pipeline:</u>								
109	Dawn Supply	Sch. 6, In 12							
110	Niagara Supply	Sch. 6, In 13							
111	TGP Supply (Gulf)	Sch. 6, In 14							
112	Dracut Supply 1 - Baseload	Sch. 6, In 15							
113	Dracut Supply 2 - Swing	Sch. 6, In 16							
114	Dracut Supply 3 - Swing	Sch. 6, In							
115	City Gate Delivered Supply	Sch. 6, In 17							
116	LNG Truck	Sch. 6, In 18							
117	Portland Natural Gas	Sch. 6, In 21							
118	PNGTS	Sch. 6, In 20							
119	TGP Supply (Zone 4)	Sch. 6, In 22							
120	Subtotal Pipeline Commodity Costs		\$ 4,073,761	\$ 3,035,210	\$ 2,987,877	\$ 2,987,600	\$ 2,857,275	\$ 3,851,096	\$ 19,792,820
121									
122	<u>Storage:</u>								
123	TGP Storage - Withdrawals	Sch. 6, In 48	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
124									
125	<u>Produced Gas Costs:</u>								
126	LNG Vapor	Sch. 6, In 51							
127	Propane	Sch. 6, In 52							
128	Subtotal Produced Gas Costs		\$ 31,982	\$ 28,961	\$ 27,994	\$ 26,265	\$ 23,795	\$ 20,142	\$ 159,140
129									
130	<u>Less Storage Refills:</u>								
131	LNG Truck	Sch. 6, In 38							
132	Propane	Sch. 6, In 39							
133	TGP Storage Refill	Sch. 6, In 40							
134	Storage Refill (Trans.)	Sch. 6, In 41							
135	Subtotal Storage Refill		\$ (1,579,090)	\$ (1,621,330)	\$ (1,876,386)	\$ (1,698,195)	\$ (1,588,793)	\$ (691,404)	\$ (9,055,198)
136									
137	Total Supply Commodity Costs		\$ 2,526,653	\$ 1,442,841	\$ 1,139,486	\$ 1,315,670	\$ 1,292,277	\$ 3,179,834	\$ 10,896,762
138									
139	C. Supply Volumetric Transportation Costs								
140	Dawn Supply	Sch. 6, In 27							
141	Niagara Supply	Sch. 6, In 28							
142	TGP Supply (Zone 4)	Sch. 6, In 29							
143	Dracut Supply 1 - Baseload	Sch. 6, In 30							
144	Dracut Supply 2 - Swing	Sch. 6, In 31							
145	Dracut Supply 3 - Swing	Sch. 6, In							
146	Subtotal Pipeline Volumetric Trans. Costs		\$ 112,218	\$ 95,914	\$ 91,728	\$ 91,490	\$ 92,036	\$ 105,092	\$ 588,478
147									
148	TGP Storage - Withdrawals	Sch. 6, In 33	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
149									
150	Total Supply Volumetric Trans. Costs	Ins 146 + 148	\$ 112,218	\$ 95,914	\$ 91,728	\$ 91,490	\$ 92,036	\$ 105,092	\$ 588,478
151									
152	Total Commodity Gas & Trans. Costs	Ins 137 + 150	\$ 2,638,872	\$ 1,538,755	\$ 1,231,214	\$ 1,407,160	\$ 1,384,313	\$ 3,284,926	\$ 11,485,240

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

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4 Summary of Supply and Demand Forecas

157 D. Supply and Demand Costs by Source

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158									
159									
160	<u>Purchased Gas Demand Costs</u>								
161	Pipeline Gas Demand Costs	Ins 55 + 77	\$ 812,659	\$ 815,395	\$ 815,395	\$ 815,395	\$ 815,395	\$ 815,395	\$ 4,889,632
162	Peaking Gas Demand Costs	In 85	-	-	-	-	-	-	-
163	Subtotal Purchased Gas Demand Costs		\$ 812,659	\$ 815,395	\$ 815,395	\$ 815,395	\$ 815,395	\$ 815,395	\$ 4,889,632
164	Less Capacity Credit	Ins 56 + 78 + 86	(275,248)	(276,174)	(276,174)	(276,174)	(276,174)	(276,174)	(1,656,118)
165	Net Purchased Gas Demand Costs		\$ 537,411	\$ 539,220	\$ 539,220	\$ 539,220	\$ 539,220	\$ 539,220	\$ 3,233,514
166									
167	<u>Storage Gas Demand Costs</u>								
168	Storage Demand	In 97	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
169	Less Capacity Credit	In 98	-	-	-	-	-	-	-
170	Net Storage Demand Costs		\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
171									
172	Total Demand Costs	Ins 165 + 170	\$ 537,411	\$ 539,220	\$ 539,220	\$ 539,220	\$ 539,220	\$ 539,220	\$ 3,233,514
173									
174	<u>Purchased Gas Supply</u>								
175	Commodity Costs	In 120							
176	Less Storage Inj.(TGP Storage)	In 133							
177	Less Storage Transportation	In 134							
178	Less LNG Truck	In 131							
179	Less Propane Truck	In 132							
180	Plus Transportation Costs	In 146							
181	Subtotal Purchased Gas Supply		\$ 2,606,889	\$ 1,509,794	\$ 1,203,220	\$ 1,380,895	\$ 1,360,518	\$ 3,264,784	\$ 11,326,100
182									
183	<u>Storage Commodity Costs</u>								
184	Commodity Costs	In 123	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
185	Transportation Costs	In 148	-	-	-	-	-	-	-
186	Subtotal Storage Commodity Costs		\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
187									
188	<u>Produced Gas Commodity Costs</u>	In 128	\$ 31,982	\$ 28,961	\$ 27,994	\$ 26,265	\$ 23,795	\$ 20,142	\$ 159,140
189									
190	Subtotal Commodity Costs	Ins 181 + 186 + 188	\$ 2,638,872	\$ 1,538,755	\$ 1,231,214	\$ 1,407,160	\$ 1,384,313	\$ 3,284,926	\$ 11,485,240
191									
192	Hedge Contract (Savings)/Loss		\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
193									
194	Total Commodity Costs	Ins 190 + 192	\$ 2,638,872	\$ 1,538,755	\$ 1,231,214	\$ 1,407,160	\$ 1,384,313	\$ 3,284,926	\$ 11,485,240
195									
196	Total Demand Costs	In 103	\$ 537,411	\$ 539,220	\$ 539,220	\$ 539,220	\$ 539,220	\$ 539,220	\$ 3,233,514
197	Total Supply Costs	In 194	2,638,872	1,538,755	1,231,214	1,407,160	1,384,313	3,284,926	11,485,240
198									
199	Total Direct Gas Costs	Ins 196 + 197	\$ 3,176,283	\$ 2,077,976	\$ 1,770,435	\$ 1,946,380	\$ 1,923,534	\$ 3,824,147	\$ 14,718,754
200									
201									

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

2

3 **Off Peak 2023 Summer Cost of Gas Filing**

4 **Contracts Ranked on a per Unit Cost Basis**

5

6 **Supplier**

Contract

Contract Type

Contract Unit

Unit Dth (MDQ/ACQ)

REDACTED

Schedule 2

Page 1 of 1

Off Peak

Cost per

Unit Dth

7

(a)

(b)

(c)

(d)

(e)

(f)

8

9 **Demand Costs**

10

11

12	ANE (TransCanada via Union to Iroquois)	Dawn - Parkway to Iroquois	Transportation	MDQ	4,047	REDACTED
13	Dominion - Capacity Reservation	GSS 300076	Storage	ACQ	102,700	
14	Tenn Gas Pipeline - Cap. Reservations	FS-MA 523	Storage	ACQ	1,560,391	
15	National Fuel - Capacity Reservation	FSS-1 2357	Storage	ACQ	670,800	
16	Tenn Gas Pipeline - Demand	FS-MA 523	Storage	MDQ	21,844	
17	Dominion - Demand	GSS 300076	Storage	MDQ	934	
18	National Fuel - Demand	FSS-1 2357	Storage	MDQ	6,098	
19	Tenn Gas Pipeline	42076 FTA Z6-Z6	Transportation	MDQ	20,000	
20	Tenn Gas Pipeline	42076 FTA Z6-Z6	Transportation	MDQ	40,000	
21	National Fuel	FST N02358	Transportation	MDQ	6,098	
22	Iroquois Gas Trans Service	RTS 470-01	Transportation	MDQ	4,047	
23	Honeoye - Demand	SS-NY	Storage	MDQ	1,362	
24	Tenn Gas Pipeline	2302 Z5-Z6	Transportation	MDQ	3,122	
25	Tenn Gas Pipeline (short haul)	11234 Z5-Z6(stg)	Transportation	MDQ	1,957	
26	Tenn Gas Pipeline (short haul)	8587 Z4-Z6	Transportation	MDQ	3,811	
27	Tenn Gas Pipeline (short haul)	632 Z4-Z6 (stg)	Transportation	MDQ	15,265	
28	Tenn Gas Pipeline (short haul)	11234 Z4-Z6(stg)	Transportation	MDQ	7,082	
29	Tenn Gas Pipeline (Concord Lateral) Z6-Z6	Firm Transportation	Transportation	MDQ	30,000	
30	Tenn Gas Pipeline	95346 Z5-Z6	Transportation	MDQ	4,000	
31	TransCanada via Union to Por land	Union Parkway to Portland	Transportation	MDQ	5,077	
32	Portland Natural Gas Trans Service	FT-1999-001	Transportation	MDQ	1,000	
33	Tenn Gas Pipeline (long haul)	8587 Z1-Z6	Transportation	MDQ	14,561	
34	Tenn Gas Pipeline (long haul)	8587 Z0-Z6	Transportation	MDQ	7,035	
35	Portland Natural Gas	FTN	Transportation	MDQ	5,000	

36

37 **Supply Costs - Commodity**

38	LNG Truck		Pipeline	Dkt	14,370	REDACTED
39	TGP Supply (Zone 4)		Pipeline	Dkt	2,986,755	
40	Niagara Supply		Pipeline	Dkt	370,713	
41	Dracut Supply 2 - Swing		Pipeline	Dkt	43,559	
42	Dawn Supply		Pipeline	Dkt	382,559	
43	TGP Citygate Supply		Pipeline	Dkt	-	
44	PNGTS		Pipeline	Dkt	117,248	
45	Dracut Supply 1 - Baseload		Pipeline	Dkt	-	
46	TGP Supply (Gulf)		Pipeline	Dkt	35,724	
47	LNG Vapor		Produced	Dkt	11,223	
48	Propane		Pipeline	Dkt	-	

49

50 **Supply Costs - Volumetric Transportation**

51	Dracut Supply 1 - Baseload		Pipeline	Dkt	-	REDACTED
52	TGP Supply (Zone 4)		Pipeline	Dkt	35,724	
53	Dracut Supply 2 - Swing		Pipeline	Dkt	43,559	
54	Dawn Supply		Storage	Dkt	382,559	
55	Niagara Supply		Pipeline	Dkt	370,713	

56

57

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1 Liberty Utilities (EnergyNorth Natural Gas) Corp. d/b/a Liberty
2
3 Off Peak 2023 Summer Cost of Gas Filing
4 COG (Over)/Under Cumulative Recovery Balances and Interest Calculation

Schedule 3
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		Prior Period Balance Plus Nov Collections October 31, 2022	Nov-22 30	Dec-22 31	Jan-23 31	Feb-23 28	Mar-23 31	Apr-23 30	May-23 31	Jun-23 30	Jul-23 31	Aug-23 31	Sep-23 30	Oct-23 31	Nov-23 30	Off Peak Period Total	
(a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)	(i)	(j)	(k)	(l)	(m)	(n)	(o)	(p)	(q)	
Account 8840 2 0000 10 1920 1741 (formerly, 175.40) COG (Over)/Under Balance Interest Calculation																	
13	Beginning Balance	Account 1920-1741 1/	\$ 7,499,663	\$ 7,499,663	\$ 7,533,566	\$ 7,568,757	\$ 7,604,113	\$ 7,636,196	\$ 7,671,866	\$ 7,706,547	\$ 5,909,470	\$ 4,801,751	\$ 3,924,204	\$ 2,968,485	\$ 1,478,404	\$ (1,421,262)	\$ 7,499,663
14	Forecast Direct Gas Costs		-	-	-	-	-	-	-	-	-	-	-	-	-	-	15,368,965
15	Production & Storage & Misc Overhead		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
16	Projected Revenues w/o Int.	In 54 * In 64	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
17	Projected Unbilled Revenue	In 58 * In 64	-	-	-	-	-	-	-	-	-	-	-	-	-	-	(22,868,629)
18	Reverse Prior Month Unbilled		-	-	-	-	-	-	-	-	-	-	-	-	-	-	(32,074,515)
19	Add Net Adjustments (with TGP Refund)		-	-	-	-	-	-	-	-	-	-	-	-	-	-	32,074,515
20	Gas Cost Billed		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
21	Monthly (Over)/Under Recovery	Account 1920-1741 2/	\$ 7,499,663	\$ 7,499,663	\$ 7,533,566	\$ 7,568,757	\$ 7,604,113	\$ 7,636,196	\$ 7,671,866	\$ 5,877,742	\$ 4,777,595	\$ 3,903,871	\$ 2,952,424	\$ 1,468,376	\$ (1,421,395)	\$ 309,323	\$ -
22	Average Monthly Balance	(In 13 + 21)/ 2	\$ -	\$ 7,499,663	\$ 7,533,566	\$ 7,568,757	\$ 7,604,113	\$ 7,636,196	\$ 7,671,866	\$ 6,792,145	\$ 5,343,532	\$ 4,352,811	\$ 3,438,314	\$ 2,218,430	\$ 28,505	\$ (555,970)	\$ -
23	Interest Rate	Prime Rate		5.50%	5.50%	5.50%	5.50%	5.50%	5.50%	5.50%	5.50%	5.50%	5.50%	5.50%	5.50%		
24	Interest Applied	In 22 * In 24 /365 *Days/Mo.	\$ -	\$ 33,903	\$ 35,191	\$ 35,355	\$ 32,083	\$ 35,670	\$ 34,681	\$ 31,728	\$ 24,156	\$ 20,333	\$ 16,061	\$ 10,029	\$ 133	\$ -	\$ 309,323
25	(Over)/Under Balance	In 21 + In 26	\$ 7,499,663	\$ 7,533,566	\$ 7,568,757	\$ 7,604,113	\$ 7,636,196	\$ 7,671,866	\$ 7,706,547	\$ 5,909,470	\$ 4,801,751	\$ 3,924,204	\$ 2,968,485	\$ 1,478,404	\$ (1,421,262)	\$ 309,323	\$ 309,323
Calculation of COG with Interest																	
33	Beginning Balance	In 13	\$ 7,499,663	\$ 7,499,663	\$ 7,533,566	\$ 7,568,757	\$ 7,604,113	\$ 7,636,196	\$ 7,671,866	\$ 7,706,547	\$ 5,865,762	\$ 4,729,492	\$ 3,827,881	\$ 2,845,836	\$ 1,324,985	\$ (1,633,897)	\$ 7,499,663
34	Forecast Direct Gas Costs	In 14	-	-	-	-	-	-	-	-	-	-	-	-	-	-	15,368,965
35	Prod Storage & Misc Overhead	In 15	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
36	Projected Revenues with int.	In 54 * 66	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
37	Projected Unbilled Revenue	In 58 * 66	-	-	-	-	-	-	-	-	-	-	-	-	-	-	(23,063,975)
38	Reverse Prior Month Unbilled		-	-	-	-	-	-	-	-	-	-	-	-	-	-	(32,348,498)
39	Add Net Adjustments	In 19	-	-	-	-	-	-	-	-	-	-	-	-	-	-	32,348,498
40	Gas Cost Billed	In 20	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
41	Gas Cost Unbilled		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
42	Reverse Prior Month Unbilled		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
43	Add Interest	In 26	-	-	-	-	-	-	-	31,728	24,156	20,333	16,061	10,029	133	-	102,439
44	(Over)/Under Balance		\$ 7,499,663	\$ 7,499,663	\$ 7,533,566	\$ 7,568,757	\$ 7,604,113	\$ 7,636,196	\$ 7,671,866	\$ 5,865,790	\$ 4,729,699	\$ 3,828,226	\$ 2,846,309	\$ 1,325,585	\$ (1,633,044)	\$ 111,471	\$ (92,907)
45	Average Monthly Balance		\$ 7,499,663	\$ 7,533,566	\$ 7,568,757	\$ 7,604,113	\$ 7,636,196	\$ 7,671,866	\$ 6,786,169	\$ 5,297,730	\$ 4,278,859	\$ 3,337,095	\$ 2,085,710	\$ (154,030)			
46	Interest Applied	In 24 * In 46 /365 *Days/Mo.	\$ 33,903	\$ 35,191	\$ 35,355	\$ 32,083	\$ 35,670	\$ 34,681	\$ 31,700	\$ 23,949	\$ 19,988	\$ 15,588	\$ 9,429	\$ (720)	\$ -	\$ -	\$ 306,817
47	(Over)/Under Balance	In 43 + In 44 + In 48	\$ 7,499,663	\$ 7,533,566	\$ 7,568,757	\$ 7,604,113	\$ 7,636,196	\$ 7,671,866	\$ 7,706,547	\$ 5,865,762	\$ 4,729,492	\$ 3,827,881	\$ 2,845,836	\$ 1,324,985	\$ (1,633,897)	\$ 111,471	\$ 111,471
53	Forecast Sendout Therms	Sch 1							5,418,683	3,516,286	2,942,425	3,207,185	3,742,840	7,240,141			26,067,561
54	Less Forecast Billing Therm Sales	Sch. 10B, In 23 May - Oct							1,068,480	2,785,832	2,312,881	2,344,026	3,473,998	7,389,766	4,273,922		23,648,905
55	Less Forecast Unaccounted For	Sch 1							127,414	82,682	69,188	75,413	88,009	170,244			612,950
56	Less Forecast Company Use	Sch 1							3,341	2,168	1,814	1,978	2,308	4,464			16,074
57	Unbilled Volumes								4,219,447	645,605	558,542	785,768	178,525	(324,333)	(4,273,922)		1,789,632
58	Gross Unbilled								4,219,447	4,865,052	5,423,594	6,209,362	6,387,887	6,063,554			
59	Beg Balance								-	4,219,447	4,865,052	5,423,594	6,209,362	6,387,887	6,063,554		
60	Incremental								4,219,447	645,605	558,542	785,768	178,525	(324,333)	(4,273,922)		
61	Ending Balance								4,219,447	4,865,052	5,423,594	6,209,362	6,387,887	6,063,554			
62	COG w/o Interest	Sch. 3, pg. 4, In 211 col. (c)							\$ 0.9670	\$ 0.9670	\$ 0.9670	\$ 0.9670	\$ 0.9670	\$ 0.9670	\$ 0.9670	\$ 0.9670	
63	COG With Interest	Sch. 3 pg. 4 In 211 col. (d)							\$ 0.9753	\$ 0.9753	\$ 0.9753	\$ 0.9753	\$ 0.9753	\$ 0.9753	\$ 0.9753	\$ 0.9753	

1 Liberty Utilities (EnergyNorth Natural Gas) Corp. d/b/a Liberty
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3 Off Peak 2023 Summer Cost of Gas Filing
4 COG (Over)/Under Cumulative Recovery Balances and Interest Calculation

Schedule 3
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	Days in Month	Prior Period Balance Plus Nov Collections October 31, 2022	Nov-22 30	Dec-22 31	Jan-23 31	Feb-23 28	Mar-23 31	Apr-23 30	May-23 31	Jun-23 30	Jul-23 31	Aug-23 31	Sep-23 30	Oct-23 31	Nov-23 30	Off Peak Period Total	
(a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)	(i)	(j)	(k)	(l)	(m)	(n)	(o)	(p)	(q)	
Account 8840 2 0000 10 1163 1424 (formerly, 142.40) Working Capital (Over)/Under Balance Interest Calculation																	
78	Beginning Balance	Account 1163-1424 1/	\$ 69,182	\$ 69,182	\$ 69,495	\$ 69,820	\$ 70,146	\$ 70,442	\$ 70,771	\$ 71,091	\$ 55,328	\$ 45,347	\$ 37,189	\$ 28,266	\$ 16,357	\$ (6,844)	\$ 69,182
79	Days Lag									0.0705	0.0705	0.0705	0.0705	0.0705	0.0705	0.0705	0.0705
80	Prime Rate									5.50%	5.50%	5.50%	5.50%	5.50%	5.50%	5.50%	5.50%
81	Forecast Working Cap tal	In 34 * In 80 / 365 * In 81	-	-	-	-	-	-	-	12,730	8,473	7,282	7,963	7,875	15,241	-	59,564
82	Projected Revenues w/o Int.	In 123 * In 126	-	-	-	-	-	-	-	(5,817)	(15,166)	(12,592)	(12,761)	(18,913)	(40,230)	(23,268)	(128,746)
83	Projected Unbilled Revenue	In 124 * In 126	-	-	-	-	-	-	-	(22,971)	(26,486)	(29,526)	(33,804)	(34,776)	(33,010)	-	(180,574)
84	Reverse Prior Month Unbilled		-	-	-	-	-	-	-	22,971	26,486	29,526	29,526	33,804	34,776	33,010	180,574
85	Add Net Adjustments		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
86	Working Cap tal Billed	Account 1163-1424 2/															
87	Monthly (Over)/Under Recovery		\$ 69,182	\$ 69,182	\$ 69,495	\$ 69,820	\$ 70,146	\$ 70,442	\$ 70,771	\$ 55,033	\$ 45,120	\$ 36,997	\$ 28,114	\$ 16,256	\$ (6,867)	\$ 2,899	\$ -
88	Average Monthly Balance	(In 78 + 92) / 2	\$ 69,182	\$ 69,495	\$ 69,820	\$ 70,146	\$ 70,442	\$ 70,771	\$ 63,062	\$ 50,224	\$ 41,172	\$ 32,651	\$ 22,261	\$ 4,745			
89	Interest Rate	Prime Rate	5.50%	5.50%	5.50%	5.50%	5.50%	5.50%	5.50%	5.50%	5.50%	5.50%	5.50%	5.50%	5.50%		
90	Interest Applied	In 94 * In 96 / 365 * Days of Month	\$ 313	\$ 325	\$ 326	\$ 296	\$ 329	\$ 320	\$ 295	\$ 227	\$ 192	\$ 153	\$ 101	\$ 22		\$ 2,898	
91	(Over)/Under Balance	In 92 + In 98	\$ 69,182	\$ 69,495	\$ 69,820	\$ 70,146	\$ 70,442	\$ 70,771	\$ 55,328	\$ 45,347	\$ 37,189	\$ 28,266	\$ 16,357	\$ (6,844)	\$ 2,899	\$ 2,898	\$ 2,898
92	Calculation of Working Capital with Interest																
93	Beginning Balance		\$ 69,182	\$ 69,182	\$ 69,495	\$ 69,820	\$ 70,146	\$ 70,442	\$ 70,771	\$ 71,091	\$ 55,285	\$ 45,277	\$ 37,096	\$ 28,147	\$ 16,208	\$ (7,051)	\$ 69,182
94	Forecast Working Cap tal	In 82	-	-	-	-	-	-	-	12,730	8,473	7,282	7,963	7,875	15,241	-	59,564
95	Projected Rev. with interest	In 123 * In 128	-	-	-	-	-	-	-	(5,826)	(15,189)	(12,610)	(12,780)	(18,941)	(40,290)	(23,302)	(128,937)
96	Projected Unbilled Revenue	In 124 * In 128	-	-	-	-	-	-	-	(23,005)	(26,525)	(29,570)	(33,854)	(34,828)	(33,059)	-	(180,842)
97	Reverse Prior Month Unbilled		-	-	-	-	-	-	-	23,005	26,525	29,570	33,854	34,828	33,059	-	180,842
98	Add Net Adjustments	In 88	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
99	Working Cap tal Billed	In 90	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
100	WC Unbilled		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
101	Reverse WC Unbilled		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
102	Add Interest	In 98	-	-	-	-	-	-	295	227	192	153	101	22		989	
103	Monthly (Over)/Under Recovery		\$ 69,182	\$ 69,182	\$ 69,495	\$ 69,820	\$ 70,146	\$ 70,442	\$ 55,285	\$ 45,277	\$ 37,096	\$ 28,148	\$ 16,209	\$ (7,050)	\$ 2,706	\$ 798	\$ 798
104	Average Monthly Balance		\$ 69,182	\$ 69,495	\$ 69,820	\$ 70,146	\$ 70,442	\$ 70,771	\$ 63,188	\$ 50,281	\$ 41,187	\$ 32,622	\$ 22,178	\$ 4,579			
105	Interest Applied	In 96 * In 117 / 365 * Days of Month	313	325	326	296	329	320	295	227	192	152	100	21		\$ 2,897	
106	(Over)/Under Balance	-In 114 + In 115 + In 119	\$ 69,182	\$ 69,495	\$ 69,820	\$ 70,146	\$ 70,442	\$ 70,771	\$ 55,285	\$ 45,277	\$ 37,096	\$ 28,147	\$ 16,208	\$ (7,051)	\$ 2,706	\$ 2,706	\$ 2,706
107	Forecast Therm Sales	In 53							1,068,480	2,785,832	2,312,881	2,344,026	3,473,998	7,389,766	4,273,922		23,648,905
108	Unbilled Therm	In 55							4,219,447	4,865,052	5,423,594	6,209,362	6,387,887	6,063,554	1,789,632		
109	Working Cap. Rate w/out Int.	Sch. 3, pg. 4, In 228 col. (c)							\$0.0054	\$0.0054	\$0.0054	\$0.0054	\$0.0054	\$0.0054	\$0.0054	\$0.0054	\$0.0054
110	Working Cap tal Rate w/ Int.	Sch. 3, pg. 4, In 228 col. (d)							\$0.0055	\$0.0055	\$0.0055	\$0.0055	\$0.0055	\$0.0055	\$0.0055	\$0.0055	\$0.0055

1 Liberty Utilities (EnergyNorth Natural Gas) Corp. d/b/a Liberty
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3 Off Peak 2023 Summer Cost of Gas Filing
4 COG (Over)/Under Cumulative Recovery Balances and Interest Calculation

																	Schedule 3 Page 3 of 3	
		Prior Period Balance Plus Nov Collections October 31, 2022	Nov-22 30	Dec-22 31	Jan-23 31	Feb-23 28	Mar-23 31	Apr-23 30	May-23 31	Jun-23 30	Jul-23 31	Aug-23 31	Sep-23 30	Oct-23 31	Nov-23 30	Off Peak Period Total		
(a)	Days in Month (b)	(c)	(d)	(e)	(f)	(g)	(h)	(i)	(j)	(k)	(l)	(m)	(n)	(o)	(p)	(q)		
137 Account 8840 2 0000 10 1163 1754 (formerly, 175.54) Bad Debt (Over)/Under Balance Interest Calculation																		
138																		
139	Forecast Direct Gas Costs	In 34 In 106 + (May includes prior period)	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 3,284,652	\$ 2,186,344	\$ 1,878,803	\$ 2,054,749	\$ 2,031,902	\$ 3,932,515	\$ -	15,368,965		
140	Forecast Working Capital	In 21 / 6	-	-	-	-	-	-	81,912	8,473	7,282	7,963	7,875	15,241	-	128,746		
141	Prior Period Balance (with Refund)	In 21 / 6	-	-	-	-	-	-	1,249,944	1,249,944	1,249,944	1,249,944	1,249,944	1,249,944	-	7,489,663		
142	Total Forecast Direct Gas Costs & Working Capital		-	-	-	-	-	-	4,616,508	3,444,762	3,136,029	3,312,656	3,289,721	5,197,700	-	15,497,712		
143																		
144	Beginning Balance	Account 1163-1754 1/ Oct Collections & Unbilled	\$ 1,016,834	\$ 1,021,431	\$ 1,026,202	\$ 1,030,995	\$ 1,035,345	\$ 1,040,182	\$ 1,044,884	\$ 817,330	\$ 670,718	\$ 553,066	\$ 423,086	\$ 265,333	\$ (52,371)	\$ 1,016,834		
145	Forecast Bad Debt	In 142 * 0.0086115193369296	-	-	-	-	-	-	39,755	29,665	27,006	28,527	28,329	44,760	-	198,042		
147																		
148	Projected Revenues w/o int	In 184 * In 187	-	-	-	-	-	-	(54,889)	(143,112)	(118,816)	(120,416)	(178,464)	(379,622)	(219,557)	(1,214,876)		
149	Projected Unbilled Revenue	In 185 * In 187	-	-	-	-	-	-	(216,759)	(249,924)	(278,617)	(318,983)	(328,154)	(311,493)	-	(1,703,931)		
150	Reverse Prior Month Unbilled		-	-	-	-	-	-	216,759	249,924	278,617	318,983	328,154	311,493	-	1,703,931		
151																		
152	Bad Debt Billed	Account 1163-1754 2/	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
153	Add Net Adjustments		-	-	-	-	-	-	-	-	-	-	-	-	-	-		
154																		
155	Monthly (Over)/Under Recovery		\$ 1,016,834	\$ 1,021,431	\$ 1,026,202	\$ 1,030,995	\$ 1,035,345	\$ 1,040,182	\$ 812,991	\$ 670,718	\$ 550,215	\$ 420,811	\$ 263,781	\$ (52,868)	\$ 39,564	\$ -		
156																		
157	Average Monthly Balance	(In 144 + 155)/ 2	\$ 1,016,834	\$ 1,021,431	\$ 1,026,202	\$ 1,030,995	\$ 1,035,345	\$ 1,040,182	\$ 928,938	\$ 744,024	\$ 610,466	\$ 486,939	\$ 343,433	\$ 106,233	\$ (6,404)	\$ -		
158																		
159	Interest Rate	Prime Rate	5.50%	5.50%	5.50%	5.50%	5.50%	5.50%	5.50%	5.50%	5.50%	5.50%	5.50%	5.50%	5.50%	5.50%		
160																		
161	Interest Applied	In 157 * In 159 / 365 * Days of Mo.	\$ 4,597	\$ 4,771	\$ 4,794	\$ 4,350	\$ 4,836	\$ 4,702	\$ 4,339	\$ 3,363	\$ 2,852	\$ 2,275	\$ 1,553	\$ 496	\$ -	\$ 42,928		
162																		
163	(Over)/Under Balance	In 155 + In 161	\$ 1,016,834	\$ 1,021,431	\$ 1,026,202	\$ 1,030,995	\$ 1,035,345	\$ 1,040,182	\$ 817,330	\$ 674,081	\$ 553,066	\$ 423,086	\$ 265,333	\$ (52,371)	\$ (6,404)	\$ 42,928		
164																		
165																		
166	Calculation of Bad Debt with Interest																	
167																		
168	Beginning Balance		\$ 1,016,834	\$ 1,021,431	\$ 1,026,202	\$ 1,030,995	\$ 1,035,345	\$ 1,040,182	\$ 1,044,884	\$ 805,478	\$ 654,486	\$ 530,324	\$ 393,222	\$ 227,144	\$ (106,587)	\$ 1,016,834		
169	Forecast Bad Debt	In 146	-	-	-	-	-	-	39,755	29,665	27,006	28,527	28,329	44,760	-	198,042		
170	Projected Revenues with int.	In 184 * 189	-	-	-	-	-	-	(57,281)	(149,347)	(123,992)	(125,662)	(186,239)	(396,161)	(229,122)	(1,267,803)		
171	Projected Unbilled Revenue	In 185 * 189	-	-	-	-	-	-	(226,202)	(260,812)	(290,756)	(332,880)	(342,451)	(325,063)	-	(1,778,164)		
172	Reverse Prior Month Unbilled		-	-	-	-	-	-	226,202	260,812	290,756	332,880	342,451	325,063	-	1,778,164		
173	Bad Debt Billed	In 152	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
174	Add Interest	In 161	-	-	-	-	-	-	4,339	3,363	2,852	2,275	1,553	496	-	14,878		
175	Add Net Adjustments	In 153	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
176	Monthly (Over)/Under Recovery		\$ 1,016,834	\$ 1,021,431	\$ 1,026,202	\$ 1,030,995	\$ 1,035,345	\$ 1,040,182	\$ 805,496	\$ 654,549	\$ 530,408	\$ 393,339	\$ 227,294	\$ (106,373)	\$ (10,646)	\$ (38,050)		
177																		
178	Average Monthly Balance	(In 168 + 176)/ 2	\$ 1,016,834	\$ 1,021,431	\$ 1,026,202	\$ 1,030,995	\$ 1,035,345	\$ 1,040,182	\$ 925,190	\$ 730,014	\$ 592,447	\$ 461,832	\$ 310,258	\$ 60,386	\$ (58,616)	\$ -		
179																		
180	Interest Applied	In 159 * In 178 / 365 * Days of Month	4,597	4,771	4,794	4,350	4,836	4,702	4,322	3,300	2,767	2,157	1,403	282	-	\$ 42,281		
181																		
182	(Over)/Under Balance	-In 174 +In 176 + In 180	\$ 1,016,834	\$ 1,021,431	\$ 1,026,202	\$ 1,030,995	\$ 1,035,345	\$ 1,040,182	\$ 805,478	\$ 654,486	\$ 530,324	\$ 393,222	\$ 227,144	\$ (106,587)	\$ (10,646)	\$ (10,646)		
183																		
184	Forecast Therm Sales	In 53	-	-	-	-	-	-	1,068,480	2,785,832	2,312,881	2,344,026	3,473,998	7,389,766	4,273,922	23,648,905		
185	Unbilled Therm	In 55	-	-	-	-	-	-	4,219,447	4,865,052	5,423,594	6,209,362	6,387,887	6,063,554	-	-		
186																		
187	COG Rate Without Interest	Sch. 3, pg. 4, In 245 col. (c)	-	-	-	-	-	-	\$0.0514	\$0.0514	\$0.0514	\$0.0514	\$0.0514	\$0.0514	\$0.0514	\$0.0514		
188																		
189	COG With Interest	Sch. 3 pg. 4 In 245 col. (d)	-	-	-	-	-	-	\$0.0536	\$0.0536	\$0.0536	\$0.0536	\$0.0536	\$0.0536	\$0.0536	\$0.0536		
190																		
191																		
192																		
193	Total Interest	In 48 + 119 + 180	\$ 38,812	\$ 40,287	\$ 40,475	\$ 36,729	\$ 40,836	\$ 39,703	\$ 36,317	\$ 27,476	\$ 22,947	\$ 17,898	\$ 10,931	\$ (416)	\$ -	\$ 351,995		

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

Schedule 4

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3 Off Peak 2023 Summer Cost of Gas Filing

4 Adjustments to Gas Costs

5

6	<u>Adjustments</u>	Prior Period	Refunds from	Broker	Fuel Financing	Transportation	Interruptible	Off System	Capacity	Net Option	Fixed Price	Total
7	(a)	Adjustments	Suppliers /	Revenue		CGA Revenues	Sales Margin	Sales Margin	Release Margin	Premiums	Option	Adjustments
8		(b)	Pipelines	(d)	(e)	(f)	(g)	(h)	(i)	(j)	Administrative	(m)
9			(c)								Costs	
9	Nov-20	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
10	Dec-20	-	-	-	-	-	-	-	-	-	-	-
11	Jan-21	-	-	-	-	-	-	-	-	-	-	-
12	Feb-21	-	-	-	-	-	-	-	-	-	-	-
13	Mar-21	-	-	-	-	-	-	-	-	-	-	-
14	Apr-21	-	-	-	-	-	-	-	-	-	-	-
15	May-21	-	-	-	-	-	-	-	(165,367)	-	-	(165,367)
16	Jun-21	-	-	-	-	-	-	-	(247,836)	-	-	(247,836)
17	Jul-21	-	-	-	-	-	-	-	(389,505)	-	-	(389,505)
18	Aug-21	-	-	-	-	-	-	-	(298,763)	-	-	(298,763)
19	Sep-21	-	-	-	-	-	-	-	(301,189)	-	-	(301,189)
20	Oct-21	-	-	-	-	-	-	-	(158,109)	-	-	(158,109)
21												
22	Total Off Peak Period	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ (1,560,769)	\$ -	\$ -	\$ (1,560,769)

1 Liberty Utilities (EnergyNorth Natural Gas) Corp.

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Schedule 5A
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3 Off Peak 2023 Summer Cost of Gas Filing

4 Demand Costs

	(a)	Peak (b)	Reference (c)	May-23 (d)	Jun-23 (e)	Jul-23 (f)	Aug-23 (g)	Sep-23 (h)	Oct-23 (i)	Off Peak May - Oct Total (j)	Peak May - Oct Total (k)
11 Supply											
12 Niagara Supply		Sch	5B, In 9 * Sch 5C In 9 x days	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
13 Subtotal Supply Demand & Reservation Charges				\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
15 Pipeline											
16 Iroquois Gas Trans Service RTS 470-0		Sch	5B, In 12 * Sch 5C In 12 x days								
17 Tenn Gas Pipeline 95346 Z5-Z6		Sch	5B, In 13 * Sch 5C In 14 x days								
18 Tenn Gas Pipeline 2302 Z5-Z6		Sch	5B, In 14 * Sch 5C In 16 x days								
19 Tenn Gas Pipeline 8587 Z0-Z6		Sch	5B, In 15 * Sch 5C In 18 x days								
20 Tenn Gas Pipeline 8587 Z1-Z6		Sch	5B, In 16 * Sch 5C In 20 x days								
21 Tenn Gas Pipeline 8587 Z4-Z6		Sch	5B, In 17 * Sch 5C In 22 x days								
22 Tenn Gas Pipeline (Dracut) 42076 Z6-Z6		Sch	5B, In 18 * Sch 5C In 24 x days								
23 Tenn Gas Pipeline (Dracut) 358905 Z6-Z7		Sch	5B, In 19 * Sch 5C In 25 x days								
24 Tenn Gas Pipeline (Concord Lateral) Z6-Z6		Sch	5B, In 20 * Sch 5C In 28 x days								
25 Portland Natural Gas Trans Service		Sch	5B, In 21 * Sch 5C In 30 x days								
26 Portland Natural Gas		Sch	5B, In 22 * Sch 5C In 31 x days								
27 ANE (TransCanada via Union to Iroquois)		Sch	5B, In 23 * Sch 5C In 48 x days								
28 TransCanada via Union to Portland		Sch	5B, In 24 * Sch 5C In 49 x days								
29 Tenn Gas Pipeline Z4-Z6 stg 632	peak	Sch	5B, In 25 * Sch 5C In 34 x days								
30 Tenn Gas Pipeline Z4-Z6 stg 11234	peak	Sch	5B, In 26 * Sch 5C In 36 x days								
31 Tenn Gas Pipeline Z5-Z6 stg 11234	peak	Sch	5B, In 27 * Sch 5C In 38 x days								
32 National Fuel FST 2358	peak	Sch	5B, In 28 * Sch 5C In 40 x days								
34 Subtotal Pipeline Demand Charges				\$ 1,627,734	\$ 1,630,470	\$ 1,630,470	\$ 1,630,470	\$ 1,630,470	\$ 1,630,470	\$ 4,889,632	\$ 4,890,452
36 Peaking Supply											
37 Tenn Gas Pipeline (Concord Lateral) Z6-Z6	peak	Sch	5B, In 31 * Sch 5C In 28 x days	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
38 Granite Ridge Demand	peak	Sch	5B, In 32 * Sch 5C In 59 x days	-	-	-	-	-	-	-	-
39 DOMAC Demand NSB041	peak	Per Contract		-	-	-	-	-	-	-	-
40 Subtotal Peaking Demand Charges				\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
42 Subtotal Supply, Pipeline & Peaking		In 13 + In 34 + In 40		\$ 1,627,734	\$ 1,630,470	\$ 1,630,470	\$ 1,630,470	\$ 1,630,470	\$ 1,630,470	\$ 4,889,632	\$ 4,890,452
44 Less Transportation Capacity Credit				\$ (551,314)	\$ (552,240)	\$ (552,240)	\$ (552,240)	\$ (552,240)	\$ (552,240)	\$ (1,656,118)	\$ (1,656,396)
46 Total Supply, Pipeline & Peaking Demand				\$ 1,076,421	\$ 1,078,230	\$ 1,078,230	\$ 1,078,230	\$ 1,078,230	\$ 1,078,230	\$ 3,233,514	\$ 3,234,056

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1 Liberty Utilities (EnergyNorth Natural Gas) Corp.

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3 Off Peak 2023 Summer Cost of Gas Filing

Schedule 5A

4 Demand Costs

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48 Storage

49	Dominion - Demand	peak	Sch 5B, In 36 * Sch 5C In 63 x days	\$ 3,040	\$ 3,040	\$ 3,040	\$ 3,040	\$ 3,040	\$ 3,040	\$ 3,040	\$ -	\$ 18,240
50	Dominion - Storage	peak	Sch 5B, In 37 * Sch 5C In 64 x days	3,266	3,266	3,266	3,266	3,266	3,266	3,266	-	19,595
51	Honeoye - Demand	peak	Sch 5B, In 38 * Sch 5C In 67 x days	8,351	8,351	8,351	8,351	8,351	8,351	8,351	-	50,105
52	National Fuel - Demand	peak	Sch 5B, In 40 * Sch 5C In 69 x days	16,201	16,201	16,201	16,201	16,201	16,201	16,201	-	97,207
53	National Fuel - Capacity	peak	Sch 5B, In 41 * Sch 5C In 70 x days	32,198	32,198	32,198	32,198	32,198	32,198	32,198	-	193,190
54	Tenn Gas Pipeline - Demand	peak	Sch 5B, In 42 * Sch 5C In 73 x days	27,963	27,963	27,963	27,963	27,963	27,963	27,963	-	167,775
55	Tenn Gas Pipeline - Capacity	peak	Sch 5B, In 43 * Sch 5C In 74 x days	27,307	27,307	27,307	27,307	27,307	27,307	27,307	-	163,841

56

57 Subtotal Storage Demand Costs

58				\$ 118,326	\$ 118,326	\$ 118,326	\$ 118,326	\$ 118,326	\$ 118,326	\$ 118,326	\$ -	\$ 709,954
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59

Less Transportation Capacity Credit

60				\$ (40,077)	\$ (40,077)	\$ (40,077)	\$ (40,077)	\$ (40,077)	\$ (40,077)	\$ (40,077)	\$ -	\$ (240,461)
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61

Total Storage Demand Costs

62			In 57 + In 59	\$ 78,249	\$ 78,249	\$ 78,249	\$ 78,249	\$ 78,249	\$ 78,249	\$ 78,249	\$ -	\$ 469,493
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63

Total Demand Charges

64			In 42 + In 57	\$ 1,746,060	\$ 1,748,796	\$ 1,748,796	\$ 1,748,796	\$ 1,748,796	\$ 1,748,796	\$ 1,748,796	\$ 4,889,632	\$ 5,600,406
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65

Total Transportation Capacity Credit

66			In 44 + In 59	\$ (591,391)	\$ (592,317)	\$ (592,317)	\$ (592,317)	\$ (592,317)	\$ (592,317)	\$ (592,317)	\$ (1,656,118)	\$ (1,896,857)
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67

Total Demand Charges less Cap. Cr.

68			In 63 + In 65	\$ 1,154,669	\$ 1,156,479	\$ 1,156,479	\$ 1,156,479	\$ 1,156,479	\$ 1,156,479	\$ 1,156,479	\$ 3,233,514	\$ 3,703,548
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69

Monthly Off Peak Demand

70				\$ 976,531	\$ 979,267	\$ 979,267	\$ 979,267	\$ 979,267	\$ 979,267	\$ 979,267	\$ 4,889,632	\$ -
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71

Monthly Off Peak Transportation Cap Credit

72				(330,751)	(331,678)	(331,678)	(331,678)	(331,678)	(331,678)	(331,678)	(1,656,118)	\$ -
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73

Total Off Peak Demand

74				\$ 645,780	\$ 647,589	\$ 647,589	\$ 647,589	\$ 647,589	\$ 647,589	\$ 647,589	\$ 3,233,514	\$ -
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75

Monthly Peak Demand

76				\$ 769,529	\$ 769,529	\$ 769,529	\$ 769,529	\$ 769,529	\$ 769,529	\$ 769,529	\$ -	\$ 5,600,406
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77

Monthly Peak Transportation Cap Credit

78				(260,639)	(260,639)	(260,639)	(260,639)	(260,639)	(260,639)	(260,639)	-	(1,896,857)
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79

Total Peak Demand

80				\$ 508,889	\$ 508,889	\$ 508,889	\$ 508,889	\$ 508,889	\$ 508,889	\$ 508,889	\$ -	\$ 3,703,548
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1 **Liberty Utilities (EnergyNorth Natural Gas) Corp.**

3 **Off Peak 2023 Summer Cost of Gas Filing**

4 **Demand Volumes**

6		Peak	Reference	May-23	Jun-23	Jul-23	Aug-23	Sep-23	Oct-23
7	(a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)	(i)
8	Supply								
9	Niagara Supply			-	-	-	-	-	-
11	Pipeline								
12	Iroquois Gas Trans Service		RTS 470-01	4,047	4,047	4,047	4,047	4,047	4,047
13	Tenn Gas Pipeline		95346 Z5-Z6	4,000	4,000	4,000	4,000	4,000	4,000
14	Tenn Gas Pipeline		2302 Z5-Z6	3,122	3,122	3,122	3,122	3,122	3,122
15	Tenn Gas Pipeline (long haul)		8587 Z0-Z6	7,035	7,035	7,035	7,035	7,035	7,035
16	Tenn Gas Pipeline (long haul)		8587 Z1-Z6	14,561	14,561	14,561	14,561	14,561	14,561
17	Tenn Gas Pipeline (short haul)		8587 Z4-Z6	3,811	3,811	3,811	3,811	3,811	3,811
18	Tenn Gas Pipeline		42076 FTA Z6-Z6	20,000	20,000	20,000	20,000	20,000	20,000
19	Tenn Gas Pipeline		358905 FTA Z6-Z6	40,000	40,000	40,000	40,000	40,000	40,000
20	Tenn Gas Pipeline (Concord Lateral)		Firm Transportation	30,000	30,000	30,000	30,000	30,000	30,000
21	Portland Natural Gas Trans Service		FT-1999-001	1,000	1,000	1,000	1,000	1,000	1,000
22	Portland Natural Gas		FTN	5,000	5,000	5,000	5,000	5,000	5,000
23	ANE (TransCanada via Union to Iroquois)		Dawn - Parkway to Iroquois	4,047	4,047	4,047	4,047	4,047	4,047
24	TransCanada via Union to Portland		Union Parkway to Portland	5,077	5,077	5,077	5,077	5,077	5,077
25	Tenn Gas Pipeline (short haul)	peak	632 Z4-Z6 (stg)	15,265	15,265	15,265	15,265	15,265	15,265
26	Tenn Gas Pipeline (short haul)	peak	11234 Z4-Z6(stg)	7,082	7,082	7,082	7,082	7,082	7,082
27	Tenn Gas Pipeline (short haul)	peak	11234 Z5-Z6(stg)	1,957	1,957	1,957	1,957	1,957	1,957
28	National Fuel	peak	FST N02358	6,098	6,098	6,098	6,098	6,098	6,098
30	Peaking								
31	Tenn Gas Pipeline (Concord Lateral)	peak		-	-	-	-	-	-
32	Granite Ridge Demand	peak		-	-	-	-	-	-
33	DOMAC Liquid Demand Charge	peak	NSB041	-	-	-	-	-	-
35	Storage								
36	Dominion - Demand	peak	GSS 300076	934	934	934	934	934	934
37	Dominion - Capacity Reservation	peak	GSS 300076	102,700	102,700	102,700	102,700	102,700	102,700
38	Honeoye - Demand	peak	SS-NY	1,362	1,362	1,362	1,362	1,362	1,362
39	Honeoye - Capacity	peak	SS-NY	245,380	245,380	245,380	245,380	245,380	245,380
40	National Fuel - Demand	peak	FSS-1 2357	6,098	6,098	6,098	6,098	6,098	6,098
41	National Fuel - Capacity Reservation	peak	FSS-1 2357	670,800	670,800	670,800	670,800	670,800	670,800
42	Tenn Gas Pipeline - Demand	peak	FS-MA 523	21,844	21,844	21,844	21,844	21,844	21,844
43	Tenn Gas Pipeline - Cap. Reservations	peak	FS-MA 523	1,560,391	1,560,391	1,560,391	1,560,391	1,560,391	1,560,391

1 Liberty Utilities (EnergyNorth Natural Gas) Corp.
2 d/b/a Liberty Utilities
3 Off Peak 2023 Summer Cost of Gas Filing
4 Demand Rates

				May-23	Jun-23	Jul-23	Aug-23	Sep-23	Oct-23	Nov-23	Nov-23	Dec-23	Jan-24	Feb-24	Mar-24	Apr-24	
				31	30	31	31	30	31	184	30	31	31	28	31	30	
				Unit Rate	Unit Rate	Unit Rate	Unit Rate	Unit Rate	Unit Rate	Avg Rate							
6	Tariff Rates																
8	Supply																
9	Niagara Supply		\$ -	Per Contract	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	
11	Pipeline																
12	Iroquois Gas	RTS 470-01	\$ 5.2357	Forth Revised Sheet No. 4	\$ 0.1689	\$ 0.1745	\$ 0.1689	\$ 0.1689	\$ 0.1745	\$ 0.1689	\$ 0.1708	\$ 0.1745	\$ 0.1689	\$ 0.1689	\$ 0.1870	\$ 0.1689	\$ 0.1745
14	Tenn Gas Pipeline	95346 Z5-Z6	\$ 6.1635	19th Rev Sheet No. 14	\$ 0.4746	\$ 0.4904	\$ 0.4746	\$ 0.4746	\$ 0.4904	\$ 0.4746	\$ 0.4799	\$ 0.4904	\$ 0.4746	\$ 0.4746	\$ 0.5254	\$ 0.4746	\$ 0.4904
16	Tenn Gas Pipeline	2302 Z5-Z6	\$ 6.1635	19th Rev Sheet No. 14	\$ 0.1988	\$ 0.2055	\$ 0.1988	\$ 0.1988	\$ 0.2055	\$ 0.1988	\$ 0.2010	\$ 0.2055	\$ 0.1988	\$ 0.1988	\$ 0.2201	\$ 0.1988	\$ 0.2055
18	Tenn Gas Pipeline	8587 Z0-Z6	\$ 19.9267	FT-A (Z0 - Z6)	\$ 0.6428	\$ 0.6642	\$ 0.6428	\$ 0.6428	\$ 0.6642	\$ 0.6428	\$ 0.6499	\$ 0.6642	\$ 0.6428	\$ 0.6428	\$ 0.7117	\$ 0.6428	\$ 0.6642
20	Tenn Gas Pipeline	8587 Z1-Z6	\$ 17.6917	FT-A (Z1 - Z6)	\$ 0.5707	\$ 0.5897	\$ 0.5707	\$ 0.5707	\$ 0.5897	\$ 0.5707	\$ 0.5770	\$ 0.5897	\$ 0.5707	\$ 0.5707	\$ 0.6318	\$ 0.5707	\$ 0.5897
22	Tenn Gas Pipeline	8587 Z4-Z6	\$ 7.1720	FT-A (Z4 - Z6)	\$ 0.2314	\$ 0.2391	\$ 0.2314	\$ 0.2314	\$ 0.2391	\$ 0.2314	\$ 0.2339	\$ 0.2391	\$ 0.2314	\$ 0.2314	\$ 0.2561	\$ 0.2314	\$ 0.2391
24	TGP Dracut	42076 FTA Z6-Z6	\$ 4.0968	19th Rev Sheet No. 14	\$ 0.1322	\$ 0.1366	\$ 0.1322	\$ 0.1322	\$ 0.1366	\$ 0.1322	\$ 0.1336	\$ 0.1366	\$ 0.1322	\$ 0.1322	\$ 0.1463	\$ 0.1322	\$ 0.1366
26	TGP Dracut	358905 FTA Z6-Z6	\$ 4.0968	19th Rev Sheet No. 14	\$ 0.1322	\$ 0.1366	\$ 0.1322	\$ 0.1322	\$ 0.1366	\$ 0.1322	\$ 0.0223	\$ 0.1366	\$ 0.1322	\$ 0.1322	\$ 0.1463	\$ 0.1322	\$ 0.1366
28	TGP Concord Lateral	Firm Transportator	\$ 12.2188	Per contract	\$ 0.3942	\$ 0.4073	\$ 0.3942	\$ 0.3942	\$ 0.4073	\$ 0.3942	\$ 0.3985	\$ 0.4073	\$ 0.3942	\$ 0.3942	\$ 0.4364	\$ 0.3942	\$ 0.4073
30	Portland Natural Gas	FT-1999-001	\$ 18.2633	Negot Dmd /CMDY=Part 4.1 V8	\$ 0.5891	\$ 0.6088	\$ 0.5891	\$ 0.5891	\$ 0.6088	\$ 0.5891	\$ 0.5957	\$ 0.6088	\$ 0.5891	\$ 0.5891	\$ 0.6523	\$ 0.5891	\$ 0.6088
32	Portland Natural Gas	FTN	\$ 22.7943	Negot Dmd /CMDY=Part 4.1 V8	\$ 0.7353	\$ 0.7598	\$ 0.7353	\$ 0.7353	\$ 0.7598	\$ 0.7353	\$ 0.7435	\$ 0.7598	\$ 0.7353	\$ 0.7353	\$ 0.8141	\$ 0.7353	\$ 0.7598
34	Tenn Gas Pipeline	632 Z4-Z6 (stg)	\$ 7.1720	19th Rev Sheet No. 14	\$ 0.2314	\$ 0.2391	\$ 0.2314	\$ 0.2314	\$ 0.2391	\$ 0.2314	\$ 0.2339	\$ 0.2391	\$ 0.2314	\$ 0.2314	\$ 0.2561	\$ 0.2314	\$ 0.2391
36	Tenn Gas Pipeline	11234 Z4-Z6(stg)	\$ 7.1720	19th Rev Sheet No. 14	\$ 0.2314	\$ 0.2391	\$ 0.2314	\$ 0.2314	\$ 0.2391	\$ 0.2314	\$ 0.2339	\$ 0.2391	\$ 0.2314	\$ 0.2314	\$ 0.2561	\$ 0.2314	\$ 0.2391
38	Tenn Gas Pipeline	11234 Z5-Z6(stg)	\$ 6.1635	19th Rev Sheet No. 14	\$ 0.1988	\$ 0.2055	\$ 0.1988	\$ 0.1988	\$ 0.2055	\$ 0.1988	\$ 0.2010	\$ 0.2055	\$ 0.1988	\$ 0.1988	\$ 0.2201	\$ 0.1988	\$ 0.2055
40	National Fuel	FST N02358	\$ 4.9801	4.020 Version 28.0.0 Pg 1	\$ 0.1606	\$ 0.1660	\$ 0.1606	\$ 0.1606	\$ 0.1660	\$ 0.1606	\$ 0.1624	\$ 0.1660	\$ 0.1606	\$ 0.1606	\$ 0.1779	\$ 0.1606	\$ 0.1660
42	ANE Union Gas		\$ 3.6890														
43	TransCanada Pipelines Limited		\$ 11.9690	Union Parkway to Iroquois													
44	Delivery Pressure Demand Charge		\$ 0.6083	Union Parkway to Iroquois													
45	Sub Total Demand Charges		\$ 16.2663														
46	Conversion rate GJ to MMBTU		\$ 1.0551														
47	Conversion rate to US\$	1/0/1900	\$ 1.2706														
48	Demand Rate/US\$		\$ 13.5069		\$ 0.4357	\$ 0.4502	\$ 0.4357	\$ 0.4357	\$ 0.4502	\$ 0.4357	\$ 0.4405	\$ 0.4502	\$ 0.4357	\$ 0.4357	\$ 0.4824	\$ 0.4357	\$ 0.4502
50	ANE Union Gas		\$ 3.6890														
51	TransCanada Pipelines Limited		\$ 20.3913														
52	Delivery Pressure Demand Charge		\$ 0.6083														
53	Sub Total Demand Charges		\$ 24.6887														
54	Conversion rate GJ to MMBTU		\$ 1.0551														
55	Conversion rate to US\$	\$0.0000	\$ 1.2706														
56	Demand Rate/US\$		\$ 20.5005		\$ 0.6613	\$ 0.6833	\$ 0.6613	\$ 0.6613	\$ 0.6833	\$ 0.6613	\$ 0.6687	\$ 0.6833	\$ 0.6613	\$ 0.6613	\$ 0.7322	\$ 0.6613	\$ 0.6833
58	Peaking																
59	Granite Ridge Demand		\$ -	Per Contract	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
60	DOMAC Demand NSB041		\$ -	Per Contract	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
62	Storage																
63	Dominion - Demand	GSS 300076	\$ 3.2548	GSS Settled, Tariff Rec #10.30 \	\$ 0.1050	\$ 0.1085	\$ 0.1050	\$ 0.1050	\$ 0.1085	\$ 0.1050	\$ 0.1064	\$ 0.1085	\$ 0.1050	\$ 0.1050	\$ 0.1162	\$ 0.1050	\$ 0.1085
64	Dominion - Capacity	GSS 300076	\$ 0.0318	GSS Settled, Tariff Rec #10.30 \	\$ 0.0010	\$ 0.0011	\$ 0.0010	\$ 0.0010	\$ 0.0011	\$ 0.0010	\$ 0.0010	\$ 0.0011	\$ 0.0010	\$ 0.0010	\$ 0.0011	\$ 0.0010	\$ 0.0011
65			\$ 3.2866		\$ 0.1060	\$ 0.1096	\$ 0.1060	\$ 0.1060	\$ 0.1096	\$ 0.1060	\$ 0.1074	\$ 0.1096	\$ 0.1060	\$ 0.1060	\$ 0.1174	\$ 0.1060	\$ 0.1096
67	Honeoye - Demand	SS-NY	\$ 6.1299	Sub 1st Rev Sheet No. 5	\$ 0.1977	\$ 0.2043	\$ 0.1977	\$ 0.1977	\$ 0.2043	\$ 0.1977	\$ 0.2004	\$ 0.2043	\$ 0.1977	\$ 0.1977	\$ 0.2189	\$ 0.1977	\$ 0.2043
69	National Fuel - Demand	FSS-1 2357	\$ 2.6568	4.020 Version 28.0.0 Pg 1	\$ 0.0857	\$ 0.0886	\$ 0.0857	\$ 0.0857	\$ 0.0886	\$ 0.0857	\$ 0.0868	\$ 0.0886	\$ 0.0857	\$ 0.0857	\$ 0.0949	\$ 0.0857	\$ 0.0886
70	National Fuel - Capacity	FSS-1 2357	\$ 0.0480	4.020 Version 28.0.0 Pg 1	\$ 0.0015	\$ 0.0016	\$ 0.0015	\$ 0.0015	\$ 0.0016	\$ 0.0015	\$ 0.0016	\$ 0.0016	\$ 0.0015	\$ 0.0015	\$ 0.0017	\$ 0.0015	\$ 0.0016
71			\$ 2.7048		\$ 0.0873	\$ 0.0902	\$ 0.0873	\$ 0.0873	\$ 0.0902	\$ 0.0873	\$ 0.0884	\$ 0.0902	\$ 0.0873	\$ 0.0873	\$ 0.0966	\$ 0.0873	\$ 0.0902
73	Tenn Gas Pipeline	FS-MA 523	\$ 1.2801	22nd Rev Sheet No.61	\$ 0.0413	\$ 0.0427	\$ 0.0413	\$ 0.0413	\$ 0.0427	\$ 0.0413	\$ 0.0418	\$ 0.0427	\$ 0.0413	\$ 0.0413	\$ 0.0457	\$ 0.0413	\$ 0.0427

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6 For Month of:	Reference	May-23	Jun-23	Jul-23	Aug-23	Sep-23	Oct-23	Off-Peak
7 (a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)	May - Oct
8								(i)
9	Supply and Commodity Costs							
10								
11	Pipeline Gas:							
12	Dawn Supply In 63 * In 104							
13	Niagara Supply In 64 * In 109							
14	TGP Supply (Gulf) In 65 * In 129							
15	Dracut Supply 1 - Baseload In 66 * In 114							
16	Dracut Supply 2 - Swing In 67 * In 119							
	Dracut Supply 3 - Swing							
17	City Gate Delivered Supply In 68 * In 135							
18	LNG Truck In 69 * In 137							
19	Propane Truck In 70 * In 139							
20	PNGTS In 71 * In 144							
21	Portland Natural Gas							
22	TGP Supply (Zone 4) In 73 * In 154							
23								
24	Subtotal Pipeline Gas Costs	\$ 4,073,761	\$ 3,035,210	\$ 2,987,877	\$ 2,987,600	\$ 2,857,275	\$ 3,851,096	\$ 19,811,121
25								
26	Volumetric Transportation Costs							
27	Dawn Supply In 63 * In 202							
28	Niagara Supply In 64 * In 213							
29	TGP Supply (Zone 4) In 73 * In 251							
30	Dracut Supply 1 - Baseload In 66 * In 262							
31	Dracut Supply 2 - Swing In 67 * In 262							
	Dracut Supply 3 - Swing							
32	City Gate Delivered Supply In 68 * In 262							
33	TGP Storage - Withdrawals In 78 * In 177							
34								
35	Total Volumetric Transportation Costs	\$ 112,218	\$ 95,914	\$ 91,728	\$ 91,490	\$ 92,036	\$ 105,092	\$ 588,478
36								
37	Less - Gas Refill:							
38	LNG Truck In 87 * In 161							
39	Propane In 88 * In 162							
40	TGP Storage Refill In 89 * In 127							
41	Storage Refill (Trans.) In 89 * In 241							
42								
43	Subtotal Refills	\$ (1,579,090)	\$ (1,621,330)	\$ (1,876,386)	\$ (1,698,195)	\$ (1,588,793)	\$ (691,404)	\$ (9,055,198)
44								
45	Total Supply & Pipeline Commodity Costs In 24 + In 35 + In 43	\$ 2,606,889	\$ 1,509,794	\$ 1,203,220	\$ 1,380,895	\$ 1,360,518	\$ 3,264,784	\$ 11,326,100
46								
47	Storage Gas:							
48	TGP Storage - Withdrawals In 78 * In 169	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
49								
50	Produced Gas:							
51	LNG Vapor In 81 * In 156							
52	Propane In 82 * In 158							
53								
54	Total Produced Gas In 51 + In 52	\$ 31,982	\$ 28,961	\$ 27,994	\$ 26,265	\$ 23,795	\$ 20,142	\$ 159,140
55								
56								
57	Total Commodity Gas & Trans. Costs In 45 + In 48 + In 54	\$ 2,638,872	\$ 1,538,755	\$ 1,231,214	\$ 1,407,160	\$ 1,384,313	\$ 3,284,926	\$ 11,485,240

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59 Volumes (Therms)		Page 2 of 5						
60								
61								
62	Pipeline Gas:	See Schedule 11A						
63	Dawn Supply	842,983	655,282	518,079	495,174	712,922	601,154	3,825,595
64	Niagara Supply	667,764	585,319	584,500	583,125	598,573	687,845	3,707,126
65	TGP Supply (Gulf)	29,663	-	-	-	-	327,579	357,242
66	Dracut Supply 1 - Baseload	-	-	-	-	-	-	-
67	Dracut Supply 2 - Swing	-	-	-	-	-	435,588	435,588
	Dracut Supply 3 - Swing	-	-	-	-	-	-	-
68	City Gate Delivered Supply	-	-	-	-	-	-	-
69	LNG Truck	-	-	4,831	10,843	17,887	110,141	143,701
70	Propane Truck	79,331	71,837	69,440	69,276	73,464	81,717	445,066
71	PNGTS	211,780	185,528	182,354	184,937	189,729	218,149	1,172,479
72	Portland Natural Gas	889,892	29,984	-	-	-	522,990	1,442,866
73	TGP Supply (Zone 4)	5,379,362	4,713,785	4,706,794	4,696,924	4,822,444	5,548,240	29,867,549
74								
75	Subtotal Pipeline Volumes	8,100,776	6,241,736	6,065,997	6,040,279	6,415,019	8,533,404	41,397,212
76								
77	Storage Gas:							
78	TGP Storage	-	-	-	-	-	-	-
79								
80	Produced Gas:							
81	LNG Vapor	20,005	18,116	17,511	17,470	18,526	20,607	112,234
82	Propane	-	-	-	-	-	-	-
83								
84	Subtotal Produced Gas	20,005	18,116	17,511	17,470	18,526	20,607	112,234
85								
86	Less - Gas Refill:							
87	LNG Truck	-	-	(4,831)	(10,843)	(17,887)	(110,141)	(143,701)
88	Propane	(79,331)	(71,837)	(69,440)	(69,276)	(73,464)	(81,717)	(445,066)
89	TGP Storage Refill	(2,622,767)	(2,671,728)	(3,066,813)	(2,770,444)	(2,599,354)	(1,122,012)	(14,853,118)
90								
91	Subtotal Refills	(2,702,098)	(2,743,565)	(3,141,083)	(2,850,564)	(2,690,705)	(1,313,870)	(15,441,885)
92								
93	Total Sendout Volumes	5,418,683	3,516,286	2,942,425	3,207,185	3,742,840	7,240,141	26,067,561
94								
95								
96								

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		Average Rate							
97		REDACTED							
98	Gas Costs and Volumetric Transportation Rates	REDACTED							
99		REDACTED							
100	Pipeline Gas:	REDACTED							
101	Dawn Supply	REDACTED							
102	NYMEX Price	Sch 7, In 10/10	REDACTED						
103	Basis Differential		REDACTED						
104	Net Commodity Costs		REDACTED						
105		REDACTED							
106	Niagara Supply	REDACTED							
107	NYMEX Price	Sch 7, In 10/10	REDACTED						
108	Basis Differential		REDACTED						
109	Net Commodity Costs		REDACTED						
110		REDACTED							
111	Dracut Supply 1 - Baseload	REDACTED							
112	Commodity Costs - NYMEX Price	Sch 7, In 10 / 10	REDACTED						
113	Basis Differential		REDACTED						
114	Net Commodity Costs		REDACTED						
115		REDACTED							
116	Dracut Supply 2 - Swing	REDACTED							
117	Commodity Costs - NYMEX Price	Sch 7, In 10 / 10	REDACTED						
118	Basis Differential		REDACTED						
119	Net Commodity Costs		REDACTED						
120		REDACTED							
121	Dracut Supply 3 - Swing	Sch 7, In 10 / 10	REDACTED						
122	Commodity Costs - NYMEX Price		REDACTED						
123	Basis Differential		REDACTED						
124	Net Commodity Costs		REDACTED						
125		REDACTED							
126	TGP Supply (Gulf)	REDACTED							
127	NYMEX Price	Sch 7, In 10/10	REDACTED						
128	Basis Differential		REDACTED						
129	Net Commodity Costs		REDACTED						
130		REDACTED							
131		REDACTED							
132	TGP Citygate Supply	REDACTED							
133	NYMEX Price	Sch 7, In 10/10	REDACTED						
134	Basis Differential		REDACTED						
135	Net Commodity Costs		REDACTED						
136		REDACTED							
137	LNG Truck	Sch 7, In 10/10	\$0.0000	\$0.0000	\$0.0000	\$0.0000	\$0.0000	\$0.0000	
138		REDACTED							
139	Propane Truck	NYMEX - Propane	\$0.0000	\$0.0000	\$0.0000	\$0.0000	\$0.0000	\$0.0000	
140		REDACTED							
141	PNGTS	REDACTED							
142	NYMEX Price	Sch 7, In 10/10	REDACTED						
143	Additional Cost		REDACTED						
144	Net Commodity Cost		REDACTED						
145		REDACTED							
146	PNGTS EXP	REDACTED							
147	NYMEX Price	Sch 7, In 10/10	REDACTED						
148	Basis Differential		REDACTED						
149	Net Commodity Cost		REDACTED						
150		REDACTED							
151	TGP Supply (Zone 4)	REDACTED							
152	NYMEX Price	Sch 7, In 10/10	REDACTED						
153	Basis Differential		REDACTED						
154	Net Commodity Cost		\$0.4954	\$0.4797	\$0.4867	\$0.4899	\$0.4284	\$0.4309	\$0.4685
155		REDACTED							
156	LNG Vapor (Storage)	Sch 13, In 97 / 10	\$1.5987	\$1.5987	\$1.5987	\$1.5035	\$1.2844	\$0.9775	\$1.4269
157		REDACTED							
158	Propane	Sch 13, In 67 / 10	\$1.6351	\$1.4401	\$1.2997	\$1.1878	\$1.0939	\$1.0092	\$1.2776
159		REDACTED							
160	Storage Refill:	REDACTED							
161	LNG Truck	In 137	\$0.0000	\$0.0000	\$0.0000	\$0.0000	\$0.0000	\$0.0000	\$0.0000
162	Propane	In 139	\$0.0000	\$0.0000	\$0.0000	\$0.0000	\$0.0000	\$0.0000	\$0.0000
163		REDACTED							
164		REDACTED							

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			Average Rate						
183	Dawn Supply Volumetric Transportation Charge								
184	Commodity Costs	Ln 104							
185									
186	TransCanada - Commodity Rate/GJ	Dawn - Parkway to Iroquois	\$0.00040	\$0.00040	\$0.00040	\$0.00040	\$0.00040	\$0.00040	\$0.00040
187	Conversion Rate GL to MMBTU		1.0551	1.0551	1.0551	1.0551	1.0551	1.0551	1.0551
188	Conversion Rate to US\$	1/0/1900	1.2706	1.2706	1.2706	1.2706	1.2706	1.2706	1.2706
189	Commodity Rate/US\$	In 186 x In 187 x In 188	\$0.00054	\$0.00054	\$0.00054	\$0.00054	\$0.00054	\$0.00054	\$0.00054
190	TransCanada Fuel %	Dawn - Parkway to Iroquois	0.82%	0.82%	0.00%	0.00%	0.00%	0.00%	0.27%
191	TransCanada Fuel * Percentage	In 184 x In 190	\$0.00438	\$0.00440	\$0.00000	\$0.00000	\$0.00000	\$0.00000	\$0.00146
192	Subtotal TransCanada		\$0.00491	\$0.00493	\$0.00054	\$0.00054	\$0.00054	\$0.00054	\$0.00200
193	IGTS - Z1 RTS Commodity	Forth Revised Sheet No. 4	\$0.00034	\$0.00034	\$0.00034	\$0.00034	\$0.00034	\$0.00034	\$0.00034
194	IGTS - Z1 RTS ACA Rate Commodity	Forth Revised Sheet No. 4	\$0.00015	\$0.00015	\$0.00015	\$0.00015	\$0.00015	\$0.00015	\$0.00015
195	IGTS - Z1 RTS Deferred Asset Surcharge	Forth Revised Sheet No. 4	\$0.00000	\$0.00000	\$0.00000	\$0.00000	\$0.00000	\$0.00000	\$0.00000
196	Subtotal IGTS - Trans Charge - Z1 RTS Commodity		\$0.00049	\$0.00049	\$0.00049	\$0.00049	\$0.00049	\$0.00049	\$0.00049
197	TGP NET-NE - Comm. Segments 3 & 4	21st Rev Sheet No. 15	\$0.00015	\$0.00015	\$0.00015	\$0.00015	\$0.00015	\$0.00015	\$0.00015
198	IGTS -Fuel Use Factor - Percentage	Forth Revised Sheet No. 4	1.00%	1.00%	1.00%	1.00%	1.00%	1.00%	1.00%
199	IGTS -Fuel Use Factor - Fuel * Percentage	In 184 x In 198	\$0.00535	\$0.00538	\$0.00540	\$0.00540	\$0.00539	\$0.00542	\$0.00539
200	TGP FTA Fuel Charge % Z 5-6	18th Rev Sheet No. 32	1.09%	1.09%	1.09%	1.09%	1.09%	1.09%	1.09%
201	TGP FTA Fuel * Percentage	In 184 x In 200	\$0.00583	\$0.00586	\$0.00588	\$0.00589	\$0.00587	\$0.00591	\$0.00587
202	Total Volumetric Transportation Charge - Dawn Supply		\$0.01673	\$0.01681	\$0.01246	\$0.01246	\$0.01244	\$0.01251	\$0.01390
203									
204									
205	Niagara Supply Volumetric Transportation Charge								
206	Commodity Costs	Ln 109							
207									
208	TGP FTA - FTA Z 5-6 Comm. Rate	21st Rev Sheet No. 15	\$0.00693	\$0.00693	\$0.00693	\$0.00693	\$0.00693	\$0.00693	\$0.00693
209	TGP FTA - FTA Z 5-6 - ACA Rate	21st Rev Sheet No. 15	<u>\$0.00015</u>	<u>\$0.0002</u>	<u>\$0.0002</u>	<u>\$0.0002</u>	<u>\$0.0002</u>	<u>\$0.0002</u>	<u>\$0.0002</u>
210	Subtotal TGP FTA - FTA Z 5-6 Commodity Rate		\$0.00708	\$0.0071	\$0.0071	\$0.0071	\$0.0071	\$0.0071	\$0.0071
211	TGP FTA Fuel Charge % Z 5-6	18th Rev Sheet No. 32	1.09%	1.09%	1.09%	1.09%	1.09%	1.09%	1.09%
212	TGP FTA Fuel * Percentage	In 206 x In 211	\$0.00580	\$0.00583	\$0.00585	\$0.00585	\$0.00584	\$0.00588	\$0.00584
213	Total Volumetric Transportation Rate - Niagara Supply		\$0.01288	\$0.01291	\$0.01293	\$0.01293	\$0.01292	\$0.01296	\$0.01292
214									
215									
216									

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			Average Rate					
217								
218								
219								
220	TGP Direct Volumetric Transportation Charge							
221	Commodity Costs	Ln 127						
222								
223	TGP - Max Comm. Base Rate - Z 0-6	21st Rev Sheet No. 15	\$0.02616	\$0.02616	\$0.02616	\$0.02616	\$0.02616	\$0.02616
224	TGP - Max Commodity ACA Rate - Z 0-6	21st Rev Sheet No. 15	\$0.00015	\$0.00015	\$0.00015	\$0.00015	\$0.00015	\$0.00015
225	Subtotal TGP - Max Comm. Rate Z 0-6		\$0.02631	\$0.02631	\$0.02631	\$0.02631	\$0.02631	\$0.02631
226	Prorated Percentage		32.60%	32.60%	32.60%	32.60%	32.60%	32.60%
227	Prorated TGP - Max Commodity Rate - Z 0-6		\$0.00858	\$0.00858	\$0.00858	\$0.00858	\$0.00858	\$0.00858
228	TGP - Max Comm. Base Rate - Z 1-6	21st Rev Sheet No. 15	\$0.02283	\$0.02283	\$0.02283	\$0.02283	\$0.02283	\$0.02283
229	TGP - Max Commodity ACA Rate - Z 1-6	21st Rev Sheet No. 15	\$0.00015	\$0.00015	\$0.00015	\$0.00015	\$0.00015	\$0.00015
230	Subtotal TGP - Max Commodity Rate - Z 1-6		\$0.02298	\$0.02298	\$0.02298	\$0.02298	\$0.02298	\$0.02298
231	Prorated Percentage		67.40%	67.40%	67.40%	67.40%	67.40%	67.40%
232	Prorated TGP - Trans Charge - Max Commodity Rate - Z 1-6		\$0.01549	\$0.01549	\$0.01549	\$0.01549	\$0.01549	\$0.01549
233	TGP - Fuel Charge % - Z 0-6	18th Rev Sheet No. 32	5.31%	5.31%	5.31%	5.31%	5.31%	5.31%
234	Prorated Percentage		32.6%	32.6%	32.6%	32.6%	32.6%	32.6%
235	Prorated TGP Fuel Charge % - Z 0-6		1.73%	1.73%	1.73%	1.73%	1.73%	1.73%
236	TGP - Fuel Charge % - Z 1-6	18th Rev Sheet No. 32	4.64%	4.64%	4.64%	4.64%	4.64%	4.64%
237	Prorated Percentage		67.40%	67.40%	67.40%	67.40%	67.40%	67.40%
238	Prorated TGP Fuel Charge - Fuel Charge % - Z 1-6		3.13%	3.13%	3.13%	3.13%	3.13%	3.13%
239	TGP - Fuel Charge % - Z 0-6	In 221 x In 235	\$0.00941	\$0.00947	\$0.00957	\$0.00955	\$0.00946	\$0.00953
240	TGP - Fuel Charge % - Z 1-6	In 221 x In 238	\$0.01700	\$0.01711	\$0.01730	\$0.01725	\$0.01710	\$0.01722
241	Total Volumetric Transportation Rate - TGP (Direct)		\$0.05047	\$0.05065	\$0.05094	\$0.05087	\$0.05063	\$0.05073
242								
243	TGP (Zone 4 Purchase) Volumetric Transportation Charge							
244	Commodity Costs	Ln 127						
245								
246	TGP - Max Comm. Base Rate - Z 4-6	21st Rev Sheet No. 15	\$0.00911	\$0.00911	\$0.00911	\$0.00911	\$0.00911	\$0.00911
247	TGP - Max Commodity ACA Rate - Z 4-6	21st Rev Sheet No. 15	\$0.00015	\$0.00015	\$0.00015	\$0.00015	\$0.00015	\$0.00015
248	Subtotal TGP - Max Commodity Rate - Z 4-6		\$0.00926	\$0.00926	\$0.00926	\$0.00926	\$0.00926	\$0.00926
249	TGP - Fuel Charge % - Z 4-6	18th Rev Sheet No. 32	1.49%	1.49%	1.49%	1.49%	1.49%	1.49%
250	TGP - Fuel Charge	In 244 x In 249	\$0.00738	\$0.00715	\$0.00725	\$0.00730	\$0.00638	\$0.00642
251	Total Vol. Trans. Rate - TGP (Zone 6)		\$0.01664	\$0.01641	\$0.01651	\$0.01656	\$0.01564	\$0.01624
252								
253								
254	TGP Dracut							
255	Commodity Costs - NYMEX Price	Ln 114						
256								
257	TGP - Trans Charge - Comm. - Z 6-6	21st Rev Sheet No. 15	\$0.00296	\$0.00296	\$0.00296	\$0.00296	\$0.00296	\$0.00296
258	TGP - Trans Charge - ACA Rate - Z 6-6	21st Rev Sheet No. 15	\$0.00015	\$0.00015	\$0.00015	\$0.00015	\$0.00015	\$0.00015
259	Subtotal TGP - Trans Charge - Max Commodity Rate - Z 6-6		\$0.00311	\$0.00311	\$0.00311	\$0.00311	\$0.00311	\$0.00311
260	TGP - Fuel Charge % - Z 6-6	18th Rev Sheet No. 32	0.13%	0.13%	0.13%	0.13%	0.13%	0.13%
261	TGP - Fuel Charge	In 255 x In 260	\$0.00069	\$0.00074	\$0.00075	\$0.00072	\$0.00068	\$0.00071
262	Total Volumetric Transportation Rate - TGP Dracut		\$0.00380	\$0.00385	\$0.00386	\$0.00383	\$0.00379	\$0.00382
263								
264								

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1 **Liberty Utilities (EnergyNorth Natural Gas) Corp.**

2 Schedule 7

3 **Off Peak 2023 Summer Cost of Gas Filing** Page 1 of 1

4 **NYMEX Futures @ Henry Hub** May - Oct

5 Off Peak

6 For Month of: 8/23/2022 Reference May-23 Jun-23 Jul-23 Aug-23 Sep-23 Oct-23 May - Oct

7 (a) (b) (c) (d) (e) (f) (g) (h) Strip Average

8 **I. NYMEX Opening Prices as of:**

9 Opening Prices Line 206 \$5.5160 \$5.5620 \$5.6090 \$5.6210 \$5.6060 \$5.6540 \$ 5.5947

10 \$5.5160 \$5.5620 \$5.6090 \$5.6210 \$5.6060 \$5.6540 \$ 5.5947

Liberty Utilities (EnergyNorth Natural Gas) Corp. d/b/a Liberty
Off Peak 2023 Summer Cost of Gas Filing

Schedule 8
Off-Peak
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Annual Bill Comparisons, May 22 Oct 22 Filing vs May 23 Oct

1 23 Residential Heating Rate R 3

2 November 2022 October 2023

3 Residential Heating (R3)

	(1)	(2)	(3)	(4)	(5)	(6)	(7)
	November 1, 2022 April 30, 2023						
	Nov 22	Dec 22	Jan 23	Feb 23	Mar 23	Apr 23	Winter Nov Apr
4 Typical Usage (Therms)	45	92	117	148	130	88	621
5							
6							
7	8/1/2021 - 7/31/2022	8/1/2022 - Current					
8 Winter:							
9 Cust. Chg	\$ 15.39	\$ 15.39	\$ 15.39	\$ 15.39	\$ 15.39	\$ 15.39	\$ 92.34
10 Headblock	\$ 0.5632	\$ 0.6337	\$ -	\$ -	\$ -	\$ -	\$ -
11 Tailblock	\$ 0.5632	\$ 0.6337	\$ 28.41	\$ 58.57	\$ 74.27	\$ 93.79	\$ 82.64
12 HB Threshold	-	-	-	-	-	-	-
13							
14 Summer:	8/1/2021 - 7/31/2022	8/1/2022 - Current					
15 Cust. Chg	\$ 15.39	\$ 15.39	\$ 15.39	\$ 15.39	\$ 15.39	\$ 15.39	\$ 92.34
16 Headblock	\$ 0.5632	\$ 0.6337	\$ -	\$ -	\$ -	\$ -	\$ -
17 Tailblock	\$ 0.5632	\$ 0.6337	\$ 28.41	\$ 58.57	\$ 74.27	\$ 93.79	\$ 82.64
18 HB Threshold	-	-	-	-	-	-	-
19							
20 Total Base Rate Amount	\$ 43.80	\$ 73.96	\$ 89.66	\$ 109.18	\$ 98.03	\$ 71.07	\$ 485.70
21							
22 COG Rate - (Seasonal)	\$ 1.7335	\$ 1.7335	\$ 1.7335	\$ 1.7335	\$ 1.7335	\$ 1.7335	\$ 1.7335
23 COG amount	\$ 77.71	\$ 160.21	\$ 203.17	\$ 256.57	\$ 226.07	\$ 152.30	\$ 1,076.04
24							
25 LDAC	\$ 0.1508	\$ 0.1508	\$ 0.1508	\$ 0.1508	\$ 0.1508	\$ 0.1508	\$ 0.1508
26 LDAC amount	\$ 6.76	\$ 13.94	\$ 17.67	\$ 22.32	\$ 19.67	\$ 13.25	\$ 93.61
27							
28 Total Bill	\$ 128.27	\$ 248.10	\$ 310.51	\$ 388.07	\$ 343.77	\$ 236.62	\$ 1,655.34
29							

30 November 2021 October 2022

31 Residential Heating (R3)

	(1)	(2)	(3)	(4)	(5)	(6)	(7)
	November 1, 2022 April 30, 2023						
	Nov 21	Dec 21	Jan 22	Feb 22	Mar 22	Apr 22	Winter Nov Apr
32 Typical Usage (Therms)	45	92	117	148	130	88	621
33							
34							
35							
36 Winter:	8/1/2021 - 7/31/2022	8/1/2022 - Current					
37 Cust. Chg	\$ 15.39	\$ 15.39	\$ 15.39	\$ 15.39	\$ 15.39	\$ 15.39	\$ 92.34
38 Headblock	\$ 0.5632	\$ 0.6337	\$ -	\$ -	\$ -	\$ -	\$ -
39 Tailblock	\$ 0.5632	\$ 0.6337	\$ 25.25	\$ 52.05	\$ 66.01	\$ 83.36	\$ 73.45
40 HB Threshold	-	-	-	-	-	-	-
41							
42 Summer:	8/1/2021 - 7/31/2022	8/1/2022 - Current					
43 Cust. Chg	\$ 15.39	\$ 15.39	\$ 15.39	\$ 15.39	\$ 15.39	\$ 15.39	\$ 92.34
44 Headblock	\$ 0.5632	\$ 0.6337	\$ -	\$ -	\$ -	\$ -	\$ -
45 Tailblock	\$ 0.5632	\$ 0.6337	\$ 25.25	\$ 52.05	\$ 66.01	\$ 83.36	\$ 73.45
46 HB Threshold	-	-	-	-	-	-	-
47							
48 Total Base Rate Amount	\$ 40.64	\$ 67.44	\$ 81.40	\$ 98.75	\$ 88.84	\$ 64.87	\$ 441.94
49							
50 COG Rate - (Seasonal)	\$ 1.1339	\$ 1.0173	\$ 0.7246	\$ 0.5956	\$ 0.7743	\$ 1.1747	\$ 0.8411
51 COG amount	\$ 50.83	\$ 94.02	\$ 84.93	\$ 88.15	\$ 100.98	\$ 103.21	\$ 522.12
52							
53 LDAC	\$ 0.1397	\$ 0.1012	\$ 0.1154	\$ 0.1154	\$ 0.1318	\$ 0.1318	\$ 0.1208
54 LDAC amount	\$ 6.26	\$ 9.35	\$ 13.53	\$ 17.08	\$ 17.19	\$ 11.58	\$ 74.99
55							
56 Total Bill	\$ 97.73	\$ 170.81	\$ 179.85	\$ 203.98	\$ 207.01	\$ 179.66	\$ 1,039.04
57							

58 DIFFERENCE:

59 Total Bill	\$ 30.54	\$ 77.29	\$ 130.66	\$ 184.09	\$ 136.77	\$ 56.96	\$ 616.30
60 % Change	31.25%	45.25%	72.65%	90.25%	66.07%	31.70%	59.31%
61							
62 Base Rate	\$ 3.16	\$ 6.52	\$ 8.26	\$ 10.43	\$ 9.19	\$ 6.19	\$ 43.76
63 % Change	7.78%	9.66%	10.15%	10.57%	10.35%	9.55%	9.90%
64							
65 COG & LDAC	\$ 27.38	\$ 70.78	\$ 122.40	\$ 173.65	\$ 127.57	\$ 50.76	\$ 572.54
66 % Change	47.95%	68.47%	124.32%	165.02%	107.96%	44.23%	95.89%

(8)	(9)	(10)	(11)	(12)	(13)	(14)	
May 1, 2023 October 31, 2023							
May 23	Jun 23	Jul 23	Aug 23	Sep 23	Oct 23	Summer May Oct	Total Nov Oct
55	24	15	14	13	19	141	762
\$ 15.39	\$ 15.39	\$ 15.39	\$ 15.39	\$ 15.39	\$ 15.39	\$ 92.34	\$ 184.68
\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
\$ 34.81	\$ 15.26	\$ 9.79	\$ 8.89	\$ 8.50	\$ 12.00	\$ 89.24	\$ 482.60
\$ 50.20	\$ 30.65	\$ 25.18	\$ 24.28	\$ 23.89	\$ 27.39	\$ 181.58	\$ 667.28
\$ 1.0109	\$ 1.0109	\$ 1.0109	\$ 1.0109	\$ 1.0109	\$ 1.0109	\$ 1.0109	\$ 1.5999
\$ 55.53	\$ 24.34	\$ 15.62	\$ 14.19	\$ 13.55	\$ 19.14	\$ 142.37	\$ 1,218.40
\$ 0.1508	\$ 0.1508	\$ 0.1508	\$ 0.1508	\$ 0.1508	\$ 0.1508	\$ 0.1508	\$ 0.1508
\$ 8.28	\$ 3.63	\$ 2.33	\$ 2.12	\$ 2.02	\$ 2.85	\$ 21.24	\$ 114.84
\$ 114.01	\$ 58.62	\$ 43.13	\$ 40.59	\$ 39.46	\$ 49.38	\$ 345.19	\$ 2,000.53

(8)	(9)	(10)	(11)	(12)	(13)	(14)	
May 1, 2023 October 31, 2023							
May 22	Jun 22	Jul 22	Aug 22	Sep 22	Oct 22	Summer May Oct	Total Nov Oct
55	24	15	14	13	19	141	762
\$ 15.39	\$ 15.39	\$ 15.39	\$ 15.39	\$ 15.39	\$ 15.39	\$ 92.34	\$ 184.68
\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
\$ 30.94	\$ 13.56	\$ 8.70	\$ 8.89	\$ 8.50	\$ 12.00	\$ 82.58	\$ 432.18
\$ 46.33	\$ 28.95	\$ 24.09	\$ 24.28	\$ 23.89	\$ 27.39	\$ 174.92	\$ 616.86
\$ 0.3935	\$ 0.3935	\$ 0.3935	\$ 0.3935	\$ 0.3935	\$ 0.3935	\$ 0.3935	\$ 0.7584
\$ 21.62	\$ 9.48	\$ 6.08	\$ 5.52	\$ 5.28	\$ 7.45	\$ 55.42	\$ 577.53
\$ 0.1318	\$ 0.1318	\$ 0.1318	\$ 0.1318	\$ 0.1318	\$ 0.1318	\$ 0.1318	\$ 0.1228
\$ 7.24	\$ 3.17	\$ 2.04	\$ 1.85	\$ 1.77	\$ 2.50	\$ 18.56	\$ 93.55
\$ 75.18	\$ 41.60	\$ 32.21	\$ 31.66	\$ 30.93	\$ 37.33	\$ 248.90	\$ 1,287.94

\$ 38.83	\$ 17.02	\$ 10.92	\$ 8.93	\$ 8.53	\$ 12.05	\$ 96.28	\$ 712.58
51.65%	40.92%	33.91%	28.21%	27.59%	32.27%	38.68%	55.33%
\$ 3.87	\$ 1.70	\$ 1.09	\$ -	\$ -	\$ -	\$ 6.66	\$ 50.42
8.36%	5.86%	4.52%	0.00%	0.00%	0.00%	3.81%	8.17%
\$ 34.96	\$ 15.32	\$ 9.83	\$ 8.93	\$ 8.53	\$ 12.05	\$ 89.62	\$ 662.16
121.15%	121.15%	121.15%	121.15%	121.15%	121.15%	121.15%	98.67%

Liberty Utilities (EnergyNorth Natural Gas) Corp. d/b/a Liberty
Off Peak 2023 Summer Cost of Gas Filing

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Off-Peak
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Annual Bill Comparisons, May 22 Oct 22 Filing vs May 23 Oct

1 23 Commercial Rate (G 41)

2 November 2022 October 2023

3 Commercial Rate (G 41)

			(1)	(2)	(3)	(4)	(5)	(6)	(7)
	November 1, 2022		April 30, 2023						
	Nov 22	Dec 22	Jan 23	Feb 23	Mar 23	Apr 23	Winter Nov Apr		
4 Typical Usage (Therms)	111	274	376	483	425	270	1,939		
5 Winter: 8/1/2021 - 7/31/2022	8/1/2022 - Current								
6 Cust. Chg	\$ 57.06	\$ 62.03	\$ 62.03	\$ 62.03	\$ 62.03	\$ 62.03	\$ 62.03	\$ 372.18	
7 Headblock	\$ 0.4688	\$ 0.5007	\$ 50.07	\$ 50.07	\$ 50.07	\$ 50.07	\$ 50.07	\$ 300.42	
8 Tailblock	\$ 0.3149	\$ 0.3469	\$ 3.97	\$ 60.34	\$ 95.65	\$ 133.01	\$ 112.67	\$ 58.95	\$ 464.49
9 HB Threshold	100	100	\$52.50	\$50.07	\$50.07	\$50.07	\$50.07		
10 Summer: 8/1/2021 - 7/31/2022	8/1/2022 - Current								
11 Cust. Chg	\$ 57.06	\$ 62.03							
12 Headblock	\$ 0.4688	\$ 0.5007							
13 Tailblock	\$ 0.3149	\$ 0.3469							
14 HB Threshold	20	20							
15 Total Base Rate Amount	\$ 116.07	\$ 172.44	\$ 207.75	\$ 245.11	\$ 224.67	\$ 171.05	\$ 1,137.09		
16 COG Rate - (Seasonal)	\$ 1.7336	\$ 1.7336	\$ 1.7336	\$ 1.7336	\$ 1.7336	\$ 1.7336	\$ 1,7336		
17 COG amount	\$ 193.20	\$ 474.89	\$ 651.37	\$ 838.08	\$ 735.92	\$ 467.96	\$ 3,361.42		
18 LDAC	\$ 0.0915	\$ 0.0915	\$ 0.0915	\$ 0.0915	\$ 0.0915	\$ 0.0915	\$ 0.0915		
19 LDAC amount	\$ 10.20	\$ 25.06	\$ 34.38	\$ 44.23	\$ 38.84	\$ 24.70	\$ 177.42		
20 Total Bill	\$ 319.47	\$ 672.39	\$ 893.50	\$ 1,127.42	\$ 999.43	\$ 663.71	\$ 4,675.92		

29 November 2021 October 2022

30 Commercial Rate (G 41)

			(1)	(2)	(3)	(4)	(5)	(6)	(7)
	November 1, 2022		April 30, 2023						
	Nov 21	Dec 21	Jan 22	Feb 22	Mar 22	Apr 22	Winter Nov Apr		
31 Typical Usage (Therms)	111	274	376	483	425	270	1,939		
32 Winter: 8/1/2021 - 7/31/2022	8/1/2022 - Current								
33 Cust. Chg	\$ 57.06	\$ 62.03	\$ 57.06	\$ 57.06	\$ 57.06	\$ 57.06	\$ 57.06	\$ 342.36	
34 Headblock	\$ 0.4688	\$ 0.5007	\$ -	\$ 46.88	\$ 46.88	\$ 46.88	\$ 46.88	\$ 234.40	
35 Tailblock	\$ 0.3149	\$ 0.3469	\$ 3.60	\$ 54.77	\$ 86.83	\$ 120.74	\$ 102.19	\$ 53.51	\$ 421.64
36 HB Threshold	100	100							
37 Summer: 8/1/2021 - 7/31/2022	8/1/2022 - Current								
38 Cust. Chg	\$ 57.06	\$ 62.03							
39 Headblock	\$ 0.4688	\$ 0.5007							
40 Tailblock	\$ 0.3149	\$ 0.3469							
41 HB Threshold	20	20							
42 Total Base Rate Amount	\$ 60.66	\$ 158.71	\$ 190.77	\$ 224.68	\$ 206.13	\$ 157.45	\$ 998.40		
43 COG Rate - (Seasonal)	\$ 1.1341	\$ 1.0175	\$ 0.7248	\$ 0.5958	\$ 0.7745	\$ 1.1749	\$ 0.8311		
44 COG amount	\$ 126.39	\$ 278.73	\$ 272.33	\$ 288.03	\$ 328.78	\$ 317.15	\$ 1,611.40		
45 LDAC	\$ 0.0831	\$ 0.0749	\$ 0.0891	\$ 0.0891	\$ 0.0991	\$ 0.0991	\$ 0.0903		
46 LDAC amount	\$ 9.26	\$ 20.52	\$ 33.48	\$ 43.07	\$ 42.07	\$ 26.75	\$ 175.15		
47 Total Bill	\$ 196.31	\$ 457.96	\$ 496.58	\$ 555.79	\$ 576.97	\$ 501.35	\$ 2,784.95		

56 DIFFERENCE:

57 Total Bill	\$ 123.15	\$ 214.44	\$ 396.92	\$ 571.64	\$ 422.46	\$ 162.36	\$ 1,890.97		
58 % Change	62.73%	46.82%	79.93%	102.85%	73.22%	32.38%	67.90%		
59 Base Rate	\$ 55.41	\$ 13.73	\$ 16.98	\$ 20.43	\$ 18.54	\$ 13.60	\$ 138.69		
60 % Change	91.33%	8.65%	8.90%	9.09%	9.00%	8.64%	13.89%		
61 COG & LDAC	\$ 67.75	\$ 200.71	\$ 379.94	\$ 551.21	\$ 403.91	\$ 148.76	\$ 1,752.28		
62 % Change	49.94%	67.07%	124.24%	166.48%	108.92%	43.26%	98.08%		

May 1, 2023 October 31, 2023

(8)	(9)	(10)	(11)	(12)	(13)	(14)		
May 23	Jun 23	Jul 23	Aug 23	Sep 23	Oct 23	Summer May Oct	Total Nov Oct	
154	55	24	21	13	44	310	2,249	
\$ 62.03	\$ 62.03	\$ 62.03	\$ 62.03	\$ 62.03	\$ 62.03	\$ 372.18	\$ 744.36	
\$ 10.01	\$ 10.01	\$ 10.01	\$ 10.01	\$ 6.44	\$ 10.01	\$ 56.51	\$ 356.93	
\$ 46.48	\$ 12.07	\$ 1.49	\$ 0.18	\$ -	\$ 8.21	\$ 68.43	\$ 532.92	
\$ 118.52	\$ 84.11	\$ 73.54	\$ 72.22	\$ 68.47	\$ 80.25	\$ 497.12	\$ 1,634.21	
\$ 1,011.11	\$ 1,011.11	\$ 1,011.11	\$ 1,011.11	\$ 1,011.11	\$ 1,011.11	\$ 1,011.11	\$ 1,634.00	
\$ 155.70	\$ 55.40	\$ 24.58	\$ 20.74	\$ 13.01	\$ 44.14	\$ 313.56	\$ 3,674.98	
\$ 0.0915	\$ 0.0915	\$ 0.0915	\$ 0.0915	\$ 0.0915	\$ 0.0915	\$ 0.0915	\$ 0.0915	
\$ 14.09	\$ 5.01	\$ 2.22	\$ 1.88	\$ 1.18	\$ 3.99	\$ 28.38	\$ 205.79	
\$ 288.31	\$ 144.52	\$ 100.34	\$ 94.84	\$ 82.66	\$ 128.39	\$ 839.06	\$ 5,514.98	

May 1, 2023 October 31, 2023

(8)	(9)	(10)	(11)	(12)	(13)	(14)		
May 22	Jun 22	Jul 22	Aug 22	Sep 22	Oct 22	Summer May Oct	Total Nov Oct	
154	55	24	21	13	44	310	2,249	
\$ 57.06	\$ 57.06	\$ 57.06	\$ 62.03	\$ 62.03	\$ 62.03	\$ 357.27	\$ 699.63	
\$ 9.38	\$ 9.38	\$ 9.38	\$ 10.01	\$ 6.44	\$ 10.01	\$ 54.60	\$ 289.00	
\$ 42.19	\$ 10.95	\$ 1.36	\$ 0.18	\$ -	\$ 8.21	\$ 62.89	\$ 484.53	
\$ 108.63	\$ 77.39	\$ 67.79	\$ 72.22	\$ 68.47	\$ 80.25	\$ 474.76	\$ 1,473.16	
\$ 0.3886	\$ 0.3886	\$ 0.3886	\$ 0.3886	\$ 0.3886	\$ 0.3886	\$ 0.3886	\$ 0.7700	
\$ 59.84	\$ 21.29	\$ 9.45	\$ 7.97	\$ 5.00	\$ 16.97	\$ 120.51	\$ 1,731.91	
\$ 0.0991	\$ 0.0991	\$ 0.0991	\$ 0.0991	\$ 0.0991	\$ 0.0991	\$ 0.0991	\$ 0.0915	
\$ 15.26	\$ 5.43	\$ 2.41	\$ 2.03	\$ 1.28	\$ 4.33	\$ 30.73	\$ 205.88	
\$ 183.73	\$ 104.11	\$ 79.65	\$ 82.23	\$ 74.76	\$ 101.54	\$ 626.00	\$ 3,410.96	

\$ 104.58	\$ 40.41	\$ 20.69	\$ 12.61	\$ 7.91	\$ 26.85	\$ 213.06	\$ 2,104.03	
56.92%	38.81%	25.98%	15.34%	10.59%	26.44%	34.03%	61.68%	
\$ 9.90	\$ 6.72	\$ 5.75	\$ -	\$ -	\$ -	\$ 22.36	\$ 161.05	
\$ 9.11%	\$ 8.68%	\$ 8.48%	\$ 0.00%	\$ 0.00%	\$ 0.00%	\$ 4.71%	\$ 10.93%	
\$ 94.69	\$ 33.69	\$ 14.95	\$ 12.61	\$ 7.91	\$ 26.85	\$ 190.69	\$ 1,942.98	
126.08%	126.08%	126.08%	126.08%	126.08%	126.08%	126.08%	100.27%	

Liberty Utilities (EnergyNorth Natural Gas) Corp. d/b/a Liberty
Off Peak 2023 Summer Cost of Gas Filing

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Off-Peak
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Annual Bill Comparisons, May 22 Oct 22 Filing vs May 23 Oct

1 23 Commercial Rate G 42

2 November 2022 October 2023

3 C&I High Winter Use Medium G 42

	(1)	(2)	(3)	(4)	(5)	(6)	(7)
	November 1, 2022 April 30, 2023						
	Nov 22	Dec 22	Jan 23	Feb 23	Mar 23	Apr 23	Winter Nov Apr
4 Typical Usage (Therms)	1,369	2,729	3,456	4,165	3,658	2,463	17,839
5							
6 Winter:	8/1/2021 - 7/31/2022	8/1/2022 - Current					
7 Cust. Chg	\$ 171.19	\$ 186.03	\$ 186.03	\$ 186.03	\$ 186.03	\$ 186.03	\$ 1,116.18
8 Headblock	\$ 0.4261	\$ 0.4558	\$ 455.80	\$ 455.80	\$ 455.80	\$ 455.80	\$ 2,734.80
9 Tailblock	\$ 0.2839	\$ 0.3136	\$ 115.68	\$ 542.10	\$ 992.39	\$ 833.43	\$ 458.89
10 HB Threshold	1,000	1,000					
11							
12 Summer:	8/1/2021 - 7/31/2022	8/1/2022 - Current					
13 Cust. Chg	\$ 171.19	\$ 186.03					
14 Headblock	\$ 0.4261	\$ 0.4558					
15 Tailblock	\$ 0.2839	\$ 0.3136					
16 HB Threshold	400	400					
17							
18 Total Base Rate Amount	\$ 757.51	\$ 1,183.93	\$ 1,412.04	\$ 1,634.22	\$ 1,475.26	\$ 1,100.72	\$ 7,563.68
19							
20 COG Rate - (Seasonal)	\$ 1.7336	\$ 1.7336	\$ 1.7336	\$ 1.7336	\$ 1.7336	\$ 1.7336	\$ 1.7336
21 COG amount	\$ 2,373.07	\$ 4,730.38	\$ 5,991.35	\$ 7,219.62	\$ 6,340.86	\$ 4,270.35	\$ 30,925.63
22							
23 LDAC	\$ 0.0915	\$ 0.0915	\$ 0.0915	\$ 0.0915	\$ 0.0915	\$ 0.0915	\$ 0.0915
24 LDAC amount	\$ 125.25	\$ 249.67	\$ 316.23	\$ 381.05	\$ 334.67	\$ 225.39	\$ 1,632.27
25							
26 Total Bill	\$ 3,255.83	\$ 6,163.99	\$ 7,719.61	\$ 9,234.90	\$ 8,150.79	\$ 5,596.45	\$ 40,121.57
27							
28							
29							

30 November 2021 October 2022

31 C&I High Winter Use Medium G 42

	November 1, 2022 April 30, 2023						
	Nov 21	Dec 21	Jan 22	Feb 22	Mar 22	Apr 22	Winter Nov Apr
32 Typical Usage (Therms)	1,369	2,729	3,456	4,165	3,658	2,463	17,839
33							
34 Winter:	8/1/2021 - 7/31/2022	8/1/2022 - Current					
35 Cust. Chg	\$ 171.19	\$ 186.03	\$ 171.19	\$ 171.19	\$ 171.19	\$ 171.19	\$ 1,027.14
36 Headblock	\$ 0.4261	\$ 0.4558	\$ 426.10	\$ 426.10	\$ 426.10	\$ 426.10	\$ 2,556.60
37 Tailblock	\$ 0.2839	\$ 0.3136	\$ 104.72	\$ 490.76	\$ 697.26	\$ 898.41	\$ 754.50
38 HB Threshold	1,000	1,000					
39							
40 Summer:	8/1/2021 - 7/31/2022	8/1/2022 - Current					
41 Cust. Chg	\$ 171.19	\$ 186.03					
42 Headblock	\$ 0.4261	\$ 0.4558					
43 Tailblock	\$ 0.2839	\$ 0.3136					
44 HB Threshold	400	400					
45							
46 Total Base Rate Amount	\$ 702.01	\$ 1,088.05	\$ 1,294.55	\$ 1,495.70	\$ 1,351.79	\$ 1,012.72	\$ 6,944.82
47							
48 COG Rate - (Seasonal)	\$ 1.1341	\$ 1.0175	\$ 0.7248	\$ 0.5958	\$ 0.7745	\$ 1.1749	\$ 0.8432
49 COG amount	\$ 1,552.43	\$ 2,776.40	\$ 2,504.92	\$ 2,481.22	\$ 2,832.83	\$ 2,894.11	\$ 15,041.92
50							
51 LDAC	\$ 0.0831	\$ 0.0831	\$ 0.0831	\$ 0.0831	\$ 0.0831	\$ 0.0831	\$ 0.0831
52 LDAC amount	\$ 113.75	\$ 226.75	\$ 287.19	\$ 346.07	\$ 303.95	\$ 204.70	\$ 1,462.42
53							
54 Total Bill	\$ 2,368.20	\$ 4,091.20	\$ 4,086.67	\$ 4,322.99	\$ 4,488.57	\$ 4,111.53	\$ 23,469.16
55							
56							
57							

58 DIFFERENCE:

59 Total Bill	\$ 887.63	\$ 2,072.79	\$ 3,632.94	\$ 4,911.90	\$ 3,662.22	\$ 1,484.93	\$ 16,652.42
60 % Change	37.48%	50.66%	88.90%	113.62%	81.59%	36.12%	70.95%
61							
62 Base Rate	\$ 55.50	\$ 95.88	\$ 117.48	\$ 138.53	\$ 123.47	\$ 88.00	\$ 618.86
63 % Change	7.91%	8.81%	9.08%	9.26%	9.13%	8.69%	8.91%
64							
65 COG & LDAC	\$ 832.14	\$ 1,976.91	\$ 3,515.46	\$ 4,773.38	\$ 3,538.75	\$ 1,396.93	\$ 16,033.56
66 % Change	49.94%	65.83%	125.91%	168.83%	112.81%	45.08%	97.03%

May 1, 2023 October 31, 2023

(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)
May 1, 2023 October 31, 2023							
May 23	Jun 23	Jul 23	Aug 23	Sep 23	Oct 23	Summer May Oct	Total Nov Oct
1,201	1,412	257	100	(1,437)	978	2,510	20,349
\$ 186.03	\$ 186.03	\$ 186.03	\$ 186.03	\$ 186.03	\$ 186.03	\$ 1,116.18	\$ 2,232.36
\$ 182.32	\$ 182.32	\$ 116.92	\$ 45.39	\$ (655.11)	\$ 182.32	\$ 54.16	\$ 2,788.96
\$ 251.13	\$ 317.37	\$ -	\$ -	\$ -	\$ 181.26	\$ 749.77	\$ 4,462.47
\$ 619.48	\$ 685.72	\$ 302.95	\$ 231.42	\$ (469.08)	\$ 549.61	\$ 1,920.12	\$ 9,483.80
\$ 1,011.11	\$ 1,011.11	\$ 1,011.11	\$ 1,011.11	\$ 1,011.11	\$ 1,011.11	\$ 1,011.11	\$ 1,644.5
\$ 1,214.14	\$ 1,427.71	\$ 259.36	\$ 100.69	\$ (1,453.22)	\$ 988.87	\$ 2,537.55	\$ 33,463.18
\$ 0.0915	\$ 0.0915	\$ 0.0915	\$ 0.0915	\$ 0.0915	\$ 0.0915	\$ 0.0915	\$ 0.0915
\$ 109.87	\$ 129.20	\$ 23.47	\$ 9.11	\$ (131.51)	\$ 89.49	\$ 229.64	\$ 1,861.90
\$ 1,943.50	\$ 2,242.63	\$ 585.78	\$ 341.22	\$ (2,053.81)	\$ 1,627.97	\$ 4,687.30	\$ 44,808.87

May 1, 2023 October 31, 2023

May 1, 2023 October 31, 2023							
May 22	Jun 22	Jul 22	Aug 22	Sep 22	Oct 22	Summer May Oct	Total Nov Oct
1,201	1,412	257	100	-1,437	978	2,510	20,349
\$ 171.19	\$ 171.19	\$ 171.19	\$ 186.03	\$ 186.03	\$ 186.03	\$ 1,071.66	\$ 2,098.80
\$ 170.44	\$ 170.44	\$ 109.30	\$ 45.39	\$ (655.11)	\$ 182.32	\$ 22.78	\$ 2,579.38
\$ 227.35	\$ 287.32	\$ -	\$ -	\$ -	\$ -	\$ 514.67	\$ 3,875.75
\$ 568.98	\$ 628.95	\$ 280.49	\$ 231.42	\$ (469.08)	\$ 368.35	\$ 1,609.11	\$ 8,553.93
\$ 0.3886	\$ 0.3886	\$ 0.3886	\$ 0.3886	\$ 0.3886	\$ 0.3886	\$ 0.3886	\$ 0.7871
\$ 466.64	\$ 548.72	\$ 99.68	\$ 38.70	\$ (558.52)	\$ 380.06	\$ 975.26	\$ 16,017.18
\$ 0.0991	\$ 0.0991	\$ 0.0991	\$ 0.0991	\$ 0.0991	\$ 0.0991	\$ 0.0991	\$ 0.0851
\$ 119.00	\$ 139.93	\$ 25.42	\$ 9.67	\$ (142.43)	\$ 96.92	\$ 248.71	\$ 1,731.13
\$ 1,154.62	\$ 1,317.59	\$ 405.59	\$ 279.98	\$ (1,170.03)	\$ 845.33	\$ 2,833.09	\$ 26,302.25

Liberty Utilities (EnergyNorth Natural Gas) Corp. d/b/a Liberty
Off Peak 2023 Summer Cost of Gas Filing

Schedule 8
Off-Peak
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Annual Bill Comparisons, May 22 Oct 22 Filing vs May 23 Oct

1 23 Commercial Rate G 52

2 November 2022 October 2023

3 Commercial Rate (G 52)

	(1)	(2)	(3)	(4)	(5)	(6)	(7)
	November 1, 2022		April 30, 2023				
	Nov 22	Dec 22	Jan 23	Feb 23	Mar 23	Apr 23	Winter Nov Apr
4 Typical Usage (Therms)	1,340	1,718	1,891	2,207	1,964	1,672	10,793
5							
6 Winter: 8/1/2021 - 7/31/2022 8/1/2022 - Current							
7 Cust. Chg \$ 171.19 \$ 185.80	\$ 185.80	\$ 185.80	\$ 185.80	\$ 185.80	\$ 185.80	\$ 185.80	\$ 1,114.80
8 Headblock \$ 0.2428 \$ 0.2602	\$ 260.20	\$ 260.20	\$ 260.20	\$ 260.20	\$ 260.20	\$ 260.20	\$ 1,561.20
9 Tailblock \$ 0.1617 \$ 0.1791	\$ 60.88	\$ 128.67	\$ 159.64	\$ 216.18	\$ 172.66	\$ 120.40	\$ 858.44
10 HB Threshold 1000 1,000							
11							
12 Summer: 8/1/2021 - 7/31/2022 8/1/2022 - Current							
13 Cust. Chg \$ 171.19 \$ 185.80							
14 Headblock \$ 0.1759 \$ 0.1933							
15 Tailblock \$ 0.1000 \$ 0.1174							
16 HB Threshold 1000 1,000							
17							
18 Total Base Rate Amount	\$ 506.88	\$ 574.67	\$ 605.64	\$ 662.18	\$ 618.66	\$ 566.40	\$ 3,534.44
19							
20 COG Rate - (Seasonal)	\$ 1.7331	\$ 1.7331	\$ 1.7331	\$ 1.7331	\$ 1.7331	\$ 1.7331	\$ 1.7331
21 COG amount	\$ 2,322.25	\$ 2,978.23	\$ 3,277.91	\$ 3,825.06	\$ 3,403.89	\$ 2,898.15	\$ 18,705.50
22							
23 LDAC	\$ 0.0915	\$ 2.0848	\$ -	\$ 0.1933	\$ 1.0106	\$ 0.0915	\$ 0.5809
24 LDAC amount	\$ 122.60	\$ 3,582.61	\$ -	\$ 426.62	\$ 1,984.87	\$ 153.01	\$ 6,269.72
25							
26 Total Bill	\$ 2,951.74	\$ 7,135.51	\$ 3,883.55	\$ 4,913.87	\$ 6,007.42	\$ 3,617.56	\$ 28,509.66

29 November 2021 October 2022

30 Commercial Rate (G 52)

	November 1, 2022		April 30, 2023				
	Nov 21	Dec 21	Jan 22	Feb 22	Mar 22	Apr 22	Winter Nov Apr
31 Typical Usage (Therms)	1,340	1,718	1,891	2,207	1,964	1,672	10,793
32							
33 Winter: 8/1/2021 - 7/31/2022 8/1/2022 - Current							
34 Cust. Chg \$ 171.19 \$ 185.80	\$ 171.19	\$ 171.19	\$ 171.19	\$ 171.19	\$ 171.19	\$ 171.19	\$ 1,027.14
35 Headblock \$ 0.2428 \$ 0.2602	\$ 242.80	\$ 242.80	\$ 242.80	\$ 242.80	\$ 242.80	\$ 242.80	\$ 1,456.80
36 Tailblock \$ 0.1617 \$ 0.1791	\$ 54.97	\$ 116.17	\$ 144.13	\$ 195.18	\$ 155.89	\$ 108.70	\$ 775.04
37 HB Threshold 1000 1,000							
38							
39 Summer: 8/1/2021 - 7/31/2022 8/1/2022 - Current							
40 Cust. Chg \$ 171.19 \$ 185.80							
41 Headblock \$ 0.1759 \$ 0.1933							
42 Tailblock \$ 0.1000 \$ 0.1174							
43 HB Threshold 1000 1,000							
44							
45 Total Base Rate Amount	\$ 468.96	\$ 530.16	\$ 558.12	\$ 609.17	\$ 569.88	\$ 522.69	\$ 3,258.98
46							
47 COG Rate - (Seasonal)	\$ 1.1324	\$ 1.0158	\$ 0.7231	\$ 0.5941	\$ 0.7728	\$ 1.1732	\$ 0.8729
48 COG amount	\$ 1,517.35	\$ 1,745.59	\$ 1,367.64	\$ 1,311.22	\$ 1,517.82	\$ 1,961.87	\$ 9,421.48
49							
50 LDAC	\$ 0.0831	\$ 0.0749	\$ 0.0891	\$ 0.0891	\$ 0.0991	\$ 0.0991	\$ 0.0895
51 LDAC amount	\$ 111.35	\$ 128.71	\$ 168.52	\$ 196.65	\$ 194.64	\$ 165.72	\$ 965.59
52							
53 Total Bill	\$ 2,097.66	\$ 2,404.47	\$ 2,094.28	\$ 2,117.04	\$ 2,282.33	\$ 2,650.28	\$ 13,646.05

57 **DIFFERENCE:**

58 Total Bill	\$ 854.08	\$ 4,731.05	\$ 1,789.27	\$ 2,796.83	\$ 3,725.09	\$ 967.28	\$ 14,863.61
59 % Change	40.72%	196.76%	85.44%	132.11%	163.21%	36.50%	108.92%
60							
61 Base Rate	\$ 37.93	\$ 44.51	\$ 47.52	\$ 53.01	\$ 48.78	\$ 43.71	\$ 275.46
62 % Change	8.09%	8.40%	8.51%	8.70%	8.56%	8.36%	8.45%
63							
64 COG & LDAC	\$ 816.16	\$ 4,686.54	\$ 1,741.75	\$ 2,743.82	\$ 3,676.31	\$ 923.58	\$ 14,588.15
65 % Change	50.11%	250.04%	113.38%	181.97%	214.68%	43.41%	140.45%

	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)
	May 1, 2023		October 31, 2023					
	May 23	Jun 23	Jul 23	Aug 23	Sep 23	Oct 23	Summer May Oct	Total Nov Oct
4 Typical Usage (Therms)	1,339	1,123	1,070	1,088	8,875	1,097	14,592	25,385
5								
6 Winter: 8/1/2021 - 7/31/2022 8/1/2022 - Current								
7 Cust. Chg \$ 185.80 \$ 185.80	\$ 185.80	\$ 185.80	\$ 185.80	\$ 185.80	\$ 185.80	\$ 185.80	\$ 1,114.80	\$ 2,229.60
8 Headblock \$ 193.30 \$ 193.30	\$ 193.30	\$ 193.30	\$ 193.30	\$ 193.30	\$ 193.30	\$ 193.30	\$ 1,159.80	\$ 2,721.00
9 Tailblock \$ 39.83 \$ 14.40	\$ 39.83	\$ 14.40	\$ 8.26	\$ 10.32	\$ 924.56	\$ 11.33	\$ 1,008.71	\$ 1,867.15
10 HB Threshold 1000 1,000								
11								
12 Summer: 8/1/2021 - 7/31/2022 8/1/2022 - Current								
13 Cust. Chg \$ 185.80 \$ 185.80								
14 Headblock \$ 193.30 \$ 193.30								
15 Tailblock \$ 39.83 \$ 14.40								
16 HB Threshold 1000 1,000								
17								
18 Total Base Rate Amount	\$ 418.93	\$ 393.50	\$ 387.36	\$ 389.42	\$ 1,303.66	\$ 390.43	\$ 3,283.31	\$ 6,817.75
19								
20 COG Rate - (Seasonal)	\$ 1.0106	\$ 1.0106	\$ 1.0106	\$ 1.0106	\$ 1.0106	\$ 1.0106	\$ 1.0106	\$ 1.3178
21 COG amount	\$ 1,353.48	\$ 1,134.52	\$ 1,081.74	\$ 1,099.43	\$ 8,969.42	\$ 1,108.16	\$ 14,746.74	\$ 33,452.24
22								
23 LDAC	\$ 0.0915	\$ 0.0915	\$ 0.0915	\$ 0.0915	\$ 0.0915	\$ 0.0915	\$ 0.0915	\$ 0.2996
24 LDAC amount	\$ 122.54	\$ 102.72	\$ 97.94	\$ 99.54	\$ 812.09	\$ 100.33	\$ 1,335.17	\$ 7,604.89
25								
26 Total Bill	\$ 1,894.95	\$ 1,630.73	\$ 1,567.04	\$ 1,588.40	\$ 11,085.17	\$ 1,598.93	\$ 19,365.22	\$ 47,874.88

29 May 1, 2023 October 31, 2023

	November 1, 2022		April 30, 2023				
	Nov 21	Dec 21	Jan 22	Feb 22	Mar 22	Apr 22	Winter Nov Apr
31 Typical Usage (Therms)	1,340	1,718	1,891	2,207	1,964	1,672	10,793
32							
33 Winter: 8/1/2021 - 7/31/2022 8/1/2022 - Current							
34 Cust. Chg \$ 171.19 \$ 185.80	\$ 171.19	\$ 171.19	\$ 171.19	\$ 171.19	\$ 171.19	\$ 171.19	\$ 1,027.14
35 Headblock \$ 0.2428 \$ 0.2602	\$ 242.80	\$ 242.80	\$ 242.80	\$ 242.80	\$ 242.80	\$ 242.80	\$ 1,456.80
36 Tailblock \$ 0.1617 \$ 0.1791	\$ 54.97	\$ 116.17	\$ 144.13	\$ 195.18	\$ 155.89	\$ 108.70	\$ 775.04
37 HB Threshold 1000 1,000							
38							
39 Summer: 8/1/2021 - 7/31/2022 8/1/2022 - Current							
40 Cust. Chg \$ 171.19 \$ 185.80							
41 Headblock \$ 0.1759 \$ 0.1933							
42 Tailblock \$ 0.1000 \$ 0.1174							
43 HB Threshold 1000 1,000							
44							
45 Total Base Rate Amount	\$ 468.96	\$ 530.16	\$ 558.12	\$ 609.17	\$ 569.88	\$ 522.69	\$ 3,258.98
46							
47 COG Rate - (Seasonal)	\$ 0.3999	\$ 0.3999	\$ 0.3999	\$ 0.3999	\$ 0.3999	\$ 0.3999	\$ 0.3999
48 COG amount	\$ 535.58	\$ 448.93	\$ 428.05	\$ 435.05	\$ 3,549.25	\$ 438.50	\$ 5,835.37
49							
50 LDAC	\$ 0.0991	\$ 0.0991	\$ 0.0991	\$ 0.0991	\$ 0.0991	\$ 0.0991	\$ 0.0991
51 LDAC amount	\$ 132.72	\$ 111.25	\$ 106.08	\$ 107.81	\$ 879.55	\$ 108.67	\$ 1,446.07
52							
53 Total Bill	\$ 1,049.32	\$ 919.54	\$ 888.25	\$ 932.28	\$ 5,732.46	\$ 937.60	\$ 10,459.46

58 Total Bill	\$ 845.63	\$ 711.19	\$ 678.79	\$ 656.11	\$ 5,352.72	\$ 661.32	\$ 8,905.77
59 % Change	80.59%	77.34%	76.42%	70.38%	93.38%	70.53%	23,789.37
60							98.61%
61 Base Rate	\$ 37.91	\$ 34.14	\$ 33.23	\$ -	\$ -	\$ -	\$ 105.29
62 % Change	9.95%	9.50%	9.38%	0.00%	0.00%	0.00%	3.31%
63							
64 COG & LDAC	\$ 807.72	\$ 677.05	\$ 645.55	\$ 656.11	\$ 5,352.72	\$ 661.32	\$ 8,800.47
65 % Change	120.86%	120.86%	120.86%	120.86%	120.86%	120.86%	132.37%

Liberty Utilities (EnergyNorth Natural Gas) Corp. d/b/a Liberty
Off Peak 2023 Summer Cost of Gas Filing

1 Residential Heating

	Summer 2022	Summer 2023
2		
3 Customer Charge	\$ 15.39	\$ 15.39
4 First 20 Therms	\$ 0.5632	\$ 0.6337
5 Excess 20 Therms	\$ 0.5632	\$ 0.6337
6 LDAC	\$ 0.1318	\$ 0.1508
7 COG	\$ 1.0109	\$ 1.0109
8 Total Adjust	\$ 1.1427	\$ 1.1617
9		
10		
11		
12		
13	Summer 2022 COG @	Summer 2023 Cog @
14	\$ 1.1427	\$ 1.1617
15		
16 Cooking alone	5 \$ 23.92	\$ 24.37
17		
18	10 \$ 32.45	\$ 33.34
19		
20	20 \$ 49.51	\$ 51.30
21		
22 Water Heating alone	30 \$ 66.57	\$ 69.25
23		
24	45 \$ 92.16	\$ 96.18
25		
26	50 \$ 100.69	\$ 105.16
27		
28 Heating Alone	80 \$ 143.33	\$ 150.05
29		
30	125 \$ 242.27	\$ 254.18
31		
32	150 \$ 271.28	\$ 284.70
33		
34	200 \$ 356.57	\$ 374.47
35		

Schedule 8
Off-Peak
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Total \$ Impact	% Impact	Base Rate \$ Impact	COG \$ Impact	LDAC \$ Impact
\$ 0.02	2%			
\$ 0.45	2%	\$ 0.35 1%	\$ - 0%	\$ 0.10 0%
\$ 0.89	3%	\$ 0.70 2%	\$ - 0%	\$ 0.19 1%
\$ 1.79	4%	\$ 1.41 3%	\$ - 0%	\$ 0.38 1%
\$ 2.69	4%	\$ 2.12 3%	\$ - 0%	\$ 0.57 1%
\$ 4.03	4%	\$ 3.17 3%	\$ - 0%	\$ 0.86 1%
\$ 4.47	4%	\$ 3.53 4%	\$ - 0%	\$ 0.95 1%
\$ 6.71	5%	\$ 5.29 4%	\$ - 0%	\$ 1.43 1%
\$ 11.90	5%	\$ 9.38 4%	\$ - 0%	\$ 2.53 1%
\$ 13.43	5%	\$ 10.58 4%	\$ - 0%	\$ 2.85 1%
\$ 17.90	5%	\$ 14.10 4%	\$ - 0%	\$ 3.80 1%

Liberty Utilities (EnergyNorth Natural Gas) Corp.

2023 Summer Cost of Gas Filing
Capacity Assignment Calculations 2020-2021
Derivation of Class Assignments and Weightings

Basic assumptions:

- 1 Residential class pays average seasonal gas cost rate (using MBA method to allocate costs to seasons)
- 2 Residual gas costs are allocated to C&I HLF and LLF classes based on MBA method
- 3 The MBA method allocates capacity costs based on design day demands in two pieces:
 - a The base use portion of the class design day demand based on base use
 - b The remaining portion of design day demand based on remaining design day demand
- 4 Base demand is composed solely of pipeline supplies
- 5 Remaining demand consists of a portion of pipeline and all storage and peaking supplies

	Column A	Column B	Column C	Column D	Column E	Column F
	Design Day Demand, Dekatherm	Adjusted Design Day Demand, Dt	Percent of Total		Avg Daily Base Use Load, Dt	Remaining Design Day Demand
1	RATE R-1-Resi Non-Htg	639	641	0.4%	97	544
2	RATE R-3-Resi Htg	71,962	72,211	43.6%	3,484	68,728
3	RATE G-41 (T)	30,001	30,106	18.2%	968	29,139
4	RATE G-51 (S)	2,639	2,646	1.6%	742	1,904
5	RATE G-42 (V)	38,016	38,148	23.0%	1,839	36,309
6	RATE G-52	5,466	5,480	3.3%	1,742	3,738
7	RATE G-43	9,590	9,623	5.8%	645	8,977
8	RATE G-53	5,350	5,363	3.2%	1,871	3,492
9	RATE G-54	1,417	1,421	0.9%	419	1,001
10						
11	Total	165,079	165,638	100.0%	11,806	153,832
12						
13	Residential Total	72,601	72,852	43.983%	3,581	69,272
14	LLF Total	77,606	77,877	47.016%	3,452	74,425
15	HLF Total	14,872	14,909	9.001%	4,774	10,135
16	Total	165,079	165,638	100.0%	11,806	153,832
17						
18	C&I Breakdown					
19	LLF Total				3,452	74,425
20	HLF Total				4,774	10,135
21	Total				8,226	84,560
22						
23	C&I Breakdown Percentage					
24	LLF Total				41.961%	88.014%
25	HLF Total				58.039%	11.986%
26	Total				100.0%	100.0%
27						
28		Capacity Cost	MDQ, Dt	\$/Dt-Mo.		
29	Pipeline	\$16,149,021	119,718	\$11.2410		
30	Storage	\$4,130,365	28,115	\$12.2425		
31						
32	Peaking	\$2,370,511				
33	Peaking Additional Costs (Concord Lateral Peaking x Differential)	\$0				
34	Subtotal Peaking Costs	\$2,370,511	17,805	\$11.0948		
35	Total	\$22,649,897	165,638	\$11.3953		
36						
37		Capacity Cost	MDQ, Dt	\$/Dt-Mo.		
38	Pipeline - Baseload	1,592,596	11,806	\$11.2410		
39	Pipeline - Remaining	14,556,425	107,912	\$11.2410		
40	Storage	4,130,365	28,115	\$12.2425		
41	Peaking	2,370,511	17,805	\$11.0948		
42	Total	22,649,897	165,638	\$11.3953		
43						
44						
45	Residential Allocation	Capacity Cost	MDQ, Dt	\$/Dt-Mo.		
46	Pipeline - Base	Line 38 * Line 13 Col C	43.983%	700,471	5,193	\$11.2410
47	Pipeline - Remaining	Line 39 * Line 13 Col C	43.983%	6,402,344	47,463	\$11.2410
48	Storage	Line 40 * Line 13 Col C	43.983%	1,816,663	12,366	\$12.2425
49	Peaking	Line 41 * Line 13 Col C	43.983%	1,042,601	7,831	\$11.0948
50	Total		43.983%	9,962,098	72,852	\$11.3953
51						

52 **Liberty Utilities (EnergyNorth Natural Gas) Corp.**

53
54 **2022 Summer Cost of Gas Filing**
55 **Capacity Assignment Calculations 2020-2021**
56 **Derivation of Class Assignments and Weightings**

				Ratios for COG		
59	C&I Allocation		Capacity Cost	MDQ, Dt	\$/Dt-Mo.	
60	Pipeline - Base	Line 38 - Line 46	892,125	6,614	\$11.2410	
61	Pipeline - Remaining	Line 39 - Line 47	8,154,081	60,449	\$11.2410	
62	Storage	Line 40 - Line 48	2,313,702	15,749	\$12.2424	
63	Peaking	Line 41 - Line 49	1,327,910	9,974	\$11.0948	
64	Total		56.017% 12,687,818	92,786	\$11.3953	1.0000
65						
66						
67	LLF - C&I Allocation		Capacity Cost	MDQ, Dt	\$/Dt-Mo.	
68	Pipeline - Base	Line 60 * Line 24 Col E	374,343	2,775	\$11.2415	
69	Pipeline - Remaining	Line 61 * Line 24 Col F	7,176,761	53,204	\$11.2409	
70	Storage	Line 62 * Line 24 Col F	2,036,390	13,862	\$12.2420	
71	Peaking	Line 63 * Line 24 Col F	1,168,752	8,779	\$11.0942	
72	Total		47.4892% 10,756,246	78,620	\$11.4011	1.0005
73			41.961% 85%			(Line 72 / Line 64)
74						
75	HLF - C&I Allocation		Capacity Cost	MDQ, Dt	\$/Dt-Mo.	
76	Pipeline - Base	Line 60 - Line 68	517,782	3,839	\$11.2395	
77	Pipeline - Remaining	Line 61 - Line 69	977,320	7,245	\$11.2413	
78	Storage	Line 62 - Line 70	277,312	1,887	\$12.2466	
79	Peaking	Line 63 - Line 71	159,158	1,195	\$11.0989	
80	Total		8.5280% 1,931,572	14,166	\$11.3627	0.9971
81						(Line 80 / Line 64)
82						
83	Unit Cost		Residential	LLF C&I	HLF C&I	
84						
85	Pipeline		\$ 11 2410	\$ 11 2410	\$ 11 2410	
86	Storage		\$ 12 2425	\$ 12 2425	\$ 12 2425	
87	Peaking		\$ -	\$ -	\$ -	
88	Total		\$ 11 3953	\$ 11.4011	\$ 11 3627	
89						
90						
91	Load Makeup		Residential	LLF C&I	HLF C&I	
92						
93	Pipeline		72.28%	71.20%	78.24%	
94	Storage		16.97%	17.63%	13.32%	
95	Peaking		10.75%	11.17%	8.44%	
96	Total		100.00%	100.00%	100.00%	
97						
98						
99	Supply Makeup		Residential	LLF C&I	HLF C&I	Total
100						
101	Pipeline		43.98%	46.76%	9.26%	100 00%
102	Storage		43.98%	49.30%	6.71%	100 00%
103	Peaking		43.98%	49.31%	6.71%	100 00%

1 **Liberty Utilities (EnergyNorth Natural Gas) Corp.**

Schedule 10A
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2
3 **2023 Summer Cost of Gas Filing**
4 **Correction Factor Calculation**

	d	e	f	g	h	i	Total Sales
8 Data Source: Schedule 10B	May	June	July	Aug	Sep	Oct	
11 G-41	747,050	280,900	206,300	208,340	367,080	958,770	2,768,440
12 G-42	699,850	303,310	225,260	233,780	406,410	879,510	2,748,120
13 G-43	182,490	74,810	59,600	60,370	102,490	207,170	686,930
14 High Winter Use	1,629,390	659,020	491,160	502,490	875,980	2,045,450	6,203,490
16 G-51	204,580	181,150	182,590	182,770	188,450	244,780	1,184,320
17 G-52	226,060	205,490	216,980	216,330	215,810	260,610	1,341,280
18 G-53	309,892	269,892	270,211	265,876	271,048	323,306	1,710,225
19 G-54	15,380	19,010	22,810	24,340	22,210	24,280	128,030
21 Low Winter Use	755,912	675,542	692,591	689,316	697,518	852,976	4,363,855
23 Gross Total	2,385,302	1,334,562	1,183,751	1,191,806	1,573,498	2,898,426	10,567,345

26 Total Sales	10,567,345
27 Low Winter Use	4,363,855
28 Summer Ratio for Low Winter Use	0.9971 Schedule 10A p 2, ln 80
29 High Winter Use	6,203,490
30 Summer Ratio for High Winter Use	1.0005 Schedule 10A p 2, ln 72
32 Correction Factor =	Total Sales/((Low Winter Use x Winter Ratio for Low Winter Use)+(High Winter Use x Winter Ratio for High Winter Use)
33 Correction Factor =	100.0905%

36 **Allocation Calculation for Miscellaneous Overhead**

38 Projected Winter Sales Volume	11/1/22 - 4/30/23	92,780,984	Sch.10B, ln 23
39 Projected Annual Sales Volume	11/1/22 - 10/31/23	116,429,889	Sch.10B, ln 23
40 Percentage of Winter Sales to Annual Sales		79.69%	

1 Liberty Utilities (EnergyNorth Natural Gas) Corp.
 2 d/b/a Liberty Utilities
 3 Off Peak 2023 Summer Cost of Gas Filing
 4 2022 Summer Cost of Gas Filing

Schedule 10B
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Dry Therms															
	Nov-22	Dec-22	Jan-23	Feb-23	Mar-23	Apr-23	Subtotal PK 22-23	May-23	Jun-23	Jul-23	Aug-23	Sep-23	Oct-23	Subtotal OP 23	Total
9 R-1	68,950	88,860	102,240	87,330	87,040	65,450	499,870	52,140	39,450	34,490	34,700	38,650	52,460	251,890	751,760
10 R-3	6,285,460	9,460,770	11,083,750	9,374,930	7,887,130	4,769,830	48,861,870	2,698,720	1,310,080	1,017,330	1,041,040	1,740,970	4,150,980	11,959,120	60,820,990
11 R-4	456,240	673,650	788,260	669,350	566,410	365,300	3,519,210	206,240	101,740	77,310	76,480	120,880	287,900	870,550	4,389,760
12 Total Residential.	6,810,650	10,223,280	11,974,250	10,131,610	8,540,580	5,200,580	52,880,950	2,957,100	1,451,270	1,129,130	1,152,220	1,900,500	4,491,340	13,081,560	65,962,510
13															
14 G-41	2,024,090	3,305,230	3,990,080	3,360,930	2,728,610	1,602,400	17,011,340	747,050	280,900	206,300	208,340	367,080	958,770	2,768,440	19,779,780
15 G-42	1,638,690	2,577,550	3,049,640	2,578,010	2,207,610	1,222,890	13,274,390	699,850	303,310	225,260	233,780	406,410	879,510	2,748,120	16,022,510
16 G-43	356,550	540,700	658,270	547,120	495,700	292,490	2,890,830	182,490	74,810	59,600	60,370	102,490	207,170	686,930	3,577,760
17 G-51	279,050	363,480	398,180	331,040	342,590	216,120	1,930,460	204,580	181,150	182,590	182,770	188,450	244,780	1,184,320	3,114,780
18 G-52	328,800	421,730	457,600	372,490	381,360	245,600	2,207,580	226,060	205,490	216,980	216,330	215,810	260,610	1,341,280	3,548,860
19 G-53	364,036	444,039	483,757	396,097	410,759	345,126	2,443,814	309,892	269,892	270,211	265,876	271,048	323,306	1,710,225	4,154,039
20 G-54	36,310	41,220	17,430	15,680	16,970	14,010	141,620	15,380	19,010	22,810	24,340	22,210	24,280	128,030	269,650
21 Total C/I	5,027,526	7,693,949	9,054,957	7,601,367	6,583,599	3,938,636	39,900,034	2,385,302	1,334,562	1,183,751	1,191,806	1,573,498	2,898,426	10,567,345	50,467,379
22															
23 Sales Volume	11,838,176	17,917,229	21,029,207	17,732,977	15,124,179	9,139,216	92,780,984	5,342,402	2,785,832	2,312,881	2,344,026	3,473,998	7,389,766	23,648,905	116,429,889
24															
25 Transportation Sales															
26															
27 G-41	582,770	880,040	1,055,350	869,770	774,950	457,900	4,620,780	265,850	143,190	108,120	97,250	159,240	331,950	1,105,600	5,726,380
28 G-42	1,997,440	2,956,400	3,441,830	2,872,700	2,552,380	1,546,030	15,366,780	919,290	503,450	400,550	403,990	669,630	1,280,150	4,177,060	19,543,840
29 G-43	778,960	1,055,230	1,249,450	1,050,480	981,780	544,520	5,660,420	369,150	239,600	215,710	243,220	342,610	535,700	1,945,990	7,606,410
30 G-51	87,610	108,870	116,400	96,830	101,020	83,010	593,740	78,680	65,660	61,970	61,670	64,120	76,290	408,390	1,002,130
31 G-52	515,770	638,420	695,870	577,050	589,970	437,350	3,454,430	396,040	365,860	371,740	366,710	375,870	444,530	2,320,750	5,775,180
32 G-53	871,410	1,003,760	1,096,490	926,310	943,320	847,150	5,688,440	731,010	625,610	627,450	662,150	677,440	792,690	4,116,350	9,804,790
33 G-54	1,589,640	1,297,120	1,272,510	1,056,470	1,163,130	1,359,460	7,738,330	1,562,310	1,567,620	1,631,390	1,738,910	1,681,980	1,754,440	9,936,650	17,674,980
34															
35 Total Trans. Sales	6,423,600	7,939,840	8,927,900	7,449,610	7,106,550	5,275,420	43,122,920	4,322,330	3,510,990	3,416,930	3,573,900	3,970,890	5,215,750	24,010,790	67,133,710
36															
37 Total All Sales	18,261,776	25,857,069	29,957,107	25,182,587	22,230,729	14,414,636	135,903,904	9,664,732	6,296,822	5,729,811	5,917,926	7,444,888	12,605,516	47,659,695	183,563,599

1 Liberty Utilities (EnergyNorth Natural Gas) Corp.
2
3 Off Peak 2023 Summer Cost of Gas Filing
4 Normal and Design Year Volumes

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7 Volumes (Therms) Normal Year
8
9 For the Months of May 22 -October 22

	May-23	Jun-23	Jul-23	Aug-23	Sep-23	Oct-23	Off Peak May - Oct
10							
11							
12							
13 Pipeline Gas:							
14 Dawn Supply	842,983	655,282	518,079	495,174	712,922	601,154	3,825,595
15 Niagara Supply	667,764	585,319	584,500	583,125	598,573	687,845	3,707,126
16 TGP Supply (Gulf)	29,663	-	-	-	-	327,579	357,242
17 Dracut Supply 1 - Baseload	-	-	-	-	-	-	0
18 Dracut Supply 2 - Swing	-	-	-	-	-	435,588	435,588
19 Dracut Supply 3 - Swing	-	-	-	-	-	-	-
20 Constellation Combo	-	-	-	-	-	-	0
21 LNG Truck	-	-	4,831	10,843	17,887	110,141	143,701
22 Propane Truck	79,331	71,837	69,440	69,276	73,464	81,717	445,066
23 PNGTS	211,780	185,528	182,354	184,937	189,729	218,149	1,172,479
24 Portland Natural Gas	889,892	29,984	-	-	-	522,990	1,442,866
25 TGP Supply (Z4)	5,379,362	4,713,785	4,706,794	4,696,924	4,822,444	5,548,240	29,867,549
26	8,100,776	6,241,736	6,065,997	6,040,279	6,415,019	8,533,404	41,397,212
27							
28 Storage Gas:							
29	-	-	-	-	-	-	0
30							
31 Produced Gas:							
32 LNG Vapor	20,005	18,116	17,511	17,470	18,526	20,607	112,234
33 Propane	-	-	-	-	-	-	0
34	20,005	18,116	17,511	17,470	18,526	20,607	112,234
35							
36 Less - Gas Refills:							
37 LNG Truck	-	-	(4,831)	(10,843)	(17,887)	(110,141)	(143,701)
38 Propane	(79,331)	(71,837)	(69,440)	(69,276)	(73,464)	(81,717)	(445,066)
39 TGP Storage Refill	(2,622,767)	(2,671,728)	(3,066,813)	(2,770,444)	(2,599,354)	(1,122,012)	(14,853,118)
40	(2,702,098)	(2,743,565)	(3,141,083)	(2,850,564)	(2,690,705)	(1,313,870)	(15,441,885)
41							
42 Total Sendout Volumes	5,418,683	3,516,286	2,942,425	3,207,185	3,742,840	7,240,141	26,067,561

43

1 Liberty Utilities (EnergyNorth Natural Gas) Corp.

Schedule 11B

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3 Off Peak 2023 Summer Cost of Gas Filing

44 Normal and Design Year Volumes

45

46

47 Volumes (Therms)

Design Year

48

49 For the Months of May 22 -October 22

50

51

52

53 Pipeline Gas:

54 Dawn Supply

55 Niagara Supply

56 TGP Supply (Gulf)

57 Dracut Supply 1 - Baseload

58 Dracut Supply 2 - Swing

Dracut Supply 3 - Swing

59 Constellation Combo

60 LNG Truck

61 Propane Truck

62 PNGTS

63 Portland Natural Gas

64 TGP Supply (Z4)

65 Subtotal Pipeline Volumes

66

67 Storage Gas:

68 TGP Storage

69

70 Produced Gas:

71 LNG Vapor

72 Propane

73 Subtotal Produced Gas

74

75 Less - Gas Refills:

76 LNG Truck

77 Propane

78 TGP Storage Refill

79 Subtotal Refills

80

81 Total Sendout Volumes

	May-23	Jun-23	Jul-23	Aug-23	Sep-23	Oct-23	Off Peak May - Oct
Dawn Supply	842,293	650,910	512,645	413,850	711,005	595,469	3,726,172
Niagara Supply	667,764	585,319	584,500	583,125	598,573	687,845	3,707,126
TGP Supply (Gulf)	26,904	-	-	-	-	321,895	348,798
Dracut Supply 1 - Baseload	-	-	-	-	-	-	0
Dracut Supply 2 - Swing	-	-	-	-	-	-	-
Dracut Supply 3 - Swing	-	-	-	-	-	-	-
Constellation Combo	-	-	-	-	-	-	0
LNG Truck	-	-	1,811	18,674	19,165	103,035	142,685
Propane Truck	53,118	71,837	69,440	69,276	73,464	81,717	418,852
PNGTS	211,780	185,528	180,543	184,937	189,729	218,149	1,170,667
Portland Natural Gas	-	-	-	515,884	-	546,389	1,062,273
TGP Supply (Z4)	5,381,432	4,713,785	4,708,001	4,696,322	4,819,888	5,548,240	29,867,669
Subtotal Pipeline Volumes	7,183,290	6,207,379	6,056,940	6,482,068	6,411,825	8,102,740	40,444,243
Storage Gas:							
TGP Storage	-	-	-	-	-	-	0
Produced Gas:							
LNG Vapor	20,005	18,116	17,511	17,470	18,526	20,607	112,234
Propane	-	-	-	-	-	-	-
Subtotal Produced Gas	20,005	18,116	17,511	17,470	18,526	20,607	112,234
Less - Gas Refills:							
LNG Truck	-	-	(1,811)	(18,674)	(19,165)	(103,035)	(142,685)
Propane	(53,118)	(71,837)	(69,440)	(69,276)	(73,464)	(81,717)	(418,852)
TGP Storage Refill	(2,646,221)	(2,685,471)	(3,076,474)	(2,705,987)	(2,615,324)	(1,128,408)	(14,857,885)
Subtotal Refills	(2,699,339)	(2,757,308)	(3,147,725)	(2,793,938)	(2,707,953)	(1,313,159)	(15,419,422)
Total Sendout Volumes	4,503,957	3,468,186	2,926,726	3,705,600	3,722,398	6,810,188	25,137,055

1 **Liberty Utilities (EnergyNorth Natural Gas) Corp.**

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3 **Off Peak 2023 Summer Cost of Gas Filing**

4 **Capacity Utilization**

5 **Volumes (Therms)**

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11 **Pipeline Gas:**

12 Dawn Supply

13 Niagara Supply

14 TGP Supply (Gulf)

15 Dracut Supply 1 & 2 & 3

16 LNG Truck

17 Propane Truck

18 PNGTS

Portland Natural Gas

19 TGP Supply (Z4)

20 Other Purchased Resources

21

22 Subtotal Pipeline Volumes

23

24 **Storage Gas:**

25 0

26

27 **Produced Gas:**

28 LNG Vapor

29 Propane

30

31 Subtotal Produced Gas

32

33 **Less - Gas Refills:**

34 LNG Truck

35 Propane

36 TGP Storage Refill

37

38 Subtotal Refills

39

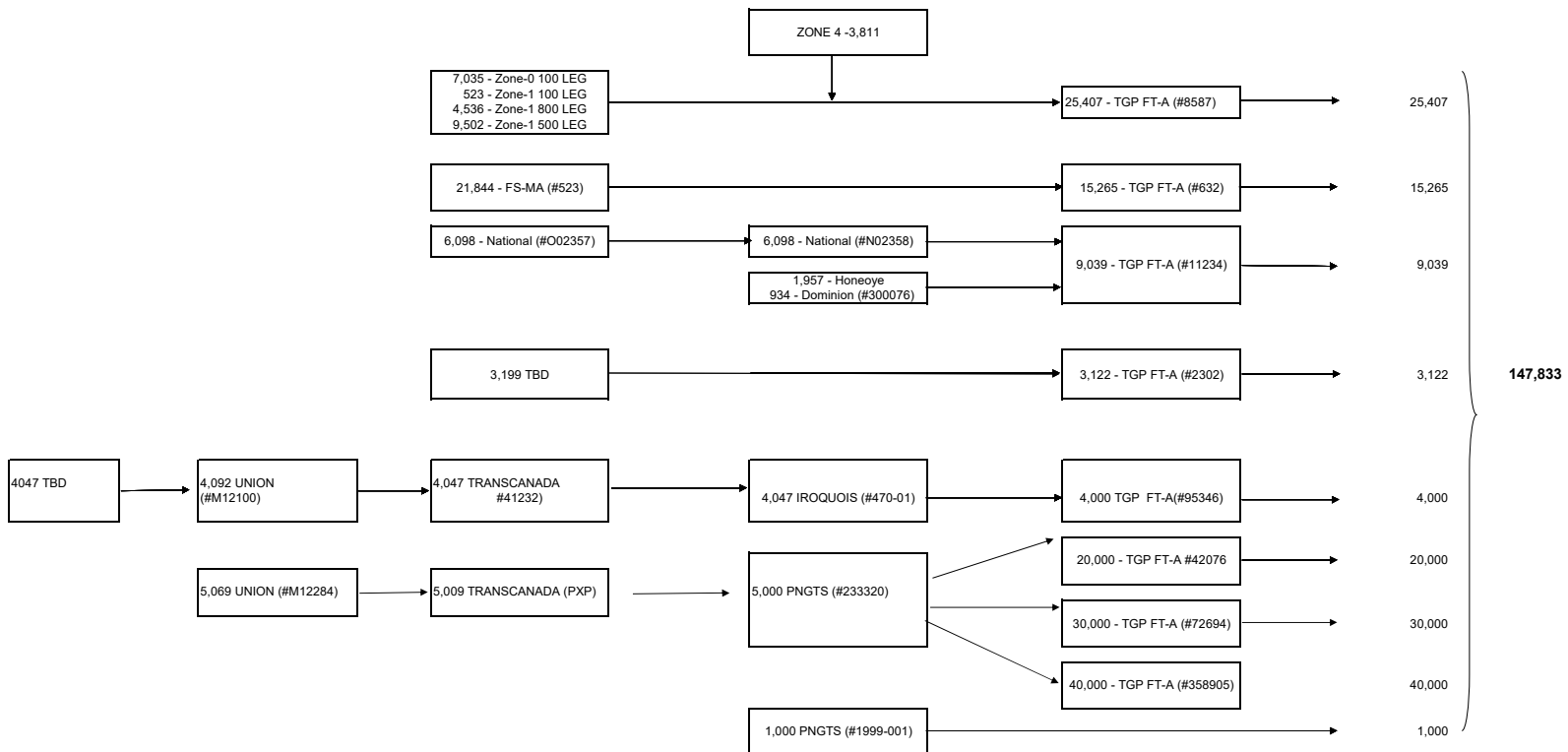
40 Total Sendout Volumes

	Off-Peak Period Normal Year Use (Therms)	MDQ (MMBtu/day)	Seasonal Quantity (Therms)	Utilization Rate	Off-Peak Period Design Year Use (Therms)	MDQ (MMBtu/day)	Seasonal Quantity (Therms)	Utilization Rate
Dawn Supply	3,825,595	4,000	7,360,000	52%	3,726,172	4,000	7,360,000	51%
Niagara Supply	3,707,126	3,122	5,744,480	65%	3,707,126	3,122	5,744,480	65%
TGP Supply (Gulf)	357,242	21,596	39,736,640	1%	348,798	21,596	39,736,640	1%
Dracut Supply 1 & 2 & 3	435,588	90,000	165,600,000	0%	-	90,000	165,600,000	0%
LNG Truck	143,701	-	-	-	142,685	-	-	-
Propane Truck	445,066	-	-	-	418,852	-	-	-
PNGTS	1,172,479	1,000	1,840,000	64%	1,170,667	1,000	1,840,000	64%
Portland Natural Gas	1,442,866	5,000	9,200,000	16%	1,062,273	5,000	9,200,000	12%
TGP Supply (Z4)	29,867,549	21,596	39,736,640	75%	29,867,669	21,596	39,736,640	75%
Other Purchased Resources	-	-	-	-	-	-	-	-
Subtotal Pipeline Volumes	41,397,212				40,444,243			
Storage Gas:								
0	0		25,792,710	0%	-		25,792,710	0%
Produced Gas:								
LNG Vapor	112,234				112,234			
Propane	-				-			
Subtotal Produced Gas	112,234				112,234			
Less - Gas Refills:								
LNG Truck	(143,701)				(142,685)			
Propane	(445,066)				(418,852)			
TGP Storage Refill	(14,853,118)				(14,857,885)			
Subtotal Refills	(15,441,885)				(15,419,422)			
Total Sendout Volumes	26,067,561				25,137,055			

Liberty Utilities (EnergyNorth Natural Gas) Corp.

Off Peak 2023 Summer Cost of Gas Filing
Transportation Available for Pipeline Supply and Storage
(MMBtu)

Schedule 12
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Liberty Utilities (EnergyNorth Natural Gas) Corp.

Off Peak 2023 Summer Cost of Gas Filing
Agreements for Gas Supply and Transportation

Schedule 12
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SOURCE	RATE SCHEDULE	CONTRACT NUMBER	TYPE	MDQ MMBTU	MAQ * MMBTU	EXPIRATION DATE	NOTIFICATION DATE	RENEWAL OPTIONS
ANE	NA	NA	Supply	4,047	611,097	Peak Only	N/A	Terminates
Constellation	FCS		Firm Combination Liquid and Vapor Svc	Up to 7 trucks	630,000	3/31/2022 Peak Only	N/A	Terminates
Dracut or Z6	NA	NA	Supply	Up to 20,000 / day	1,412,000	2/28/2022	N/A	Terminates
TGP Long-Haul	NA	NA	Supply	21,596	3,908,876	4/30/2022	N/A	Terminates
Northern Transport	NA	NA	Trucking	28,500 Gallons	900,000 Gallons	3/31/2023	N/A	Terminates
Dominion Transmission Incorporated	GSS	300076	Storage	934	102,700	3/31/2024	3/31/2022	Mutually agreed upon
Honeye Storage Corporation	SS-NY	11234	Storage	1,957	245,380	3/31/2023	12 months notice	Evergreen Provision
National Fuel Gas Supply Corporation	FSS	002358	Storage	6,098	670,800	3/31/2023	3/31/2022	Evergreen Provision
National Fuel Gas Supply Corporation	FSS	N02358	Transportation	6,098	670,800	3/31/2023	3/31/2022	Evergreen Provision
Iroquois Gas Transmission System	RTS	47001	Transportation	4,047	1,477,155	11/1/2022	11/1/2021	Evergreen Provision
Portland Natural Gas Transmission System	FT 1999-01	1999-001	Transportation	1,000	365,000	11/30/2032	11/31/2031	Evergreen Provision
Portland Natural Gas Transmission System	FT	PXP	Transportation	4,432	1,617,680	10/31/2040	10/31/2039	Precedent Agreement
Tennessee Gas Pipeline Company	FS-MA	523	Storage	21,844	1,560,391	10/31/2025	10/31/2024	Evergreen Provision
Tennessee Gas Pipeline Company	FTA	8587	Transportation	25,407	9,273,555	10/31/2025	10/31/2024	Evergreen Provision
Tennessee Gas Pipeline Company	FTA	2302	Transportation	3,122	1,139,530	10/31/2025	10/31/2024	Evergreen Provision
Tennessee Gas Pipeline Company	FTA	632	Transportation	15,265	5,571,725	10/31/2025	10/31/2024	Evergreen Provision
Tennessee Gas Pipeline Company	FTA	11234	Transportation	9,039	3,299,235	10/31/2025	10/31/2024	Evergreen Provision
Tennessee Gas Pipeline Company	FTA	72694	Transportation	30,000	10,950,000	10/31/2029	10/31/2028	Evergreen Provision
Tennessee Gas Pipeline Company	FTA	95346	Transportation	4,000	1,460,000	11/30/2022	11/30/2021	Evergreen Provision
Tennessee Gas Pipeline Company	FTA	42076	Transportation	20,000	7,300,000	10/31/2025	10/31/2024	Evergreen Provision
Tennessee Gas Pipeline Company	FTA	358905	Transportation	40,000	14,600,000	10/31/2041	10/31/2040	Evergreen Provision
TransCanada Pipeline	FT	41232	Transportation	4,047	1,477,155	10/31/2026	10/31/2024	Evergreen Provision
TransCanada Pipeline	FT	PXP	Transportation	4,432	1,617,680	10/31/2040		Precedent Agreement
Union Gas Limited	M12	M12200	Transportation	4,092	1,493,580	10/31/2023	10/31/2021	Evergreen Provision
Union Gas Limited	M12	PXP	Transportation	4,432	1,617,680	10/31/2040		Precedent Agreement

* MAQ is calculated on a 365 day calendar year.

1 **Liberty Utilities (EnergyNorth Natural Gas) Corp.**

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3 **Off Peak 2023 Summer Cost of Gas Filing**

4 **Storage Inventory**

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6 **Underground Storage Gas**

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	May-22 (Actual)	Jun-22 (Actual)	Jul-22 (Estimate)	Aug-22 (Estimate)	Sep-22 (Estimate)	Oct-22 (Estimate)	Total
Beginning Balance (MMBtu)	1,895,479	1,901,645	1,929,241	1,929,241	1,929,241	2,113,358	1,951,935
Injections (MMBtu) Sch 11A In 39 /10	11,436	27,746	-	-	184,117	184,117	1,977,164
Subtotal	1,906,915	1,929,391	1,929,241	1,929,241	2,113,358	2,297,475	
Storage Sale	-	-	-	-	-	-	
Withdrawals (MMBtu) Sch 11A In 29 /10	(5,270)	(150)	-	-	-	-	(1,368,064)
Ending Balance (MMBtu)	1,901,645	1,929,241	1,929,241	1,929,241	2,113,358	2,297,475	2,561,035
Beginning Balance	\$ 9,092,272	\$ 9,085,950	\$ 9,164,894	\$ 9,164,894	\$ 9,164,894	\$ 9,790,084	\$ 3,609,668
Injections In 11 * In 36	18,859	78,943	-	-	625,191	630,003	8,909,718
Subtotal	\$ 9,111,130	\$ 9,164,894	\$ 9,164,894	\$ 9,164,894	\$ 9,790,084	\$ 10,420,087	
Storage Sale	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	
Withdrawals In 17 * In 34	\$ (25,180)	\$ -	\$ -	\$ -	\$ -	\$ -	(2,634,626)
Ending Balance	\$ 9,085,950	\$ 9,164,894	\$ 9,164,894	\$ 9,164,894	\$ 9,790,084	\$ 10,420,087	\$ 9,884,760
Average Rate For Withdrawals In 22 /In 9	\$ 4.7779	\$ 4.7501	\$ 4.7505	\$ 4.7505	\$ 4.6325	\$ 4.5355	
TGP Storage Rate for Injections Actual or NYMEX plus TGP Transportation	\$ 1.6490	\$ 2.8452	\$ -	\$ -	\$ 3.3956	\$ 3.4218	

37 **Liberty Utilities (EnergyNorth Natural Gas) Corp.**

38

39 **Off Peak 2023 Summer Cost of Gas Filing**

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41 **Liquid Propane Gas (LPG)**

	May-22 (Actual)	Jun-22 (Actual)	Jul-22 (Estimate)	Aug-22 (Estimate)	Sep-22 (Estimate)	Oct-22 (Estimate)	Total
44 Beginning Balance	93,824	93,828	94,844	94,844	94,844	94,844	96,655
45 Injections Sch 11A In 38 /10	72	1,016	-	-	-	-	49,415
47 Subtotal	93,896	94,844	94,844	94,844	94,844	94,844	
49 Withdrawals Sch 11A In 33 /10	(68)	-	-	-	-	-	(61,632)
51 Adjustment for change in temperature	-	-	-	-	-	-	-
52 Adjustment for Transfer	-	-	-	-	-	-	-
53 Ending Balance	93,828	94,844	94,844	94,844	94,844	94,844	84,438

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57 Beginning Balance	\$ 1,382,938	\$ 1,382,997	\$ 1,396,098	\$ 1,406,774	\$ 1,406,774	\$ 1,406,774	\$ 1,193,497
58 Injections In 46 * In 69	1,061	13,101	-	-	-	-	168,840
59 Subtotal	\$ 1,384,000	\$ 1,396,098	\$ 1,396,098	\$ 1,406,774	\$ 1,406,774	\$ 1,406,774	
61 Withdrawals In 52 * In 67	(1,002)	-	10,676	-	-	-	(763,126)
62 Ending Balance	\$ 1,382,997	\$ 1,396,098	\$ 1,406,774	\$ 1,406,774	\$ 1,406,774	\$ 1,406,774	\$ 599,211

66

67 Average Rate For Withdrawals

68

69 Propane Rate for Injections Actual or Sch. 6, In 162 * 10	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
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70 **Liberty Utilities (EnergyNorth Natural Gas) Corp.**

Schedule 13

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72 **Off Peak 2023 Summer Cost of Gas Filing**

73

74 **Liquid Natural Gas (LNG)**

75

	May-22 (Actual)	Jun-22 (Actual)	Jul-22 (Estimate)	Aug-22 (Estimate)	Sep-22 (Estimate)	Oct-22 (Estimate)	Total
76 Beginning Balance	7,885	5,928	10,583	10,583	10,583	10,583	12,057
77							
78 Injections Sch 11A In 37 /10	797	6,395	-	-	-	-	128,304
79							
80 Subtotal	8,682	12,323	10,583	10,583	10,583	10,583	
81							
82 Withdrawals Sch 11A In 32 /10	(2,754)	(1,740)	-	-	-	-	(132,644)
83							
84 Ending Balance	5,928	10,583	10,583	10,583	10,583	10,583	7,718

85

86

87 Beginning Balance	\$ 34,430	\$ 25,885	\$ 42,850	\$ 42,850	\$ 42,850	\$ 42,850	\$ 135,659
88							
89 Injections In 78 * In 99	3,480	24,011	-	-	-	-	653,097
90							
91 Subtotal	\$ 37,910	\$ 49,896	\$ 42,850	\$ 42,850	\$ 42,850	\$ 42,850	
92							
93 Withdrawals In 82 * In 97	(12,025)	(7,045)	-	-	-	-	(903,905)
94							
95 Ending Balance	\$ 25,885	\$ 42,850	\$ 42,850	\$ 42,850	\$ 42,850	\$ 42,850	(115,148)

96

97

98

97 Average Rate For Withdrawals	\$ 4.3665	\$ 4.0490	\$ 4.0490	\$ 4.0490	\$ 4.0490	\$ 4.0490	
98							
99 LNG Rate for Injections Actual or Sch. 6, In 161 * 10	\$ 4.3665	\$ 3.7546	\$ 34.3475	\$ 33.6050	\$ -	\$ -	