

REDACTED

STATE OF NEW HAMPSHIRE
BEFORE THE
PUBLIC UTILITIES COMMISSION

Docket No. DG 23-076

Liberty Utilities (EnergyNorth Natural Gas) Corp. d/b/a Liberty
Winter 2023/2024 Cost of Gas and Summer 2024 Cost of Gas

DIRECT TESTIMONY

OF

TYLER J. CULBERTSON

AND

JAMES M. KING

September 1, 2023



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1 **I. INTRODUCTION**

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

3 A. My name is Tyler J Culbertson. I am the Director of Rates and Regulatory Affairs for
4 Liberty Utilities Service Corp. (“LUSC”), which provides service to Liberty Utilities
5 (EnergyNorth Natural Gas) Corp. d/b/a Liberty (“Liberty” or the “Company”). My
6 business address is 15 Buttrick Road, Londonderry, New Hampshire.

7 **Q. On whose behalf are you submitting this testimony?**

8 A. I am submitting testimony in this proceeding before the New Hampshire Public Utilities
9 Commission (“Commission”) on behalf of Liberty.

10 **Q. Please describe your educational and professional background and training**

11 A. I graduated from the University of Iowa in 2009 with a Bachelor of Science degree in
12 Accounting and I have held an active Certified Public Accountant (“CPA”) license since
13 2012. I joined LUSC in May 2023. Prior to my employment at LUSC, I was employed by
14 DCP Midstream as the Senior Manager of Regulatory Affairs from 2015 to 2023. My
15 responsibility at DCP Midstream was to ensure company-wide compliance with the
16 economic regulations of the Federal Energy Regulatory Commission and various state
17 regulatory agencies. From 2014 to 2015, I was a Senior Rate Analyst for Tallgrass
18 Energy, and from 2010 to 2014, I was a Rate Analyst for SourceGas (now Black Hills
19 Energy).

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1 **Q. Please describe your duties at LUSC.**

2 A. As Director of Rates and Regulatory Affairs, I am primarily responsible for rates and
3 regulatory affairs for Liberty EnergyNorth and Liberty Utilities (Granite State Electric)
4 Corp.

5 **Q. Mr. Culbertson, have you previously testified in regulatory proceedings before the**
6 **New Hampshire Public Utilities Commission (the “Commission”)?**

7 A. Yes, I have.

8 **Q. Mr. King, please state your full name and business address and position.**

9 A. My name is James M. King. My business address is 15 Buttrick Road, Londonderry, New
10 Hampshire. I am an Analyst II for Rates and Regulatory Affairs for LUSC, which
11 provides services to EnergyNorth and Granite State Electric.

12 **Q. Please describe your professional and educational background.**

13 A. I joined Liberty in September 2022. Prior to joining Liberty, I was employed by the
14 Massachusetts Department of Public Utilities from 2014 through 2022. I held positions as
15 an Economist III and Economist II in the Rates and Revenue Requirements Division
16 where I was responsible for the review and analysis of base distribution rate cases, as
17 well as other rate reconciliation mechanisms presented to the Department from
18 Massachusetts’ gas, electric, and water companies. I graduated from Franklin and
19 Marshall College with a Bachelor of Social Science in Government and Economics.

20 **Q. Have you previously testified in regulatory proceedings before the Commission?**

21 A. Yes, I have testified on multiple occasions before this Commission.

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

2 A. The purpose of our testimony is to explain the Company's updated proposed firm sales
3 cost of gas rates for the 2023/2024 Winter (Peak) Period and 2024 Summer (Off-Peak)
4 Period.

5 **II. WINTER 2023/2024 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 \$0.6175 per therm for residential
8 customers, \$0.6173 per therm for commercial/industrial high winter use customers, and
9 \$0.6185 per therm for commercial/industrial low winter use customers as shown on
10 Illustrative Thirteenth Revised Page 95. The Company proposes a firm transportation cost
11 of gas rate of \$0.0018 per therm as shown on Illustrative Third Revised Page 98.

12 **Q. Please explain tariff page Illustrative Thirteenth Revised Page 95.**

13 A. Illustrative Thirteenth Revised Page 95 contains the calculation of the 2023/2024 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 2023/2024 Average Cost of Gas of
16 \$0.6175 per therm is derived by adding the Direct Cost of Gas Rate of \$0.5787 per therm
17 to the Indirect Cost of Gas Rate of \$0.0388 per therm. The estimated total Anticipated
18 Direct Cost of Gas, derived on Illustrative Thirteenth Revised Page 95, is \$54,722,319.
19 The estimated Indirect Cost of Gas, shown on Page 95, is \$3,672,531. The Direct Cost of
20 Gas Rate of \$0.5787 and the Indirect Cost of Gas Rate of \$0.0388 are determined by
21 dividing each of these total cost figures by the projected winter period firm sales volumes
22 of 94,568,321 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 Illustrative Third Revised Page 96, total \$(12,439,637). These adjustments are
 5 added to the Unadjusted Anticipated Cost of Gas of \$67,161,955 to determine the Total
 6 Anticipated Direct Cost of Gas of \$54,722,319.

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

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

10	1. Purchased Gas Demand Costs	\$11,478,067
11	2. Purchased Gas Commodity Costs	46,903,637
12	3. Storage Demand and Capacity Costs	1,001,699
13	4. Storage Commodity Costs	4,860,737
14	5. Produced Gas Cost	7,269,540
15	Hedge Underground Storage Contract (saving)/Loss	<u>(4,351,724)</u>
16	Total	<u>\$67,161,955</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 Illustrative Third Revised Page 96, are
 19 as follows:

20	1. Deferred Gas Cost Prior Period Over Collection	\$(8,577,690)
21	2. Interest	(401,465)
22	3. Fuel Inventory Revenue Requirement	861,872
23	4. Broker Revenues	(1,340,480)
24	5. Transportation COG Revenue	(120,926)
25	6. Capacity Release Margin	<u>(2,860,948)</u>
26	Total Adjustments	<u>\$(12,439,637)</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 over-collection later in this testimony.

4 **Q. How does the proposed average cost of gas rate in this filing compare to the average**
 5 **cost of gas rate approved by the Commission in Docket No. DG 22-045 for the**
 6 **2022/2023 winter period?**

7 A. The table below contains the comparison of the cost of gas rate approved in Docket No.
 8 DG 22-045, to the proposed rate in this filing.

	Rates Effective November 1, 2022 (Order No. 26,715)	November 1, 2023, Proposed Rate	Change	% Change
Residential – R3	\$1.4300	\$0.6175	\$(0.8125)	(57)%
C& I - G41	\$1.4301	\$0.6173	\$(0.8128)	(57)%
C&I - G42	\$1.4301	\$0.6173	\$(0.8128)	(57)%
C& I - G52	\$1.4296	\$0.6185	\$(0.8111)	(57)%

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 2022/2023 winter period?**

12 A. The proposed firm transportation winter cost of gas rate is \$0.0018 per therm. The rate
 13 approved in Docket No. DG 22-045 was \$.0098 per therm. There is a \$0.008 decrease in
 14 the firm transportation rate. The decrease is primarily due to a decrease in anticipated gas
 15 costs, due to market pricing. Market changes are discussed more in-depth in Ms.
 16 Gilbertson’s testimony in this docket.

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	Rates Effective November 1, 2022 (Order No. 26,715)	November 1, 2023, Proposed Rate	Change	% Change
Transportation	\$0.0098	\$0.0018	\$(0.0084)	(82)%

1

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

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

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

9 A. Yes. The calculation is provided on Schedule 26. The Company is proposing to collect
 10 \$861,872 in fuel inventory revenue requirement consistent with the approved rate of
 11 return in Order No. 26,505 (July 30, 2021) in Docket No. DG 20-105. The impact of this
 12 amount on the overall Cost of Gas rate is \$0.0091 per therm, which is determined by
 13 dividing the \$861,892 by the estimated November 2023 through April 2023 COG sales
 14 volumes of 94,568,321 therms.

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

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

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

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

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

8 A. Yes. The bad debt percentage of 0.23% used in this filing is the calculated rate for the
 9 period of May 2022–April 2023. The bad debt percentage that was calculated in the
 10 Winter 2022/2023 Cost of Gas Reconciliations for the period of May 2021–April 2022
 11 was 0.86%.

	Approved Rate Docket No. DG 22-045	Proposed Rate	% Change
Bad Debt %	0.86%	0.23%	(73.25)%

12
 13 **Q. What was the actual weighted average firm sales cost of gas rate for the 2022/2023
 14 winter period?**

15 A. The weighted average cost of gas rate was \$0.8505 per therm. This was calculated by
 16 applying the actual monthly cost of gas rates for November 2022 through April 2023 to
 17 the monthly therm usage of an average residential heating customer using 640 therms for
 18 the six winter period months. Below is a table showing various rate classes and their
 19 changes:

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	Average COG Rate Winter 2022/2023	Proposed Rate	Change	% Change
Residential – R3	\$0.8505	\$0.6175	\$(0.2330)	(27)%
C& I - G41	\$0.8610	\$0.6173	\$(0.2437)	(28)%
C&I - G42	\$0.8537	\$0.6173	\$(0.2364)	(28)%
C& I - G52	\$0.8273	\$0.6185	\$(0.2088)	(25)%

1

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

4 A. The current percentage used to calculate the maximum allowed increase to the Cost of
 5 Gas rate through the monthly “trigger” filings is 25% for both the Winter and Summer
 6 period Cost of Gas rates.

7 **III. PRIOR WINTER PERIOD OVER-COLLECTION**

8 **Q. Please explain the prior period over-collection of \$9,129,307.**

9 A. The prior period over-collection is detailed in the 2022/2023 winter period reconciliation.
 10 The winter period reconciliation was originally filed with the Commission on August 1,
 11 2023. The Company provided an update to the reconciliation on September 1, 2023. The
 12 \$9,129,307 over-collection is the sum of the deferred gas cost, bad debt, and working
 13 capital over- and under-collection balances as of April 30, 2023. The over-collection was
 14 driven by the lag in the timing of monthly cost of gas rate adjustments as compared to
 15 changes in the underlying costs.

1 **IV. FIXED PRICE OPTION**

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

4 A. Yes. Pursuant to Order No. 24,515 in Docket No. DG 05-127, the Fixed Price Option
5 Program (“FPO”) rates are set at \$0.0200 per therm higher than the initial proposed COG
6 rate. Illustrative Third Revised Page 94 contains the FPO rate for the 2023/2024 winter
7 period, which is \$0.6375 per therm for residential customers. This compares to the FPO
8 rate approved for the 2022/2023 winter period of \$1.4500 per therm for residential
9 customers. This represents a decrease of \$0.5996 per therm or 56% in the residential
10 FPO rate. The total bill impact on the winter period bills for an average FPO heating
11 customer using 640 therms is a decrease of approximately \$512.43 or 34% compared to
12 last winter’s approved FPO rate. Schedule 23 contains the historical results of the FPO
13 program.

	Winter 2023/2024 FPO Bill Impact	Winter 2023/2024 Non-FPO Bill Impact
Residential - R3	\$512.43 or 34%	\$141.57 or 13%

14

15 **Q. Has the Company also updated its Company Allowance percentage for the period**
16 **November 2022 through October 2023 in accordance with Section 8 of the**
17 **Company’s Delivery Terms and Conditions?**

18 A. Yes, in Schedule 25 the Company has recalculated its Company Allowance for the period
19 November 2023 through October 2024. The Company calculated the Company

1 Allowance of 3.89% based on sendout and throughput data for the twelve months ending
2 June 2023. The Company proposes to apply this recalculated Company Allowance to all
3 supplier deliveries beginning in November 2023.

4 **V. CUSTOMER BILL IMPACTS**

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

8 A. The bill impact analysis is presented in Schedule 8 of this filing. These bill impacts
9 reflect the implementation of the step adjustment approved in Docket No. DG 22-028,
10 effective September 1, 2022, relating to the Company’s distribution rate case. The bill
11 impacts also include the LDAC rates included in the August 21, 2023, filing. Below is a
12 summary of the total bill impacts of the proposed rates.

	Winter 2022/2023 Bill Impact	Summer 2023 Bill Impact	Annual Bill Impact
Residential - R3	\$(142) or 13%	\$(46) or 13%	\$(188) or (13)%
Residential - R3 FPO	\$(512) or 34%	N/A	\$(512) or (34)%
Residential – R4 GAP	\$(294) or 33%	N/A	\$(294) or (33)%
C& I - G41	\$(500) or 16%	\$(149) or 16%	\$(649) or (16)%
C&I - G42	\$(4,773) or 18%	\$(1,267) or 17%	\$(6,006) or (18)%
C& I - G52	\$(2,867) or 18%	\$(3,316) or 28%	\$(6,183) or (22)%

1 **VI. OTHER TARIFF CHANGES**

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

3 A. Yes. The Company is submitting Illustrative Third Revised Page 153 relating to Supplier
4 Balancing and Peaking Demand Charges and Illustrative Third Revised Page 154 relating
5 to Capacity Allocation.

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

7 A. In Illustrative Third Revised Page 153, the Company is updating the Peaking Demand
8 Charge from \$56.69 per MMBtu of Peak MDQ to \$43.95 per MMBtu of Peak MDQ.
9 This calculation is also presented in Schedule 21.

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

11 A. Illustrative Third Revised Page 154 updates the Capacity Allocator percentages used to
12 allocate pipeline, storage, and local peaking capacity to high and low load factor
13 customers under the mandatory capacity assignment requirement for firm transportation
14 service. Schedule 22 contains the six-page worksheet that backs up the calculations for
15 the updated allocators.

16 **VII. SUMMER 2024 COST OF GAS FACTOR**

17 **Q. What are the proposed 2024 summer firm sales cost of gas rates?**

18 A. The Company proposes a firm sales cost of gas rate of \$0.6267 per therm for residential
19 customers, \$0.6261 per therm for commercial/industrial high winter use customers, and
20 \$0.6273 per therm for commercial/industrial low winter use customers as shown on
21 Illustrative Tenth Revised Page 92.

1 **Q. Please explain Illustrative Third Revised Page 91 and Illustrative Tenth Revised**
2 **Page 92.**

3 A. Illustrative Third Revised Page 91 and Illustrative Tenth Revised Page 92 contain the
4 calculation of the 2024 Summer Period Cost of Gas Rate and summarize the Company's
5 forecast of firm gas sales, firm gas sendout, and gas costs. On Illustrative Tenth Revised
6 Page 92, the 2024 Average Cost of Gas of \$0.6267 per therm is derived by adding the
7 Direct Cost of Gas Rate of \$0.5939 per therm to the Indirect Cost of Gas Rate of \$0.0328
8 per therm. The estimated total Anticipated Direct Cost of gas is \$14,964,886 and the
9 estimated Indirect Cost of Gas is \$811,547. The Direct Cost of Gas Rate and the Indirect
10 Cost of Gas Rates are determined by dividing each of these total cost figures by the
11 projected summer firm sales volumes of 24,742,661 therms. Illustrative Tenth Revised
12 Page 92 further shows that the Residential Cost of Gas Rate of \$0.6267 per therm is equal
13 to the Average Cost of Gas for all firm sales customers. It also shows the calculation of
14 the Commercial/Industrial High Winter Use Cost of Gas Rate of \$0.6261 per therm and
15 the Commercial/Industrial Low Winter Use Cost of Gas Rate of \$0.6273 per therm.

16 The calculation of the Anticipated Direct Cost of Gas is shown on Illustrative Third
17 Revised Page 91. To derive the total Anticipated Direct Cost of Gas of \$14,694,886 the
18 Company starts with the Unadjusted Anticipated Cost of Gas of \$6,140,336 and adds the
19 Net Adjustment totaling \$8,554,550.

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

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

4	1. Purchased Gas Demand Costs	\$3,22,250
5	2. Purchased Gas Supply Costs	5,741,685
6	3. Produced Gas Costs	<u>114,493</u>
7	4. Hedge Contract (Savings)/loss	<u>(2,938,092)</u>
8		
9	Total Unadjusted Anticipated Cost of Gas	<u>\$6,140,336</u>

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

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

14	1. Prior Period (Over)/Under Collection	\$9,879,800
15	2. Interest	<u>702,520</u>
16	2. Capacity Release and Off System Sales Margins	<u>(2,027,770)</u>
17		
18	Total Adjustments	<u>\$8,554,550</u>

19 **Q. How does the proposed average Summer cost of gas rates in this filing compare to**
20 **the cost of gas rates approved by Order Nos. 26,715, dated October 31, 2022, and**
21 **26,737, dated November 30, 2022, in Docket No. DG 22-045 for the 2023 Summer**
22 **Period?**

23 A. See the table below.

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	Rates Effective May 1, 2023 (Order Nos. 26,715 & 26,737)	Proposed Rate	Change	% Change
Residential – R3	\$1.2836	\$0.6267	\$(0.6576)	(51)%
C& I - G41	\$1.2839	\$0.6261	\$(0.6578)	(51)%
C&I - G42	\$1.2839	\$0.6261	\$(0.6578)	(51)%
C& I - G52	\$1.2833	\$0.6273	\$(0.6560)	(51)%

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, 2023



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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.

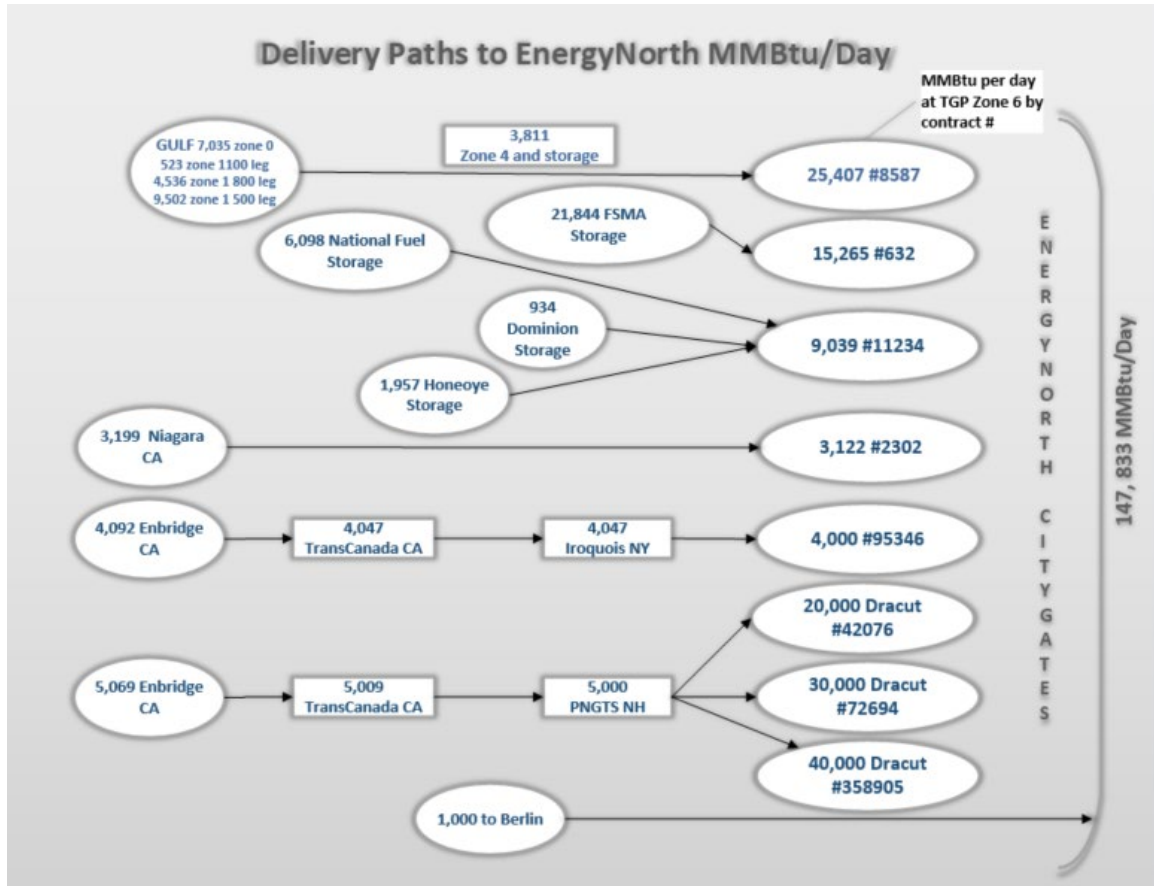
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1 **Q. What is the purpose of your testimony in this proceeding?**

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 2023/2024 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,
14 is 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

3 **Q. Will there be any changes in the portfolio of supply contracts held by the Company**
4 **as compared to the portfolio of contracts that existed when the Company submitted**
5 **its Winter 2022/2023 Cost of Gas (“COG”) Filing?**

6 A. Yes. The Company negotiates a number of different supply contracts for delivery during
7 the peak period. Since its 2022/2023 COG filing, the Company has issued several
8 requests for proposals (“RFP”) for supply for the upcoming winter period. These include
9 a baseload Tennessee Zone 6 citygate or Dracut supply; a Canadian firm transportation
10 capacity interconnecting with Iroquois supply; a Tennessee long-haul capacity from the
11 Gulf Coast and the Zone 4 market areas supply; two requests for proposals for a
12 Tennessee Zone 6 citygate or Dracut swing supply with a call option; and a Canadian
13 firm transportation capacity interconnecting with Tennessee at Dracut supply. Each of
14 these RFPs for the 2023/2024 peak period supply is consistent with the RFPs issued for
15 the 2022/2023 peak period.

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

18 A. The Company has completed the process of obtaining and analyzing bids and expects all
19 contracts to be in place by November 1st.

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1 **Q. Please provide the status of the Company's storage refill plan.**

2 A. During the 2023 off-peak period, the Company has been injecting supplies into its
3 underground storage fields. The Company plans to have all storage fields, except for its
4 Tennessee FS-MA storage, full by November 1, 2023. The Tennessee FS-MA field is
5 targeted to be approximately 95 percent full by November 1, 2023. The approximate five
6 percent unfilled portion of FS-MA storage provides a buffer that allows the Company
7 operational flexibility to inject some of its supply into storage if needed due to weather
8 fluctuations during the month of November.

9 **Q. Please describe the additional sources of gas supply available to the Company that**
10 **do not require pipeline transportation capacity?**

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

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

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

2 A. The Company owns three LNG vaporization facilities in Concord, Manchester, and
3 Tilton that have a combined design vaporization rate of approximately 22,800
4 MMBtu/day, but they are limited operationally by the combined workable storage
5 capacity of approximately 12,600 MMBtu. As described previously, the Company
6 solicited bids for LNG refill and associated trucking to utilize more vaporization capacity
7 from its LNG facilities.

8 Additionally, the Company owns four propane facilities in Amherst, Manchester, Nashua,
9 and Tilton that have a combined design vaporization capacity of approximately 28,200
10 MMBtu/day and a combined workable storage capacity of approximately 122,590
11 MMBtu. The Company has allocated approximately 12,000 MMBtu of the Amherst
12 propane storage capacity to its Keene Division,² leaving approximately 110,600 MMBtu
13 of combined workable storage capacity for EnergyNorth. The Company's propane
14 facilities were refilled during the summer of 2023, and they are ready for the 2023/2024
15 peak period.

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

² The Company will make the Keene Division Cost of Gas filing by September 15, 2023.

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1 **Q. What was the source of the projected sendout requirements and costs used in this**
2 **filing?**

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

5 **Q. Please describe the forecasted sendout requirements for the peak period of**
6 **2023/2024.**

7 A. Schedule 11A of the Company's filing shows the Company's forecasted sendout
8 requirements for sales customers at 94,459,064 therms over the period November 1,
9 2023, to April 30, 2024, under normal weather conditions, which is a slight increase from
10 last year's forecasted volume of 92,395,519 therms for the period November 1, 2022, to
11 April 30, 2023. In comparison, the normalized actual sendout for firm sales customers
12 for the November 1, 2022, to April 30, 2023, period was 90,721,566 therms.

13 Schedule 11B shows the Company's forecasted sendout requirements for sales customers
14 of 105,567,453 therms over the period November 1, 2023, to April 30, 2024, under
15 design weather conditions, which is up from last year's design day forecasted volume of
16 103,384,244 therms. For the current peak period forecast, design weather requirements
17 are approximately 10 percent greater than normal sendout requirements for weather that
18 is 10 percent colder than normal.

19 In Schedule 11C, the Company summarizes the normal and design year sendout
20 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 2023/2024 winter period of 1,256,152 therms, which is up from last
5 year's figure of 1,237,481 therms.

6 **Q. Please describe the forecasted sendout requirements for the off-peak period of 2024.**

7 A. Schedule 11A of the Company's filing shows the Company's forecasted sendout
8 requirements of 26,848,752 therms over the period May 1 to October 31, 2024, under
9 normal weather conditions, which is higher than last year's forecasted volume of
10 26,067,561 therms over the period May 1 to October 31, 2023.

11 Schedule 11B shows the Company's forecasted sendout requirements of 26,721,201
12 therms over the period May 1 to October 31, 2024, under design weather conditions,
13 which is higher than last year's forecasted volume of 25,137,055 therms over the period
14 May 1 to October 31, 2023.

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. What strategies did the Company employ to stabilize and mitigate costs for winter**
2 **2023/2024?**

3 A. The Company engaged in several strategies to reduce and stabilize costs for customers.
4 First, as described above, over the summer period the Company injected gas into the
5 storage facilities using off-peak summer pricing from the least cost supply points as
6 determined by transportation and storage capacity assets. Next, the Company initiated
7 requests for proposals, or RFPs, from suppliers to obtain the lowest price for supply
8 services. The Company also issued RFPs from suppliers to enter into asset management
9 agreements where the Company allows the winning bidder to use capacity that Liberty
10 holds on various pipelines in exchange for a baseload supply or natural gas call options.
11 This technique results in monthly payments to Liberty, all to the benefit of customers.

12 **Q. How much does the Company expect to recover through asset management credits**
13 **in 2023–2024?**

14 A. For 2023–2024, the Company expects to recover approximately [REDACTED] in asset
15 management credits. These credits will contribute to reducing customer costs.

16 **Q. Has the Company hedged the Tennessee Zone 6 basis for winter 2023/2024?**

17 A. Yes. The Company conducted an RFP to solicit physical supply fixed basis bids for the
18 months of January and February as provided for in Docket No. DG 14 133 and approved
19 in Order No. 25,691. The Company reviewed the bids and selected the supplier who
20 offered the least cost.

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- 1 **Q. Does this conclude your pre-filed direct testimony in this proceeding?**
- 2 **A. Yes, it does.**

a

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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
6	Schedule 6	Supply and Commodity Costs, Volumes and Rates
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8	Schedule 8, Page 1 Schedule 8, Page 2 Schedule 8, Page 3 Schedule 8, Page 4 Schedule 8, Page 5	Annual Bill Comparisons, Nov 22 - Apr 23 Actual Rates vs Nov 23 - Apr 24 Annual Bill Comparisons, Nov 22 - Apr 23 Actual Rates vs Nov 23 - Apr 24 Annual Bill Comparisons, Nov 22 - Apr 23 Actual Rates vs Nov 23 - Apr 24 Annual Bill Comparisons, Nov 22 - Apr 23 Actual Rates vs Nov 23 - Apr 24 Residential Heating
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1 **Liberty Utilities (EnergyNorth Natural Gas) Corp. d/b/a Liberty**

2 **Peak 2023 – 2024 Winter Cost of Gas Filing**

3 **Summary**

4				
5				
6		Reference		PK 23–24
7	(a)	(b)		Nov - Apr
8				(c)
9	Anticipated Direct Cost of Gas			
10	Purchased Gas:			
11	Demand Costs:	Sch. 5A, col (k), In 46	\$	11,478,067
12	Supply Costs	Sch. 6, col (i), In 47		46,903,637
13				
14	Storage Gas:			
15	Demand, Capacity:	Sch. 5A, col (k), In 61		1,001,699
16	Commodity Costs:	Sch. 6, col (i), In 50		4,860,737
17				
18	Produced Gas:	Sch. 6, col (i), In 56		7,269,540
19				
20	Hedge Contract (Savings)	Sch. 6, col (i), In 58		(4,351,724)
21	Hedge Underground Storage Contract (Savings)/Loss	Sch. 16, col (e), In 172		-
22				
23	Total Unadjusted Cost of Gas		\$	67,161,955
24				
25	Adjustments			
26				
27	Prior Period (Over)/Under Recovery	Sch. 3, col (c) In 28	\$	(8,577,690)
28	Interest 05/01/22 - 4/30/23	Sch. 3, col (q) In 189		(401,465)
29	Fuel Inventory Revenue Req	Sch. 26, col (b) In 8		861,872
30	Refunds from Suppliers	Sch. 4, In 26 col (c)		-
31	Broker Revenues	Sch. 4, In 26 col (d)		(1,340,480)
32	Fuel Financing	Sch. 4, In 26 col (e)		-
33	Transportation CGA Revenues	Sch. 4, In 26 col (f)		(120,926)
34	Interruptible Sales Margin	Sch. 4, In 26 col (g)		-
35	Capacity Release and Off System Sales Margins	Sch. 4, In 26 col (h) + col (i)		(2,860,948)
36	Hedging Costs	Sch. 4, In 26 col (j)		-
37	Fixed Price Option Administrative Costs	Sch. 4, In 26 col (k)		-
38				
39	Total Adjustments		\$	(12,439,637)
40				
41	Total Anticipated Direct Costs	In 23 + 39	\$	54,722,319
42				
43	Anticipated Indirect Cost of Gas			
44	Working Capital			
45	Total Unadjusted Anticipated Cost of Gas	In 23	\$	67,161,955
46	Lead Lag Days / 365	DG 20-105, 25.72/ 365		0.0705
47	Prime Rate			8.50%
48	Working Capital Percentage	per GTC 18(f), In 47 * In 48		0.599%
49	Working Capital	In 45 * In 48		402,273
50	Plus: Working Capital Reconciliation	Sch. 3, col (c), In 91		(162,369)
51				
52	Total Working Capital Allowance	In 49 + 50	\$	239,903
53				
54	Bad Debt			
55	Total Unadjusted Anticipated Cost of Gas	In 23	\$	67,161,955
56	Less Refunds	In 30		-
57	Plus Working Capital	In 52		239,903
58	Plus Prior Period (Over) Under Recovery	In 27		(8,577,690)
59	Subtotal		\$	58,824,169
60	Bad Debt Percentage	per GTC 18(f)		0.23%
61				
62	Bad Debt Allowance	In 59 * In 60	\$	136,418
63	Prior Period Bad Debt Allowance	Sch. 3, col (c), In 169		(389,248)
64				
65	Total Bad Debt Allowance	In 62 + 63	\$	(252,830)
66				
67	Production and Storage Capacity	per GTC18(f)	\$	3,685,458
68				
69	Miscellaneous Overhead	per GTC 18(f)	\$	-
70	Sales Volume	Sch. 10B, In 23/1000		94,568
71	Divided by Total Sales	Sch. 10B, In 23/1000		119,311
72	Ratio			79.26%
73				
74	Miscellaneous Overhead	In 69 * 72	\$	-
75				
76	Total Anticipated Indirect Cost of Gas	In 52 + 65 + 67 + 74	\$	3,672,531
77				
78	Total Cost of Gas	In 41 + 76	\$	58,394,850
79				
80	Projected Forecast Sales (Therms)	Sch. 3, col (q), In 52		94,568,321

7 For Month of:		Peak Costs								Peak Period	
		May 22 - Oct 23	Nov-23	Dec-23	Jan-24	Feb-24	Mar-24	Apr-24	May-24	Nov - Apr	
		(c)	(d)	(e)	(f)	(g)	(h)	(i)	(j)	(k)	
9	I. Gas Volumes (Therms)										
10									3,799,988	4.0%	
11	A. Firm Demand Volumes										
12	Firm Gas Sales	Sch. 10B, ln 23	-	7,444,594	17,818,111	21,017,875	18,278,553	15,666,889	9,549,539	1,970,044	91,745,606
13	Lost Gas (Unaccounted for)		-	480,543	686,434	818,823	724,321	595,335	366,919		3,672,374
14	Company Use		-	16,699	23,853	28,454	25,170	20,688	12,750		127,614
15	Unbilled Therms		-	4,418,457	(872,263)	(803,786)	(397,406)	(969,999)	(491,488)	(1,970,044)	(1,086,529)
16											
17	Total Firm Volumes	Sch. 6, ln 97	-	12,360,292	17,656,136	21,061,366	18,630,638	15,312,912	9,437,721		94,459,064
18											
19	B. Supply Volumes (Therms)										
20	<u>Pipeline Gas:</u>										
21	Dawn Supply	Sch. 6, ln 66	-	878,284	929,589	928,933	865,053	916,923	806,823		5,325,605
22	Niagara Supply	Sch. 6, ln 67	-	692,721	732,770	732,254	681,352	722,786	659,598		4,221,481
23	TGP Supply (Direct)	Sch. 6, ln 68	-	4,635,387	3,115,032	3,112,834	2,898,568	3,072,588	658,141		17,492,549
24	Dracut Supply 1 - Baseload	Sch. 6, ln 69	-	-	-	3,100,000	1,450,000	-	-		4,550,000
25	Dracut Supply 2 - Swing	Sch. 6, ln 70	-	3,175,277	1,817,182	830,593	1,712,037	4,320,290	1,650,818		13,506,197
26	Dracut Supply 3 - Swing	Sch. 6, ln 71	-	433,227	381,887	154,291	972,751	1,611,335	36,442		3,589,934
27	Constellation COMBO	Sch. 6, ln 72	-	-	-	-	-	-	-		-
28	LNG Truck	Sch. 6, ln 73	-	-	1,105,212	1,873,752	1,852,072	17,174	-		4,848,209
29	Propane Truck	Sch. 6, ln 74	-	-	-	207,270	4,517	-	83,816		295,604
30	PNGTS	Sch. 6, ln 75	-	219,571	232,397	232,233	216,075	229,231	216,465		1,345,972
31	Portland Natural Gas	Sch. 6, ln 76	-	1,072,719	1,134,734	1,133,934	1,056,283	1,119,273	925,624		6,442,568
32	TGP Supply (Z4)	Sch. 6, ln 77	-	1,819,408	1,931,092	1,929,730	1,797,112	1,904,780	4,511,472		13,893,595
33	Subtotal Pipeline Volumes		-	12,926,593	11,379,896	14,235,825	13,505,820	13,914,381	9,549,199		75,511,713
34											
35	<u>Storage Gas:</u>										
36	TGP Storage	Sch. 6, ln 82	-	1,148,127	6,232,334	6,223,398	5,210,646	1,394,051	1,000,000		21,208,557
37											
38	<u>Produced Gas:</u>										
39	LNG Vapor	Sch. 6, ln 85	-	21,440	1,149,117	1,894,933	1,766,244	21,654	21,136		4,874,524
40	Propane	Sch. 6, ln 86	-	-	-	788,232	4,517	-	-		792,749
41	Subtotal Produced Gas		-	21,440	1,149,117	2,683,164	1,770,761	21,654	21,136		5,667,273
42											
43	<u>Less - Gas Refill:</u>										
44	LNG Truck	Sch. 6, ln 91	-	-	(1,105,212)	(1,873,752)	(1,852,072)	(17,174)	-		(4,848,209)
45	Propane	Sch. 6, ln 92	-	-	-	(207,270)	(4,517)	-	(83,816)		(295,604)
46	TGP Storage Refill	Sch. 6, ln 93	-	(1,735,867)	-	-	-	-	(1,048,798)		(2,784,665)
47	Subtotal Refills		-	(1,735,867)	(1,105,212)	(2,081,022)	(1,856,589)	(17,174)	(1,132,614)		(7,928,478)
48											
49	Total Firm Sendout Volumes	lns 33 + 36 + 41 + 47	-	12,360,292	17,656,136	21,061,366	18,630,638	15,312,912	9,437,721		94,459,064

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Schedule 1
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50

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

		Peak Costs May 22 - Oct 23 (c)	Nov-23 (d)	Dec-23 (e)	Jan-24 (f)	Feb-24 (g)	Mar-24 (h)	Apr-24 (i)	May-24 (j)	Peak Period Nov - Apr (k)
Niagara Supply	Sch.5A, In 12	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Subtotal Supply Demand		\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Less Capacity Credit		-	-	-	-	-	-	-	-	-
Net Pipeline Demand Costs		\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Pipeline:										
Iroquois Gas Trans Service RTS 470-0	Sch.5A, In 16	\$ 19,585	\$ 19,585	\$ 19,585	\$ 19,585	\$ 19,585	\$ 19,585	\$ 19,585	\$ 19,585	\$ 117,508
Tenn Gas Pipeline 95346 Z5-Z6	Sch.5A, In 17	24,362	24,362	24,362	24,362	24,362	24,362	24,362	24,362	146,172
Tenn Gas Pipeline 2302 Z5-Z6	Sch.5A, In 18	19,015	19,015	19,015	19,015	19,015	19,015	19,015	19,015	114,087
Tenn Gas Pipeline 8587 Z0-Z6	Sch.5A, In 19	138,564	138,564	138,564	138,564	138,564	138,564	138,564	138,564	831,385
Tenn Gas Pipeline 8587 Z1-Z6	Sch.5A, In 20	254,628	254,628	254,628	254,628	254,628	254,628	254,628	254,628	1,527,769
Tenn Gas Pipeline 8587 Z4-Z6	Sch.5A, In 21	26,411	26,411	26,411	26,411	26,411	26,411	26,411	26,411	158,464
Tenn Gas Pipeline (Dracut) 42076 Z6-Z6	Sch.5A, In 22	80,948	80,948	80,948	80,948	80,948	80,948	80,948	80,948	971,376
Tenn Gas Pipeline (Dracut) 358905 Z6-Z7	Sch.5A, In 23	161,896	161,896	161,896	161,896	161,896	161,896	161,896	161,896	971,376
Tenn Gas Pipeline (Concord Lateral) Z6-Z6	Sch.5A, In 24	366,471	366,471	366,471	366,471	366,471	366,471	366,471	366,471	4,397,652
Portland Natural Gas Trans Service	Sch.5A, In 25	18,263	18,263	18,263	18,263	18,263	18,263	18,263	18,263	109,580
Portland Natural Gas	Sch.5A, In 26	113,971	113,971	113,971	113,971	113,971	113,971	113,971	113,971	683,828
ANE (TransCanada via Union to Iroquois)	Sch.5A, In 27	51,622	51,622	51,622	51,622	51,622	51,622	51,622	51,622	309,732
TransCanada via Union to Portland	Sch.5A, In 28	98,086	98,086	98,086	98,086	98,086	98,086	98,086	98,086	588,517
Tenn Gas Pipeline Z4-Z6 stg 632	Sch.5A, In 29	105,788	105,788	105,788	105,788	105,788	105,788	105,788	105,788	1,269,456
Tenn Gas Pipeline Z4-Z6 stg 11234	Sch.5A, In 30	49,079	49,079	49,079	49,079	49,079	49,079	49,079	49,079	588,948
Tenn Gas Pipeline Z5-Z6 stg 11234	Sch.5A, In 31	11,919	11,919	11,919	11,919	11,919	11,919	11,919	11,919	143,029
National Fuel FST 2358	Sch.5A, In 32	30,597	30,597	30,597	30,597	30,597	30,597	30,597	30,597	367,161
Subtotal Pipeline Demand		\$ 3,868,811	\$ 1,571,205	\$ 1,571,205	\$ 1,571,205	\$ 1,571,205	\$ 1,571,205	\$ 1,571,205	\$ 1,571,205	\$ 13,296,039
Less Capacity Credit		(1,267,035)	(394,215)	(394,215)	(394,215)	(394,215)	(394,215)	(394,215)	(394,215)	(3,632,327)
Net Pipeline Demand Costs		\$ 2,601,775	\$ 1,176,989	\$ 1,176,989	\$ 1,176,989	\$ 1,176,989	\$ 1,176,989	\$ 1,176,989	\$ 1,176,989	\$ 9,663,712
Peaking Supply:										
Tenn Gas Pipeline (Concord Lateral) Z6-Z6	Sch.5A, In 37	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Demand FLS	Sch.5A, In 38	-	-	-	-	-	-	-	-	-
Peaking Demand	Sch.5A, In 39	310,000	310,000	310,000	310,000	310,000	310,000	310,000	310,000	1,550,000
Subtotal Peaking Demand		\$ 310,000	\$ 310,000	\$ 310,000	\$ 310,000	\$ 310,000	\$ 310,000	\$ 310,000	\$ 310,000	\$ 1,550,000
Less Capacity Credit		(77,779)	(77,779)	(77,779)	(77,779)	(77,779)	(77,779)	(77,779)	(77,779)	(707,021)
Net Peaking Supply Demand Costs		\$ 232,221	\$ 232,221	\$ 232,221	\$ 232,221	\$ 232,221	\$ 232,221	\$ 232,221	\$ 232,221	\$ 842,979
Storage:										
Dominion - Demand	Sch.5A, In 49	\$ 2,502	\$ 2,502	\$ 2,502	\$ 2,502	\$ 2,502	\$ 2,502	\$ 2,502	\$ 2,502	\$ 30,020
Dominion - Storage	Sch.5A, In 50	2,650	2,650	2,650	2,650	2,650	2,650	2,650	2,650	31,796
Honeoye - Demand	Sch.5A, In 51	9,443	9,443	9,443	9,443	9,443	9,443	9,443	9,443	113,319
National Fuel - Demand	Sch.5A, In 52	16,141	16,141	16,141	16,141	16,141	16,141	16,141	16,141	193,690
National Fuel - Capacity	Sch.5A, In 53	32,064	32,064	32,064	32,064	32,064	32,064	32,064	32,064	384,771
Tenn Gas Pipeline - Demand	Sch.5A, In 54	27,644	27,644	27,644	27,644	27,644	27,644	27,644	27,644	331,723
Tenn Gas Pipeline - Capacity	Sch.5A, In 55	26,995	26,995	26,995	26,995	26,995	26,995	26,995	26,995	323,937
Subtotal Storage Demand		\$ 704,628	\$ 117,438	\$ 117,438	\$ 117,438	\$ 117,438	\$ 117,438	\$ 117,438	\$ 117,438	\$ 1,409,255
Less Capacity Credit		(230,766)	(29,465)	(29,465)	(29,465)	(29,465)	(29,465)	(29,465)	(29,465)	(407,557)
Net Storage Demand Costs		\$ 473,862	\$ 87,973	\$ 87,973	\$ 87,973	\$ 87,973	\$ 87,973	\$ 87,973	\$ 87,973	\$ 1,001,699
Total Demand Charges	Ins 60 + 82 + 90 + 102	\$ 4,573,438	\$ 1,998,643	\$ 1,998,643	\$ 1,998,643	\$ 1,998,643	\$ 1,998,643	\$ 1,688,643	\$ 1,688,643	\$ 16,255,294
Total Capacity Credit	Ins 61 + 83 + 91 + 103	(1,815,927)	(501,459)	(501,459)	(501,459)	(501,459)	(501,459)	(423,680)	(423,680)	(4,746,904)
Net Demand Charges		\$ 2,757,512	\$ 1,497,183	\$ 1,497,183	\$ 1,497,183	\$ 1,497,183	\$ 1,497,183	\$ 1,264,962	\$ 1,264,962	\$ 11,508,390

111 B. Commodity Costs		REDACTED								
		Schedule 1								
		Page 3 of 4								
		Peak Costs								Peak Period
		May 22 - Oct 23	Nov-23	Dec-23	Jan-24	Feb-24	Mar-24	Apr-24	May-24	Nov - Apr
(a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)	(i)	(j)	(k)
118	<u>Pipeline:</u>									
119	Dawn Supply	Sch. 6, In 12	\$ 246,446	\$ 309,181	\$ 326,427	\$ 308,737	\$ 316,980	\$ 234,826		\$ 1,742,599
120	Niagara Supply	Sch. 6, In 13	192,299	241,521	255,117	241,130	247,699	189,997.27		1,367,763.92
121	TGP Supply (Direct)	Sch. 6, In 14	1,343,645	1,091,272	1,192,366	1,099,994	1,022,831	200,927		5,951,036
122	Dracut Supply 1 - Baseload	Sch. 6, In 15	-	-	5,680,440	2,646,105	-	-		8,326,545
123	Dracut Supply 2 - Swing	Sch. 6, In 16	1,417,285	3,682,701	2,436,463	4,552,135	4,776,945	654,219		17,519,747
124	Dracut Supply 3 - Swing	Sch. 6, In 17	193,371	773,932	452,598	2,586,448	1,781,654	14,442		5,802,444
125	Constellation COMBO	Sch. 6, In 18	-	-	-	-	-	-		-
126	LNG Truck	Sch. 6, In 19	-	1,364,936	2,314,084	2,287,309	25,623	-		5,991,952
127	Propane Truck	Sch. 6, In 20	-	-	281,887	6,143	-	113,990		402,021
128	PNGTS	Sch. 6, In 21	104,593	288,777	404,237	345,374	177,814	92,279		1,413,074
129	Portland Natural Gas	Sch. 6, In 22	(20,811)	88,055	48,079	174,181	373,501	64,609		727,615
130	TGP Supply (Z4)	Sch. 6, In 23	367,702	577,590	633,723	600,056	596,577	1,156,290		3,931,939
131	Subtotal Pipeline Commodity Costs		\$ -	\$ 3,844,531	\$ 8,417,966	\$ 14,025,422	\$ 14,847,613	\$ 9,319,625	\$ 2,721,579	\$ 53,176,735
132										
133	<u>Storage:</u>									
134	TGP Storage - Withdrawals	Sch. 6, In 50	\$ -	\$ 259,137	\$ 1,406,663	\$ 1,404,646	\$ 1,176,064	\$ 314,643	\$ 299,583	\$ 4,860,737
135										
136	<u>Produced Gas Costs:</u>									
137	LNG Vapor	Sch. 6, In 53	\$ 25,651	\$ 1,415,002	\$ 2,339,994	\$ 2,181,305	\$ 27,370	\$ 26,716		\$ 6,016,038
138	Propane	Sch. 6, In 54	-	-	1,246,369	7,134	-	-		1,253,503
139	Subtotal Produced Gas Costs		\$ -	\$ 25,651	\$ 1,415,002	\$ 3,586,363	\$ 2,188,439	\$ 27,370	\$ 26,716	\$ 7,269,540
140										
141	<u>Less Storage Refills:</u>									
142	LNG Truck	Sch. 6, In 40	\$ -	\$ (1,364,936)	\$ (2,314,084)	\$ (2,287,309)	\$ (25,623)	\$ -		\$ (5,991,952)
143	Propane	Sch. 6, In 41	-	-	(281,887)	(6,143)	-	(113,990)		(402,021)
144	TGP Storage Refill	Sch. 6, In 42	(539,160)	-	-	-	-	(327,540)		(866,700)
145	Storage Refill (Trans.)	Sch. 6, In 43	(61,840)	-	-	-	-	(37,431)		(99,272)
146	Subtotal Storage Refill		\$ -	\$ (601,001)	\$ (1,364,936)	\$ (2,595,971)	\$ (2,293,452)	\$ (25,623)	\$ (478,961)	\$ (7,359,945)
147										
148	Total Supply Commodity Costs		\$ -	\$ 3,528,318	\$ 9,874,694	\$ 16,420,459	\$ 15,918,664	\$ 9,636,015	\$ 2,568,917	\$ 57,947,067
149										
150	C. Supply Volumetric Transportation Costs:									
151	Dawn Supply	Sch. 6, In 28	\$ 7,792	\$ 10,024	\$ 11,048	\$ 9,979	\$ 10,249	\$ 7,395		\$ 56,487
152	Niagara Supply	Sch. 6, In 29	6,400	7,078	7,185	6,716	7,059	6,150		40,587
153	TGP Supply (Direct)	Sch. 6, In 30	165,136	116,555	119,416	110,368	113,339	23,489		648,303
154	Dracut Supply 1 - Baseload	Sch. 6, In 31	-	-	11,789	5,510	-	-		17,299
155	Dracut Supply 2 - Swing	Sch. 6, In 32	10,143	5,839	3,159	6,506	13,857	5,265		44,768
156	Dracut Supply 3 - Swing	Sch. 6, In 33	1,384	1,227	587	3,696	5,168	116		12,179
157	Subtotal Pipeline Volumetric Trans. Costs		\$ -	\$ 190,854	\$ 140,723	\$ 153,184	\$ 142,775	\$ 149,672	\$ 42,414	\$ 819,622
158										
159	TGP Storage - Withdrawals	Sch. 6, In 35	\$ -	\$ 14,421	\$ 78,281	\$ 78,169	\$ 65,448	\$ 17,510	\$ 13,395	\$ 267,224
160										
161	Total Supply Volumetric Trans. Costs	Ins 157 + 159	\$ -	\$ 205,275	\$ 219,004	\$ 231,353	\$ 208,223	\$ 167,182	\$ 55,809	\$ 1,086,846
162										
163	Total Commodity Gas & Trans. Costs	Ins 148 + 161	\$ -	\$ 3,733,593	\$ 10,093,699	\$ 16,651,812	\$ 16,126,887	\$ 9,803,196	\$ 2,624,726	\$ 59,033,914
164										
165										

166 D. Supply and Demand Costs by Source

REDACTED
Schedule 1
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			Peak Costs							Peak Period		
	(a)	(b)	(c)	Nov-23	Dec-23	Jan-24	Feb-24	Mar-24	Apr-24	May-24	Nov - Apr	
			(d)	(e)	(f)	(g)	(h)	(i)	(j)	(k)		
173	Purchased Gas Demand Costs											
174	Pipeline Gas Demand Costs	Ins 60 + 82	\$ 3,868,811	\$ 1,571,205	\$ 1,571,205	\$ 1,571,205	\$ 1,571,205	\$ 1,571,205	\$ 1,571,205	\$ 1,571,205	\$ 13,296,039	
175	Peaking Gas Demand Costs	In 90	-	310,000	310,000	310,000	310,000	310,000	-	-	1,550,000	
176	Subtotal Purchased Gas Demand Costs		\$ 3,868,811	\$ 1,881,205	\$ 1,881,205	\$ 1,881,205	\$ 1,881,205	\$ 1,881,205	\$ 1,571,205	\$ 1,571,205	\$ 14,846,039	
177	Less Capacity Credit	Ins 61 + 83 + 91	(1,585,161)	(471,994)	(471,994)	(471,994)	(471,994)	(471,994)	(394,215)	(471,994)	(4,339,348)	
178	Net Purchased Gas Demand Costs		\$ 2,283,649	\$ 1,409,210	\$ 1,409,210	\$ 1,409,210	\$ 1,409,210	\$ 1,409,210	\$ 1,176,989	\$ 1,176,989	\$ 10,506,691	
179												
180	Storage Gas Demand Costs											
181	Storage Demand	In 102	\$ 704,628	\$ 117,438	\$ 117,438	\$ 117,438	\$ 117,438	\$ 117,438	117,437.93	-	1,409,255.17	
182	Less Capacity Credit	In 103	(230,766)	(29,465)	(29,465)	(29,465)	(29,465)	(29,465)	(29,465.18)	-	(407,556.80)	
183	Net Storage Demand Costs		\$ 473,862	\$ 87,973	\$ 87,973	\$ 87,973	\$ 87,973	\$ 87,973	\$ 87,973	\$ 87,973	\$ 1,001,699	
184												
185	Total Demand Costs	Ins 178 + 183	\$ 2,757,512	\$ 1,497,183	\$ 1,497,183	\$ 1,497,183	\$ 1,497,183	\$ 1,497,183	\$ 1,264,962	\$ 1,264,962	\$ 11,508,390	
186												
187	Purchased Gas Supply											
188	Commodity Costs	In 131										
189	Less Storage Inj.(TGP Storage)	In 144										
190	Less Storage Transportation	In 145										
191	Less LNG Truck	In 142										
192	Less Propane Truck	In 143										
193	Plus Transportation Costs	In 157										
194	Subtotal Purchased Gas Supply		\$ -	\$ 3,434,385	\$ 7,193,752	\$ 11,582,635	\$ 12,696,936	\$ 9,443,674	\$ 2,285,032	\$ 2,285,032	\$ 46,636,413	
195												
196	Storage Commodity Costs											
197	Commodity Costs	In 134	\$ -	\$ 259,137	\$ 1,406,663	\$ 1,404,646	\$ 1,176,064	\$ 314,643	\$ 299,583	\$ 299,583	\$ 4,860,737	
198	Transportation Costs	In 159	-	14,421	78,281	78,169	65,448	17,510	13,395	13,395	267,224	
199	Subtotal Storage Commodity Costs		\$ -	\$ 273,558	\$ 1,484,944	\$ 1,482,815	\$ 1,241,512	\$ 332,153	\$ 312,979	\$ 312,979	\$ 5,127,961	
200												
201	Produced Gas Commodity Costs	In 139	\$ -	\$ 25,651	\$ 1,415,002	\$ 3,586,363	\$ 2,188,439	\$ 27,370	\$ 26,716	\$ 26,716	\$ 7,269,540	
202												
203	Subtotal Commodity Costs	Ins 194 + 199 + 201	\$ -	\$ 3,733,593	\$ 10,093,699	\$ 16,651,812	\$ 16,126,887	\$ 9,803,196	\$ 2,624,726	\$ 2,624,726	\$ 59,033,914	
204												
205	Hedge Contract (Savings)/Loss		\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	
206												
207	Total Commodity Costs	Ins 203 + 205	\$ -	\$ 3,733,593	\$ 10,093,699	\$ 16,651,812	\$ 16,126,887	\$ 9,803,196	\$ 2,624,726	\$ 2,624,726	\$ 59,033,914	
208												
209	Total Demand Costs, Net	In 108	\$ 2,757,512	\$ 1,497,183	\$ 1,497,183	\$ 1,497,183	\$ 1,497,183	\$ 1,497,183	\$ 1,264,962	\$ 1,264,962	\$ 11,508,390	
210	Total Supply Costs	In 207	-	3,733,593	10,093,699	16,651,812	16,126,887	9,803,196	2,624,726	2,624,726	59,033,914	
211												
212	Total Direct Gas Costs	Ins 209 + 210	\$ 2,757,512	\$ 5,230,776	\$ 11,590,882	\$ 18,148,996	\$ 17,624,070	\$ 11,300,380	\$ 3,889,689	\$ 3,889,689	\$ 70,542,304	

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

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4 Peak 2023 – 2024 Winter Cost of Gas Filing
5 Contracts Ranked on a per Unit Cost Basis

6
7
8
9

10 Demand Costs

11

	Supplier (a)	Contract (b)	Contract Type (c)	Contract Unit (d)	Unit Dth (MDQ/ACQ) (e)	Peak Period Cost per Unit Dth (f)
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	

38 Supply Costs - Commodity

39	TGP Supply (Z4)		Pipeline	Dkt	1,389,359	
40	Niagara Supply		Pipeline	Dkt	422,148	
41	Constellation COMBO		Pipeline	Dkt	-	
42	TGP Supply (Direct)		Pipeline	Dkt	1,749,255	
43	Dawn Supply		Pipeline	Dkt	532,561	
44	Dracut Supply 1 - Baseload		Pipeline	Dkt	455,000	
45	TGP Storage		Storage	Dkt	2,120,856	
46	PNGTS		Pipeline	Dkt	134,597	
47	Propane Truck		Pipeline	Dkt	29,560	
48	LNG Truck		Pipeline	Dkt	484,821	
49	Dracut Supply 2 - Swing		Pipeline	Dkt	1,350,620	
50	Dracut Supply 3 - Swing		Pipeline	Dkt	358,993	
51	Portland Natural Gas		Pipeline	Dkt	644,257	
52	Propane		Produced	Dkt	79,275	
53	LNG Vapor (Storage)		Produced	Dkt	487,452	

55 Supply Costs - Volumetric Transportation

56	Dracut Supply 1 - Baseload		Pipeline	Dkt	455,000	
57	Dracut Supply 2 - Swing		Pipeline	Dkt	1,350,620	
58	Niagara Supply		Pipeline	Dkt	422,148	
59	Dawn Supply		Pipeline	Dkt	532,561	
60	TGP Storage - Withdrawals		Pipeline	Dkt	2,120,856	
61	TGP Supply (Direct)		Pipeline	Dkt	1,749,255	

1 Liberty Utilities (EnergyNorth Natural Gas) Corp. d/b/a Liberty
2
3 Peak 2023 2024 Winter Cost of Gas Filing
4 COG (Over)/Under Cumulative Recovery Balances and Interest Calculation

Schedule 3
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		Prior Period Bal															Peak Period
		Apr-23	May-23	Jun-23	Jul-23	Aug-23	Sep-23	Oct-23	Nov-23	Dec-23	Jan-24	Feb-24	Mar-24	Apr-24	May-24	Total	
(a)	Days in Month (b)	Ending Bal Plus May Billings (c)	31 (d)	30 (e)	31 (f)	31 (g)	30 (h)	31 (i)	30 (j)	31 (k)	31 (l)	29 (m)	31 (n)	30 (o)	31 (p)	(q)	
10 Account 1920 1740 COG (Over)/Under Balance Interest Calculation																	
12	Beginning Balance	Account 1920-1740	\$ (8,577,690)	\$ (8,577,690)	\$ (9,178,836)	\$ (8,648,459)	\$ (7,144,751)	\$ (6,572,606)	\$ (5,994,872)	\$ (5,414,425)	\$ (7,708,803)	\$ (7,045,820)	\$ (1,990,993)	\$ 4,410,178	\$ 6,104,080	\$ 4,238,905	\$ (8,577,690)
13	Fcst Direct Gas Costs(Inc U/G Hedges)	Schedule 5A				621,481	621,481	621,481	4,463,422	10,823,528	17,381,642	16,856,716	10,533,026	3,374,735	-	-	65,297,512
14	Production & Storage & Misc Overhead								614,243	614,243	614,243	614,243	614,243	614,243	614,243	614,243	3,685,458
15	Projected Revenues w/o Int.	In 52 * 59		(832,431)	(9,278)	(45,832)	-	-	(7,169,484)	(10,439,076)	(12,313,718)	(10,708,834)	(9,178,742)	(5,594,777)	-	-	(56,292,171)
16	Projected Unbilled Revenue			(217,507)	(106,882)	(86,712)	-	-	219,292	730,324	1,201,237	1,434,065	2,002,357	2,290,304	-	-	7,466,478
17	Reverse Prior Month Unbilled			423,146	217,507	106,882	-	-	-	(219,292)	(730,324)	(1,201,237)	(1,434,065)	(2,002,357)	(2,290,304)	-	(7,130,044)
18	Adjustment			(14,335)	(3,854)	(44,34)	-	-	-	-	-	-	-	-	-	-	(18,234)
19	Add Net Adjustments	Schedule 4		(446,111)	(234,724)	-	-	-	(376,170)	(793,677)	(1,065,752)	(601,923)	(880,732)	(583,327)	-	-	(4,982,416)
20	Gas Cost Billed	Account 1920-1740		544,700	724,038	1,579,638	-	-	-	-	-	-	-	-	-	-	2,848,376
21	Monthly (Over)/Under Recovery		\$ (8,577,690)	\$ (9,120,227)	\$ (8,592,029)	\$ (7,094,528)	\$ (6,523,270)	\$ (5,951,125)	\$ (5,373,391)	\$ (7,663,121)	\$ (6,992,753)	\$ (1,958,492)	\$ 4,402,036	\$ 6,066,265	\$ 4,202,901	\$ 1,948,600	\$ 2,297,269
22	Average Monthly Balance	(In 12 + 21)/2	\$ (8,848,959)	\$ (8,885,433)	\$ (7,871,493)	\$ (6,834,010)	\$ (6,261,865)	\$ (5,684,131)	\$ (6,538,773)	\$ (7,350,778)	\$ (4,502,156)	\$ 1,205,521	\$ 5,238,221	\$ 5,153,491	\$ 3,093,752		
23	Interest Rate	Prime Rate		8.00%	8.25%	8.25%	8.50%	8.50%	8.50%	8.50%	8.50%	8.50%	8.50%	8.50%	8.50%		
26	Interest Applied	In 22 * In 24 / 365 * Days of Month	\$ (58,609)	\$ (56,430)	\$ (50,223)	\$ (49,336)	\$ (43,747)	\$ (41,035)	\$ (45,682)	\$ (53,067)	\$ (32,502)	\$ 8,141	\$ 37,816	\$ 36,004	\$ -	\$ -	\$ (348,669)
28	(Over)/Under Balance	In 21 + In 26	\$ (8,577,690)	\$ (9,178,836)	\$ (8,648,459)	\$ (7,144,751)	\$ (6,572,606)	\$ (5,994,872)	\$ (5,414,425)	\$ (7,708,803)	\$ (7,045,820)	\$ (1,990,993)	\$ 4,410,178	\$ 6,104,080	\$ 4,238,905	\$ 1,948,600	\$ 1,948,600
31 Calculation of COG with Interest																	
32	Beginning Balance	In 12	\$ (8,577,690)	\$ (8,577,690)	\$ (9,180,352)	\$ (8,653,806)	\$ (7,155,066)	\$ (6,582,995)	\$ (6,005,334)	\$ (5,424,963)	\$ (7,719,214)	\$ (7,055,839)	\$ (2,000,654)	\$ 4,400,664	\$ 6,095,018	\$ 4,230,042	\$ (8,577,690)
34	Fcst Direct Gas Costs(Inc U/G Hedges)	In 13				-	621,481	621,481	621,481	4,463,422	10,823,528	17,381,642	16,856,716	10,533,026	3,374,735	-	65,297,512
35	Prod Storage & Misc Overhead	In 14								614,243	614,243	614,243	614,243	614,243	614,243	614,243	3,685,458
36	Projected Revenues with int.	In 52 * In 61		(832,431)	(9,278)	(45,832)	-	-	-	(7,169,484)	(10,439,076)	(12,313,718)	(10,708,834)	(9,178,742)	(5,594,777)	-	(56,292,171)
37	Projected Unbilled Revenue			(217,507)	(106,882)	(86,712)	-	-	-	219,492	730,989	1,202,331	1,435,371	2,004,181	2,292,391	-	7,473,653
38	Reverse Prior Month Unbilled			423,146	217,507	106,882	-	-	-	-	(219,492)	(730,989)	(1,202,331)	(1,435,371)	(2,004,181)	(2,292,391)	(7,137,220)
39	Add Net Adjustments	In 19		(460,446)	(238,579)	(44)	-	-	-	(376,170)	(793,677)	(1,065,752)	(601,923)	(880,732)	(583,327)	-	(5,000,649)
40	Gas Cost Billed	In 20		544,700	724,038	1,579,638	-	-	-	-	-	-	-	-	-	-	2,848,376
41	Add Interest	In 26															-
42	(Over)/Under Balance		\$ (8,577,690)	\$ (9,120,227)	\$ (8,593,545)	\$ (7,099,874)	\$ (6,533,585)	\$ (5,961,514)	\$ (5,383,853)	\$ (7,673,459)	\$ (7,002,699)	\$ (1,968,082)	\$ 4,392,588	\$ 6,057,269	\$ 4,194,101	\$ 1,937,652	\$ 2,297,269
44	Average Monthly Balance		\$ (8,848,959)	\$ (8,886,948)	\$ (7,876,840)	\$ (6,844,326)	\$ (6,272,255)	\$ (5,694,593)	\$ (6,549,211)	\$ (7,360,957)	\$ (4,511,960)	\$ 1,195,967	\$ 5,228,967	\$ 5,144,559	\$ 3,083,847		
46	Interest Applied	In 24 * In 44 / 365 * Days of Month	\$ (60,124)	\$ (60,261)	\$ (55,192)	\$ (49,410)	\$ (43,820)	\$ (41,110)	\$ (45,755)	\$ (53,140)	\$ (32,573)	\$ 8,077	\$ 37,749	\$ 35,941	\$ -	\$ -	\$ (359,618)
48	(Over)/Under Balance	-In 41 +In 42 + In 46	\$ (8,577,690)	\$ (9,180,352)	\$ (8,653,806)	\$ (7,155,066)	\$ (6,582,995)	\$ (6,005,334)	\$ (5,424,963)	\$ (7,719,214)	\$ (7,055,839)	\$ (2,000,654)	\$ 4,400,664	\$ 6,095,018	\$ 4,230,042	\$ 1,937,652	\$ 1,937,652
51	Forecast Sendout Therms	Sch 1							12,360,292	17,656,136	21,061,366	18,630,638	15,312,912	9,437,721			94,459,064
52	Less Forecast Billing Therm Sales	Sch. 10B, In 23 Nov - May							12,237,353	17,818,111	21,017,875	18,278,553	15,666,889	9,549,539			94,568,321
53	Less Forecast Unaccounted For	Sch 1							480,543	686,434	818,823	724,321	595,335	366,919			3,672,374
54	Less Forecast Company Use	Sch 1							16,699	23,853	28,454	25,170	20,688	12,750			127,614
55	Unbilled Volumes								-374,302	-872,263	-803,786	-397,406	-969,999	-491,488	0		(3,909,244)
56	Gross Unbilled								-374,302	-1,246,565	-2,050,351	-2,447,758	-3,417,757	-3,909,244	-3,909,244		
59	COB w/o Interest	Sch. 3, pg. 4, In 202 col. (c)							\$0.5859	\$0.5859	\$0.5859	\$0.5859	\$0.5859	\$0.5859	\$0.5859		
61	COG With Interest	Sch. 3, pg. 4, In 202 col. (d)							\$0.5864	\$0.5864	\$0.5864	\$0.5864	\$0.5864	\$0.5864	\$0.5864		

		Prior Period Bal	May-23	Jun-23	Jul-23	Aug-23	Sep-23	Oct-23	Nov-23	Dec-23	Jan-24	Feb-24	Mar-24	Apr-24	May-24	Peak Period	
	Days in Month	Apr-23 Ending Bal + May Collections	31	30	31	31	30	31	30	31	31	29	31	30	31	Total	
(a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)	(i)	(j)	(k)	(l)	(m)	(n)	(o)	(p)		
67 Account 1163 1422 Working Capital (Over)/Under Balance Interest Calculation																	
68																	
69	Beginning Balance	Account 1163-1422	\$ (162,369)	\$ (183,441)	\$ (182,630)	\$ (177,966)	\$ (175,515)	\$ (173,006)	\$ (170,519)	\$ (175,067)	\$ (154,390)	\$ (102,459)	\$ (47,336)	\$ (21,761)	\$ (24,676)	\$ (162,369)	
70	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		
71	Prime Rate		8.00%	8.25%	8.25%	8.50%	8.50%	8.50%	8.50%	8.50%	8.50%	8.50%	8.50%	8.50%	8.50%		
72	Forecast Working Capital	In 34 * 0.091%	-	-	-	3,722	3,722	3,722	26,734	64,828	104,109	100,965	63,088	20,213	-	391,105	
73	Projected Revenues w/o Int.	In 113 * In 117	-	-	-	-	-	-	(31,028)	(45,178)	(53,292)	(46,346)	(39,724)	(24,213)	-	(239,781)	
74	Projected Unbilled Revenue		-	-	-	-	-	-	949	3,161	5,199	6,206	8,666	9,912	-	34,093	
75	Reverse Prior Month Unbilled		-	-	-	-	-	-	(949)	(949)	(5,199)	(5,199)	(6,206)	(8,666)	(9,912)	(34,093)	
76	Add Net Adjustments		2,112	2,808	6,125	-	-	-	-	-	-	-	-	-	-	11,045	
77	Working Capital Billed	Account 1163-1422	(22,014)	(759)	(203)	-	-	-	-	-	-	-	-	-	-	(22,975)	
78	Monthly (Over)/Under Recovery		\$ (162,369)	\$ (182,271)	\$ (181,393)	\$ (176,707)	\$ (174,244)	\$ (171,793)	\$ (169,283)	\$ (173,864)	\$ (153,205)	\$ (101,535)	\$ (46,832)	\$ (21,512)	\$ (24,514)	\$ (22,975)	
79	Average Monthly Balance	(In 69 + In 83)/2	\$ (172,320)	\$ (182,417)	\$ (179,668)	\$ (176,105)	\$ (173,654)	\$ (171,145)	\$ (172,192)	\$ (164,136)	\$ (127,963)	\$ (74,645)	\$ (34,424)	\$ (23,137)	\$ (29,632)		
80	Interest Rate	Prime Rate	8.00%	8.25%	8.25%	8.50%	8.50%	8.50%	8.50%	8.50%	8.50%	8.50%	8.50%	8.50%	8.50%		
81	Interest Applied	In 85 * In 87 / 365 * Days of Month	\$ (1,171)	\$ (1,237)	\$ (1,259)	\$ (1,271)	\$ (1,213)	\$ (1,236)	\$ (1,203)	\$ (1,185)	\$ (924)	\$ (504)	\$ (249)	\$ (162)	\$ -	\$ (11,613)	
82	(Over)/Under Balance	In 83 + In 89	\$ (162,369)	\$ (183,441)	\$ (182,630)	\$ (177,966)	\$ (175,515)	\$ (173,006)	\$ (170,519)	\$ (175,067)	\$ (154,390)	\$ (102,459)	\$ (47,336)	\$ (21,761)	\$ (24,676)	\$ (34,588)	
83																	
84																	
85	94 Calculation of Working Capital with Interest																
86																	
87	Beginning Balance	In 69	\$ (162,369)	\$ (162,369)	\$ (183,441)	\$ (182,630)	\$ (177,966)	\$ (175,515)	\$ (173,006)	\$ (170,519)	\$ (175,034)	\$ (154,309)	\$ (102,320)	\$ (47,146)	\$ (21,528)	\$ (24,416)	\$ (162,369)
88	Forecast Working Capital	In 73	-	-	-	3,722	3,722	3,722	26,734	64,828	104,109	100,965	63,088	20,213	-	-	391,105
89	Projected Rev. with interest	In 113 * In 119	-	-	-	-	-	-	(30,994)	(45,128)	(53,233)	(46,295)	(39,680)	(24,186)	-	(239,516)	
90	Projected Unbilled Revenue		-	-	-	-	-	-	948	3,157	5,193	6,200	8,656	9,901	-	34,055	
91	Reverse Prior Month Unbilled		-	-	-	-	-	-	(948)	(948)	(5,193)	(5,193)	(6,200)	(8,656)	(9,901)	(34,055)	
92	Add Net Adjustments	In 79	2,112	2,808	6,125	-	-	-	-	-	-	-	-	-	-	11,045	
93	Working Capital Billed	In 81	(22,014)	(759)	(203)	-	-	-	-	-	-	-	-	-	-	(22,975)	
94	Add Interest	In 89	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
95	Monthly (Over)/Under Recovery		\$ (162,369)	\$ (182,271)	\$ (181,393)	\$ (176,707)	\$ (174,244)	\$ (171,793)	\$ (169,283)	\$ (173,831)	\$ (153,124)	\$ (101,397)	\$ (46,643)	\$ (21,281)	\$ (24,256)	\$ (34,317)	\$ (22,710)
96	Average Monthly Balance		\$ (172,320)	\$ (182,417)	\$ (179,668)	\$ (176,105)	\$ (173,654)	\$ (171,145)	\$ (172,175)	\$ (164,079)	\$ (127,853)	\$ (74,481)	\$ (34,213)	\$ (22,892)	\$ (29,367)		
97	Interest Applied	In 87 * In 107 / 365 * Days of Month	(1,171)	(1,237)	(1,259)	(1,271)	(1,213)	(1,236)	(1,203)	(1,185)	(923)	(503)	(247)	(160)	-	\$ (11,607)	
98	(Over)/Under Balance	-In 104 +In 105 + In 109	\$ (162,369)	\$ (183,441)	\$ (182,630)	\$ (177,966)	\$ (175,515)	\$ (173,006)	\$ (170,519)	\$ (175,034)	\$ (154,309)	\$ (102,320)	\$ (47,146)	\$ (21,528)	\$ (24,416)	\$ (34,317)	\$ (34,317)
99	Forecast Therm Sales	In 52							12,237,353	17,818,111	21,017,875	18,278,553	15,666,889	9,549,539	0	94,568,321	
100	Unbilled Therm	In 55							(374,302)	(872,263)	(803,786)	(397,406)	(969,999)	(491,488)			
101	Gross Unbilled								(374,302.04)	(1,246,565.12)	(2,050,351.22)	(2,447,757.60)	(3,417,756.76)	(3,909,244.49)			
102	Working Cap. Rate w/out Int.	Sch. 3, pg. 4, In 219 col. (c)							\$0.0025	\$0.0025	\$0.0025	\$0.0025	\$0.0025	\$0.0025	\$0.0025	\$0.0025	
103	Working Capital Rate w/ Int.	Sch. 3 pg. 4 In 219 col. (d)							\$0.0025	\$0.0025	\$0.0025	\$0.0025	\$0.0025	\$0.0025	\$0.0025	\$0.0025	

	Days in Month (b)	Prior Period Bal Apr-23 Ending Bal + May Collections	May-23	Jun-23	Jul-23	Aug-23	Sep-23	Oct-23	Nov-23	Dec-23	Jan-24	Feb-24	Mar-24	Apr-24	May-24	Demand Period Total
			(c)	(d)	(e)	(f)	(g)	(h)	(i)	(j)	(k)	(l)	(m)	(n)	(o)	(p)
Account 1920 1743 Bad Debt (Over)/Under Balance	Interest Calculation															
Forecast Direct Gas Costs	In 34	\$ -	\$ -	\$ -	\$ 621,481	\$ 621,481	\$ 621,481	\$ 4,463,422	\$ 10,823,528	\$ 17,381,642	\$ 16,856,716	\$ 10,533,026	\$ 3,374,735	\$ -	\$ -	65,297,512
Forecast Working Capital	In 98	-	-	-	3,722	3,722	3,722	(135,635)	64,828	104,109	100,965	63,088	20,213	-	-	228,736
Prior Period Balance	In 42	-	-	-	-	-	-	(1,429,615)	(1,429,615)	(1,429,615)	(1,429,615)	(1,429,615)	(1,429,615)	-	-	(8,577,690)
Total Forecast Direct Gas Costs & Working Capital		-	-	-	625,204	625,204	625,204	2,898,172	9,458,741	16,056,135	15,528,066	9,166,499	1,965,333	-	-	65,526,248
Beginning Balance	Account 1920-1743	\$ (389,248)	\$ (389,248)	\$ (434,271)	\$ (443,908)	\$ (458,305)	\$ (460,158)	\$ (461,918)	\$ (463,798)	\$ (426,508)	\$ (359,307)	\$ (266,956)	\$ (181,709)	\$ (119,826)	\$ (90,293)	\$ (389,248)
Forecast Bad Debt	In 132 * 0.00231908326307407	-	-	-	1,450	1,450	1,450	6,721	21,936	37,236	36,011	21,258	4,558	-	-	132,068
Projected Revenues w/o int	In 175 * In 179	-	-	-	-	-	-	34,730	50,568	59,649	51,874	44,463	27,102	-	-	268,384
Projected Unbilled Revenue		-	-	-	-	-	-	(1,062)	(3,536)	(5,819)	(6,947)	(9,700)	(11,094)	-	-	(38,160)
Reverse Prior Month Unbilled		-	-	-	-	-	-	1,062	3,538	5,819	6,947	9,700	11,094	-	-	38,160
Bad Debt Billed	Account 1920-1743	(46,937)	(1,658)	(352)	-	-	-	-	-	-	-	-	-	-	-	(48,947)
Add Net Adjustments		4,703	(5,013)	(10,894)	-	-	-	-	-	-	-	-	-	-	-	(11,204)
Monthly (Over)/Under Recovery		\$ (389,248)	\$ (431,482)	\$ (440,941)	\$ (455,155)	\$ (456,855)	\$ (458,708)	\$ (460,468)	\$ (423,409)	\$ (356,481)	\$ (264,704)	\$ (180,199)	\$ (118,741)	\$ (89,561)	\$ (79,198)	\$ (48,947)
Average Monthly Balance	(In 134 + In 146)/2	\$ (410,365)	\$ (437,606)	\$ (449,532)	\$ (457,580)	\$ (459,433)	\$ (461,193)	\$ (443,603)	\$ (391,495)	\$ (312,005)	\$ (223,578)	\$ (150,225)	\$ (104,694)	\$ (84,746)	\$ -	\$ -
Interest Rate		8.00%	8.25%	8.25%	8.50%	8.50%	8.50%	8.50%	8.50%	8.50%	8.50%	8.50%	8.50%	8.50%	8.50%	8.50%
Interest Applied	In 148 * In 150 / 365 * Days of Month	\$ (2,788)	\$ (2,967)	\$ (3,150)	\$ (3,303)	\$ (3,210)	\$ (3,329)	\$ (3,099)	\$ (2,826)	\$ (2,252)	\$ (1,510)	\$ (1,085)	\$ (731)	\$ -	\$ -	\$ (30,252)
(Over)/Under Balance	In 146 + In 152	\$ (389,248)	\$ (434,271)	\$ (443,908)	\$ (458,305)	\$ (460,158)	\$ (461,918)	\$ (463,798)	\$ (426,508)	\$ (359,307)	\$ (266,956)	\$ (181,709)	\$ (119,826)	\$ (90,293)	\$ (79,198)	\$ (79,198)
Calculation of Bad Debt with Interest																
Beginning Balance	In 134	\$ (389,248)	\$ (389,248)	\$ (434,271)	\$ (443,908)	\$ (458,305)	\$ (460,158)	\$ (461,918)	\$ (463,798)	\$ (425,792)	\$ (357,562)	\$ (263,996)	\$ (177,672)	\$ (114,905)	\$ (84,827)	\$ (389,248)
Forecast Bad Debt	In 136	-	-	-	1,450	1,450	1,450	6,721	21,936	37,236	36,011	21,258	4,558	-	-	132,068
Projected Revenues with int.	In 175 * In 181	-	-	-	-	-	-	35,466	51,640	60,913	52,974	45,405	27,676	-	-	274,074
Projected Unbilled Revenue		-	-	-	-	-	-	(1,085)	(3,613)	(5,942)	(7,094)	(9,905)	(11,330)	-	-	(38,969)
Reverse Prior Month Unbilled		-	-	-	-	-	-	1,085	3,613	5,942	7,094	9,905	11,330	-	-	38,969
Bad Debt Billed	In 142	(46,937)	(1,658)	(352)	-	-	-	-	-	-	-	-	-	-	-	(48,947)
Add Interest	In 152	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0
Add Net Adjustments	In 144	4,703	(5,013)	(10,894)	-	-	-	-	-	-	-	-	-	-	-	(11,204)
Monthly (Over)/Under Recovery		\$ (389,248)	\$ (431,482)	\$ (440,941)	\$ (455,155)	\$ (456,855)	\$ (458,708)	\$ (460,468)	\$ (422,696)	\$ (354,745)	\$ (261,743)	\$ (176,162)	\$ (113,820)	\$ (84,095)	\$ (73,497)	\$ (43,257)
Average Monthly Balance		\$ (410,365)	\$ (437,606)	\$ (449,532)	\$ (457,580)	\$ (459,433)	\$ (461,193)	\$ (443,247)	\$ (390,268)	\$ (309,653)	\$ (220,079)	\$ (145,746)	\$ (99,500)	\$ (79,162)	\$ -	\$ -
Interest Applied	In 150 * In 169 / 365 * Days of Month	(2,788)	(2,967)	(3,150)	(3,303)	(3,210)	(3,329)	(3,097)	(2,817)	(2,252)	(1,510)	(1,085)	(731)	-	-	(30,240)
(Over)/Under Balance	-In 165 + In 167 + In 171	\$ (389,248)	\$ (434,271)	\$ (443,908)	\$ (458,305)	\$ (460,158)	\$ (461,918)	\$ (463,798)	\$ (425,792)	\$ (357,562)	\$ (263,996)	\$ (177,672)	\$ (114,905)	\$ (84,827)	\$ (73,497)	\$ (73,497)
Forecast Term Sales	In 52							12,237,353	17,818,111	21,017,875	18,278,553	15,666,889	9,549,539	0	0	94,568,321
Unbilled Term	In 55							(374,302.04)	(872,263.08)	(803,786.10)	(397,406.37)	(969,999.17)	(491,487.73)			
Gross Unbilled								(374,302.04)	(1,246,565.12)	(2,050,351.22)	(2,447,757.60)	(3,417,756.76)	(3,909,244.49)			
COG Rate Without Interest	Sch. 3, pg. 4, In 236 col. (c)							-\$0.0028	-\$0.0028	-\$0.0028	-\$0.0028	-\$0.0028	-\$0.0028	-\$0.0028	-\$0.0028	-\$0.0028
COG With Interest	Sch. 3, pg. 4, In 236 col. (d)							-\$0.0029	-\$0.0029	-\$0.0029	-\$0.0029	-\$0.0029	-\$0.0029	-\$0.0029	-\$0.0029	-\$0.0029
Total Interest	In 46 + 109 + 171	\$ -	\$ (64,083)	\$ (64,465)	\$ (59,601)	\$ (53,985)	\$ (48,243)	\$ (45,675)	\$ (50,054)	\$ (57,142)	\$ (35,748)	\$ 6,064	\$ 36,417	\$ 35,050	\$ -	\$ (401,465)

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

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2
3 **Peak 2023 – 2024 Winter Cost of Gas Filing**
4 **Adjustments to Gas Costs**
5

Schedule 4
Page 1 of 1

		Prior Period	Refunds from	Broker	Inventory	Transportation	Interruptible	Off System	Capacity	Net Option	Fixed Price	Total
	<u>Adjustments</u>	Adjustments	Suppliers	Revenue	Finance	CGA Revenues	Sales Margin	Sales Margin	Release	Premiums	Option	Adjustments
	(a)	(b)	(c)	(d)	Charges	(Schedule 17)	(g)	(h)	(i)	(j)	Administrative	(m)
					(e)	(f)					Costs	
9	May-23	\$ -	\$ -	(\$202,607)	\$ -	\$ (36,912)	\$ -	\$ -	\$ (206,592)	\$ -	\$ -	\$ (446,111)
10	Jun-23	-	-	(13,057)	-	(6,723)	-	-	(214,945)	-	-	(234,724)
11	Jul-23	-	-	1,033,336	-	537	-	-	(373,811)	-	-	660,062
12	Aug-23 1/	-	-	-	-	-	-	-	-	-	-	-
13	Sep-23 1/	-	-	-	-	-	-	-	-	-	-	-
14	Oct-23 1/	-	-	-	-	-	-	-	-	-	-	-
15	Nov-23 1/	-	-	(52,108)	-	(11,638)	-	-	(312,424)	-	-	(376,170)
16	Dec-23 1/	-	-	(406,806)	-	(13,901)	-	-	(372,970)	-	-	(793,677)
17	Jan-24 1/	-	-	(687,773)	-	(15,794)	-	-	(362,184)	-	-	(1,065,752)
18	Feb-24 1/	-	-	(237,534)	-	(13,947)	-	-	(350,442)	-	-	(601,923)
19	Mar-24 1/	-	-	(538,880)	-	(12,893)	-	-	(328,959)	-	-	(880,732)
20	Apr-24 1/	-	-	(235,050)	-	(9,656)	-	-	(338,621)	-	-	(583,327)
21												
22	Subtotal May 23 - Oct 23	\$ -	\$ -	\$ 817,672	\$ -	\$ (43,097)	\$ -	\$ -	\$ (795,348)	\$ -	\$ -	\$ (20,773)
23												
24	Subtotal Nov 23 - Apr 24	\$ -	\$ -	\$ (2,158,152)	\$ -	\$ (77,829)	\$ -	\$ -	\$ (2,065,600)	\$ -	\$ -	\$ (4,301,581)
25												
26	Total Peak Period	\$ -	\$ -	\$ (1,340,480)	\$ -	\$ (120,926)	\$ -	\$ -	\$ (2,860,948)	\$ -	\$ -	\$ (4,322,354)
27												

1/ Estimates 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

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

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3 Peak 2023 – 2024 Winter Cost of Gas Filing
4 Demand Costs

Schedule 5A
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	Peak (a)	Reference (b)	Reference (c)	Deferred to Peak May 23 -Oct 23 (d)	Nov-23 (e)	Dec-23 (f)	Jan-24 (g)	Feb-24 (h)	Mar-24 (i)	Apr-24 (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				\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	
14 Pipeline											
16 Iroquois Gas Trans Service RTS 470-0		Sch 5B, In 12 *	Sch 5C In 12 x days	\$ -	\$ 19,585	\$ 19,585	\$ 19,585	\$ 19,585	\$ 19,585	\$ 19,585	
17 Tenn Gas Pipeline 95346 Z5-Z6		Sch 5B, In 13 *	Sch 5C In 14 x days	-	24,362	24,362	24,362	24,362	24,362	24,362	
18 Tenn Gas Pipeline 2302 Z5-Z6		Sch 5B, In 14 *	Sch 5C In 16 x days	-	19,015	19,015	19,015	19,015	19,015	19,015	
19 Tenn Gas Pipeline 8587 Z0-Z6		Sch 5B, In 15 *	Sch 5C In 18 x days	-	138,564	138,564	138,564	138,564	138,564	138,564	
20 Tenn Gas Pipeline 8587 Z1-Z6		Sch 5B, In 16 *	Sch 5C In 20 x days	-	254,628	254,628	254,628	254,628	254,628	254,628	
21 Tenn Gas Pipeline 8587 Z4-Z6		Sch 5B, In 17 *	Sch 5C In 22 x days	-	26,411	26,411	26,411	26,411	26,411	26,411	
22 Tenn Gas Pipeline (Dracut) 42076 Z6-Z6	peak	Sch 5B, In 18 *	Sch 5C In 24 x days	485,688	80,948	80,948	80,948	80,948	80,948	80,948	
23 Tenn Gas Pipeline (Dracut) 358905 Z6-Z7	peak	Sch 5B, In 19 *	Sch 5C In 25 x days	971,376	161,896	161,896	161,896	161,896	161,896	161,896	
24 Tenn Gas Pipeline (Concord Lateral) Z6-Z6	peak	Sch 5B, In 20 *	Sch 5C In 28 x days	2,198,826	366,471	366,471	366,471	366,471	366,471	366,471	
25 Portland Natural Gas Trans Service		Sch 5B, In 21 *	Sch 5C In 30 x days	-	18,263	18,263	18,263	18,263	18,263	18,263	
26 Portland Natural Gas		Sch 5B, In 22 *	Sch 5C In 31 x days	-	113,971	113,971	113,971	113,971	113,971	113,971	
27 ANE (TransCanada via Union to Iroquois)		Sch 5B, In 23 *	Sch 5C In 32 x days	-	51,622	51,622	51,622	51,622	51,622	51,622	
28 TransCanada via Union to Portland		Sch 5B, In 24 *	Sch 5C In 33 x days	-	98,086	98,086	98,086	98,086	98,086	98,086	
29 Tenn Gas Pipeline Z4-Z6 stg 632	peak	Sch 5B, In 25 *	Sch 5C In 34 x days	634,728	105,788	105,788	105,788	105,788	105,788	105,788	
30 Tenn Gas Pipeline Z4-Z6 stg 11234	peak	Sch 5B, In 26 *	Sch 5C In 36 x days	294,474	49,079	49,079	49,079	49,079	49,079	49,079	
31 Tenn Gas Pipeline Z5-Z6 stg 11234	peak	Sch 5B, In 27 *	Sch 5C In 38 x days	71,515	11,919	11,919	11,919	11,919	11,919	11,919	
32 National Fuel FST 2358	peak	Sch 5B, In 28 *	Sch 5C In 40 x days	183,580	30,597	30,597	30,597	30,597	30,597	30,597	
34 Subtotal Pipeline Demand Charges				\$ 4,840,187	\$ 1,571,205	\$ 1,571,205	\$ 1,571,205	\$ 1,571,205	\$ 1,571,205	\$ 1,571,205	\$ 14,267,415
35 Peaking Supply											
37 Tenn Gas Pipeline (Concord Lateral) Z6-Z6	peak	Sch 5B, In 31 *	Sch 5C In 28 x days	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	
38 Demand FLS	Per Contract			-	-	-	-	-	-	-	
39 Peaking Demand	Per Contract			-	310,000	310,000	310,000	310,000	310,000	310,000	
40 Subtotal Peaking Demand Charges				\$ -	\$ 310,000	\$ 310,000	\$ 310,000	\$ 310,000	\$ 310,000	\$ 310,000	\$ 1,550,000
42 Subtotal Supply, Pipeline & Peaking		In 13 + In 34 + In 40		\$ 4,840,187	\$ 1,881,205	\$ 1,881,205	\$ 1,881,205	\$ 1,881,205	\$ 1,881,205	\$ 1,571,205	\$ 15,817,415
44 Less Transportation Capacity Credit				\$ (1,585,161)	\$ (471,994)	\$ (471,994)	\$ (471,994)	\$ (471,994)	\$ (471,994)	\$ (394,215)	\$ (4,339,348)
46 Total Supply, Pipeline & Peaking Demand				\$ 3,255,025	\$ 1,409,210	\$ 1,409,210	\$ 1,409,210	\$ 1,409,210	\$ 1,409,210	\$ 1,176,989	\$ 11,478,067
49 Dominion - Demand	peak	Sch 5B, In 36 *	Sch 5C In 64 x days	\$ 15,010	\$ 2,502	\$ 2,502	\$ 2,502	\$ 2,502	\$ 2,502	\$ 2,502	\$ 30,020
50 Dominion - Storage	peak	Sch 5B, In 37 *	Sch 5C In 65 x days	15,898	2,650	2,650	2,650	2,650	2,650	2,650	31,796
51 Honeoye - Demand	peak	Sch 5B, In 38 *	Sch 5C In 68 x days	56,660	9,443	9,443	9,443	9,443	9,443	9,443	113,319
52 National Fuel - Demand	peak	Sch 5B, In 40 *	Sch 5C In 70 x days	96,845	16,141	16,141	16,141	16,141	16,141	16,141	193,690
53 National Fuel - Capacity	peak	Sch 5B, In 41 *	Sch 5C In 71 x days	192,385	32,064	32,064	32,064	32,064	32,064	32,064	384,771
54 Tenn Gas Pipeline - Demand	peak	Sch 5B, In 42 *	Sch 5C In 74 x days	165,861	27,644	27,644	27,644	27,644	27,644	27,644	331,723
55 Tenn Gas Pipeline - Capacity	peak	Sch 5B, In 43 *	Sch 5C In 75 x days	161,969	26,995	26,995	26,995	26,995	26,995	26,995	323,937
57 Subtotal Storage Demand Costs				\$ 704,628	\$ 117,438	\$ 117,438	\$ 117,438	\$ 117,438	\$ 117,438	\$ 117,438	\$ 1,409,255
59 Less Transportation Capacity Credit				\$ (230,766)	\$ (29,465)	\$ (29,465)	\$ (29,465)	\$ (29,465)	\$ (29,465)	\$ (29,465)	\$ (407,557)
61 Total Storage Demand Costs		In 57 + In 59		\$ 473,862	\$ 87,973	\$ 87,973	\$ 87,973	\$ 87,973	\$ 87,973	\$ 87,973	\$ 1,001,699
63 Total Demand Charges		In 42 + In 57		\$ 5,544,814	\$ 1,998,643	\$ 1,998,643	\$ 1,998,643	\$ 1,998,643	\$ 1,998,643	\$ 1,688,643	\$ 17,226,670
65 Total Transportation Capacity Credit		In 44 + In 59		\$ (1,815,927)	\$ (501,459)	\$ (501,459)	\$ (501,459)	\$ (501,459)	\$ (501,459)	\$ (423,680)	\$ (4,746,904)
67 Total Demand Charges less Cap. Cr.		In 63 + In 65		\$ 3,728,888	\$ 1,497,183	\$ 1,497,183	\$ 1,497,183	\$ 1,497,183	\$ 1,497,183	\$ 1,264,962	\$ 12,479,766
70 Monthly Off Peak Demand											
71 Monthly Off Peak Transportation Cap Credit											
72 Total Off Peak Demand											
74 Monthly Peak Demand											
75 Monthly Peak Transportation Cap Credit											
76 Total Peak Demand											

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

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3 **Peak 2023 – 2024 Winter Cost of Gas Filing**

4 **Demand Volumes**

6		Peak	Reference	Nov-23	Dec-23	Jan-24	Feb-24	Mar-24	Apr-24
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	peak	42076 FTA Z6-Z6	20,000	20,000	20,000	20,000	20,000	20,000
19	Tenn Gas Pipeline	peak	358905 FTA Z6-Z6	40,000	40,000	40,000	40,000	40,000	40,000
20	Tenn Gas Pipeline (Concord Lateral)	peak	Firm Transportation	30,000	30,000	30,000	30,000	30,000	30,000
21	Portland Natural Gas Trans Service		FT-208544	1,000	1,000	1,000	1,000	1,000	1,000
22	Portland Natural Gas		FT 233320	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		Dawn -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	Demand FLS	peak		-	-	-	-	-	-
33	Peaking Demand	peak	NSB041	4,000	4,000	4,000	4,000	4,000	-
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-O02357	6,098	6,098	6,098	6,098	6,098	6,098
41	National Fuel - Capacity Reservation	peak	FSS-O02357	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. d/b/a Liberty

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Schedule 5C

3 Peak 2023 – 2024 Winter Cost of Gas Filing

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4 Demand Rates

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6 Tariff Rates

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8 **Supply**

				Nov-23 30 Unit Rate	Dec-23 31 Unit Rate	Jan-24 31 Unit Rate	Feb-24 29 Unit Rate	Mar-24 31 Unit Rate	Apr-24 30 Unit Rate	Nov - Apr 182 Avg Rate
9	Niagara Supply	\$	- Per Contract	\$0.0000	\$0.0000	\$0.0000	\$0.0000			

10

11 **Pipeline**

12	Iroquois Gas Trans Service	RTS 470-01	\$	4.8393	Fifth Revised Sheet No. 4	\$	0.1613	\$	0.1561	\$	0.1561	\$	0.1669	\$	0.1561	\$	0.1613	\$	0.1596
13																			
14	Tenn Gas Pipeline	95346 Z5-Z6	\$	6.0905	Rate Sheet #14 - 21st Rev	\$	0.2030	\$	0.1965	\$	0.1965	\$	0.2100	\$	0.1965	\$	0.2030	\$	0.2009
15																			
16	Tenn Gas Pipeline	2302 Z5-Z6	\$	6.0905	Rate Sheet #14 - 21st Rev	\$	0.2030	\$	0.1965	\$	0.1965	\$	0.2100	\$	0.1965	\$	0.2030	\$	0.2009
17																			
18	Tenn Gas Pipeline	8587 Z0-Z6	\$	19.6964	FT-A (Z0 - Z6)	\$	0.6565	\$	0.6354	\$	0.6354	\$	0.6792	\$	0.6354	\$	0.6565	\$	0.6497
19																			
20	Tenn Gas Pipeline	8587 Z1-Z6	\$	17.4870	FT-A (Z1 - Z6)	\$	0.5829	\$	0.5641	\$	0.5641	\$	0.6030	\$	0.5641	\$	0.5829	\$	0.5768
21																			
22	Tenn Gas Pipeline	8587 Z4-Z6	\$	6.9301	FT-A (Z4 - Z6)	\$	0.2310	\$	0.2236	\$	0.2236	\$	0.2390	\$	0.2236	\$	0.2310	\$	0.2286
23																			
24	TGP Dracut	42076 FTA Z6-Z6	\$	4.0474	Rate Sheet #14 - 21st Rev	\$	0.1349	\$	0.1306	\$	0.1306	\$	0.1396	\$	0.1306	\$	0.1349	\$	0.1335
25																			
26	TGP Dracut	358905 FTA Z6-Z6	\$	4.0474	Rate Sheet #14 - 21st Rev	\$	0.1349	\$	0.1306	\$	0.1306	\$	0.1396	\$	0.1306	\$	0.1349	\$	0.1335
27																			
28	TGP Concord Lateral	Firm Transportati	\$	12.2157	Per contract	\$	0.4072	\$	0.3941	\$	0.3941	\$	0.4212	\$	0.3941	\$	0.4072	\$	0.4030
29																			
30	Portland Natural Gas	FT-208544	\$	18.2633	Negot Dmd /CMDY=Part 4.1 V	\$	0.6088	\$	0.5891	\$	0.5891	\$	0.6298	\$	0.5891	\$	0.6088	\$	0.6025
31																			
32	Portland Natural Gas	FT 233320	\$	22.7943	Negot Dmd /CMDY=Part 4.1 V	\$	0.7598	\$	0.7353	\$	0.7353	\$	0.7860	\$	0.7353	\$	0.7598	\$	0.7519
33																			
34	Tenn Gas Pipeline	632 Z4-Z6 (stg)	\$	6.9301	Rate Sheet #14 - 21st Rev	\$	0.2310	\$	0.2236	\$	0.2236	\$	0.2390	\$	0.2236	\$	0.2310	\$	0.2286
35																			
36	Tenn Gas Pipeline	11234 Z4-Z6(stg)	\$	6.9301	Rate Sheet #14 - 21st Rev	\$	0.2310	\$	0.2236	\$	0.2236	\$	0.2390	\$	0.2236	\$	0.2310	\$	0.2286
37																			
38	Tenn Gas Pipeline	11234 Z5-Z6(stg)	\$	6.0905	Rate Sheet #14 - 21st Rev	\$	0.2030	\$	0.1965	\$	0.1965	\$	0.2100	\$	0.1965	\$	0.2030	\$	0.2009
39																			
40	National Fuel	FST N02358	\$	5.0175	4.010 Version 37.0.0 Pg 1	\$	0.1673	\$	0.1619	\$	0.1619	\$	0.1730	\$	0.1619	\$	0.1673	\$	0.1655
41																			
42																			

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

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3 Peak 2023 – 2024 Winter Cost of Gas Filing

43	ANE	Union Gas	\$	3.7600																
44		TransCanada Pipelines Limited	\$	11.9355	Dawn - Parkway to Iroquois															
45		Delivery Pressure Demand Charge	\$	<u>0.6083</u>	Dawn - Parkway to Iroquois															
46		Sub Total Demand Charges	\$	<u>16.3038</u>																
47		Conversion rate GJ to MMBTU	\$	1.0551																
48		Conversion rate to US\$	\$	1.3486	1/0/1900															
49		Demand Rate/US\$	\$	12.7551		\$	0.4252	\$	0.4115	\$	0.4115	\$	0.4398	\$	0.4115	\$	0.4252	\$	0.4208	
50																				
51		Union Gas	\$	3.7600																
52		TransCanada Pipelines Limited	\$	20.3244	Dawn -Parkway to Portland															
53		Delivery Pressure Demand Charge	\$	0.6083	Dawn -Parkway to Portland															
54		Sub Total Demand Charges	\$	<u>24.6928</u>																
55		Conversion rate GJ to MMBTU	\$	1.0551																
56		Conversion rate to US\$	\$	1.3486	1/0/1900															
57		Demand Rate/US\$	\$	19.3180		\$	0.6439	\$	0.6232	\$	0.6232	\$	0.6661	\$	0.6232	\$	0.6439	\$	0.6372	
58																				
59	Peaking																			
60		Demand FLS			Per Contract															
61		Subtotal Peaking Demand Charges			Per Contract	\$	2.5833	\$	2.5000	\$	2.5000	\$	2.6724							
62																				
63	Storage																			
64		Dominion - Demand	GSS 300076	\$	2.6784	GSS Settled,Tariff Rec #10.30 \	\$	0.0893	\$	0.0864	\$	0.0864	\$	0.0924	\$	0.0864	\$	0.0893	\$	0.0882
65		Dominion - Capacity	GSS 300076	\$	0.0258	GSS Settled,Tariff Rec #10.30 \	\$	0.0009	\$	0.0008	\$	0.0008	\$	0.0009	\$	0.0008	\$	0.0009	\$	0.0008
66				\$	2.7042		\$	0.0901	\$	0.0872	\$	0.0872	\$	0.0932	\$	0.0872	\$	0.0901	\$	0.0890
67																				
68		Honeoye - Demand	SS-NY	\$	6.9317	Sub 1st Rev Sheet No. 5	\$	0.2311	\$	0.2236	\$	0.2236	\$	0.2390	\$	0.2236	\$	0.2311	\$	0.2282
69																				
70		National Fuel - Demand	FSS-002357	\$	2.6469	4.020 Version 30.0.0 Pg 1	\$	0.0882	\$	0.0854	\$	0.0854	\$	0.0913	\$	0.0854	\$	0.0882	\$	0.0871
71		National Fuel - Capacity	FSS-002357	\$	0.0478	4.020 Version 30.0.0 Pg 1	\$	0.0016	\$	0.0015	\$	0.0015	\$	0.0016	\$	0.0015	\$	0.0016	\$	0.0016
72				\$	2.6947		\$	0.0898	\$	0.0869	\$	0.0869	\$	0.0929	\$	0.0869	\$	0.0898	\$	0.0887
73																				
74		Tenn Gas Pipeline	FS-MA 523	\$	1.2655	Rate Sheet #61-24th Rev	\$	0.0422	\$	0.0408	\$	0.0408	\$	0.0436	\$	0.0408	\$	0.0422	\$	0.0417
75		Tenn Gas Pipeline - Space	FS-MA 523	\$	0.0173	Rate Sheet #61-24th Rev	\$	0.0006	\$	0.0006	\$	0.0006	\$	0.0006	\$	0.0006	\$	0.0006	\$	0.0006
76				\$	1.2828		\$	0.0428	\$	0.0414	\$	0.0414	\$	0.0442	\$	0.0414	\$	0.0428	\$	0.0422

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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) <u>Rate/GJ</u>	<u>Fuel and Commodity Charges</u>		
		<u>Union Supplied Fuel</u> Fuel and Commodity Charge <u>Rate/GJ</u>	<u>Shipper Supplied Fuel</u>	
			<u>Fuel</u> <u>Ratio %</u>	<u>AND</u>
<u>Firm Transportation (1), (5)</u>				
Dawn to Parkway	\$3.760	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	\$3.190			
Kirkwall to Parkway	\$0.570			
<u>M12-X Firm Transportation</u>				
Between Dawn, Kirkwall and Parkway	\$4.648	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	\$9.024	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	\$9.024			
Parkway (TCPL / EGT) to Parkway (Cons) / Lisgar (2)	n/a	n/a	0.173%	
<u>Carbon Charge (applied to all quantities transported)</u>				
Facility Carbon Charge		\$0.004	\$0.004	

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(C) Rates (Cont'd)

Authorized Overrun (3)

Authorized overrun rates will be payable on all quantities in excess of Union's obligation on any day. The overrun charges payable will be calculated at the following rates. Overrun will be authorized at Union's sole discretion.

Fuel and Commodity Charges

	Union Supplied Fuel		Shipper Supplied Fuel	
	Fuel and Commodity Charge Rate/GJ		Fuel Ratio %	AND Commodity Charge Rate/GJ
<u>Transportation Overrun</u>				
Dawn to Parkway	Monthly fuel and commodity rates shall be in accordance with schedule "C".		Monthly fuel ratios shall be in accordance with schedule "C".	\$0.124
Dawn to Kirkwall				\$0.105
Kirkwall to Parkway				\$0.019
Parkway (TCPL) Overrun (4)	n/a		0.783%	n/a
<u>M12-X Firm Transportation</u>				
Between Dawn, Kirkwall and Parkway	Monthly fuel and commodity rates shall be in accordance with schedule "C".		Monthly fuel ratios shall be in accordance with schedule "C".	\$0.153
<u>Carbon Charge (applied to all quantities transported)</u>				
Facility Carbon Charge	\$0.004			\$0.004

Unauthorized Overrun

Authorized Overrun rates will be payable on all quantities up to 2% in excess of Union's contractual obligation.

The Unauthorized Overrun shall be the higher of the reported daily spot price of gas at either Dawn, Parkway, Niagara or Iroquois in the month of or the month following the month in which the overrun occurred plus 25% for all usage on any day in excess of 102% of Union's contractual obligation.

Nomination Variances

Where Union and the shipper have entered into a Limited Balancing Agreement ("LBA"), the rate for unauthorized parking or drafting which results from nomination variances shall equal the "Balancing Fee" rate as described under Article XXII of TransCanada PipeLines Transportation Tariff.

Notes for Section (C) Rates:

- (1) The annual transportation commodity charge is calculated by application of the YCRR Formula, as per Section (D). The annual transportation fuel required is calculated by application of the YCR Formula, as per Section (D).
- (2) This rate is for westerly transportation within the Parkway yard, from Parkway (TCPL) or Parkway (EGT) to Parkway (Cons) or Lisgar.
- (3) For purposes of applying the YCRR Formula or YCR Formula (Section (D)) to transportation overrun quantities, the transportation commodity revenue will be deemed to be equal to the commodity charge of the applicable service as detailed in Section (B).
- (4) This ratio will be applied to all gas quantities for which Union is obligated to deliver to Parkway (Cons) or Lisgar and has agreed to deliver to Parkway (TCPL) or Parkway (EGT) on an interruptible basis. This will be in addition to any rate or ratio paid for transportation easterly to Parkway (Cons) or Lisgar.
- (5) A demand charge of \$0.077/GJ/day/month will be applicable for customers contracting for firm all day transportation service in addition to the demand charges appearing on this schedule for firm transportation service to either Kirkwall or Parkway.

TransCanada PipeLines Limited
Mainline Tolls - effective January 1, 2022 to December 31, 2025 (CER Order TG-014-2020)
Abandonment Surcharges - effective January 1, 2023 to December 31, 2023 (CER Order TG-008-2022)
Rate Riders - effective January 1, 2023 to December 31, 2023 (CER Order TG-007-2022)

Storage Transportation Service

Line No.	Particulars	Monthly Toll (\$/GJ/Month)	Daily Equivalent (\$/GJ)	Abandonment Surcharge (\$/GJ/Month)	Daily Equivalent Abandonment Surcharge (\$/GJ)	Rate Rider (\$/GJ/Month)	Daily Equivalent Rate Rider (\$/GJ)
	(a)	(b)	(c)	(d)	(e)	(f)	(g)
1	Centram MDA	4.14883	0.1364	0.22813	0.0075	-0.81517	-0.0268
2	Union WDA	23.89229	0.7855	1.86150	0.0612	-2.84700	-0.0936
3	Union NDA	13.80004	0.4537	0.62354	0.0205	-0.73608	-0.0242
4	Union EDA	9.02158	0.2966	0.41063	0.0135	0.00000	0.0000
5	KPUC EDA	8.94250	0.2940	0.40758	0.0134	0.00000	0.0000
6	Emera EDA	15.63721	0.5141	0.82429	0.0271	0.00000	0.0000
7	Enbridge CDA	4.55946	0.1499	0.13383	0.0044	0.00000	0.0000
8	Enbridge EDA	12.02067	0.3952	0.59921	0.0197	0.00000	0.0000
9	Cornwall	12.21838	0.4017	0.61138	0.0201	0.00000	0.0000

Firm Transportation - Short Notice

Line No.	Particulars	Monthly Toll (\$/GJ/Month)	Daily Equivalent (\$/GJ)	Abandonment Surcharge (\$/GJ/Month)	Daily Equivalent Abandonment Surcharge (\$/GJ)	Rate Rider (\$/GJ/Month)	Daily Equivalent Rate Rider (\$/GJ)
	(a)	(b)	(c)	(d)	(e)	(f)	(g)
10	Kirkwall to Thorold CDA	5.28946	0.1739	0.14904	0.0049	0.00000	0.0000
11	Union Parkway Belt to Goreway CDA	3.82946	0.1259	0.06692	0.0022	0.00000	0.0000
12	Union Parkway Belt to Victoria Square #2 CDA	4.59900	0.1512	0.10950	0.0036	0.00000	0.0000
13	Union Parkway Belt to Schomberg #2 CDA	4.54729	0.1495	0.10646	0.0035	0.00000	0.0000
14	Union Parkway Belt to Napanee #2 EDA	9.17063	0.3015	0.36804	0.0121	0.00000	0.0000

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	0.26767	0.0088

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

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

Note: The toll for NBJ LTFP is inclusive of the applicable Abandonment Surcharge for FT service from Empress to North Bay Junction. The NBJ LTFP 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.

Market Driven Service (MDS)

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	Empress to Emerson 2 (May 2021 Open Season) (Effective November 1, 2022)	10.53938	0.3465	1.29575	0.0426

Enhanced Market Balancing Service

Line No.	Particulars	Monthly Toll (\$/GJ/Month)	Daily Equivalent (\$/GJ)	Abandonment Surcharge (\$/GJ/Month)	Daily Equivalent Abandonment Surcharge (\$/GJ)	Rate Rider (\$/GJ/Month)	Daily Equivalent Rate Rider (\$/GJ)
	(a)	(b)	(c)	(d)	(e)	(f)	(g)
4	Union Parkway Belt to Union EDA	9.92374	0.3262	0.41063	0.0135	0.00000	0.0000

Delivery Pressure

Line No.	Particulars	Monthly Toll (\$/GJ/Month)	Daily Equivalent (\$/GJ)
	(a)	(b)	(c)
5	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)
6	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)
7	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)
8	Western Section	0.9388
9	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.

TransCanada Pipelines Limited
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Line No.	Receipt Point	Delivery Point	FT Toll (\$/GJ/Month)	Daily Equivalent FT for FT / STFT (\$/GJ)	Abandonment Surcharge (\$/GJ/Month)	Daily Equivalent Abandonment Surcharge (\$/GJ)	Rate Rider (\$/GJ/Month)	Daily Equivalent Rate Rider (\$/GJ)
1	Union NDA	Enbridge EDA	-	0.4769	-	0.0220	-	-0.0242
2	Union NDA	KPUC EDA	-	0.5748	-	0.0281	-	-0.0242
3	Union NDA	Enbridge EDA	-	0.6348	-	0.0318	-	-0.0242
4	Union NDA	Enbridge SWDA	-	0.6014	-	0.0298	-	-0.0242
5	Union NDA	Union SWDA	-	0.6029	-	0.0298	-	-0.0242
6	Union NDA	Chippawa	-	0.5417	-	0.0290	-	-0.0242
7	Union NDA	Cornwall	-	0.5224	-	0.0248	-	-0.0242
8	Union NDA	East Hereford	-	0.7544	-	0.0393	-	-0.0242
9	Union NDA	Emerson 1	-	0.6135	-	0.0660	-	-0.1267
10	Union NDA	Emerson 2	-	0.6135	-	0.0660	-	-0.1267
11	Union NDA	Incoits	-	0.5008	-	0.0235	-	-0.0242
12	Union NDA	Kirkwall	-	0.4785	-	0.0221	-	-0.0242
13	Union NDA	Naperville	-	0.6225	-	0.0311	-	-0.0242
14	Union NDA	Niagara Falls	-	0.5401	-	0.0259	-	-0.0242
15	Union NDA	North Bay Junction	-	0.1241	-	0.0060	-	-0.0242
16	Union NDA	Philpsburg	-	0.6339	-	0.0318	-	-0.0242
17	Union NDA	Spruce	-	0.5665	-	0.0602	-	-0.1168
18	Union NDA	St. Clair	-	0.6170	-	0.0307	-	-0.0242
19	Union NDA	Welwyn	-	0.6959	-	0.0761	-	-0.1439
20	Union NDA	Dawn Export	-	0.6014	-	0.0298	-	-0.0242
21	Union Parkway Belt	Empress	36.52433	1.2008	3.53746	0.1163	-5.94038	-0.1933
22	Union Parkway Belt	TransGas SSDA	32.93821	1.0829	3.09946	0.1019	-5.18908	-0.1706
23	Union Parkway Belt	Centram SSDA	30.35888	0.9981	2.78313	0.0915	-4.65071	-0.1529
24	Union Parkway Belt	Centram MDA	27.81908	0.9146	2.47288	0.0813	-4.11842	-0.1354
25	Union Parkway Belt	Centaf MDA	28.49738	0.9369	2.42421	0.0797	-3.80817	-0.1252
26	Union Parkway Belt	Union WDA	23.89229	0.7855	1.86150	0.0612	-2.84700	-0.0936
27	Union Parkway Belt	Nipigon WDA	21.91217	0.7204	1.61817	0.0532	-2.43029	-0.0799
28	Union Parkway Belt	Union NDA	13.80004	0.4537	0.62354	0.0205	-0.73608	-0.0242
29	Union Parkway Belt	Calstock NDA	18.57850	0.6108	1.21058	0.0398	-1.73375	-0.0570
30	Union Parkway Belt	Tunis NDA	15.95354	0.5245	0.88817	0.0292	-1.18321	-0.0389
31	Union Parkway Belt	Enbridge NDA	13.73098	0.4514	0.61442	0.0202	-0.71763	-0.0236
32	Union Parkway Belt	Union SSMMDA	16.31854	0.5365	1.06154	0.0349	-1.71246	-0.0563
33	Union Parkway Belt	Union NDA	6.64604	0.2185	0.26158	0.0086	0.00000	0.0000
34	Union Parkway Belt	Union CDA	4.16105	0.1368	0.10950	0.0036	0.00000	0.0000
35	Union Parkway Belt	Union ECDA	3.47358	0.1142	0.06388	0.0021	0.00000	0.0000
36	Union Parkway Belt	Union EDA	9.02158	0.2966	0.41063	0.0135	0.00000	0.0000
37	Union Parkway Belt	Union Parkway Belt	2.92005	0.0960	0.03042	0.0010	0.00000	0.0000
38	Union Parkway Belt	Enbridge CDA	4.55946	0.1499	0.13383	0.0044	0.00000	0.0000
39	Union Parkway Belt	Enbridge Parkway CDA	2.92000	0.0960	0.03042	0.0010	0.00000	0.0000
40	Union Parkway Belt	Enbridge EDA	12.02067	0.3952	0.59921	0.0197	0.00000	0.0000
41	Union Parkway Belt	KPUC EDA	8.94250	0.2940	0.40758	0.0134	0.00000	0.0000
42	Union Parkway Belt	Enbridge EDA	15.63721	0.5141	0.82429	0.0271	0.00000	0.0000
43	Union Parkway Belt	Enbridge SWDA	7.41558	0.2438	0.31025	0.0102	0.00000	0.0000
44	Union Parkway Belt	Union SWDA	7.45817	0.2452	0.31329	0.0103	0.00000	0.0000
45	Union Parkway Belt	Chippawa	5.59667	0.1840	0.19771	0.0065	0.00000	0.0000
46	Union Parkway Belt	Cornwall	12.21838	0.4017	0.61138	0.0201	0.00000	0.0000
47	Union Parkway Belt	East Hereford	19.27504	0.6337	1.04938	0.0345	0.00000	0.0000
48	Union Parkway Belt	Emerson 1	26.21004	0.8617	2.27517	0.0748	-3.78079	-0.1243
49	Union Parkway Belt	Emerson 2	26.21004	0.8617	2.27517	0.0748	-3.78079	-0.1243
50	Union Parkway Belt	Incoits	11.37888	0.3741	0.55663	0.0183	0.00000	0.0000
51	Union Parkway Belt	Kirkwall	3.67738	0.1209	0.07908	0.0026	0.00000	0.0000
52	Union Parkway Belt	Naperville	15.26004	0.5017	0.79996	0.0263	0.00000	0.0000
53	Union Parkway Belt	Niagara Falls	5.55104	0.1825	0.19467	0.0064	0.00000	0.0000
54	Union Parkway Belt	North Bay Junction	10.04358	0.3302	0.47450	0.0156	0.00000	0.0000
55	Union Parkway Belt	Philpsburg	15.60679	0.5131	0.82125	0.0270	0.00000	0.0000
56	Union Parkway Belt	Spruce	28.49738	0.9369	2.42421	0.0797	-3.80817	-0.1252
57	Union Parkway Belt	St. Clair	7.86704	0.2593	0.34067	0.0112	0.00000	0.0000
58	Union Parkway Belt	Welwyn	30.35888	0.9981	2.78313	0.0915	-4.65071	-0.1529
59	Union Parkway Belt	Dawn Export	7.41558	0.2438	0.31025	0.0102	0.00000	0.0000

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

Twenty First Revised Sheet No. 14
Superseding
Twentieth 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	\$4.6943		\$9.80960	\$13.1952	\$13.4288	\$14.7555	\$15.6623	\$19.6507
L		\$4.1674						
1	\$7.0668		\$6.7741	\$9.0149	\$12.7706	\$12.5770	\$14.1840	\$17.4413
2	\$13.1953		\$8.9608	\$4.6605	\$4.3567	\$5.5746	\$7.6672	\$9.8974
3	\$13.4288		\$7.0978	\$4.6982	\$3.3894	\$5.2064	\$9.4162	\$10.8807
4	\$17.0500		\$15.7186	\$5.9901	\$9.1033	\$4.4560	\$4.8190	\$6.8844
5	\$20.3297		\$14.2853	\$6.2836	\$7.6032	\$4.9501	\$4.6433	\$6.0448
6	\$23.5176		\$16.4078	\$11.2924	\$12.4403	\$8.7873	\$4.6228	\$4.0017

Daily Base
Reservation Rate 1/

RECEIPT ZONE	DELIVERY ZONE							
	0	L	1	2	3	4	5	6
0	\$0.1543		\$0.3225	\$0.4338	\$0.4415	\$0.4851	\$0.5149	\$0.6461
L		\$0.1370						
1	\$0.2323		\$0.2227	\$0.2964	\$0.4199	\$0.4135	\$0.4663	\$0.5734
2	\$0.4338		\$0.2946	\$0.1532	\$0.1432	\$0.1833	\$0.2521	\$0.3254
3	\$0.4415		\$0.2334	\$0.1545	\$0.1114	\$0.1712	\$0.3096	\$0.3577
4	\$0.5605		\$0.5168	\$0.1969	\$0.2993	\$0.1465	\$0.1584	\$0.2263
5	\$0.6684		\$0.4697	\$0.2066	\$0.2500	\$0.1627	\$0.1527	\$0.1987
6	\$0.7732		\$0.5394	\$0.3713	\$0.4090	\$0.2889	\$0.1520	\$0.1316

Maximum Reservation
Rates 2 /, 3 /

RECEIPT ZONE	DELIVERY ZONE							
	0	L	1	2	3	4	5	6
0	\$4.7400		\$9.8553	\$13.2409	\$13.4745	\$14.8012	\$15.7080	\$19.6964
L		\$4.2131						
1	\$7.1125		\$6.8198	\$9.0606	\$12.8163	\$12.6227	\$14.2297	\$17.4870
2	\$13.2410		\$9.0065	\$4.7062	\$4.4024	\$5.6203	\$7.7129	\$9.9431
3	\$13.4745		\$7.1435	\$4.7439	\$3.4351	\$5.2521	\$9.4619	\$10.9264
4	\$17.0957		\$15.7643	\$6.0358	\$9.1490	\$4.5017	\$4.8647	\$6.9301
5	\$20.3754		\$14.3310	\$6.3293	\$7.6489	\$4.9958	\$4.6890	\$6.0905
6	\$23.5633		\$16.4535	\$11.3381	\$12.4860	\$8.8330	\$4.6685	\$4.0474

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 \$0.0457.

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Effective: November 1, 2022

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Accepted: October 20, 2022

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

Twenty Third Revised Sheet No. 15
Superseding
Twenty Second 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	\$0.2260	\$0.2157	\$0.2567
L		\$0.0012						
1	\$0.0042		\$0.0081	\$0.0147	\$0.0179	\$0.1922	\$0.1960	\$0.2238
2	\$0.0167		\$0.0087	\$0.0012	\$0.0028	\$0.0622	\$0.0997	\$0.1105
3	\$0.0207		\$0.0169	\$0.0026	\$0.0002	\$0.0831	\$0.1150	\$0.1256
4	\$0.0250		\$0.0205	\$0.0087	\$0.0105	\$0.0385	\$0.0544	\$0.0881
5	\$0.0284		\$0.0256	\$0.0100	\$0.0118	\$0.0541	\$0.0536	\$0.0666
6	\$0.0346		\$0.0300	\$0.0143	\$0.0163	\$0.0833	\$0.0452	\$0.0274

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	\$0.0050		\$0.0133	\$0.0195	\$0.0237	\$0.2278	\$0.2175	\$0.2585
L		\$0.0030						
1	\$0.0060		\$0.0099	\$0.0165	\$0.0197	\$0.1940	\$0.1978	\$0.2256
2	\$0.0185		\$0.0105	\$0.0030	\$0.0046	\$0.0640	\$0.1015	\$0.1123
3	\$0.0225		\$0.0187	\$0.0044	\$0.0020	\$0.0849	\$0.1168	\$0.1274
4	\$0.0268		\$0.0223	\$0.0105	\$0.0123	\$0.0403	\$0.0562	\$0.0899
5	\$0.0302		\$0.0274	\$0.0118	\$0.0136	\$0.0559	\$0.0554	\$0.0684
6	\$0.0364		\$0.0318	\$0.0161	\$0.0181	\$0.0851	\$0.0470	\$0.0292

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 \$0.0018.

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

Nineteenth Revised Sheet No. 32
Superseding
Eighteenth 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	0.43%		1.41%	2.12%	2.67%	3.21%	3.51%	4.17%
	L		0.20%						
	1	0.55%		1.01%	1.78%	2.15%	2.63%	3.19%	3.64%
	2	2.16%		1.08%	0.19%	0.39%	0.75%	1.30%	1.78%
	3	2.67%		2.15%	0.39%	0.08%	1.06%	1.53%	2.04%
	4	3.11%		2.44%	1.08%	1.29%	0.40%	0.64%	1.13%
	5	3.63%		3.19%	1.32%	1.55%	0.63%	0.63%	0.81%
	6	4.34%		3.77%	1.78%	2.04%	1.05%	0.49%	0.23%

Broad Run Expansion Project – Market Component (Z3-Z1): 5/ 6.50%

EPCR 3/, 4/	RECEIPT ZONE	DELIVERY ZONE							
		0	L	1	2	3	4	5	6
	0	\$0.0041		\$0.0158	\$0.0245	\$0.0304	\$0.0368	\$0.0418	\$0.0502
	L		\$0.0014						
	1	\$0.0055		\$0.0111	\$0.0203	\$0.0248	\$0.0308	\$0.0377	\$0.0433
	2	\$0.0245		\$0.0119	\$0.0013	\$0.0036	\$0.0080	\$0.0146	\$0.0199
	3	\$0.0304		\$0.0248	\$0.0036	\$0.0000	\$0.0116	\$0.0173	\$0.0230
	4	\$0.0368		\$0.0284	\$0.0118	\$0.0144	\$0.0038	\$0.0066	\$0.0124
	5	\$0.0418		\$0.0377	\$0.0146	\$0.0173	\$0.0065	\$0.0065	\$0.0086
	6	\$0.0502		\$0.0433	\$0.0199	\$0.0230	\$0.0116	\$0.0049	\$0.0018

Broad Run Expansion Project – Market Component (Z3-Z1): 5/ \$0.0828

- 1/ Included in the above F&LR is the Losses component of the F&LR equal to 0.04%.
- 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 0.04%.
- 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 0.04%.

Issued: March 1, 2023
Effective: April 1, 2023

Docket No. RP23-522-000
Accepted: March 30, 2023

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

Twenty Fourth Revised Sheet No. 61
Superseding
Twenty Third 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	\$1.7226	\$1.7226 1/		
Space Rate	\$0.0175	\$0.0175 1/		
Injection Rate	\$0.0073	\$0.0073	1.29%	\$0.0000
Withdrawal Rate	\$0.0073	\$0.0073		
Overrun Rate	\$0.2067	\$0.2067 1/		
FIRM STORAGE SERVICE (FS) - MARKET AREA				
Deliverability Rate	\$1.2655	\$1.2655 1/		
Space Rate	\$0.0173	\$0.0173 1/		
Injection Rate	\$0.0087	\$0.0087	1.29%	\$0.0000
Withdrawal Rate	\$0.0087	\$0.0087		
Overrun Rate	\$0.1519	\$0.1519 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 -0.06%.

Issued: March 1, 2023
Effective: April 1, 2023

Docket No. RP23-522-000
Accepted: March 30, 2023

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

Fifth Revised Sheet No. 4
Superseding
Fourth Revised Sheet No. 4

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

	Minimum	RP19-445 Rates	RP22-1065 Rates		
		Maximum 1/ Effective 4/1/2020	Effective 9/1/2022	Maximum Effective 9/1/2023	Effective 9/1/2024
RTS DEMAND (Monthly):					
Zone 1	\$0.0000	\$5.2357	\$4.8393	\$4.5655	\$4.2918
Zone 2	\$0.0000	\$4.4878	\$4.3344	\$4.1823	\$4.0302
Inter-Zone	\$0.0000	\$8.2304	\$7.4217	\$7.2240	\$7.0567
RTS COMMODITY (Daily):					
Zone 1	\$0.0034	\$0.0034	\$0.0034	\$0.0034	\$0.0034
Zone 2	\$0.0022	\$0.0022	\$0.0022	\$0.0022	\$0.0022
Inter-Zone	\$0.0056	\$0.0056	\$0.0056	\$0.0056	\$0.0056
ITS COMMODITY (Daily):					
Zone 1	\$0.0034	\$0.1755	\$0.1625	\$0.1535	\$0.1445
Zone 2	\$0.0022	\$0.1497	\$0.1447	\$0.1397	\$0.1347
Inter-Zone	\$0.0056	\$0.2762	\$0.2496	\$0.2431	\$0.2376
VOLUMETRIC CAPACITY RELEASE (Daily) 2/:					
Zone 1	\$0.0000	\$0.1721	\$0.1591	\$0.1501	\$0.1411
Zone 2	\$0.0000	\$0.1475	\$0.1425	\$0.1375	\$0.1325
Inter-Zone	\$0.0000	\$0.2706	\$0.2440	\$0.2375	\$0.2320

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

(Footnotes continued on Sheet 4.01)

Issued On: September 9, 2022

Effective On: October 1, 2022

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

Sixth Revised Sheet No. 4A
Superseding
Fifth Revised Sheet No. 4A

To the extent applicable, the following adjustments apply:

ACA ADJUSTMENT:
Commodity 1/

FUEL AND LOSSES RETENTION PERCENTAGE:

Minimum	0.00%
Maximum (Non-Eastchester Shipper)	1.00%
Maximum (Eastchester Shipper)	4.50%
Maximum (Brookfield Shipper)	1.20%

1/ The ACA ADJUSTMENT Commodity rate shall be the applicable FERC ACA unit charge incorporated by reference pursuant to Section 12.2 in the General Terms and Conditions of Transporter's FERC Gas Tariff.

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 37.0.0
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 1.09% applicable to use of the Northern Access 2015 Lease.^{2/ 3/}

- 1/ The unit of measure for each rate component is Dth (dekatherms) unless otherwise indicated.
- 2/ All rates exclusive of Transportation Fuel and Company Use Retention^{5/} and Transportation LAUF Retention. The Transportation Fuel and Company Use Retention for all applicable rate schedules is 0.72% and the Transportation LAUF Retention for all applicable rate schedules is 0.10%. 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 \$0.0800 shall be added as a Transmission PS/GHG Surcharge, in addition to the specified rate.
- 5/ Transportation and Storage Retainage definitions are provided in General Terms and Conditions Section 41.2.

Effective On: April 1, 2023

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

Part 4 - Applicable Rates
§ 4.020 - Part 284 Storage Rates
Version 30.0.0
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 0.45%.
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 \$0.1143 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 \$0.0016 shall be added as a Storage PS/GHG Capacity Surcharge, in addition to the specified rate.

Effective On: April 1, 2023

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 7.0.0
Superseding Version 6.1.0

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	\$2.6065	\$0.0696	\$0.0041	(\$0.0009)	(\$0.0009)	\$2.6784	-
	Storage Capacity	\$0.0258	-	-	-	-	\$0.0258	-
	Injection Charge	\$0.0252	-	\$0.0134	\$0.0000	\$0.0010	\$0.0396	-
	Withdrawal Charge	\$0.0252	-	-	\$0.0000	\$0.0010	\$0.0262	[8]
	GSS-TE Surcharge	-	-	-	(\$0.0008)	-	(\$0.0008)	-
	From Customers Balance	\$0.7282	\$0.0149	\$0.0009	(\$0.0002)	\$0.0008	\$0.7446	[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	\$0.7282	\$0.0149	\$0.0009	(\$0.0002)	\$0.0008	\$0.7446	[8]
GSS-E [2], [3]								
	Maximum							
	Storage Demand	\$2.4565	\$0.0696	\$0.0041	(\$0.0009)	(\$0.0009)	\$2.5284	-
	Storage Capacity	\$0.0409	-	-	-	-	\$0.0409	-
	Injection Charge	\$0.0252	-	\$0.0134	\$0.0000	\$0.0010	\$0.0396	-
	Withdrawal Charge	\$0.0252	-	-	\$0.0000	\$0.0010	\$0.0262	[8]
	Authorized Overruns	\$1.4160	\$0.0149	\$0.0009	(\$0.0002)	\$0.0008	\$1.4324	[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	\$1.4160	\$0.0149	\$0.0009	(\$0.0002)	\$0.0008	\$1.4324	[8]

Issued On: March 31, 2023

Page 1 of 2

Effective On: May 1, 2023

View Contract

General Information

Customer Energy North Natural Gas Inc.	Contract Category Storage	Contract Number EN-11234	Service Type FT	Status Active	Currency USD
Deal Maker Richard Norman	Deal Date 01/17/1888	Deal Time (hh:mm) 08:00	Master Agreement -- None --	Units Dth	
Contact Name Sarah Grant	Contact Number 1 803-2183589	Contact Number 2	Contact Email sarah.finegan@libertyutilities.com		

Contract Dates

Effective Date (First Gas Day) 05/01/2010	Termination Date (Last Gas Day) 01/01/2050
--	---

Nomination Deadlines

Day Before Flow Deadline (hh:mm 24-hr CCT)	Day of Flow Deadline (hh:mm 24-hr CCT)
--	--

Transaction Types and Rates

Transaction Type	Allow Transaction			Use Hourly Profiles	Volumetric Charge (\$/Dth)	Other Rate (\$/Dth)	Fuel Percentage	Invoice Qty Type
	Yes	No	D,E,R Only					
Storage Injection	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="checkbox"/>	0	0	0	Sch Qty
Storage Withdrawal	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="checkbox"/>	0	0	0	Sch Qty
Authorized Injection Overrun	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="checkbox"/>	0	0	0	Sch Qty
Authorized Withdrawal Overrun	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="checkbox"/>	0	0	0	Sch Qty

Storage and Other Rates

<input checked="" type="checkbox"/> Use Monthly Flat Storage Fee (\$/Month)	Monthly Flat Storage Fee Table						
	<table border="1"> <thead> <tr> <th>From</th> <th>To</th> <th>Rate</th> </tr> </thead> <tbody> <tr> <td>05/01/10</td> <td>01/01/50</td> <td>9,443.28000</td> </tr> </tbody> </table>	From	To	Rate	05/01/10	01/01/50	9,443.28000
From	To	Rate					
05/01/10	01/01/50	9,443.28000					

FERC Information

Capacity Release Contract: <input type="radio"/> Yes <input checked="" type="radio"/> No	Award:
Shipper Affiliation: NONE	Negotiated Rate Indicator: <input checked="" type="radio"/> Yes <input type="radio"/> No
Maximum Tariff Rate: 0 OR <input type="checkbox"/> Market Based Rates	Rate Schedule: 157

Contract Quantity Limits

Monthly MSQ Table			
From	To	Max Qty	Min Qty
05/01/10	01/01/50	245,280	0

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

PART 4.1
 Part 4.1- Stmt 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.

Issued: September 17, 2021
 Effective: November 1, 2021

Docket No. RP21-1126-000
 Accepted: October 12, 2021

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

REDACTED

2

Schedule 6

3 Peak 2023 – 2024 Winter Cost of Gas Filing

Page 1 of 5

4 Supply and Commodity Costs, Volumes and Rates

5

6 For Month of:	Reference	Nov-23	Dec-23	Jan-24	Feb-24	Mar-24	Apr-24	Peak
7 (a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)	Nov- Apr
8								(i)

9 Supply and Commodity Costs

10

11 Pipeline Gas:

12 Dawn Supply	In 66 * In 107				\$ 308,737	\$ 316,980	\$ 234,826	\$ 1,742,599
13 Niagara Supply	In 67 * In 112				241,130	247,699	189,997	1,367,764
14 TGP Supply (Direct)	In 68 * In 132				1,099,994	1,022,831	200,927	5,951,036
15 Dracut Supply 1 - Baseload	In 69 * In 117				2,646,105	-	-	8,326,545
16 Dracut Supply 2 - Swing	In 70 * In 122				4,552,135	4,776,945	654,219	17,519,747
17 Dracut Supply 3 - Swing	In 71 * In 123				2,586,448	1,781,654	14,442	5,802,444
18 Constellation COMBO	In 72 * In 138				-	-	-	-
19 LNG Truck	In 73 * In 140				2,287,309	25,623	-	5,991,952
20 Propane Truck	In 74 * In 142				6,143	-	113,990	402,021
21 PNGTS	In 75 * In 147				345,374	177,814	92,279	1,413,074
22 Portland Natural Gas	In 76 * In 152				174,181	373,501	64,609	727,615
23 TGP Supply (Z4)	In 77 * In 157				600,056	596,577	1,156,290	3,931,939
24								
25 Subtotal Pipeline Gas Costs		\$ 3,844,531	\$ 8,417,966	\$ 14,025,422	\$ 14,847,613	\$ 9,319,625	\$ 2,721,579	\$ 53,176,735

27 Volumetric Transportation Costs

28 Dawn Supply	In 66 * In 204				\$ 9,979	\$ 10,249	\$ 7,395	\$ 56,487
29 Niagara Supply	In 67 * In 215				6,716	7,059	6,150	40,587
30 TGP Supply (Direct)	In 68 * In 242				110,368	113,339	23,489	648,303
31 Dracut Supply 1 - Baseload	In 69 * In 263				5,510	-	-	17,299
32 Dracut Supply 2 - Swing	In 70 * In 263				6,506	13,857	5,265	44,768
33 Dracut Supply 3 - Swing	In 71 * In				3,696	5,168	116	12,179
34 Constellation COMBO	In 72 * In 263				-	-	-	-
35 TGP Storage - Withdrawals	In 82 * In 179				65,448	17,510	13,395	267,224
36								
37 Total Volumetric Transportation Costs		\$ 205,275	\$ 219,004	\$ 231,353	\$ 208,223	\$ 167,182	\$ 55,809	\$ 1,086,846

39 Less - Gas Refill:

40 LNG Truck	In 91 * In 164				\$ (2,287,309)	\$ (25,623)	\$ -	\$ (5,991,952)
41 Propane	In 92 * In 165				(6,143)	-	(113,990)	(402,021)
42 TGP Storage Refill	In 93 * In 130				-	-	(327,540)	(866,700)
43 Storage Refill (Trans.)	In 93 * In 242				-	-	(37,431)	(99,272)
44								
45 Subtotal Refills		\$ (601,001)	\$ (1,364,936)	\$ (2,595,971)	\$ (2,293,452)	\$ (25,623)	\$ (478,961)	\$ (7,359,945)

47 Total Supply & Pipeline Commodity Costs In 25 + In 37 + In 45

48		\$ 3,448,806	\$ 7,272,033	\$ 11,660,803	\$ 12,762,384	\$ 9,461,183	\$ 2,298,427	\$ 46,903,637
----	--	--------------	--------------	---------------	---------------	--------------	--------------	---------------

49 Storage Gas:

50 TGP Storage - Withdrawals	In 82 * In 171	\$ 259,137	\$ 1,406,663	\$ 1,404,646	\$ 1,176,064	\$ 314,643	\$ 299,583	\$ 4,860,737
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52 Produced Gas:

53 LNG Vapor	In 85 * In 159				\$ 2,181,305	\$ 27,370	\$ 26,716	\$ 6,016,038
54 Propane	In 86 * In 161				7,134	-	-	1,253,503

56 Total Produced Gas In 53 + In 54

57		\$ 25,651	\$ 1,415,002	\$ 3,586,363	\$ 2,188,439	\$ 27,370	\$ 26,716	\$ 7,269,540
----	--	-----------	--------------	--------------	--------------	-----------	-----------	--------------

58 AMA Credits

59 Total Commodity Gas & Trans. Costs In 47 + In 50 + In 56		\$ (767,354)	\$ (767,354)	\$ (767,354)	\$ (767,354)	\$ (767,354)	\$ (514,954)	\$ (4,351,724)
---	--	--------------	--------------	--------------	--------------	--------------	--------------	----------------

60		\$ 2,966,239	\$ 9,326,345	\$ 15,884,458	\$ 15,359,533	\$ 9,035,842	\$ 2,109,772	\$ 54,682,190
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\$ 94,459,064

61

1 Liberty Utilities (EnergyNorth Natural Gas) Corp. d/b/a Liberty
2 d/b/a Liberty
3 Peak 2023 – 2024 Winter Cost of Gas Filing
4 Supply and Commodity Costs, Volumes and Rates

Schedule 6
Page 2 of 5

5	6 For Month of:	Reference	Nov-23	Dec-23	Jan-24	Feb-24	Mar-24	Apr-24	Peak
7	(a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)	Nov- Apr
62									(i)
63	Volumes (Therms)								
64									
65	Pipeline Gas:	See Schedule 11A							
66	Dawn Supply		878,284	929,589	928,933	865,053	916,923	806,823	5,325,605
67	Niagara Supply		692,721	732,770	732,254	681,352	722,786	659,598	4,221,481
68	TGP Supply (Direct)		4,635,387	3,115,032	3,112,834	2,898,568	3,072,588	658,141	17,492,549
69	Dracut Supply 1 - Baseload		-	-	3,100,000	1,450,000	-	-	4,550,000
70	Dracut Supply 2 - Swing		3,175,277	1,817,182	830,593	1,712,037	4,320,290	1,650,818	13,506,197
71	Dracut Supply 3 - Swing		433,227	381,887	154,291	972,751	1,611,335	36,442	3,589,934
72	Constellation COMBO		-	-	-	-	-	-	-
73	LNG Truck		-	1,105,212	1,873,752	1,852,072	17,174	-	4,848,209
74	Propane Truck		-	-	207,270	4,517	-	83,816	295,604
75	PNGTS		219,571	232,397	232,233	216,075	229,231	216,465	1,345,972
76	Portland Natural Gas		1,072,719	1,134,734	1,133,934	1,056,283	1,119,273	925,624	6,442,568
77	TGP Supply (Z4)		1,819,408	1,931,092	1,929,730	1,797,112	1,904,780	4,511,472	13,893,595
78									
79	Subtotal Pipeline Volumes		12,926,593	11,379,896	14,235,825	13,505,820	13,914,381	9,549,199	75,511,713
80									
81	Storage Gas:								
82	TGP Storage		1,148,127	6,232,334	6,223,398	5,210,646	1,394,051	1,000,000	21,208,557
83									
84	Produced Gas:								
85	LNG Vapor		21,440	1,149,117	1,894,933	1,766,244	21,654	21,136	4,874,524
86	Propane		-	-	788,232	4,517	-	-	792,749
87									
88	Subtotal Produced Gas		21,440	1,149,117	2,683,164	1,770,761	21,654	21,136	5,667,273
89									
90	Less - Gas Refill:								
91	LNG Truck		-	(1,105,212)	(1,873,752)	(1,852,072)	(17,174)	-	(4,848,209)
92	Propane		-	-	(207,270)	(4,517)	-	(83,816)	(295,604)
93	TGP Storage Refill		(1,735,867)	-	-	-	-	(1,048,798)	(2,784,665)
94									
95	Subtotal Refills		(1,735,867)	(1,105,212)	(2,081,022)	(1,856,589)	(17,174)	(1,132,614)	(7,928,478)
96									
97	Total Sendout Volumes		12,360,292	17,656,136	21,061,366	18,630,638	15,312,912	9,437,721	94,459,064
98									
99									
100									

1 Liberty Utilities (EnergyNorth Natural Gas) Corp. d/b/a Liberty									
2									
3 Peak 2023 – 2024 Winter Cost of Gas Filing									
4 Supply and Commodity Costs, Volumes and Rates									
5									
6 For Month of:	Reference	Nov-23	Dec-23	Jan-24	Feb-24	Mar-24	Apr-24	Peak	
7 (a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)	Nov- Apr	(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			\$0.3749	\$0.3437	\$0.3123		\$0.3469
106	Basis Differential				<u>(\$0.0180)</u>	<u>\$0.0020</u>	<u>(\$0.0213)</u>		<u>(\$0.0205)</u>
107	Net Commodity Costs				\$0.3569	\$0.3457	\$0.2911		\$0.3264
108									
109	Niagara Supply								
110	NYMEX Price	Sch 7, In 10/10			\$0.3749	\$0.3437	\$0.3123		\$0.3469
111	Basis Differential				<u>(\$0.0210)</u>	<u>(\$0.0010)</u>	<u>(\$0.0243)</u>		<u>(\$0.0235)</u>
112	Net Commodity Costs				\$0.3539	\$0.3427	\$0.2881		\$0.3234
113									
114	Dracut Supply 1 - Baseload								
115	Commodity Costs - NYMEX Price	Sch 7, In 10 / 10			\$0.3749	\$0.3437	\$0.3123		\$0.3469
116	Basis Differential				<u>\$1.4500</u>	<u>\$0.0000</u>	<u>(\$0.0144)</u>		<u>\$0.4809</u>
117	Net Commodity Costs				\$1.8249	\$0.3437	\$0.2979		\$0.8279
118									
119	Dracut Supply 2 - Swing								
120	Commodity Costs - NYMEX Price	Sch 7, In 10 / 10			\$0.3749	\$0.3437	\$0.3123		\$0.3469
121	Basis Differential				<u>\$2.2840</u>	<u>\$0.7620</u>	<u>\$0.0840</u>		\$1.2476
122	Net Commodity Costs				\$2.6589	\$1.1057	\$0.3963		\$1.5945
123									
124	Dracut Supply 3 - Swing								
125	Commodity Costs - NYMEX Price	Sch 7, In 10 / 10			\$0.3749	\$0.3437	\$0.3123		\$0.3469
126	Basis Differential				<u>\$2.2840</u>	<u>\$0.7620</u>	<u>\$0.0840</u>		\$1.2476
127	Net Commodity Costs				\$2.6589	\$1.1057	\$0.3963		\$1.5945
128									
129	TGP Supply (Direct)								
130	NYMEX Price	Sch 7, In 10/10			\$0.3749	\$0.3437	\$0.3123		\$0.3469
131	Basis Differential				<u>\$0.0046</u>	<u>(\$0.0108)</u>	<u>(\$0.0070)</u>		<u>(\$0.0068)</u>
132	Net Commodity Costs				\$0.3795	\$0.3329	\$0.3053		\$0.3402
133									
134									
135	Constellation COMBO								
136	NYMEX Price	Sch 7, In 10/10			\$0.3749	\$0.3437	\$0.3123		\$0.3469
137	Basis Differential				<u>\$0.0562</u>	<u>\$0.0516</u>	<u>\$0.0468</u>		\$0.0520
138	Net Commodity Costs				\$0.4311	\$0.3953	\$0.3591		\$0.3990
139									
140	LNG Truck	Sch 7, In 10/10			\$1.2350	\$1.4920	\$1.4920		\$1.3378
141									
142	Propane Truck	Propane WACOG			\$1.3600	\$1.3600	\$1.3600		\$1.3600
143									
144	PNGTS								
145	NYMEX Price	Sch 7, In 10/10			\$0.3749	\$0.3437	\$0.3123		\$0.3469
146	Basis Differential				<u>\$1.2235</u>	<u>\$0.4320</u>	<u>\$0.1140</u>		<u>\$0.6964</u>
147	Net Commodity Cost				\$1.5984	\$0.7757	\$0.4263		\$1.0433
148									
149	PNGTS EXP								
150	NYMEX Price	Sch 7, In 10/10			\$0.3749	\$0.3437	\$0.3123		\$0.3469
151	Basis Differential				<u>(\$0.2100)</u>	<u>(\$0.0100)</u>	<u>(\$0.2425)</u>		<u>(\$0.2354)</u>
152	Net Commodity Cost				\$0.1649	\$0.3337	\$0.0698		\$0.1115
153									
154	TGP Supply (Z4)								
155	NYMEX Price	Sch 7, In 10/10			\$0.3749	\$0.3437	\$0.3123		\$0.3469
156	Basis Differential				<u>(\$0.0410)</u>	<u>(\$0.0305)</u>	<u>(\$0.0560)</u>		<u>(\$0.0581)</u>
157	Net Commodity Cost				\$0.3339	\$0.3132	\$0.2563		\$0.2888
158									
159	LNG Vapor (Storage)	#REF!			\$1.2350	\$1.2640	\$1.2640		<u>\$1.2376</u>
160									
161	Propane	#REF!			\$1.5792	\$1.5792	\$1.5472		<u>\$1.5891</u>
162									
163	Storage Refill:								
164	LNG Truck	In 140			\$1.2350	\$1.4920	\$1.4920		\$1.2376
165	Propane	In 142			\$1.3600	\$1.3600	\$1.3600		\$1.5891
166									
167									

1 Liberty Utilities (EnergyNorth Natural Gas) Corp. d/b/a Liberty									REDACTED
2									Schedule 6
3 Peak 2023 – 2024 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-23	Dec-23	Jan-24	Feb-24	Mar-24	Apr-24	Nov- Apr	
7 (a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)	(i)	
168									
169									
170	TGP Storage								
171	Commodity Costs - Storage withdrawal #REF!	\$0.2257	\$0.2257	\$0.2257	\$0.2257	\$0.2257	\$0.2996	\$0.2380	
172									
173	TGP - Max Commodity - Z 4-6	Rate Sheet #15 - 23rd Rev	\$0.00899	\$0.00899	\$0.00899	\$0.00899	\$0.00899	\$0.00899	\$0.00899
174	TGP - Max Comm. ACA Rate - Z 4-6	Rate Sheet #15 - 23rd Rev	\$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		\$0.00914	\$0.00914	\$0.00914	\$0.00914	\$0.00914	\$0.00914	\$0.00914
176	TGP - Fuel Charge % - Z 4-6	Rate Sheet #32- 19th Rev	1.13%	1.13%	1.13%	1.13%	1.13%	1.13%	1.13%
177	TGP - Fuel Charge % - Z 4-6 - (NYMEX * Percentage)		\$0.00255	\$0.00255	\$0.00255	\$0.00255	\$0.00339	\$0.00269	\$0.00269
178	TGP - Withdrawal Charge	Rate Sheet #61-24th Rev	\$0.00087	\$0.00087	\$0.00087	\$0.00087	\$0.00087	\$0.00087	\$0.00087
179	Total Volumetric Transportation Rate - TGP (Storage)		\$0.01256	\$0.01256	\$0.01256	\$0.01256	\$0.01340	\$0.01270	
180									
181	Total TGP - Comm. & Vol. Trans. Rate In 171 + In 179		\$0.23826	\$0.23826	\$0.23826	\$0.23826	\$0.31298	\$0.25072	
182									
183									
184	Per Unit Volumetric Transportation Rates								
185	Dawn Supply Volumetric Transportation Charge								
186	Commodity Costs In 107		\$0.2806	\$0.3326	\$0.3514	\$0.3569	\$0.3457	\$0.2911	\$0.3264
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	1.3486	1.3486	1.3486	1.3486	1.3486	1.3486	1.3486
191	Commodity Rate/US\$	In 188 x In 189 x In 190	\$0.00057	\$0.00057	\$0.00057	\$0.00057	\$0.00057	\$0.00057	\$0.00057
192	TransCanada Fuel %	Dawn - Parkway to Iroquois	0.92%	1.07%	1.23%	1.08%	1.07%	0.92%	1.05%
193	TransCanada Fuel * Percentage	In 186 x In 192	\$0.00258	\$0.00355	\$0.00432	\$0.00387	\$0.00371	\$0.00269	\$0.00345
194	Subtotal TransCanada		\$0.00315	\$0.00412	\$0.00489	\$0.00444	\$0.00428	\$0.00326	\$0.00402
195	IGTS - Z1 RTS Commodity	Fifth 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	Fifth 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	Fifth 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	Rate Sheet #15 - 23rd Rev	\$0.00015	\$0.00015	\$0.00015	\$0.00015	\$0.00015	\$0.00015	\$0.00015
200	IGTS -Fuel Use Factor - Percentage	Fifth 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	In 186 x In 200	\$0.00281	\$0.00333	\$0.00351	\$0.00357	\$0.00346	\$0.00291	\$0.00326
202	TGP FTA Fuel Charge % Z 5-6	Rate Sheet #32- 19th Rev	0.81%	0.81%	0.81%	0.81%	0.81%	0.81%	0.81%
203	TGP FTA Fuel * Percentage	In 186 x In 202	\$0.00227	\$0.00269	\$0.00285	\$0.00289	\$0.00280	\$0.00236	\$0.00264
204	Total Volumetric Transportation Charge - Dawn Supply		\$0.00887	\$0.01078	\$0.01189	\$0.01154	\$0.01118	\$0.00916	\$0.01057
205									
206									
207	Niagara Supply Volumetric Transportation Charge								
208	Commodity Costs Ln 112								
209									
210	TGP FTA - FTA Z 5-6 Comm. Rate	Rate Sheet #15 - 23rd Rev	\$0.00684	\$0.00684	\$0.00684	\$0.00684	\$0.00684	\$0.00684	\$0.00684
211	TGP FTA - FTA Z 5-6 - ACA Rate	Rate Sheet #15 - 23rd Rev	\$0.00015	\$0.0002	\$0.0002	\$0.0002	\$0.0002	\$0.0002	\$0.0002
212	Subtotal TGP FTA - FTA Z 5-6 Commodity Rate		\$0.00699	\$0.0070	\$0.0070	\$0.0070	\$0.0070	\$0.0070	\$0.0070
213	TGP FTA Fuel Charge % Z 5-6	Rate Sheet #32- 19th Rev	0.81%	0.81%	0.81%	0.81%	0.81%	0.81%	0.81%
214	TGP FTA Fuel * Percentage	In 208 x In 213							
215	Total Volumetric Transportation Rate - Niagara Supply								
216									
217									

1 Liberty Utilities (EnergyNorth Natural Gas) Corp. d/b/a Liberty
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3 Peak 2023 – 2024 Winter Cost of Gas Filing
4 Supply and Commodity Costs, Volumes and Rates

REDACTED
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5	6 For Month of:	Reference	Nov-23	Dec-23	Jan-24	Feb-24	Mar-24	Apr-24	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	Rate Sheet #15 - 23rd Rev	\$0.02585	\$0.02585	\$0.02585	\$0.02585	\$0.02585	\$0.02585	\$0.02585
225	TGP - Max Commodity ACA Rate - Z 0-6	Rate Sheet #15 - 23rd Rev	\$0.00015	\$0.00015	\$0.00015	\$0.00015	\$0.00015	\$0.00015	\$0.00015
226	Subtotal TGP - Max Comm. Rate Z 0-6		\$0.02600	\$0.02600	\$0.02600	\$0.02600	\$0.02600	\$0.02600	\$0.02600
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		\$0.00848	\$0.00848	\$0.00848	\$0.00848	\$0.00848	\$0.00848	\$0.00848
229	TGP - Max Comm. Base Rate - Z 1-6	Rate Sheet #15 - 23rd Rev	\$0.02256	\$0.02256	\$0.02256	\$0.02256	\$0.02256	\$0.02256	\$0.02256
230	TGP - Max Commodity ACA Rate - Z 1-6	Rate Sheet #15 - 23rd Rev	\$0.00015	\$0.00015	\$0.00015	\$0.00015	\$0.00015	\$0.00015	\$0.00015
231	Subtotal TGP - Max Commodity Rate - Z 1-6		\$0.02271	\$0.02271	\$0.02271	\$0.02271	\$0.02271	\$0.02271	\$0.02271
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		\$0.01531	\$0.01531	\$0.01531	\$0.01531	\$0.01531	\$0.01531	\$0.01531
234	TGP - Fuel Charge % - Z 0-6	Rate Sheet #32- 19th Rev	4.17%	4.17%	4.17%	4.17%	4.17%	4.17%	4.17%
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		1.36%	1.36%	1.36%	1.36%	1.36%	1.36%	1.36%
237	TGP - Fuel Charge % - Z 1-6	Rate Sheet #32- 19th Rev	3.64%	3.64%	3.64%	3.64%	3.64%	3.64%	3.64%
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		2.45%	2.45%	2.45%	2.45%	2.45%	2.45%	2.45%
240	TGP - Fuel Charge % - Z 0-6	In 222 x In 236	\$0.00422	\$0.00486	\$0.00520	\$0.00510	\$0.00467	\$0.00425	\$0.00472
241	TGP - Fuel Charge % - Z 1-6	In 222 x In 239	\$0.00762	\$0.00877	\$0.00938	\$0.00920	\$0.00843	\$0.00766	\$0.00851
242	Total Volumetric Transportation Rate - TGP (Direct)		\$0.03563	\$0.03742	\$0.03836	\$0.03808	\$0.03689	\$0.03569	\$0.03701
243									
244	TGP (Zone 6 Purchase) Volumetric Transportation Charge								
245	Commodity Costs								Ln 130
246									
247	TGP - Max Comm. Base Rate - Z 6-6	Rate Sheet #15 - 23rd Rev	\$0.00292	\$0.00292	\$0.00292	\$0.00292	\$0.00292	\$0.00292	\$0.00292
248	TGP - Max Commodity ACA Rate - Z 6-6	Rate Sheet #15 - 23rd Rev	\$0.00015	\$0.00015	\$0.00015	\$0.00015	\$0.00015	\$0.00015	\$0.00015
249	Subtotal TGP - Max Commodity Rate - Z 6-6		\$0.00307	\$0.00307	\$0.00307	\$0.00307	\$0.00307	\$0.00307	\$0.00307
250	TGP - Fuel Charge % - Z 6-6	Rate Sheet #32- 19th Rev	0.04%	0.04%	0.04%	0.04%	0.04%	0.04%	0.04%
251	TGP - Fuel Charge	In 245 x In 250	\$0.00012	\$0.00014	\$0.00015	\$0.00015	\$0.00014	\$0.00012	\$0.00014
252	Total Vol. Trans. Rate - TGP (Zone 6)		\$0.00319	\$0.00321	\$0.00322	\$0.00322	\$0.00321	\$0.00319	\$0.00321
253									
254									
255	TGP Dracut								
256	Commodity Costs - NYMEX Price								Ln 117
257									
258	TGP - Trans Charge - Comm. - Z 6-6	Rate Sheet #15 - 23rd Rev	\$0.00292	\$0.00292	\$0.00292	\$0.00292	\$0.00292	\$0.00292	\$0.00292
259	TGP - Trans Charge - ACA Rate - Z 6-6	Rate Sheet #15 - 23rd Rev	\$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		\$0.00307	\$0.00307	\$0.00307	\$0.00307	\$0.00307	\$0.00307	\$0.00307
261	TGP - Fuel Charge % - Z 6-6	Rate Sheet #32- 19th Rev	0.04%	0.04%	0.04%	0.04%	0.04%	0.04%	0.04%
262	TGP - Fuel Charge	In 256 x In 261							
263	Total Volumetric Transportation Rate - TGP Dracut								

1 Liberty Utilities (EnergyNorth Natural Gas) Corp. d/b/a Liberty
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 3 Peak 2023 – 2024 Winter Cost of Gas Filing
 4 NYMEX Futures @ Henry Hub
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Peak

6 For Month of:	(a)	Reference (b)	Nov-23 (c)	Dec-23 (d)	Jan-24 (e)	Feb-24 (f)	Mar-24 (g)	Apr-24 (h)	Strip Average (i)
8 I. NYMEX Opening Prices as of		8/28/2023							
9 Opening Prices			\$3.1060	\$3.5760	\$3.8240	\$3.7490	\$3.4370	\$3.1230	\$3.4692
10 NYMEX			Filed COG	\$3.1060	\$3.5760	\$3.8240	\$3.7490	\$3.4370	\$3.4692

Annual Bill Comparisons, Nov 22 - Apr 23 Actual Rates vs Nov 23 - Apr 24

1 Non FPO Rate

2 November 1, 2023 - April 30, 2024

3 Residential Heating (R3)

			(1)	(2)	(3)	(4)	(5)	(6)	(7)
4 PROPOSED			Nov-23	Dec-23	Jan-24	Feb-24	Mar-24	Apr-24	Winter Nov-Apr
5			84	118	137	131	104	66	640
6	average Usage (Therms)								
7		9/1/2023 - Current							
8	Winter								
9	Cust. Chg	\$ 15.39	\$ 15.39	\$ 15.39	\$ 15.39	\$ 15.39	\$ 15.39	\$ 15.39	\$ 92.34
10	Headblock	\$ 0.6167							
11	Tailblock	\$ 0.6167	\$ 52.01	\$ 73.04	\$ 84.37	\$ 80.54	\$ 64.03	\$ 40.68	\$ 394.68
12	HB Threshold	-							
13									
20	Total Base Rate Amount		\$ 67.40	\$ 88.43	\$ 99.76	\$ 95.93	\$ 79.42	\$ 56.07	\$ 487.02
21									
22	COG Rate - (Seasonal)		\$ 0.6175	\$ 0.6175	\$ 0.6175	\$ 0.6175	\$ 0.6175	\$ 0.6175	\$ 0.6175
23	COG amount		\$ 52.08	\$ 73.13	\$ 84.48	\$ 80.65	\$ 64.11	\$ 40.74	\$ 395.19
24									
25	LDAC		\$ 0.1180	\$ 0.1180	\$ 0.1212	\$ 0.2006	\$ 0.2006	\$ 0.2006	\$ 0.1575
26	LDAC amount		\$ 9.95	\$ 13.98	\$ 16.58	\$ 26.20	\$ 20.83	\$ 13.23	\$ 100.77
27									
28	Total Bill		\$ 129.44	\$ 175.54	\$ 200.83	\$ 202.78	\$ 164.35	\$ 110.04	\$ 982.97

30 November 1, 2022 - April 30, 2023

31 Residential Heating (R3)

			Nov-22	Dec-22	Jan-23	Feb-23	Mar-23	Apr-23	Winter Nov-Apr
32	CURRENT		84	118	137	131	104	66	640
33	average Usage (Therms)								
34									
35									
36	Winter	9/1/2022 - 7/31/2023 9/1/2023 - Current							
37	Cust. Chg	\$ 15.39 \$ 15.39	\$ 15.39	\$ 15.39	\$ 15.39	\$ 15.39	\$ 15.39	\$ 15.39	\$ 92.34
38	Headblock	\$ 0.6519 \$ 0.6167							
39	Tailblock	\$ 0.6519 \$ 0.6167	\$ 54.98	\$ 77.21	\$ 89.19	\$ 85.14	\$ 67.68	\$ 43.00	\$ 417.20
40	HB Threshold	- -							
41									
48	Total Base Rate Amount		\$ 70.37	\$ 92.60	\$ 104.58	\$ 100.53	\$ 83.07	\$ 58.39	\$ 509.54
49									
50	COG Rate - (Seasonal)		\$ 1.4300	\$ 1.2551	\$ 1.3292	\$ 0.4525	\$ 0.2443	\$ 0.1326	\$ 0.8505
51	COG amount		\$ 120.61	\$ 148.65	\$ 181.86	\$ 59.10	\$ 25.36	\$ 8.75	\$ 544.32
52									
53	LDAC		\$ 0.1086	\$ 0.1086	\$ 0.1113	\$ 0.1113	\$ 0.1113	\$ 0.1113	\$ 0.1104
54	LDAC amount		\$ 9.16	\$ 12.86	\$ 15.23	\$ 14.54	\$ 11.56	\$ 7.34	\$ 70.68
55									
56	Total Bill		\$ 200.14	\$ 254.10	\$ 301.66	\$ 174.16	\$ 119.99	\$ 74.48	\$ 1,124.55

58 DIFFERENCE

59	Total Bill		(\$70.70)	(\$78.57)	(\$100.83)	\$28.61	\$44.36	\$35.56	(\$141.57)
60	% Change		-35.33%	-30.92%	-33.43%	16.43%	36.97%	47.74%	-12.59%
61									
62	Base Rate		\$ (2.97)	\$ (4.17)	\$ (4.82)	\$ (4.60)	\$ (3.65)	\$ (2.32)	\$ (22.53)
63	% Change		-4.22%	-4.50%	-4.60%	-4.57%	-4.40%	-3.98%	-4.42%
64									
65	COG & LDAC		\$ (67.74)	\$ (74.40)	\$ (96.02)	\$ 33.21	\$ 48.02	\$ 37.88	\$ (119.04)
66	% Change		-52.20%	-46.07%	-48.72%	45.10%	130.06%	235.42%	-19.36%

Annual Bill Comparisons, Nov 22 - Apr 23 Actual Rates vs Nov 23 - Apr 24

1 FPO Rate

2 November 1, 2023 - April 30, 2024

3 Residential Heating (R3-FPO)

			(1)	(2)	(3)	(4)	(5)	(6)	(7)
4 PROPOSED			Nov-23	Dec-23	Jan-24	Feb-24	Mar-24	Apr-24	Winter Nov-Apr
5	6 average Usage (Therms)		84	118	137	131	104	66	640
7		9/1/2023 - Current							
8	9 Winter Cust. Chg	\$ 15.39	\$ 15.39	\$ 15.39	\$ 15.39	\$ 15.39	\$ 15.39	\$ 15.39	\$ 92.34
10	Headblock	\$ 0.6167							
11	11 Tailblock	\$ 0.6167	\$ 52.01	\$ 73.04	\$ 84.37	\$ 80.54	\$ 64.03	\$ 40.68	\$ 394.68
12	12 HB Threshold	-							
13									
20	20 Total Base Rate Amount		\$ 67.40	\$ 88.43	\$ 99.76	\$ 95.93	\$ 79.42	\$ 56.07	\$ 487.02
21									
22	22 COG Rate - (Seasonal)		\$ 0.6375	\$ 0.6375	\$ 0.6375	\$ 0.6375	\$ 0.6375	\$ 0.6375	\$ 0.6375
23	23 COG amount		\$ 53.77	\$ 75.50	\$ 87.22	\$ 83.26	\$ 66.19	\$ 42.05	\$ 407.99
24									
25	25 LDAC		\$ 0.1180	\$ 0.1180	\$ 0.1212	\$ 0.2006	\$ 0.2006	\$ 0.2006	\$ 0.1575
26	26 LDAC amount		\$ 9.95	\$ 13.98	\$ 16.58	\$ 26.20	\$ 20.83	\$ 13.23	\$ 100.77
27									
28	28 Total Bill		\$ 131.12	\$ 177.90	\$ 203.57	\$ 205.39	\$ 166.43	\$ 111.36	\$ 995.77

29 November 1, 2022 - April 30, 2023

31 Residential Heating (R3-FPO)

			Nov-22	Dec-22	Jan-23	Feb-23	Mar-23	Apr-23	Winter Nov-Apr
32	32 CURRENT								
33	34 average Usage (Therms)		84	118	137	131	104	66	640
35		9/1/2022 - 7/31/2023 9/1/2023 - Current							
36	36 Winter Cust. Chg	\$ 15.39	\$ 15.39	\$ 15.39	\$ 15.39	\$ 15.39	\$ 15.39	\$ 15.39	\$ 92.34
37	38 Headblock	\$ 0.6519							
38	39 Tailblock	\$ 0.6519	\$ 54.98	\$ 77.21	\$ 89.19	\$ 85.14	\$ 67.68	\$ 43.00	\$ 417.20
39	40 HB Threshold	-							
40									
41	48 Total Base Rate Amount		\$ 70.37	\$ 92.60	\$ 104.58	\$ 100.53	\$ 83.07	\$ 58.39	\$ 509.54
42									
43	50 COG Rate - (Seasonal)		\$ 1.4500	\$ 1.4500	\$ 1.4500	\$ 1.4500	\$ 1.4500	\$ 1.4500	\$ 1.4500
44	51 COG amount		\$ 122.30	\$ 171.73	\$ 198.38	\$ 189.37	\$ 150.54	\$ 95.65	\$ 927.97
45									
46	53 LDAC		\$ 0.1086	\$ 0.1086	\$ 0.1113	\$ 0.1113	\$ 0.1113	\$ 0.1113	\$ 0.1104
47	54 LDAC amount		\$ 9.16	\$ 12.86	\$ 15.23	\$ 14.54	\$ 11.56	\$ 7.34	\$ 70.68
48									
49	56 Total Bill		\$ 201.83	\$ 277.19	\$ 318.19	\$ 304.43	\$ 245.17	\$ 161.39	\$ 1,508.20

57 DIFFERENCE

58	59 Total Bill		(\$70.70)	(\$99.28)	(\$114.62)	(\$99.05)	(\$78.74)	(\$50.03)	(\$512.43)
59	60 % Change		-35.03%	-35.82%	-36.02%	-32.53%	-32.12%	-31.00%	-33.98%
60									
61	62 Base Rate		\$ (2.97)	\$ (4.17)	\$ (4.82)	\$ (4.60)	\$ (3.65)	\$ (2.32)	\$ (22.53)
62	63 % Change		-4.22%	-4.50%	-4.60%	-4.57%	-4.40%	-3.98%	-4.42%
63									
64	65 COG & LDAC		\$ (67.74)	\$ (95.11)	\$ (109.81)	\$ (94.45)	\$ (75.08)	\$ (47.71)	\$ (489.90)
65	66 % Change		-51.53%	-51.53%	-51.41%	-46.32%	-46.32%	-46.32%	-49.06%

Annual Bill Comparisons, Nov 22 - Apr 23 Actual Rates vs Nov 23 - Apr 24

1 GAP Rate

2 November 1, 2023 - April 30, 2024

3 Residential Heating (R4-GAP)

			(1)	(2)	(3)	(4)	(5)	(6)	(7)
4 PROPOSED			Nov-23	Dec-23	Jan-24	Feb-24	Mar-24	Apr-24	Winter Nov-Apr
5	6 average Usage (Therms)		84	118	137	131	104	66	640
7		11/1/2023							
8	Winter								
9	Cust. Chg	\$ 8.47	\$ 8.47	\$ 8.47	\$ 8.47	\$ 8.47	\$ 8.47	\$ 8.47	\$ 50.82
10	Headblock	\$ 0.3392							
11	Tailblock	\$ 0.3392	\$ 28.61	\$ 40.17	\$ 46.41	\$ 44.30	\$ 35.22	\$ 22.38	\$ 217.08
12	HB Threshold	-							
13									
20	Total Base Rate Amount		\$ 37.08	\$ 48.64	\$ 54.88	\$ 52.77	\$ 43.69	\$ 30.85	\$ 267.90
21									
22	COG Rate - (Seasonal)		\$ 0.3396	\$ 0.3396	\$ 0.3396	\$ 0.3396	\$ 0.3396	\$ 0.3396	\$ 0.3396
23	COG amount		\$ 28.64	\$ 40.22	\$ 46.47	\$ 44.36	\$ 35.26	\$ 22.40	\$ 217.35
24									
25	LDAC		\$ 0.1180	\$ 0.1180	\$ 0.1212	\$ 0.2006	\$ 0.2006	\$ 0.2006	\$ 0.1575
26	LDAC amount		\$ 9.95	\$ 13.98	\$ 16.58	\$ 26.20	\$ 20.83	\$ 13.23	\$ 100.77
27									
28	Total Bill		\$ 75.68	\$ 102.84	\$ 117.93	\$ 123.32	\$ 99.77	\$ 66.48	\$ 586.02

30 November 1, 2022 - April 30, 2023

31 Residential Heating (R4-GAP)

			Nov-22	Dec-22	Jan-23	Feb-23	Mar-23	Apr-23	Winter Nov-Apr
32	CURRENT								
33	34 average Usage (Therms)		84	118	137	131	104	66	640
35									
36	Winter								
37	Cust. Chg	\$ 8.47	\$ 15.39	\$ 15.39	\$ 15.39	\$ 15.39	\$ 15.39	\$ 15.39	\$ 92.34
38	Headblock	\$ 0.3585							
39	Tailblock	\$ 0.3585	\$ 54.98	\$ 77.21	\$ 89.19	\$ 85.14	\$ 67.68	\$ 43.00	\$ 417.20
40	HB Threshold	-							
41									
48	Total Base Rate Amount		\$ 70.37	\$ 92.60	\$ 104.58	\$ 100.53	\$ 83.07	\$ 58.39	\$ 509.54
49									
50	COG Rate - (Seasonal)		\$ 0.7865	\$ 0.6903	\$ 0.7311	\$ 0.2489	\$ 0.1344	\$ 0.0729	\$ 0.4678
51	COG amount		\$ 66.34	\$ 81.76	\$ 100.02	\$ 32.50	\$ 13.95	\$ 4.81	\$ 299.38
52									
53	LDAC		\$ 0.1086	\$ 0.1086	\$ 0.1113	\$ 0.1113	\$ 0.1113	\$ 0.1113	\$ 0.1104
54	LDAC amount		\$ 9.16	\$ 12.86	\$ 15.23	\$ 14.54	\$ 11.56	\$ 7.34	\$ 70.68
55									
56	Total Bill		\$ 145.87	\$ 187.21	\$ 219.83	\$ 147.57	\$ 108.58	\$ 70.55	\$ 879.60

58 DIFFERENCE

59	Total Bill		(\$70.19)	(\$84.37)	(\$101.90)	(\$24.24)	(\$8.80)	(\$4.06)	(\$293.58)
60	% Change		-48.12%	-45.07%	-46.36%	-16.43%	-8.11%	-5.76%	-33.38%
61									
62	Base Rate		\$ (33.29)	\$ (43.95)	\$ (49.70)	\$ (47.76)	\$ (39.39)	\$ (27.55)	\$ (241.64)
63	% Change		-47.31%	-47.47%	-47.53%	-47.51%	-47.41%	-47.18%	-47.42%
64									
65	COG & LDAC		\$ (36.90)	\$ (40.42)	\$ (52.20)	\$ 23.51	\$ 30.58	\$ 23.48	\$ (51.94)
66	% Change		-48.87%	-42.72%	-45.29%	49.99%	119.90%	193.23%	-14.03%

1 Annual Bill Comparisons, Nov 22 - Apr 23 Actual Rates vs Nov 23 - Apr 24

2 November 1, 2023 - April 30, 2024

3 Commercial Rate (G-41)

		(1)	(2)	(3)	(4)	(5)	(6)	(7)
4	PROPOSED							
5		Nov-23	Dec-23	Jan-24	Feb-24	Mar-24	Apr-24	Winter Nov-Apr
6	average Usage (Therms)	261	390	482	458	334	185	2,111
7								
8	Winter							
9	Cust. Chg	\$ 60.81	\$ 60.81	\$ 60.81	\$ 60.81	\$ 60.81	\$ 60.81	\$ 364.86
10	Headblock	\$ 0.4928	\$ 49.28	\$ 49.28	\$ 49.28	\$ 49.28	\$ 49.28	\$ 295.68
11	Tailblock	\$ 0.3390	\$ 54.53	\$ 98.42	\$ 129.47	\$ 121.44	\$ 79.46	\$ 512.12
12	HB Threshold	100						
13								
20	Total Base Rate Amount	\$ 164.62	\$ 208.51	\$ 239.56	\$ 231.53	\$ 189.55	\$ 138.90	\$ 1,172.66
21								
22	COG Rate - (Seasonal)	\$ 0.6173	\$ 0.6173	\$ 0.6173	\$ 0.6173	\$ 0.6173	\$ 0.6173	\$ 0.6173
23	COG amount	\$ 161.02	\$ 240.94	\$ 297.48	\$ 282.86	\$ 206.43	\$ 114.20	\$ 1,302.93
24								
25	LDAC	\$ 0.0957	\$ 0.0957	\$ 0.0979	\$ 0.0909	\$ 0.0909	\$ 0.0909	\$ 0.0940
26	LDAC amount	\$ 24.96	\$ 37.35	\$ 47.18	\$ 41.65	\$ 30.40	\$ 16.82	\$ 198.36
27								
28	Total Bill	\$350.60	\$486.80	\$584.22	\$556.04	\$426.38	\$269.92	\$2,673.95

29
30 November 1, 2022 - April 30, 2023

31 Commercial Rate (G-41)

		Nov-22	Dec-22	Jan-23	Feb-23	Mar-23	Apr-23	Winter Nov-Apr
32	CURRENT							
33		Nov-22	Dec-22	Jan-23	Feb-23	Mar-23	Apr-23	Winter Nov-Apr
34	average Usage (Therms)	261	390	482	458	334	185	2,111
35								
36	Winter							
37	Cust. Chg	\$ 63.30	\$ 63.30	\$ 63.30	\$ 63.30	\$ 63.30	\$ 63.30	\$ 379.80
38	Headblock	\$ 0.5088	\$ 50.88	\$ 50.88	\$ 50.88	\$ 50.88	\$ 50.88	\$ 254.40
39	Tailblock	\$ 0.3550	\$ 103.06	\$ 135.58	\$ 127.17	\$ 83.21	\$ 30.17	\$ 536.29
40	HB Threshold	100	100					
41								
48	Total Base Rate Amount	\$ 120.40	\$ 217.24	\$ 249.76	\$ 241.35	\$ 197.39	\$ 144.35	\$ 1,170.49
49								
50	COG Rate - (Seasonal)	\$ 1.4301	\$ 1.2552	\$ 1.3293	\$ 0.4526	\$ 0.2444	\$ 0.1327	\$ 0.8610
51	COG amount	\$ 373.04	\$ 489.93	\$ 640.60	\$ 207.39	\$ 81.73	\$ 24.55	\$ 1,817.23
52								
53	LDAC	\$ 0.0872	\$ 0.0872	\$ 0.0890	\$ 0.0890	\$ 0.0890	\$ 0.0890	\$ 0.0884
54	LDAC amount	\$ 22.75	\$ 34.04	\$ 42.89	\$ 40.78	\$ 29.76	\$ 16.46	\$ 186.68
55								
56	Total Bill	\$516.18	\$741.21	\$933.24	\$489.52	\$308.89	\$185.37	\$3,174.40

57
58 **DIFFERENCE**

59	Total Bill	\$ (165.58)	\$ (254.40)	\$ (349.03)	\$ 66.52	\$ 117.50	\$ 84.55	\$ (500.45)
60	% Change	-32.08%	-34.32%	-37.40%	13.59%	38.04%	45.61%	-15.77%
61								
62	Base Rate	\$ 44.22	\$ (8.74)	\$ (10.20)	\$ (9.82)	\$ (7.84)	\$ (5.45)	\$ 2.17
63	% Change	36.72%	-4.02%	-4.08%	-4.07%	-3.97%	-3.78%	0.19%
64								
65	COG & LDAC	\$ (209.80)	\$ (245.67)	\$ (338.83)	\$ 76.34	\$ 125.34	\$ 90.00	\$ (502.62)
66	% Change	-53.01%	-46.89%	-49.57%	30.76%	112.42%	219.44%	-25.08%

1 Annual Bill Comparisons, Nov 22 - Apr 23 Actual Rates vs Nov 23 - Apr 24

2 November 1, 2023 - April 30, 2024

3 C&I High Winter Use Medium G-42

		(1)	(2)	(3)	(4)	(5)	(6)	(7)
4 PROPOSED		Nov-23	Dec-23	Jan-24	Feb-24	Mar-24	Apr-24	Winter Nov-Apr
5		2,543	3,519	4,174	3,998	3,106	1,898	19,238
6	average Usage (Therms)							
7	9/1/2023 - Current							
8	Winter							
9	Cust. Chg \$ 182.42	\$ 182.42	\$ 182.42	\$ 182.42	\$ 182.42	\$ 182.42	\$ 182.42	\$ 1,094.52
10	Headblock \$ 0.4485	\$ 448.50	\$ 448.50	\$ 448.50	\$ 448.50	\$ 448.50	\$ 448.50	\$ 2,691.00
11	Tailblock \$ 0.3063	\$ 472.62	\$ 771.46	\$ 972.35	\$ 918.33	\$ 645.02	\$ 274.94	\$ 4,054.72
12	HB Threshold 1,000							
13								
20	Total Base Rate Amount	\$ 1,103.54	\$ 1,402.38	\$ 1,603.27	\$ 1,549.25	\$ 1,275.94	\$ 905.86	\$ 7,840.24
21								
22	COG Rate - (Seasonal)	\$ 0.6173	\$ 0.6173	\$ 0.6173	\$ 0.6173	\$ 0.6173	\$ 0.6173	\$ 0.6173
23	COG amount	\$ 1,569.80	\$ 2,172.06	\$ 2,576.92	\$ 2,468.04	\$ 1,917.23	\$ 1,171.40	\$ 11,875.46
24								
25	LDAC	\$ 0.0957	\$ 0.0957	\$ 0.0979	\$ 0.0909	\$ 0.0909	\$ 0.0909	\$ 0.0939
26	LDAC amount	\$ 243.37	\$ 336.74	\$ 408.68	\$ 363.43	\$ 282.32	\$ 172.49	\$ 1,807.03
27								
28	Total Bill	\$ 2,916.71	\$ 3,911.18	\$ 4,588.87	\$ 4,380.72	\$ 3,475.49	\$ 2,249.76	\$ 21,522.74

30 November 1, 2022 - April 30, 2023

31 C&I High Winter Use Medium G-42

		Nov-22	Dec-22	Jan-23	Feb-23	Mar-23	Apr-23	Winter Nov-Apr
32	32 CURRENT	2,543	3,519	4,174	3,998	3,106	1,898	19,238
33								
34	average Usage (Therms)							
35								
36	Winter 9/1/2022 - 7/31/2023 9/1/2023 - Current							
37	Cust. Chg \$ 189.84 \$ 182.42	\$ 189.84	\$ 189.84	\$ 189.84	\$ 189.84	\$ 189.84	\$ 189.84	\$ 1,139.04
38	Headblock \$ 0.4634 \$ 0.4485	\$ 463.40	\$ 463.40	\$ 463.40	\$ 463.40	\$ 463.40	\$ 463.40	\$ 2,780.40
39	Tailblock \$ 0.3212 \$ 0.3063	\$ 495.62	\$ 808.99	\$ 1,019.65	\$ 963.00	\$ 676.39	\$ 288.32	\$ 4,251.97
40	HB Threshold 1,000 1,000							
41								
48	Total Base Rate Amount	\$ 1,148.86	\$ 1,462.23	\$ 1,672.89	\$ 1,616.24	\$ 1,329.63	\$ 941.56	\$ 8,171.41
49								
50	COG Rate - (Seasonal)	\$ 1.4301	\$ 1.2552	\$ 1.3293	\$ 0.4526	\$ 0.2444	\$ 0.1327	\$ 0.8537
51	COG amount	\$ 3,636.76	\$ 4,416.61	\$ 5,549.16	\$ 1,809.55	\$ 759.07	\$ 251.81	\$ 16,422.97
52								
53	LDAC	\$ 0.0872	\$ 0.0872	\$ 0.0890	\$ 0.0890	\$ 0.0890	\$ 0.0890	\$ 0.0884
54	LDAC amount	\$ 221.75	\$ 306.83	\$ 371.53	\$ 355.83	\$ 276.42	\$ 168.89	\$ 1,701.25
55								
56	Total Bill	\$ 5,007.37	\$ 6,185.67	\$ 7,593.58	\$ 3,781.62	\$ 2,365.12	\$ 1,362.26	\$ 26,295.62

57 DIFFERENCE

59	Total Bill	\$ (2,090.65)	\$ (2,274.49)	\$ (3,004.71)	\$ 599.10	\$ 1,110.37	\$ 887.50	\$ (4,772.89)
60	% Change	-41.75%	-36.77%	-39.57%	15.84%	46.95%	65.15%	-18.15%
61								
62	Base Rate	\$ (45.31)	\$ (59.85)	\$ (69.62)	\$ (66.99)	\$ (53.70)	\$ (35.69)	\$ (331.16)
63	% Change	-3.94%	-4.09%	-4.16%	-4.14%	-4.04%	-3.79%	-4.05%
64								
65	COG & LDAC	\$ (2,045.34)	\$ (2,214.64)	\$ (2,935.09)	\$ 666.09	\$ 1,164.07	\$ 923.19	\$ (4,441.72)
66	% Change	-53.01%	-46.89%	-49.57%	30.76%	112.42%	219.44%	-24.51%

1 Annual Bill Comparisons, Nov 22 - Apr 23 Actual Rates vs Nov 23 - Apr 24

2 November 1, 2023 - April 30, 2024

3 Commercial Rate (G-52)

			(1)	(2)	(3)	(4)	(5)	(6)	(7)
4 PROPOSED			Nov-23	Dec-23	Jan-24	Feb-24	Mar-24	Apr-24	Winter Nov-Apr
5	6 average Usage (Therms)		1,907	2,294	2,692	2,308	2,175	1,933	13,309
7	8 Winter	9/1/2023 - Current							
9	Cust. Chg	\$ 182.26	\$ 182.26	\$ 182.26	\$ 182.26	\$ 182.26	\$ 182.26	\$ 182.26	\$ 1,093.56
10	Headblock	\$ 0.2560	\$ 256.00	\$ 256.00	\$ 256.00	\$ 256.00	\$ 256.00	\$ 256.00	\$ 1,536.00
11	Tailblock	\$ 0.1749	\$ 158.69	\$ 226.24	\$ 295.91	\$ 228.76	\$ 205.59	\$ 163.18	\$ 1,278.37
12	HB Threshold	1,000							
13									
20	Total Base Rate Amount		\$ 596.95	\$ 664.50	\$ 734.17	\$ 667.02	\$ 643.85	\$ 601.44	\$ 3,907.93
21									
22	COG Rate - (Seasonal)		\$ 0.6185	\$ 0.6185	\$ 0.6185	\$ 0.6185	\$ 0.6185	\$ 0.6185	\$ 0.6185
23	COG amount		\$ 1,179.66	\$ 1,418.55	\$ 1,664.92	\$ 1,427.47	\$ 1,345.53	\$ 1,195.57	\$ 8,231.71
24									
25	LDAC		\$ 0.0957	\$ 0.0957	\$ 0.0979	\$ 0.0909	\$ 0.0909	\$ 0.0909	\$ 0.0938
26	LDAC amount		\$ 182.53	\$ 219.49	\$ 263.53	\$ 209.79	\$ 197.75	\$ 175.71	\$ 1,248.81
27									
28	Total Bill		\$1,959.14	\$2,302.54	\$2,662.63	\$2,304.29	\$2,187.13	\$1,972.72	\$13,388.45

30 November 1, 2022 - April 30, 2023

31 Commercial Rate (G-52)

			Nov-22	Dec-22	Jan-23	Feb-23	Mar-23	Apr-23	Winter Nov-Apr
32	32 CURRENT		1,907	2,294	2,692	2,308	2,175	1,933	13,309
33	34 average Usage (Therms)								
35	36 Winter	9/1/2022 - 7/31/2023 9/1/2023 - Current							
37	Cust. Chg	\$ 189.57 \$ 182.26	\$ 189.57	\$ 189.57	\$ 189.57	\$ 189.57	\$ 189.57	\$ 189.57	\$ 1,137.42
38	Headblock	\$ 0.2647 \$ 0.2560	\$ 264.70	\$ 264.70	\$ 264.70	\$ 264.70	\$ 264.70	\$ 264.70	\$ 1,588.20
39	Tailblock	\$ 0.1836 \$ 0.1749	\$ 166.58	\$ 237.49	\$ 310.63	\$ 240.14	\$ 215.82	\$ 171.30	\$ 1,341.96
40	HB Threshold	1,000 1,000							
41									
48	Total Base Rate Amount		\$ 620.85	\$ 691.76	\$ 764.90	\$ 694.41	\$ 670.09	\$ 625.57	\$ 4,067.58
49									
50	COG Rate - (Seasonal)		\$ 1.4296	\$ 1.2547	\$ 1.3288	\$ 0.4521	\$ 0.2439	\$ 0.1322	\$ 0.8273
51	COG amount		\$ 2,726.67	\$ 2,877.69	\$ 3,576.96	\$ 1,043.43	\$ 530.60	\$ 255.54	\$ 11,010.90
52									
53	LDAC		\$ 0.0872	\$ 0.0872	\$ 0.0890	\$ 0.0890	\$ 0.0890	\$ 0.0890	\$ 0.0884
54	LDAC amount		\$ 166.32	\$ 200.00	\$ 239.58	\$ 205.41	\$ 193.62	\$ 172.04	\$ 1,176.95
55									
56	Total Bill		\$3,513.84	\$3,769.45	\$4,581.44	\$1,943.25	\$1,394.30	\$1,053.15	\$16,255.43

58 DIFFERENCE

59	Total Bill		\$ (1,554.70)	\$ (1,466.91)	\$ (1,918.81)	\$ 361.04	\$ 792.83	\$ 919.57	\$ (2,866.99)
60	% Change		-44.25%	-38.92%	-41.88%	18.58%	56.86%	87.32%	-17.64%
61									
62	Base Rate		\$ (23.90)	\$ (27.26)	\$ (30.73)	\$ (27.39)	\$ (26.24)	\$ (24.13)	\$ (159.65)
63	% Change		-3.85%	-3.94%	-4.02%	-3.94%	-3.92%	-3.86%	-3.92%
64									
65	COG & LDAC		\$ (1,530.80)	\$ (1,439.65)	\$ (1,888.08)	\$ 388.43	\$ 819.07	\$ 943.70	\$ (2,707.34)
66	% Change		-52.91%	-46.78%	-49.47%	31.10%	113.10%	220.71%	-22.21%

1 **Residential Heating**

	<u>Winter 2022-2023</u>	<u>Winter 2023-2024</u>
2		
3 Customer Charge	\$ 15.39	\$ 15.39
4 First 100 Therms	\$ 0.6519	\$ 0.6167
5 Excess 100 Therms	\$ 0.6519	\$ 0.6167
6 LDAC	\$ 0.1104	\$ 0.1575
7 COG	\$ 0.8505	\$ 0.6175
8 Total Adjust	\$ 0.9610	\$ 0.7750

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	<u>Winter 2022-23 @</u>	<u>Winter 2023-24 @</u>	Total		Base Rate		COG		LDAC	
			\$ Impact	% Impact	\$ Impact	% Impact	\$ Impact	% Impact	\$ Impact	% Impact
	\$0.9610	\$0.7750	(\$0.19)	-19%						
16 Cooking alone	5 \$23.28	\$22.35	(\$0.93)	-4.00%	\$0.00	0%	-\$1.17	-5%	\$0.24	1.01%
18	10 \$31.17	\$29.31	(\$1.86)	-5.97%	\$0.00	0%	-\$2.33	-8%	\$0.47	1.51%
20	20 \$46.94	\$43.22	(\$3.72)	-7.92%	\$0.00	0%	-\$4.66	-11%	\$0.94	2.00%
22 Water Heating alone	30 \$62.72	\$57.14	(\$5.58)	-8.90%	\$0.00	0%	-\$6.99	-12%	\$1.41	2.25%
24	45 \$86.38	\$78.01	(\$8.37)	-9.69%	\$0.00	0%	-\$10.49	-13%	\$2.12	2.45%
26	50 \$94.27	\$84.97	(\$9.30)	-9.87%	\$0.00	0%	-\$11.65	-14%	\$2.35	2.49%
28 Heating Alone	80 \$133.71	\$119.76	(\$13.95)	-10.43%	\$0.00	0%	-\$17.48	-15%	\$3.53	2.64%
30	125 \$225.22	\$200.48	(\$24.74)	-10.98%	\$0.00	0%	-\$30.99	-15%	\$6.25	2.78%
32	150 \$252.04	\$224.14	(\$27.90)	-11.07%	\$0.00	0%	-\$34.95	-16%	\$7.05	2.80%
34	200 \$330.92	\$293.72	(\$37.20)	-11.24%	\$0.00	0%	-\$46.60	-16%	\$9.40	2.84%

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

Schedule 9

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3 **Peak 2023 – 2024 Winter Cost of Gas Filing**

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4 **Variance Analysis of the Components of the Winter 2022-2023 Actual Results vs Proposed Winter 2023-2024 Cost of Gas Rate**

	WINTER 2022-2023 ACTUAL RESULTS			WINTER 2023-2024		
	(6 months actual)			(6 months Proposed)		
	<u>78,721,321</u>			<u>94,568,321</u>		
	THERM		EFFECT	THERM		EFFECT
	SENDOUT	COSTS	ON COST	SENDOUT	COSTS	ON COST
			OF GAS			OF GAS
11 Therm Sales (COG)						
12						
13						
14						
15						
16 Demand Charges		\$ 11,440,974	\$ 0.1453		\$ 12,479,766	\$ 0.1320
17						
18 Purchased Gas		49,229,232	0.6254	67,583,235	46,903,637	0.4960
19						
20 Storage/Produced Gas		-	-	26,875,829	12,130,277	0.1283
21						
22 Hedging (Gain)/Loss		-	-		-	-
23						
24						
25 Total Volumes and Cost	<u>81,062,417</u>	<u>\$ 60,670,206</u>	<u>\$ 0.7707</u>	<u>94,459,064</u>	<u>\$ 71,513,680</u>	<u>\$ 0.7562</u>
26						
27 Direct Costs						
28 Prior Period Balance		\$ (3,286,163)	\$ (0.0417)		\$ (8,577,690)	\$ (0.0907)
29 Interest		(424,323)	(0.0054)		(401,465)	(0.0042)
30 Prior Period Adjustment		4,196,806	0.0533		861,872	0.0091
31 Broker Revenues		(2,158,152)	(0.0274)		(1,340,480)	(0.0142)
32 Refunds from Suppliers		-	-		-	-
33 Fuel Financing		-	-		-	-
34 Transportation CGA Revenues		(120,566)	(0.0015)		(120,926)	(0.0013)
35 280 Day Margin		-	-		-	-
36 Interruptible Sales Margin		-	-		-	-
37 Capacity Release and Off System Sales Margins		(2,065,600)	(0.0262)		(2,860,948)	(0.0303)
38 Hedging Costs		-	-		-	-
39 FPO Admin Costs		-	-		-	-
40 Indirect Costs		-	-		-	-
41 Misc Overhead		-	-		-	-
42 Occupant Disallowance/Credits		-	-		-	-
43 Production & Storage		3,685,458	0.0468		3,685,458	0.0390
44 Bad Debt Adjustment %		-	-		(12,927)	(0.0001)
45 Cashout, Broker penalty, Canadian Managed,...		-	-		-	-
46 Total Adjusted Cost	<u>\$ 60,497,665</u>	<u>\$ 0.7685</u>	<u>\$ 0.6635</u>	<u>\$ 62,746,574</u>	<u>\$ 0.6635</u>	<u>\$ 0.6635</u>

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	519	519	0.3%	129	390
2	RATE R-3-Resi Htg	73,897	73,897	44.1%	3,452	70,446
3	RATE G-41 (T)	30,167	30,167	18.0%	919	29,247
4	RATE G-51 (S)	2,317	2,317	1.4%	774	1,543
5	RATE G-42 (V)	38,624	38,625	23.0%	1,581	37,044
6	RATE G-52	5,192	5,192	3.1%	1,710	3,482
7	RATE G-43	10,497	10,497	6.3%	903	9,594
8	RATE G-53	5,243	5,243	3.1%	1,871	3,372
9	RATE G-54	1,232	1,232	0.7%	387	844
10						
11	Total	167,688	167,688	100.0%	11,726	155,962
12						
13	Residential Total	74,416	74,416	44.378%	3,581	70,835
14	LLF Total	79,289	79,289	47.283%	3,403	75,885
15	HLF Total	13,984	13,984	8.339%	4,742	9,242
16	Total	167,688	167,688	100.0%	11,726	155,962
17						
18	C&I Breakdown					
19	LLF Total				3,403	75,885
20	HLF Total				4,742	9,242
21	Total				8,145	85,127
22						
23	C&I Breakdown Percentage					
24	LLF Total				41.782%	89.144%
25	HLF Total				58.218%	10.856%
26	Total				100.0%	100.0%
27						
28		Capacity Cost	MDQ, Dt	\$/Dt-Mo.		
29	Pipeline	\$15,924,599	119,718	\$11.0848		
30	Storage	\$4,094,776	28,115	\$12.1370		
31						
32	Peaking	\$1,550,000				
33	Peaking Additional Costs					
34	Subtotal Peaking Costs	<u>\$1,550,000</u>	<u>19,855</u>	<u>\$6.5054</u>		
35	Total	\$21,569,375	167,688	\$10.7190		
36						
37		Capacity Cost	MDQ, Dt	\$/Dt-Mo.		
38	Pipeline - Baseload	1,559,739	11,726	\$11.0848		
39	Pipeline - Remaining	14,364,860	107,992	\$11.0848		
40	Storage	4,094,776	28,115	\$12.1370		
41	Peaking	<u>1,550,000</u>	<u>19,855</u>	<u>\$6.5054</u>		
42	Total	21,569,375	167,688	\$10.7190		
43						
44						
45	Residential Allocation					
46	Pipeline - Base	Line 38 * Line 13 Col C	692,181	5,204	\$11.0848	
47	Pipeline - Remaining	Line 39 * Line 13 Col C	6,374,839	47,925	\$11.0848	
48	Storage	Line 40 * Line 13 Col C	1,817,181	12,477	\$12.1370	
49	Peaking	Line 41 * Line 13 Col C	<u>687,829</u>	<u>8,811</u>	<u>\$6.5054</u>	
50	Total	44.378%	9,572,024	74,416	\$10.7190	

				Ratios for COG		
51						
52						
53	C&I Allocation		Capacity Cost	MDQ, Dt	\$/Dt-Mo.	
54	Pipeline - Base	Line 38 - Line 46	867,558	6,522	\$11.0848	
55	Pipeline - Remaining	Line 39 - Line 47	7,990,021	60,067	\$11.0848	
56	Storage	Line 40 - Line 48	2,277,595	15,638	\$12.1370	
57	Peaking	Line 41 - Line 49	862,171	11,044	\$6.5056	
58	Total		55.622% 11,997,344	93,272	\$10.7190	1.0000
59						
60						
61	LLF - C&I Allocation		Capacity Cost	MDQ, Dt	\$/Dt-Mo.	
62	Pipeline - Base	Line 54 * Line 24 Col E	362,484	2,725	\$11.0851	
63	Pipeline - Remaining	Line 55 * Line 24 Col F	7,122,606	53,546	\$11.0849	
64	Storage	Line 56 * Line 24 Col F	2,030,334	13,940	\$12.1373	
65	Peaking	Line 57 * Line 24 Col F	768,572	9,845	\$6.5056	
66	Total		47.6787% 10,283,996	80,056	\$10.7050	0.9987
67			41.782% 86%			(Line 66 / Line 58)
68						
69	HLF - C&I Allocation		Capacity Cost	MDQ, Dt	\$/Dt-Mo.	
70	Pipeline - Base	Line 54 - Line 62	505,074	3,797	\$11.0849	
71	Pipeline - Remaining	Line 55 - Line 63	867,415	6,521	\$11.0849	
72	Storage	Line 56 - Line 64	247,261	1,698	\$12.1349	
73	Peaking	Line 57 - Line 65	93,599	1,199	\$6.5054	
74	Total		7.9434% 1,713,349	13,215	\$10.8043	1.0080
75						(Line 74 / Line 58)
76						
77	Unit Cost		Residential	LLF C&I	HLF C&I	
78						
79	Pipeline		\$ 11.0848	\$ 11.0848	\$ 11.0848	
80	Storage		\$ 12.1370	\$ 12.1370	\$ 12.1370	
81	Peaking		\$ -	\$ -	\$ -	
82	Total		\$ 10.7190	\$ 10.7050	\$ 10.8043	
83						
84						
85	Load Makeup		Residential	LLF C&I	HLF C&I	
86						
87	Pipeline		71.39%	70.29%	78.08%	
88	Storage		16.77%	17.41%	12.85%	
89	Peaking		11.84%	12.30%	9.07%	
90	Total		100.00%	100.00%	100.00%	
91						
92						
93	Supply Makeup		Residential	LLF C&I	HLF C&I	Total
94						
95	Pipeline		44.38%	47.00%	8.62%	100.00%
96	Storage		44.38%	49.58%	6.04%	100.00%
97	Peaking		44.38%	49.58%	6.04%	100.00%

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

Schedule 10A
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3 **2023 – 2024 Winter Cost of Gas Filing**
4 **Correction Factor Calculation**

	d	e	f	g	h	i	Total Sales
Data Source: Schedule 10B	Nov	Dec	Jan	Feb	Mar	Apr	
G-41	1,999,252	3,181,831	3,963,289	3,453,170	2,704,427	1,399,884	16,701,853
G-42	1,751,432	2,561,422	3,021,758	2,623,124	2,163,083	1,226,310	13,347,130
G-43	446,957	605,219	733,123	653,983	581,965	386,062	3,407,309
High Winter Use	4,197,642	6,348,471	7,718,170	6,730,278	5,449,476	3,012,256	33,456,292
G-51	257,073	331,330	381,133	341,182	319,631	257,017	1,887,366
G-52	300,566	379,019	422,609	375,659	354,579	280,091	2,112,524
G-53	372,371	434,755	543,007	427,117	423,456	337,347	2,538,054
G-54	33,592	34,306	39,190	37,501	40,734	47,939	233,263
Low Winter Use	963,603	1,179,410	1,385,940	1,181,459	1,138,401	922,394	6,771,206
Gross Total	5,161,245	7,527,881	9,104,110	7,911,736	6,587,876	3,934,650	40,227,498

26 Total Sales	40,227,498
27 Low Winter Use	6,771,206
28 Winter Ratio for Low Winter Use	1.0080 Schedule 10A p 2, In 74
29 High Winter Use	33,456,292
30 Winter Ratio for High Winter Use	0.9987 Schedule 10A p 2, In 66

31
32 Correction Factor = $\frac{\text{Total Sales}}{(\text{Low Winter Use} \times \text{Winter Ratio for Low Winter Use}) + (\text{High Winter Use} \times \text{Winter Ratio for High Winter Use})}$
33 Correction Factor = **99.9735%**

34
35
36 **Allocation Calculation for Miscellaneous Overhead**

38 Projected Winter Sales Volume	11/1/23 - 4/30/24	94,568,321	Sch.10B, In 23
39 Projected Annual Sales Volume	11/1/23 - 10/31/24	119,310,982	Sch.10B, In 23
40 Percentage of Winter Sales to Annual Sales		79.26%	

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

Schedule 10 B

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3 Peak 2023 – 2024 Winter Cost of Gas Filing

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7 Firm Sales

Dry Therms

	Nov-23	Dec-23	Jan-24	Feb-24	Mar-24	Apr-24	Subtotal PK 23-24	May-24	Jun-24	Jul-24	Aug-24	Sep-24	Oct-24	Subtotal OP 24	Total
9 R-1	70,204	90,296	103,789	89,187	84,184	64,608	502,268	52,662	43,099	40,191	37,249	39,636	55,445	268,282	770,550
10 R-3	6,526,515	9,507,022	11,000,092	9,577,230	8,367,217	5,153,885	50,131,960	2,998,814	1,502,833	1,103,849	985,331	1,643,398	4,150,744	12,384,971	62,516,931
11 R-4	479,389	692,912	809,885	700,400	627,611	396,396	3,706,594	233,018	116,445	85,399	75,793	114,474	292,951	918,079	4,624,673
12 Total Residential.	7,076,108	10,290,230	11,913,766	10,366,817	9,079,013	5,614,889	54,340,823	3,284,494	1,662,377	1,229,440	1,098,373	1,797,508	4,499,140	13,571,332	67,912,154
14 G-41	1,999,252	3,181,831	3,963,289	3,453,170	2,704,427	1,399,884	16,701,853	670,264	314,756	225,458	174,609	303,478	1,041,040	2,729,606	19,431,458
15 G-42	1,751,432	2,561,422	3,021,758	2,623,124	2,163,083	1,226,310	13,347,130	644,811	334,760	251,143	205,135	369,043	1,081,152	2,886,045	16,233,175
16 G-43	446,957	605,219	733,123	653,983	581,965	386,062	3,407,309	254,936	171,717	145,923	120,884	140,285	316,189	1,149,934	4,557,243
17 G-51	257,073	331,330	381,133	341,182	319,631	257,017	1,887,366	218,961	192,564	190,743	185,001	178,225	233,815	1,199,310	3,086,675
18 G-52	300,566	379,019	422,609	375,659	354,579	280,091	2,112,524	237,398	207,695	208,635	215,082	201,292	255,186	1,325,289	3,437,812
19 G-53	372,371	434,755	543,007	427,117	423,456	337,347	2,538,054	293,608	257,701	252,979	259,409	261,685	321,410	1,646,791	4,184,845
20 G-54	33,592	34,306	39,190	37,501	40,734	47,939	233,263	80,753	32,231	33,170	33,365	26,568	28,270	234,356	467,619
21 Total C/I	5,161,245	7,527,881	9,104,110	7,911,736	6,587,876	3,934,650	40,227,498	2,400,731	1,511,425	1,308,051	1,193,485	1,480,577	3,277,062	11,171,330	51,398,828
22															
23 Sales Volume	12,237,353	17,818,111	21,017,875	18,278,553	15,666,889	9,549,539	94,568,321	5,685,225	3,173,802	2,537,490	2,291,858	3,278,085	7,776,201	24,742,661	119,310,982
24															
25 Transportation Sales															
26 G-41	555,713	796,808	957,827	844,345	714,294	421,458	4,290,446	238,915	132,942	94,957	72,754	139,002	364,497	1,043,068	5,333,513
27 G-42	2,032,790	2,845,171	3,393,716	3,020,642	2,611,743	1,597,676	15,501,738	934,466	516,154	392,978	321,440	553,593	1,398,354	4,116,985	19,618,724
28 G-43	902,251	1,155,000	1,359,450	1,182,160	1,074,936	743,649	6,417,446	498,607	335,688	271,980	236,013	382,815	701,647	2,426,750	8,844,196
29 G-51	78,567	94,285	103,348	94,064	89,811	72,084	532,159	65,138	57,470	55,740	57,207	59,924	72,792	368,271	900,430
30 G-52	470,709	575,955	654,055	586,307	554,912	452,992	3,294,930	379,452	325,244	320,657	318,602	339,845	421,831	2,105,631	5,400,561
31 G-53	807,777	921,684	1,035,200	922,762	885,082	731,931	5,304,436	629,281	616,772	573,484	638,181	679,871	775,145	3,912,734	9,217,170
32 G-54	1,615,601	1,331,239	1,268,310	1,095,518	1,229,764	1,343,019	7,883,450	1,559,173	1,580,986	1,641,782	1,742,529	1,696,679	1,750,574	9,971,723	17,855,173
33															
34 Total Trans. Sales	6,463,408	7,720,141	8,771,907	7,745,798	7,160,542	5,362,810	43,224,605	4,305,032	3,565,256	3,351,579	3,386,725	3,851,730	5,484,841	23,945,162	67,169,767
35															
36 Total All Sales	18,700,761	25,538,252	29,789,782	26,024,351	22,827,431	14,912,349	137,792,926	9,990,257	6,739,058	5,889,069	5,678,583	7,129,815	13,261,042	48,687,823	186,480,749

Schedule 11A							
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7 Volumes (Therms)	Normal Year						
9 For the Months of May 23 - October 23							
	Nov-23	Dec-23	Jan-24	Feb-24	Mar-24	Apr-24	Peak Nov - Apr
13 Pipeline Gas:							
14 Dawn Supply	878,284	929,589	928,933	865,053	916,923	806,823	5,325,605
15 Niagara Supply	692,721	732,770	732,254	681,352	722,786	659,598	4,221,481
16 TGP Supply (Gulf)	4,635,387	3,115,032	3,112,834	2,898,568	3,072,588	658,141	17,492,549
17 Dracut Supply 1 - Baseload			3,100,000	1,450,000		-	4,550,000
18 Dracut Supply 2 - Swing	3,175,277	1,817,182	830,593	1,712,037	4,320,290	1,650,818	13,506,197
19 Dracut Supply 3 - Swing	433,227	381,887	154,291	972,751	1,611,335	36,442	3,589,934
20 Constellation Combo							0
21 LNG Truck	-	1,105,212	1,873,752	1,852,072	17,174	-	4,848,209
22 Propane Truck	-	-	207,270	4,517	-	83,816	295,604
23 PNGTS	219,571	232,397	232,233	216,075	229,231	216,465	1,345,972
24 Portland Natural Gas	1,072,719	1,134,734	1,133,934	1,056,283	1,119,273	925,624	6,442,568
25 TGP Supply (Z4)	1,819,408	1,931,092	1,929,730	1,797,112	1,904,780	4,511,472	13,893,595
26 Subtotal Pipeline Volumes	12,926,593	11,379,896	14,235,825	13,505,820	13,914,381	9,549,199	75,511,713
27							
28 Storage Gas:							
29 TGP Storage	1,148,127	6,232,334	6,223,398	5,210,646	1,394,051	1,000,000	21,208,557
30							
31 Produced Gas:							
32 LNG Vapor	21,440	1,149,117	1,894,933	1,766,244	21,654	21,136	4,874,524
33 Propane	-	-	788,232	4,517	-	-	792,749
34 Subtotal Produced Gas	21,440	1,149,117	2,683,164	1,770,761	21,654	21,136	5,667,273
35							
36 Less - Gas Refills:							
37 LNG Truck	-	(1,105,212)	(1,873,752)	(1,852,072)	(17,174)	-	(4,848,209)
38 Propane	-	-	(207,270)	(4,517)	-	(83,816)	(295,604)
39 TGP Storage Refill	(1,735,867)	-	-	-	-	(1,048,798)	(2,784,665)
40 Subtotal Refills	(1,735,867)	(1,105,212)	(2,081,022)	(1,856,589)	(17,174)	(1,132,614)	(7,928,478)
41							
42 Total Sendout Volumes	12,360,292	17,656,136	21,061,366	18,630,638	15,312,912	9,437,721	94,459,064
43							

44 Normal and Design Year Volumes

45

46

47 Volumes (Therms)

Design Year

48

49 For the Months of May 23 - October 23

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51

52

	Nov-23	Dec-23	Jan-24	Feb-24	Mar-24	Apr-24	Peak Nov - Apr
53 Pipeline Gas:							
54 Dawn Supply	1,072,719	1,134,734	1,133,934	1,056,283	1,119,273	921,251	6,438,195
55 Niagara Supply	692,721	732,770	732,254	681,352	722,786	659,598	4,221,481
56 TGP Supply (Gulf)	4,650,912	3,115,032	3,112,834	2,898,568	3,072,588	653,039	17,502,972
57 Dracut Supply 1 - Baseload			3,100,000	1,450,000			4,550,000
58 Dracut Supply 2 - Swing	3,820,683	1,784,246	1,994,029	2,568,056	5,388,789	1,600,528	17,156,330
59 Dracut Supply 3 - Swing	1,314,469	3,170,282	1,689,149	2,434,833	2,399,829	52,476	11,061,039
60 Constellation Combo							0
61 LNG Truck	-	1,105,212	2,042,443	1,684,181	17,174	-	4,849,009
62 Propane Truck	-	-	211,809	-	-	56,121	267,929
63 PNGTS	219,571	232,397	232,233	216,075	229,231	216,465	1,345,972
64 Portland Natural Gas	878,284	929,589	928,933	865,053	916,923	805,366	5,324,148
65 TGP Supply (Z4)	1,818,669	1,931,092	1,929,730	1,797,112	1,904,780	4,510,743	13,892,126
66 Subtotal Pipeline Volumes	14,468,026	14,135,355	17,107,348	15,651,512	15,771,374	9,475,586	86,609,200
67							
68 Storage Gas:							
69 TGP Storage	1,101,551	5,751,643	6,439,746	5,416,181	1,450,799	1,000,000	21,159,920
70							0
71 Produced Gas:							
72 LNG Vapor	21,440	1,172,584	2,047,738	1,590,824	21,654	21,136	4,875,376
73 Propane	-	-	792,770	-	-	-	792,770
74 Subtotal Produced Gas	21,440	1,172,584	2,840,508	1,590,824	21,654	21,136	5,668,146
75							
76 Less - Gas Refills:							
77 LNG Truck	-	(1,105,212)	(2,042,443)	(1,684,181)	(17,174)	-	-4,849,009
78 Propane	-	-	(211,809)	-	-	(56,121)	-267,929
79 TGP Storage Refill	(1,704,078)	-	-	-	-	(1,048,798)	-2,752,875
80 Subtotal Refills	(1,704,078)	(1,105,212)	(2,254,252)	(1,684,181)	(17,174)	(1,104,918)	(7,869,813)
81							
82 Total Sendout Volumes	13,886,939	19,954,370	24,133,351	20,974,336	17,226,653	9,391,804	105,567,453

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

Schedule 11C

2

Page 1 of 1

3 **Peak 2023 – 2024 Winter Cost of Gas Filing**

4 **Capacity Utilization**

5 **Volumes (Therms)**

6

7	Peak Period				Peak Period				
8	Normal Year		Seasonal	Utilization	Design Year		Seasonal	Utilization	
9	Use	MDQ	Quantity	Rate	Use	MDQ	Quantity	Rate	
10	(Therms)	(MMBtu/day)	(Therms)		(Therms)	(MMBtu/day)	(Therms)		
11	Pipeline Gas:								
12	Dawn Supply	5,325,605	4,000	7,240,000	74%	6,438,195	4,000	7,240,000	89%
13	Niagara Supply	4,221,481	3,122	5,650,820	75%	4,221,481	3,122	5,650,820	75%
14	TGP Supply (Gulf + Z4)	31,386,143	21,596	39,088,760	80%	31,395,098	21,596	39,088,760	80%
15	Dracut Supply 1 & 2 & 3	21,646,131	90,000	162,900,000	13%	32,767,369	90,000	162,900,000	20%
16	LNG Truck	4,848,209	-	-	-	4,849,009	-	-	-
17	Propane Truck	295,604	-	-	-	267,929	-	-	-
18	PNGTS	1,345,972	1,000	1,810,000	74%	1,345,972	1,000	1,810,000	74%
19	Portland Natural Gas	6,442,568	5,000	9,050,000	71%	5,324,148	5,000	9,050,000	59%
20	Constellation Vapor	-	-	-	-	-	-	-	-
21									
22									
23	Subtotal Pipeline Volumes	75,511,713				86,609,200			
24									
25	Storage Gas:								
26	TGP Storage	21,208,557		25,791,710	82%	21,159,920		25,791,710	82%
27									
28	Produced Gas:								
29	LNG Vapor	4,874,524				4,875,376			
30	Propane	792,748.8				792,770			
31									
32	Subtotal Produced Gas	5,667,273				5,668,146			
33									
34	Less - Gas Refills:								
35	LNG Truck	(4,848,209)				(4,849,009)			
36	Propane	(295,604)				(267,929)			
37	TGP Storage Refill	(2,784,665)				(2,752,875)			
38									
39	Subtotal Refills	(7,928,478)				(7,869,813)			
40									
41	Total Sendout Volumes	94,459,064				105,567,453			

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

Schedule 11D

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Page 1 of 1

3 **Peak 2023 – 2024 Winter Cost of Gas Filing**

4

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Forecast of Upcoming Winter Period

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Design Day Report

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2023/2024 Heating Season

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(Therms)

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

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Requirements

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Firm Sales 1,256,152

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Interruptible Sales 0

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Firm Transportation 420,730

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Interruptible Transportation 0

23

24

Total Requirements 1,676,882

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Resources

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Purchased Pipeline Gas 1,197,180

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Underground Storage Gas 281,150

31

Propane Air Production 72,552

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LNG Produced Gas 126,000

33

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Third-Party Supply

35

Total Resources 1,676,882

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Please refer to the ENNG 2022 IRP filing (DG 22-064)

39

for a complete description of the methodology and
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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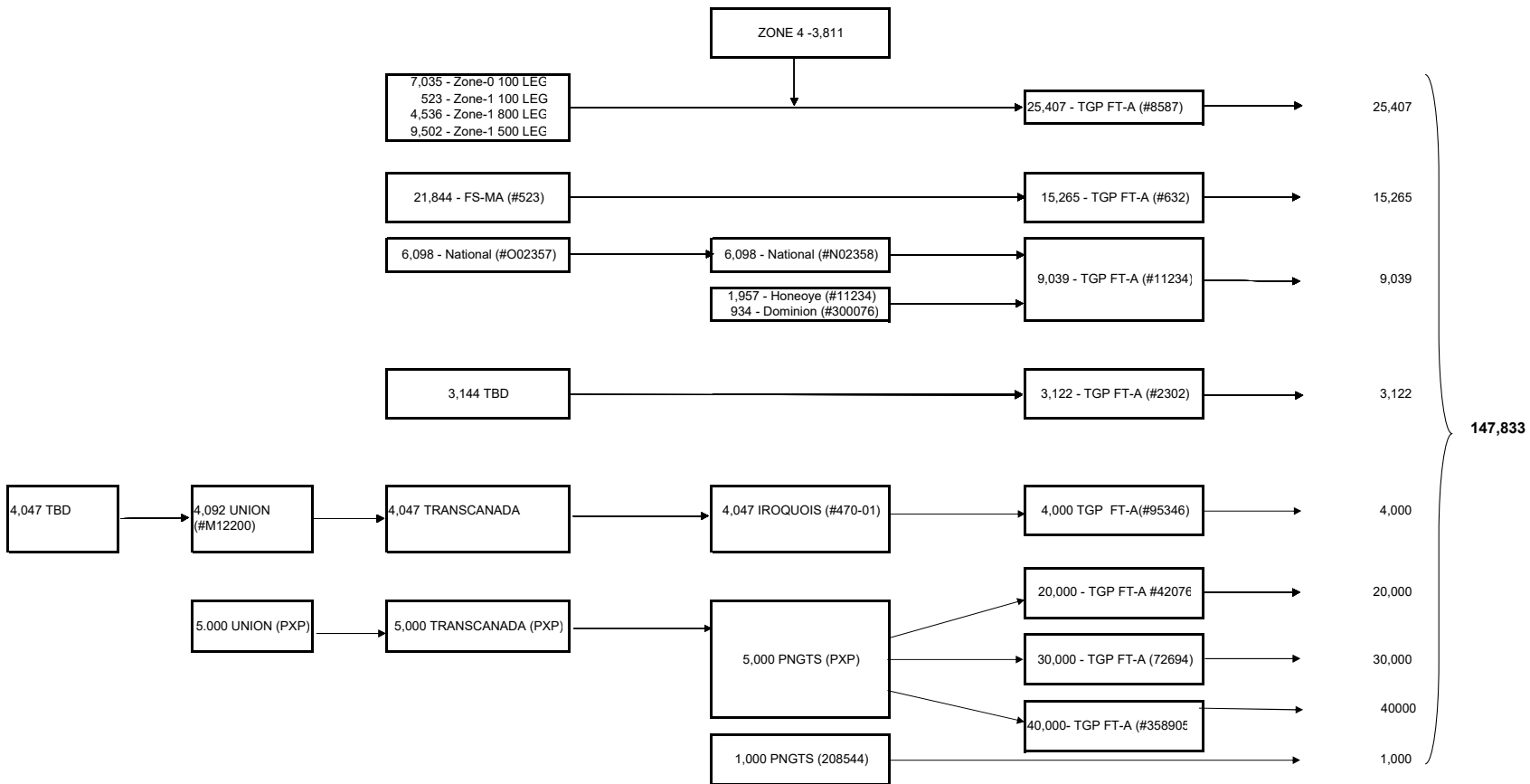
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Note: Forecasted Firm Transportation volumes are for customers
using utility capacity only.

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(MMBtu)

Schedule 12
Page 1 of 2



Agreements for Gas Supply and Transportation

SOURCE	RATE SCHEDULE	CONTRACT NUMBER	TYPE	MDQ MMBTU	MAQ * MMBTU	EXPIRATION DATE	NOTIFICATION DATE	RENEWAL OPTIONS
Dominion Transmission Incorporated	GSS	300076	Storage	934	102,700	3/31/2026	3/31/2024	Mutually agreed upon
Honeoye Storage Corporation	SS-NY	11234	Storage	1,957	245,380	3/31/2025	12 months notice	Evergreen Provision
National Fuel Gas Supply Corporation	FSS	002358	Storage	6,098	670,800	3/31/2025	3/31/2023	Evergreen Provision
National Fuel Gas Supply Corporation	FSST	N02358	Transportation	6,098	670,800	3/31/2025	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	11/30/2026	11/30/2025	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	10/31/2038	Precedent Agreement
Union Gas Limited	M12	M12200	Transportation	4,092	1,493,580	10/31/2025	10/31/2023	Evergreen Provision
Union Gas Limited	M12	PXP	Transportation	5,000	1,825,000	10/31/2040	10/31/2038	Precedent Agreement

* MAQ is calculated on a 365 day calendar year.

1 **Liberty Utilities (EnergyNorth Natural Gas) Corp. d/b/a Liberty**
2 **Peak 2023 – 2024 Winter Cost of Gas Filing**

3
4 **Load Migration From Sales to Transportation in the C&I High and Low Winter Use Classes**

5
6 **July 2022 - June 2023 Normalized Sales and Transportation Volumes (Therms)**

C&I Rate Classes	Annual	% of Total	% of Sales
	Sales	by Class	to Total Volume
			by Class
G-41	19,151,339	40.52%	78.39%
G-42	15,945,700	33.74%	45.58%
G-43	4,264,567	9.02%	33.11%
G-51	3,013,523	6.38%	76.64%
G-52	3,367,796	7.13%	38.44%
G-53	1,150,486	2.43%	11.32%
G-54	367,476	0.78%	2.02%
Total C/I	47,260,890	100.00%	

	Annual	% of Total	% of Transportation
	Transportation	by Class	to Total Volume
			by Class
G-41	5,278,049	7.99%	21.61%
G-42	19,040,218	28.82%	54.42%
G-43	8,616,539	13.04%	66.89%
G-51	918,590	1.39%	23.36%
G-52	5,393,304	8.16%	61.56%
G-53	9,010,325	13.64%	88.68%
G-54	17,804,387	26.95%	97.98%
Total C/I	66,061,413	100.00%	

Sales & Transportation	Total	% of Total	
		by Class	
G-41	24,429,389	21.56%	100.00%
G-42	34,985,918	30.87%	100.00%
G-43	12,881,107	11.37%	100.00%
G-51	3,932,114	3.47%	100.00%
G-52	8,761,100	7.73%	100.00%
G-53	10,160,812	8.97%	100.00%
G-54	18,171,864	16.04%	100.00%
Total C/I	113,322,303	100.00%	

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

Schedule 14

2 **Peak 2023 – 2024 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 22 - Oct 22	Nov 22 - Apr 23	May 22 - Apr 23
	(Therms)	(Therms)	(Therms)
Pipeline Deliveries	19,184,515	77,091,145	96,275,660
All Others	78,922	3,971,272	4,050,194
	<u>19,263,436</u>	<u>81,062,417</u>	<u>100,325,854</u>

Ratio	
Total Winter Supplies	81,062,417
Total Pipeline Deliveries	96,275,660
Ratio Winter Supplies to Pipeline Supplies	0.842

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

Schedule 15

2

Page 1 of 1

3 **Peak 2023 – 2024 Winter Cost of Gas Filing**

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-22 Aug-22 Jul - Aug 2022 Total Total Annual % of Jul-Aug to Total

9

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

10	G-41	207,393	152,071	359,464	19,151,339	1.88%
11	G-42	234,970	179,709	414,679	15,945,700	2.60%
12	G-43	101,723	76,059	177,781	4,264,567	4.17%
13	G-51	178,735	179,423	358,159	3,013,523	11.89%
14	G-52	203,230	202,062	405,292	3,367,796	12.03%
15	G-53	68,896	66,493	135,389	1,150,486	11.77%
16	G-54	27,687	28,258	55,945	367,476	15.22%
17						
18						
19	Total C/I	1,022,634	884,075	1,906,709	47,260,890	4.03%

1 Liberty Utilities (EnergyNorth Natural Gas) Corp. d/b/a Liberty
2 Peak 2023 – 2024 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-23 (Actual)	Jun-23 (Actual)	Jul-23 (Actual)	Aug-23 (Estimate)	Sep-23 (Estimate)	Oct-23 (Estimate)	Nov-23 (Estimate)	Dec-23 (Estimate)	Jan-24 (Estimate)	Feb-24 (Estimate)	Mar-24 (Estimate)	Apr-24 (Estimate)	May-24 (Estimate)	Aug-24 (Estimate)	Total
Beginning Balance (MMBtu)	548,568	817,915	1,037,668	1,249,415	1,486,080	1,722,745	1,959,410	1,844,597	1,221,364	599,024	77,960	(61,446)	(56,566)	798,376	548,568
Injections (MMBtu) Sch 11A In 39 /10	276,445	223,693	213,865	236,665	236,665	236,665	-	-	-	-	-	104,880	347,659	347,659	1,876,537
Subtotal	825,013	1,041,608	1,251,533	1,486,080	1,722,745	1,959,410	1,959,410	1,844,597	1,221,364	599,024	77,960	43,434	291,093	1,146,035	
Storage Sale/Adjustments	(7,098)	(3,940)	(2,118)	-	-	-	-	-	-	-	-	-	-	-	(13,156)
Withdrawals (MMBtu) Sch 11A In 29 /10	-	-	-	-	-	-	(114,813)	(623,233)	(622,340)	(521,065)	(139,405)	(100,000)	(188,034)	-	(2,308,890)
Ending Balance (MMBtu)	817,915	1,037,668	1,249,415	1,486,080	1,722,745	1,959,410	1,844,597	1,221,364	599,024	77,960	(61,446)	(56,566)	103,059	1,146,035	103,059
Beginning Balance	\$ 2,115,982	\$ 2,583,473	\$ 2,894,784	\$ 3,199,841	\$ 3,607,383	\$ 4,014,926	\$ 4,422,468	\$ 4,163,331	\$ 2,756,668	\$ 1,352,022	\$ 175,958	\$ (138,685)	\$ (169,462)	\$ 2,997,726	\$ 2,115,982
Injections In 11 * In 36	\$ 482,639	\$ 315,767	\$ 304,339	\$ 407,542	\$ 407,542	\$ 407,542	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 268,807	\$ 1,205,847	\$ 1,296,075	\$ 3,800,026
Subtotal	\$ 2,598,621	\$ 2,899,240	\$ 3,199,123	\$ 3,607,383	\$ 4,014,926	\$ 4,422,468	\$ 4,422,468	\$ 4,163,331	\$ 2,756,668	\$ 1,352,022	\$ 175,958	\$ 130,122	\$ 1,036,385	\$ 4,293,801	
Storage Sale/Adjustments	\$ (15,148)	\$ (4,457)	\$ 718		\$ -										\$ (18,886)
Withdrawals In 17 * In 34	-	-	-	-	-	-	(259,137)	(1,406,663)	(1,404,646)	(1,176,064)	(314,643)	(299,583)	(563,319)	-	(5,424,055)
Ending Balance	\$ 2,583,473	\$ 2,894,784	\$ 3,199,841	\$ 3,607,383	\$ 4,014,926	\$ 4,422,468	\$ 4,163,331	\$ 2,756,668	\$ 1,352,022	\$ 175,958	\$ (138,685)	\$ (169,462)	\$ 473,066	\$ 4,293,801	\$ 473,066
Average Rate For Withdrawals In 22 /In 9	\$ 3.1498	\$ 2.7834	\$ 2.5562	\$ 2.4274	\$ 2.3305	\$ 2.2570	\$ 2.2570	\$ 2.2570	\$ 2.2570	\$ 2.2570	\$ 2.2570	\$ 2.2570	\$ 2.9958	\$ 2.9958	\$ 3.7548
TGP Storage Rate for Injections Actual or NYMEX plus TGP Transportation	\$ 1.7459	\$ 1.4116	\$ 1.4230	\$ 1.7220	\$ 1.7220	\$ 1.7220	\$ 2.0210	\$ 2.9910	\$ 3.2840	\$ 3.3390	\$ 3.1320	\$ 2.5630	\$ 3.4685	\$ 3.7280	
For Informational Purposes							Nov-23	Dec-23	Jan-24	Feb-24	Mar-24	Apr-24	May-24	Aug-24	Total
Summer Hedge Contracts - Vols Dth							\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Average Hedge Price							\$ 3.1060	\$ 3.5760	\$ 3.8240	\$ 3.7490	\$ 3.4370	\$ 3.1230	\$ 3.4692	#REF!	
NYMEX							\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Hedged Volumes at Hedged Price							\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Less Hedged Volumes at NYMEX							\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	#REF!	\$ -
Hedge (Savings)/Loss							\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	#REF!	\$ -
Month Dollar Average In (22 + In 32) /2			\$ 3,403,612	\$ 3,811,154	\$ 4,218,697	\$ 4,292,900	\$ 3,460,000	\$ 2,054,345	\$ 763,990	\$ 18,636	\$ (154,073)	\$ 151,802	\$ 3,645,763		
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%	0.00%			
Inventory Finance Charge In 47 * In 49	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Financial Expenses	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Total Inventory Finance Charges	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -

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Liquid Propane Gas (LPG)

	May-23 (Actual)	Jun-23 (Actual)	Jul-23 (Actual)	Aug-23 (Estimate)	Sep-23 (Estimate)	Oct-23 (Estimate)	Nov-23 (Estimate)	Dec-23 (Estimate)	Jan-24 (Estimate)	Feb-24 (Estimate)	Mar-24 (Estimate)	Apr-24 (Estimate)	May-24 (Estimate)	Aug-24 (Estimate)	Total
Beginning Balance	88,573	88,573	87,761	87,761	94,215	100,669	107,123	107,123	107,123	49,027	49,027	49,027	57,408	62,328	88,573
Injections Sch 11A In 38 /10	-	-	-	6,454	6,454	6,454	-	-	20,727	452	-	8,382	-	7,179	48,922
Subtotal	88,573	88,573	87,761	94,215	100,669	107,123	107,123	107,123	127,850	49,479	49,027	57,408	57,408	69,508	
Withdrawals Sch 11A In 33 /10	-	-	-	-	-	-	-	-	(78,823)	(452)	-	-	-	-	(79,275)
Adjustment for change in temperature	-	(812)	-	-	-	-	-	-	-	-	-	-	-	-	(812)
Adjustment for Transfer	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ending Balance	88,573	87,761	87,761	94,215	100,669	107,123	107,123	107,123	49,027	49,027	49,027	57,408	57,408	69,508	57,408
Beginning Balance	\$ 1,497,859	\$ 1,497,859	\$ 1,484,127	\$ 1,484,127	\$ 1,569,320	\$ 1,654,512	\$ 1,739,705	\$ 1,739,705	\$ 1,739,705	\$ 775,223	\$ 774,233	\$ 774,233	\$ 888,223	\$ 888,223	\$ 1,497,859
Injections In 46 * In 69	-	-	-	85,193	85,193	85,193	-	-	281,887	6,143	-	113,990	-	-	657,599
Subtotal	\$ 1,497,859	\$ 1,497,859	\$ 1,484,127	\$ 1,569,320	\$ 1,654,512	\$ 1,739,705	\$ 1,739,705	\$ 1,739,705	\$ 2,021,593	\$ 781,367	\$ 774,233	\$ 888,223	\$ 888,223	\$ 888,223	
Withdrawals/ Adjust In 52 * In 67	-	(13,732)	-	-	-	-	-	-	(1,246,369)	(7,134)	-	-	-	-	(1,267,234)
Ending Balance	\$ 1,497,859	\$ 1,484,127	\$ 1,484,127	\$ 1,569,320	\$ 1,654,512	\$ 1,739,705	\$ 1,739,705	\$ 1,739,705	\$ 775,223	\$ 774,233	\$ 774,233	\$ 888,223	\$ 888,223	\$ 888,223	\$ 888,223
Average Rate For Withdrawals	\$16.9110	\$16.9110	\$16.9110	\$16.6568	\$16.4352	\$16.2403	\$16.2403	\$16.2403	\$15.8122	\$15.7920	\$15.7920	\$15.4720	\$15.4720	\$12.7788	
Propane Rate for Injections Actual or Sch. 6, In 165 * 10	0	0	0	\$13.2000	\$13.2000	\$13.2000	\$13.6000	\$13.6000	\$13.6000	\$13.6000	\$13.6000	\$13.6000	\$13.6000	\$15.8915	\$0.0000
Month Dollar Average In 57 * In 65) /2				\$ 1,526,723	\$ 1,611,916	\$ 1,697,109	\$ 1,739,705	\$ 1,739,705	\$ 1,257,464	\$ 774,728	\$ 774,233	\$ 831,228			
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%	0.00%	0.00%	
Inventory Finance Charge In 72 * In 74				\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -

Liquid Natural Gas (LNG)

	May-23 (Actual)	Jun-23 (Actual)	Jul-23 (Actual)	Aug-23 (Estimate)	Sep-23 (Estimate)	Oct-23 (Estimate)	Nov-23 (Estimate)	Dec-23 (Estimate)	Jan-24 (Estimate)	Feb-24 (Estimate)	Mar-24 (Estimate)	Apr-24 (Estimate)	May-24 (Estimate)	Aug-24 (Estimate)	Total
Beginning Balance	11,062	11,235	10,197	11,043	11,889	12,735	13,581	11,437	7,046	4,928	13,511	13,063	10,950	5,789	11,062
Injections Sch 11A In 37 /10	1,719	4,393	4,446	4,446	4,446	4,446	-	110,521	187,375	185,207	1,717	-	-	999	508,717
Subtotal	12,781	15,628	14,643	15,489	16,335	17,181	13,581	121,958	194,422	190,136	15,229	13,063	10,950	6,788	
Withdrawals Sch 11A In 32 /10	(1,546)	(5,431)	(3,600)	(3,600)	(3,600)	(3,600)	(2,144)	(114,912)	(189,493)	(176,624)	(2,165)	(2,114)	(2,046)	(1,810)	(510,876)
Ending Balance	11,235	10,197	11,043	11,889	12,735	13,581	11,437	7,046	4,928	13,511	13,063	10,950	8,903	4,977	8,903
Beginning Balance	\$ 121,679	\$ 124,188	\$ 114,826	\$ 127,575	\$ 139,631	\$ 151,220	\$ 162,485	\$ 136,835	\$ 86,769	\$ 60,859	\$ 166,862	\$ 165,116	\$ 138,400	\$ 68,662	\$ 121,679
Injections In 83 * In 104	19,588	51,652	54,336	54,336	54,336	54,336	-	1,364,936	2,314,084	2,287,309	25,623	-	-	3,358	6,280,537
Subtotal	\$ 141,266	\$ 175,840	\$ 169,163	\$ 181,912	\$ 193,968	\$ 205,556	\$ 162,485	\$ 1,501,771	\$ 2,400,853	\$ 2,348,168	\$ 192,485	\$ 165,116	\$ 138,400	\$ 72,020	
Withdrawals In 87 * In 102	(17,078)	(61,013)	(41,588)	(42,280)	(42,748)	(43,071)	(25,651)	(1,415,002)	(2,339,994)	(2,181,305)	(27,370)	(26,716)	(25,864)	(19,209)	(6,289,680)
Ending Balance	\$ 124,188	\$ 114,826	\$ 127,575	\$ 139,631	\$ 151,220	\$ 162,485	\$ 136,835	\$ 86,769	\$ 60,859	\$ 166,862	\$ 165,116	\$ 138,400	\$ 112,536	\$ 52,811	\$ 112,536
Average Rate For Withdrawals	\$11.0528	\$11.2516	\$11.5525	\$11.7446	\$11.8744	\$11.9642	\$11.9642	\$12.3138	\$12.3487	\$12.3500	\$12.6398	\$12.6398	\$12.6398	\$10.6102	
LNG Rate for Injections Actual or Sch. 6, In 164 * 10	\$11.3948	\$11.7577	\$12.2214	\$12.2214	\$12.2214	\$12.2214	\$14.9200	\$12.3500	\$12.3500	\$12.3500	12.35	14.92	14.92	3.11	\$3.3620
Month Dollar Average In 92 + In 100) /2				\$ 133,603	\$ 145,425	\$ 156,853	\$ 149,660	\$ 111,802	\$ 73,814	\$ 113,861	\$ 165,989	\$ 151,758			
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%	0.00%	0.00%	
Inventory Finance Charge In 107 * In 109				\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Total Fuel Financing Ins 53 + 76 + 111				\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -

1 **Liberty Utilities (EnergyNorth Natural Gas) Corp. d/b/a Liberty**
2 **Peak 2023 – 2024 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-23	6,463,408	\$ 0.0018	\$ 11,638
15 Dec-23	7,720,141	0.0018	13,901
16 Jan-24	8,771,907	0.0018	15,794
17 Feb-24	7,745,798	0.0018	13,947
18 Mar-24	7,160,542	0.0018	12,893
19 Apr-24	<u>5,362,810</u>	0.0018	<u>9,656</u>
20			
21 Total	<u>43,224,605</u>		<u>\$ 77,829</u>

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

25 2/ Refer to Pk Tariff Page 98 for calculation of rate.

III DELIVERY TERMS AND CONDITIONS

ATTACHMENT B

Schedule of Administrative Fees and Charges

I.	Supplier Balancing Charge:	\$	0.14	
II.	Capacity Mitigation Fee		15% of the Proceeds from the Marketing of Capacity for Mitigation.	
III.	Peaking Demand Charge	\$	43.95	MMBTU of Peak MDQ
IV.	Company Allowance Calculation (per Schedule 25)			
			160,052,009	Total Sendout - Therms Jul-2022 - Jun-2023
			<u>153,641,897</u>	Total Throughput - Therms Jul-2022 - Jun-2023
			6,410,112	Variance (Sendout - Throughput)
	Company Allowance Percentage 2023-24		4.0%	Variance / Total Sendout

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

**Calculation of Supplier Balancing Charge
2023-2024**

Rate: \$ 0.1445 /MMBtu

	Rate	Volume	Total
Injection Cost	\$ 0.0087	482,398 \$	4,197
Fuel 1.29%	\$ 0.0330	482,398 \$	15,931
Withdrawal Cost	\$ 0.0087	185,955 \$	1,618
Delivery Rate	\$ 0.0416	185,955 \$	7,741
FTA Demand Charge	\$ 0.2280	185,955 \$	42,391
FTA Commodity Charge	\$ 0.1038	185,955 \$	19,302
Fuel 1.13%	\$ 0.0289	185,955 \$	5,379
		Total Cost \$	96,559
		Absolute Value of the Sendout Error Rate \$	668,353 MMBtu 0.1445 /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	\$	1.2655 / MMBtu per month
	\$	0.0416 / MMBtu per day
TGP Z4-6 Demand Charge	\$	6.9301 / MMBtu per month
	\$	0.2280 / MMBtu per day
TGP Z4-6 Commodity Charge	\$	0.1038 / MMBtu

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

**Calculation of Supplier Balancing Charge
2023-2024
Estimated Monthly Imbalances**

<u>Date</u>	<u>Forecasted DD</u>	<u>Forecaster</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>
		<u>Actual DD</u>	<u>Error DD</u>							
Nov	615	593	22	1,451,087	1,413,081	38,006	62,191		50,099	12,093
Dec	973	942	31	2,265,197	2,210,006	55,191	97,920		76,555	21,364
Jan	977	951	26	2,277,983	2,230,783	47,199	101,660		74,430	27,230
Feb	940	939	1	2,207,316	2,205,290	2,026	103,313	0	52,670	50,644
Mar	841	820	21	1,964,675	1,919,714	44,961	100,628	0	72,795	27,833
Apr	509	483	26	1,194,438	1,155,105	39,333	84,718		62,025	22,692
May	171	149	22	636,097	607,015	29,082	37,014		33,048	3,966
Jun	36	36	0	425,971	425,971	0	3,429	0	1,714	1,714
Jul	0	0	0	351,822	351,822	0	0	0	0	0
Aug	-	-	-	362,437	362,437	0	0	0	0	0
Sep	133	115	18	463,120	449,821	13,299	20,688	0	16,993	3,694
Oct	391	365	26	886,863	859,519	27,344	56,792	0	42,068	14,724
Total	5,586	5,393	193	14,487,007	14,190,564	296,443	668,353		482,398	185,955

Liberty Utilities (EnergyNorth Natural Gas) Corp. d/b/a Liberty
Calculation of Supplier Balancing Charge
2023-2024
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)
1 Apr 1, 2022	23	21	2	4894.93046	45916.299	3025.63146	3025.63146	3025.63146	0
2 Apr 2, 2022	24	23	1	50454.7462	48941.93046	1512.81573	1512.81573	1512.81573	0
3 Apr 3, 2022	23	22	1	48941.93046	47429.11473	1512.81573	1512.81573	1512.81573	0
4 Apr 4, 2022	21	18	3	45916.299	41377.85181	4538.44719	4538.44719	4538.44719	0
5 Apr 5, 2022	16	14	2	38352.22034	35326.58888	3025.63146	3025.63146	3025.63146	0
6 Apr 6, 2022	20	19	1	44403.48327	42890.66754	1512.81573	1512.81573	1512.81573	0
7 Apr 7, 2022	17	18	-1	39865.03608	41377.85181	-1512.81573	1512.81573	0	1512.815731
8 Apr 8, 2022	15	17	-2	36839.40461	39865.03608	-3025.63146	3025.63146	0	3025.631463
9 Apr 9, 2022	19	22	-3	42890.66754	47429.11473	-4538.44719	4538.44719	0	4538.447194
10 Apr 10, 2022	21	20	1	45916.299	44403.48327	1512.81573	1512.81573	1512.81573	0
11 Apr 11, 2022	13	10	3	33813.77315	29275.32596	4538.44719	4538.44719	4538.44719	0
12 Apr 12, 2022	11	10	1	30788.14169	29275.32596	1512.81573	1512.81573	1512.81573	0
13 Apr 13, 2022	8	10	-2	26249.69449	29275.32596	-3025.63146	3025.63146	0	3025.631463
14 Apr 14, 2022	13	18	-5	33813.77315	41377.85181	-7564.07866	7564.07866	0	7564.078657
15 Apr 15, 2022	9	5	4	27762.51023	21711.2473	6051.26293	6051.26293	6051.26293	0
16 Apr 16, 2022	16	17	-1	38352.22034	39865.03608	-1512.81573	1512.81573	0	1512.815731
17 Apr 17, 2022	23	23	0	48941.93046	48941.93046	0	0	0	0
18 Apr 18, 2022	18	16	2	41377.85181	38352.22034	3025.63146	3025.63146	3025.63146	0
19 Apr 19, 2022	21	19	2	45916.299	42890.66754	3025.63146	3025.63146	3025.63146	0
20 Apr 20, 2022	21	20	1	45916.299	44403.48327	1512.81573	1512.81573	1512.81573	0
21 Apr 21, 2022	12	9	3	32300.95742	27762.51023	4538.44719	4538.44719	4538.44719	0
22 Apr 22, 2022	16	12	4	38352.22034	32300.95742	6051.26293	6051.26293	6051.26293	0
23 Apr 23, 2022	16	12	4	38352.22034	32300.95742	6051.26293	6051.26293	6051.26293	0
24 Apr 24, 2022	16	15	1	38352.22034	36839.40461	1512.81573	1512.81573	1512.81573	0
25 Apr 25, 2022	13	11	2	33813.77315	30788.14169	3025.63146	3025.63146	3025.63146	0
26 Apr 26, 2022	10	11	-1	29275.32596	30788.14169	-1512.81573	1512.81573	0	1512.815731
27 Apr 27, 2022	20	20	0	44403.48327	44403.48327	0	0	0	0
28 Apr 28, 2022	21	20	1	45916.299	44403.48327	1512.81573	1512.81573	1512.81573	0
29 Apr 29, 2022	18	17	1	41377.85181	39865.03608	1512.81573	1512.81573	1512.81573	0
30 Apr 30, 2022	15	14	1	36839.40461	35326.58888	1512.81573	1512.81573	1512.81573	0
31 May 1, 2022	10	8	2	26446.56509	23802.73345	2643.83165	2643.83165	2643.83165	0
32 May 2, 2022	15	14	1	33056.14421	31734.22838	1321.91582	1321.91582	1321.91582	0
33 May 3, 2022	14	12	2	31734.22838	29090.39674	2643.83165	2643.83165	2643.83165	0
34 May 4, 2022	13	13	0	30412.31256	30412.31256	0	0	0	0
35 May 5, 2022	8	7	1	23802.73345	22480.81763	1321.91582	1321.91582	1321.91582	0
36 May 6, 2022	9	8	1	25124.64927	23802.73345	1321.91582	1321.91582	1321.91582	0
37 May 7, 2022	17	16	1	35699.97585	34378.06003	1321.91582	1321.91582	1321.91582	0
38 May 8, 2022	17	16	1	35699.97585	34378.06003	1321.91582	1321.91582	1321.91582	0
39 May 9, 2022	13	11	2	30412.31256	27768.48092	2643.83165	2643.83165	2643.83165	0
40 May 10, 2022	12	10	2	29090.39674	26446.56509	2643.83165	2643.83165	2643.83165	0
41 May 11, 2022	6	3	3	21158.9018	17193.15434	3965.74747	3965.74747	3965.74747	0
42 May 12, 2022	0	0	0	13227.40687	13227.40687	0	0	0	0
43 May 13, 2022	0	0	0	13227.40687	13227.40687	0	0	0	0
44 May 14, 2022	0	0	0	13227.40687	13227.40687	0	0	0	0
45 May 15, 2022	0	0	0	13227.40687	13227.40687	0	0	0	0
46 May 16, 2022	0	0	0	13227.40687	13227.40687	0	0	0	0
47 May 17, 2022	4	4	0	18515.07016	18515.07016	0	0	0	0
48 May 18, 2022	5	4	1	19836.98598	18515.07016	1321.91582	1321.91582	1321.91582	0
49 May 19, 2022	9	9	0	25124.64927	25124.64927	0	0	0	0
50 May 20, 2022	0	3	-3	13227.40687	17193.15434	-3965.74747	3965.74747	0	3965.747468
51 May 21, 2022	0	0	0	13227.40687	13227.40687	0	0	0	0
52 May 22, 2022	0	0	0	13227.40687	13227.40687	0	0	0	0
53 May 23, 2022	4	2	2	18515.07016	15871.23851	2643.83165	2643.83165	2643.83165	0
54 May 24, 2022	9	6	3	25124.64927	21158.9018	3965.74747	3965.74747	3965.74747	0
55 May 25, 2022	3	0	3	17193.15434	13227.40687	3965.74747	3965.74747	3965.74747	0
56 May 26, 2022	0	0	0	13227.40687	13227.40687	0	0	0	0
57 May 27, 2022	0	0	0	13227.40687	13227.40687	0	0	0	0
58 May 28, 2022	0	0	0	13227.40687	13227.40687	0	0	0	0
59 May 29, 2022	0	0	0	13227.40687	13227.40687	0	0	0	0
60 May 30, 2022	0	0	0	13227.40687	13227.40687	0	0	0	0
61 May 31, 2022	3	3	0	17193.15434	17193.15434	0	0	0	0
62 Jun 1, 2022	7	9	-2	15856.22873	16427.67715	-571.448422	571.448422	0	571.4484222
63 Jun 2, 2022	5	6	-1	15284.7803	15570.50452	-285.724211	285.724211	0	285.7242111
64 Jun 3, 2022	5	6	-1	15284.7803	15570.50452	-285.724211	285.724211	0	285.7242111
65 Jun 4, 2022	1	0	1	14141.88346	13856.15925	285.724211	285.724211	285.724211	0
66 Jun 5, 2022	1	0	1	14141.88346	13856.15925	285.724211	285.724211	285.724211	0

Liberty Utilities (EnergyNorth Natural Gas) Corp.
Calculation of Supplier Balancing Charge
2023-2024
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		
				MAN HDD	MAN HDD	(MMBtu)	Error	(MMBtu)	(MMBtu)
1 Jun 6, 2022	0	0	0	13856.15925	13856.15925	0	0	0	0
2 Jun 7, 2022	0	0	0	13856.15925	13856.15925	0	0	0	0
3 Jun 8, 2022	0	0	0	13856.15925	13856.15925	0	0	0	0
4 Jun 9, 2022	2	0	2	14427.60767	13856.15925	571.448422	571.448422	571.448422	0
5 Jun 10, 2022	0	0	0	13856.15925	13856.15925	0	0	0	0
6 Jun 11, 2022	0	0	0	13856.15925	13856.15925	0	0	0	0
7 Jun 12, 2022	0	0	0	13856.15925	13856.15925	0	0	0	0
8 Jun 13, 2022	0	0	0	13856.15925	13856.15925	0	0	0	0
9 Jun 14, 2022	0	0	0	13856.15925	13856.15925	0	0	0	0
10 Jun 15, 2022	0	0	0	13856.15925	13856.15925	0	0	0	0
11 Jun 16, 2022	0	0	0	13856.15925	13856.15925	0	0	0	0
12 Jun 17, 2022	0	0	0	13856.15925	13856.15925	0	0	0	0
13 Jun 18, 2022	7	8	-1	15856.22873	16141.95294	-285.724211	285.724211	0	285.724211
14 Jun 19, 2022	6	7	-1	15570.50452	15856.22873	-285.724211	285.724211	0	285.724211
15 Jun 20, 2022	1	0	1	14141.88346	13856.15925	285.724211	285.724211	285.724211	0
16 Jun 21, 2022	0	0	0	13856.15925	13856.15925	0	0	0	0
17 Jun 22, 2022	1	0	1	14141.88346	13856.15925	285.724211	285.724211	285.724211	0
18 Jun 23, 2022	0	0	0	13856.15925	13856.15925	0	0	0	0
19 Jun 24, 2022	0	0	0	13856.15925	13856.15925	0	0	0	0
20 Jun 25, 2022	0	0	0	13856.15925	13856.15925	0	0	0	0
21 Jun 26, 2022	0	0	0	13856.15925	13856.15925	0	0	0	0
22 Jun 27, 2022	0	0	0	13856.15925	13856.15925	0	0	0	0
23 Jun 28, 2022	0	0	0	13856.15925	13856.15925	0	0	0	0
24 Jun 29, 2022	0	0	0	13856.15925	13856.15925	0	0	0	0
25 Jun 30, 2022	0	0	0	13856.15925	13856.15925	0	0	0	0
26 Jul 1, 2022	0	0	0	11349.08588	11349.08588	0	0	0	0
27 Jul 2, 2022	0	0	0	11349.08588	11349.08588	0	0	0	0
28 Jul 3, 2022	0	0	0	11349.08588	11349.08588	0	0	0	0
29 Jul 4, 2022	0	0	0	11349.08588	11349.08588	0	0	0	0
30 Jul 5, 2022	0	0	0	11349.08588	11349.08588	0	0	0	0
31 Jul 6, 2022	0	0	0	11349.08588	11349.08588	0	0	0	0
32 Jul 7, 2022	0	0	0	11349.08588	11349.08588	0	0	0	0
33 Jul 8, 2022	0	0	0	11349.08588	11349.08588	0	0	0	0
34 Jul 9, 2022	0	0	0	11349.08588	11349.08588	0	0	0	0
35 Jul 10, 2022	0	0	0	11349.08588	11349.08588	0	0	0	0
36 Jul 11, 2022	0	0	0	11349.08588	11349.08588	0	0	0	0
37 Jul 12, 2022	0	0	0	11349.08588	11349.08588	0	0	0	0
38 Jul 13, 2022	0	0	0	11349.08588	11349.08588	0	0	0	0
39 Jul 14, 2022	0	0	0	11349.08588	11349.08588	0	0	0	0
40 Jul 15, 2022	0	0	0	11349.08588	11349.08588	0	0	0	0
41 Jul 16, 2022	0	0	0	11349.08588	11349.08588	0	0	0	0
42 Jul 17, 2022	0	0	0	11349.08588	11349.08588	0	0	0	0
43 Jul 18, 2022	0	0	0	11349.08588	11349.08588	0	0	0	0
44 Jul 19, 2022	0	0	0	11349.08588	11349.08588	0	0	0	0
45 Jul 20, 2022	0	0	0	11349.08588	11349.08588	0	0	0	0
46 Jul 21, 2022	0	0	0	11349.08588	11349.08588	0	0	0	0
47 Jul 22, 2022	0	0	0	11349.08588	11349.08588	0	0	0	0
48 Jul 23, 2022	0	0	0	11349.08588	11349.08588	0	0	0	0
49 Jul 24, 2022	0	0	0	11349.08588	11349.08588	0	0	0	0
50 Jul 25, 2022	0	0	0	11349.08588	11349.08588	0	0	0	0
51 Jul 26, 2022	0	0	0	11349.08588	11349.08588	0	0	0	0
52 Jul 27, 2022	0	0	0	11349.08588	11349.08588	0	0	0	0
53 Jul 28, 2022	0	0	0	11349.08588	11349.08588	0	0	0	0
54 Jul 29, 2022	0	0	0	11349.08588	11349.08588	0	0	0	0
55 Jul 30, 2022	0	0	0	11349.08588	11349.08588	0	0	0	0
56 Jul 31, 2022	0	0	0	11349.08588	11349.08588	0	0	0	0
57 Aug 1, 2022	0	0	0	11691.52518	11691.52518	0	0	0	0
58 Aug 2, 2022	0	0	0	11691.52518	11691.52518	0	0	0	0
59 Aug 3, 2022	0	0	0	11691.52518	11691.52518	0	0	0	0
60 Aug 4, 2022	0	0	0	11691.52518	11691.52518	0	0	0	0
61 Aug 5, 2022	0	0	0	11691.52518	11691.52518	0	0	0	0
62 Aug 6, 2022	0	0	0	11691.52518	11691.52518	0	0	0	0
63 Aug 7, 2022	0	0	0	11691.52518	11691.52518	0	0	0	0
64 Aug 8, 2022	0	0	0	11691.52518	11691.52518	0	0	0	0
65 Aug 9, 2022	0	0	0	11691.52518	11691.52518	0	0	0	0
66 Aug 10, 2022	0	0	0	11691.52518	11691.52518	0	0	0	0
67 Aug 11, 2022	0	0	0	11691.52518	11691.52518	0	0	0	0

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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)
1 8/12/2022	0	0	0	11691.52518	11691.52518	0	0	0	0
2 8/13/2022	0	0	0	11691.52518	11691.52518	0	0	0	0
3 8/14/2022	0	0	0	11691.52518	11691.52518	0	0	0	0
4 8/15/2022	0	0	0	11691.52518	11691.52518	0	0	0	0
5 8/16/2022	0	0	0	11691.52518	11691.52518	0	0	0	0
6 8/17/2022	0	0	0	11691.52518	11691.52518	0	0	0	0
7 8/18/2022	0	0	0	11691.52518	11691.52518	0	0	0	0
8 8/19/2022	0	0	0	11691.52518	11691.52518	0	0	0	0
9 8/20/2022	0	0	0	11691.52518	11691.52518	0	0	0	0
10 8/21/2022	0	0	0	11691.52518	11691.52518	0	0	0	0
11 8/22/2022	0	0	0	11691.52518	11691.52518	0	0	0	0
12 8/23/2022	0	0	0	11691.52518	11691.52518	0	0	0	0
13 8/24/2022	0	0	0	11691.52518	11691.52518	0	0	0	0
14 8/25/2022	0	0	0	11691.52518	11691.52518	0	0	0	0
15 8/26/2022	0	0	0	11691.52518	11691.52518	0	0	0	0
16 8/27/2022	0	0	0	11691.52518	11691.52518	0	0	0	0
17 8/28/2022	0	0	0	11691.52518	11691.52518	0	0	0	0
18 8/29/2022	0	0	0	11691.52518	11691.52518	0	0	0	0
19 8/30/2022	0	0	0	11691.52518	11691.52518	0	0	0	0
20 8/31/2022	0	0	0	11691.52518	11691.52518	0	0	0	0
21 9/1/2022	1	1	0	12900.65219	12900.65219	0	0	0	0
22 9/2/2022	0	1	-1	12161.80848	12900.65219	-738.843716	738.843716	0	738.8437157
23 9/3/2022	0	0	0	12161.80848	12161.80848	0	0	0	0
24 9/4/2022	0	0	0	12161.80848	12161.80848	0	0	0	0
25 9/5/2022	4	3	1	15117.18334	14378.33962	738.843716	738.843716	738.843716	0
26 9/6/2022	4	2	2	15117.18334	13639.49591	1477.68743	1477.68743	1477.68743	0
27 9/7/2022	3	2	1	14378.33962	13639.49591	738.843716	738.843716	738.843716	0
28 9/8/2022	2	2	0	13639.49591	13639.49591	0	0	0	0
29 9/9/2022	0	0	0	12161.80848	12161.80848	0	0	0	0
30 9/10/2022	0	0	0	12161.80848	12161.80848	0	0	0	0
31 9/11/2022	0	0	0	12161.80848	12161.80848	0	0	0	0
32 9/12/2022	0	0	0	12161.80848	12161.80848	0	0	0	0
33 9/13/2022	0	0	0	12161.80848	12161.80848	0	0	0	0
34 9/14/2022	0	0	0	12161.80848	12161.80848	0	0	0	0
35 9/15/2022	8	9	-1	18072.5582	18811.40192	-738.843716	738.843716	0	738.8437157
36 9/16/2022	8	7	1	18072.5582	17333.71449	738.843716	738.843716	738.843716	0
37 9/17/2022	2	1	1	13639.49591	12900.65219	738.843716	738.843716	738.843716	0
38 9/18/2022	0	0	0	12161.80848	12161.80848	0	0	0	0
39 9/19/2022	6	6	0	16594.87077	16594.87077	0	0	0	0
40 9/20/2022	5	6	-1	15856.02705	16594.87077	-738.843716	738.843716	0	738.8437157
41 9/21/2022	0	1	-1	12161.80848	12900.65219	-738.843716	738.843716	0	738.8437157
42 9/22/2022	11	9	2	20289.08935	18811.40192	1477.68743	1477.68743	1477.68743	0
43 9/23/2022	16	13	3	23983.30793	21766.77678	2216.53115	2216.53115	2216.53115	0
44 9/24/2022	12	10	2	21027.93306	19550.24563	1477.68743	1477.68743	1477.68743	0
45 9/25/2022	5	3	2	15856.02705	14378.33962	1477.68743	1477.68743	1477.68743	0
46 9/26/2022	5	2	3	15856.02705	13639.49591	2216.53115	2216.53115	2216.53115	0
47 9/27/2022	7	5	2	17333.71449	15856.02705	1477.68743	1477.68743	1477.68743	0
48 9/28/2022	8	6	2	18072.5582	16594.87077	1477.68743	1477.68743	1477.68743	0
49 9/29/2022	14	13	1	22505.6205	21766.77678	738.843716	738.843716	738.843716	0
50 9/30/2022	12	13	-1	21027.93306	21766.77678	-738.843716	738.843716	0	738.8437157
51 10/1/2022	12	10	2	27963.88876	25860.47846	2103.41029	2103.41029	2103.41029	0
52 10/2/2022	17	17	0	33222.41449	33222.41449	0	0	0	0
53 10/3/2022	18	15	3	34274.11964	31119.0042	3155.11544	3155.11544	3155.11544	0
54 10/4/2022	13	9	4	29015.5939	24808.77332	4206.82059	4206.82059	4206.82059	0
55 10/5/2022	9	6	3	24808.77332	21653.65787	3155.11544	3155.11544	3155.11544	0
56 10/6/2022	4	4	0	19550.24758	19550.24758	0	0	0	0
57 10/7/2022	7	3	4	22705.36302	18498.54243	4206.82059	4206.82059	4206.82059	0
58 10/8/2022	18	18	0	34274.11964	34274.11964	0	0	0	0
59 10/9/2022	15	14	1	31119.0042	30067.29905	1051.70515	1051.70515	1051.70515	0
60 10/10/2022	15	18	-3	31119.0042	34274.11964	-3155.11544	3155.11544	0	3155.115441
61 10/11/2022	11	14	-3	26912.18361	30067.29905	-3155.11544	3155.11544	0	3155.115441
62 10/12/2022	5	3	2	20601.95273	18498.54243	2103.41029	2103.41029	2103.41029	0
63 10/13/2022	2	1	1	17446.83729	16395.13214	1051.70515	1051.70515	1051.70515	0
64 10/14/2022	10	11	-1	25860.47846	26912.18361	-1051.70515	1051.70515	0	1051.705147
65 10/15/2022	10	11	-1	25860.47846	26912.18361	-1051.70515	1051.70515	0	1051.705147
66 10/16/2022	13	13	0	29015.5939	29015.5939	0	0	0	0
67 10/17/2022	11	10	1	26912.18361	25860.47846	1051.70515	1051.70515	1051.70515	0

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							Sendout Error (MMBtu)		
1 10/18/2022	19	17	2	35325.82478	33222.41449	2103.41029	2103.41029	2103.41029	0
2 10/19/2022	21	19	2	37429.23508	35325.82478	2103.41029	2103.41029	2103.41029	0
3 10/20/2022	20	19	1	36377.52993	35325.82478	1051.70515	1051.70515	1051.70515	0
4 10/21/2022	18	18	0	34274.11964	34274.11964	0	0	0	0
5 10/22/2022	14	12	2	30067.29905	27963.88876	2103.41029	2103.41029	2103.41029	0
6 10/23/2022	11	9	2	26912.18361	24808.77332	2103.41029	2103.41029	2103.41029	0
7 10/24/2022	8	6	2	23757.06817	21653.65787	2103.41029	2103.41029	2103.41029	0
8 10/25/2022	4	1	3	19550.24758	16395.13214	3155.11544	3155.11544	3155.11544	0
9 10/26/2022	4	2	2	19550.24758	17446.83729	2103.41029	2103.41029	2103.41029	0
10 10/27/2022	15	16	-1	31119.0042	32170.70934	-1051.70515	1051.70515	0	1051.705147
11 10/28/2022	22	24	-2	38480.94023	40584.35052	-2103.41029	2103.41029	0	2103.410294
12 10/29/2022	20	22	-2	36377.52993	38480.94023	-2103.41029	2103.41029	0	2103.410294
13 10/30/2022	16	17	-1	32170.70934	33222.41449	-1051.70515	1051.70515	0	1051.705147
14 10/31/2022	9	6	3	24808.77332	21653.65787	3155.11544	3155.11544	3155.11544	0
15 11/1/2022	8	8	0	26775.30759	26775.30759	0	0	0	0
16 11/2/2022	16	15	1	40595.62893	38868.08876	1727.54017	1727.54017	1727.54017	0
17 11/3/2022	14	12	2	37140.54859	33685.46826	3455.08033	3455.08033	3455.08033	0
18 11/4/2022	6	2	4	23320.22726	16410.06659	6910.16067	6910.16067	6910.16067	0
19 11/5/2022	0	0	0	12954.98626	12954.98626	0	0	0	0
20 11/6/2022	0	0	0	12954.98626	12954.98626	0	0	0	0
21 11/7/2022	12	7	5	33685.46826	25047.76743	8637.70083	8637.70083	8637.70083	0
22 11/8/2022	23	24	-1	52688.4101	54415.95026	-1727.54017	1727.54017	0	1727.540167
23 11/9/2022	22	21	1	50960.86993	49233.32976	1727.54017	1727.54017	1727.54017	0
24 11/10/2022	9	8	1	28502.84776	26775.30759	1727.54017	1727.54017	1727.54017	0
25 11/11/2022	0	0	0	12954.98626	12954.98626	0	0	0	0
26 11/12/2022	7	6	1	25047.76743	23320.22726	1727.54017	1727.54017	1727.54017	0
27 11/13/2022	23	23	0	52688.4101	52688.4101	0	0	0	0
28 11/14/2022	31	33	-2	66508.73143	69963.81177	-3455.08033	3455.08033	0	3455.080334
29 11/15/2022	27	27	0	59598.57077	59598.57077	0	0	0	0
30 11/16/2022	27	26	1	59598.57077	57871.0306	1727.54017	1727.54017	1727.54017	0
31 11/17/2022	31	30	1	66508.73143	64781.19127	1727.54017	1727.54017	1727.54017	0
32 11/18/2022	31	30	1	66508.73143	64781.19127	1727.54017	1727.54017	1727.54017	0
33 11/19/2022	33	32	1	69963.81177	68236.2716	1727.54017	1727.54017	1727.54017	0
34 11/20/2022	37	37	0	76873.97243	76873.97243	0	0	0	0
35 11/21/2022	31	30	1	66508.73143	64781.19127	1727.54017	1727.54017	1727.54017	0
36 11/22/2022	29	27	2	63053.6511	59598.57077	3455.08033	3455.08033	3455.08033	0
37 11/23/2022	30	30	0	64781.19127	64781.19127	0	0	0	0
38 11/24/2022	27	26	1	59598.57077	57871.0306	1727.54017	1727.54017	1727.54017	0
39 11/25/2022	24	21	3	54415.95026	49233.32976	5182.6205	5182.6205	5182.6205	0
40 11/26/2022	22	23	-1	50960.86993	52688.4101	-1727.54017	1727.54017	0	1727.540167
41 11/27/2022	15	17	-2	38868.08876	42323.1691	-3455.08033	3455.08033	0	3455.080334
42 11/28/2022	28	26	2	61326.11093	57871.0306	3455.08033	3455.08033	3455.08033	0
43 11/29/2022	29	30	-1	63053.6511	64781.19127	-1727.54017	1727.54017	0	1727.540167
44 11/30/2022	23	22	1	52688.4101	50960.86993	1727.54017	1727.54017	1727.54017	0
45 12/1/2022	32	31	1	74162.0669	72381.70779	1780.35911	1780.35911	1780.35911	0
46 12/2/2022	28	24	4	67040.63045	59919.19401	7121.43645	7121.43645	7121.43645	0
47 12/3/2022	23	18	5	58138.8349	49237.03934	8901.79556	8901.79556	8901.79556	0
48 12/4/2022	33	35	-2	75942.42601	79503.14423	-3560.71822	3560.71822	0	3560.718223
49 12/5/2022	27	25	2	65260.27134	61699.55312	3560.71822	3560.71822	3560.71822	0
50 12/6/2022	18	14	4	49237.03934	42115.60289	7121.43645	7121.43645	7121.43645	0
51 12/7/2022	15	13	2	43895.962	40335.24378	3560.71822	3560.71822	3560.71822	0
52 12/8/2022	28	27	1	67040.63045	65260.27134	1780.35911	1780.35911	1780.35911	0
53 12/9/2022	32	30	2	74162.0669	70601.34868	3560.71822	3560.71822	3560.71822	0
54 12/10/2022	35	36	-1	79503.14423	81283.50334	-1780.35911	1780.35911	0	1780.359111
55 12/11/2022	38	40	-2	84844.22157	88404.93979	-3560.71822	3560.71822	0	3560.718223
56 12/12/2022	38	38	0	84844.22157	84844.22157	0	0	0	0
57 12/13/2022	37	36	1	83063.86245	81283.50334	1780.35911	1780.35911	1780.35911	0
58 12/14/2022	33	32	1	75942.42601	74162.0669	1780.35911	1780.35911	1780.35911	0
59 12/15/2022	27	27	0	65260.27134	65260.27134	0	0	0	0
60 12/16/2022	27	30	-3	65260.27134	70601.34868	-5341.07733	5341.07733	0	5341.077334
61 12/17/2022	33	31	2	75942.42601	72381.70779	3560.71822	3560.71822	3560.71822	0
62 12/18/2022	36	32	4	81283.50334	74162.0669	7121.43645	7121.43645	7121.43645	0
63 12/19/2022	34	32	2	77722.78512	74162.0669	3560.71822	3560.71822	3560.71822	0
64 12/20/2022	38	36	2	84844.22157	81283.50334	3560.71822	3560.71822	3560.71822	0
65 12/21/2022	37	36	1	83063.86245	81283.50334	1780.35911	1780.35911	1780.35911	0
66 12/22/2022	23	23	0	58138.8349	58138.8349	0	0	0	0
67 12/23/2022	36	36	0	81283.50334	81283.50334	0	0	0	0

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1 12/24/2022	48	51	-3	102647.8127	107988.89	-5341.07733	5341.07733	0	5341.077334
2 12/25/2022	43	44	-1	93746.01712	95526.37623	-1780.35911	1780.35911	0	1780.359111
3 12/26/2022	39	37	2	86624.58068	83063.86245	3560.71822	3560.71822	3560.71822	0
4 12/27/2022	40	40	0	88404.93979	88404.93979	0	0	0	0
5 12/28/2022	34	33	1	77722.78512	75942.42601	1780.35911	1780.35911	1780.35911	0
6 12/29/2022	28	28	0	67040.63045	67040.63045	0	0	0	0
7 12/30/2022	19	14	5	51017.39845	42115.60289	8901.79556	8901.79556	8901.79556	0
8 12/31/2022	14	13	1	42115.60289	40335.24378	1780.35911	1780.35911	1780.35911	0
9 1/1/2023	24	25	-1	59838.79218	61654.15728	-1815.3651	1815.3651	0	1815.365098
10 1/2/2023	27	30	-3	65284.88748	70730.98277	-5446.0953	5446.0953	0	5446.095295
11 1/3/2023	26	28	-2	63469.52238	67100.25258	-3630.7302	3630.7302	0	3630.730197
12 1/4/2023	23	23	0	58023.42708	58023.42708	0	0	0	0
13 1/5/2023	31	30	1	72546.34787	70730.98277	1815.3651	1815.3651	1815.3651	0
14 1/6/2023	32	32	0	74361.71297	74361.71297	0	0	0	0
15 1/7/2023	36	33	3	81623.17336	76177.07807	5446.0953	5446.0953	5446.0953	0
16 1/8/2023	38	35	3	85253.90356	79807.80826	5446.0953	5446.0953	5446.0953	0
17 1/9/2023	34	30	4	77992.44317	70730.98277	7261.46039	7261.46039	7261.46039	0
18 1/10/2023	40	38	2	88884.63376	85253.90356	3630.7302	3630.7302	3630.7302	0
19 1/11/2023	37	36	1	83438.53846	81623.17336	1815.3651	1815.3651	1815.3651	0
20 1/12/2023	23	28	-5	58023.42708	67100.25258	-9076.82549	9076.82549	0	9076.825492
21 1/13/2023	25	25	0	61654.15728	61654.15728	0	0	0	0
22 1/14/2023	34	33	1	77992.44317	76177.07807	1815.3651	1815.3651	1815.3651	0
23 1/15/2023	33	31	2	76177.07807	72546.34787	3630.7302	3630.7302	3630.7302	0
24 1/16/2023	33	33	0	76177.07807	76177.07807	0	0	0	0
25 1/17/2023	26	25	1	63469.52238	61654.15728	1815.3651	1815.3651	1815.3651	0
26 1/18/2023	27	23	4	65284.88748	58023.42708	7261.46039	7261.46039	7261.46039	0
27 1/19/2023	30	30	0	70730.98277	70730.98277	0	0	0	0
28 1/20/2023	36	34	2	81623.17336	77992.44317	3630.7302	3630.7302	3630.7302	0
29 1/21/2023	42	38	4	92515.36395	85253.90356	7261.46039	7261.46039	7261.46039	0
30 1/22/2023	30	32	-2	70730.98277	74361.71297	-3630.7302	3630.7302	0	3630.730197
31 1/23/2023	33	33	0	76177.07807	76177.07807	0	0	0	0
32 1/24/2023	35	31	4	79807.80826	72546.34787	7261.46039	7261.46039	7261.46039	0
33 1/25/2023	27	29	-2	65284.88748	68915.61767	-3630.7302	3630.7302	0	3630.730197
34 1/26/2023	32	30	2	74361.71297	70730.98277	3630.7302	3630.7302	3630.7302	0
35 1/27/2023	35	33	2	79807.80826	76177.07807	3630.7302	3630.7302	3630.7302	0
36 1/28/2023	32	30	2	74361.71297	70730.98277	3630.7302	3630.7302	3630.7302	0
37 1/29/2023	25	24	1	61654.15728	59838.79218	1815.3651	1815.3651	1815.3651	0
38 1/30/2023	29	27	2	68915.61767	65284.88748	3630.7302	3630.7302	3630.7302	0
39 1/31/2023	42	42	0	92515.36395	92515.36395	0	0	0	0
40 2/1/2023	42	41	1	95906.90668	93881.15501	2025.75167	2025.75167	2025.75167	0
41 2/2/2023	37	36	1	85778.14832	83752.39665	2025.75167	2025.75167	2025.75167	0
42 2/3/2023	67	68	-1	146550.6985	148576.4502	-2025.75167	2025.75167	0	2025.751672
43 2/4/2023	48	50	-2	108061.4167	112112.9201	-4051.50334	4051.50334	0	4051.503344
44 2/5/2023	29	28	1	69572.13494	67546.38327	2025.75167	2025.75167	2025.75167	0
45 2/6/2023	33	32	1	77675.14163	75649.38996	2025.75167	2025.75167	2025.75167	0
46 2/7/2023	31	32	-1	73623.63829	75649.38996	-2025.75167	2025.75167	0	2025.751672
47 2/8/2023	30	29	1	71597.88662	69572.13494	2025.75167	2025.75167	2025.75167	0
48 2/9/2023	21	26	-5	53366.12157	63494.87993	-10128.7584	10128.7584	0	10128.75836
49 2/10/2023	27	22	5	65520.6316	55391.87324	10128.7584	10128.7584	10128.7584	0
50 2/11/2023	33	30	3	77675.14163	71597.88662	6077.25502	6077.25502	6077.25502	0
51 2/12/2023	28	28	0	67546.38327	67546.38327	0	0	0	0
52 2/13/2023	28	27	1	67546.38327	65520.6316	2025.75167	2025.75167	2025.75167	0
53 2/14/2023	29	29	0	69572.13494	69572.13494	0	0	0	0
54 2/15/2023	15	14	1	41211.61153	39185.85986	2025.75167	2025.75167	2025.75167	0
55 2/16/2023	13	15	-2	37160.10819	41211.61153	-4051.50334	4051.50334	0	4051.503344
56 2/17/2023	31	33	-2	73623.63829	77675.14163	-4051.50334	4051.50334	0	4051.503344
57 2/18/2023	32	33	-1	75649.38996	77675.14163	-2025.75167	2025.75167	0	2025.751672
58 2/19/2023	25	26	-1	61469.12826	63494.87993	-2025.75167	2025.75167	0	2025.751672
59 2/20/2023	25	22	3	61469.12826	55391.87324	6077.25502	6077.25502	6077.25502	0
60 2/21/2023	31	32	-1	73623.63829	75649.38996	-2025.75167	2025.75167	0	2025.751672
61 2/22/2023	32	32	0	75649.38996	75649.38996	0	0	0	0
62 2/23/2023	40	40	0	91855.40334	91855.40334	0	0	0	0
63 2/24/2023	51	47	4	114138.6717	106035.665	8103.00669	8103.00669	8103.00669	0
64 2/25/2023	50	50	0	112112.9201	112112.9201	0	0	0	0
65 2/26/2023	39	48	-9	89829.65167	108061.4167	-18231.765	18231.765	0	18231.76505
66 2/27/2023	38	36	2	87803.89999	83752.39665	4051.50334	4051.50334	4051.50334	0
67 2/28/2023	35	33	2	81726.64498	77675.14163	4051.50334	4051.50334	4051.50334	0

Liberty Utilities (EnergyNorth Natural Gas) Corp.
Calculation of Supplier Balancing Charge
2023-2024
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		
				MAN HDD	MAN HDD	(MMBtu)	(MMBtu)	(MMBtu)	(MMBtu)
1 3/1/2023	31	29	2	71664.44365	67382.4055	4282.03815	4282.03815	4282.03815	0
2 3/2/2023	31	28	3	71664.44365	65241.38643	6423.05722	6423.05722	6423.05722	0
3 3/3/2023	31	28	3	71664.44365	65241.38643	6423.05722	6423.05722	6423.05722	0
4 3/4/2023	35	33	2	80228.51994	75946.4818	4282.03815	4282.03815	4282.03815	0
5 3/5/2023	30	27	3	69523.42458	63100.36736	6423.05722	6423.05722	6423.05722	0
6 3/6/2023	33	28	5	75946.4818	65241.38643	10705.0954	10705.0954	10705.0954	0
7 3/7/2023	34	34	0	78087.50087	78087.50087	0	0	0	0
8 3/8/2023	28	27	1	65241.38643	63100.36736	2141.01907	2141.01907	2141.01907	0
9 3/9/2023	29	28	1	67382.4055	65241.38643	2141.01907	2141.01907	2141.01907	0
10 3/10/2023	26	24	2	60959.34828	56677.31014	4282.03815	4282.03815	4282.03815	0
11 3/11/2023	30	30	0	69523.42458	69523.42458	0	0	0	0
12 3/12/2023	27	26	1	63100.36736	60959.34828	2141.01907	2141.01907	2141.01907	0
13 3/13/2023	24	27	-3	56677.31014	63100.36736	-6423.05722	6423.05722	0	6423.05722
14 3/14/2023	30	30	0	69523.42458	69523.42458	0	0	0	0
15 3/15/2023	28	28	0	65241.38643	65241.38643	0	0	0	0
16 3/16/2023	27	25	2	63100.36736	58818.32921	4282.03815	4282.03815	4282.03815	0
17 3/17/2023	22	23	-1	52395.27199	54536.29106	-2141.01907	2141.01907	0	2141.019073
18 3/18/2023	28	26	2	65241.38643	60959.34828	4282.03815	4282.03815	4282.03815	0
19 3/19/2023	35	34	1	80228.51994	78087.50087	2141.01907	2141.01907	2141.01907	0
20 3/20/2023	27	27	0	63100.36736	63100.36736	0	0	0	0
21 3/21/2023	22	19	3	52395.27199	45972.21477	6423.05722	6423.05722	6423.05722	0
22 3/22/2023	19	20	-1	45972.21477	48113.23384	-2141.01907	2141.01907	0	2141.019073
23 3/23/2023	15	17	-2	37408.13848	41690.17662	-4282.03815	4282.03815	0	4282.038147
24 3/24/2023	25	26	-1	58818.32921	60959.34828	-2141.01907	2141.01907	0	2141.019073
25 3/25/2023	25	26	-1	58818.32921	60959.34828	-2141.01907	2141.01907	0	2141.019073
26 3/26/2023	23	23	0	54536.29106	54536.29106	0	0	0	0
27 3/27/2023	20	19	1	48113.23384	45972.21477	2141.01907	2141.01907	2141.01907	0
28 3/28/2023	26	28	-2	60959.34828	65241.38643	-4282.03815	4282.03815	0	4282.038147
29 3/29/2023	24	23	1	56677.31014	54536.29106	2141.01907	2141.01907	2141.01907	0
30 3/30/2023	33	32	1	75946.4818	73805.46272	2141.01907	2141.01907	2141.01907	0
31 3/31/2023	23	25	-2	54536.29106	58818.32921	-4282.03815	4282.03815	0	4282.038147

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

Docket DE 98-124 Gas Restructuring
Peaking Demand Rate

Source:

Attachment B Page 2 of 3: EnergyNorth Capacity Resources

Attachment B Page 3 of 3: EnergyNorth Capacity Resources

Line 1 - Line 12 - Line 19

Attachment B Page 3 Line 11
Summary Page Line 68
Attachment B Page 3 Line 1
Sum Line 27 - 29

Line 30 divided by Line 22

Line 32 divided by 6 month

1	Peak Day		167,688	Dekatherm
2				
3	Pipeline MDQ			
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	
10		TGP FT-A (Z6-Z6) 358905	40,000	
11		TGP FT-A (Z6-Z6) 72694	30,000	
12			<u>119,718</u>	Dekatherm
13				
14	Underground Storage MDQ			
15		TGP FT-A (Z4-Z6) 632	15,265	Dekatherm
16		TGP FT-A (Z4-Z6) 8587	3,811	
17		TGP FT-A (Z4-Z6) 11234	7,082	
18		TGP FT-A (Z5-Z6) 11234	<u>1,957</u>	
19			28,115	Dekatherm
20				
21				
22	Peaking MDQ		19,855	Dekatherm
23				
24				
25	Peaking Costs			
26				
27	Gas Supply		\$ 1,550,000	
28	Indirect Production & Storage Capacity		\$ 3,685,458	
29	Granite Ridge		\$ -	
30	Total		<u>\$ 5,235,458</u>	
31				
32	Annual Peaking Rate per MDQ		\$ 263.68	
33				
34	Monthly Peaking MDQ		\$ 43.95	/Dekatherm

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

Tennessee Allocations

Resource Type	High Load Factor	Low Load Factor
Pipeline	79.6%	70.6%
Storage	12.0%	17.2%
Peaking	8.5%	12.2%
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		\$12 7551		10/31/2026	
	Iroquois	RTS to Wright	470-01	4,047		\$4 8393		11/1/2027	
	TGP	NET-NE (Z5-Z6)	95346	4,000		\$6 0905		11/30/2026	
	TGP	FT-A (Z5-Z6)	2302	3,122		\$6 0905		10/31/2025	
	TGP	FT-A (Z0-Z6)	8587	7,035		\$19 6964		10/31/2025	
	TGP	FT-A (Z1-Z6)	8587	14,561		\$17 4870		10/31/2025	
	TCPL + Union	FT to Parkway & PNGT	M12284 & TC	5,000		\$19 3180		10/31/2040	
	PNGTS	FT	225800	5,000		\$22 7943		10/31/2040	
	TGP	FT-A (Z6-Z6)	42076	20,000		\$4 0474		10/31/2025	
	TGP	FT-A (Z6-Z6)	358905	40,000		\$4 0474		10/31/2041	
	TGP	FT-A (Z6-Z6)	72694	30,000		\$12 2157		10/31/2029	
Storage									
	TGP	FS-MA (Storage)	523*	21,844	1,560,391	\$1 2655	\$0 0173	10/31/2025	
	TGP	FT-A (Z4-Z6)	632	15,265		\$6 9301		10/31/2025	
	TGP	FT-A (Z4-Z6)	8587	3,811		\$6 9301		10/31/2025	
	National Fuel	FSS-1 (Storage)	O02357*	6,098	670,800	\$2 6469	\$0 0478	3/31/2025	
	National Fuel	FST (Transport)	N02358	6,098		\$5 0175		3/31/2025	
	TGP	FT-A (Z4-Z6)	11234	6,150		\$6.9301		10/31/2025	
	Honeoye	SS-NY (Storage)	SS-NY**	1,957	245,380	\$4.8254	\$0 0000	3/31/2025	X
	TGP	FT-A (Z5-Z6)	11234	1,957		\$6.0905		10/31/2025	
	Dominion	GSS (Storage)	300076*	934	102,700	\$2 6784	\$0 0258	3/31/2026	
	TGP	FT-A (Z4-Z6)	11234	932		\$6.9301		10/31/2025	
Peaking									
	Energy North	LNG/Propane****		19,855	-	\$43.9500	\$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 11/01/23. 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.

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

Docket 98-124 Gas Restructuring
Peaking Demand Rate
Peaking Costs

	Volume	Rate	Monthly Cost	Months/Year	Annual Cost
1					
2					
3					
4 Subtotal					\$ 1,550,000.00 *
5					
6 Total					\$ 1,550,000.00

* Effective November 2023

**Liberty Utilities (EnergyNorth Natural Gas) Corp. d/b/a Liberty
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	70.6%	17.2%	12.2%	100.0%
G-51	LALW	Low Annual C&I - Low Winter Use	79.6%	12.0%	8.5%	100.0%
G-42	MAHW	Medium C&I - High Winter Use	70.6%	17.2%	12.2%	100.0%
G-52	MALW	Medium C&I - Low Winter Use	79.6%	12.0%	8.5%	100.0%
G-43	HAHW	High Annual C&I - High Winter Use	70.6%	17.2%	12.2%	100.0%
G-53	HALW90	High Annual C&I - LF < 90%	79.6%	12.0%	8.5%	100.0%
G-54	HALWG90	High Annual C&I - LF > 90%	79.6%	12.0%	8.5%	100.0%

HLF	High Load Factor	79.57%	11.97%	8.45%	100%
LLF	Low Load Factor	70.62%	17.22%	12.16%	100%
	Total	71.39%	16.77%	11.84%	100%

Liberty Utilities (EnergyNorth Natural Gas) Corp. d/b/a Liberty
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	129	390	519
LLF R-3 RSH	3,452	70,445	73,897
LLF G-41 SL	919	29,247	30,167
HLF G-51 SH	774	1,543	2,317
LLF G-42 ML	1,581	37,044	38,624
HLF G-52 MH	1,710	3,482	5,192
LLF G-43 LL	903	9,594	10,497
HLF G-53 LLL90	1,871	3,372	5,243
HLF G-54 LLG90	387	844	1,232
TOTAL	11,726	155,962	167,688

Allocate Class Design Day Throughput to Supply Sources

	Base	Remaining	Sub-total	Storage	Peaking	Total
	Pipeline	Pipeline	Pipeline			
R-1 RNSH	129	270	399	70	49.62	519
R-3 RSH	3,452	48,778	52,230	12,699	8,968	73,897
G-41 SL	919	20,252	21,171	5,272	3,723	30,167
G-51 SH	774	1,068	1,842	278	196	2,317
G-42 ML	1,581	25,650	27,231	6,678	4,716	38,624
G-52 MH	1,710	2,411	4,121	628	443	5,192
G-43 LL	903	6,643	7,546	1,730	1,221	10,497
G-53 LLL90	1,871	2,335	4,206	608	429	5,243
G-54 LLG90	387	585	972	152	108	1,232
TOTAL	11,726	107,992	119,718	28,115	19,855	167,688

% of Peak Day Requirement

	Pipeline	Storage	Peaking	Total
R-1 RNSH	76.9%	13.5%	9.6%	100.0%
R-3 RSH	70.7%	17.2%	12.1%	100.0%
G-41 SL	70.2%	17.5%	12.3%	100.0%
G-51 SH	79.5%	12.0%	8.5%	100.0%
G-42 ML	70.5%	17.3%	12.2%	100.0%
G-52 MH	79.4%	12.1%	8.5%	100.0%
G-43 LL	71.9%	16.5%	11.6%	100.0%
G-53 LLL90	80.2%	11.6%	8.2%	100.0%
G-54 LLG90	78.9%	12.4%	8.7%	100.0%
TOTAL	71.4%	16.8%	11.8%	100.0%

HLF	4,871	9,631	14,502
LLF	6,855	146,331	153,186
Total	11,726	155,962	167,688

HLF	4,871	6,669	11,540	1,736	1,226	14,502
LLF	6,855	101,323	108,178	26,379	18,629	153,186
Total	11,726	107,992	119,718	28,115	19,855	167,688

High Load Factor	79.57%	11.97%	8.45%	100%
Low Load Factor	70.62%	17.22%	12.16%	100%
Total	71.39%	16.77%	11.84%	100%

Liberty Utilities (EnergyNorth Natural Gas) Corp. d/b/a Liberty
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	129	5.71	396	525
R-3 RSH	3,452	1,032.55	71,649	75,100
G-41 SL	919	428.69	29,747	30,666
G-51 SH	774	22.61	1,569	2,343
G-42 ML	1,581	542.97	37,677	39,257
G-52 MH	1,710	51.04	3,542	5,251
G-43 LL	903	140.63	9,758	10,661
G-53 LLL90	1,871	49.43	3,430	5,301
G-54 LLL90	387	12.38	859	1,246
TOTAL	11,726	2,284.05	158,626	170,352
HLF	4,871	141	9,796	14,667
LLF	6,855	2,143	148,830	155,685
Total	11,726	2,284	158,626	170,352
Design Day from 2023-2024 COG				167,688
Design Day from Gas Load Calculation				170,352
Variance				(2,664)

**Allocate Design Day Sendout to
Rate Classes**

Baseload as % of Total Class Load	Heat Load as % of Total
25%	0.250%
5%	45.168%
3%	18.753%
33%	0.989%
4%	23.752%
33%	2.233%
8%	6.152%
35%	2.162%
31%	0.541%
	100.000%

Base Load	Heat Load	Total
129	390	519
3,452	70,445	73,897
919	29,247	30,167
774	1,543	2,317
1,581	37,044	38,624
1,710	3,482	5,192
903	9,594	10,497
1,871	3,372	5,243
387	844	1,232
11,726	155,962	167,688

Liberty Utilities (EnergyNorth Natural Gas) Corp. d/b/a Liberty
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-22	Dec-22	Jan-23	Feb-23	Mar-23	Apr-23	May-23	Jun-23	Jul-23	Aug-23	Sep-23	Oct-23	Total	Monthly Baseload (Jul+Aug)/2	Daily Baseload
HLF	R-1 RNSH	7	9	10	9	8	6	5	4	4	4	4	6	76	4 000	0 129
LLF	R-3 RSH	701	1,020	1,181	1,028	900	555	323	162	119	107	175	444	6,715	107 000	3 452
LLF	G-41 SL	255	398	492	430	342	182	91	45	32	25	44	141	2,477	28 500	0 919
HLF	G-51 SH	33	42	48	43	41	33	28	25	25	24	24	31	397	24 000	0 774
LLF	G-42 ML	369	527	627	551	466	274	152	80	60	49	88	241	3,484	49 000	1 581
HLF	G-52 MH	77	95	108	96	91	73	62	53	53	53	54	68	883	53 000	1 710
LLF	G-43 LL	109	143	174	151	136	90	59	41	34	28	41	83	1,089	28 000	0 903
HLF	G-53 LLL90	86	98	116	99	95	77	66	61	58	66	69	82	973	58 000	1 871
HLF	G-54 LLL110	18	20	22	20	20	18	19	12	12	12	13	17	203	12 000	0 387
HLF	G-99 LLG110															
	TOTAL	1,655	2,352	2,778	2,427	2,099	1,308	805	483	397	368	512	1,113	16,297	382 500	12 339
HLF		221	264	304	267	255	207	180	155	152	159	164	204	2,532	151 000	5 016
LLF		1,434	2,088	2,474	2,160	1,844	1,101	625	328	245	209	348	909	13,765	212 500	7 323

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

		Nov-22	Dec-22	Jan-23	Feb-23	Mar-23	Apr-23	May-23	Jun-23	Jul-23	Aug-23	Sep-23	Oct-23	Total
		30	31	31	28	31	30	31	30	31	31	30	31	365
HLF	R-1 RNSH	4	4	4	4	4	4	4	4	4	4	4	4	47
LLF	R-3 RSH	104	107	107	97	107	104	107	104	119	107	104	107	1,260
LLF	G-41 SL	28	29	29	26	29	28	29	28	32	25	28	29	336
HLF	G-51 SH	23	24	24	22	24	23	24	23	25	24	23	24	283
LLF	G-42 ML	47	49	49	44	49	47	49	47	60	49	47	49	577
HLF	G-52 MH	51	53	53	48	53	51	53	51	53	53	51	53	624
LLF	G-43 LL	27	28	28	25	28	27	28	27	34	28	27	28	330
HLF	G-53 LLL90	56	58	58	52	58	56	58	56	58	66	56	58	683
HLF	G-54 LLL110	12	12	12	11	12	12	12	12	12	12	12	12	141
HLF	G-63 LLG110	0	0	0	0	0	0	0	0	0	0	0	0	0
	TOTAL	352	364	364	328	364	352	364	352	397	368	352	364	4,280
HLF		146	151	151	136	151	146	151	146	152	159	146	151	1,778
LLF		206	213	213	192	213	206	213	206	245	209	206	213	2,502

Heating Volumes (= Actual Volumes - Baseload)

	Nov-22	Dec-22	Jan-23	Feb-23	Mar-23	Apr-23	May-23	Jun-23	Jul-23	Aug-23	Sep-23	Oct-23	Total
HLF R-1 RNSH	3	5	6	5	4	2	1	0	0	0	0	2	29
LLF R-3 RSH	597	913	1,074	931	793	451	216	58	0	0	71	337	5,455
LLF G-41 SL	227	370	464	404	314	154	63	17	0	0	16	113	2,141
HLF G-51 SH	10	18	24	21	17	10	4	2	0	0	1	7	114
LLF G-42 ML	322	478	578	507	417	227	103	33	0	0	41	192	2,907
HLF G-52 MH	26	42	55	48	38	22	9	2	0	0	3	15	259
LLF G-43 LL	82	115	146	126	108	63	31	14	0	0	14	55	759
HLF G-53 LLL90	30	40	58	47	37	21	8	5	0	0	13	24	290
HLF G-54 LLL110	6	8	10	9	8	6	7	0	0	0	1	5	62
HLF G-63 LLG110	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL	1,303	1,989	2,415	2,099	1,736	956	442	131	0	0	160	750	12,017

HLF	75	113	153	131	104	61	29	9	0	0	18	53	754
LLF	1,228	1,876	2,262	1,968	1,632	895	413	122	0	0	142	697	11,263

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-22	Dec-22	Jan-23	Feb-23	Mar-23	Apr-23	May-23	Jun-23	Jul-23	Aug-23	Sep-23	Oct-23	Total	AVG	AVG Peak
HLF R-1 RNSH	0.0045	0.0055	0.0046	0.0057	0.0052	0.0041	0.0055	0.0161	0.0000	0.0000	0.0039	0.0083	0.0057	0.0053	0.0049
LLF R-3 RSH	0.8609	1.0000	0.8306	0.9877	1.0326	0.8749	1.1934	7.3065	0.0000	0.0000	2.1652	1.3983	1.0326	1.4708	0.9311
LLF G-41 SL	0.3277	0.4047	0.3585	0.4287	0.4082	0.2993	0.3453	2.1774	0.0000	0.0000	0.4976	0.4668	0.4287	0.4762	0.3712
HLF G-51 SH	0.0141	0.0197	0.0186	0.0226	0.0221	0.0189	0.0221	0.2218	0.0000	0.0000	0.0235	0.0290	0.0226	0.0344	0.0193
LLF G-42 ML	0.4634	0.5235	0.4470	0.5374	0.5430	0.4391	0.5691	4.0726	0.0000	0.0000	1.2297	0.7967	0.5430	0.8018	0.4922
HLF G-52 MH	0.0370	0.0460	0.0425	0.0510	0.0495	0.0421	0.0497	0.2137	0.0000	0.0000	0.0821	0.0622	0.0510	0.0563	0.0447
LLF G-43 LL	0.1180	0.1260	0.1129	0.1333	0.1406	0.1219	0.1713	1.7379	0.0000	0.0000	0.4213	0.2282	0.1406	0.2760	0.1255
HLF G-53 LLL90	0.0430	0.0438	0.0449	0.0494	0.0482	0.0404	0.0442	0.6089	0.0000	0.0000	0.3900	0.0996	0.0494	0.1177	0.0450
HLF G-54 LLL110	0.0092	0.0088	0.0077	0.0097	0.0104	0.0124	0.0387	0.0484	0.0000	0.0000	0.0420	0.0207	0.0104	0.0173	0.0097
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	1.8778	2.1780	1.8674	2.2255	2.2598	1.8532	2.4392	16.4032	0.0000	0.0000	4.8553	3.1100	2.2840	3.2558	2.0436

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-22	Dec-22	Jan-23	Feb-23	Mar-23	Apr-23	May-23	Jun-23	Jul-23	Aug-23	Sep-23	Oct-23	Total
HLF	R-1 RNSH	7	10	10	10	9	6	5	5	4	4	4	7	80
LLF	R-3 RSH	721	1,151	1,120	1,125	1,032	555	383	462	119	107	322	673	7,770
LLF	G-41 SL	263	451	466	472	394	182	108	134	32	25	78	218	2,823
HLF	G-51 SH	33	45	47	45	44	33	29	34	25	24	26	36	420
LLF	G-42 ML	380	596	594	604	536	274	180	247	60	49	172	372	4,062
HLF	G-52 MH	78	101	105	101	97	73	64	62	53	53	60	78	925
LLF	G-43 LL	112	160	166	164	154	90	68	112	34	28	70	120	1,277
HLF	G-53 LLL90	87	104	113	104	101	77	68	86	58	66	96	98	1,057
HLF	G-54 LLL110	18	21	21	21	21	18	21	14	12	12	16	20	216
HLF	G-63 LLG110	-	-	-	-	-	-	-	-	-	-	-	-	-
	TOTAL	1,698	2,637	2,642	2,645	2,388	1,308	927	1,156	397	368	842	1,623	18,631

HLF	223	280	295	281	272	207	188	200	152	159	201	240	2,699
LLF	1,475	2,357	2,346	2,365	2,116	1,101	739	955	245	209	641	1,383	15,932

Liberty Utilities (EnergyNorth Natural Gas) Corp. d/b/a Liberty
Peak 2023 – 2024 Winter Cost of Gas Filing
Fixed Price Option

	Participation	Premium	FPO Volumes	Premium Revenue	FPO Rate	Residential Average COG Rate	Residential Total Bill FPO Rate	Residential Total Bill COG Rate	Difference	% Difference	FPO Rate	C&I 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	\$ 926.93	\$ 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	\$ 680	\$ 672.22	\$ 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	\$ 916.09	\$ (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	\$ 791	\$ 760.55	\$ 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	\$ 840.44	\$ (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	\$ 1,116	\$ 1,080.46	\$ 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	\$ 1,143	\$ 1,189.55	\$ (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	\$ 1,376.01	\$ 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	\$ 1,510	\$ 1,415.80	\$ 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	\$ 1,405.40	\$ 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	\$ 1,373.85	\$ 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	\$ 1,251	\$ 1,209.12	\$ 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	\$ 1,138.58	\$ 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	\$ 1,166	\$ 1,089.44	\$ 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	\$ 792.48	\$ (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	\$ 858	\$ 981.21	\$ (123.49)	-12.59%	0.9108	1.1158	\$ 2,995.66	\$ 3,393.08	\$ (397.41)	-11.71%
17	Nov 14 - Apr 15	15.1%	0.0795	8,779,742	\$ 697,989.49	1.2425	1.1230	\$ 1,128	\$ 948.07	\$ 179.59	18.94%						
18	Nov 15 - Apr 16	15.3%	0.0200	4,941,157	\$ 98,823.14	0.7716	0.7516	\$ 869	\$ 712.73	\$ 156.42	21.95%						
19	Nov 16 - Apr 17	11.5%	0.0106	5,419,967	\$ 57,451.65	0.7268	0.7162	\$ 827	\$ 812.38	\$ 14.76	1.82%						
20	Nov 17 - Apr 18	10.6%	0.0200	5,298,900	\$ 105,978.00	0.6645	0.6445	\$ 879	\$ 865.94	\$ 12.76	1.47%						
21	Nov 18 - Apr 19	10.8%	0.0200	5,708,925	\$ 114,178.50	0.7611	0.7411	\$ 985	\$ 972.12	\$ 12.71	1.31%						
22	Nov 19 - Apr 20	7.2%	0.0200	3,447,167	\$ 68,943.34	0.6403	0.6203	\$ 930	\$ 917.74	\$ 12.72	1.39%						
23	Nov 20 - Apr 21	11.1%	0.0200	5,373,268	\$ 107,465.36	0.5771	0.5571	\$ 895	\$ 882.60	\$ 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	\$ 1,320.63	\$ 12.72	0.96%						
25	Nov 22 - Apr 23	8.5%	0.0200	3,765,099	\$ 75,301.97	1.4500	1.4300	\$ 1,466	\$ 1,453.54	\$ 12.80	0.88%						
26	Nov 23 - Apr 24				0.6375	0.6175	\$ 996	\$ 982.97	\$ 12.80	1.30%							
27	Total								\$ 798.21						\$ 257.59		

**Liberty Utilities (EnergyNorth Natural Gas) Corp. d/b/a Liberty
Peak 2023 – 2024 Winter Cost of Gas Filing
Short-Term Debt Limitations**

Schedule 24
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	<u>For Purposes of Fuel Financing</u>	
Total Direct Gas Costs	\$	54,722,319
Total Indirect Gas Costs		<u>3,672,531</u>
Total Gas Costs	\$	58,394,850
% of Debt to Total Gas Costs		30%
Short Term Debt	\$	17,518,455

	<u>For Purposes Other Than Fuel Financing</u>	
12/31/2023 Projected Net Plant	\$	671,782,222
% of Debt to Net Plant		20%
Short Term Debt	\$	134,356,444

Liberty Utilities (EnergyNorth Natural Gas) Corp. d/b/a Liberty
2023 – 2024 Winter Cost of Gas Filing
Company Allowance Calculation &
Lost and Unaccounted For Gas ("LAUF") Calculation

Company Allowance Calculation

	Jul-2022	Aug-2022	Sep-2022	Oct-2022	Nov-2022	Dec-2022	Jan-2023	Feb-2023	Mar-2023	Apr-2023	May-2023	Jun-2023	Total
Total Sendout- Therms	5,033,587	5,235,382	6,024,362	10,304,932	15,667,595	23,498,318	24,110,377	23,623,099	20,806,217	11,854,174	8,035,566	5,858,400	160,052,009
Total Throughput- Therms	4,983,541	4,534,539	4,872,246	3,975,082	8,211,788	14,880,452	29,367,630	22,963,129	24,043,959	17,983,941	10,284,381	7,541,209	153,641,897
Variance	50,046	700,843	1,152,115	6,329,849	7,455,806	8,617,866	(5,257,252)	659,970	(3,237,742)	(6,129,767)	(2,248,815)	(1,682,809)	6,410,112
Company Allowance													4.01%

Lost and Unaccounted For Gas ("LAUF") Calculation

	Jul-2022	Aug-2022	Sep-2022	Oct-2022	Nov-2022	Dec-2022	Jan-2023	Feb-2023	Mar-2023	Apr-2023	May-2023	Jun-2023	Total
Total Sendout- Therms	5,033,587	5,235,382	6,024,362	10,304,932	15,667,595	23,498,318	24,110,377	23,623,099	20,806,217	11,854,174	8,035,566	5,858,400	160,052,009
Total Throughput- Therms	4,983,541	4,534,539	4,872,246	3,975,082	8,211,788	14,880,452	29,367,630	22,963,129	24,043,959	17,983,941	10,284,381	7,541,209	153,641,897
Company Use	3,562	2,827	4	5,423	17,716	21,733	28,841	48,997	28,107	16,131	9,479	4,798	187,619
Variance	46,483	698,016	1,152,111	6,324,426	7,438,091	8,596,132	(5,286,093)	610,973	(3,265,848)	(6,145,898)	(2,258,294)	(1,687,607)	6,222,493
LAUF													3.89%

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

Schedule 26
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	(a)	(b)	(c)	(d)	(e)	(f)	(g)
1		5 Quarter Avg	Q2 2022	Q3 2022	Q4 2022	Q1 2023	Q2 2023
2	Gas Stored Underground	\$ 6,136,873	\$ 5,462,121	\$ 11,140,672	\$ 9,592,214	\$ 1,594,573	\$ 2,894,784
3	Fuel Stock - Propane	\$ 1,467,518	\$ 566,849	\$ 1,581,766	\$ 2,025,128	\$ 1,608,061	\$ 1,555,784
4	UG Storage - LNG	\$ 140,047	\$ 118,983	\$ 163,648	\$ 168,244	\$ 134,533	\$ 114,826
5		\$ 7,744,437					
6	ROR	8.76%	Pre-Tax Rate of 6.64% and Statutory Tax Rate of 27.08%				
		\$ 678,212					
7	Income Tax Gross-up	1.2708					
8	Revenue Requirement	<u>\$ 861,872</u>					

Liberty Utilities (EnergyNorth Natural Gas) Corp.**Off Peak 2024 Summer Cost of Gas Filing****Table of Contents**

Tab	Title	Description
Summary	Summary	Summary
1	Schedule 1	Summary of Supply and Demand Forecast
2	Schedule 2	Contracts Ranked on a per Unit Cost Basis
3	Schedule 3	COG (Over)/Under Cumulative Recovery Balances and Interest Calculation
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
8	Schedule 8, Page 1 Schedule 8, Page 2 Schedule 8, Page 3 Schedule 8, Page 4 Schedule 8, Page 5	Annual Bill Comparisons, May 23 - Oct 23 Filing vs May 24 - Oct 24 Annual Bill Comparisons, May 22 - Oct 22 Filing vs May 23 - Oct 23 Annual Bill Comparisons, May 23 - Oct 23 Filing vs May 24 - Oct 24 Annual Bill Comparisons, May 23 - Oct 23 Filing vs May 24 - Oct 24 Residential Heating
9	Schedule 9	This schedule is no longer relevant
10	Schedule 10A Pages 1-2 Schedule 10A Page 3 Schedule 10B	Capacity Assignment Calculations 2023-2024 Derivation of Class Assignments and Weightings Correction Factor Calculation Off Peak 2024 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 2024 Summer Cost of Gas Filing			
4 Summary			
5			OP 24
6		Reference	May - Oct
7	(a)	(b)	(c)
8			
9 Anticipated Direct Cost of Gas			
10	Purchased Gas:		
11	Demand Costs:	Sch. 5A, col (j), In 46	\$ 3,222,250
12	Supply Costs	Sch. 6, col (i), In 47	5,741,685
13			
14	Storage Gas:		
15	Demand, Capacity:	Sch. 5A, col (j), In 61	\$ -
16	Commodity Costs:	Sch. 6, col (i), In 50	-
17			
18	Produced Gas:	Sch. 6, col (i), In 56	\$ 114,493
19			
20	Hedge Contract (Savings)/Loss		\$ (2,938,092)
21			
22			
23	Total Unadjusted Cost of Gas		<u>\$ 6,140,336</u>
24			
25 Adjustments			
26			
27	Prior Period (Over)/Under Recovery)	Sch. 3, col (c) In 28	\$ 9,879,800
28	Interest 11/01/23 - 10/31/24	Sch. 3, col (q) In 193	702,520
29	Prior Period Adjustments	Sch. 4, In 22 col (b)	-
30	Refunds from Suppliers	Sch. 4, In 22 col (c)	-
31	Broker Revenue	Sch. 4, In 22 col (d)	-
32	Fuel Financing	Sch. 4, In 22 col (e)	-
33	Transportation CGA Revenues	Sch. 4, In 22 col (f)	-
34	Interruptible Sales Margin	Sch. 4, In 22 col (g)	-
35	Capacity Release and Off System Sales Margins	Sch. 4, In 22 col (h) + col (i)	(2,027,770)
36	Hedging Costs	Sch. 4, In 22 col (j)	-
37	FPO Premium - Collection		-
38	Fixed Price Option Administrative Costs	Sch. 4, In 22 col (k)	-
39			
40	Total Adjustments		<u>\$ 8,554,550</u>
41			
42	Total Anticipated Direct Costs	Ins 23 + 40	<u>\$ 14,694,886</u>
43			
44 Anticipated Indirect Cost of Gas			
45 Working Capital			
46	Total Unadjusted Anticipated Cost of Gas	Ln 23	\$ 6,140,336
47	Lead Lag Days / 365	DG 20-105, 25.72/ 365	0.0705
48	Prime Rate		8.50%
49	Working Capital Percentage	In 47 * In 48	0.599%
50	Working Capital	In 46 * In 49	36,778
51	Plus: Working Capital Reconciliation	Sch. 3, col (c), In 98	39,326
52			
53	Total Working Capital Allowance	Ins 50 + 51	<u>\$ 76,104</u>
54			
55 Bad Debt			
56	Total Unadjusted Anticipated Cost of Gas	In 23	\$ 6,140,336
57	Less Refunds	In 30	-
58	Plus Working Capital	In 53	76,104
59	Plus Prior Period (Over) Under Recovery	In 27	9,879,800
60	Subtotal		<u>\$ 16,096,240</u>
61	Bad Debt Percentage	per GTC 17(f)	0.23%
62			
63	Bad Debt Allowance	In 60 * In 61	\$ 37,329
64	Prior Period Bad Debt Allowance	Sch. 3, col (c), In 163	698,114
65			
66	Total Bad Debt Allowance	Ins 63 + 64	<u>\$ 735,443</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	24,743
72	Divided by Total Sales	Sch. 10B, In 23/1000	119,311
73	Ratio		<u>20.74%</u>
74			
75	Miscellaneous Overhead	Ins 70 * 73	<u>\$ -</u>
76			
77	Total Anticipated Indirect Cost of Gas	Ins 53 + 66 + 68 + 75	<u>\$ 811,547</u>
78			
79	Total Cost of Gas	Ins 42 + 77	<u>\$ 15,506,433</u>
80			
81	Projected Forecast Sales (Therms)	Sch. 3, col (q), In 52	<u>24,742,661</u>

For Month of:	(a)	(b)	May-24 (c)	Jun-24 (d)	Jul-24 (e)	Aug-24 (d)	Sep-24 (e)	Oct-24 (f)	Nov-24 (g)	Off Peak Period May - Oct (h)
I. Gas Volumes (Therms)										
A. Firm Demand Volumes										
Firm Gas Sales	Sch. 10B, ln 23		113,704	317,380	253,749	229,186	327,809	777,620	454,818	
Lost Gas (Unaccounted for)			1,137,045	3,173,802	2,537,490	2,291,858	3,278,085	7,776,201	4,548,180	24,742,661
Company Use			217,975	145,065	122,465	130,699	147,320	280,300		1,043,824
Unbilled Therms			3,613	2,405	2,030	2,166	2,442	4,646		17,302
Total Firm Volumes	Sch. 6, ln 97		4,248,019	4,10,014	488,005	937,061	361,457	(851,412)	(4,548,180)	1,044,965
B. Supply Volumes (Therms)										
Pipeline Gas:										
Dawn Supply	Sch. 6, ln 66		842,983	655,282	518,079	495,174	612,922	901,154		4,025,595
Niagara Supply	Sch. 6, ln 67		667,764	585,319	584,500	583,125	492,567	787,845		3,701,120
TGP Supply (Gulf)	Sch. 6, ln 68		929,663	-	-	-	-	827,579		1,757,242
Dracut Supply 1 - Baseload	Sch. 6, ln 69		-	-	-	-	-	-		-
Dracut Supply 2 - Swing	Sch. 6, ln 70		-	-	-	-	-	504,981		504,981
City Gate Delivered Supply	Sch. 6, ln 72		-	-	-	-	-	-		-
LNG Truck	Sch. 6, ln 73		-	-	4,473	18,729	17,901	100,708		141,811
Propane Truck	Sch. 6, ln 74		-	-	49,199	71,793	73,523	80,427		431,444
PNCTS	Sch. 6, ln 75		81,143	75,360	196,156	93,643	189,881	218,149		1,109,071
Portland Natural Gas	Sch. 6, ln 76		216,617	194,624	-	-	-	922,990		1,842,866
TGP Supply (Zone 4)	Sch. 6, ln 77		889,892	29,984	-	-	-	-		29,353,208
Subtotal Pipeline Volumes	Sch. 6, ln 77		5,759,165	5,591,074	3,885,012	3,831,718	3,863,377	6,422,862		42,867,337
Storage Gas:										
TGP Storage	Sch. 6, ln 82		-	-	-	-	-	-		-
Produced Gas:										
LNG Vapor	Sch. 6, ln 85		20,462.24	19,003.74	18,529.35	18,104.32	18,540.54	20,281.53		114,921.72
Propane	Sch. 6, ln 86		-	-	-	-	-	-		-
Subtotal Produced Gas			20,462.24	19,003.74	18,529.35	18,104.32	18,540.54	20,281.53		114,921.72
Less - Gas Refill:										
LNG Truck	Sch. 6, ln 91		-	-	(6,389.43)	(9,988.59)	(53,703.64)	(69,936.32)		(140,017.99)
Propane	Sch. 6, ln 92		(81,143.35)	(75,359.65)	(49,198.62)	(71,792.99)	(73,522.85)	(80,426.77)		(431,444.24)
TGP Storage Refill	Sch. 6, ln 93		(3,719,893.49)	(3,344,002.57)	(2,050,368.61)	(1,668,718.90)	(1,352,181.04)	(3,426,879.82)		(15,562,044.43)
Subtotal Refills			(3,801,036.85)	(3,419,362.22)	(2,105,956.66)	(1,750,500.49)	(1,479,407.53)	(3,577,242.91)		(16,133,506.66)
Total Firm Sendout Volumes	Ins 32 + 35 + 40 + 46		5,606,652.62	3,731,285.61	3,149,990.23	3,361,784.67	3,789,303.98	7,209,735.12		26,848,752.23

49
50 II. Gas Costs
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52 A. Demand Costs
53 Supply
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59 Pipeline:
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81 Peaking Supply:
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89 Storage:
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Niagara Supply Sch.5A, In 12
Subtotal Supply Demand
Less Capacity Credit
Net Pipeline Demand Costs

Iroquois Gas Trans Service RTS 470-0 Sch.5A, In 16
Tenn Gas Pipeline 95346 Z5-Z6 Sch.5A, In 17
Tenn Gas Pipeline 2302 Z5-Z6 Sch.5A, In 18
Tenn Gas Pipeline 8587 Z0-Z6 Sch.5A, In 19
Tenn Gas Pipeline 8587 Z1-Z6 Sch.5A, In 20
Tenn Gas Pipeline 8587 Z4-Z6 Sch.5A, In 21
Tenn Gas Pipeline (Dracut) 42076 Z6-Z6 Sch.5A, In 22
Tenn Gas Pipeline (Dracut) 358905 Z6-Z7 Sch.5A, In 23
Tenn Gas Pipeline (Concord Lateral) Z6-Z6 Sch.5A, In 24
Portland Natural Gas Trans Service Sch.5A, In 25
ANE (TransCanada via Union to Iroquois) Sch.5A, In 27
Portland Natural Gas Sch.5A, In 25
TransCanada via Union to Portland Sch.5A, In 27
Tenn Gas Pipeline Z4-Z6 stg 632 Sch.5A, In 29
Tenn Gas Pipeline Z4-Z6 stg 11234 Sch.5A, In 30
Tenn Gas Pipeline Z5-Z6 stg 11234 Sch.5A, In 31
National Fuel FST 2358 Sch.5A, In 32
Subtotal Pipeline Demand
Less Capacity Credit
Net Pipeline Demand Costs

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

Dominion - Demand Sch.5A, In 49
Dominion - Storage Sch.5A, In 50
Honeoye - Demand Sch.5A, In 51
National Fuel - Demand Sch.5A, In 52
National Fuel - Capacity Sch.5A, In 53
Tenn Gas Pipeline - Demand Sch.5A, In 54
Tenn Gas Pipeline - Capacity Sch.5A, In 55
Subtotal Storage Demand
Less Capacity Credit
Net Storage Demand Costs

Total Demand Charges Ins 55 + 77 + 85 + 97
Total Capacity Credit Ins 56 + 78 + 86 + 98
Net Demand Charges

\$	-	\$	-	\$	-	\$	-	\$	-	\$	-	\$	-	\$	-	\$	-	\$	-
\$	-	\$	-	\$	-	\$	-	\$	-	\$	-	\$	-	\$	-	\$	-	\$	-
\$	-	\$	-	\$	-	\$	-	\$	-	\$	-	\$	-	\$	-	\$	-	\$	-
\$	-	\$	-	\$	-	\$	-	\$	-	\$	-	\$	-	\$	-	\$	-	\$	-
\$	796,485	\$	798,993	\$	798,993	\$	798,993	\$	798,993	\$	798,993	\$	798,993	\$	3,655,890	\$	4,791,450		
	(260,849)		(261,670)		(261,670)		(261,670)		(261,670)		(261,670)		(261,670)		(1,197,304)		(1,569,200)		
\$	535,636	\$	537,323	\$	537,323	\$	537,323	\$	537,323	\$	537,323	\$	537,323	\$	2,458,586	\$	3,222,250		
\$	-	\$	-	\$	-	\$	-	\$	-	\$	-	\$	-	\$	-	\$	-		
\$	-	\$	-	\$	-	\$	-	\$	-	\$	-	\$	-	\$	-	\$	-		
\$	-	\$	-	\$	-	\$	-	\$	-	\$	-	\$	-	\$	-	\$	-		
\$	-	\$	-	\$	-	\$	-	\$	-	\$	-	\$	-	\$	-	\$	-		
\$	796,485	\$	798,993	\$	798,993	\$	798,993	\$	798,993	\$	798,993	\$	798,993	\$	3,655,890	\$	4,791,450		
	(260,849)		(261,670)		(261,670)		(261,670)		(261,670)		(261,670)		(261,670)		(1,197,304)		(1,569,200)		
\$	535,636	\$	537,323	\$	537,323	\$	537,323	\$	537,323	\$	537,323	\$	537,323	\$	2,458,586	\$	3,222,250		

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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 17							
115	City Gate Delivered Supply	Sch. 6, In 18							
116	LNG Truck	Sch. 6, In 19							
	Propane Truck	Sch. 6 Ln 20							
117	Portland Natural Gas	Sch. 6, In 21							
118	PNGTS	Sch. 6, In 21							
119	TGP Supply (Zone 4)	Sch. 6, In 23							
120	Subtotal Pipeline Commodity Costs		\$ 2,658,789	\$ 1,921,046	\$ 1,476,595	\$ 1,477,051	\$ 1,368,145	\$ 2,936,731	\$ 11,838,357
121									
122	<u>Storage:</u>								
123	TGP Storage - Withdrawals	Sch. 6, In 50	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
124									
125	<u>Produced Gas Costs:</u>								
126	LNG Vapor	Sch. 6, In 53							
127	Propane	Sch. 6, In 54							
128	Subtotal Produced Gas Costs		\$ 25,864	\$ 24,020	\$ 21,977	\$ 19,209	\$ 12,677	\$ 10,745	\$ 114,493
129									
130	<u>Less Storage Refills:</u>								
131	LNG Truck	Sch. 6, In 40							
132	Propane	Sch. 6, In 41							
133	TGP Storage Refill	Sch. 6, In 42							
134	Storage Refill (Trans.)	Sch. 6, In 43							
135	Subtotal Storage Refill		\$ (1,410,494)	\$ (1,306,566)	\$ (838,737)	\$ (743,560)	\$ (690,275)	\$ (1,523,003)	\$ (6,512,635)
136									
137	Total Supply Commodity Costs		\$ 1,274,159	\$ 638,500	\$ 659,836	\$ 752,700	\$ 690,547	\$ 1,424,473	\$ 5,440,216
138									
139	C. Supply Volumetric Transportation Costs								
140	Dawn Supply	Sch. 6, In 28							
141	Niagara Supply	Sch. 6, In 29							
142	TGP Supply (Zone 4)	Sch. 6, In 30							
143	Dracut Supply 1 - Baseload	Sch. 6, In 31							
144	Dracut Supply 2 - Swing	Sch. 6, In 32							
145	Dracut Supply 3 - Swing	Sch. 6, In 33							
146	Subtotal Pipeline Volumetric Trans. Costs		\$ 83,062	\$ 77,493	\$ 56,991	\$ 54,973	\$ 53,621	\$ 89,822	\$ 415,962
147									
148	TGP Storage - Withdrawals	Sch. 6, In 35	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
149									
150	Total Supply Volumetric Trans. Costs	Ins 146 + 148	\$ 83,062	\$ 77,493	\$ 56,991	\$ 54,973	\$ 53,621	\$ 89,822	\$ 415,962
151	AMA Credits	Sch. 6, In 58	\$ (489,682)	\$ (489,682)	\$ (489,682)	\$ (489,682)	\$ (489,682)	\$ (489,682)	\$ (2,938,092)
152	Total Commodity Gas & Trans. Costs	Ins 137 + 150	\$ 867,538	\$ 226,311	\$ 227,146	\$ 317,991	\$ 254,486	\$ 1,024,614	\$ 2,918,086
153									
154									
155									
156									

157 D. Supply and Demand Costs by Source

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158									
159									
160	Purchased Gas Demand Costs								
161	Pipeline Gas Demand Costs	Ins 55 + 77	\$ 796,485	\$ 798,993	\$ 798,993	\$ 798,993	\$ 798,993	\$ 798,993	\$ 4,791,450
162	Peaking Gas Demand Costs	In 85	-	-	-	-	-	-	-
163	Subtotal Purchased Gas Demand Costs		\$ 796,485	\$ 798,993	\$ 798,993	\$ 798,993	\$ 798,993	\$ 798,993	\$ 4,791,450
164	Less Capacity Credit	Ins 56 + 78 + 86	(260,849)	(261,670)	(261,670)	(261,670)	(261,670)	(261,670)	(1,569,200)
165	Net Purchased Gas Demand Costs		\$ 535,636	\$ 537,323	\$ 537,323	\$ 537,323	\$ 537,323	\$ 537,323	\$ 3,222,250
166									
167	Storage Gas Demand Costs								
168	Storage Demand	In 97	-	-	-	-	-	-	-
169	Less Capacity Credit	In 98	-	-	-	-	-	-	-
170	Net Storage Demand Costs		\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
171									
172	Total Demand Costs	Ins 165 + 170	\$ 535,636	\$ 537,323	\$ 537,323	\$ 537,323	\$ 537,323	\$ 537,323	\$ 3,222,250
173									
174	Purchased Gas Supply								
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	Less AMA Credits		\$ (489,682)	\$ (489,682)	\$ (489,682)	\$ (489,682)	\$ (489,682)	\$ -	\$ (2,938,092)
182	Subtotal Purchased Gas Supply		\$ 841,675	\$ 202,290	\$ 205,168	\$ 298,782	\$ 241,809	\$ 1,013,869	\$ 2,803,593
183									
184	Storage Commodity Costs								
185	Commodity Costs	In 123	-	-	-	-	-	-	-
186	Transportation Costs	In 148	-	-	-	-	-	-	-
187	Subtotal Storage Commodity Costs		\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
188									
189	Produced Gas Commodity Costs	In 128	\$ 25,864	\$ 24,020	\$ 21,977	\$ 19,209	\$ 12,677	\$ 10,745	\$ 114,493
190									
191	Subtotal Commodity Costs	Ins 182 + 187 + 189	\$ 867,538	\$ 226,311	\$ 227,146	\$ 317,991	\$ 254,486	\$ 1,024,614	\$ 2,918,086
192									
193	Hedge Contract (Savings)/Loss		\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
194									
195	Total Commodity Costs	Ins 191 + 193	\$ 867,538	\$ 226,311	\$ 227,146	\$ 317,991	\$ 254,486	\$ 1,024,614	\$ 2,918,086
196									
197	Total Demand Costs	In 103	\$ 535,636	\$ 537,323	\$ 537,323	\$ 537,323	\$ 537,323	\$ 537,323	\$ 3,222,250
198	Total Supply Costs	In 195	\$ 867,538	\$ 226,311	\$ 227,146	\$ 317,991	\$ 254,486	\$ 1,024,614	\$ 2,918,086
199									
200	Total Direct Gas Costs	Ins 197 + 198	\$ 1,403,175	\$ 763,633	\$ 764,468	\$ 855,314	\$ 791,809	\$ 1,561,937	\$ 6,140,336
201									
202									

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

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2
3 **Off Peak 2024 Summer Cost of Gas Filing**
4 **Contracts Ranked on a per Unit Cost Basis**

**Off Peak
Cost per
Unit Dth**
(f)

5
6 **Supplier** **Contract** **Contract Type** **Contract** **Unit Dth**
7 (a) (b) (c) (d) (MDQ/ACQ)
8 (e)

9 **Demand Costs**

Supplier	Contract	Contract Type	Contract Unit	Unit Dth (MDQ/ACQ)	Off Peak Cost per Unit Dth
ANE (TransCanada via Union to Iroquois)	Dawn - Parkway to Iroquois	Transportation	MDQ	4,047	
Dominion - Capacity Reservation	GSS 300076	Storage	ACQ	102,700	
Tenn Gas Pipeline - Cap. Reservations	FS-MA 523	Storage	ACQ	1,560,391	
National Fuel - Capacity Reservation	FSS-1 2357	Storage	ACQ	670,800	
Tenn Gas Pipeline - Demand	FS-MA 523	Storage	MDQ	21,844	
Dominion - Demand	GSS 300076	Storage	MDQ	934	
National Fuel - Demand	FSS-1 2357	Storage	MDQ	6,098	
Tenn Gas Pipeline	42076 FTA Z6-Z6	Transportation	MDQ	20,000	
Tenn Gas Pipeline	42076 FTA Z6-Z6	Transportation	MDQ	40,000	
National Fuel	FST N02358	Transportation	MDQ	6,098	
Iroquois Gas Trans Service	RTS 470-01	Transportation	MDQ	4,047	
Honeoye - Demand	SS-NY	Storage	MDQ	1,362	
Tenn Gas Pipeline	2302 Z5-Z6	Transportation	MDQ	3,122	
Tenn Gas Pipeline (short haul)	11234 Z5-Z6(stg)	Transportation	MDQ	1,957	
Tenn Gas Pipeline (short haul)	8587 Z4-Z6	Transportation	MDQ	3,811	
Tenn Gas Pipeline (short haul)	632 Z4-Z6 (stg)	Transportation	MDQ	15,265	
Tenn Gas Pipeline (short haul)	11234 Z4-Z6(stg)	Transportation	MDQ	7,082	
Tenn Gas Pipeline (Concord Lateral) Z6-Z6	Firm Transportation	Transportation	MDQ	30,000	
Tenn Gas Pipeline	95346 Z5-Z6	Transportation	MDQ	4,000	
TransCanada via Union to Portland	Union Parkway to Portland	Transportation	MDQ	5,077	
Portland Natural Gas Trans Service	FT-1999-001	Transportation	MDQ	1,000	
Tenn Gas Pipeline (long haul)	8587 Z1-Z6	Transportation	MDQ	14,561	
Tenn Gas Pipeline (long haul)	8587 Z0-Z6	Transportation	MDQ	7,035	
Portland Natural Gas	FTN	Transportation	MDQ	5,000	

37 **Supply Costs - Commodity**

LNG Truck		Pipeline	Dkt	14,181	
TGP Supply (Zone 4)		Pipeline	Dkt	2,935,321	
Niagara Supply		Pipeline	Dkt	370,112	
Dracut Supply 2 - Swing		Pipeline	Dkt	50,498	
Dawn Supply		Pipeline	Dkt	402,559	
TGP Citygate Supply		Pipeline	Dkt	-	
PNGTS		Pipeline	Dkt	110,907	
Dracut Supply 1 - Baseload		Pipeline	Dkt	-	
TGP Supply (Gulf)		Pipeline	Dkt	175,724	
LNG Vapor		Produced	Dkt	11,492	
Propane		Pipeline	Dkt	-	

50 **Supply Costs - Volumetric Transportation**

Dracut Supply 1 - Baseload		Pipeline	Dkt	-	
TGP Supply (Zone 4)		Pipeline	Dkt	175,724	
Dracut Supply 2 - Swing		Pipeline	Dkt	50,498	
Dawn Supply		Storage	Dkt	402,559	
Niagara Supply		Pipeline	Dkt	370,112	

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1 Liberty Utilities (EnergyNorth Natural Gas) Corp. d/b/a Liberty
2
3 Off Peak 2024 Summer Cost of Gas Filing
4 COG (Over)/Under Cumulative Recovery Balances and Interest Calculation

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		Prior Period Balance														Off Peak Period	
		Plus Nov Collections														Total	
		October 31, 2023															
(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/	\$ 9,879,800	\$ 9,879,800	\$ 9,948,824	\$ 10,020,646	\$ 10,092,987	\$ 10,161,149	\$ 10,234,504	\$ 10,306,005	\$ 8,255,971	\$ 6,625,746	\$ 5,456,214	\$ 4,381,860	\$ 2,978,854	\$ (362,530)	\$ 9,879,800
14	Forecast Direct Gas Costs		-	-	-	-	-	-	-	1,512,050	872,508	873,344	964,189	900,684	1,670,812	-	6,793,586
15	Production & Storage & Misc Overhead		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
16	Projected Revenues w/o Int.	In 54 * In 64	-	-	-	-	-	-	-	(766,223)	(2,138,736)	(1,709,944)	(1,544,419)	(2,209,010)	(5,240,164)	(3,064,891)	(16,673,387)
17	Projected Unbilled Revenue	In 58 * In 64	-	-	-	-	-	-	-	(2,862,621)	(3,278,422)	(3,654,808)	(4,184,315)	(4,304,618)	(4,086,059)	-	(22,370,844)
18	Reverse Prior Month Unbilled		-	-	-	-	-	-	-	-	2,862,621	3,278,422	3,654,808	4,184,315	4,304,618	4,086,059	22,370,844
19	Add Net Adjustments (with TGP Refund)		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
20	Gas Cost Billed	Account 1920-1741 2/	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
21	Monthly (Over)/Under Recovery		\$ 9,879,800	\$ 9,879,800	\$ 9,948,824	\$ 10,020,646	\$ 10,092,987	\$ 10,161,149	\$ 10,234,504	\$ 8,189,211	\$ 6,573,943	\$ 5,412,760	\$ 4,346,477	\$ 2,953,231	\$ (371,939)	\$ 658,639	\$ -
22	Average Monthly Balance	(In 13 + 21) / 2	\$ -	\$ 9,879,800	\$ 9,948,824	\$ 10,020,646	\$ 10,092,987	\$ 10,161,149	\$ 10,234,504	\$ 9,247,608	\$ 7,414,957	\$ 6,019,253	\$ 4,901,345	\$ 3,667,546	\$ 1,303,457	\$ 148,055	\$ -
23	Interest Rate	Prime Rate		8.50%	8.50%	8.50%	8.50%	8.50%	8.50%	8.50%	8.50%	8.50%	8.50%	8.50%	8.50%		
26	Interest Applied	In 22 * In 24 /365 *Days/Mo.	\$ -	\$ 69,023	\$ 71,822	\$ 72,341	\$ 68,162	\$ 73,355	\$ 71,501	\$ 66,760	\$ 51,803	\$ 43,454	\$ 35,384	\$ 25,623	\$ 9,410	\$ -	\$ 658,639
27	(Over)/Under Balance	In 21 + In 26	\$ 9,879,800	\$ 9,948,824	\$ 10,020,646	\$ 10,092,987	\$ 10,161,149	\$ 10,234,504	\$ 10,306,005	\$ 8,255,971	\$ 6,625,746	\$ 5,456,214	\$ 4,381,860	\$ 2,978,854	\$ (362,530)	\$ 658,639	\$ 658,639
31	Calculation of COG with Interest																
33	Beginning Balance	In 13	\$ 9,879,800	\$ 9,879,800	\$ 9,948,824	\$ 10,020,646	\$ 10,092,987	\$ 10,161,149	\$ 10,234,504	\$ 10,306,005	\$ 8,213,302	\$ 6,552,745	\$ 5,358,154	\$ 4,258,707	\$ 2,827,455	\$ (574,068)	\$ 9,879,800
34	Forecast Direct Gas Costs	In 14	-	-	-	-	-	-	-	1,512,050	872,508	873,344	964,189	900,684	1,670,812	-	6,793,586
35	Prod Storage & Misc Overhead	In 15	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
36	Projected Revenues with int.	In 54 * 66	-	-	-	-	-	-	-	(775,200)	(2,163,794)	(1,729,977)	(1,562,513)	(2,234,891)	(5,301,558)	(3,100,799)	(16,868,733)
37	Projected Unbilled Revenue	In 58 * 66	-	-	-	-	-	-	-	(2,896,160)	(3,316,832)	(3,697,628)	(4,233,339)	(4,355,051)	(4,133,932)	-	(22,632,942)
38	Reverse Prior Month Unbilled		-	-	-	-	-	-	-	2,896,160	3,316,832	3,697,628	4,233,339	4,355,051	4,133,932	4,133,932	22,632,942
39	Add Net Adjustments	In 19	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
40	Gas Cost Billed	In 20	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
41	Gas Cost Unbilled		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
42	Reverse Prior Month Unbilled		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
43	Add Interest	In 26	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
44	(Over)/Under Balance		\$ 9,879,800	\$ 9,879,800	\$ 9,948,824	\$ 10,020,646	\$ 10,092,987	\$ 10,161,149	\$ 10,234,504	\$ 8,146,695	\$ 6,501,345	\$ 5,315,315	\$ 4,224,119	\$ 2,802,788	\$ (582,172)	\$ 459,065	\$ (195,346)
45	Average Monthly Balance		\$ -	\$ 9,879,800	\$ 9,948,824	\$ 10,020,646	\$ 10,092,987	\$ 10,161,149	\$ 10,234,504	\$ 9,226,350	\$ 7,357,323	\$ 5,934,030	\$ 4,791,137	\$ 3,530,747	\$ 1,122,641	\$ -	\$ -
46	Interest Applied	In 24 * In 46 /365 *Days/Mo.	\$ -	\$ 69,023	\$ 71,822	\$ 72,341	\$ 68,162	\$ 73,355	\$ 71,501	\$ 66,607	\$ 51,400	\$ 42,839	\$ 34,588	\$ 24,667	\$ 8,105	\$ -	\$ 654,411
48	(Over)/Under Balance	In 43 +In 44 + In 48	\$ 9,879,800	\$ 9,948,824	\$ 10,020,646	\$ 10,092,987	\$ 10,161,149	\$ 10,234,504	\$ 10,306,005	\$ 8,213,302	\$ 6,552,745	\$ 5,358,154	\$ 4,258,707	\$ 2,827,455	\$ (574,068)	\$ 459,065	\$ 459,065
53	Forecast Sendout Therms	Sch 1								5,606,653	3,731,286	3,149,990	3,361,785	3,789,304	7,209,735		26,848,752
54	Less Forecast Billing Therm Sales	Sch. 10B, In 23 May - Oct								1,137,045	3,173,802	2,537,490	2,291,858	3,278,085	7,776,201	4,548,180	24,742,661
55	Less Forecast Unaccounted For	Sch 1								217,975	145,065	122,465	130,699	147,320	280,300		1,043,824
56	Less Forecast Company Use	Sch 1								3,613	2,405	2,030	2,166	2,442	4,646		17,302
57	Unbilled Volumes									4,248,019	4,101,014	488,005	937,061	361,457	(851,412)	(4,548,180)	1,044,965
58	Gross Unbilled									4,248,019	4,865,052	5,423,594	6,209,362	6,387,887	6,063,554	1,789,632	
59	Beg Balance									-	4,248,019	4,658,034	5,146,039	6,083,100	6,444,556	5,593,145	
60	Incremental									4,248,019	410,014	488,005	937,061	361,457	(851,412)	(4,548,180)	
62	Ending Balance									4,248,019	4,658,034	5,146,039	6,083,100	6,444,556	5,593,145	1,044,965	
64	COG w/o Interest	Sch. 3, pg. 4, In 211 col. (c)								\$ 0.6739	\$ 0.6739	\$ 0.6739	\$ 0.6739	\$ 0.6739	\$ 0.6739	\$ 0.6739	
65	COG W th Interest	Sch. 3 pg. 4 In 211 col. (d)								\$ 0.6818	\$ 0.6818	\$ 0.6818	\$ 0.6818	\$ 0.6818	\$ 0.6818	\$ 0.6818	

68																		
69		Days in Month	Prior Period Balance Plus Nov Collections October 31, 2023	Nov-23 30	Dec-23 31	Jan-24 31	Feb-24 29	Mar-24 31	Apr-24 30	May-24 31	Jun-24 30	Jul-24 31	Aug-24 31	Sep-24 30	Oct-24 31	Nov-24 30	Off Peak Period Total	
70	(a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)	(i)	(j)	(k)	(l)	(m)	(n)	(o)	(p)	(q)	
71	76 Account 8840 2 0000 10 1163 1424 (formerly, 142.40) Working Capital (Over)/Under Balance Interest Calculation																	
72	77																	
73	78	Beginning Balance	Account 1163-1424 1/ \$ 39,326	\$ 39,326	\$ 39,601	\$ 39,886	\$ 40,174	\$ 40,446	\$ 40,738	\$ 41,022	\$ 32,930	\$ 26,774	\$ 22,398	\$ 17,876	\$ 11,603	\$ (745)	\$ 39,326	
74	79	Days Lag								0.0705	0.0705	0.0705	0.0705	0.0705	0.0705	0.0705		
75	80	Prime Rate								8.50%	8.50%	8.50%	8.50%	8.50%	8.50%	8.50%		
76	81	Forecast Working Capital	In 34 * In 80 / 365 * In 81	-	-	-	-	-	-	9,057	5,226	5,231	5,775	5,395	10,007	-	40,691	
77	82	Projected Revenues w/o Int.	In 123 * In 126	-	-	-	-	-	-	(3,677)	(10,264)	(8,206)	(7,412)	(10,601)	(25,148)	(14,709)	(80,017)	
78	83	Projected Unbilled Revenue	In 124 * In 126	-	-	-	-	-	-	(13,738)	(15,064)	(16,642)	(19,672)	(20,841)	(18,088)	-	(104,046)	
79	84	Reverse Prior Month Unbilled									13,738	15,064	16,642	19,672	20,841	18,088	104,046	
80	85	Add Net Adjustments								-	-	-	-	-	-	-	-	
81	86	Working Capital Billed	Account 1163-1424 2/ -															
82	87	Monthly (Over)/Under Recovery	\$ 39,326	\$ 39,326	\$ 39,601	\$ 39,886	\$ 40,174	\$ 40,446	\$ 40,738	\$ 32,664	\$ 26,566	\$ 22,221	\$ 17,731	\$ 11,500	\$ (784)	\$ 2,635	\$ -	
83	88	Average Monthly Balance	(In 78 + 92) / 2	\$ 39,326	\$ 39,601	\$ 39,886	\$ 40,174	\$ 40,446	\$ 40,738	\$ 36,843	\$ 29,748	\$ 24,497	\$ 20,064	\$ 14,688	\$ 5,410			
84	89	Interest Rate	Prime Rate	8.50%	8.50%	8.50%	8.50%	8.50%	8.50%	8.50%	8.50%	8.50%	8.50%	8.50%	8.50%			
85	90	Interest Applied	In 94 * In 96 / 365 * Days of Month	\$ 275	\$ 286	\$ 288	\$ 271	\$ 292	\$ 285	\$ 266	\$ 208	\$ 177	\$ 145	\$ 103	\$ 39		\$ 2,634	
86	91	(Over)/Under Balance	In 92 + In 98	\$ 39,326	\$ 39,601	\$ 39,886	\$ 40,174	\$ 40,446	\$ 40,738	\$ 32,930	\$ 26,774	\$ 22,398	\$ 17,876	\$ 11,603	\$ (745)	\$ 2,635	\$ 2,634	
87	92																	
88	93	Calculation of Working Capital with Interest																
89	94																	
90	95	Beginning Balance	\$ 39,326	\$ 39,326	\$ 39,601	\$ 39,886	\$ 40,174	\$ 40,446	\$ 40,738	\$ 41,022	\$ 32,888	\$ 26,704	\$ 22,304	\$ 17,756	\$ 11,454	\$ (949)	\$ 39,326	
91	96	Forecast Working Capital	In 82	-	-	-	-	-	-	9,057	5,226	5,231	5,775	5,395	10,007	-	40,691	
92	97	Projected Rev. with interest	In 123 * In 128	-	-	-	-	-	-	(3,686)	(10,288)	(8,226)	(7,429)	(10,626)	(25,208)	(14,744)	(80,208)	
93	98	Projected Unbilled Revenue	In 124 * In 128	-	-	-	-	-	-	(13,771)	(15,100)	(16,682)	(19,719)	(20,891)	(18,131)	-	(104,294)	
94	99	Reverse Prior Month Unbilled									13,771	15,100	16,682	19,719	20,891	18,131	104,294	
95	100	Add Net Adjustments	In 88	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
96	101	Working Capital Billed	In 90	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
97	102	WC Unbilled																
98	103	Reverse WC Unbilled																
99	104	Add Interest	In 98															
100	105	Monthly (Over)/Under Recovery	\$ 39,326	\$ 39,326	\$ 39,601	\$ 39,886	\$ 40,174	\$ 40,446	\$ 40,738	\$ 32,622	\$ 26,497	\$ 22,127	\$ 17,611	\$ 11,352	\$ (987)	\$ 2,438	\$ (191)	
101	106	Average Monthly Balance	\$ 39,326	\$ 39,601	\$ 39,886	\$ 40,174	\$ 40,446	\$ 40,738	\$ 40,738	\$ 36,822	\$ 29,692	\$ 24,416	\$ 19,957	\$ 14,554	\$ 5,234			
102	107	Interest Applied	In 96 * In 117 / 365 * Days of Month	275	286	288	271	292	285	266	207	176	144	102	38		\$ 2,630	
103	108	(Over)/Under Balance	-In 114 +In 115 + In 119	\$ 39,326	\$ 39,601	\$ 39,886	\$ 40,174	\$ 40,446	\$ 40,738	\$ 32,888	\$ 26,704	\$ 22,304	\$ 17,756	\$ 11,454	\$ (949)	\$ 2,439	\$ 2,439	
104	109																	
105	110	Forecast Term Sales	In 53							1,137,045	3,173,802	2,537,490	2,291,858	3,278,085	7,776,201	4,548,180	24,742,661	
106	111	Unbilled Term	In 55							4,248,019	4,658,034	5,146,039	6,083,100	6,444,556	5,593,145	1,044,965		
107	112	Working Cap. Rate w/out Int.	Sch. 3, pg. 4, In 228 col. (c)							\$0.0032	\$0.0032	\$0.0032	\$0.0032	\$0.0032	\$0.0032	\$0.0032	\$0.0032	
108	113	Working Capital Rate w/ Int.	Sch. 3 pg. 4 In 228 col. (d)							\$0.0032	\$0.0032	\$0.0032	\$0.0032	\$0.0032	\$0.0032	\$0.0032	\$0.0032	

		Prior Period Balance Plus Nov Collections October 31, 2023	Nov-23 30	Dec-23 31	Jan-24 31	Feb-24 29	Mar-24 31	Apr-24 30	May-24 31	Jun-24 30	Jul-24 31	Aug-24 31	Sep-24 30	Oct-24 31	Nov-24 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)	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 1,512,050	\$ 872,508	\$ 873,344	\$ 964,189	\$ 900,684	\$ 1,670,812	\$ -	6,793,586
140	Forecast Working Capital		-	-	-	-	-	-	48,382	5,226	5,231	5,775	5,395	10,007	-	80,017
141	Prior Period Balance (with Refund)	In 21 / 6	-	-	-	-	-	-	1,646,633	1,646,633	1,646,633	1,646,633	1,646,633	1,646,633	-	9,879,800
142	Total Forecast Direct Gas Costs & Working Capital		-	-	-	-	-	-	3,207,066	2,524,368	2,525,208	2,616,597	2,552,712	3,327,452	-	6,873,603
143																
144	Beginning Balance	Account 1163-1754 1/ Oct Collections & Unbilled	\$ 698,114	\$ 702,991	\$ 708,066	\$ 713,178	\$ 717,994	\$ 723,178	\$ 728,230	\$ 579,977	\$ 479,086	\$ 397,982	\$ 310,424	\$ 209,750	\$ 12,007	\$ 698,114
145																
146	Forecast Bad Debt	In 142 * 0.00231908326307407	-	-	-	-	-	-	7,437	5,854	5,856	6,068	5,920	7,717	-	38,853
147																
148	Projected Revenues w/o int	In 184 * In 187	-	-	-	-	-	-	(33,867)	(94,533)	(75,580)	(68,264)	(97,639)	(231,616)	(135,469)	(736,967)
149	Projected Unbilled Revenue	In 185 * In 187	-	-	-	-	-	-	(126,528)	(138,741)	(153,276)	(181,187)	(191,953)	(166,593)	-	(958,278)
150	Reverse Prior Month Unbilled		-	-	-	-	-	-	-	126,528	138,741	153,276	181,187	191,953	166,593	958,278
151	Bad Debt Billed	Account 1163-1754 2/	-	-	-	-	-	-	-	-	-	-	-	-	-	-
152	Add Net Adjustments		-	-	-	-	-	-	-	-	-	-	-	-	-	-
153																
154																
155	Monthly (Over)/Under Recovery		\$ 698,114	\$ 698,114	\$ 702,991	\$ 708,066	\$ 713,178	\$ 717,994	\$ 575,272	\$ 479,086	\$ 394,827	\$ 307,876	\$ 207,939	\$ 11,210	\$ 43,132	\$ -
156																
157	Average Monthly Balance	(In 144 + 155)/ 2	\$ 698,114	\$ 702,991	\$ 708,066	\$ 713,178	\$ 717,994	\$ 723,178	\$ 651,751	\$ 529,532	\$ 436,957	\$ 352,929	\$ 259,181	\$ 110,480	\$ 27,569	
158																
159	Interest Rate	Prime Rate	8.50%	8.50%	8.50%	8.50%	8.50%	8.50%	# 8.50%	8.50%	8.50%	8.50%	8.50%	8.50%		
160																
161	Interest Applied	In 157 * In 159 / 365 * Days of Mo.	\$ 4,877	\$ 5,075	\$ 5,112	\$ 4,816	\$ 5,183	\$ 5,052	\$ 4,705	\$ 3,699	\$ 3,154	\$ 2,548	\$ 1,811	\$ 798		\$ 46,831
162																
163	(Over)/Under Balance	In 155 + In 161	\$ 698,114	\$ 702,991	\$ 708,066	\$ 713,178	\$ 717,994	\$ 723,178	\$ 579,977	\$ 482,786	\$ 397,982	\$ 310,424	\$ 209,750	\$ 12,007	\$ 27,569	46,831
164																
165																
166 Calculation of Bad Debt with Interest																
167																
168	Beginning Balance		\$ 698,114	\$ 698,114	\$ 702,991	\$ 708,066	\$ 713,178	\$ 717,994	\$ 728,230	\$ 565,095	\$ 457,897	\$ 368,279	\$ 271,583	\$ 160,580	\$ (56,654)	\$ 698,114
169	Forecast Bad Debt	In 146	-	-	-	-	-	-	7,437	5,854	5,856	6,068	5,920	7,717	-	38,853
170	Projected Revenues with int.	In 184 * 189	-	-	-	-	-	-	(36,998)	(103,272)	(82,567)	(74,574)	(106,665)	(253,029)	(147,993)	(805,098)
171	Projected Unbilled Revenue	In 185 * 189	-	-	-	-	-	-	(138,226)	(151,567)	(167,446)	(197,937)	(209,699)	(181,995)	-	(1,046,869)
172	Reverse Prior Month Unbilled		-	-	-	-	-	-	-	138,226	151,567	167,446	197,937	209,699	181,995	1,046,869
173	Bad Debt Billed	In 152	-	-	-	-	-	-	-	-	-	-	-	-	-	-
174	Add Interest	In 161	-	-	-	-	-	-	-	-	-	-	-	-	-	-
175	Add Net Adjustments	In 153	-	-	-	-	-	-	-	-	-	-	-	-	-	-
176	Monthly (Over)/Under Recovery		\$ 698,114	\$ 698,114	\$ 702,991	\$ 708,066	\$ 713,178	\$ 717,994	\$ 560,444	\$ 454,336	\$ 365,307	\$ 269,281	\$ 159,076	\$ (57,028)	\$ (22,652)	\$ (68,131)
177																
178	Average Monthly Balance	(In 168 + 176)/ 2	\$ 698,114	\$ 702,991	\$ 708,066	\$ 713,178	\$ 717,994	\$ 723,178	\$ 644,337	\$ 509,716	\$ 411,602	\$ 318,780	\$ 215,329	\$ 51,776	\$ (39,653)	
179																
180	Interest Applied	In 159 * In 178 / 365 * Days of Month	4,877	5,075	5,112	4,816	5,183	5,052	4,652	3,561	2,971	2,301	1,504	374	-	\$ 45,479
181																
182	(Over)/Under Balance	In 174 + In 176 + In 180	\$ 698,114	\$ 702,991	\$ 708,066	\$ 713,178	\$ 717,994	\$ 723,178	\$ 565,095	\$ 457,897	\$ 368,279	\$ 271,583	\$ 160,580	\$ (56,654)	\$ (22,652)	\$ (22,652)
183																
184	Forecast Therm Sales	In 53							1,137,045	3,173,802	2,537,490	2,291,858	3,278,085	7,776,201	4,548,180	24,742,661
185	Unbilled Therm	In 55							4,248,019	4,658,034	5,146,039	6,083,100	6,444,556	5,593,145		
186																
187	COG Rate Without Interest	Sch. 3, pg. 4, In 245 col. (c)							\$ 0.0298	\$ 0.0298	\$ 0.0298	\$ 0.0298	\$ 0.0298	\$ 0.0298	\$ 0.0298	
188																
189	COG With Interest	Sch. 3, pg. 4, In 245 col. (d)							\$ 0.0325	\$ 0.0325	\$ 0.0325	\$ 0.0325	\$ 0.0325	\$ 0.0325	\$ 0.0325	
190																
191																
192																
193	Total Interest	In 84 + 119 + 180	\$ 74,175	\$ 77,183	\$ 77,740	\$ 73,250	\$ 78,830	\$ 76,838	\$ 71,524	\$ 55,169	\$ 45,987	\$ 37,033	\$ 26,273	\$ 8,516	\$ -	\$ 702,520

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

Schedule 4
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3 Off Peak 2024 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	(e)	CGA Revenues	Sales Margin	Sales Margin	Release Margin	Premiums	Option	Administrative
8			(b)	Pipelines	(d)		(f)	(g)	(h)	(i)	(j)	Costs	Adjustments
9				(c)								(k)	(m)
9	Nov-23	1/	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
10	Dec-23	1/	-	-	-	-	-	-	-	-	-	-	-
11	Jan-24	1/	-	-	-	-	-	-	-	-	-	-	-
12	Feb-24	1/	-	-	-	-	-	-	-	-	-	-	-
13	Mar-24	1/	-	-	-	-	-	-	-	-	-	-	-
14	Apr-24	1/	-	-	-	-	-	-	-	-	-	-	-
15	May-24	1/	-	-	-	-	-	-	-	(124,520)	-	-	(124,520)
16	Jun-24	1/	-	-	-	-	-	-	-	(248,319)	-	-	(248,319)
17	Jul-24	1/	-	-	-	-	-	-	-	(376,373)	-	-	(376,373)
18	Aug-24	1/	-	-	-	-	-	-	-	(664,024)	-	-	(664,024)
19	Sep-24	1/	-	-	-	-	-	-	-	(399,253)	-	-	(399,253)
20	Oct-24	1/	-	-	-	-	-	-	-	(215,280)	-	-	(215,280)
21													
22	Total Off Peak Period		\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ (2,027,770)	\$ -	\$ -	\$ (2,027,770)

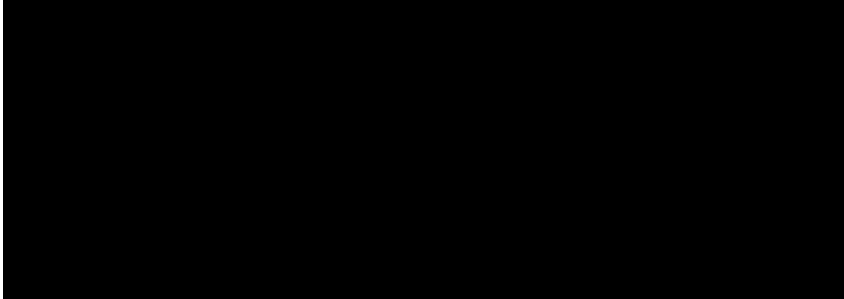
1 **Liberty Utilities (EnergyNorth Natural Gas) Corp.**

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Schedule 5A
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3 **Off Peak 2024 Summer Cost of Gas Filing**

4 **Demand Costs**

	(a)	Peak (b)	Reference (c)	May-24 (d)	Jun-24 (e)	Jul-24 (f)	Aug-24 (g)	Sep-24 (h)	Oct-24 (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				\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
14											
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 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								
33											
34 Subtotal Pipeline Demand Charges				\$ 1,603,183	\$ 1,605,691	\$ 1,605,691	\$ 1,605,691	\$ 1,605,691	\$ 1,605,691	\$ 4,791,450	\$ 4,840,187
35											
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				\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
41											
42 Subtotal Supply, Pipeline & Peaking		In 13 + In 34 + In 40		\$ 1,603,183	\$ 1,605,691	\$ 1,605,691	\$ 1,605,691	\$ 1,605,691	\$ 1,605,691	\$ 4,791,450	\$ 4,840,187
43											
44 Less Transportation Capacity Credit				\$ (525,042)	\$ (525,864)	\$ (525,864)	\$ (525,864)	\$ (525,864)	\$ (525,864)	\$ (1,569,200)	\$ (1,585,161)
45											
46 Total Supply, Pipeline & Peaking Demand				\$ 1,078,141	\$ 1,079,827	\$ 1,079,827	\$ 1,079,827	\$ 1,079,827	\$ 1,079,827	\$ 3,222,250	\$ 3,255,025



Liberty Utilities (EnergyNorth Natural Gas) Corp.

Schedule 5A
Page 2 of 2

Off Peak 2024 Summer Cost of Gas Filing
Demand Costs

47																				
48	Storage																			
49	Dominion - Demand	peak	Sch 5B, In 36 * Sch 5C In 63 x days	\$ 2,502	\$ 2,502	\$ 2,502	\$ 2,502	\$ 2,502	\$ 2,502	\$ 2,502	\$ 2,502	\$ -	\$ 15,010							
50	Dominion - Storage	peak	Sch 5B, In 37 * Sch 5C In 64 x days	2,650	2,650	2,650	2,650	2,650	2,650	2,650	2,650	-	15,898							
51	Honeoye - Demand	peak	Sch 5B, In 38 * Sch 5C In 67 x days	9,443	9,443	9,443	9,443	9,443	9,443	9,443	9,443	-	56,660							
52	National Fuel - Demand	peak	Sch 5B, In 40 * Sch 5C In 69 x days	16,141	16,141	16,141	16,141	16,141	16,141	16,141	16,141	-	96,845							
53	National Fuel - Capacity	peak	Sch 5B, In 41 * Sch 5C In 70 x days	32,064	32,064	32,064	32,064	32,064	32,064	32,064	32,064	-	192,385							
54	Tenn Gas Pipeline - Demand	peak	Sch 5B, In 42 * Sch 5C In 73 x days	27,644	27,644	27,644	27,644	27,644	27,644	27,644	27,644	-	165,861							
55	Tenn Gas Pipeline - Capacity	peak	Sch 5B, In 43 * Sch 5C In 74 x days	26,995	26,995	26,995	26,995	26,995	26,995	26,995	26,995	-	161,969							
56	Subtotal Storage Demand Costs			\$ 117,438	\$ 117,438	\$ 117,438	\$ 117,438	\$ 117,438	\$ 117,438	\$ 117,438	\$ -	\$ 704,628								
58	Less Transportation Capacity Credit			\$ (38,461)	\$ (38,461)	\$ (38,461)	\$ (38,461)	\$ (38,461)	\$ (38,461)	\$ (38,461)	\$ -	\$ (230,766)								
61	Total Storage Demand Costs		In 57 + In 59	\$ 78,977	\$ 78,977	\$ 78,977	\$ 78,977	\$ 78,977	\$ 78,977	\$ 78,977	\$ -	\$ 473,862								
63	Total Demand Charges		In 42 + In 57	\$ 1,720,621	\$ 1,723,129	\$ 1,723,129	\$ 1,723,129	\$ 1,723,129	\$ 1,723,129	\$ 1,723,129	\$ 4,791,450	\$ 5,544,814								
65	Total Transportation Capacity Credit		In 44 + In 59	\$ (563,503)	\$ (564,325)	\$ (564,325)	\$ (564,325)	\$ (564,325)	\$ (564,325)	\$ (564,325)	\$ (1,569,200)	\$ (1,815,927)								
67	Total Demand Charges less Cap. Cr.		In 63 + In 65	\$ 1,157,118	\$ 1,158,804	\$ 1,158,804	\$ 1,158,804	\$ 1,158,804	\$ 1,158,804	\$ 1,158,804	\$ 3,222,250	\$ 3,728,888								
70	Monthly Off Peak Demand			\$ 958,381	\$ 960,889	\$ 960,889	\$ 960,889	\$ 960,889	\$ 960,889	\$ 960,889	\$ 4,791,450	\$ -								
71	Monthly Off Peak Transportation Cap Credit			(313,870)	(314,691)	(314,691)	(314,691)	(314,691)	(314,691)	(314,691)	(1,569,200)	\$ -								
72	Total Off Peak Demand			\$ 644,511	\$ 646,198	\$ 646,198	\$ 646,198	\$ 646,198	\$ 646,198	\$ 646,198	\$ 3,222,250	\$ -								
74	Monthly Peak Demand			\$ 762,240	\$ 762,240	\$ 762,240	\$ 762,240	\$ 762,240	\$ 762,240	\$ 762,240	\$ -	\$ 5,544,814								
75	Monthly Peak Transportation Cap Credit			(249,634)	(249,634)	(249,634)	(249,634)	(249,634)	(249,634)	(249,634)	\$ -	(1,815,927)								
76	Total Peak Demand			\$ 512,606	\$ 512,606	\$ 512,606	\$ 512,606	\$ 512,606	\$ 512,606	\$ 512,606	\$ -	\$ 3,728,888								

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

2
3 **Off Peak 2024 Summer Cost of Gas Filing**

4 **Demand Volumes**

6		Peak	Reference	May-24	Jun-24	Jul-24	Aug-24	Sep-24	Oct-24
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	peak	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. d/b/a Liberty

Schedule 5C

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3 Off Peak 2024 Summer Cost of Gas Filing

4 Demand Rates

5

6 Tariff Rates

7

8 Supply

9 Niagara Supply

10

11 Pipeline

12 Iroquois Gas

13

14 Tenn Gas Pipeline

15

16 Tenn Gas Pipeline

17

18 Tenn Gas Pipeline

19

20 Tenn Gas Pipeline

21

22 Tenn Gas Pipeline

23

24 TGP Dracut

25

26 TGP Dracut

27

28 TGP Concord Lateral

29

30 Portland Natural Gas

31

32 Portland Natural Gas

33

34 Tenn Gas Pipeline

35

36 Tenn Gas Pipeline

37

38 Tenn Gas Pipeline

39

40 National Fuel

41

42 ANE Union Gas

43

44 TransCanada Pipelines Limited

45

46 Delivery Pressure Demand Charge

47

48 Sub Total Demand Charges

49

50 Conversion rate GJ to MMBTU

51

52 Conversion rate to US\$

53

54 Demand Rate/US\$

55

56 Union Gas

57

58 TransCanada Pipelines Limited

59

60 Delivery Pressure Demand Charge

61

62 Sub Total Demand Charges

63

64 Conversion rate GJ to MMBTU

65

66 Conversion rate to US\$

67

68 Demand Rate/US\$

69

70 Granite Ridge Demand

71

72 DOMAC Demand NSB041

73

62 Storage

63 Dominion - Demand

64

65 Dominion - Capacity

66

67 Honeoye - Demand

68

69 National Fuel - Demand

70

71 National Fuel - Capacity

72

73 Tenn Gas Pipeline

				May-24 31 Unit Rate	Jun-24 30 Unit Rate	Jul-24 31 Unit Rate	Aug-24 31 Unit Rate	Sep-24 30 Unit Rate	Oct-24 31 Unit Rate
				\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
				\$ 0.1561	\$ 0.1613	\$ 0.1561	\$ 0.1561	\$ 0.1613	\$ 0.1561
				\$ 0.4746	\$ 0.4904	\$ 0.4746	\$ 0.4746	\$ 0.4904	\$ 0.4746
				\$ 0.1965	\$ 0.2030	\$ 0.1965	\$ 0.1965	\$ 0.2030	\$ 0.1965
				\$ 0.6354	\$ 0.6565	\$ 0.6354	\$ 0.6354	\$ 0.6565	\$ 0.6354
				\$ 0.5641	\$ 0.5829	\$ 0.5641	\$ 0.5641	\$ 0.5829	\$ 0.5641
				\$ 0.2236	\$ 0.2310	\$ 0.2236	\$ 0.2236	\$ 0.2310	\$ 0.2236
				\$ 0.1306	\$ 0.1349	\$ 0.1306	\$ 0.1306	\$ 0.1349	\$ 0.1306
				\$ 0.1306	\$ 0.1349	\$ 0.1306	\$ 0.1306	\$ 0.1349	\$ 0.1306
				\$ 0.3941	\$ 0.4072	\$ 0.3941	\$ 0.3941	\$ 0.4072	\$ 0.3941
				\$ 0.5891	\$ 0.6088	\$ 0.5891	\$ 0.5891	\$ 0.6088	\$ 0.5891
				\$ 0.7353	\$ 0.7598	\$ 0.7353	\$ 0.7353	\$ 0.7598	\$ 0.7353
				\$ 0.2236	\$ 0.2310	\$ 0.2236	\$ 0.2236	\$ 0.2310	\$ 0.2236
				\$ 0.2236	\$ 0.2310	\$ 0.2236	\$ 0.2236	\$ 0.2310	\$ 0.2236
				\$ 0.1965	\$ 0.2030	\$ 0.1965	\$ 0.1965	\$ 0.2030	\$ 0.1965
				\$ 0.1619	\$ 0.1673	\$ 0.1619	\$ 0.1619	\$ 0.1673	\$ 0.1619
				\$ 3.7600					
				\$ 11.9355					
				\$ 0.6083					
				\$ 16.3038					
				\$ 1.0551					
				\$ 1.3486		1/0/1900			
				\$ 12.7551	\$ 0.4115	\$ 0.4252	\$ 0.4115	\$ 0.4252	\$ 0.4115
				\$ 3.7600					
				\$ 20.3244					
				\$ 0.6083					
				\$ 24.6928					
				\$ 1.0551					
				\$ 1.3486		\$0.0000			
				\$ 19.3180	\$ 0.6232	\$ 0.6439	\$ 0.6232	\$ 0.6439	\$ 0.6232
				\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
				\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
				\$ 2.6784	\$ 0.0864	\$ 0.0893	\$ 0.0864	\$ 0.0864	\$ 0.0893
				\$ 0.0258	\$ 0.0008	\$ 0.0009	\$ 0.0008	\$ 0.0008	\$ 0.0009
				\$ 2.7042	\$ 0.0872	\$ 0.0901	\$ 0.0872	\$ 0.0872	\$ 0.0901
				\$ 6.9317	\$ 0.2236	\$ 0.2311	\$ 0.2236	\$ 0.2311	\$ 0.2236
				\$ 2.6469	\$ 0.0854	\$ 0.0882	\$ 0.0854	\$ 0.0882	\$ 0.0854
				\$ 0.0478	\$ 0.0015	\$ 0.0016	\$ 0.0015	\$ 0.0015	\$ 0.0016
				\$ 2.6947	\$ 0.0869	\$ 0.0898	\$ 0.0869	\$ 0.0898	\$ 0.0869
				\$ 1.2655	\$ 0.0408	\$ 0.0422	\$ 0.0408	\$ 0.0422	\$ 0.0408

1 Liberty Utilities (EnergyNorth Natural Gas) Corp. d/b/a Liberty
2
3 Off Peak 2024 Summer 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	May-24	Jun-24	Jul-24	Aug-24	Sep-24	Oct-24	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 66 * In 108							
13	Niagara Supply	In 67 * In 113							
14	TGP Supply (Gulf)	In 68 * In 133							
15	Dracut Supply 1 - Baseload	In 69 * In 118							
16	Dracut Supply 2 - Swing	In 70 * In 123							
17	Dracut Supply 3 - Swing								
18	City Gate Delivered Supply	In 72 * In 139							
19	LNG Truck	In 73 * In 141							
20	Propane Truck	In 74 * In 143							
21	PNGTS	In 75 * In 148							
22	Portland Natural Gas								
23	TGP Supply (Zone 4)	In 77 * In 158							
24									
25	Subtotal Pipeline Gas Costs		\$ 2,658,789	\$ 1,921,046	\$ 1,476,595	\$ 1,477,051	\$ 1,368,145	\$ 2,936,731	\$ 11,838,357
26									
27	Volumetric Transportation Costs								
28	Dawn Supply	In 66 * In 206							
29	Niagara Supply	In 67 * In 217							
30	TGP Supply (Zone 4)	In 77 * In 255							
31	Dracut Supply 1 - Baseload	In 69 * In 266							
32	Dracut Supply 2 - Swing	In 70 * In 266							
33	Dracut Supply 3 - Swing								
34	City Gate Delivered Supply	In 72 * In 266							
35	TGP Storage - Withdrawals	In 82 * In 181							
36									
37	Total Volumetric Transportation Costs		\$ 83,062	\$ 77,493	\$ 56,991	\$ 54,973	\$ 53,621	\$ 89,822	\$ 415,962
38									
39	Less - Gas Refill:								
40	LNG Truck	In 91 * In 165							
41	Propane	In 92 * In 166							
42	TGP Storage Refill	In 93 * In 131							
43	Storage Refill (Trans.)	In 93 * In 245							
44									
45	Subtotal Refills		\$ (1,410,494)	\$ (1,306,566)	\$ (838,737)	\$ (743,560)	\$ (690,275)	\$ (1,523,003)	\$ (6,512,635)
46									
47	Total Supply & Pipeline Commodity Costs	In 25 + In 37 + In 45	\$ 1,331,357	\$ 691,972	\$ 694,850	\$ 788,464	\$ 731,491	\$ 1,503,551	\$ 5,741,685
48									
49	Storage Gas:								
50	TGP Storage - Withdrawals	In 82 * In 173	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
51									
52	Produced Gas:								
53	LNG Vapor	In 85 * In 160							
54	Propane	In 86 * In 162							
55									
56	Total Produced Gas	In 53 + In 54	\$ 25,864	\$ 24,020	\$ 21,977	\$ 19,209	\$ 12,677	\$ 10,745	\$ 114,493
57									
58	AMA Credits		\$ (489,682)	\$ (489,682)	\$ (489,682)	\$ (489,682)	\$ (489,682)	\$ (489,682)	\$ (2,938,092)
59	Total Commodity Gas & Trans. Costs	In 47 + In 50 + In 56	\$ 867,538	\$ 226,311	\$ 227,146	\$ 317,991	\$ 254,486	\$ 1,024,614	\$ 2,918,086
60									
61									

		Schedule 6						
63 Volumes (Therms)		Page 2 of 5						
64								
65	Pipeline Gas:	See Schedule 11A						
66	Dawn Supply	842,983	655,282	518,079	495,174	612,922	901,154	4,025,595
67	Niagara Supply	667,764	585,319	584,500	583,125	492,567	787,845	3,701,120
68	TGP Supply (Gulf)	929,663	-	-	-	-	827,579	1,757,242
69	Dracut Supply 1 - Baseload	-	-	-	-	-	-	-
70	Dracut Supply 2 - Swing	-	-	-	-	-	504,981	504,981
71	Dracut Supply 3 - Swing	-	-	-	-	-	-	-
72	City Gate Delivered Supply	-	-	-	-	-	-	-
73	LNG Truck	-	-	4,473	18,729	17,901	100,708	141,811
74	Propane Truck	81,143	75,360	49,199	71,793	73,523	80,427	431,444
75	PNGTS	216,617	194,624	196,156	93,643	189,881	218,149	1,109,071
76	Portland Natural Gas	889,892	29,984	-	-	-	922,990	1,842,866
77	TGP Supply (Zone 4)	5,759,165	5,591,074	3,885,012	3,831,718	3,863,377	6,422,862	29,353,208
78								
79	Subtotal Pipeline Volumes	9,387,227	7,131,644	5,237,418	5,094,181	5,250,171	10,766,696	42,867,337
80								
81	Storage Gas:							
82	TGP Storage	-	-	-	-	-	-	-
83								
84	Produced Gas:							
85	LNG Vapor	20,462	19,004	18,529	18,104	18,541	20,282	114,922
86	Propane	-	-	-	-	-	-	-
87								
88	Subtotal Produced Gas	20,462	19,004	18,529	18,104	18,541	20,282	114,922
89								
90	Less - Gas Refill:							
91	LNG Truck	-	-	(6,389)	(9,989)	(53,704)	(69,936)	(140,018)
92	Propane	(81,143)	(75,360)	(49,199)	(71,793)	(73,523)	(80,427)	(431,444)
93	TGP Storage Refill	(3,719,893)	(3,344,003)	(2,050,369)	(1,668,719)	(1,352,181)	(3,426,880)	(15,562,044)
94								
95	Subtotal Refills	(3,801,037)	(3,419,362)	(2,105,957)	(1,750,500)	(1,479,408)	(3,577,243)	(16,133,507)
96								
97	Total Sendout Volumes	5,606,653	3,731,286	3,149,990	3,361,785	3,789,304	7,209,735	26,848,752
98								
99								
100								

		REDACTED					
		Schedule 6					
		Page 3 of 5					
		Average Rate					
101							
102	Gas Costs and Volumetric Transportation Rates						
103							
104	Pipeline Gas:						
105	Dawn Supply						
106	NYMEX Price	Sch 7, In 10/10					
107	Basis Differential						
108	Net Commodity Costs						
109							
110	Niagara Supply						
111	NYMEX Price	Sch 7, In 10/10					
112	Basis Differential						
113	Net Commodity Costs						
114							
115	Dracut Supply 1 - Baseload						
116	Commodity Costs - NYMEX Price	Sch 7, In 10 / 10					
117	Basis Differential						
118	Net Commodity Costs						
119							
120	Dracut Supply 2 - Swing						
121	Commodity Costs - NYMEX Price	Sch 7, In 10 / 10					
122	Basis Differential						
123	Net Commodity Costs						
124							
125	Dracut Supply 3 - Swing						
126	Commodity Costs - NYMEX Price	Sch 7, In 10 / 10					
127	Basis Differential						
128	Net Commodity Costs						
129							
130	TGP Supply (Gulf)						
131	NYMEX Price	Sch 7, In 10/10					
132	Basis Differential						
133	Net Commodity Costs						
134							
135							
136	TGP Citygate Supply						
137	NYMEX Price	Sch 7, In 10/10					
138	Basis Differential						
139	Net Commodity Costs						
140							
141	LNG Truck	Sch 7, In 10/10	\$1.4920	\$1.4920	\$1.4920	\$1.4920	\$1.4920
142							
143	Propane Truck	NYMEX - Propane	\$1.4920	\$1.4920	\$1.4920	\$1.4920	\$1.4920
144							
145	PNGTS						
146	NYMEX Price	Sch 7, In 10/10					
147	Additional Cost						
148	Net Commodity Cost						
149							
150	PNGTS EXP						
151	NYMEX Price	Sch 7, In 10/10					
152	Basis Differential						
153	Net Commodity Cost						
154							
155	TGP Supply (Zone 4)						
156	NYMEX Price	Sch 7, In 10/10					
157	Basis Differential						
158	Net Commodity Cost		\$0.2610	\$0.2463	\$0.2557	\$0.2562	\$0.2186
159							\$0.2183
160	LNG Vapor (Storage)	Sch 13, In 97 /10	\$1.2640	\$1.2640	\$1.1861	\$1.0610	\$0.6838
161							\$0.5298
162	Propane	Sch 13, In 67 /10	\$1.5472	\$1.5472	\$1.4251	\$1.2779	\$1.1556
163							\$1.1750
164	Storage Refill:						\$0.0000
165	LNG Truck	In 141	\$1.4920	\$1.4920	\$1.4920	\$1.4920	\$1.4920
166	Propane	In 143	\$1.4920	\$1.4920	\$1.4920	\$1.4920	\$1.4920
167							
168							

									REDACTED
									Schedule 6
									Page 4 of 5
169									
170									
171									
172	TGP Storage								
173	Commodity Costs - Storage withdrawal	Sch 13, ln 34 /10	\$0.2996	\$0.3560	\$0.3806	\$0.3755	\$0.3747	\$0.3737	\$0.3600
174									
175	TGP - Max Commodity - Z 4-6	Rate Sheet #15 - 23rd Rev	\$0.00899	\$0.00899	\$0.00899	\$0.00899	\$0.00899	\$0.00899	\$0.00899
176	TGP - Max Comm. ACA Rate - Z 4-6	Rate Sheet #15 - 23rd Rev	\$0.00015	\$0.00015	\$0.00015	\$0.00015	\$0.00015	\$0.00015	\$0.00015
177	Subtotal TGP - Trans Charge - Max Commodity Rate - Z 4-6		\$0.00914	\$0.00914	\$0.00914	\$0.00914	\$0.00914	\$0.00914	\$0.00914
178	TGP - Fuel Charge % - Z 4-6	Rate Sheet #32- 19th Rev	1.13%	1.13%	1.13%	1.13%	1.13%	1.13%	1.13%
179	TGP - Fuel Charge % - Z 4-6 - (NYMEX * Percentage)		\$0.00339	\$0.00402	\$0.00430	\$0.00424	\$0.00423	\$0.00422	\$0.00407
180	TGP - Withdrawal Charge	Rate Sheet #61-24th Rev	\$0.00087	\$0.00087	\$0.00087	\$0.00087	\$0.00087	\$0.00087	\$0.00087
181	Total Volumetric Transportation Rate - TGP (Storage)		\$0.01340	\$0.01403	\$0.01431	\$0.01425	\$0.01424	\$0.01423	\$0.01408
182									
183	Total TGP - Comm. & Vol. Trans. Rate	ln 173 + ln 181	\$0.31298	\$0.37007	\$0.39490	\$0.38973	\$0.38891	\$0.38796	\$0.37409
184									
185									
186	Per Unit Volumetric Transportation Rates								
187	Dawn Supply Volumetric Transportation Charge								Average Rate
188	Commodity Costs	ln 108							
189									
190	TransCanada - Commodity Rate/GJ	Dawn - Parkway to Iroquois	\$0.00040	\$0.00040	\$0.00040	\$0.00040	\$0.00040	\$0.00040	\$0.00040
191	Conversion Rate GL to MMBTU		1.0551	1.0551	1.0551	1.0551	1.0551	1.0551	1.0551
192	Conversion Rate to US\$	1/0/1900	1.3486	1.3486	1.3486	1.3486	1.3486	1.3486	1.3486
193	Commodity Rate/US\$	ln 190 x ln 191 x ln 192	\$0.00057	\$0.00057	\$0.00057	\$0.00057	\$0.00057	\$0.00057	\$0.00057
194	TransCanada Fuel %	Dawn - Parkway to Iroquois	0.76%	0.55%	0.79%	0.00%	0.00%	0.00%	0.35%
195	TransCanada Fuel * Percentage	ln 108 x ln 194	\$0.00218	\$0.00162	\$0.00242	\$0.00000	\$0.00000	\$0.00000	\$0.00104
196	Subtotal TransCanada		\$0.00275	\$0.00219	\$0.00298	\$0.00057	\$0.00057	\$0.00057	\$0.00161
197	IGTS - Z1 RTS Commodity	Fifth Revised Sheet No. 4	\$0.00034	\$0.00034	\$0.00034	\$0.00034	\$0.00034	\$0.00034	\$0.00034
198	IGTS - Z1 RTS ACA Rate Commodity	Fifth Revised Sheet No. 4	\$0.00015	\$0.00015	\$0.00015	\$0.00015	\$0.00015	\$0.00015	\$0.00015
199	IGTS - Z1 RTS Deferred Asset Surcharge	Fifth Revised Sheet No. 4	\$0.00000	\$0.00000	\$0.00000	\$0.00000	\$0.00000	\$0.00000	\$0.00000
200	Subtotal IGTS - Trans Charge - Z1 RTS	Commodity	\$0.00049	\$0.00049	\$0.00049	\$0.00049	\$0.00049	\$0.00049	\$0.00049
201	TGP NET-NE - Comm. Segments 3 & 4	Rate Sheet #15 - 23rd Rev	\$0.00015	\$0.00015	\$0.00015	\$0.00015	\$0.00015	\$0.00015	\$0.00015
202	IGTS -Fuel Use Factor - Percentage	Fifth Revised Sheet No. 4	1.00%	1.00%	1.00%	1.00%	1.00%	1.00%	1.00%
203	IGTS -Fuel Use Factor - Fuel * Percentage	ln 108 x ln 202	\$0.00287	\$0.00295	\$0.00305	\$0.00307	\$0.00305	\$0.00312	\$0.00302
204	TGP FTA Fuel Charge % Z 5-6	Rate Sheet #32- 19th Rev	0.81%	0.81%	0.81%	0.81%	0.81%	0.81%	0.81%
205	TGP FTA Fuel * Percentage	ln 108 x ln 204	\$0.00232	\$0.00239	\$0.00247	\$0.00248	\$0.00247	\$0.00253	\$0.00244
206	Total Volumetric Transportation Charge - Dawn Supply		\$0.00859	\$0.00817	\$0.00915	\$0.00676	\$0.00672	\$0.00686	\$0.00771
207									
208									
209	Niagara Supply Volumetric Transportation Charge								
210	Commodity Costs	ln 113							
211									
212	TGP FTA - FTA Z 5-6 Comm. Rate	Rate Sheet #15 - 23rd Rev	\$0.00684	\$0.00684	\$0.00684	\$0.00684	\$0.00684	\$0.00684	\$0.00684
213	TGP FTA - FTA Z 5-6 - ACA Rate	Rate Sheet #15 - 23rd Rev	\$0.00015	\$0.0002	\$0.0002	\$0.0002	\$0.0002	\$0.0002	\$0.0002
214	Subtotal TGP FTA - FTA Z 5-6 Commodity Rate		\$0.00699	\$0.0070	\$0.0070	\$0.0070	\$0.0070	\$0.0070	\$0.0070
215	TGP FTA Fuel Charge % Z 5-6	Rate Sheet #32- 19th Rev	0.81%	0.81%	0.81%	0.81%	0.81%	0.81%	0.81%
216	TGP FTA Fuel * Percentage	ln 215 x ln 113	\$0.00230	\$0.00237	\$0.00245	\$0.00246	\$0.00244	\$0.00250	\$0.00242
217	Total Volumetric Transportation Rate - Niagara Supply		\$0.00929	\$0.00936	\$0.00944	\$0.00945	\$0.00943	\$0.00949	\$0.00941
218									
219									
220									

		REDACTED					
		Schedule 6					
		Page 5 of 5					
		Average Rate					
221							
222							
223							
224	TGP Direct Volumetric Transportation Charge						
225	Commodity Costs Ln 133						
226							
227	TGP - Max Comm. Base Rate - Z 0-6 Rate Sheet #15 - 23rd Rev	\$0.02585	\$0.02585	\$0.02585	\$0.02585	\$0.02585	\$0.02585
228	TGP - Max Commodity ACA Rate - Z 0-6 Rate Sheet #15 - 23rd Rev	\$0.00015	\$0.00015	\$0.00015	\$0.00015	\$0.00015	\$0.00015
229	Subtotal TGP - Max Comm. Rate Z 0-6	\$0.02600	\$0.02600	\$0.02600	\$0.02600	\$0.02600	\$0.02600
230	Prorated Percentage	32.60%	32.60%	32.60%	32.60%	32.60%	32.60%
231	Prorated TGP - Max Commodity Rate - Z 0-6	\$0.00848	\$0.00848	\$0.00848	\$0.00848	\$0.00848	\$0.00848
232	TGP - Max Comm. Base Rate - Z 1-6 Rate Sheet #15 - 23rd Rev	\$0.02256	\$0.02256	\$0.02256	\$0.02256	\$0.02256	\$0.02256
233	TGP - Max Commodity ACA Rate - Z 1-6 Rate Sheet #15 - 23rd Rev	\$0.00015	\$0.00015	\$0.00015	\$0.00015	\$0.00015	\$0.00015
234	Subtotal TGP - Max Commodity Rate - Z 1-6	\$0.02271	\$0.02271	\$0.02271	\$0.02271	\$0.02271	\$0.02271
235	Prorated Percentage	67.40%	67.40%	67.40%	67.40%	67.40%	67.40%
236	Prorated TGP - Trans Charge - Max Commodity Rate - Z 1-6	\$0.01531	\$0.01531	\$0.01531	\$0.01531	\$0.01531	\$0.01531
237	TGP - Fuel Charge % - Z 0-6 Rate Sheet #32- 19th Rev	4.17%	4.17%	4.17%	4.17%	4.17%	4.17%
238	Prorated Percentage	32.6%	32.6%	32.6%	32.6%	32.6%	32.6%
239	Prorated TGP Fuel Charge % - Z 0-6	1.36%	1.36%	1.36%	1.36%	1.36%	1.36%
240	TGP - Fuel Charge % - Z 1-6 Rate Sheet #32- 19th Rev	3.64%	3.64%	3.64%	3.64%	3.64%	3.64%
241	Prorated Percentage	67.40%	67.40%	67.40%	67.40%	67.40%	67.40%
242	Prorated TGP Fuel Charge - Fuel Charge % - Z 1-6	2.45%	2.45%	2.45%	2.45%	2.45%	2.45%
243	TGP - Fuel Charge % - Z 0-6 In 225 x In 239	\$0.00415	\$0.00428	\$0.00443	\$0.00445	\$0.00436	\$0.00441
244	TGP - Fuel Charge % - Z 1-6 In 225 x In 242	\$0.00749	\$0.00773	\$0.00800	\$0.00803	\$0.00787	\$0.00797
245	Total Volumetric Transportation Rate - TGP (Direct)	\$0.03543	\$0.03580	\$0.03622	\$0.03627	\$0.03601	\$0.03598
246							
247	TGP (Zone 4 Purchase) Volumetric Transportation Charge						
248	Commodity Costs Ln 131						
249							
250	TGP - Max Comm. Base Rate - Z 4-6 Rate Sheet #15 - 23rd Rev	\$0.00899	\$0.00899	\$0.00899	\$0.00899	\$0.00899	\$0.00899
251	TGP - Max Commodity ACA Rate - Z 4-6 Rate Sheet #15 - 23rd Rev	\$0.00015	\$0.00015	\$0.00015	\$0.00015	\$0.00015	\$0.00015
252	Subtotal TGP - Max Commodity Rate - Z 4-6	\$0.00914	\$0.00914	\$0.00914	\$0.00914	\$0.00914	\$0.00914
253	TGP - Fuel Charge % - Z 4-6 Rate Sheet #32- 19th Rev	1.13%	1.13%	1.13%	1.13%	1.13%	1.13%
254	TGP - Fuel Charge In 248 x In 253	\$0.00295	\$0.00278	\$0.00289	\$0.00290	\$0.00247	\$0.00247
255	Total Vol. Trans. Rate - TGP (Zone 6)	\$0.01209	\$0.01192	\$0.01203	\$0.01204	\$0.01161	\$0.01188
256							
257							
258	TGP Dracut						
259	Commodity Costs - NYMEX Price Ln 118						
260							
261	TGP - Trans Charge - Comm. - Z 6-6 Rate Sheet #15 - 23rd Rev	\$0.00292	\$0.00292	\$0.00292	\$0.00292	\$0.00292	\$0.00292
262	TGP - Trans Charge - ACA Rate - Z 6-6 Rate Sheet #15 - 23rd Rev	\$0.00015	\$0.00015	\$0.00015	\$0.00015	\$0.00015	\$0.00015
263	Subtotal TGP - Trans Charge - Max Commodity Rate - Z 6-6	\$0.00307	\$0.00307	\$0.00307	\$0.00307	\$0.00307	\$0.00307
264	TGP - Fuel Charge % - Z 6-6 Rate Sheet #32- 19th Rev	0.04%	0.04%	0.04%	0.04%	0.04%	0.04%
265	TGP - Fuel Charge In 259 x In 264	\$0.00012	\$0.00014	\$0.00014	\$0.00013	\$0.00012	\$0.00013
266	Total Volumetric Transportation Rate - TGP Dracut	\$0.00319	\$0.00321	\$0.00321	\$0.00320	\$0.00319	\$0.00320
267							
268							

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

2 Schedule 7

3 **Off Peak 2024 Summer Cost of Gas Filing** Page 1 of 1

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

5 Off Peak

6 For Month of: 8/28/2023 Reference May-24 Jun-24 Jul-24 Aug-24 Sep-24 Oct-24 Strip Average

7 (a) (b) (c) (d) (e) (f) (g) (h) (i)

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

9 Opening Prices Line 206 \$3.1120 \$3.2130 \$3.3240 \$3.3620 \$3.3410 \$3.4280 \$ 3.2967

10 \$3.1120 \$3.2130 \$3.3240 \$3.3620 \$3.3410 \$3.4280 \$ 3.2967

1 Annual Bill Comparisons, May 23 Oct 23 Filing vs May 24 Oct 24

2 November 2023 October 2024		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)
3 Residential Heating (R3)		November 1, 2023 April 30, 2024							May 1, 2024 October 31, 2024							
4		Nov 23	Dec 23	Jan 24	Feb 24	Mar 24	Apr 24	Winter Nov Apr	May 24	Jun 24	Jul 24	Aug 24	Sep 24	Oct 24	Summer May Oct	Total Nov Oct
5	Typical Usage (Therms)	84	118	137	131	104	66	640	37	19	14	12	21	52	155	795
6	9/1/2022 9/1/2023															
7	Winter:															
8	Cust. Chg	\$ 15.39	\$ 15.39	\$ 15.39	\$ 15.39	\$ 15.39	\$ 15.39	\$ 92.34								
9	Headblock	\$ 0.6519	\$ 0.6167	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 15.39	\$ 15.39	\$ 15.39	\$ 15.39	\$ 15.39	\$ 15.39	\$ 92.34	\$ 184.68
10	Tailblock	\$ 0.6519	\$ 0.6167	\$ 52.01	\$ 73.04	\$ 84.37	\$ 80.54	\$ 64.03	\$ 40.68	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
11	HB Threshold	-	-													
12	Summer:															
13	9/1/2022 9/1/2023															
14	Cust. Chg	\$ 15.39	\$ 15.39						\$ 15.39	\$ 15.39	\$ 15.39	\$ 15.39	\$ 15.39	\$ 15.39	\$ 92.34	\$ 184.68
15	Headblock	\$ 0.6519	\$ 0.6167	\$ 52.01	\$ 73.13	\$ 84.48	\$ 80.65	\$ 64.11	\$ 40.74	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
16	Tailblock	\$ 0.6519	\$ 0.6167	\$ 52.01	\$ 73.04	\$ 84.37	\$ 80.54	\$ 64.03	\$ 40.68	\$ 23.04	\$ 11.94	\$ 8.53	\$ 7.61	\$ 12.98	\$ 31.78	\$ 95.88
17	HB Threshold	-	-													
18	Total Base Rate Amount	\$ 67.40	\$ 88.43	\$ 99.76	\$ 95.93	\$ 79.42	\$ 56.07	\$ 487.02	\$ 38.43	\$ 27.33	\$ 23.92	\$ 23.00	\$ 28.37	\$ 47.17	\$ 188.22	\$ 675.24
19	COG Rate - (Seasonal)	\$ 0.6175	\$ 0.6175	\$ 0.6175	\$ 0.6175	\$ 0.6175	\$ 0.6175	\$ 0.6175	\$ 0.6267	\$ 0.6267	\$ 0.6267	\$ 0.6267	\$ 0.6267	\$ 0.6267	\$ 0.6267	\$ 0.6193
20	COG amount	\$ 52.08	\$ 73.13	\$ 84.48	\$ 80.65	\$ 64.11	\$ 40.74	\$ 395.19	\$ 23.41	\$ 12.14	\$ 8.67	\$ 7.74	\$ 13.19	\$ 32.29	\$ 97.44	\$ 492.63
21	LDAC	\$ 0.1180	\$ 0.1180	\$ 0.1212	\$ 0.2006	\$ 0.2006	\$ 0.2006	\$ 0.1575	\$ 0.2006	\$ 0.2006	\$ 0.2006	\$ 0.2006	\$ 0.2006	\$ 0.2006	\$ 0.2006	\$ 0.1659
22	LDAC amount	\$ 9.95	\$ 13.98	\$ 16.58	\$ 26.20	\$ 20.83	\$ 13.23	\$ 100.77	\$ 7.49	\$ 3.89	\$ 2.77	\$ 2.48	\$ 4.22	\$ 10.34	\$ 31.19	\$ 131.96
23	Total Bill	\$ 129.44	\$ 175.54	\$ 200.83	\$ 202.78	\$ 164.35	\$ 110.04	\$ 982.97	\$ 69.33	\$ 43.36	\$ 35.36	\$ 33.21	\$ 45.79	\$ 89.80	\$ 316.85	\$ 1,299.83
24	November 2022 October 2023	November 1, 2022 April 30, 2023							May 1, 2023 October 31, 2023							
25	Residential Heating (R3)	Nov 22	Dec 22	Jan 23	Feb 23	Mar 23	Apr 23	Winter Nov Apr	May 23	Jun 23	Jul 23	Aug 23	Sep 23	Oct 23	Summer May Oct	Total Nov Oct
26	Typical Usage (Therms)	84	118	137	131	104	66	640	37	19	14	12	21	52	155	795
27	9/1/2022 9/1/2023															
28	Winter:															
29	Cust. Chg	\$ 15.39	\$ 15.39	\$ 15.39	\$ 15.39	\$ 15.39	\$ 15.39	\$ 92.34								
30	Headblock	\$ 0.6519	\$ 0.6167	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 15.39	\$ 15.39	\$ 15.39	\$ 15.39	\$ 15.39	\$ 15.39	\$ 92.34	\$ 184.68
31	Tailblock	\$ 0.6519	\$ 0.6167	\$ 54.98	\$ 77.21	\$ 89.19	\$ 85.14	\$ 67.68	\$ 43.00	\$ 24.35	\$ 12.63	\$ 9.01	\$ 7.61	\$ 12.98	\$ 31.78	\$ 98.37
32	HB Threshold	-	-	\$ 46.97												
33	Summer:															
34	9/1/2022 9/1/2023															
35	Cust. Chg	\$ 15.39	\$ 15.39						\$ 15.39	\$ 15.39	\$ 15.39	\$ 15.39	\$ 15.39	\$ 15.39	\$ 92.34	\$ 184.68
36	Headblock	\$ 0.6519	\$ 0.6167	\$ 54.98	\$ 77.21	\$ 89.19	\$ 85.14	\$ 67.68	\$ 43.00	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
37	Tailblock	\$ 0.6519	\$ 0.6167	\$ 54.98	\$ 77.21	\$ 89.19	\$ 85.14	\$ 67.68	\$ 43.00	\$ 24.35	\$ 12.63	\$ 9.01	\$ 7.61	\$ 12.98	\$ 31.78	\$ 98.37
38	HB Threshold	-	-	\$ 46.97												
39	Total Base Rate Amount	\$ 70.37	\$ 92.60	\$ 104.58	\$ 100.53	\$ 83.07	\$ 58.39	\$ 509.54	\$ 39.74	\$ 28.02	\$ 24.40	\$ 23.00	\$ 28.37	\$ 47.17	\$ 190.71	\$ 700.25
40	COG Rate - (Seasonal)	\$ 1.4300	\$ 1.2551	\$ 1.3292	\$ 0.4525	\$ 0.2443	\$ 0.1326	\$ 0.8505	\$ 1.2836	\$ 1.2438	\$ 1.2071	\$ 0.8964	\$ 0.7493	\$ 0.7493	\$ 0.9917	\$ 0.8781
41	COG amount	\$ 120.61	\$ 148.65	\$ 181.86	\$ 59.10	\$ 25.36	\$ 8.75	\$ 544.32	\$ 47.95	\$ 24.09	\$ 16.69	\$ 11.06	\$ 15.78	\$ 38.61	\$ 154.18	\$ 698.50
42	LDAC	\$ 0.1086	\$ 0.1086	\$ 0.1113	\$ 0.1113	\$ 0.1113	\$ 0.1113	\$ 0.1104	\$ 0.1113	\$ 0.1180	\$ 0.1180	\$ 0.1180	\$ 0.1180	\$ 0.1180	\$ 0.1164	\$ 0.1116
43	LDAC amount	\$ 9.16	\$ 12.86	\$ 15.23	\$ 14.54	\$ 11.56	\$ 7.34	\$ 70.68	\$ 4.16	\$ 2.29	\$ 1.63	\$ 1.46	\$ 2.48	\$ 6.08	\$ 18.10	\$ 88.78
44	Total Bill	\$ 200.14	\$ 254.10	\$ 301.66	\$ 174.16	\$ 119.99	\$ 74.48	\$ 1,124.55	\$ 91.85	\$ 54.39	\$ 42.73	\$ 35.52	\$ 46.63	\$ 91.86	\$ 362.99	\$ 1,487.54
45	DIFFERENCE:															
46	Total Bill	\$ (70.70)	\$ (78.57)	\$ (100.83)	\$ 28.61	\$ 44.36	\$ 35.56	\$ (141.57)	\$ (22.52)	\$ (11.03)	\$ (7.37)	\$ (2.31)	\$ (0.84)	\$ (2.06)	\$ (46.14)	\$ (187.71)
47	% Change	35.33%	30.92%	33.43%	16.43%	36.97%	47.74%	12.59%	24.52%	20.29%	17.25%	6.50%	1.81%	2.24%	12.71%	12.62%
48	Base Rate	\$ (2.97)	\$ (4.17)	\$ (4.82)	\$ (4.60)	\$ (3.65)	\$ (2.32)	\$ (22.53)	\$ (1.31)	\$ (0.68)	\$ (0.49)	\$ -	\$ -	\$ -	\$ (2.48)	\$ (25.01)
49	% Change	-4.22%	-4.50%	-4.60%	-4.57%	-4.40%	-3.98%	-4.42%	-3.31%	-2.43%	-1.99%	0.00%	0.00%	0.00%	-1.30%	-3.57%
50	COG & LDAC	\$ (67.74)	\$ (74.40)	\$ (96.02)	\$ 33.21	\$ 48.02	\$ 37.88	\$ (119.04)	\$ (21.20)	\$ (10.35)	\$ (6.88)	\$ (2.31)	\$ (0.84)	\$ (2.06)	\$ (43.65)	\$ (162.70)
51	% Change	-52.20%	-46.07%	-48.72%	45.10%	130.06%	235.42%	-19.36%	-40.69%	-39.25%	-37.57%	-18.44%	-4.61%	-4.61%	-25.34%	-20.67%

Schedule B
Off-Peak
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1 Annual Bill Comparisons, May 23 Oct 23 Filing vs May 24 Oct 24		(3)						(4)						(5)						(6)						(7)						(8)						(9)						(10)						(11)						(12)						(13)						(14)						(15)					
2 November 2023 October 2024		(1)		(2)		November 1, 2023		April 30, 2024		(6)		(7)		(8)		(9)		May 1, 2024		October 31, 2024		(13)		(14)		(15)																																																					
3 Commercial Rate (G 41)		November 1, 2023																		April 30, 2024																		May 1, 2024																		October 31, 2024																							
4		Nov 23		Dec 23		Jan 24		Feb 24		Mar 24		Apr 24		Winter Nov Apr		May 24		Jun 24		Jul 24		Aug 24		Sep 24		Oct 24		Summer May Oct		Total Nov Oct																																																	
5 Typical Usage (Therms)		261	390	482	458	334	185					2,111		91	47	33	25	47	141					363		2,494																																																					
6 Winter:		9/1/2022		9/1/2023																																																																											
7 Cust. Chg		\$ 63.30	\$ 60.81	\$ 60.81	\$ 60.81	\$ 60.81	\$ 60.81	\$ 60.81	\$ 60.81	\$ 60.81	\$ 60.81	\$ 60.81	\$ 364.86	\$ 60.81	\$ 60.81	\$ 60.81	\$ 60.81	\$ 60.81	\$ 60.81	\$ 60.81	\$ 60.81	\$ 60.81	\$ 60.81	\$ 60.81	\$ 364.86	\$ 729.72																																																					
8 Headblock		\$ 0.5088	\$ 0.4928	\$ 49.28	\$ 49.28	\$ 49.28	\$ 49.28	\$ 49.28	\$ 49.28	\$ 49.28	\$ 49.28	\$ 295.68	\$ 9.86	\$ 9.86	\$ 9.86	\$ 9.86	\$ 9.86	\$ 9.86	\$ 9.86	\$ 9.86	\$ 9.86	\$ 9.86	\$ 9.86	\$ 59.14	\$ 354.82																																																						
9 Tailblock		\$ 0.3550	\$ 0.3390	\$ 54.53	\$ 98.42	\$ 129.47	\$ 121.44	\$ 79.46	\$ 28.81	\$ 512.12	\$ 24.01	\$ 9.05	\$ 4.27	\$ 1.79	\$ 9.00	\$ 41.11	\$ 89.23	\$ 601.35																																																													
10 HB Threshold		100	100	\$122.88	\$49.28	\$49.28	\$49.28	\$49.28	\$49.28	\$49.28	\$49.28																																																																				
11 Summer:		9/1/2022		9/1/2023																																																																											
12 Cust. Chg		\$ 63.30	\$ 60.81	\$ 60.81	\$ 60.81	\$ 60.81	\$ 60.81	\$ 60.81	\$ 60.81	\$ 60.81	\$ 60.81	\$ 364.86	\$ 60.81	\$ 60.81	\$ 60.81	\$ 60.81	\$ 60.81	\$ 60.81	\$ 60.81	\$ 60.81	\$ 60.81	\$ 60.81	\$ 60.81	\$ 364.86	\$ 729.72																																																						
13 Headblock		\$ 0.5088	\$ 0.4928	\$ 49.28	\$ 49.28	\$ 49.28	\$ 49.28	\$ 49.28	\$ 49.28	\$ 49.28	\$ 49.28	\$ 295.68	\$ 9.86	\$ 9.86	\$ 9.86	\$ 9.86	\$ 9.86	\$ 9.86	\$ 9.86	\$ 9.86	\$ 9.86	\$ 9.86	\$ 9.86	\$ 59.14	\$ 354.82																																																						
14 Tailblock		\$ 0.3550	\$ 0.3390	\$ 54.53	\$ 98.42	\$ 129.47	\$ 121.44	\$ 79.46	\$ 28.81	\$ 512.12	\$ 24.01	\$ 9.05	\$ 4.27	\$ 1.79	\$ 9.00	\$ 41.11	\$ 89.23	\$ 601.35																																																													
15 HB Threshold		20	20																																																																												
16 Total Base Rate Amount		\$ 164.62	\$ 208.51	\$ 239.56	\$ 231.53	\$ 189.55	\$ 138.90	\$ 1,172.66	\$ 94.68	\$ 79.71	\$ 74.94	\$ 72.45	\$ 79.66	\$ 111.78	\$ 513.22	\$ 1,685.89																																																															
17 COG Rate - (Seasonal)		\$ 0.6173	\$ 0.6173	\$ 0.6173	\$ 0.6173	\$ 0.6173	\$ 0.6173	\$ 0.6173	\$ 0.6173	\$ 0.6173	\$ 0.6173	\$ 0.6173	\$ 0.6261	\$ 0.6261	\$ 0.6261	\$ 0.6261	\$ 0.6261	\$ 0.6261	\$ 0.6261	\$ 0.6261	\$ 0.6261	\$ 0.6261	\$ 0.6261	\$ 0.6261	\$ 0.6187																																																						
18 COG amount		\$ 161.02	\$ 240.94	\$ 297.48	\$ 282.86	\$ 206.43	\$ 114.20	\$ 1,302.93	\$ 56.87	\$ 29.23	\$ 20.41	\$ 15.82	\$ 29.14	\$ 88.45	\$ 239.92	\$ 1,542.85																																																															
19 LDAC		\$ 0.0957	\$ 0.0957	\$ 0.0979	\$ 0.0909	\$ 0.0909	\$ 0.0909	\$ 0.0940	\$ 0.0909	\$ 0.0909	\$ 0.0909	\$ 0.0909	\$ 0.0909	\$ 0.0909	\$ 0.0909	\$ 0.0909	\$ 0.0909	\$ 0.0935																																																													
20 LDAC amount		\$ 24.96	\$ 37.35	\$ 47.18	\$ 41.65	\$ 30.40	\$ 16.82	\$ 198.36	\$ 8.26	\$ 4.24	\$ 2.96	\$ 2.30	\$ 4.23	\$ 12.84	\$ 34.83	\$ 233.19																																																															
21 Total Bill		\$ 350.60	\$ 486.80	\$ 584.22	\$ 556.04	\$ 426.38	\$ 269.92	\$ 2,673.95	\$ 159.80	\$ 113.19	\$ 98.31	\$ 90.58	\$ 113.03	\$ 213.07	\$ 787.98	\$ 3,461.93																																																															
22 November 2022		November 1, 2022																		April 30, 2023																		May 1, 2023																		October 31, 2023																							
23 Commercial Rate (G 41)		November 1, 2022																		April 30, 2023																		May 1, 2023																		October 31, 2023																							
24 Typical Usage (Therms)		Nov 22		Dec 22		Jan 23		Feb 23		Mar 23		Apr 23		Winter Nov Apr		May 23		Jun 23		Jul 23		Aug 23		Sep 23		Oct 23		Summer May Oct		Total Nov Oct																																																	
25		261	390	482	458	334	185					2,111		91	47	33	25	47	141					363		2,494																																																					
26 Winter:		9/1/2022		9/1/2023																																																																											
27 Cust. Chg		\$ 63.30	\$ 60.81	\$ 63.30	\$ 63.30	\$ 63.30	\$ 63.30	\$ 63.30	\$ 63.30	\$ 63.30	\$ 63.30	\$ 379.80	\$ 63.30	\$ 63.30	\$ 63.30	\$ 60.81	\$ 60.81	\$ 60.81	\$ 60.81	\$ 60.81	\$ 60.81	\$ 60.81	\$ 60.81	\$ 372.33	\$ 752.13																																																						
28 Headblock		\$ 0.5088	\$ 0.4928	\$ 50.88	\$ 50.88	\$ 50.88	\$ 50.88	\$ 50.88	\$ 50.88	\$ 50.88	\$ 50.88	\$ 254.40	\$ 10.18	\$ 10.18	\$ 10.18	\$ 9.86	\$ 9.86	\$ 9.86	\$ 9.86	\$ 9.86	\$ 9.86	\$ 9.86	\$ 9.86	\$ 60.10	\$ 314.50																																																						
29 Tailblock		\$ 0.3550	\$ 0.3390	\$ 57.10	\$ 103.06	\$ 135.58	\$ 127.17	\$ 83.21	\$ 30.17	\$ 536.29	\$ 25.14	\$ 9.47	\$ 4.47	\$ 1.79	\$ 9.00	\$ 41.11	\$ 90.99	\$ 627.28																																																													
30 HB Threshold		100	100																																																																												
31 Summer:		9/1/2022		9/1/2023																																																																											
32 Cust. Chg		\$ 63.30	\$ 60.81	\$ 63.30	\$ 63.30	\$ 63.30	\$ 63.30	\$ 63.30	\$ 63.30	\$ 63.30	\$ 63.30	\$ 379.80	\$ 63.30	\$ 63.30	\$ 63.30	\$ 60.81	\$ 60.81	\$ 60.81	\$ 60.81	\$ 60.81	\$ 60.81	\$ 60.81	\$ 60.81	\$ 372.33	\$ 752.13																																																						
33 Headblock		\$ 0.5088	\$ 0.4928	\$ 50.88	\$ 50.88	\$ 50.88	\$ 50.88	\$ 50.88	\$ 50.88	\$ 50.88	\$ 50.88	\$ 254.40	\$ 10.18	\$ 10.18	\$ 10.18	\$ 9.86	\$ 9.86	\$ 9.86	\$ 9.86	\$ 9.86	\$ 9.86	\$ 9.86	\$ 9.86	\$ 60.10	\$ 314.50																																																						
34 Tailblock		\$ 0.3550	\$ 0.3390	\$ 57.10	\$ 103.06	\$ 135.58	\$ 127.17	\$ 83.21	\$ 30.17	\$ 536.29	\$ 25.14	\$ 9.47	\$ 4.47	\$ 1.79	\$ 9.00	\$ 41.11	\$ 90.99	\$ 627.28																																																													
35 HB Threshold		20	20																																																																												
36 Total Base Rate Amount		\$ 120.40	\$ 217.24	\$ 249.76	\$ 241.35	\$ 197.39	\$ 144.35	\$ 1,170.49	\$ 98.62	\$ 82.95	\$ 77.95	\$ 72.45	\$ 79.66	\$ 111.78	\$ 523.41	\$ 1,693.91																																																															
37 COG Rate - (Seasonal)		\$ 1.4301	\$ 1.2552	\$ 1.3293	\$ 0.4526	\$ 0.2444	\$ 0.1327	\$ 0.8610	\$ 1.2839	\$ 1.2441	\$ 1.2074	\$ 0.8967	\$ 0.7496	\$ 0.7496	\$ 0.9851	\$ 0.8800																																																															
38 COG amount		\$ 373.04	\$ 489.93	\$ 640.60	\$ 207.39	\$ 81.73	\$ 24.55	\$ 1,817.23	\$ 116.62	\$ 58.09	\$ 39.36	\$ 22.66	\$ 34.89	\$ 105.90	\$ 377.51	\$ 2,194.74																																																															
39 LDAC		\$ 0.0872	\$ 0.0872	\$ 0.0890	\$ 0.0890	\$ 0.0890	\$ 0.0890	\$ 0.0884	\$ 0.0890	\$ 0.0957	\$ 0.0957	\$ 0.0957	\$ 0.0957	\$ 0.0957	\$ 0.0941	\$ 0.0893																																																															
40 LDAC amount		\$ 22.75	\$ 34.04	\$ 42.89	\$ 40.78	\$ 29.76	\$ 16.46	\$ 186.68	\$ 8.08	\$ 4.47	\$ 3.12	\$ 2.42	\$ 4.45	\$ 13.52	\$ 36.06	\$ 222.74																																																															
41 Total Bill		\$ 516.18	\$ 741.21	\$ 933.24	\$ 489.52	\$ 308.89	\$ 185.37	\$ 3,174.40	\$ 223.32	\$ 145.51	\$ 120.43	\$ 97.54	\$ 119.00	\$ 231.20	\$ 936.99	\$ 4,111.39																																																															
42 DIFFERENCE:																																																																															
43 Total Bill		\$ (165.58)	\$ (254.40)	\$ (349.03)	\$ 66.52	\$ 117.50	\$ 84.55	\$ (500.45)	\$ (63.52)	\$ (32.32)	\$ (22.12)	\$ (6.96)	\$ (5.97)	\$ (18.13)	\$ (149.01)	\$ (649.46)																																																															
44 % Change		32.08%	34.32%	37.40%	13.59%	38.04%	45.61%	15.77%	28.44%	22.21%	18.37%	7.14%	5.02%	7.84%	15.90%	15.80%																																																															
45 Base Rate		\$ 44.22	\$ (8.74)	\$ (10.20)	\$ (9.82)	\$ (7.84)	\$ (5.45)	\$ 2.17	\$ (3.94)	\$ (3.24)	\$ (3.01)	\$ -	\$ -	\$ -	\$ (10.19)	\$ (8.02)																																																															
46 % Change		36.72%	-4.02%	-4.08%	-4.07%	-3.97%	-3.78%	0.19%	-4.00%	-3.90%	-3.86%	0.00%	0.00%	0.00%	-1.95%	-0.47%																																																															
47 COG & LDAC		\$ (209.80)	\$ (245.67)	\$ (338.83)	\$ 76.34	\$ 125.34	\$ 90.00	\$ (502.62)	\$ (59.58)	\$ (29.08)	\$ (19.11)	\$ (6.96)	\$ (5.97)	\$ (18.13)	\$ (138.82)	\$ (641.43)																																																															
48 % Change		-53.01%	-46.89%	-49.57%	30.76%	112.42%	219.44%	-25.08%	-47.77%	-46.48%	-44.98%	-27.75%	-15.18%	-15.18%	-33.57%	-26.53%																																																															

Schedule B
Off-Peak
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1 Annual Bill Comparisons, May 23 Oct 23 Filing vs May 24 Oct 24

2 November 2023 October 2024		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)
3 C&I High Winter Use Medium G 42		November 1, 2023 April 30, 2024						May 1, 2024 October 31, 2024								
		Nov 23	Dec 23	Jan 24	Feb 24	Mar 24	Apr 24	Winter Nov Apr	May 24	Jun 24	Jul 24	Aug 24	Sep 24	Oct 24	Summer May Oct	Total Nov Oct
4 Typical Usage (Therms)		2,543	3,519	4,174	3,998	3,106	1,898	19,238	1,031	572	420	343	619	1,610	4,595	23,832
5																
6 Winter:		9/1/2022	9/1/2023													
7 Cust. Chg	\$ 189.84 \$ 182.42	\$ 182.42	\$ 182.42	\$ 182.42	\$ 182.42	\$ 182.42	\$ 182.42	\$ 1,094.52								
8 Headblock	\$ 0.4634 \$ 0.4485	\$ 448.50	\$ 448.50	\$ 448.50	\$ 448.50	\$ 448.50	\$ 448.50	\$ 2,691.00								
9 Tailblock	\$ 0.3212 \$ 0.3063	\$ 472.62	\$ 771.46	\$ 972.35	\$ 918.33	\$ 645.02	\$ 274.94	\$ 4,054.72								
10 HB Threshold	1,000 1,000															
11 Summer:		9/1/2022	9/1/2023													
12 Cust. Chg	\$ 189.84 \$ 182.42	\$ 182.42	\$ 182.42	\$ 182.42	\$ 182.42	\$ 182.42	\$ 182.42	\$ 1,094.52	\$ 182.42	\$ 182.42	\$ 182.42	\$ 182.42	\$ 182.42	\$ 1,094.52	\$ 2,189.04	
13 Headblock	\$ 0.4634 \$ 0.4485	\$ 448.50	\$ 448.50	\$ 448.50	\$ 448.50	\$ 448.50	\$ 448.50	\$ 2,691.00	\$ 179.40	\$ 179.40	\$ 179.40	\$ 153.66	\$ 179.40	\$ 1,050.66	\$ 3,741.66	
14 Tailblock	\$ 0.3212 \$ 0.3063	\$ 472.62	\$ 771.46	\$ 972.35	\$ 918.33	\$ 645.02	\$ 274.94	\$ 4,054.72	\$ 193.36	\$ 52.72	\$ 5.99	\$ -	\$ 67.22	\$ 370.54	\$ 689.83	\$ 4,744.55
15 HB Threshold	400 400															
16 Total Base Rate Amount		\$ 1,103.54	\$ 1,402.38	\$ 1,603.27	\$ 1,549.25	\$ 1,275.94	\$ 905.86	\$ 7,840.24	\$ 555.18	\$ 414.54	\$ 367.81	\$ 336.08	\$ 429.04	\$ 732.36	\$ 2,835.01	\$ 10,675.25
17 COG Rate - (Seasonal)		\$ 0.6173	\$ 0.6173	\$ 0.6173	\$ 0.6173	\$ 0.6173	\$ 0.6173	\$ 0.6173	\$ 0.6261	\$ 0.6261	\$ 0.6261	\$ 0.6261	\$ 0.6261	\$ 0.6261	\$ 0.6261	\$ 0.6190
18 COG amount		\$ 1,569.80	\$ 2,172.06	\$ 2,576.92	\$ 2,468.04	\$ 1,917.23	\$ 1,171.40	\$ 11,875.46	\$ 645.69	\$ 358.20	\$ 262.68	\$ 214.51	\$ 387.83	\$ 1,007.86	\$ 2,876.77	\$ 14,752.23
19 LDAC		\$ 0.0957	\$ 0.0957	\$ 0.0957	\$ 0.0957	\$ 0.0957	\$ 0.0957	\$ 0.0957	\$ 0.0909	\$ 0.0909	\$ 0.0909	\$ 0.0909	\$ 0.0909	\$ 0.0909	\$ 0.0909	\$ 0.0948
20 LDAC amount		\$ 243.37	\$ 336.74	\$ 399.50	\$ 382.62	\$ 297.23	\$ 181.60	\$ 1,841.05	\$ 93.74	\$ 52.01	\$ 38.14	\$ 31.14	\$ 56.31	\$ 146.33	\$ 417.66	\$ 2,258.71
21 Total Bill		\$ 2,916.71	\$ 3,911.18	\$ 4,579.69	\$ 4,399.91	\$ 3,490.40	\$ 2,258.87	\$ 21,556.76	\$ 1,294.62	\$ 824.74	\$ 668.62	\$ 581.74	\$ 873.18	\$ 1,886.54	\$ 6,129.43	\$ 27,686.19

22 November 2022 October 2023

23 C&I High Winter Use Medium G 42		November 1, 2022 April 30, 2023						May 1, 2023 October 31, 2023								
		Nov 22	Dec 22	Jan 23	Feb 23	Mar 23	Apr 23	Winter Nov Apr	May 23	Jun 23	Jul 23	Aug 23	Sep 23	Oct 23	Summer May Oct	Total Nov Oct
24 Typical Usage (Therms)		2,543	3,519	4,174	3,998	3,106	1,898	19,238	1,031	572	420	343	619	1,610	4,595	23,832
25 Winter:		9/1/2022	9/1/2023													
26 Cust. Chg	\$ 189.84 \$ 182.42	\$ 189.84	\$ 189.84	\$ 189.84	\$ 189.84	\$ 189.84	\$ 189.84	\$ 1,139.04								
27 Headblock	\$ 0.4634 \$ 0.4485	\$ 463.40	\$ 463.40	\$ 463.40	\$ 463.40	\$ 463.40	\$ 463.40	\$ 2,780.40								
28 Tailblock	\$ 0.3212 \$ 0.3063	\$ 495.62	\$ 808.99	\$ 1,019.65	\$ 963.00	\$ 676.39	\$ 288.32	\$ 4,251.97								
29 HB Threshold	1,000 1,000															
30 Summer:		9/1/2022	9/1/2023													
31 Cust. Chg	\$ 189.84 \$ 182.42	\$ 189.84	\$ 189.84	\$ 189.84	\$ 189.84	\$ 189.84	\$ 189.84	\$ 1,139.04	\$ 189.84	\$ 189.84	\$ 189.84	\$ 182.42	\$ 182.42	\$ 182.42	\$ 1,116.78	\$ 2,255.82
32 Headblock	\$ 0.4634 \$ 0.4485	\$ 463.40	\$ 463.40	\$ 463.40	\$ 463.40	\$ 463.40	\$ 463.40	\$ 2,780.40	\$ 185.36	\$ 185.36	\$ 185.36	\$ 153.66	\$ 179.40	\$ 179.40	\$ 1,068.54	\$ 3,848.94
33 Tailblock	\$ 0.3212 \$ 0.3063	\$ 495.62	\$ 808.99	\$ 1,019.65	\$ 963.00	\$ 676.39	\$ 288.32	\$ 4,251.97	\$ 202.77	\$ 55.28	\$ -	\$ -	\$ -	\$ -	\$ 258.05	\$ 4,510.02
34 HB Threshold	400 400															
35 Total Base Rate Amount		\$ 1,148.86	\$ 1,462.23	\$ 1,672.89	\$ 1,616.24	\$ 1,329.63	\$ 941.56	\$ 8,171.41	\$ 577.97	\$ 430.48	\$ 375.20	\$ 336.08	\$ 361.82	\$ 361.82	\$ 2,443.37	\$ 10,614.78
36 COG Rate - (Seasonal)		\$ 1.4301	\$ 1.2552	\$ 1.3293	\$ 0.4526	\$ 0.2444	\$ 0.1327	\$ 0.8537	\$ 1.2839	\$ 1.2441	\$ 1.2074	\$ 0.8967	\$ 0.7496	\$ 0.7496	\$ 0.9839	\$ 0.8788
37 COG amount		\$ 3,636.76	\$ 4,416.61	\$ 5,549.16	\$ 1,809.55	\$ 759.07	\$ 251.81	\$ 16,422.97	\$ 1,324.07	\$ 711.77	\$ 506.56	\$ 307.22	\$ 464.33	\$ 1,206.66	\$ 4,520.61	\$ 20,943.58
38 LDAC		\$ 0.0872	\$ 0.0872	\$ 0.0890	\$ 0.0890	\$ 0.0890	\$ 0.0890	\$ 0.0884	\$ 0.0890	\$ 0.0957	\$ 0.0957	\$ 0.0957	\$ 0.0957	\$ 0.0957	\$ 0.0942	\$ 0.0895
39 LDAC amount		\$ 221.75	\$ 306.83	\$ 371.53	\$ 355.83	\$ 276.42	\$ 168.89	\$ 1,701.25	\$ 91.78	\$ 54.75	\$ 40.15	\$ 32.79	\$ 59.28	\$ 154.05	\$ 432.81	\$ 2,134.06
40 Total Bill		\$ 5,007.37	\$ 6,185.67	\$ 7,593.58	\$ 3,781.62	\$ 2,365.12	\$ 1,362.26	\$ 26,295.62	\$ 1,993.83	\$ 1,197.00	\$ 921.91	\$ 676.09	\$ 885.43	\$ 1,722.53	\$ 7,396.79	\$ 33,692.41
41 DIFFERENCE:																
42 Total Bill		\$ (2,090.65)	\$ (2,274.49)	\$ (3,013.89)	\$ 618.29	\$ 1,125.28	\$ 896.61	\$ (4,738.86)	\$ (699.21)	\$ (372.26)	\$ (253.29)	\$ (94.36)	\$ (12.26)	\$ 164.01	\$ (1,267.35)	\$ (6,006.22)
43 % Change		41.75%	36.77%	39.69%	16.35%	47.58%	65.82%	18.02%	35.07%	31.10%	27.47%	13.96%	1.38%	9.52%	17.13%	17.83%
44 Base Rate		\$ (45.31)	\$ (59.85)	\$ (69.62)	\$ (66.99)	\$ (53.70)	\$ (35.69)	\$ (331.16)	\$ (22.79)	\$ (15.94)	\$ (7.39)	\$ -	\$ 67.22	\$ 370.54	\$ 391.63	\$ 60.47
45 % Change		-3.94%	-4.09%	-4.16%	-4.14%	-4.04%	-3.79%	-4.05%	-3.94%	-3.70%	-1.97%	0.00%	18.58%	102.41%	16.03%	0.57%
46 COG & LDAC		\$ (2,045.34)	\$ (2,214.64)	\$ (2,944.27)	\$ 685.28	\$ 1,178.98	\$ 932.30	\$ (4,407.70)	\$ (676.42)	\$ (356.31)	\$ (245.89)	\$ (94.36)	\$ (79.47)	\$ (206.53)	\$ (1,658.99)	\$ (6,066.69)
47 % Change		-53.01%	-46.89%	-49.73%	31.65%	113.86%	221.61%	-24.32%	-47.77%	-46.48%	-44.98%	-27.75%	-15.18%	-15.18%	-33.49%	-26.29%

1 Annual Bill Comparisons, May 23 Oct 23 Filing vs May 24 Oct 24

2 November 2023 October 2024		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	
3 Commercial Rate (G 52)		November 1, 2023 April 30, 2024						May 1, 2024 October 31, 2024									
		Nov 23	Dec 23	Jan 24	Feb 24	Mar 24	Apr 24	Winter Nov Apr	May 24	Jun 24	Jul 24	Aug 24	Sep 24	Oct 24	Summer May Oct	Total Nov Oct	
4	5	1,907	2,294	2,692	2,308	2,175	1,933	13,309	1,482	1,317	1,269	1,323	1,295	1,611	8,298	21,607	
6	7	Typical Usage (Therms)															
8	9	Winter: 9/1/2022 9/1/2023															
9	10	Cust. Chg \$ 189.57 \$ 182.26	\$ 182.26	\$ 182.26	\$ 182.26	\$ 182.26	\$ 182.26	\$ 182.26	\$ 182.26	\$ 182.26	\$ 182.26	\$ 182.26	\$ 182.26	\$ 182.26	\$ 1,093.56	\$ 2,187.12	
10	11	Headblock \$ 0.2647 \$ 0.2560	\$ 256.00	\$ 256.00	\$ 256.00	\$ 256.00	\$ 256.00	\$ 256.00	\$ 256.00	\$ 256.00	\$ 256.00	\$ 256.00	\$ 256.00	\$ 256.00	\$ 1,536.00	\$ 2,670.60	
11	12	Tailblock \$ 0.1836 \$ 0.1749	\$ 158.69	\$ 226.24	\$ 295.91	\$ 228.76	\$ 205.59	\$ 163.18	\$ 1,278.37								
12	13	HB Threshold 1000 1,000															
14	15	Summer: 9/1/2022 9/1/2023															
15	16	Cust. Chg \$ 189.57 \$ 182.26	\$ 182.26	\$ 182.26	\$ 182.26	\$ 182.26	\$ 182.26	\$ 182.26	\$ 182.26	\$ 182.26	\$ 182.26	\$ 182.26	\$ 182.26	\$ 182.26	\$ 1,093.56	\$ 2,187.12	
16	17	Headblock \$ 0.1978 \$ 0.1891	\$ 189.10	\$ 189.10	\$ 189.10	\$ 189.10	\$ 189.10	\$ 189.10	\$ 189.10	\$ 189.10	\$ 189.10	\$ 189.10	\$ 189.10	\$ 189.10	\$ 1,134.60	\$ 2,670.60	
17	18	Tailblock \$ 0.1219 \$ 0.1132	\$ 54.58	\$ 35.94	\$ 30.43	\$ 36.59	\$ 33.40	\$ 69.18	\$ 260.13	\$ 1,538.50							
18	19	HB Threshold 1000 1,000															
20	21	Total Base Rate Amount	\$ 596.95	\$ 664.50	\$ 734.17	\$ 667.02	\$ 643.85	\$ 601.44	\$ 3,907.93	\$ 425.94	\$ 407.30	\$ 401.79	\$ 407.95	\$ 404.76	\$ 440.54	\$ 2,488.29	\$ 6,396.22
22	23	COG Rate - (Seasonal)	\$ 0.6185	\$ 0.6185	\$ 0.6185	\$ 0.6185	\$ 0.6185	\$ 0.6185	\$ 0.6185	\$ 0.6273	\$ 0.6273	\$ 0.6273	\$ 0.6273	\$ 0.6273	\$ 0.6273	\$ 0.6273	\$ 0.6219
24	25	COG amount	\$ 1,179.66	\$ 1,418.55	\$ 1,664.92	\$ 1,427.47	\$ 1,345.53	\$ 1,195.57	\$ 8,231.71	\$ 929.74	\$ 826.46	\$ 795.93	\$ 830.08	\$ 812.41	\$ 1,010.68	\$ 5,205.30	\$ 13,437.01
26	27	LDAC	\$ 0.0957	\$ 0.0957	\$ 0.0979	\$ 0.0909	\$ 0.0909	\$ 0.0909	\$ 0.0938	\$ 0.0909	\$ 0.0909	\$ 0.0909	\$ 0.0909	\$ 0.0909	\$ 0.0909	\$ 0.0909	\$ 0.0927
28	29	LDAC amount	\$ 182.53	\$ 219.49	\$ 263.53	\$ 209.79	\$ 197.75	\$ 175.71	\$ 1,248.81	\$ 134.73	\$ 119.76	\$ 115.33	\$ 120.28	\$ 117.72	\$ 146.45	\$ 754.28	\$ 2,003.09
30	31	Total Bill	\$ 1,959.14	\$ 2,302.54	\$ 2,662.63	\$ 2,304.29	\$ 2,187.13	\$ 1,972.72	\$ 13,388.45	\$ 1,490.40	\$ 1,353.52	\$ 1,313.05	\$ 1,358.32	\$ 1,334.90	\$ 1,597.68	\$ 8,447.87	\$ 21,836.32

30 November 2022 October 2023		November 1, 2022 April 30, 2023						May 1, 2023 October 31, 2023									
31 Commercial Rate (G 52)		Nov 22	Dec 22	Jan 23	Feb 23	Mar 23	Apr 23	Winter Nov Apr	May 23	Jun 23	Jul 23	Aug 23	Sep 23	Oct 23	Summer May Oct	Total Nov Oct	
32	33	1,907	2,294	2,692	2,308	2,175	1,933	13,309	1,482	1,317	1,269	1,323	1,295	1,611	8,298	21,607	
34	35	Typical Usage (Therms)															
36	37	Winter: 9/1/2022 9/1/2023															
38	39	Cust. Chg \$ 189.57 \$ 182.26	\$ 189.57	\$ 189.57	\$ 189.57	\$ 189.57	\$ 189.57	\$ 189.57	\$ 1,137.42	\$ 189.57	\$ 189.57	\$ 189.57	\$ 182.26	\$ 182.26	\$ 182.26	\$ 1,115.49	\$ 2,252.91
40	41	Headblock \$ 0.2647 \$ 0.2560	\$ 264.70	\$ 264.70	\$ 264.70	\$ 264.70	\$ 264.70	\$ 264.70	\$ 1,588.20	\$ 197.80	\$ 197.80	\$ 197.80	\$ 180.10	\$ 180.10	\$ 180.10	\$ 1,160.70	\$ 2,748.90
42	43	Tailblock \$ 0.1836 \$ 0.1749	\$ 166.58	\$ 237.49	\$ 310.63	\$ 240.14	\$ 215.82	\$ 171.30	\$ 1,341.96	\$ 58.77	\$ 38.70	\$ 32.77	\$ 36.59	\$ 33.40	\$ 69.18	\$ 269.42	\$ 1,611.38
44	45	HB Threshold 1,000 1,000															
46	47	Summer: 9/1/2022 9/1/2023															
48	49	Cust. Chg \$ 189.57 \$ 182.26	\$ 182.26	\$ 182.26	\$ 182.26	\$ 182.26	\$ 182.26	\$ 182.26	\$ 4,067.58	\$ 189.57	\$ 189.57	\$ 189.57	\$ 182.26	\$ 182.26	\$ 182.26	\$ 1,115.49	\$ 2,252.91
50	51	Headblock \$ 0.1978 \$ 0.1891	\$ 197.80	\$ 197.80	\$ 197.80	\$ 197.80	\$ 197.80	\$ 197.80	\$ 1,588.20	\$ 197.80	\$ 197.80	\$ 197.80	\$ 180.10	\$ 180.10	\$ 180.10	\$ 1,160.70	\$ 2,748.90
52	53	Tailblock \$ 0.1219 \$ 0.1132	\$ 54.58	\$ 35.94	\$ 30.43	\$ 36.59	\$ 33.40	\$ 69.18	\$ 260.13	\$ 1,538.50							
54	55	HB Threshold 1,000 1,000															
56	57	Total Base Rate Amount	\$ 620.85	\$ 691.76	\$ 764.90	\$ 694.41	\$ 670.09	\$ 625.57	\$ 4,067.58	\$ 446.14	\$ 426.07	\$ 420.14	\$ 407.95	\$ 404.76	\$ 440.54	\$ 2,545.61	\$ 6,613.19
58	59	COG Rate - (Seasonal)	\$ 1.4296	\$ 1.2547	\$ 1.3288	\$ 0.4521	\$ 0.2439	\$ 0.1322	\$ 0.8273	\$ 1.2833	\$ 1.2435	\$ 1.2068	\$ 0.8961	\$ 0.7490	\$ 0.7490	\$ 1.0164	\$ 0.8999
60	61	COG amount	\$ 2,726.67	\$ 2,877.69	\$ 3,576.96	\$ 1,043.43	\$ 530.60	\$ 255.54	\$ 11,010.90	\$ 1,902.01	\$ 1,638.30	\$ 1,531.20	\$ 1,185.78	\$ 970.03	\$ 1,206.76	\$ 8,434.08	\$ 19,444.98
62	63	LDAC	\$ 0.0872	\$ 0.0872	\$ 0.0890	\$ 0.0890	\$ 0.0890	\$ 0.0890	\$ 0.0884	\$ 0.0890	\$ 0.0957	\$ 0.0957	\$ 0.0957	\$ 0.0957	\$ 0.0957	\$ 0.0945	\$ 0.0908
64	65	LDAC amount	\$ 166.32	\$ 200.00	\$ 239.58	\$ 205.41	\$ 193.62	\$ 172.04	\$ 1,176.95	\$ 131.91	\$ 126.08	\$ 121.43	\$ 126.64	\$ 123.94	\$ 154.19	\$ 784.18	\$ 1,961.14
66	67	Total Bill	\$ 3,513.84	\$ 3,769.45	\$ 4,581.44	\$ 1,943.25	\$ 1,394.30	\$ 1,053.15	\$ 16,255.43	\$ 2,480.06	\$ 2,190.45	\$ 2,072.77	\$ 1,720.37	\$ 1,498.73	\$ 1,801.49	\$ 11,763.87	\$ 28,019.31

58 DIFFERENCE:		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	
59	60	Total Bill	\$ (1,554.70)	\$ (1,466.91)	\$ (1,918.81)	\$ 361.04	\$ 792.83	\$ 919.57	\$ (2,866.99)	\$ (989.66)	\$ (836.93)	\$ (759.72)	\$ (362.05)	\$ (163.83)	\$ (203.81)	\$ (3,316.00)	\$ (6,182.99)
61	62	% Change	44.25%	38.92%	41.88%	18.58%	56.86%	87.32%	17.64%	39.90%	38.21%	36.65%	21.04%	10.93%	11.31%	28.19%	22.07%
63	64	Base Rate	\$ (23.90)	\$ (27.26)	\$ (30.73)	\$ (27.39)	\$ (26.24)	\$ (24.13)	\$ (159.65)	\$ (20.20)	\$ (18.77)	\$ (18.35)	\$ -	\$ -	\$ -	\$ (57.33)	\$ (216.97)
65	66	% Change	-3.85%	-3.94%	-4.02%	-3.94%	-3.92%	-3.86%	-3.92%	-4.53%	-4.41%	-4.37%	0.00%	0.00%	0.00%	-2.25%	-3.28%
67	68	COG & LDAC	\$ (1,530.80)	\$ (1,439.65)	\$ (1,888.08)	\$ 388.43	\$ 819.07	\$ 943.70	\$ (2,707.34)	\$ (969.46)	\$ (818.16)	\$ (741.37)	\$ (362.05)	\$ (163.83)	\$ (203.81)	\$ (3,258.67)	\$ (5,966.01)
69	70	% Change	-52.91%	-46.78%	-49.47%	31.10%	113.10%	220.71%	-22.21%	-47.66%	-46.37%	-44.86%	-27.59%	-14.98%	-14.98%	-35.35%	-27.87%

1 Residential Heating

	Summer 2022	Summer 2023
2		
3 Customer Charge	\$ 15.39	\$ 15.39
4 First 20 Therms	\$ 0.6519	\$ 0.6167
5 Excess 20 Therms	\$ 0.6519	\$ 0.6167
6 LDAC	\$ 0.1164	\$ 0.2006
7 COG	\$ 0.8073	\$ 0.6267
8 Total Adjust	\$ 0.9237	\$ 0.8273

	Summer 2022 COG @	Summer 2023 Cog @
9		
10		
11		
12		
13	\$ 0.9237	\$ 0.8273
14		
15		
16 Cooking alone	5 \$ 23.27	\$ 22.61
17		
18	10 \$ 31.15	\$ 29.83
19		
20	20 \$ 46.90	\$ 44.27
21		
22 Water Heating alone	30 \$ 62.66	\$ 58.71
23		
24	45 \$ 86.29	\$ 80.37
25		
26	50 \$ 94.17	\$ 87.59
27		
28 Heating Alone	80 \$ 133.56	\$ 123.69
29		
30	125 \$ 224.94	\$ 207.44
31		
32	150 \$ 251.73	\$ 231.99
33		
34	200 \$ 330.50	\$ 304.19
35		

Total		Base Rate		COG		LDAC	
\$ Impact	% Impact	\$ Impact	% Impact	\$ Impact	% Impact	\$ Impact	% Impact
\$ (0.10)	-10%						
\$ (0.66)	-3%	\$ (0.18)	-1%	\$ (0.90)	-4%	\$ 0.42	2%
\$ (1.32)	-4%	\$ (0.35)	-1%	\$ (1.81)	-6%	\$ 0.84	3%
\$ (2.63)	-6%	\$ (0.70)	-2%	\$ (3.61)	-8%	\$ 1.68	4%
\$ (3.95)	-6%	\$ (1.06)	-2%	\$ (5.42)	-9%	\$ 2.53	4%
\$ (5.92)	-7%	\$ (1.58)	-2%	\$ (8.13)	-10%	\$ 3.79	4%
\$ (6.58)	-7%	\$ (1.76)	-2%	\$ (9.03)	-10%	\$ 4.21	4%
\$ (9.87)	-7%	\$ (2.64)	-2%	\$ (13.54)	-11%	\$ 6.32	5%
\$ (17.50)	-8%	\$ (4.68)	-2%	\$ (24.02)	-12%	\$ 11.20	5%
\$ (19.74)	-8%	\$ (5.28)	-2%	\$ (27.09)	-12%	\$ 12.63	5%
\$ (26.31)	-8%	\$ (7.04)	-2%	\$ (36.12)	-12%	\$ 16.84	5%

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

Schedule 10A
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2024 Summer Cost of Gas Filing
Capacity Assignment Calculations 2023-2024
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	519	519	0.3%	129	390
2	RATE R-3-Resi Htg	73,897	73,897	44.1%	3,452	70,446
3	RATE G-41 (T)	30,167	30,167	18.0%	919	29,247
4	RATE G-51 (S)	2,317	2,317	1.4%	774	1,543
5	RATE G-42 (V)	38,624	38,625	23.0%	1,581	37,044
6	RATE G-52	5,192	5,192	3.1%	1,710	3,482
7	RATE G-43	10,497	10,497	6.3%	903	9,594
8	RATE G-53	5,243	5,243	3.1%	1,871	3,372
9	RATE G-54	1,232	1,232	0.7%	387	844
10						
11	Total	167,688	167,688	100.0%	11,726	155,962
12						
13	Residential Total	74,416	74,416	44.378%	3,581	70,835
14	LLF Total	79,289	79,289	47.283%	3,403	75,885
15	HLF Total	13,984	<u>13,984</u>	8.339%	<u>4,742</u>	<u>9,242</u>
16	Total	167,688	167,688	100.0%	11,726	155,962
17						
18	C&I Breakdown					
19	LLF Total				3,403	75,885
20	HLF Total				4,742	9,242
21	Total				8,145	85,127
22						
23	C&I Breakdown Percentage					
24	LLF Total				41.782%	89.144%
25	HLF Total				58.218%	10.856%
26	Total				100.0%	100.0%
27						
28		Capacity Cost	MDQ, Dt	\$/Dt-Mo.		
29	Pipeline	\$15,924,599	119,718	\$11.0848		
30	Storage	\$4,094,776	28,115	\$12.1370		
31						
32	Peaking	\$1,550,000				
33	Peaking Additional Costs (Concord Lateral Peaking x Differential)	\$0				
34	Subtotal Peaking Costs	<u>\$1,550,000</u>	<u>19,855</u>	\$6,5054		
35	Total	\$21,569,375	167,688	\$10.7190		
36						
37		Capacity Cost	MDQ, Dt	\$/Dt-Mo.		
38	Pipeline - Baseload	1,559,739	11,726	\$11.0848		
39	Pipeline - Remaining	14,364,860	107,992	\$11.0848		
40	Storage	4,094,776	28,115	\$12.1370		
41	Peaking	<u>1,550,000</u>	<u>19,855</u>	<u>\$6,5054</u>		
42	Total	21,569,375	167,688	\$10.7190		
43						
44						
45	Residential Allocation	Capacity Cost	MDQ, Dt	\$/Dt-Mo.		
46	Pipeline - Base	Line 38 * Line 13 Col C	44.378% 692,181	5,204	\$11.0848	
47	Pipeline - Remaining	Line 39 * Line 13 Col C	44.378% 6,374,839	47,925	\$11.0848	
48	Storage	Line 40 * Line 13 Col C	44.378% 1,817,181	12,477	\$12.1370	
49	Peaking	Line 41 * Line 13 Col C	44.378% <u>687,829</u>	<u>8,811</u>	<u>\$6,5054</u>	
50	Total	44.378%	9,572,024	74,416	\$10.7190	
51						

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

53
54 **2023 Summer Cost of Gas Filing**
55 **Capacity Assignment Calculations 2023-2024**
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	867,558	6,522	\$11.0848	
61	Pipeline - Remaining	Line 39 - Line 47	7,990,021	60,067	\$11.0848	
62	Storage	Line 40 - Line 48	2,277,595	15,638	\$12.1370	
63	Peaking	Line 41 - Line 49	862,171	11,044	\$6.5056	
64	Total		55.622% 11,997,344	93,272	\$10.7190	1.0000
65						
66						
67	LLF - C&I Allocation		Capacity Cost	MDQ, Dt	\$/Dt-Mo.	
68	Pipeline - Base	Line 60 * Line 24 Col E	362,484	2,725	\$11.0851	
69	Pipeline - Remaining	Line 61 * Line 24 Col F	7,122,606	53,546	\$11.0849	
70	Storage	Line 62 * Line 24 Col F	2,030,334	13,940	\$12.1373	
71	Peaking	Line 63 * Line 24 Col F	768,572	9,845	\$6.5056	
72	Total		47.6787% 10,283,996	80,056	\$10.7050	0.9987
73			41.782% 86%			(Line 72 / Line 64)
74						
75	HLF - C&I Allocation		Capacity Cost	MDQ, Dt	\$/Dt-Mo.	
76	Pipeline - Base	Line 60 - Line 68	505,074	3,797	\$11.0849	
77	Pipeline - Remaining	Line 61 - Line 69	867,415	6,521	\$11.0849	
78	Storage	Line 62 - Line 70	247,261	1,698	\$12.1349	
79	Peaking	Line 63 - Line 71	93,599	1,199	\$6.5054	
80	Total		7.9434% 1,713,349	13,215	\$10.8043	1.0080
81						(Line 80 / Line 64)

83	Unit Cost	Residential	LLF C&I	HLF C&I
84				
85	Pipeline	\$ 11 0848	\$ 11 0848	\$ 11 0848
86	Storage	\$ 12.1370	\$ 12.1370	\$ 12.1370
87	Peaking	\$ -	\$ -	\$ -
88	Total	\$ 10.7190	\$ 10.7050	\$ 10.8043

91	Load Makeup	Residential	LLF C&I	HLF C&I
92				
93	Pipeline	71.39%	70.29%	78.08%
94	Storage	16.77%	17.41%	12.85%
95	Peaking	11.84%	12.30%	9.07%
96	Total	100.00%	100.00%	100.00%

99	Supply Makeup	Residential	LLF C&I	HLF C&I	Total
100					
101	Pipeline	44.38%	47.00%	8.62%	100.00%
102	Storage	44.38%	49.58%	6.04%	100.00%
103	Peaking	44.38%	49.58%	6.04%	100.00%

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

Schedule 10A
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2
3 2024 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	670,264	314,756	225,458	174,609	303,478	1,041,040	2,729,606
12 G-42	644,811	334,760	251,143	205,135	369,043	1,081,152	2,886,045
13 G-43	254,936	171,717	145,923	120,884	140,285	316,189	1,149,934
14 High Winter Use	1,570,012	821,234	622,524	500,628	812,807	2,438,381	6,765,585
16 G-51	218,961	192,564	190,743	185,001	178,225	233,815	1,199,310
17 G-52	237,398	207,695	208,635	215,082	201,292	255,186	1,325,289
18 G-53	293,608	257,701	252,979	259,409	261,685	321,410	1,646,791
19 G-54	80,753	32,231	33,170	33,365	26,568	28,270	234,356
21 Low Winter Use	830,719	690,191	685,527	692,857	667,770	838,681	4,405,745
23 Gross Total	2,400,731	1,511,425	1,308,051	1,193,485	1,480,577	3,277,062	11,171,330

26 Total Sales	11,171,330
27 Low Winter Use	4,405,745
28 Summer Ratio for Low Winter Use	1.0080 Schedule 10A p 2, ln 80
29 High Winter Use	6,765,585
30 Summer Ratio for High Winter Use	0.9987 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 =	99.7638%

36 Allocation Calculation for Miscellaneous Overhead

38 Projected Winter Sales Volume	11/1/23 - 4/30/24	94,568,321	Sch.10B, ln 23
39 Projected Annual Sales Volume	11/1/23 - 10/31/24	119,310,982	Sch.10B, ln 23
40 Percentage of Winter Sales to Annual Sales		79.26%	

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

Schedule 10B

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3 **Off Peak 2024 Summer Cost of Gas Filing**

4 **2024 Summer Cost of Gas Filing**

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7 **Firm Sales**

8

	May-24	Jun-24	Jul-24	Aug-24	Sep-24	Oct-24	Subtotal OP 24	Total
9 R-1	52,662	43,099	40,191	37,249	39,636	55,445	268,282	770,550
10 R-3	2,998,814	1,502,833	1,103,849	985,331	1,643,398	4,150,744	12,384,971	62,516,931
11 R-4	233,018	116,445	85,399	75,793	114,474	292,951	918,079	4,624,673
12 Total Residential.	3,284,494	1,662,377	1,229,440	1,098,373	1,797,508	4,499,140	13,571,332	67,912,154
13								
14 G-41	670,264	314,756	225,458	174,609	303,478	1,041,040	2,729,606	19,431,458
15 G-42	644,811	334,760	251,143	205,135	369,043	1,081,152	2,886,045	16,233,175
16 G-43	254,936	171,717	145,923	120,884	140,285	316,189	1,149,934	4,557,243
17 G-51	218,961	192,564	190,743	185,001	178,225	233,815	1,199,310	3,086,675
18 G-52	237,398	207,695	208,635	215,082	201,292	255,186	1,325,289	3,437,812
19 G-53	293,608	257,701	252,979	259,409	261,685	321,410	1,646,791	4,184,845
20 G-54	80,753	32,231	33,170	33,365	26,568	28,270	234,356	467,619
21 Total C/I	2,400,731	1,511,425	1,308,051	1,193,485	1,480,577	3,277,062	11,171,330	51,398,828
22								
23 Sales Volume	5,685,225	3,173,802	2,537,490	2,291,858	3,278,085	7,776,201	24,742,661	119,310,982
24								
25 Transportation Sales								
26								
27 G-41	238,915	132,942	94,957	72,754	139,002	364,497	1,043,068	5,333,513
28 G-42	934,466	516,154	392,978	321,440	553,593	1,398,354	4,116,985	19,618,724
29 G-43	498,607	335,688	271,980	236,013	382,815	701,647	2,426,750	8,844,196
30 G-51	65,138	57,470	55,740	57,207	59,924	72,792	368,271	900,430
31 G-52	379,452	325,244	320,657	318,602	339,845	421,831	2,105,631	5,400,561
32 G-53	629,281	616,772	573,484	638,181	679,871	775,145	3,912,734	9,217,170
33 G-54	1,559,173	1,580,986	1,641,782	1,742,529	1,696,679	1,750,574	9,971,723	17,855,173
34								
35 Total Trans. Sales	4,305,032	3,565,256	3,351,579	3,386,725	3,851,730	5,484,841	23,945,162	67,169,767
36								
37 Total All Sales	9,990,257	6,739,058	5,889,069	5,678,583	7,129,815	13,261,042	48,687,823	186,480,749

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

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3 Off Peak 2024 Summer Cost of Gas Filing

4 Normal and Design Year Volumes

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7 Volumes (Therms)

Normal Year

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9 For the Months of May 24 -October 24

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	May-24	Jun-24	Jul-24	Aug-24	Sep-24	Oct-24	Off Peak May - Oct
Pipeline Gas:							
Dawn Supply	842,983	655,282	518,079	495,174	612,922	901,154	4,025,595
Niagara Supply	667,764	585,319	584,500	583,125	492,567	787,845	3,701,120
TGP Supply (Gulf)	929,663	-	-	-	-	827,579	1,757,242
Dracut Supply 1 - Baseload	-	-	-	-	-	-	0
Dracut Supply 2 - Swing	-	-	-	-	-	504,981	504,981
Dracut Supply 3 - Swing	-	-	-	-	-	-	-
Constellation Combo	-	-	-	-	-	-	0
LNG Truck	-	-	4,473	18,729	17,901	100,708	141,811
Propane Truck	81,143	75,360	49,199	71,793	73,523	80,427	431,444
PNGTS	216,617	194,624	196,156	93,643	189,881	218,149	1,109,071
Portland Natural Gas	889,892	29,984	-	-	-	922,990	1,842,866
TGP Supply (Z4)	5,759,165	5,591,074	3,885,012	3,831,718	3,863,377	6,422,862	29,353,208
	9,387,227	7,131,644	5,237,418	5,094,181	5,250,171	10,766,696	42,867,337
Storage Gas:							
	-	-	-	-	-	-	0
Produced Gas:							
LNG Vapor	20,462	19,004	18,529	18,104	18,541	20,282	114,922
Propane	-	-	-	-	-	-	0
	20,462	19,004	18,529	18,104	18,541	20,282	114,922
Less - Gas Refills:							
LNG Truck	-	-	(6,389)	(9,989)	(53,704)	(69,936)	(140,018)
Propane	(81,143)	(75,360)	(49,199)	(71,793)	(73,523)	(80,427)	(431,444)
TGP Storage Refill	(3,719,893)	(3,344,003)	(2,050,369)	(1,668,719)	(1,352,181)	(3,426,880)	(15,562,044)
	(3,801,037)	(3,419,362)	(2,105,957)	(1,750,500)	(1,479,408)	(3,577,243)	(16,133,507)
Total Sendout Volumes	5,606,653	3,731,286	3,149,990	3,361,785	3,789,304	7,209,735	26,848,752

43

1 Liberty Utilities (EnergyNorth Natural Gas) Corp.

Schedule 11B

2

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3 Off Peak 2024 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 24 -October 24

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-24	Jun-24	Jul-24	Aug-24	Sep-24	Oct-24	Off Peak May - Oct
Dawn Supply	842,983	655,282	518,079	495,174	612,922	1,054,324	4,178,765
Niagara Supply	667,764	585,319	584,500	583,125	492,567	787,845	3,701,120
TGP Supply (Gulf)	1,193,555	-	-	-	-	827,579	2,021,134
Dracut Supply 1 - Baseload	-	-	-	-	-	-	0
Dracut Supply 2 - Swing	-	-	-	-	-	-	-
Dracut Supply 3 - Swing	-	-	-	-	-	-	-
Constellation Combo	-	-	-	-	-	-	0
LNG Truck	-	-	4,473	18,729	17,901	100,708	141,811
Propane Truck	81,143	75,360	49,199	71,793	73,523	80,427	431,444
PNGTS	216,617	194,624	196,156	93,643	189,881	218,149	1,109,071
Portland Natural Gas	889,892	29,984	-	-	-	922,990	1,842,866
TGP Supply (Z4)	5,759,165	5,752,278	4,103,530	4,017,756	4,075,634	7,058,615	30,766,978
Subtotal Pipeline Volumes	9,651,119	7,292,848	5,455,936	5,280,219	5,462,428	11,050,638	44,193,188
Storage Gas:							
TGP Storage	-	-	-	-	-	-	0
Produced Gas:							
LNG Vapor	20,462	19,004	18,529	18,104	18,541	20,282	114,922
Propane	-	-	-	-	-	-	-
Subtotal Produced Gas	20,462	19,004	18,529	18,104	18,541	20,282	114,922
Less - Gas Refills:							
LNG Truck	-	-	(4,473)	(18,729)	(17,901)	(100,708)	(141,811)
Propane	(81,143)	(75,360)	(73,478)	(71,793)	(73,523)	(80,427)	(455,724)
TGP Storage Refill	(4,009,893)	(3,522,900)	(2,261,859)	(1,861,624)	(1,618,781)	(3,714,318)	(16,989,374)
Subtotal Refills	(4,091,036)	(3,598,259)	(2,339,810)	(1,952,145)	(1,710,205)	(3,895,453)	(17,586,909)
Total Sendout Volumes	5,580,545	3,713,592	3,134,655	3,346,178	3,770,763	7,175,467	26,721,201

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

2

3 **Off Peak 2024 Summer Cost of Gas Filing**

4 **Capacity Utilization**

5 **Volumes (Therms)**

6

7

8

9

10

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

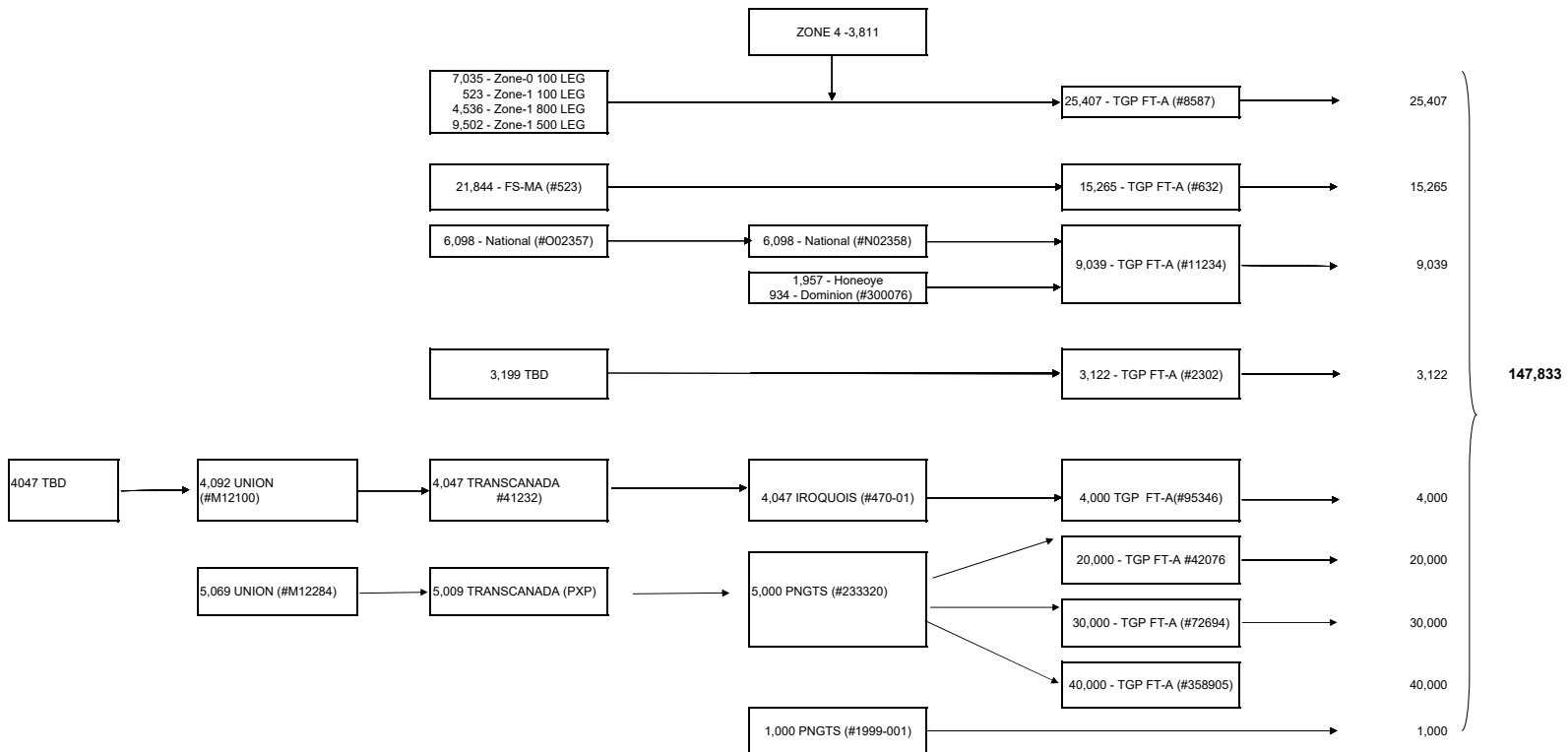
40 Total Sendout Volumes

	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	4,025,595	4,000	7,360,000	55%	4,178,765	4,000	7,360,000	57%
Niagara Supply	3,701,120	3,122	5,744,480	64%	3,701,120	3,122	5,744,480	64%
TGP Supply (Gulf)	1,757,242	21,596	39,736,640	4%	2,021,134	21,596	39,736,640	5%
Dracut Supply 1 & 2 & 3	504,981	90,000	165,600,000	0%	-	90,000	165,600,000	0%
LNG Truck	141,811	-	-	-	141,811	-	-	-
Propane Truck	431,444	-	-	-	431,444	-	-	-
PNGTS	1,109,071	1,000	1,840,000	60%	1,109,071	1,000	1,840,000	60%
Portland Natural Gas	1,842,866	5,000	9,200,000	20%	1,842,866	5,000	9,200,000	20%
TGP Supply (Z4)	29,353,208	21,596	39,736,640	74%	30,766,978	21,596	39,736,640	77%
Other Purchased Resources	-	-	-	-	-	-	-	-
Subtotal Pipeline Volumes	42,867,337				44,193,188			
Storage Gas:								
0	0		25,792,710	0%	-		25,792,710	0%
Produced Gas:								
LNG Vapor	114,922				114,922			
Propane	-				-			
Subtotal Produced Gas	114,922				114,922			
Less - Gas Refills:								
LNG Truck	(140,018)				(141,811)			
Propane	(431,444)				(455,724)			
TGP Storage Refill	(15,562,044)				(16,989,374)			
Subtotal Refills	(16,133,507)				(17,586,909)			
Total Sendout Volumes	26,848,752				26,721,201			

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

Off Peak 2024 Summer Cost of Gas Filing
Transportation Available for Pipeline Supply and Storage
(MMBtu)

Schedule 12
Page 1 of 2



Agreements for Gas Supply and Transportation

Schedule 12
Page 2 of 2

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
Honeoye 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	FSST	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. d/b/a Liber**

Schedule 13

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3 **Off Peak 2024 Summer Cost of Gas Filing**

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4 **Storage Inventory**

5
6 **Underground Storage Gas**

		May-24 (Estimate)	Jun-24 (Estimate)	Jul-24 (Estimate)	Aug-24 (Estimate)	Sep-24 (Estimate)	Oct-24 (Estimate)	Total
9	Beginning Balance (MMBtu)	(56,566)	103,059	450,717	798,376	1,146,035	1,493,693	(56,566)
11	Injections (MMBtu) Sch 11A In 39 /10	347,659	347,659	347,659	347,659	347,659	535,693	2,273,986
13	Subtotal	291,093	450,717	798,376	1,146,035	1,493,693	2,029,386	
15	Storage Sale/Adjustments	-	-	-	-	-	-	
17	Withdrawals (MMBtu) Sch 11A In 29 /10	(188,034)	-	-	-	-	-	(188,034)
19	Ending Balance (MMBtu)	103,059	450,717	798,376	1,146,035	1,493,693	2,029,386	2,029,386
22	Beginning Balance	\$ (169,462)	\$ 473,066	\$ 1,715,365	\$ 2,997,726	\$ 4,293,801	\$ 5,582,297	\$ (169,462)
24	Injections In 11 * In 36	\$ 1,205,847	\$ 1,242,299	\$ 1,282,360	\$ 1,296,075	\$ 1,288,496	\$ 2,033,772	8,348,849
26	Subtotal	\$ 1,036,385	\$ 1,715,365	\$ 2,997,726	\$ 4,293,801	\$ 5,582,297	\$ 7,616,069	
28	Storage Sale/Adjustments	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	
30	Withdrawals In 17 * In 34	\$ (563,319)	\$ -	\$ -	\$ -	\$ -	\$ -	(563,319)
32	Ending Balance	\$ 473,066	\$ 1,715,365	\$ 2,997,726	\$ 4,293,801	\$ 5,582,297	\$ 7,616,069	\$ 7,616,069
34	Average Rate For Withdrawals In 22 /In 9	\$ 3.5603	\$ 3.8059	\$ 3.7548	\$ 3.7467	\$ 3.7372	\$ 3.7529	
36	TGP Storage Rate for Injections Actual or NYMEX plus TGP Transportation	\$ 3.4685	\$ 3.5733	\$ 3.6886	\$ 3.7280	\$ 3.7062	\$ 3.7965	

37 Liberty Utilities (EnergyNorth Natural Gas) Corp.

Schedule 13

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39 Off Peak 2024 Summer Cost of Gas Filing

40

41 Liquid Propane Gas (LPG)

		May-24 (Estimate)	Jun-24 (Estimate)	Jul-24 (Estimate)	Aug-24 (Estimate)	Sep-24 (Estimate)	Oct-24 (Estimate)	Total
42								
43								
44	Beginning Balance	57,408	57,408	57,408	62,328	69,508	76,860	57,408
45								
46	Injections							
47	Sch 11A In 38 /10	-	-	4,920	7,179	7,352	8,043	27,494
48	Subtotal	57,408	57,408	62,328	69,508	76,860	84,903	
49								
50	Withdrawals							
51	Sch 11A In 33 /10	-	-	-	-	-	-	-
52	Adjustment for change in temperature	-	-	-	-	-	-	-
53	Adjustment for Transfer	-	-	-	-	-	-	-
54	Ending Balance	57,408	57,408	62,328	69,508	76,860	84,903	84,903
55								
56	Beginning Balance	\$ 888,223	\$ 888,223	\$ 888,223	\$ 888,223	\$ 888,223	\$ 888,223	\$ 888,223
57								
58	Injections	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 109,380	109,380
59	In 46 * In 69							
60	Subtotal	\$ 888,223	\$ 888,223	\$ 888,223	\$ 888,223	\$ 888,223	\$ 997,604	
61								
62	Withdrawals	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	-
63	In 52 * In 67							
64	Ending Balance	\$ 888,223	\$ 888,223	\$ 888,223	\$ 888,223	\$ 888,223	\$ 997,604	\$ 997,604
65								
66	Average Rate For Withdrawals	\$ 15.4720	\$ 15.4720	\$ 14.2507	\$ 12.7788	\$ 11.5564	\$ 11.7500	
67								
68	Propane Rate for Injections	0	0	0	0	0	\$ 13.60	
69	Actual or Sch. 6, In 166 * 10							

70 Liberty Utilities (EnergyNorth Natural Gas) Corp.

Schedule 13

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72 Off Peak 2024 Summer Cost of Gas Filing

73

74 Liquid Natural Gas (LNG)

		May-24	Jun-24 (Estimate)	Jul-24 (Estimate)	Aug-24 (Estimate)	Sep-24 (Estimate)	Oct-24 (Estimate)	Total
75	Beginning Balance	10,950	8,903	7,003	5,789	4,977	8,494	10,950
77	Injections							
78	Sch 11A In 37 /10	-	-	639	999	5,370	6,994	14,002
79	Subtotal	10,950	8,903	7,642	6,788	10,348	15,487	
81	Withdrawals							
82	Sch 11A In 32 /10	(2,046)	(1,900)	(1,853)	(1,810)	(1,854)	(2,028)	(11,492)
83	Ending Balance	8,903	7,003	5,789	4,977	8,494	13,459	13,459
85								
86	Beginning Balance	\$ 138,400	\$ 112,536	\$ 88,516	\$ 68,662	\$ 52,811	\$ 58,076	\$ 138,400
87	Injections							
88	In 78 * In 99	\$ -	\$ -	\$ 2,124	\$ 3,358	\$ 17,942	\$ 23,974	\$ 47,399
89	Subtotal	\$ 138,400	\$ 112,536	\$ 90,639	\$ 72,020	\$ 70,753	\$ 82,050	
91	Withdrawals							
92	In 82 * In 97	\$ (25,864)	\$ (24,020)	\$ (21,977)	\$ (19,209)	\$ (12,677)	\$ (10,745)	\$ (114,493)
93	Ending Balance	\$ 112,536	\$ 88,516	\$ 68,662	\$ 52,811	\$ 58,076	\$ 71,305	\$ 71,305
94								
95	Average Rate For Withdrawals	\$ 12.6398	\$ 12.6398	\$ 11.8609	\$ 10.6102	\$ 6.8376	\$ 5.2979	
96								
97	LNG Rate for Injections	Actual or Sch. 6, In 165 * 10	0	\$ 3.3240	\$ 3.3620	\$ 3.3410	\$ 3.4280	
98								
99								

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1	Fifty-sixth Revised
2	Fifth Revised
3	Fifty-third Revised
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26	Original

DATED: October XX, 2023

ISSUED BY: /s/Neil Proudman

EFFECTIVE: November 1, 2023

Neil Proudman
TITLE: President

NHPUC NO. 11 GAS
LIBERTY UTILITIES

Illustrative Fifty-third Revised Page 3
Superseding Fifty-second Revised Page 3
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81	Third Revised
82	Original
83	Third Revised
84	Original
85	Third Revised
86	Original
87	Twenty-ninth Revised
88	Thirtieth Revised
89	Twenty-ninth Revised

DATED: October XX, 2023

ISSUED BY: /s/Neil Proudman
Neil Proudman

EFFECTIVE: November 1, 2023

TITLE: President

NHPUC NO. 11 GAS
LIBERTY UTILITIES

Illustrative Fiftieth Revised Page 4
Superseding Forty-ninth Revised Page 4
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Neil Proudman

TITLE: President

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EFFECTIVE: November 1, 2023

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Neil Proudman
TITLE: President

22 FIRM RATE SCHEDULES - EXCLUDING KEENE CUSTOMERS

II RATE SCHEDULES

	Rates Effective November 1, 2023 - April 30, 2024				Rates Effective May 1, 2024 - October 31, 2024			
	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
<u>Residential Non Heating - R-1</u>								
Customer Charge per Month per Meter	\$ 15.39			\$ 15.39	\$ 15.39			\$ 15.39
All therms	\$ 0.4614	\$ 0.6175	\$ 0.1113	\$ 1.1902	\$ 0.4614	\$ 0.6267	\$ 0.2006	\$ 1.2887
<u>Residential Heating - R-3</u>								
Customer Charge per Month per Meter	\$ 15.39			\$ 15.39	\$ 15.39			\$ 15.39
Therms in the first block per month at	\$ 0.6167	\$ 0.6175	\$ 0.1113	\$ 1.3455	\$ 0.6167	\$ 0.6267	\$ 0.2006	\$ 1.4440
<u>Residential Heating - R-4</u>								
Customer Charge per Month per Meter	\$ 8.47			\$ 8.47	\$ 15.39			\$ 15.39
Therms in the first block per month at	\$ 0.3392	\$ 0.3396	\$ 0.1113	\$ 0.7901	\$ 0.6167	\$ 0.6267	\$ 0.2006	\$ 1.4440
<u>Commercial/Industrial - G-41</u>								
Customer Charge per Month per Meter	\$ 60.81			\$ 60.81	\$ 60.81			\$ 60.81
Size of the first block	100 Therms				20 Therms			
Therms in the first block per month at	\$ 0.4928	\$ 0.6173	\$ 0.0890	\$ 1.1991	\$ 0.4928	\$ 0.6261	\$ 0.0909	\$ 1.2098
All therms over the first block per month at	\$ 0.3390	\$ 0.6173	\$ 0.0890	\$ 1.0453	\$ 0.3390	\$ 0.6261	\$ 0.0909	\$ 1.0560
<u>Commercial/Industrial - G-42</u>								
Customer Charge per Month per Meter	\$ 182.42			\$ 182.42	\$ 182.42			\$ 182.42
Size of the first block	1000 Therms				400 Therms			
Therms in the first block per month at	\$ 0.4485	\$ 0.6173	\$ 0.0890	\$ 1.1548	\$ 0.4485	\$ 0.6261	\$ 0.0909	\$ 1.1655
All therms over the first block per month at	\$ 0.3063	\$ 0.6173	\$ 0.0890	\$ 1.0126	\$ 0.3063	\$ 0.6261	\$ 0.0909	\$ 1.0233
<u>Commercial/Industrial - G-43</u>								
Customer Charge per Month per Meter	\$ 781.17			\$ 781.17	\$ 781.17			\$ 781.17
All therms over the first block per month at	\$ 0.2766	\$ 0.6173	\$ 0.0890	\$ 0.9829	\$ 0.1344	\$ 0.6261	\$ 0.0909	\$ 0.8514
<u>Commercial/Industrial - G-51</u>								
Customer Charge per Month per Meter	\$ 60.87			\$ 60.87	\$ 60.87			\$ 60.87
Size of the first block	100 Therms				100 Therms			
Therms in the first block per month at	\$ 0.2970	\$ 0.6185	\$ 0.0890	\$ 1.0045	\$ 0.2970	\$ 0.6273	\$ 0.0909	\$ 1.0152
All therms over the first block per month at	\$ 0.1983	\$ 0.6185	\$ 0.0890	\$ 0.9058	\$ 0.1983	\$ 0.6273	\$ 0.0909	\$ 0.9165
<u>Commercial/Industrial - G-52</u>								
Customer Charge per Month per Meter	\$ 182.26			\$ 182.26	\$ 182.26			\$ 182.26
Size of the first block	1000 Therms				1000 Therms			
Therms in the first block per month at	\$ 0.2560	\$ 0.6185	\$ 0.0890	\$ 0.9635	\$ 0.1891	\$ 0.6273	\$ 0.0909	\$ 0.9073
All therms over the first block per month at	\$ 0.1749	\$ 0.6185	\$ 0.0890	\$ 0.8824	\$ 0.1132	\$ 0.6273	\$ 0.0909	\$ 0.8314
<u>Commercial/Industrial - G-53</u>								
Customer Charge per Month per Meter	\$ 805.75			\$ 805.75	\$ 805.75			\$ 805.75
All therms over the first block per month at	\$ 0.1790	\$ 0.6185	\$ 0.0890	\$ 0.8865	\$ 0.0907	\$ 0.6273	\$ 0.0909	\$ 0.8089
<u>Commercial/Industrial - G-54</u>								
Customer Charge per Month per Meter	\$ 806.42			\$ 806.42	\$ 806.42			\$ 806.42
All therms over the first block per month at	\$ 0.0682	\$ 0.6185	\$ 0.0890	\$ 0.7757	\$ 0.0386	\$ 0.6273	\$ 0.0909	\$ 0.7568

DATED: October XX, 2026

EFFECTIVE: November 1, 2023

ISSUED BY: /s/Neil Proudman

Neil Proudman
TITLE: President

4 FIRM RATE SCHEDULES – MANAGED EXPANSION PROGRAM - EXCLUDING KEENE CUSTOMERS

II RATE SCHEDULES

	Rates Effective November 1, 2023 - April 30, 2024 Winter Period				Rates Effective May 1, 2024 - October 31, 2024 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	\$ 0.5999	\$ 0.6175	\$ 0.1113	\$ 1.3287	\$ 0.5999	\$ 0.6267	\$ 0.2006	\$ 1.4272
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	\$ 0.8017	\$ 0.6175	\$ 0.1113	\$ 1.5305	\$ 0.8017	\$ 0.6267	\$ 0.2006	\$ 1.6290
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	\$ 0.4409	\$ 0.3396	\$ 0.1113	\$ 0.8918	\$ 0.8017	\$ 0.6267	\$ 0.2006	\$ 1.6290
Commercial/Industrial - G-44								
Customer Charge per Month per Meter	\$ 79.06			\$ 79.06	\$ 79.06			\$ 79.06
Size of the first block	100 Therms				20 Therms			
Therms in the first block per month at	\$ 0.6407	\$ 0.6173	\$ 0.0890	\$ 1.3470	\$ 0.6407	\$ 0.6261	\$ 0.0909	\$ 1.3577
All therms over the first block per month at	\$ 0.4406	\$ 0.6173	\$ 0.0890	\$ 1.1469	\$ 0.4406	\$ 0.6261	\$ 0.0909	\$ 1.1576
Commercial/Industrial - G-45								
Customer Charge per Month per Meter	\$ 237.14			\$ 237.14	\$ 237.14			\$ 237.14
Size of the first block	1000 Therms				400 Therms			
Therms in the first block per month at	\$ 0.5830	\$ 0.6173	\$ 0.0890	\$ 1.2893	\$ 0.5830	\$ 0.6261	\$ 0.0909	\$ 1.3000
All therms over the first block per month at	\$ 0.3982	\$ 0.6173	\$ 0.0890	\$ 1.1045	\$ 0.3982	\$ 0.6261	\$ 0.0909	\$ 1.1152
Commercial/Industrial - G-46								
Customer Charge per Month per Meter	\$ 1,015.52			\$ 1,015.52	\$ 1,015.52			\$ 1,015.52
All therms over the first block per month at	\$ 0.3596	\$ 0.6173	\$ 0.0890	\$ 1.0659	\$ 0.1747	\$ 0.6261	\$ 0.0909	\$ 0.8917
Commercial/Industrial - G-55								
Customer Charge per Month per Meter	\$ 79.13			\$ 79.13	\$ 79.13			\$ 79.13
Size of the first block	100 Therms				100 Therms			
Therms in the first block per month at	\$ 0.3861	\$ 0.6185	\$ 0.0890	\$ 1.0936	\$ 0.3861	\$ 0.6273	\$ 0.0909	\$ 1.1043
All therms over the first block per month at	\$ 0.2579	\$ 0.6185	\$ 0.0890	\$ 0.9654	\$ 0.2579	\$ 0.6273	\$ 0.0909	\$ 0.9761
Commercial/Industrial - G-56								
Customer Charge per Month per Meter	\$ 236.94			\$ 236.94	\$ 236.94			\$ 236.94
Size of the first block	1000 Therms				1000 Therms			
Therms in the first block per month at	\$ 0.3328	\$ 0.6185	\$ 0.0890	\$ 1.0403	\$ 0.2458	\$ 0.6273	\$ 0.0909	\$ 0.9640
All therms over the first block per month at	\$ 0.2274	\$ 0.6185	\$ 0.0890	\$ 0.9349	\$ 0.1472	\$ 0.6273	\$ 0.0909	\$ 0.8654
Commercial/Industrial - G-57								
Customer Charge per Month per Meter	\$ 1,047.48			\$ 1,047.48	\$ 1,047.48			\$ 1,047.48
All therms over the first block per month at	\$ 0.2327	\$ 0.6185	\$ 0.0890	\$ 0.9402	\$ 0.1179	\$ 0.6273	\$ 0.0909	\$ 0.8361
Commercial/Industrial - G-58								
Customer Charge per Month per Meter	\$ 1,048.34			\$ 1,048.34	\$ 1,048.34			\$ 1,048.34
All therms over the first block per month at	\$ 0.0887	\$ 0.6185	\$ 0.0890	\$ 0.7962	\$ 0.0502	\$ 0.6273	\$ 0.0909	\$ 0.7684

DATED: October XX, 2023

EFFECTIVE: November 1, 2023

ISSUED BY: /s/Neil Proudman
Neil Proudman
TITLE: President

NHPUC NO. 11 GAS
LIBERTY UTILITIES

Illustrative Third Revised Page 91
Superseding Second Revised Page 91
Summer Cost of Gas

26 ANTICIPATED SUMMER PERIOD COST OF GAS - EXCLUDING KEENE CUSTOMERS OR GAS LIGHTING

Anticipated Cost of Gas		
PERIOD COVERED: SUMMER PERIOD, MAY 1, 2024 THROUGH OCTOBER 31, 2024		
(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:	\$ 3,222,250	
Supply Costs:	5,741,685	
Storage Gas:		
Demand, Capacity:	\$ -	
Commodity Costs:	-	
Produced Gas:		
	\$ 114,493	
Hedged Contract (Savings)/Loss		
	<u>\$ (2,938,092)</u>	
Unadjusted Anticipated Cost of Gas		\$ 6,140,336
Adjustments:		
Prior Period (Over)/Under Recovery (as of 9/1/2023 estimated COG)	\$ 9,879,800	
Interest	702,520	
Prior Period Adjustments	-	
Broker Revenues	-	
Refunds from Suppliers	-	
Fuel Financing	-	
Transportation CGA Revenues	-	
Interruptible Sales Margin	-	
Capacity Release Margin	(2,027,770)	
Hedging Costs	-	
Fixed Price Option Administrative Costs	-	
Total Adjustments		<u>8,554,550</u>
Total Anticipated Direct Cost of Gas		\$ 14,694,886
Anticipated Indirect Cost of Gas		
Working Capital:		
Total Unadjusted Anticipated Cost of Gas (05/01/24 - 10/31/24)	\$ 6,140,336	
Working Capital Rate - Lead Lag Days / 365	0.0705	
Prime Rate	8.50%	
Working Capital Percentage	0.599%	
Working Capital	\$ 36,778	
Plus: Working Capital Reconciliation (Acct 1163-1424)	<u>39,326</u>	
Total Working Capital Allowance		\$ 76,104
Bad Debt:		
Total Unadjusted Anticipated Cost of Gas (05/01/24 - 10/31/24)	\$ 6,140,336	
Less: Refunds	-	
Plus: Total Working Capital	76,104	
Plus: Prior Period (Over)/Under Recovery	<u>9,879,800</u>	
Subtotal	\$ 16,096,240	
Bad Debt Percentage	<u>0.23%</u>	
Bad Debt Allowance	\$ 37,329	
Plus: Bad Debt Reconciliation (Acct 1163-1754)	<u>698,114</u>	
Total Bad Debt Allowance		735,443
Production and Storage Capacity		
Miscellaneous Overhead (05/01/24 - 10/31/24)	\$ -	
Times Summer Sales	24,743	
Divided by Total Sales	<u>119,311</u>	
Miscellaneous Overhead		<u>-</u>
Total Anticipated Indirect Cost of Gas		\$ 811,547
Total Cost of Gas		\$ 15,506,433

DATED: October XX, 2023

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Neil Proudman
TITLE: President

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NHPUC NO. 11 GAS
LIBERTY UTILITIES

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Summer Cost of Gas

**27 CALCULATION OF FIRM SALES SUMMER PERIOD COST OF GAS RATE -
EXCLUDING KEENE CUSTOMERS**

**CALCULATION OF FIRM SALES COST OF GAS RATE
PERIOD COVERED SUMMER PERIOD, MAY 1, 2024 THROUGH OCTOBER 31, 2024
(Refer to Text in Section 17 Cost of Gas Clause)**

(Col 1)	(Col 2)	(Col 3)
Total Anticipated Direct Cost of Gas	\$ 14,694,886	
Projected Prorated Sales (05/01/24 - 10/31/24)	24,742,661	
Direct Cost of Gas Rate		\$ 0.5939 per therm
Demand Cost of Gas Rate	\$ 3,222,250	\$ 0.1302 per therm
Commodity Cost of Gas Rate	2,918,086	\$ 0.1179 per therm
Adjustment Cost of Gas Rate	8,554,550	\$ 0.3457 per therm
Total Direct Cost of Gas Rate	\$ 14,694,886	\$ 0.5939 per therm
Total Anticipated Indirect Cost of Gas	\$ 811,547	
Projected Prorated Sales (05/01/24 - 10/31/24)	24,742,661	
Indirect Cost of Gas		\$ 0.0328 per therm
TOTAL PERIOD AVERAGE COST OF GAS EFFECTIVE 05/01/24		\$ 0.6267 per therm

RESIDENTIAL COST OF GAS RATE - 05/01/2024	COGsr	\$ 0.6267 /therm
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C&I HIGH WINTER USE COST OF GAS RATE - 05/01/2024	COGsh	\$ 0.6261 /therm
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Average Demand Cost of Gas Rate Effective 05/01/24	\$ 0.1302		
Times: High Winter Use Ratio (Summer)	0.9987	Maximum (COG + 25%)	\$ 0.7826
Times: Correction Factor	0.9976		
Adjusted Demand Cost of Gas Rate	\$ 0.1297		
Commodity Cost of Gas Rate	\$ 0.1179		
Adjustment Cost of Gas Rate	0.3457		
Indirect Cost of Gas Rate	0.0328		
Adjusted Com/Ind High Winter Use Cost of Gas Rate	\$ 0.6261		
		Maximum (COG + 25%)	\$ 0.7834

C&I LOW WINTER USE COST OF GAS RATE - 05/01/2024	COGsl	\$ 0.6273 /therm
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Average Demand Cost of Gas Rate Effective 05/01/24	\$ 0.1302		
Times: Low Winter Use Ratio (Summer)	1.0080	Maximum (COG + 25%)	\$ 0.7841
Times: Correction Factor	0.9976		
Adjusted Demand Cost of Gas Rate	\$ 0.1309		
Commodity Cost of Gas Rate	\$ 0.1179		
Adjustment Cost of Gas Rate	0.3457		
Indirect Cost of Gas Rate	0.0328		
Adjusted Com/Ind Low Winter Use Cost of Gas Rate	\$ 0.6273		

DATED: October XX, 2023

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Neil Proudman
TITLE: President

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NHPUC NO. 11 GAS
LIBERTY UTILITIES

Illustrative Third Revised Page 94
Superseding Second Revised Page 94
Winter Cost of Gas

29 CALCULATION OF FIXED WINTER PERIOD COST OF GAS RATE EXCLUDING KEENE CUSTOMERS

II. RATE SCHEDULES

**CALCULATION OF FIXED WINTER PERIOD COST OF GAS RATE
PERIOD COVERED WINTER PERIOD, NOVEMBER 1, 2023 THROUGH APRIL 30, 2024
(Refer to Text in Section 17(A) Fixed Price Option Program)**

(Col 1)	(Col 2)	(Col 3)
Total Anticipated Direct Cost of Gas	\$ 54,722,319	
Projected Prorated Sales (11/01/23 - 04/30/24)	94,568,321	
Direct Cost of Gas Rate		\$ 0.5787 per therm
Demand Cost of Gas Rate	\$ 12,479,766	\$ 0.1320 per therm
Commodity Cost of Gas Rate	59,033,914	\$ 0.6242 per therm
Adjustment Cost of Gas Rate	(12,439,637)	\$ (0.1315) per therm
Hedge Underground Storage Contract (Savings)/Loss	\$ (4,351,724)	\$ (0.0795) per therm
Total Direct Cost of Gas Rate	\$ 54,722,319	\$ 0.5787 per therm
Total Anticipated Indirect Cost of Gas	\$ 3,672,531	
Projected Prorated Sales (11/01/23 - 04/30/24)	94,568,321	
Indirect Cost of Gas		\$ 0.0388 per therm
TOTAL PERIOD AVERAGE COST OF GAS EFFECTIVE (11/01/23)		\$ 0.6175
<u>Calculation of FPO Excluding Low Income - Rate Code R-3</u>		
TOTAL PERIOD AVERAGE COST OF GAS EFFECTIVE (11/01/23)		\$ 0.6175
FPO Risk Premium		\$ 0.0200
TOTAL PERIOD FIXED PRICE OPTION COST OF GAS RATE EFFECTIVE (11/01/23)		\$ 0.6375
RESIDENTIAL FPO COST OF GAS RATE - EXCLUDING LOW INCOME - (R-3) 11/01/23		
	COGwr	\$ 0.6375 /therm
<u>Calculation of FPO for Gas Assistance Program - Rate Code R-4</u>		
TOTAL PERIOD AVERAGE COST OF GAS EFFECTIVE (11/01/23) FPO (Line 13 * 0.55)		\$ 0.3396
FPO Risk Premium (Line 14 * 0.55)		\$ 0.0110
TOTAL PERIOD FIXED PRICE OPTION COST OF GAS RATE EFFECTIVE (11/01/23) (Line 15 * 0.55)		\$ 0.3506
RESIDENTIAL FPO COST OF GAS RATE - LOW INCOME - (R-4) 11/01/23		
	COGwr	\$ 0.3506 /therm

DATED: October XX, 2023

ISSUED BY: /s/Neil Proudman

EFFECTIVE: November 1, 2023

Neil Proudman
TITLE: President

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**30 CALCULATION OF FIRM SALES WINTER PERIOD COST OF GAS RATE
EXCLUDING KEENE CUSTOMERS**

**CALCULATION OF FIRM SALES COST OF GAS RATE
PERIOD COVERED: WINTER PERIOD, NOVEMBER 1, 2023 THROUGH APRIL 30, 2024
(Refer to Text in Section 17 Cost of Gas Clause)**

(Col 1)	(Col 2)	(Col 3)
Total Anticipated Direct Cost of Gas	\$ 54,722,319	
Projected Prorated Sales (11/01/2023 - 04/30/2024)	94,568,321	
Direct Cost of Gas Rate		\$ 0.5787 per therm
Demand Cost of Gas Rate	\$ 12,479,766	\$ 0.1320 per therm
Commodity Cost of Gas Rate	59,033,914	\$ 0.6242 per therm
Adjustment Cost of Gas Rate	(12,439,637)	\$ (0.1315)
Hedge Contract (Savings)	<u>(4,351,724)</u>	<u>\$ (0.0460) per therm</u>
Total Direct Cost of Gas Rate	\$ 54,722,319	\$ 0.5787 per therm
Total Anticipated Indirect Cost of Gas	\$ 3,672,531	
Projected Prorated Sales (11/01/2023 - 04/30/2024)	94,568,321	
Indirect Cost of Gas		\$ 0.0388 per therm
TOTAL PERIOD AVERAGE COST OF GAS EFFECTIVE 11/01/23		\$ 0.6175 per therm

RESIDENTIAL COST OF GAS RATE - EXCLUDING LOW INCOME - 11/01/23	COGwr	\$ 0.6175 /therm
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Maximum (COG + 25%) \$ 0.7719

GAS ASSISTANCE PLAN RESIDENTIAL COST OF GAS RATE R-4 - 11/01/23	COGwr	\$ 0.3396 /therm
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Maximum (COG + 25%) \$ 0.4245

C&I HIGH WINTER USE COST OF GAS RATE - 11/01/23	COGwh	\$ 0.6173 /therm
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Average Demand Cost of Gas Rate Effective 11/01/23	\$ 0.1320		
Times: High Winter Use Ratio (Winter)	0.9987	Maximum (COG + 25%)	\$ 0.7716
Times: Correction Factor	<u>0.9997</u>		
Adjusted Demand Cost of Gas Rate	\$ 0.1318		
Commodity Cost of Gas Rate	\$ 0.6242		
Adjustment Cost of Gas Rate	\$ (0.1315)		
Indirect Cost of Gas Rate	\$ 0.0388		
Hedge Contract (Savings)	<u>\$ (0.0460)</u>		
Adjusted C&I High Winter Use Cost of Gas Rate	\$ 0.6173		

C&I LOW WINTER USE COST OF GAS RATE - 11/01/23	COGwl	\$ 0.6185 /therm
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Average Demand Cost of Gas Rate Effective 11/01/23	\$ 0.1320		
Times: Low Winter Use Ratio (Winter)	1.0080	Maximum (COG + 25%)	\$ 0.7731
Times: Correction Factor	<u>0.9997</u>		
Adjusted Demand Cost of Gas Rate	\$ 0.1330		
Commodity Cost of Gas Rate	\$ 0.6242		
Adjustment Cost of Gas Rate	\$ (0.1315)		
Indirect Cost of Gas Rate	\$ 0.0388		
Hedge Contract (Savings)	<u>\$ (0.0460)</u>		
Adjusted C&I Low Winter Use Cost of Gas Rate	\$ 0.6185		

DATED: October XX, 2023

ISSUED BY: /s/Neil Proudman

EFFECTIVE: November 1, 2023

Neil Proudman
TITLE: President

NHPUC NO. 11 GAS
LIBERTY UTILITIES

Illustrative Third Revised Page 96
Superseding Second Revised Page 96
Winter Cost of Gas

31 ANTICIPATED WINTER PERIOD COST OF GAS - EXCLUDING KEENE CUSTOMERS OR GAS LIGHTING

Anticipated Cost of Gas		
PERIOD COVERED: WINTER PERIOD, NOVEMBER 1, 2023 THROUGH APRIL 30, 2024		
(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:	\$ 11,478,067	
Supply Costs:	46,903,637	
Storage Gas:		
Demand, Capacity:	\$ 1,001,699	
Commodity Costs:	4,860,737	
Produced Gas:	7,269,540	
Hedged Contract (Saving)/Loss	(4,351,724)	
Hedge Underground Storage Contract (Saving)/Loss	<u>-</u>	
Unadjusted Anticipated Cost of Gas		\$ 67,161,955
Adjustments:		
Prior Period (Over)/Under Recovery (as of 05/01/23)	\$ (8,577,690)	
Interest	(401,465)	
Fuel Inventory Revenue Requirement	861,872	
Broker Revenues	(1,340,480)	
Refunds from Suppliers	-	
Fuel Financing	-	
Transportation CGA Revenues	(120,926)	
Interruptible Sales Margin	-	
Capacity Release and Off System Sales Margins	(2,860,948)	
Hedging Costs	-	
Fixed Price Option Administrative Costs	<u>-</u>	
Total Adjustments		<u>(12,439,637)</u>
Total Anticipated Direct Cost of Gas		\$ 54,722,319
Anticipated Indirect Cost of Gas		
Working Capital:		
Total Unadjusted Anticipated Cost of Gas 11/01/23 - 04/30/24	\$ 67,161,955	
Working Capital Rate: Lead Lag Days / 365	0.0705	
Prime Rate	8.50%	
Working Capital Percentage	<u>0.599%</u>	
Working Capital	\$ 402,273	
Plus: Working Capital Reconciliation (Acct 142.20)	<u>(162,369)</u>	
Total Working Capital Allowance		239,903
Bad Debt:		
Total Unadjusted Anticipated Cost of Gas 11/01/23 - 04/30/24	\$ 67,161,955	
Less: Refunds	-	
Plus: Total Working Capital	239,903	
Plus: Prior Period (Over)/Under Recovery	<u>(8,577,690)</u>	
Subtotal	\$ 58,824,169	
Bad Debt Percentage	<u>0.23%</u>	
Bad Debt Allowance	\$ 136,418	
Plus: Bad Debt Reconciliation (Acct 175.52)	<u>(389,248)</u>	
Total Bad Debt Allowance		\$ (252,830)
Production and Storage Capacity		\$ 3,685,458
Miscellaneous Overhead 11/01/2023- 04/30/24	\$ -	
Times Winter Sales	94,568	
Divided by Total Sales	<u>119,311</u>	
Miscellaneous Overhead		<u>-</u>
Total Anticipated Indirect Cost of Gas		\$ 3,672,531
Total Cost of Gas		<u>\$ 58,394,850</u>

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Neil Proudman
TITLE: President

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NHPUC NO. 11 GAS
LIBERTY UTILITIES

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Superseding Second Revised Page 98
Firm Transportation Cost of Gas

33 CALCULATION OF FIRM TRANSPORTATION COST OF GAS RATE

II. RATE SCHEDULES

Calculation of Firm Transportation Cost of Gas Rate

PERIOD COVERED: WINTER PERIOD, NOVEMBER 1, 2023 THROUGH APRIL 30, 2024

(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	\$ 1,253,503		
LNG	<u>6,016,038</u>		
TOTAL ANTICIPATED COST OF SUPPLEMENTAL GAS SUPPLIES	7,269,540		
ESTIMATED PERCENTAGE USED FOR PRESSURE SUPPORT PURPOSES	<u>8.7%</u>		
ESTIMATED COST OF LIQUIDS USED FOR PRESSURE SUPPORT PURPOSES	<u>\$ 632,450</u>		
PROJECTED FIRM THROUGHPUT (THERMS):			
FIRM SALES	94,568,321	68.6%	
FIRM TRANSPORTATION SUBJECT TO FTSG	<u>43,224,605</u>	<u>31.4%</u>	
TOTAL FIRM THROUGHPUT SUBJECT TO COST OF GAS CHARGE	137,792,926	100.0%	
TRANSPORTATION SHARE OF SUPPLEMENTAL GAS SUPPLIES	31.4%	x	\$ 632,450 = \$ 198,395
PRIOR (OVER) OR UNDER COLLECTION			<u>(120,566)</u>
NET AMOUNT TO COLLECT FROM (RETURNED TO) TRANSPORTATION CUSTOMERS			\$ 77,829
PROJECTED FIRM TRANSPORTATION THROUGHPUT			43,224,605
FIRM TRANSPORTATION COST OF GAS			\$ 0.0018

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NHPUC NO. 11 GAS
LIBERTY UTILITIES

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Attachments

2 ATTACHMENT B
Schedule of Administrative Fees and Charges

Schedule of Administrative Fees and Charges

I. Supplier Balancing Charge:	\$	0.14	per MMBtu of Daily Imbalance Volumes")
II. Capacity Mitigation Fee		15%	of the Proceeds from the Marketing of Capacity for Mitigation.
III. Peaking Demand Charge	\$	43.95	MMBTU of Peak MDQ
IV. Company Allowance Calculation (per Schedule 25)			
		160,052,009	Total Sendout - Therms Jul-2022 - Jun-2023
		<u>153,641,897</u>	Total Throughput - Therms Jul-2022 - Jun-2023
		6,410,112	Variance (Sendout - Throughput)
Company Allowance Percentage 2023-24		4.0%	Variance / Total Sendout

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Neil Proudman
TITLE: President

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**3 ATTACHMENT C
Capacity Allocators**

CAPACITY ALLOCATORS

Rate Class		Pipeline	Storage	Peaking	Total
G-41	Low Annual /High Winter Use	70.6%	17.2%	12.2%	100.0%
G-51	Low Annual /Low Winter Use	79.6%	12.0%	8.5%	100.0%
G-42	Medium Annual / High Winter	70.6%	17.2%	12.2%	100.0%
G-52	High Annual / Low Winter Use	79.6%	12.0%	8.5%	100.0%
G-43	High Annual / High Winter	70.6%	17.2%	12.2%	100.0%
G-53	High Annual / Load Factor < 90%	79.6%	12.0%	8.5%	100.0%
G-54	High Annual / Load Factor < 90%	79.6%	12.0%	8.5%	100.0%

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NHPUC NO. 11 GAS
LIBERTY UTILITIES

~~Illustrative Fifty-sixth~~~~Fifty-fifth~~ Revised Page 1
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Check Sheet

<u>Page</u>	<u>Revision</u>
Title	Original
TOC i	First Revised
TOC ii	Original
TOC iii	First Revised
TOC iv	Original
1	Fifty- sixth fifth Revised
2	Fifth Revised
3	Fifty- third second Revised
4	Fiftieth Forty-ninth Revised
5	Third Second Revised
6	Original
7	Original
8	Original
9	Second Revised
10	Original
11	Original
12	Original
13	Original
14	Original
15	Original
16	Original
17	Original
18	Original
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25	Original
26	Original

DATED: ~~October XX, 2023~~~~August 24, 2023~~

ISSUED BY: /s/Neil Proudman
Neil Proudman

EFFECTIVE: ~~November 1, 2023~~~~September 1, 2023~~

TITLE: President

~~Authorized by NHPUC Order No. XX,XXX dated October XX, 2023, in Docket No. DG 23-076~~~~Authorized by NHPUC Order No. 26,807 dated April 25, 2023, in Docket No. DG 23-034~~

NHPUC NO. 11 GAS
LIBERTY UTILITIES

~~Illustrative Fifty-third~~~~Fifty-second~~ Revised Page 3
Superseding ~~Fifty-second~~~~Fifty-first~~ Revised Page 3
Check Sheet

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58	Original
59	Third Revised
60	Original
61	Third Revised
62	Original
63	Third Revised
64	Original
65	Third Revised
66	Original
67	Third Revised
68	Original
69	Third Revised
70	Original
71	Third Revised
72	Original
73	Fourth Revised
74	Original
75	Third Revised
76	Original
77	Third Revised
78	Original
79	Third Revised
80	Original
81	Third Revised
82	Original
83	Third Revised
84	Original
85	Third Revised
86	Original
87	Twenty- ninth eight Revised
88	Thirtieth Revised
89	Twenty- ninth eight Revised

DATED: ~~October XX, 2023~~~~August 24, 2023~~

ISSUED BY: /s/Neil Proudman

EFFECTIVE: ~~November 1, 2023~~~~September 1, 2023~~

Neil Proudman
TITLE: President

~~Authorized by NHPUC Order No. XX,XXX dated October XX, 2023, in Docket No. DG 23-076~~~~Authorized by NHPUC Order No. 26,807 dated April 25, 2023, in Docket No. DG 23-034~~

NHPUC NO. 11 GAS
LIBERTY UTILITIES

~~Illustrative Fiftieth~~~~Forty-ninth~~ Revised Page 4
Superseding ~~Forty-ninth~~~~Forty-eighth~~ Revised Page 4
Check Sheet

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90	Original
91	Third Second Revised
92	Tenth Ninth Revised
93	Thirteenth Revised
94	Third Second Revised
95	Thirteenth Twelfth Revised
96	Third Second Revised
97	Tenth Revised
98	Third Second Revised
99	Second Revised
100	Second Revised
101	Ninth Revised
102	Original
103	Original
104	Original
105	Original
106	Original
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108	Original
109	Original
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113	Original
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116	Original
117	Original
118	Original
119	Original
120	Original
121	Original
122	Original
123	Original

DATED: ~~October XX, 2023~~~~August 31, 2023~~

ISSUED BY: /s/Neil Proudman
Neil Proudman

EFFECTIVE: ~~November 1, 2023~~~~September 1, 2023~~

TITLE: President

NHPUC NO. 11 GAS
LIBERTY UTILITIES

~~Illustrative Third~~ Revised Page 5
Superseding ~~Second~~ Revised Page 5
Check Sheet

<u>Page</u>	<u>Revision</u>
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145	Original
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148	Original
149	Original
150	Original
151	Original
152	Original
153	Third Revised
154	Third Revised

DATED: ~~October XX, 2023~~ February 7, 2023

ISSUED BY: /s/Neil Proudman

EFFECTIVE: ~~November 1, 2023~~ November 1, 2022

Neil Proudman
TITLE: President

~~Authorized by NHPUC Order No. XX,XXX dated October XX, 2023, in Docket No. DG 23-076~~
~~Authorized by NHPUC Order No. 26,715 dated October 31, 2022, in Docket No. DG 22-045~~

22 FIRM RATE SCHEDULES - EXCLUDING KEENE CUSTOMERS

II. RATE SCHEDULES

	Rates Effective November 1, 2023 - April 30, 2024 Winter Period				Rates Effective September 1, 2023 - October 31, 2023 Rates Effective May 1, 2024 - October 31, 2024 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	\$ 0.4614	\$ 0.6175	\$ 0.1113	\$ 1.1902	\$ 0.4614	\$ 0.6267	\$ 0.2006	\$ 1.2887
		\$ -0.1326		\$ -0.7053		\$ -0.7493	\$ -0.1180	\$ -1.3287
Residential Heating - R-3								
Customer Charge per Month per Meter	\$ 15.39			\$ 15.39	\$ 15.39			\$ 15.39
Therms in the first block per month at	\$ 0.6167	\$ 0.6175	\$ 0.1113	\$ 1.3455	\$ 0.6167	\$ 0.6267	\$ 0.2006	\$ 1.4440
		\$ -0.1326		\$ -0.8606		\$ -0.7493	\$ -0.1180	\$ -1.4840
Residential Heating - R-4								
Customer Charge per Month per Meter	\$ 8.47			\$ 8.47	\$ 15.39			\$ 15.39
Therms in the first block per month at	\$ 0.3392	\$ 0.3396	\$ 0.1113	\$ 0.7901	\$ 0.6167	\$ 0.6267	\$ 0.2006	\$ 1.4440
		\$ -0.0729		\$ -0.5234		\$ -0.7493	\$ -0.1180	\$ -1.4840
Commercial/Industrial - G-41								
Customer Charge per Month per Meter	\$ 60.81			\$ 60.81	\$ 60.81			\$ 60.81
Size of the first block	100 Therms				20 Therms			
Therms in the first block per month at	\$ 0.4928	\$ 0.6173	\$ 0.0890	\$ 1.1991	\$ 0.4928	\$ 0.6261	\$ 0.0909	\$ 1.2098
		\$ -0.1327		\$ -0.7145		\$ -0.7496	\$ -0.0957	\$ -1.3384
All therms over the first block per month at	\$ 0.3390	\$ 0.6173	\$ 0.0890	\$ 1.0453	\$ 0.3390	\$ 0.6261	\$ 0.0909	\$ 1.0560
		\$ -0.1327		\$ -0.5607		\$ -0.7496	\$ -0.0957	\$ -1.1843
Commercial/Industrial - G-42								
Customer Charge per Month per Meter	\$ 182.42			\$ 182.42	\$ 182.42			\$ 182.42
Size of the first block	1000 Therms				400 Therms			
Therms in the first block per month at	\$ 0.4485	\$ 0.6173	\$ 0.0890	\$ 1.1548	\$ 0.4485	\$ 0.6261	\$ 0.0909	\$ 1.1655
		\$ -0.1327		\$ -0.6702		\$ -0.7496	\$ -0.0957	\$ -1.2938
All therms over the first block per month at	\$ 0.3063	\$ 0.6173	\$ 0.0890	\$ 1.0126	\$ 0.3063	\$ 0.6261	\$ 0.0909	\$ 1.0233
		\$ -0.1327		\$ -0.5280		\$ -0.7496	\$ -0.0957	\$ -1.1516
Commercial/Industrial - G-43								
Customer Charge per Month per Meter	\$ 781.17			\$ 781.17	\$ 781.17			\$ 781.17
All therms over the first block per month at	\$ 0.2766	\$ 0.6173	\$ 0.0890	\$ 0.9829	\$ 0.1344	\$ 0.6261	\$ 0.0909	\$ 0.8514
		\$ -0.1327		\$ -0.4983		\$ -0.7496	\$ -0.0957	\$ -0.9797
Commercial/Industrial - G-51								
Customer Charge per Month per Meter	\$ 60.87			\$ 60.87	\$ 60.87			\$ 60.87
Size of the first block	100 Therms				100 Therms			
Therms in the first block per month at	\$ 0.2970	\$ 0.6185	\$ 0.0890	\$ 1.0045	\$ 0.2970	\$ 0.6273	\$ 0.0909	\$ 1.0152
		\$ -0.1322		\$ -0.5182		\$ -0.7490	\$ -0.0957	\$ -1.1417
All therms over the first block per month at	\$ 0.1983	\$ 0.6185	\$ 0.0890	\$ 0.9058	\$ 0.1983	\$ 0.6273	\$ 0.0909	\$ 0.9165
		\$ -0.1322		\$ -0.4195		\$ -0.7490	\$ -0.0957	\$ -1.0430
Commercial/Industrial - G-52								
Customer Charge per Month per Meter	\$ 182.26			\$ 182.26	\$ 182.26			\$ 182.26
Size of the first block	1000 Therms				1000 Therms			
Therms in the first block per month at	\$ 0.2560	\$ 0.6185	\$ 0.0890	\$ 0.9635	\$ 0.1891	\$ 0.6273	\$ 0.0909	\$ 0.9073
		\$ -0.1322		\$ -0.4772		\$ -0.7490	\$ -0.0957	\$ -1.0338
All therms over the first block per month at	\$ 0.1749	\$ 0.6185	\$ 0.0890	\$ 0.8824	\$ 0.1132	\$ 0.6273	\$ 0.0909	\$ 0.8314
		\$ -0.1322		\$ -0.3964		\$ -0.7490	\$ -0.0957	\$ -0.9579
Commercial/Industrial - G-53								
Customer Charge per Month per Meter	\$ 805.75			\$ 805.75	\$ 805.75			\$ 805.75
All therms over the first block per month at	\$ 0.1790	\$ 0.6185	\$ 0.0890	\$ 0.8865	\$ 0.0907	\$ 0.6273	\$ 0.0909	\$ 0.8089
		\$ -0.1322		\$ -0.4002		\$ -0.7490	\$ -0.0957	\$ -0.9354
Commercial/Industrial - G-54								
Customer Charge per Month per Meter	\$ 806.42			\$ 806.42	\$ 806.42			\$ 806.42
All therms over the first block per month at	\$ 0.0682	\$ 0.6185	\$ 0.0890	\$ 0.7757	\$ 0.0386	\$ 0.6273	\$ 0.0909	\$ 0.7568
		\$ -0.1322		\$ -0.2894		\$ -0.7490	\$ -0.0957	\$ -0.8833

DATED: ~~October XX, 2026~~ August 24, 2023

ISSUED BY: /s/Neil Proudman

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Neil Proudman
TITLE: President

Authorized by NHPUC Order No. XX.XXX dated October XX, 2023, in Docket No. DG 23-076 Authorized by NHPUC Order No. 26,715 dated October 31, 2022, in Docket No. DG 22-045 and Order No. 26,737 dated November 30, 2022, in Docket No. DG 22-045

4 FIRM RATE SCHEDULES – MANAGED EXPANSION PROGRAM - EXCLUDING KEENE CUSTOMERS

II RATE SCHEDULES

	Rates Effective November 1, 2023 - April 30, 2024 Winter Period				Rates Effective September 1, 2023 October 31, 2023 Rates Effective May 1, 2024 - October 31, 2024 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	\$ 0.5999	\$ 0.6175	\$ 0.1113	\$ 1.3287	\$ 0.5999	\$ 0.6267	\$ 0.2006	\$ 1.4272
		\$ 0.1326		\$ 0.8438		\$ 0.7493	\$ 0.1180	\$ 1.4672
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	\$ 0.8017	\$ 0.6175	\$ 0.1113	\$ 1.5305	\$ 0.8017	\$ 0.6267	\$ 0.2006	\$ 1.6290
		\$ 0.1326		\$ 1.0456		\$ 0.7493	\$ 0.1180	\$ 1.6690
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	\$ 0.4409	\$ 0.3396	\$ 0.1113	\$ 0.8918	\$ 0.8017	\$ 0.6267	\$ 0.2006	\$ 1.6290
		\$ 0.0729		\$ 0.6251		\$ 0.7493	\$ 0.1180	\$ 1.6690
Commercial/Industrial - G-44								
Customer Charge per Month per Meter	\$ 79.06			\$ 79.06	\$ 79.06			\$ 79.06
Size of the first block	100 Therms				20 Therms			
Therms in the first block per month at	\$ 0.6407	\$ 0.6173	\$ 0.0890	\$ 1.3470	\$ 0.6407	\$ 0.6261	\$ 0.0909	\$ 1.3577
		\$ 0.1327		\$ 0.8624		\$ 0.7496	\$ 0.0957	\$ 1.4860
All therms over the first block per month at	\$ 0.4406	\$ 0.6173	\$ 0.0890	\$ 1.1469	\$ 0.4406	\$ 0.6261	\$ 0.0909	\$ 1.1576
		\$ 0.1327		\$ 0.6623		\$ 0.7496	\$ 0.0957	\$ 1.2859
Commercial/Industrial - G-45								
Customer Charge per Month per Meter	\$ 237.14			\$ 237.14	\$ 237.14			\$ 237.14
Size of the first block	1000 Therms				400 Therms			
Therms in the first block per month at	\$ 0.5830	\$ 0.6173	\$ 0.0890	\$ 1.2893	\$ 0.5830	\$ 0.6261	\$ 0.0909	\$ 1.3000
		\$ 0.1327		\$ 0.8047		\$ 0.7496	\$ 0.0957	\$ 1.4283
All therms over the first block per month at	\$ 0.3982	\$ 0.6173	\$ 0.0890	\$ 1.1045	\$ 0.3982	\$ 0.6261	\$ 0.0909	\$ 1.1152
		\$ 0.1327		\$ 0.6199		\$ 0.7496	\$ 0.0957	\$ 1.2436
Commercial/Industrial - G-46								
Customer Charge per Month per Meter	\$ 1,015.52			\$ 1,015.52	\$ 1,015.52			\$ 1,015.52
All therms over the first block per month at	\$ 0.3596	\$ 0.6173	\$ 0.0890	\$ 1.0659	\$ 0.1747	\$ 0.6261	\$ 0.0909	\$ 0.8917
		\$ 0.1327		\$ 0.5813		\$ 0.7496	\$ 0.0957	\$ 1.0200
Commercial/Industrial - G-55								
Customer Charge per Month per Meter	\$ 79.13			\$ 79.13	\$ 79.13			\$ 79.13
Size of the first block	100 Therms				100 Therms			
Therms in the first block per month at	\$ 0.3861	\$ 0.6185	\$ 0.0890	\$ 1.0936	\$ 0.3861	\$ 0.6273	\$ 0.0909	\$ 1.1043
		\$ 0.1322		\$ 0.6073		\$ 0.7490	\$ 0.0957	\$ 1.2308
All therms over the first block per month at	\$ 0.2579	\$ 0.6185	\$ 0.0890	\$ 0.9654	\$ 0.2579	\$ 0.6273	\$ 0.0909	\$ 0.9761
		\$ 0.1322		\$ 0.4791		\$ 0.7490	\$ 0.0957	\$ 1.1026
Commercial/Industrial - G-56								
Customer Charge per Month per Meter	\$ 236.94			\$ 236.94	\$ 236.94			\$ 236.94
Size of the first block	1000 Therms				1000 Therms			
Therms in the first block per month at	\$ 0.3328	\$ 0.6185	\$ 0.0890	\$ 1.0403	\$ 0.2458	\$ 0.6273	\$ 0.0909	\$ 0.9640
		\$ 0.1322		\$ 0.5540		\$ 0.7490	\$ 0.0957	\$ 1.0905
All therms over the first block per month at	\$ 0.2274	\$ 0.6185	\$ 0.0890	\$ 0.9349	\$ 0.1472	\$ 0.6273	\$ 0.0909	\$ 0.8654
		\$ 0.1322		\$ 0.4486		\$ 0.7490	\$ 0.0957	\$ 0.9919
Commercial/Industrial - G-57								
Customer Charge per Month per Meter	\$ 1,047.48			\$ 1,047.48	\$ 1,047.48			\$ 1,047.48
All therms over the first block per month at	\$ 0.2327	\$ 0.6185	\$ 0.0890	\$ 0.9402	\$ 0.1179	\$ 0.6273	\$ 0.0909	\$ 0.8361
		\$ 0.1322		\$ 0.4539		\$ 0.7490	\$ 0.0957	\$ 0.9626
Commercial/Industrial - G-58								
Customer Charge per Month per Meter	\$ 1,048.34			\$ 1,048.34	\$ 1,048.34			\$ 1,048.34
All therms over the first block per month at	\$ 0.0887	\$ 0.6185	\$ 0.0890	\$ 0.7962	\$ 0.0502	\$ 0.6273	\$ 0.0909	\$ 0.7684
		\$ 0.1322		\$ 0.3099		\$ 0.7490	\$ 0.0957	\$ 0.8949

DATED: ~~October XX, 2023~~ August 24, 2023

ISSUED BY: /s/Neil Proudman

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Neil Proudman
TITLE: President

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NHPUC NO. 11 GAS
LIBERTY UTILITIES

~~Illustrative Third Second~~ Revised Page 91
Superseding ~~Second First~~ Revised Page 91
Summer Cost of Gas

26 ANTICIPATED SUMMER PERIOD COST OF GAS - EXCLUDING KEENE CUSTOMERS OR GAS LIGHTING

Anticipated Cost of Gas				
PERIOD COVERED: SUMMER PERIOD, MAY 1, 2024 THROUGH OCTOBER 31, 2024				
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)	(Col 2)	(Col 3)
ANTICIPATED DIRECT COST OF GAS				
Purchased Gas:				
Demand Costs:	\$ 3,222,250		\$ 3,233,514	
Supply Costs:	5,741,685		9,171,762	
Storage Gas:				
Demand, Capacity:	\$ -		\$ -	
Commodity Costs:	-		-	
Produced Gas:				
	\$ 114,493		452,643	
Hedged Contract (Savings)/Loss				
	\$ (2,938,092)		\$ -	
Unadjusted Anticipated Cost of Gas		\$ 6,140,336		\$ 12,557,018
Adjustments:				
Prior Period (Over)/Under Recovery (as of 9/1/2023 0/4/2022 estimated COG)	\$ 9,879,800		\$ 10,637,079	
Interest	702,520		457,126	
Prior Period Adjustments	-		-	
Broker Revenues	-		-	
Refunds from Suppliers	-		-	
Fuel Financing	-		-	
Transportation CGA Revenues	-		-	
Interruptible Sales Margin	-		-	
Capacity Release Margin	(2,027,770)		-	
Hedging Costs	-		-	
Fixed Price Option Administrative Costs	-		-	
Total Adjustments		<u>8,554,550</u>		11,094,205
Total Anticipated Direct Cost of Gas		\$ 14,694,886		\$ 23,652,424
Anticipated Indirect Cost of Gas				
Working Capital:				
Total Unadjusted Anticipated Cost of Gas (05/01/24 - 10/31/24) (05/04/23 - 10/31/23)	\$ 6,140,336		\$ 12,557,018	
Working Capital Rate - Lead Lag Days / 365	0.0705		0.0705	
Prime Rate	8.50%		5.50%	
Working Capital Percentage	0.599%		0.388%	
Working Capital	\$ 36,778		\$ 48,670	
Plus: Working Capital Reconciliation (Acct 1163-1424)	<u>39,326</u>		47,458	
Total Working Capital Allowance		\$ 76,104		\$ 96,127
Bad Debt:				
Total Unadjusted Anticipated Cost of Gas (05/01/24 - 10/31/24) (05/04/23 - 10/31/23)	\$ 6,140,336		\$ 12,557,018	
Less: Refunds	-		-	
Plus: Total Working Capital	76,104		96,127	
Plus: Prior Period (Over)/Under Recovery	<u>9,879,800</u>		10,637,079	
Subtotal	\$ 16,096,240		\$ 23,291,125	
Bad Debt Percentage	0.23%		0.86%	
Bad Debt Allowance	\$ 37,329		\$ 200,572	
Plus: Bad Debt Reconciliation (Acct 1163-1754)	<u>698,114</u>		337,560	
Total Bad Debt Allowance		735,443		538,132
Production and Storage Capacity				
Miscellaneous Overhead (05/01/24 - 10/31/24) (05/04/23 - 10/31/23)	\$ -		\$ -	
Times Summer Sales	24,743		23,649	
Divided by Total Sales	<u>119,311</u>		116,430	
Miscellaneous Overhead				
		-		-
Total Anticipated Indirect Cost of Gas		\$ 811,547		\$ 634,259
Total Cost of Gas		\$ 15,506,433		\$ 24,286,383

DATED: ~~October XX, 2023~~ February 7, 2023

ISSUED BY: /s/Neil Proudman
Neil Proudman
President

EFFECTIVE: ~~November 1, 2023~~ November 1, 2022

TITLE:

Authorized by NHPUC Order No. XX.XXX dated October XX, 2023, in Docket No. DG 23-076
Authorized by NHPUC Order No. 26,715 dated October 31, 2022, in Docket No. DG 22-045

27 CALCULATION OF FIRM SALES SUMMER PERIOD COST OF GAS RATE - EXCLUDING KEENE CUSTOMERS

CALCULATION OF FIRM SALES COST OF GAS RATE
PERIOD COVERED: SUMMER PERIOD, MAY 1, 2024 THROUGH October 31, 2024
~~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)	(Col-2)	(Col-3)
Total Anticipated Direct Cost of Gas	\$ 14,694,886		\$ 23,652,124	
Projected Prorated Sales (5/01/2024 - 10/31/2024)(5/01/2023 - 10/31/2023)	24,742,661		23,648,905	
Direct Cost of Gas Rate		\$ 0.5939		\$ -1.0004 per therm
Demand Cost of Gas Rate	\$ 3,222,250	\$ 0.1302	\$ -3,233,514	\$ -0.1367 per therm
Commodity Cost of Gas Rate	2,918,086	\$ 0.1179	3,324,405	\$ 0.3943 per therm
Adjustment Cost of Gas Rate	8,554,550	\$ 0.3457	-1,094,205	\$ -0.4694 per therm
Total Direct Cost of Gas Rate	\$ 14,694,886	\$ 0.5939	\$ 23,652,124	\$ -1.0004 per therm
Total Anticipated Indirect Cost of Gas	\$ 811,547		\$ 634,269	
Projected Prorated Sales (05/01/2024 - 10/31/2024)(05/01/2023 - 10/31/2023)	24,742,661		23,648,905	
Indirect Cost of Gas		\$ 0.0328		\$ -0.0268 per therm
TOTAL PERIOD AVERAGE COST OF GAS EFFECTIVE 05/01/24 05/01/23		\$ 0.6267		\$ -1.0269 per therm
RESIDENTIAL COST OF GAS RATE - 05/01/2024			COGsr	\$ 0.6267 /therm
			Maximum (COG + 25%)	\$ 0.7834 per therm
RESIDENTIAL COST OF GAS RATE - 05/01/2023 Approved in Order Nos 26,716 & 26,737 in DG 22-045			COGsr	\$ -1.0269 /therm
Change in rate due to revised under/over recovery projection				\$ -0.2567
RESIDENTIAL COST OF GAS RATE - 05/01/2023			COG	\$ -1.2836 /therm
Change in rate due to revised under/over recovery projection				\$ -(0.0398)
RESIDENTIAL COST OF GAS RATE - 06/01/23			COG	\$ -1.2438 /therm
Change in rate due to revised under/over recovery projection				\$ -(0.0367)
RESIDENTIAL COST OF GAS RATE - 07/01/23			COGsr	\$ -1.2074 /therm
Change in rate due to revised under/over recovery projection				\$ -(0.3107)
RESIDENTIAL COST OF GAS RATE - 08/01/23			COGsr	\$ -0.8964 /therm
Change in rate due to revised under/over recovery projection				\$ -(0.1471)
RESIDENTIAL COST OF GAS RATE - 09/01/23			COGsr	\$ -0.7493 /therm
			Maximum (COG + 25%)	\$ -1.2836 per therm
C&I HIGH WINTER USE COST OF GAS RATE - 05/01/2024			COGsh	\$ 0.6261 /therm
			Maximum (COG + 25%)	\$ 0.7826 per therm
C&I HIGH WINTER USE COST OF GAS RATE - 05/01/2023 Approved in Order Nos 26,716 & 26,737 in DG 22-045			COGh	\$ -1.0274 /therm
Change in rate due to revised under/over recovery projection				\$ -0.2568
C&I HIGH WINTER USE COST OF GAS RATE - 05/01/23			COGh	\$ -1.2839 /therm
Change in rate due to revised under/over recovery projection				\$ -(0.0398)
C&I HIGH WINTER USE COST OF GAS RATE - 06/01/23			COGsh	\$ -1.2441 /therm
Change in rate due to revised under/over recovery projection				\$ -(0.0367)
C&I HIGH WINTER USE COST OF GAS RATE - 07/01/23			COGh	\$ -1.2074 /therm
Change in rate due to revised under/over recovery projection				\$ -(0.3107)
C&I HIGH WINTER USE COST OF GAS RATE - 08/01/23			COGsh	\$ -0.8967 /therm
Change in rate due to revised under/over recovery projection				\$ -(0.1471)
C&I HIGH WINTER USE COST OF GAS RATE - 09/01/23			COGh	\$ -0.7496 /therm
			Maximum (COG + 25%)	\$ -1.2839 per therm
Average Demand Cost of Gas Rate Effective 5/01/24 5/01/23	\$ 0.1302	\$ 0.1367		
Times High Winter Use Ratio (Summer)	0.9987	1.0005		
Times Correction Factor	0.9976	1.0009		
Adjusted Demand Cost of Gas Rate	\$ 0.1297	\$ 0.1369		
Commodity Cost of Gas Rate	\$ 0.1179	\$ 0.3943		
Adjustment Cost of Gas Rate	0.3457	0.4694		
Indirect Cost of Gas Rate	0.0328	0.0268		
Adjusted C&I High Winter Use Cost of Gas Rate	\$ 0.6261	\$ 1.0274		
C&I LOW WINTER USE COST OF GAS RATE - 05/01/2024			COGsl	\$ 0.6273 /therm
			Maximum (COG + 25%)	\$ 0.7841 per therm
C&I LOW WINTER USE COST OF GAS RATE - 05/01/2023 Approved in Order Nos 26,716 & 26,737 in DG 22-045			COGsl	\$ -1.0266 /therm
Change in rate due to revised under/over recovery projection				\$ -0.2567
C&I LOW WINTER USE COST OF GAS RATE - 05/01/23			COGsl	\$ -1.2833 /therm
Change in rate due to revised under/over recovery projection				\$ -(0.0398)
C&I LOW WINTER USE COST OF GAS RATE - 06/01/23			COG-l	\$ -1.2435 /therm
Change in rate due to revised under/over recovery projection				\$ -(0.0367)
C&I LOW WINTER USE COST OF GAS RATE - 07/01/23			COGsl	\$ -1.2068 /therm
Change in rate due to revised under/over recovery projection				\$ -(0.3107)
C&I LOW WINTER USE COST OF GAS RATE - 08/01/23			COGsl	\$ -0.8964 /therm
Change in rate due to revised under/over recovery projection				\$ -(0.1471)
C&I LOW WINTER USE COST OF GAS RATE - 09/01/23			COGwl	\$ -0.7490 /therm
			Maximum (COG - 25%)	\$ -1.2833 per therm
Average Demand Cost of Gas Rate Effective 5/01/24 5-01-23	\$ 0.1302	\$ 0.1367		
Times Low Winter Use Ratio (Winter)	1.0080	0.9974		
Times Correction Factor	0.9976	1.0009		
Adjusted Demand Cost of Gas Rate	\$ 0.1309	\$ 0.1364		
Commodity Cost of Gas Rate	\$ 0.1179	\$ 0.3943		
Adjustment Cost of Gas Rate	0.3457	0.4694		
Indirect Cost of Gas Rate	0.0328	0.0268		
Adjusted C&I Low Winter Use Cost of Gas Rate	\$ 0.6273	\$ 1.0266		

DATED: October XX, 2023

EFFECTIVE: November 1, 2023

ISSUED BY: /s/Neil Proudman

Neil Proudman

TITLE: President

Authorized by NHPUC Order No. XX,XXX dated October XX, 2023, in Docket No. DG 23-076

29 CALCULATION OF FIXED WINTER PERIOD COST OF GAS RATE EXCLUDING KEENE CUSTOMERS

II. RATE SCHEDULES
CALCULATION OF FIXED WINTER PERIOD COST OF GAS RATE
PERIOD COVERED WINTER PERIOD, NOVEMBER 1, 2023 THROUGH APRIL 30, 2024
~~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)	(Col 2)	(Col 3)
Total Anticipated Direct Cost of Gas	\$ 54,722,319		\$ 127,589,939	
Projected Prorated Sales (11/01/23 - 04/30/24) (11/01/22 - 04/30/23)	94,568,321		92,780,984	
Direct Cost of Gas Rate		\$ 0.5787		\$ 1.3752 per therm
Demand Cost of Gas Rate	\$ 12,479,766	\$ 0.1320	\$ 12,510,219	\$ 0.1348 per therm
Commodity Cost of Gas Rate	59,033,914	\$ 0.6242	417,533,374	\$ 4.2668 per therm
Adjustment Cost of Gas Rate	(12,439,637)	\$ (0.1315)	3,568,556	\$ 0.0385 per therm
Hedge Underground Storage Contract (Savings)/Loss	\$ (4,351,724)	\$ (0.0795)	(6,022,210)	\$ (0.0472) per therm
Total Direct Cost of Gas Rate	\$ 54,722,319	\$ 0.5787	\$ 127,589,939	\$ 1.3752 per therm
Total Anticipated Indirect Cost of Gas	\$ 3,672,531		\$ 5,082,758	
Projected Prorated Sales (11/01/23 - 04/30/24) (11/01/22 - 04/30/23)	94,568,321		92,780,984	
Indirect Cost of Gas		\$ 0.0388		\$ 0.0548 per therm
TOTAL PERIOD AVERAGE COST OF GAS EFFECTIVE (11/01/23)(11/01/22)		\$ 0.6175		\$ 1.4300
Calculation of FPO Excluding Low Income - Rate Code R-3				
TOTAL PERIOD AVERAGE COST OF GAS EFFECTIVE (11/01/23)(11/01/22)		\$ 0.6175		\$ 1.4300
FPO Risk Premium		\$ 0.0200		\$ 0.0200
TOTAL PERIOD FIXED PRICE OPTION COST OF GAS RATE EFFECTIVE (11/01/23)(11/01/22)		\$ 0.6375		\$ 1.7535
RESIDENTIAL FPO COST OF GAS RATE - EXCLUDING LOW INCOME - (R-3) 11/01/23			COGwr	\$ 0.6375 /therm
RESIDENTIAL FPO COST OF GAS RATE - EXCLUDING LOW INCOME - (R-3) 11/01/22			COGwr	\$ 1.7535 /therm
Calculation of FPO for Gas Assistance Program - Rate Code R-4				
TOTAL PERIOD AVERAGE COST OF GAS EFFECTIVE (11/01/23)(11/01/22) FPO (Line 13 * 0.55)		\$ 0.3396		\$ 0.7865
FPO Risk Premium (Line 14 * 0.55)		\$ 0.0110		\$ 0.0110
TOTAL PERIOD FIXED PRICE OPTION COST OF GAS RATE EFFECTIVE (11/02/23)(11/01/22) (Line 15 * 0.55)		\$ 0.3506		\$ 0.7975
RESIDENTIAL FPO COST OF GAS RATE - LOW INCOME - (R-4) 11/01/23			COGwr	\$ 0.3506 /therm
RESIDENTIAL FPO COST OF GAS RATE - LOW INCOME - (R-4) 11/01/22			COGwr	\$ 0.7975 /therm

DATED: ~~October XX, 2023~~ February 7, 2023

ISSUED BY: /s/Neil Proudman
Neil Proudman
TITLE: President

EFFECTIVE: ~~November 1, 2023~~ November 1, 2022

Authorized by NHPUC Order No. XX.XXX dated October XX, 2023, in Docket No. DG 23-076
Authorized by NHPUC Order No. 26,715 dated October 31, 2022, in Docket No. DG 22-045

30 CALCULATION OF FIRM SALES WINTER PERIOD COST OF GAS RATE EXCLUDING KEENE CUSTOMERS

CALCULATION OF FIRM SALES COST OF GAS RATE				
PERIOD COVERED: WINTER PERIOD, NOVEMBER 1, 2023 THROUGH APRIL 30, 2024				
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)	-Col.2)	-Col.3)
Total Anticipated Direct Cost of Gas	\$ 54,722,319		\$ 127,589,930	
Projected Prorated Sales (11/01/2023 - 04/30/2024)	94,568,321			
Direct Cost of Gas Rate		\$ 0.5787		\$ -1.3762 per therm
Demand Cost of Gas Rate	\$ 12,479,766	\$ 0.1320	\$ 12,510,210	\$ 0.1348 per therm
Commodity Cost of Gas Rate	59,033,914	\$ 0.6242	117,533,374	\$ 1.2668 per therm
Adjustment Cost of Gas Rate	(12,439,637)	\$ (0.1315)		
Hedge Contract (Savings)	(4,351,724)	\$ (0.0460)	(6,022,210)	\$ (0.0649) per therm
Total Direct Cost of Gas Rate	\$ 54,722,319	\$ 0.5787		
Total Anticipated Indirect Cost of Gas	\$ 3,672,531			
Projected Prorated Sales (11/01/2023 - 04/30/2024) - 11.01.2022 - 04.30.2023	94,568,321		92,790,984	
Indirect Cost of Gas		\$ 0.0388		\$ -0.0648 per therm
TOTAL PERIOD AVERAGE COST OF GAS EFFECTIVE 11/01/23 11.01.22		\$ 0.6175		\$ -1.4300 per therm
RESIDENTIAL COST OF GAS RATE - EXCLUDING LOW INCOME - 11/01/23			COGwr	\$ 0.6175 /therm
			Maximum (COG + 25%)	\$ 0.7719
RESIDENTIAL COST OF GAS RATE - EXCLUDING LOW INCOME - 11.01.22			COGwr	\$ -1.4300 /therm
Change in rate due to revised under over recovery projection				\$ -0.1749
RESIDENTIAL COST OF GAS RATE - EXCLUDING LOW INCOME - 12.01.22			COGwr	\$ -1.2554 /therm
Change in rate due to revised under over recovery projection				\$ -0.0741
RESIDENTIAL COST OF GAS RATE - EXCLUDING LOW INCOME - 02.01.23			COGwr	\$ -0.4526 /therm
Change in rate due to revised under over recovery projection				\$ -0.2082
RESIDENTIAL COST OF GAS RATE - EXCLUDING LOW INCOME - 03.01.23			COGwr	\$ -0.3443 /therm
Change in rate due to revised under over recovery projection				\$ -0.1117
GAS ASSISTANCE PLAN RESIDENTIAL COST OF GAS RATE R-4 - 11/01/23			COGwr	\$ 0.3396 /therm
			Maximum (COG + 25%)	\$ 0.4245
Change in rate due to revised under over recovery projection				\$ -0.0982
Change in rate due to revised under over recovery projection				\$ -0.0408
GAS ASSISTANCE PLAN RESIDENTIAL COST OF GAS RATE R-4 - 01.01.23			COGwr	\$ -0.7311 /therm
Change in rate due to revised under over recovery projection				\$ -0.4922
GAS ASSISTANCE PLAN RESIDENTIAL COST OF GAS RATE R-4 - 02.01.23			COGwr	\$ -0.2489 /therm
Change in rate due to revised under over recovery projection				\$ -0.1145
Change in rate due to revised under over recovery projection				\$ -0.0616
GAS ASSISTANCE PLAN RESIDENTIAL COST OF GAS RATE R-4 - 04.01.23			COGwr	\$ -0.3739 /therm
			Maximum (COG + 26%)	\$ -0.5834
C&I HIGH WINTER USE COST OF GAS RATE - 11/01/23			COGwh	\$ 0.6173 /therm
			Maximum (COG + 25%)	0.7716
C&I HIGH WINTER USE COST OF GAS RATE - 11.01.22			COGwh	\$ -1.4301 /therm
Change in rate due to revised under over recovery projection				\$ -0.1749
Change in rate due to revised under over recovery projection				\$ -0.0741
C&I HIGH WINTER USE COST OF GAS RATE - 01.01.23			COGwh	\$ -1.3283 /therm
Change in rate due to revised under over recovery projection				\$ -0.3262
C&I HIGH WINTER USE COST OF GAS RATE - 02.01.23			COGwh	\$ -0.4526 /therm
Change in rate due to revised under over recovery projection				\$ -0.2082
C&I HIGH WINTER USE COST OF GAS RATE - 03.01.23			COGwh	\$ -0.2444 /therm
Change in rate due to revised under over recovery projection				\$ -0.1117
Average Demand Cost of Gas Rate Effective 11/01/23 11.01.22	\$ 0.1320	\$ -0.1348	Maximum (COG + 25%)	\$ -1.7876
Times: High Winter Use Ratio (Winter)	1.0080			
Times: Correction Factor	0.9997	1.0001		
Adjusted Demand Cost of Gas Rate	\$ 0.1318	\$ -0.1349		
Commodity Cost of Gas Rate	\$ 0.6242	\$ -1.2668		
Adjustment Cost of Gas Rate	\$ (0.1315)			
Indirect Cost of Gas Rate	\$ 0.0388	\$ -0.0548		
Hedge Contract (Savings)	\$ (0.0460)			
Adjusted C&I High Winter Use Cost of Gas Rate	\$ 0.6173	\$ -1.4301		
C&I LOW WINTER USE COST OF GAS RATE - 11/01/23			COGwl	\$ 0.6185 /therm
			Maximum (COG + 25%)	\$ 0.7731
Change in rate due to revised under over recovery projection				\$ -0.1749
C&I LOW WINTER USE COST OF GAS RATE - 12.01.22			COGwl	\$ -1.2547 /therm
Change in rate due to revised under over recovery projection				\$ -0.0741
C&I LOW WINTER USE COST OF GAS RATE - 01.01.23			COGwl	\$ -1.3288 /therm
Change in rate due to revised under over recovery projection				\$ -0.3262
C&I LOW WINTER USE COST OF GAS RATE - 02.01.23			COGwl	\$ -0.4521 /therm
Change in rate due to revised under over recovery projection				\$ -0.2082
Average Demand Cost of Gas Rate Effective 11/01/23 11.01.22	\$ 0.1320	\$ -0.1348	Maximum (COG + 25%)	\$ -1.7870
Times: Low Winter Use Ratio (Winter)	1.0080			
Times: Correction Factor	0.9997	1.0001		
Adjusted Demand Cost of Gas Rate	\$ 0.1330	\$ -0.1344		
Commodity Cost of Gas Rate	\$ 0.6242	\$ -1.2668		
Adjustment Cost of Gas Rate	\$ (0.1315)			
Indirect Cost of Gas Rate	\$ 0.0388	\$ -0.0548		
Hedge Contract (Savings)	\$ (0.0460)			
Adjusted C&I Low Winter Use Cost of Gas Rate	\$ 0.6185			

DATED: ~~October XX, 2023~~ March 24, 2023

ISSUED BY: /s/Neil Proudman

EFFECTIVE: ~~November 1, 2023~~ April 1, 2023

Neil Proudman
President

Authorized by NHPUC Order No. XX,XXX dated October XX, 2023, in Docket No. DG 23-076
Authorized by NHPUC Order No. 26,715 dated October 31, 2022, in Docket No. DG 22-045 and NHPUC Order No. 26,737 dated November 30, 2022, in Docket Nos. DG 22-045 and DG 22-057

31 ANTICIPATED WINTER PERIOD COST OF GAS - EXCLUDING KEENE CUSTOMERS OR GAS LIGHTING

Anticipated Cost of Gas				
PERIOD COVERED: WINTER PERIOD, NOVEMBER 1, 2023 THROUGH APRIL 30, 2024				
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)	(Col 2)	(Col 3)
ANTICIPATED DIRECT COST OF GAS				
Purchased Gas:				
Demand Costs:	\$ 11,478,067		\$ 11,510,220	
Supply Costs:	46,903,637		93,418,619	
Storage Gas:				
Demand, Capacity:	\$ 1,001,699		\$ 999,899	
Commodity Costs:	4,860,737		11,469,453	
Produced Gas:				
	7,269,540		12,645,202	
Hedged Contract (Saving)/Loss				
Hedge Underground Storage Contract (Saving)/Loss	(4,351,724)		(6,022,210)	
	<u>-</u>		<u>-</u>	
Unadjusted Anticipated Cost of Gas		\$ 67,161,955		\$ 124,021,383
Adjustments:				
Prior Period (Over)/Under Recovery (as of 05/01/23 <u>05/01/22</u>)	\$ (8,577,690)		\$ 5,378,797	
Interest	(401,465)		(283,633)	
Fuel Inventory Revenue Requirement	861,872		515,600	
Broker Revenues	(1,340,480)		(3,600)	
Refunds from Suppliers	-		-	
Fuel Financing	-		-	
Transportation CGA Revenues	(120,926)		(422,024)	
Interruptible Sales Margin	-		-	
Capacity Release and Off System Sales Margins	(2,860,948)		(1,676,512)	
Hedging Costs	-		-	
Fixed Price Option Administrative Costs	-		59,917	
Total Adjustments		<u>(12,439,637)</u>		<u>2,568,556</u>
Total Anticipated Direct Cost of Gas		\$ 54,722,319		\$ 127,589,939
Anticipated Indirect Cost of Gas				
Working Capital:				
Total Unadjusted Anticipated Cost of Gas 11/01/23 - 04/30/24 <u>11/01/22 - 04/30/23</u>	\$ 67,161,955		\$ 124,021,383	
Working Capital Rate: Lead Lag Days / 365	0.0705		0.0705	
Prime Rate	8.50%		5.50%	
Working Capital Percentage	<u>0.599%</u>		0.288%	
Working Capital	\$ 402,273		\$ 480,659	
Plus: Working Capital Reconciliation (Acct 142.20)	<u>(162,369)</u>		(30,998)	
Total Working Capital Allowance		239,903	-	449,661
Bad Debt:				
Total Unadjusted Anticipated Cost of Gas 11/01/23 - 04/30/24 <u>11/01/22 - 04/30/23</u>	\$ 67,161,955		\$ 124,021,383	
Less: Refunds	-		-	
Plus: Total Working Capital	239,903		449,661	
Plus: Prior Period (Over)/Under Recovery	<u>(8,577,690)</u>		5,378,797	
Subtotal	\$ 58,824,169		\$ 129,849,841	
Bad Debt Percentage	<u>0.23%</u>		0.86%	
Bad Debt Allowance	\$ 136,418		\$ 1,118,204	
Plus: Bad Debt Reconciliation (Acct 175.52)	<u>(389,248)</u>		(170,566)	
Total Bad Debt Allowance		\$ (252,830)	-	\$ 947,639
Production and Storage Capacity				
		\$ 3,685,458		\$ 2,685,458
Miscellaneous Overhead 11/01/23 - 04/30/24 <u>11/01/22 - 04/30/23</u>	\$ -		\$ -	
Times Winter Sales	94,568		92,781	
Divided by Total Sales	<u>119,311</u>		116,430	
Miscellaneous Overhead		<u>-</u>		-
Total Anticipated Indirect Cost of Gas		\$ 3,672,531		\$ 5,082,758
Total Cost of Gas		<u>\$ 58,394,850</u>		<u>132,672,697</u>

DATED: ~~October XX, 2023~~ February 7, 2023

ISSUED BY: /s/Neil Proudman

EFFECTIVE: ~~November 1, 2023~~ November 1, 2022

Neil Proudman
TITLE: President

Authorized by NHPUC Order No. XX,XXX dated October XX, 2023, in Docket No. DG 23-076
Authorized by NHPUC Order No. 26,715 dated October 31, 2022, in Docket No. DG 22-045

NHPUC NO. 11 GAS
LIBERTY UTILITIES

~~Illustrative Third Second~~ Revised Page 98
Superseding ~~Second First~~ Revised Page 98
Firm Transportation Cost of Gas

33 CALCULATION OF FIRM TRANSPORTATION COST OF GAS RATE

<u>II. RATE SCHEDULES</u>						
Calculation of Firm Transportation Cost of Gas Rate						
PERIOD COVERED: WINTER PERIOD, NOVEMBER 1, 2023 THROUGH APRIL 30, 2024						
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)	(Col 2)	(Col 3)	(Col 4)
ANTICIPATED COST OF SUPPLEMENTAL GAS SUPPLIES:						
PROPANE	\$ 1,253,503			\$ 2,297,840		
LNG	<u>6,016,038</u>			-10,347,463		
TOTAL ANTICIPATED COST OF SUPPLEMENTAL GAS SUPPLIES	7,269,540			-12,645,303		
ESTIMATED PERCENTAGE USED FOR PRESSURE SUPPORT PURPOSES	<u>8.7%</u>			8.7%		
ESTIMATED COST OF LIQUIDS USED FOR PRESSURE SUPPORT PURPOSES	<u>\$ 632,450</u>			\$ -1,100,144		
PROJECTED FIRM THROUGHPUT (THERMS):						
FIRM SALES	94,568,321	68.6%		-92,780,984	68.3%	
FIRM TRANSPORTATION SUBJECT TO FTG	<u>43,224,605</u>	<u>31.4%</u>		-43,122,920	31.7%	
TOTAL FIRM THROUGHPUT SUBJECT TO COST OF GAS CHARGE	137,792,926	100.0%		-135,903,904	100.0%	
TRANSPORTATION SHARE OF SUPPLEMENTAL GAS SUPPLIES		31.4% x	\$ 632,450	= \$ 198,395	34.7% x	\$ -1,100,144 = \$ -349,080
				<u>(120,566)</u>		72,944
PRIOR (OVER) OR UNDER COLLECTION				\$ 77,829		\$ -422,024
NET AMOUNT TO COLLECT FROM (RETURNED TO) TRANSPORTATION CUSTOMERS				43,224,605		-43,122,920
PROJECTED FIRM TRANSPORTATION THROUGHPUT				\$ 0.0018		\$ -0.0008
FIRM TRANSPORTATION COST OF GAS						

DATED: ~~October XX, 2023~~ February 7, 2023

ISSUED BY: /s/Neil Proudman

EFFECTIVE: ~~November 1, 2023~~ November 1, 2022

TITLE: President

Authorized by NHPUC Order No. XX,XXX dated October XX, 2023, in Docket No. DG 23-076
~~Authorized by NHPUC Order No. 26,715 dated October 31, 2022, in Docket No. DG 22-045~~

NHPUC NO. 11 GAS
LIBERTY UTILITIES

~~Illustrative Third~~ Revised Page 153
Superseding ~~Second~~ First Revised Page 153
Attachments

2 ATTACHMENT B
Schedule of Administrative Fees and Charges

Schedule of Administrative Fees and Charges

I. Supplier Balancing Charge:	\$	0.14	\$ 0.21	per MMBtu of Daily Imbalance Volumes")
II. Capacity Mitigation Fee				15% of the Proceeds from the Marketing of Capacity for Mitigation.
III. Peaking Demand Charge	\$	43.95	\$ 56.69	MMBTU of Peak MDQ
IV. Company Allowance Calculation (per Schedule 25)				
		160,052,009	-470,377,740	Total Sendout - Therms Jul-2022 - Jun-2023
				Total Sendout - Therms Jul-2021 - Jun-2022
		<u>153,641,897</u>	<u>-166,126,573</u>	Total Throughput - Therms Jul-2022 - Jun-2023
				Total Throughput - Therms Jul-2021 - Jun-2022
		6,410,112	4,251,137	Variance (Sendout - Throughput)
Company Allowance Percentage 2023-24 2022-23		4.0%	2.5%	Variance / Total Sendout

DATED: ~~October XX, 2023~~ February 7, 2023

ISSUED BY: /s/Neil Proudman

EFFECTIVE: ~~November 1, 2023~~ November 1, 2022

TITLE: President

Authorized by NHPUC Order No. XX,XXX dated October XX, 2023, in Docket No. DG 23-076
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NHPUC NO. 11 GAS
LIBERTY UTILITIES

~~Illustrative Third~~ Revised Page 154
Superseding ~~Second First~~ Revised Page 154
Attachments

**3 ATTACHMENT C
Capacity Allocators**

CAPACITY ALLOCATORS

Rate Class		Pipeline	Storage	Peaking	Total
G-41	Low Annual /High Winter Use	70.6%	17.2%	12.2%	100.0%
		71.5%	17.4%	11.0%	
G-51	Low Annual /Low Winter Use	79.6%	12.0%	8.5%	100.0%
		79.5%	12.6%	7.9%	
G-42	Medium Annual / High Winter	70.6%	17.2%	12.2%	100.0%
		71.5%	17.4%	11.0%	
G-52	High Annual / Low Winter Use	79.6%	12.0%	8.5%	100.0%
		79.5%	12.6%	7.9%	
G-43	High Annual / High Winter	70.6%	17.2%	12.2%	100.0%
		71.5%	17.4%	11.0%	
G-53	High Annual / Load Factor < 90%	79.6%	12.0%	8.5%	100.0%
		79.5%	12.6%	7.9%	
G-54	High Annual / Load Factor < 90%	79.6%	12.0%	8.5%	100.0%
		79.5%	12.6%	7.9%	

DATED: ~~October XX, 2023~~ February 7, 2023

ISSUED BY: /s/Neil Proudman

EFFECTIVE: ~~November 1, 2023~~ November 1, 2022

Neil Proudman
TITLE: President

Authorized by NHPUC Order No. XX,XXX dated October XX, 2023, in Docket No. DG 23-076
~~Authorized by NHPUC Order No. 26,715 dated October 31, 2022, in Docket No. DG 22-045~~