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

Docket No. DG 21-130

Liberty Utilities (EnergyNorth Natural Gas) Corp. d/b/a Liberty  
Winter 2021/2022 Cost of Gas and Summer 2022 Cost of Gas

**SUPPLEMENTAL DIRECT TESTIMONY  
OF  
DEBORAH M. GILBERTSON**

May 20, 2022



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Liberty Utilities (EnergyNorth Natural Gas) Corp. d/b/a Liberty  
Docket No. DG 21-130  
Winter 2021/2022 Cost of Gas & Summer 2022 Cost of Gas  
Supplemental Direct Testimony of Deborah M. Gilbertson  
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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. Have you previously submitted testimony in this proceeding?**

7 A. Yes. I submitted testimony as part of the Company’s September 1, 2021, initial filing in  
8 this docket. My educational background, professional background, and qualifications are  
9 contained in that prior testimony.

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

11 A. The purpose of this supplemental testimony is to support the request for an amended  
12 summer cost of gas rate beginning June 1, 2022, and to explain the market conditions  
13 which are necessitating the need for such a rate increase as well as the mitigation strategy  
14 the Company employs to decrease costs and stabilize pricing in a volatile market.

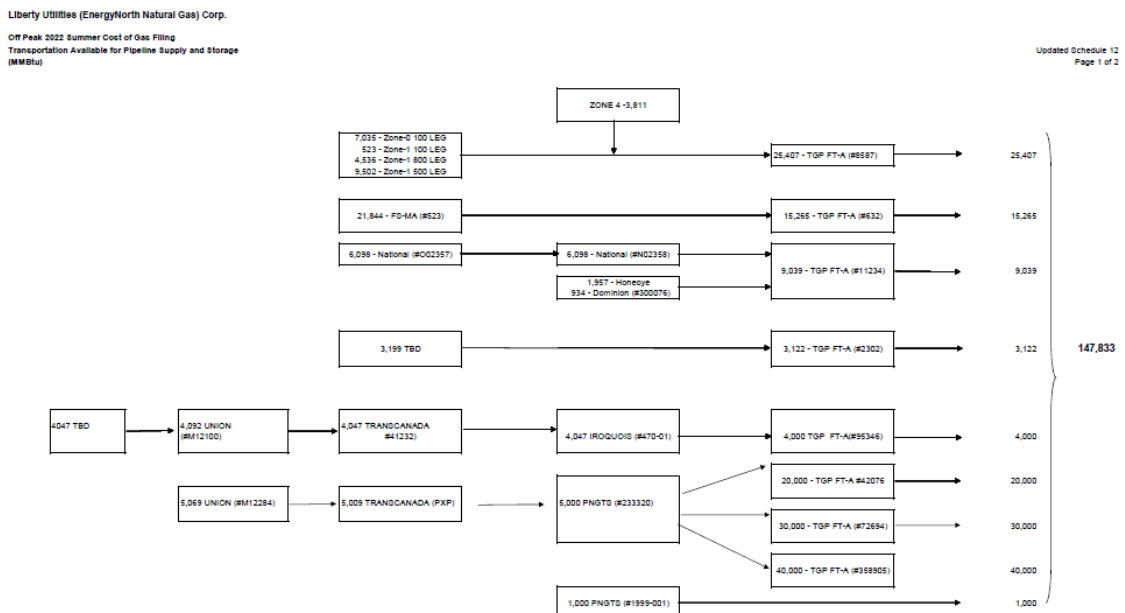
15 **Q. Please describe the firm transportation contract portfolio that the Company now**  
16 **holds.**

17 A. The following “firm transportation” contracts provide the Company the right to transport  
18 certain quantities of gas per day in return for demand charges most often expressed in  
19 dollars per MMBtu per day. For example, the recently approved contract with Tennessee  
20 Gas Pipeline (“Tennessee”) allows the Company to transport up to 40,000 MMBtu per  
21 day and costs \$0.14/per MMBtu per day. Thus, the fixed annual charge for that contract

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is approximately \$2 million (40,000 MMBtu/day x \$0.14/MMBtu x 365 days =  
\$2,044,000).

The Company currently holds firm transportation contracts on Tennessee (146,833  
MMBtu/day) and Portland Natural Gas Transmission System (“PNGTS”) (1,000  
MMBtu/day) to provide a daily deliverability of 147,833 MMBtu/day to the Company’s  
citygate stations. In addition to these citygate delivery contracts, the Company also holds  
other transportation contracts further upstream on other pipelines that feed into these  
citygate delivery transportation contracts. Schedule 12, page 1, in the Company's filing is  
a schematic diagram of the transportation contracts, and Schedule 12, page 2, is a table  
listing these contracts. Illustration below:



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1 The transportation contracts provide for the delivery of natural gas from three sources as  
2 described below.

3 First, the Company holds firm transportation contracts to allow for delivery of up to  
4 13,122 MMBtu/day of Canadian supply. These consist of the following:

- 5 • The Company can receive up to 4,000 MMBtu/day of firm Canadian supply from  
6 Dawn, Ontario. This supply is delivered to the Company on Company-held firm  
7 transportation contracts on Enbridge Inc. (formally Union Gas Limited),  
8 (“Enbridge”), TC Energy Corporation (formally TransCanada Pipelines Limited)  
9 (“TC Energy”), Iroquois Gas Transmission System (“Iroquois”), and Tennessee.
- 10 • The Company can also receive up to 5,000 MMBtu/day of firm Canadian supply  
11 from Dawn, Ontario. This supply is delivered to the Company on Company-held  
12 firm transportation contracts on Enbridge, TC Energy, PNGTS, and Tennessee.
- 13 • The Company can receive up to 3,122 MMBtu/day of firm Canadian supply from  
14 the Canadian/New York border at Niagara Falls, NY. This supply is delivered to  
15 the Company on Company-held firm transportation contracts on Tennessee.
- 16 • The Company can receive up to 1,000 MMBtu/day of firm Canadian supply from  
17 a Company-held firm transportation contract PNGTS for delivery to its Berlin  
18 service territory.

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

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- 1           • The Company can receive up to 21,596 MMBtu/day of firm domestic supplies  
2           from Texas and Louisiana production areas. These supplies are delivered to the  
3           Company on firm transportation contracts on Tennessee.
- 4           • The Company can receive up to 85,000<sup>1</sup> MMBtu/day of firm supply from  
5           Tennessee's Dracut receipt point located in Dracut, Massachusetts. This supply is  
6           delivered to the Company on three firm transportation contracts on Tennessee.

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

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

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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.

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1 supplies are delivered to the Company on a firm transportation contract on  
2 Tennessee.

3 **Q. Please describe the source of gas supplies used with the firm transportation**  
4 **contracts described above.**

5 A. The above transportation contracts only grant Liberty the right to transport the gas; they  
6 do not include the purchase of the gas itself. The Company must separately purchase the  
7 gas to be transported to New Hampshire.

8 The firm transportation contracts that interconnect at the Canadian border enable the  
9 Company to purchase firm gas supplies from both Eastern and Western Canada. The  
10 Company's domestic firm transportation contracts enable the Company to buy gas  
11 supplies from the U.S. Gulf Coast and the Marcellus Shale area which is located in Zone  
12 4 on Tennessee. Supplies the Company purchases at the Dracut receipt point, on the  
13 other hand, may originate from any number of locations. The Dracut receipt point is  
14 located in the same market area as EnergyNorth's citygates, which is Zone 6 on  
15 Tennessee. The Dracut purchase point is notably one of the most expensive places to buy  
16 gas in the nation during peak periods.

17 The reason that the Company holds so much of its transportation capacity from Dracut,  
18 with no additional upstream path to less expensive sources of gas, is a function of history  
19 and the lack of new pipelines being built to serve New England. The Company's  
20 transportation contracts that originate from less expensive areas for buying gas, such  
21 from Canada or in Gulf zones, have been in the EnergyNorth portfolio for decades,

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1 having been signed when pipeline capacity to New England was roughly sufficient to  
2 meet demand. As EnergyNorth and other gas utilities in the region grew, those existing  
3 pipelines became fully subscribed and fewer new pipelines were being built. The  
4 Company thus had no other option but to take the Dracut capacity that was available or  
5 else declare a moratorium on growth due to an insufficient portfolio of resources needed  
6 to serve peak winter loads.

7 **Q. Could you provide the status of the Company's storage refill plan?**

8 A. Yes. During the 2022 off-peak period, the Company has been injecting supplies into its  
9 underground storage fields. The Company has 2,580,131 MMBtu's of combined space  
10 available from the Company's four firm storage facilities. These storage resources allow  
11 the Company the ability to withdraw for citygate delivery up to 28,115 MMBtu's per day  
12 in winter. During the months of May through October, the Company purchases and  
13 injects baseload quantities of gas to refill the winter storage supply at off-peak summer  
14 pricing ensuring that these facilities are refilled in time for withdrawal in the peak season.

15 **Q. Ms. Gilbertson, what was the source of the projected sendout requirements and**  
16 **costs used in the Summer 2022 COG filing?**

17 A. As in prior cost of gas filings, the Company used projected sendout requirements and  
18 costs from its internal budgets and forecasts.



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1   **Q.     Would you please describe the forecasted sendout requirements for the off-peak**  
2       **period of 2022?**

3   **A.**     Schedule 11A of the Company's filing shows the Company's forecasted sendout  
4           requirements of 22,950,820 therms over the period May 1 to October 31, 2022, under  
5           normal weather conditions, which is slightly higher than last year's forecasted volume of  
6           22,065,798 therms over the period May 1 to October 31, 2021.

7           Schedule 11B shows the Company's forecasted sendout requirements of 22,928,033  
8           therms over the period May 1 to October 31, 2022, under design weather conditions,<sup>2</sup>  
9           which is higher than last year's forecasted volume of 22,175,995 therms over the period  
10          May 1 to October 31, 2021.

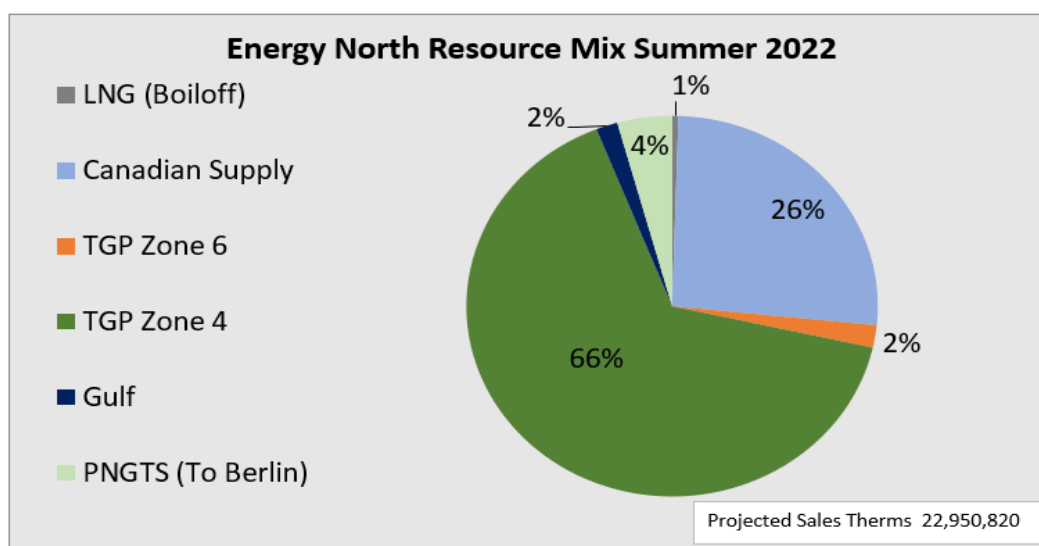
11          In Schedule 11C, the Company summarizes the normal and design off-peak sendout  
12          requirements, the seasonally available contract quantities (inclusive of assigned and  
13          Company Managed capacity), and the calculated utilization rates of its pipeline  
14          transportation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

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2   The difference between "normal weather conditions" and "design weather conditions" in the summer is much smaller than the difference during the winter. Since the variable portion of EnergyNorth's load is for heating, load variations in summer are modest.

**Q. Using Schedule 11C, can you illustrate the Company's planned gas purchases and dispatch over the summer of 2022?**

**A.** Yes, the chart below shows the expected purchase and dispatch of natural gas using the Company's transportation resources described above. With projected therm sales at 22,950,820, the Company will purchase gas at the least cost using projected pricing at the various receipt points to which the Company has access.

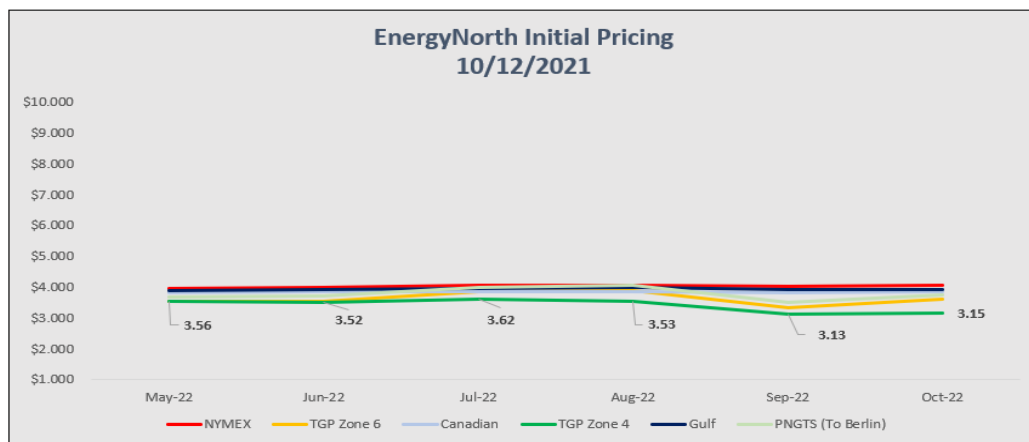


Because prices are lowest in Zone 4, the Company purchases most of its summer gas quantities in the TGP Zone 4 area. Once Zone 4 options are fully utilized, the Company will buy gas according to a scale of the next least-cost option as determined by the available transportation resources described in the paragraphs above.

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**Q. When the Company estimated the Summer cost of gas in September of 2021, and then subsequently updated the pricing before the October hearing, what were the prices compared to the prices today?**

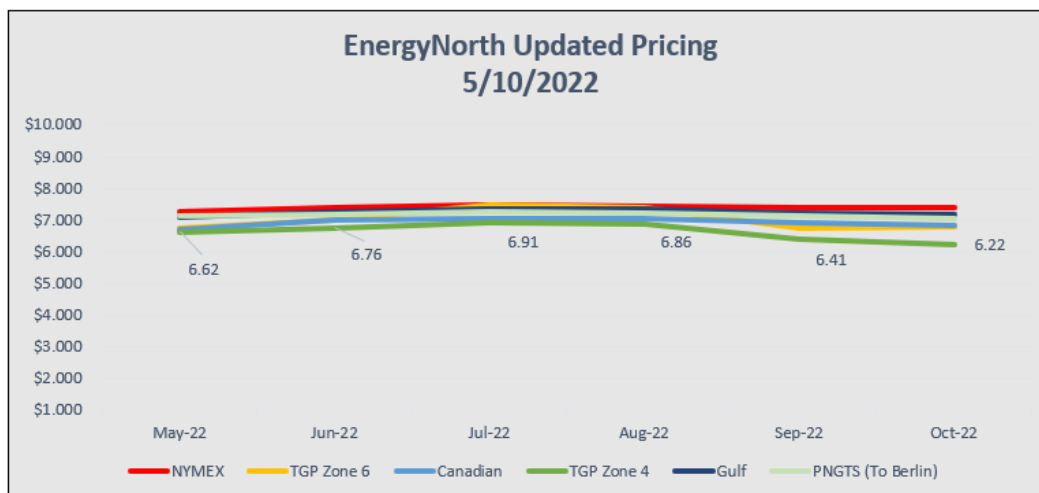
**A.** The chart below illustrates the updated Summer 2022 pricing at the time of the original cost of gas hearing last fall, which was used to determine the 2022 summer rates at that time.



The green line shows the prices of TGP Zone 4, which, as explained above, is where the majority of the gas is purchased for summer consumption. As one can see, although TGP Zone 4 is the least cost, the other receipt zones are similarly priced with NYMEX, illustrated on the red line, all at approximately \$3.50 per MMBtu.

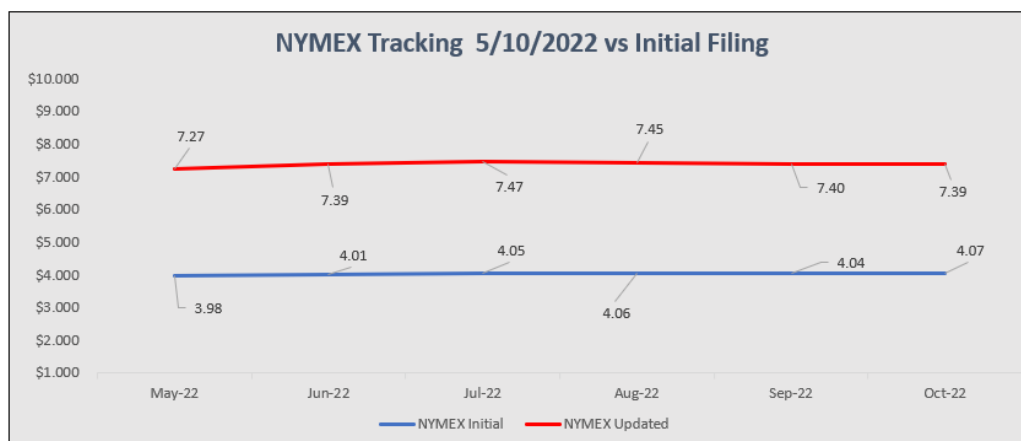
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The chart below shows prices for the same Summer 2022 period as of May 10, 2022:



As can be seen from comparing the two charts, the TGP Zone 4 prices, as well as all other relevant prices, have essentially doubled to approximately \$7.00 per MMBtu since the updated pricing at the time of the Summer 2022 Cost of Gas hearing in October 2021.

See below for a chart that illustrates the difference in the NYMEX price from last October until May 10, 2022.



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1 **Q. Ms. Gilbertson, can you comment on the cost of gas increases and what market**  
2 **analysts use to determine the price predictions?**

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

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

13 A. Yes, currently there is a substantial deficit to the five-year average, which is a primary  
14 driver of the higher prices described above. However, despite a rocky start, market  
15 analysts predict that production will eventually outweigh incremental demand growth so  
16 that storage at the end of the injection season will be only slightly less than in previous  
17 years. The question remains, however, as to whether this can happen before the market’s  
18 impatience keeps prices high or even pushes prices to higher levels over the rest of the  
19 Summer 2022 period. The experts do not believe there will be a significant and quick  
20 drop in prices over the coming months.

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1   **Q.    Are there factors outside the U.S. that are affecting the price of natural gas?**

2    A.    Yes. The war in Ukraine has had a profound impact on the world market for natural gas  
3       as many countries fear the loss of natural gas from Russia and have begun looking for  
4       supplies elsewhere. LNG from the U.S. is an important option for these countries, which  
5       has been driving up the price of LNG here.

6   **Q.    What strategies does the Company employ to stabilize and mitigate costs?**

7    A.    The Company engages in a number of strategies to reduce and stabilize costs for  
8       customers. First, as described above, over the summer period the Company injects gas  
9       into the storage facilities using off-peak and generally lower summer pricing from the  
10       least cost supply points as determined by transportation and storage capacity assets.  
11       Next, the Company initiates requests for proposals, or RFPs, from suppliers which serve  
12       to obtain the lowest price for supply services. The Company also uses an asset  
13       management strategy where the Company allows third parties to take capacity that  
14       Liberty holds on various pipelines in exchange for a supply call option, often resulting in  
15       significant payments to Liberty, all to the benefit of customers. For the winter period, the  
16       Company issues RFPs for a fixed price delivered supply from Dracut (TGP Zone 6),  
17       where the Company buys much of its winter period gas. This fixed-price supply is  
18       considered a physical hedge that serves to stabilize the price at Dracut in peak periods  
19       when prices are extremely volatile and weather reactive. The Company also has a  
20       monthly process of releasing unutilized capacity in the open market to obtain some relief  
21       from annual demand charges from assets which are used mostly in winter but for which  
22       demand charges are assessed all year. Although the goal of the physical hedge program

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1 is to stabilize price and not to guarantee a reduction in cost, the program allowed for a  
2 reduction in cost by \$4.4 million last winter when compared to the monthly settled price  
3 at TGP Zone 6 (Dracut). In contrast to the physical hedge program, the cost mitigation  
4 efforts which serve to reduce costs through asset management fees and capacity release  
5 payments reduced costs to customers by \$[REDACTED] and \$57.5K, respectively. These cost  
6 mitigation efforts continue all year and not just in winter.

7 **Q. How much does the Company expect to recover through asset management fees and**  
8 **capacity release activities over the upcoming summer?**

9 A. Although the Company cannot predict what can be recovered from capacity release  
10 activity over the summer since it is entirely speculative, it expects to recover  
11 approximately \$[REDACTED] from our asset management program.

12 **Q. Is the Company considering changes to its hedging and price mitigation strategies?**

13 A. Yes. In light of the current market dynamics and the fact that it has been some years  
14 since the Commission approved the Company's current hedging strategy,<sup>3</sup> Liberty is  
15 conducting a thorough review of its existing strategy and potential adjustments or  
16 alternatives. The Company will present its findings and recommendations to the  
17 Commission for its review prior to the next annual cost of gas filing.

18 The Company is also reexamining the Fixed Price Option ("FPO") offered to residential  
19 customers during the winter period. Under the FPO program, the Commission approves

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3 See Order No. 25,691 (July 10, 2014).

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1 a rate that is two cents higher than the calculated COG rate, and customers who opt-in  
2 pay that FPO rate for the entire winter period.

3 The purpose of the FPO is to “offer[] an alternative to customers who do not want to be  
4 subject to the volatility of market prices. The availability of two pricing options will  
5 allow firm sales cost of gas customers to decide the level of price risk they wish to  
6 tolerate while providing better price signals to the marketplace.” Order No. 23,272 at 4  
7 (Aug. 2, 1999) (establishing the predecessor of the FPO). The primary risk posed by the  
8 FPO is that, if the COG and FPO rates diverge significantly, an unfair subsidy may arise  
9 between FPO and COG customers. *See* Order No. 24,515 at 7 (Sept. 16, 2005)  
10 (amending the FPO to “provide[] greater certainty that the FPO Program will not be  
11 subsidized by non-participants”). That is, FPO customers may subsidize COG customers  
12 if the COG rate falls low enough, or COG customers may subsidize FPO customers if the  
13 COG rate rises.

14 The Company is examining the FPO in light of these issues and would appreciate input  
15 from the Commission and the parties.

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

17 **A.** Yes.



**STATE OF NEW HAMPSHIRE  
BEFORE THE  
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Monthly COG Adjustment and Motion to Increase Summer 2022 Cost of Gas Rates

**SUPPLEMENTAL DIRECT TESTIMONY  
OF  
CATHERINE A. MCNAMARA**

May 20, 2022



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**I. INTRODUCTION**

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

A. My name is Catherine A. McNamara. My business address is 15 Buttrick Road,  
Londonderry, New Hampshire.

**Q. Please state by whom you are employed.**

A. I am employed by Liberty Utilities Service Corp. (“LUSC”), which provides service to  
Liberty Utilities (EnergyNorth Natural Gas) Corp. (“Liberty” or “the Company”).

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

A. Please see the direct testimony, initially filed on September 1, 2021, for my educational  
background and business and professional experience.

**Q. Ms. McNamara, have you previously testified in regulatory proceedings before the  
New Hampshire Public Utilities Commission (the “Commission”)?**

A. Yes, I have.

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

A. The purpose of this supplemental testimony is to support the Company’s request to  
amend the firm sales cost of gas rates for the 2022 Summer (Off-Peak) period. Order No.  
26,541 (Oct. 29, 2021) in Docket No. DG 21-130 authorized 2022 summer period COG  
rates effective May 1, 2022, and allowed the Company to adjust the COG rates based on  
the projected over- or under-collection for the period up to a maximum rate of 25 percent  
above the approved rate without further Commission action. Order No. 26,541 required

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1 Liberty to advise the Commission when it appeared that rates were projected to increase  
2 above the 25 percent cap so that the Commission may consider adjusting the rate above  
3 the cap. In the May 2022 monthly cost of gas adjustment filed on April 24, 2022, the  
4 Company advised the Commission that the Company had reached the maximum allowed  
5 rate and would be making an interim Summer 2022 Cost of Gas filing to request approval  
6 to exceed the 25 percent cap. At this time, the Company projects that current rates will  
7 result in an under-collection of \$9.6 million and is thus requesting an updated rate to  
8 address the growing under-collection in light of the high prices projected for the summer  
9 period. Accompanying my testimony is supplemental testimony sponsored by Deborah  
10 Gilbertson that explains the current situation of the natural gas market.

11 **Q. When were the initial 2022 summer cost of gas rates established?**

12 A. The 2022 summer period COG rates effective May 1, 2022, through October 31, 2022,  
13 were based on the Company's October 19, 2021, filing which reflected commodity prices  
14 as of October 12, 2021, and incorporated a prior period under-collection of \$4.5 million  
15 that accumulated during the prior summer period through October 2021.

16 **Q. Since the initial filing, has the Company filed for an increase in the summer cost of**  
17 **gas rates?**

18 A. Yes, on April 24, 2022, the Company exercised the authority granted by Order No.  
19 26,541 to increase the COG rates effective May 1, 2022, by the maximum allowed  
20 increase of 25 percent, or to \$0.6984 per therm. At the time of the April 24 trigger filing,  
21 the projected prior period under-collection was \$7.7 million through April 30, 2022, and  
22 projected to be \$9.6 million through the end of the summer period on October 31, 2022.

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1   **Q.    Was the May 2022 rate increase sufficient to eliminate the projected under-**  
2       **collection?**

3    A.    No. Under the current market conditions, the 25 percent cap on the rate increase does not  
4       allow the projected under-collection to be fully eliminated. The May 2022 rate is  
5       expected to increase the under-collection by approximately \$231 thousand.

6   **Q.    Does Liberty propose to recover the entire under-collection in this amended**  
7       **summer COG rate?**

8    A.    Yes. Liberty is proposing to recover the entire prior period under-collection through May  
9       2022 of \$7.9 million in the amended summer COG rate proposed. While the Company  
10       understands the impacts that this rate increase will have on its customers, it is the  
11       Company's position that market prices are going to remain at this level for the remainder  
12       of the summer period and that customers should pay for the supply costs in the same  
13       period as they are incurred. Delaying recovery of the under-collection will only shift the  
14       costs to a future period. However, the Company is open to alternatives if desired by the  
15       Commission.

16   **Q.    What will happen if the Commission does not increase the Cost of Gas rates as**  
17       **requested in this testimony?**

18   A.    If the summer COG rates are not increased and continue to be set at the 25 percent  
19       maximum allowed rate through the remainder of the summer period, the under recovered  
20       balance will continue to increase. This increase in the under recovered balance will cause  
21       rates in future years to increase, by including that growing prior period balance in future  
22       COG proceedings.

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**Q. Will the projected under-collection be eliminated if the requested increase is approved?**

A. If the requested summer COG rate is approved, it should eliminate the projected under-recovery through October 2022. However, this under-recovery assumes the commodity pricing projections as of May 4, 2022, do not change. As discussed in Ms. Gilbertson's testimony, the commodity markets are highly volatile at this time and it is difficult to predict whether the increased summer COG rate will fully eliminate the under-recovery.

**Q. If the amended rate is not approved until July 1, 2022, a one-month delay, what is the expected increase in the balance of the under-recovery?**

A. A one-month delay in approving the amended rate is estimated to increase the under-recovery balance by approximately \$0.4 million. This would be recovered in the 2022/2023 summer period's COG rates.

**II. SUMMER 2022 COST OF GAS FACTOR**

**Q. What are the proposed cost of gas rates proposed for June 1 through October 31, 2022?**

A. The proposed cost of gas rates are shown in the table below.

	Established per Order No. 26,541 (10/29/21)			
	Summer 2022 COG (May-Oct 2022)	Summer 2022 COG Maximum (May-Oct 2022)	May 2022 Monthly COG Rate	Revised Summer 2022 COG (June-Oct 2022)
Residential	\$0.5587	\$0.6984	\$0.6984	\$1.2295
C&I High Winter Use	\$0.5593	\$0.6991	\$0.6991	\$1.2303
C&I Low Winter Use	\$0.5580	\$0.6975	\$0.6975	\$1.2284

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1 **Q. Is it correct to say that the Company's COG rates begin with the projected NYMEX**  
2 **rates during the Summer period?**

3 A. Yes, the Company begins its calculation of COG rates with the most current NYMEX  
4 pricing because the price of the gas that Liberty purchases at the various receipt points is  
5 based on the NYMEX price, with various adders depending on the terms of the specific  
6 supply contracts.

7 **Q. What was the increase in the NYMEX pricing used in the October 19, 2021, filing**  
8 **versus this filing?**

9 A. As described in Ms. Gilbertson's testimony, the summer 2022 NYMEX prices have  
10 increased from an average of \$4.0343 per MMBtu to \$7.3927 per MMBtu, an increase of  
11 83 percent.

12 **Q. Is the Company seeking authority to increase the proposed COG rate should the**  
13 **market prices continue to increase?**

14 A. No, for the reasons the Commission recently stated in *Northern Utilities*, Order No.  
15 26,627 (May 17, 2022),<sup>1</sup> the Company does not seek authority to raise the Summer 2022  
16 COG rates above what is requested here.

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<sup>1</sup> "We are concerned about rate shock for customers and decline to authorize any further increases in the rate without our review and approval. We will, however, authorize any reduction in summer 2022 rates without our approval." *Id.* at 2.

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1    **III.    LOCAL DELIVERY ADJUSTMENT CHARGE (“LDAC”)**

2    **Q.    Is the Company requesting a change in the LDAC rate?**

3    A.    No, the company is not requesting any changes in the LDAC rates for June through  
4        October 2022.

5    **IV.    CUSTOMER BILL IMPACTS**

6    **Q.    What are the estimated impacts of the proposed firm sales cost of gas rate on an**  
7        **average heating customer’s summer bill as compared to the summer rates approved**  
8        **in Order No. 26,541 in Docket No. DG 21-130?**

9    A.    Using the proposed amended summer COG rates, a typical residential customer’s average  
10        summer bill would increase approximately \$130.11 or 54 percent over the currently  
11        approved summer COG rates. The detailed bill impact analysis is presented in Schedule  
12        8 of this filing. The summarized bill impacts are shown in the table below:



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Liberty Utilities (EnergyNorth Natural Gas) Corp. d/b/a Liberty														
Off Peak 2022 Summer Cost of Gas Filing														
Annual Bill Comparisons, May 21–Oct 21 vs May 22–Oct 22														
DIFFERENCE: Residential Heating (R3)														
Total Bill	\$	46.01	\$	25.21	\$	14.36	\$	12.72	\$	12.72	\$	19.09	\$	130.11
% Change		68.13%		57.21%		45.12%		42.98%		42.98%		51.98%		54.36%
Base Rate	\$	(0.34)	\$	(0.24)	\$	(0.18)	\$	-	\$	-	\$	-	\$	(0.77)
% Change		-0.78%		-0.76%		-0.75%		0.00%		0.00%		0.00%		-0.44%
COG	\$	42.64	\$	23.41	\$	13.38	\$	11.70	\$	11.70	\$	17.56	\$	120.38
% Change		212.45%		212.45%		212.45%		212.45%		212.45%		212.45%		212.45%
LDAC	\$	3.72	\$	2.04	\$	1.17	\$	1.02	\$	1.02	\$	1.53	\$	10.50
% Change		123.77%		123.77%		123.77%		123.77%		123.77%		123.77%		123.77%
DIFFERENCE: Commercial Rate (G-41)														
Total Bill	\$	134.79	\$	34.05	\$	22.56	\$	30.10	\$	22.13	\$	25.67	\$	269.31
% Change		76.19%		37.74%		28.09%		35.02%		27.98%		31.25%		45.29%
Base Rate	\$	(0.66)	\$	(0.48)	\$	(0.46)	\$	-	\$	-	\$	-	\$	(1.59)
% Change		-0.60%		-0.65%		-0.66%		0.00%		0.00%		0.00%		-0.35%
COG	\$	128.78	\$	32.83	\$	21.88	\$	28.62	\$	21.04	\$	24.41	\$	257.56
% Change		216.60%		216.60%		216.60%		216.60%		216.60%		216.60%		216.60%
LDAC	\$	6.67	\$	1.70	\$	1.13	\$	1.48	\$	1.09	\$	1.26	\$	13.34
% Change		78.56%		78.56%		78.56%		78.56%		78.56%		78.56%		78.56%
DIFFERENCE: C&I High Winter Use Medium G-42														
Total Bill	\$	1,164.12	\$	426.23	\$	250.46	\$	218.67	\$	238.15	\$	301.00	\$	2,598.62
% Change		97.67%		73.15%		59.48%		56.63%		58.76%		64.45%		75.23%
Base Rate	\$	(3.59)	\$	(2.25)	\$	(1.86)	\$	-	\$	-	\$	-	\$	(7.70)
% Change		-0.59%		-0.61%		-0.63%		0.00%		0.00%		0.00%		-0.36%
COG	\$	1,110.20	\$	407.38	\$	239.88	\$	207.90	\$	226.42	\$	286.18	\$	2,477.96
% Change		216.60%		216.60%		216.60%		216.60%		216.60%		216.60%		216.60%
LDAC	\$	57.51	\$	21.10	\$	12.43	\$	10.77	\$	11.73	\$	14.82	\$	128.36
% Change		78.56%		78.56%		78.56%		78.56%		78.56%		78.56%		78.56%
DIFFERENCE: Commercial Rate (G-52)														
Total Bill	\$	1,302.33	\$	980.68	\$	896.99	\$	893.90	\$	915.71	\$	782.27	\$	5,771.89
% Change		120.51%		112.00%		109.09%		109.63%		110.42%		106.21%		111.86%
Base Rate	\$	(3.20)	\$	(3.05)	\$	(3.01)	\$	-	\$	-	\$	-	\$	(9.26)
% Change		-0.80%		-0.84%		-0.86%		0.00%		0.00%		0.00%		-0.43%
COG	\$	1,240.26	\$	934.55	\$	855.01	\$	849.21	\$	869.93	\$	743.16	\$	5,492.13
% Change		207.18%		207.18%		207.18%		207.18%		207.18%		207.18%		207.18%
LDAC	\$	65.27	\$	49.18	\$	45.00	\$	44.69	\$	45.78	\$	39.11	\$	289.02
% Change		78.56%		78.56%		78.56%		78.56%		78.56%		78.56%		78.56%

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1    **V.    CONCLUSION**

2    **Q.    When does the Company require approval of the amended summer COG rates?**

3    A.    The Company is requesting approval of the proposed amended summer COG rates by  
4        May 26, 2022, for rates effective June 1, 2022.

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

6    A.    Yes, it does.

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22 FIRM RATE SCHEDULES - EXCLUDING KEENE CUSTOMERS

II RATE SCHEDULES  
FIRM RATE SCHEDULES

Rates effective April 1, 2021 - April 30, 2022

Rates Effective June 1, 2022 - October 31, 2022

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

	Winter Period				Summer Period			
	Delivery Charge	Cost of Gas Rate Page 95	LDAC Page 101	Total Rate	Delivery Charge	Cost of Gas Rate Page 92	LDAC Page 101	Total Rate
<b>Residential Non Heating - R-1</b>								
Customer Charge per Month per Meter	\$ 15.39			\$ 15.39	\$ 15.39			\$ 15.39
All Therms	\$ 0.3844	\$ 1.1747	\$ 0.1318	\$ 1.6909	<del>\$ 0.3844</del> <del>\$ 1.2295</del> <del>\$ 0.1318</del>	<del>\$ 0.3844</del> <del>\$ 1.2295</del> <del>\$ 0.1318</del>		<del>\$ 1.7457</del>
					<del>\$ 0.3860</del> <del>\$ 0.3935</del> <del>\$ 0.1318</del>	<del>\$ 0.3860</del> <del>\$ 0.3935</del> <del>\$ 0.1318</del>		<del>\$ 0.7795</del>
<b>Residential Heating - R-3</b>								
Customer Charge per Month per Meter	\$ 15.39			\$ 15.39	<del>\$ 15.50</del>			<del>\$ 15.50</del>
Size of the first block	all therms				\$ 15.39			\$ 15.39
Therms in the first block per month at	\$ 0.5632	\$ 1.1747	\$ 0.1318	\$ 1.8697	\$ 0.5632	\$ 1.2295	\$ 0.1318	\$ 1.9245
					<del>\$ 0.5678</del> <del>\$ 0.3935</del> <del>\$ 0.1318</del>	<del>\$ 0.5678</del> <del>\$ 0.3935</del> <del>\$ 0.1318</del>		<del>\$ 0.9613</del>
<b>Residential Heating - R-4</b>								
Customer Charge per Month per Meter	\$ 8.47			\$ 8.47	<del>\$ 15.50</del>			<del>\$ 15.50</del>
Size of the first block	all therms				\$ 15.39			\$ 15.39
Therms in the first block per month at	\$ 0.3098	\$ 0.6461	\$ 0.1318	\$ 1.0877	20 therms	\$ 0.5632	\$ 1.2295	\$ 1.9245
					<del>\$ 0.5678</del> <del>\$ 0.3935</del> <del>\$ 0.1318</del>	<del>\$ 0.5678</del> <del>\$ 0.3935</del> <del>\$ 0.1318</del>		<del>\$ 0.9613</del>
<b>Commercial/Industrial - G-41</b>								
Customer Charge per Month per Meter	\$ 57.06			\$ 57.06	<del>\$ 57.46</del>			<del>\$ 57.46</del>
Size of the first block	100 therms				\$ 57.06			\$ 57.06
Therms in the first block per month at	\$ 0.4688	\$ 1.1749	\$ 0.0991	\$ 1.7428	20 therms	\$ 0.4688	\$ 1.2303	\$ 1.7982
					<del>\$ 0.4711</del> <del>\$ 0.3886</del> <del>\$ 0.0991</del>	<del>\$ 0.4711</del> <del>\$ 0.3886</del> <del>\$ 0.0991</del>		<del>\$ 0.8597</del>
All therms over the first block per month at	\$ 0.3149	\$ 1.1749	\$ 0.0991	\$ 1.5889	\$ 0.3149	\$ 1.2303	\$ 0.0991	\$ 1.6443
					<del>\$ 0.3165</del> <del>\$ 0.3886</del> <del>\$ 0.0991</del>	<del>\$ 0.3165</del> <del>\$ 0.3886</del> <del>\$ 0.0991</del>		<del>\$ 0.7051</del>
<b>Commercial/Industrial - G-42</b>								
Customer Charge per Month per Meter	\$ 171.19			\$ 171.19	<del>\$ 172.39</del>			<del>\$ 172.39</del>
Size of the first block	1000 therms				\$ 171.19			\$ 171.19
Therms in the first block per month at	\$ 0.4261	\$ 1.1749	\$ 0.0991	\$ 1.7001	400 therms	\$ 0.4261	\$ 1.2303	\$ 1.7555
					<del>\$ 0.4284</del> <del>\$ 0.3886</del> <del>\$ 0.0991</del>	<del>\$ 0.4284</del> <del>\$ 0.3886</del> <del>\$ 0.0991</del>		<del>\$ 0.8170</del>
All therms over the first block per month at	\$ 0.2839	\$ 1.1749	\$ 0.0991	\$ 1.5579	\$ 0.2839	\$ 1.2303	\$ 0.0991	\$ 1.6133
					<del>\$ 0.2855</del> <del>\$ 0.3886</del> <del>\$ 0.0991</del>	<del>\$ 0.2855</del> <del>\$ 0.3886</del> <del>\$ 0.0991</del>		<del>\$ 0.6741</del>
<b>Commercial/Industrial - G-43</b>								
Customer Charge per Month per Meter	\$ 734.69			\$ 734.69	<del>\$ 739.83</del>			<del>\$ 739.83</del>
All therms over the first block per month at	\$ 0.2620	\$ 1.1749	\$ 0.0991	\$ 1.5360	\$ 734.69			\$ 734.69
					<del>\$ 0.1198</del> <del>\$ 1.2303</del> <del>\$ 0.0991</del>	<del>\$ 0.1198</del> <del>\$ 1.2303</del> <del>\$ 0.0991</del>		<del>\$ 1.4492</del>
					<del>\$ 0.1204</del> <del>\$ 0.3886</del> <del>\$ 0.0991</del>	<del>\$ 0.1204</del> <del>\$ 0.3886</del> <del>\$ 0.0991</del>		<del>\$ 0.5090</del>
<b>Commercial/Industrial - G-51</b>								
Customer Charge per Month per Meter	\$ 57.06			\$ 57.06	<del>\$ 57.46</del>			<del>\$ 57.46</del>
Size of the first block	100 therms				\$ 57.06			\$ 57.06
Therms in the first block per month at	\$ 0.2819	\$ 1.1732	\$ 0.0991	\$ 1.5542	100 therms	\$ 0.2819	\$ 1.2284	\$ 1.6094
					<del>\$ 0.2839</del> <del>\$ 0.3999</del> <del>\$ 0.0991</del>	<del>\$ 0.2839</del> <del>\$ 0.3999</del> <del>\$ 0.0991</del>		<del>\$ 0.6838</del>
All therms over the first block per month at	\$ 0.1833	\$ 1.1732	\$ 0.0991	\$ 1.4556	\$ 0.1833	\$ 1.2284	\$ 0.0991	\$ 1.5108
					<del>\$ 0.1846</del> <del>\$ 0.3999</del> <del>\$ 0.0991</del>	<del>\$ 0.1846</del> <del>\$ 0.3999</del> <del>\$ 0.0991</del>		<del>\$ 0.5845</del>
<b>Commercial/Industrial - G-52</b>								
Customer Charge per Month per Meter	\$ 171.19			\$ 171.19	<del>\$ 172.39</del>			<del>\$ 172.39</del>
Size of the first block	1000 therms				\$ 171.19			\$ 171.19
Therms in the first block per month at	\$ 0.2428	\$ 1.1732	\$ 0.0991	\$ 1.5151	1000 therms	\$ 0.1759	\$ 1.2284	\$ 1.5034
					<del>\$ 0.1767</del> <del>\$ 0.3999</del> <del>\$ 0.0991</del>	<del>\$ 0.1767</del> <del>\$ 0.3999</del> <del>\$ 0.0991</del>		<del>\$ 0.5766</del>
All therms over the first block per month at	\$ 0.1617	\$ 1.1732	\$ 0.0991	\$ 1.4340	\$ 0.1000	\$ 1.2284	\$ 0.0991	\$ 1.4275
					<del>\$ 0.1004</del> <del>\$ 0.3999</del> <del>\$ 0.0991</del>	<del>\$ 0.1004</del> <del>\$ 0.3999</del> <del>\$ 0.0991</del>		<del>\$ 0.5003</del>
<b>Commercial/Industrial - G-53</b>								
Customer Charge per Month per Meter	\$ 756.10			\$ 756.10	<del>\$ 761.39</del>			<del>\$ 761.39</del>
All therms over the first block per month at	\$ 0.1697	\$ 1.1732	\$ 0.0991	\$ 1.4420	\$ 756.10			\$ 756.10
					<del>\$ 0.0814</del> <del>\$ 1.2284</del> <del>\$ 0.0991</del>	<del>\$ 0.0814</del> <del>\$ 1.2284</del> <del>\$ 0.0991</del>		<del>\$ 1.4089</del>
					<del>\$ 0.0818</del> <del>\$ 0.3999</del> <del>\$ 0.0991</del>	<del>\$ 0.0818</del> <del>\$ 0.3999</del> <del>\$ 0.0991</del>		<del>\$ 0.4817</del>
<b>Commercial/Industrial - G-54</b>								
Customer Charge per Month per Meter	\$ 756.10			\$ 756.10	<del>\$ 761.39</del>			<del>\$ 761.39</del>
All therms over the first block per month at	\$ 0.0648	\$ 1.1732	\$ 0.0991	\$ 1.3371	\$ 756.10			\$ 756.10
					<del>\$ 0.0352</del> <del>\$ 1.2284</del> <del>\$ 0.0991</del>	<del>\$ 0.0352</del> <del>\$ 1.2284</del> <del>\$ 0.0991</del>		<del>\$ 1.3627</del>
					<del>\$ 0.0353</del> <del>\$ 0.3999</del> <del>\$ 0.0991</del>	<del>\$ 0.0353</del> <del>\$ 0.3999</del> <del>\$ 0.0991</del>		<del>\$ 0.4352</del>

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

Issued by:  
Title: Neil Proudman  
President

Authorized by NHPUC Order No. 26,xxx dated Xxx xx, 2022, in Docket No. DG 21-130  
~~Authorized by NHPUC Order No. 26,541 dated October 29, 2021, in Docket No. DG 21-130~~

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**24 FIRM RATE SCHEDULES - MANAGED EXPANSION PROGRAM-EXCLUDING  
KEENE CUSTOMERS**

Rates effective April 1, 2022 - April 30, 2022

Rates Effective June 1, 2022 - October 31, 2022  
~~Rates Effective May 1, 2022 - October 31, 2022~~

Winter Period						Summer Period					
	Delivery Charge	Cost of Gas Rate Page 92	LDAC Charge	Total Rate		Delivery Charge	Cost of Gas Rate Page 89	LDAC Charge Page 97	Total Rate		
<b>Residential Non Heating - R-5</b>											
Customer Charge per Month per Meter	\$ 20.01			\$ 20.01		\$ 20.01			\$ 20.01		
All therms	\$ 0.4997	\$ 1.1747	\$ 0.1318	\$ 1.8062		<del>\$ 0.5018</del>	<del>\$ 0.3148</del>	<del>\$ 0.0589</del>	<del>\$ 0.8755</del>		
<b>Residential Heating - R-6</b>											
Customer Charge per Month per Meter	\$ 20.01			\$ 20.01		<del>\$ 20.15</del>			<del>\$ 20.15</del>		
All therms	\$ 0.7322	\$ 1.1747	\$ 0.1318	\$ 2.0387		<del>\$ 0.7322</del>	<del>\$ 1.2295</del>	<del>\$ 0.1318</del>	<del>\$ 2.0935</del>		
						<del>\$ 0.7381</del>	<del>\$ 0.3148</del>	<del>\$ 0.0589</del>	<del>\$ 1.1118</del>		
<b>Residential Heating - R-7</b>											
Customer Charge per Month per Meter	\$ 11.01			\$ 11.01		<del>\$ 20.15</del>			<del>\$ 20.15</del>		
All therms	\$ 0.4027	\$ 0.6461	\$ 0.1318	\$ 1.1806		<del>\$ 20.01</del>	<del>\$ 1.2295</del>	<del>\$ 0.1318</del>	<del>\$ 2.0935</del>		
						<del>\$ 0.7322</del>	<del>\$ 1.2295</del>	<del>\$ 0.1318</del>	<del>\$ 2.0935</del>		
						<del>\$ 0.7381</del>	<del>\$ 0.3148</del>	<del>\$ 0.0589</del>	<del>\$ 1.1118</del>		
<b>Commercial/Industrial - G-44</b>											
Customer Charge per Month per Meter	\$ 74.18			\$ 74.18		<del>\$ 74.69</del>			<del>\$ 74.69</del>		
Size of the first block	100 therms					\$ 74.18			\$ 74.18		
Therms in the first block per month at	\$ 0.6094	\$ 1.1749	\$ 0.0991	\$ 1.8834		20 therms					
						\$ 0.6094	\$ 1.2303	\$ 0.0991	\$ 1.9388		
All therms over the first block per month at	\$ 0.4094	\$ 1.1749	\$ 0.0991	\$ 1.6834		<del>\$ 0.6126</del>	<del>\$ 0.3109</del>	<del>\$ 0.0555</del>	<del>\$ 0.9790</del>		
						<del>\$ 0.4094</del>	<del>\$ 1.2303</del>	<del>\$ 0.0991</del>	<del>\$ 1.7388</del>		
						<del>\$ 0.4114</del>	<del>\$ 0.3109</del>	<del>\$ 0.0555</del>	<del>\$ 0.7778</del>		
<b>Commercial/Industrial - G-45</b>											
Customer Charge per Month per Meter	\$ 222.55			\$ 222.55		<del>\$ 224.11</del>			<del>\$ 224.11</del>		
Size of the first block	1000 therms					\$ 222.55			\$ 222.55		
Therms in the first block per month at	\$ 0.5539	\$ 1.1749	\$ 0.0991	\$ 1.8279		400 therms					
						\$ 0.5539	\$ 1.2303	\$ 0.0991	\$ 1.8833		
All therms over the first block per month at	\$ 0.3691	\$ 1.1749	\$ 0.0991	\$ 1.6431		<del>\$ 0.5569</del>	<del>\$ 0.3109</del>	<del>\$ 0.0555</del>	<del>\$ 0.9233</del>		
						<del>\$ 0.3691</del>	<del>\$ 1.2303</del>	<del>\$ 0.0991</del>	<del>\$ 1.6985</del>		
						<del>\$ 0.3711</del>	<del>\$ 0.3109</del>	<del>\$ 0.0555</del>	<del>\$ 0.7375</del>		
<b>Commercial/Industrial - G-46</b>											
Customer Charge per Month per Meter	\$ 955.10			\$ 955.10		<del>\$ 961.78</del>			<del>\$ 961.78</del>		
All therms over the first block per month at	\$ 0.3406	\$ 1.1749	\$ 0.0991	\$ 1.6146		\$ 955.10			\$ 955.10		
						<del>\$ 0.1557</del>	<del>\$ 1.2303</del>	<del>\$ 0.0991</del>	<del>\$ 1.4851</del>		
						<del>\$ 0.1565</del>	<del>\$ 0.3109</del>	<del>\$ 0.0555</del>	<del>\$ 0.5229</del>		
<b>Commercial/Industrial - G-55</b>											
Customer Charge per Month per Meter	\$ 74.18			\$ 74.18		<del>\$ 74.69</del>			<del>\$ 74.69</del>		
Size of the first block	100 therms					\$ 74.18			\$ 74.18		
Therms in the first block per month at	\$ 0.3665	\$ 1.1732	\$ 0.0991	\$ 1.6388		100 therms					
						\$ 0.3665	\$ 1.2284	\$ 0.0991	\$ 1.6940		
All therms over the first block per month at	\$ 0.2383	\$ 1.1732	\$ 0.0991	\$ 1.5106		<del>\$ 0.3691</del>	<del>\$ 0.3109</del>	<del>\$ 0.0555</del>	<del>\$ 0.7445</del>		
						<del>\$ 0.2383</del>	<del>\$ 1.2284</del>	<del>\$ 0.0991</del>	<del>\$ 1.5658</del>		
						<del>\$ 0.2403</del>	<del>\$ 0.3109</del>	<del>\$ 0.0555</del>	<del>\$ 0.6154</del>		
<b>Commercial/Industrial - G-56</b>											
Customer Charge per Month per Meter	\$ 222.55			\$ 222.55		<del>\$ 224.11</del>			<del>\$ 224.11</del>		
Size of the first block	1000 therms					\$ 222.55			\$ 222.55		
Therms in the first block per month at	\$ 0.3157	\$ 1.1732	\$ 0.0991	\$ 1.5880		1000 therms					
						\$ 0.2287	\$ 1.2284	\$ 0.0991	\$ 1.5562		
All therms over the first block per month at	\$ 0.2102	\$ 1.1732	\$ 0.0991	\$ 1.4825		<del>\$ 0.2297</del>	<del>\$ 0.3109</del>	<del>\$ 0.0555</del>	<del>\$ 0.6061</del>		
						<del>\$ 0.1300</del>	<del>\$ 1.2284</del>	<del>\$ 0.0991</del>	<del>\$ 1.4575</del>		
						<del>\$ 0.1304</del>	<del>\$ 0.3109</del>	<del>\$ 0.0555</del>			
<b>Commercial/Industrial - G-57</b>											
Customer Charge per Month per Meter	\$ 982.93			\$ 982.93		<del>\$ 989.80</del>			<del>\$ 989.80</del>		
All therms over the first block per month at	\$ 0.2207	\$ 1.1732	\$ 0.0991	\$ 1.4930		\$ 982.93			\$ 982.93		
						<del>\$ 0.1059</del>	<del>\$ 1.2284</del>	<del>\$ 0.0991</del>	<del>\$ 1.4334</del>		
						<del>\$ 0.1063</del>	<del>\$ 0.3109</del>	<del>\$ 0.0555</del>	<del>\$ 0.4817</del>		
<b>Commercial/Industrial - G-58</b>											
Customer Charge per Month per Meter	\$ 982.93			\$ 982.93		<del>\$ 989.80</del>			<del>\$ 989.80</del>		
All therms over the first block per month at	\$ 0.0842	\$ 1.1732	\$ 0.0991	\$ 1.3565		\$ 982.93			\$ 982.93		
						<del>\$ 0.0457</del>	<del>\$ 1.2284</del>	<del>\$ 0.0991</del>	<del>\$ 1.3732</del>		
						<del>\$ 0.0459</del>	<del>\$ 0.3109</del>	<del>\$ 0.0555</del>	<del>\$ 0.4213</del>		

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

Issued by: \_\_\_\_\_  
Title: Neil Proudman  
President

Authorized by NHPUC Order No. 26,xxx dated Xxx xx, 2022, in Docket No. DG 21-130  
~~Authorized by NHPUC Order No. 26,541 dated October 29, 2021, in Docket No. DG 21-130~~

NHPUC NO. 11 GAS  
LIBERTY UTILITIES

Proposed Second Revised Page 91  
Superseding First 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, 2022 THROUGH OCTOBER 31, 2022				
PERIOD COVERED: <del>SUMMER PERIOD, MAY 1, 2021 THROUGH OCTOBER 31, 2021</del>				
(REFER TO TEXT ON IN SECTION 16 COST OF GAS CLAUSE)				
(Col 1)	(Col-2)	(Col-3)	(Col 2)	(Col 3)
<b>ANTICIPATED DIRECT COST OF GAS</b>				
<b>Purchased Gas:</b>				
Demand Costs:	\$ 2,919,324		\$ 3,276,842	
Supply Costs:	<u>2,202,631</u>		<u>14,026,699</u>	
<b>Storage Gas:</b>				
Demand, Capacity:			-	
Commodity Costs:			-	
<b>Produced Gas:</b>	<u>22,682</u>		<u>82,504</u>	
<b>Hedged Contract Savings</b>			-	
			-	
<b>Unadjusted Anticipated Cost of Gas</b>		\$ 5,144,637		\$ 17,386,045
<b>Adjustments:</b>				
Prior Period (Over)/Under Recovery as of <del>April 30, 2018</del> September 01, 2019 (monthly adjustment filing)	\$ 1,885,446		\$ 7,707,954	
Interest	<u>51,144</u>		<u>167,582</u>	
Prior Period Adjustments			-	
Broker Revenues			-	
Refunds from Suppliers			-	
Fuel Financing	-		-	
Transportation CGA Revenues			-	
Interruptible Sales Margin			-	
Capacity Release and Off System Sales Margin			-	
Hedging Costs			-	
Fixed Price Option Administrative Costs			-	
<b>Total Adjustments</b>		<u>1,936,590</u>		<u>7,875,536</u>
<b>Total Anticipated Direct Cost of Gas</b>		\$ 7,081,227		\$ 25,261,581
<b>Anticipated Indirect Cost of Gas</b>				
<b>Working Capital:</b>				
Total anticipated Direct Cost of Gas <del>(05/01/2018 - 10/31/2018)</del> (05/01/19 - 10/31/19)	\$ 5,144,637		\$ 17,386,045	
Working Capital Rate	<u>0.0391</u>		<u>-</u>	
Prime Rate	<u>3.25%</u>		<u>3.25%</u>	
Working Capital Percentage	<u>0.127%</u>		<u>0.01%</u>	
Working Capital	<u>6,538</u>		<u>1,294</u>	
Plus: Working Capital Reconciliation <del>(Acct 142-20)</del> (Acct 1163-1424)	<u>(18,982)</u>		<u>25,064</u>	
Total Working Capital Allowance		\$ (12,443)		\$ 26,358
<b>Bad Debt:</b>				
Total anticipated Direct Cost of Gas <del>(05/01/2018 - 10/31/2018)</del> (05/01/19 - 10/31/19)	\$ 5,144,637		\$ 17,386,045	
Less: Refunds	-		-	
Plus: Total Working Capital	<u>(12,443)</u>		<u>26,358</u>	
Plus: Prior Period (Over)/Under Recovery	<u>1,885,446</u>		<u>7,707,954</u>	
Subtotal	\$ 7,017,640		\$ 25,120,357	
Bad Debt Percentage	<u>4.11%</u>		<u>0.70%</u>	
Bad Debt Allowance	<u>77,896</u>		<u>175,843</u>	
Plus: Bad Debt Reconciliation <del>(Acct 175-52)</del> (Acct 1163-1754)	<u>(280,167)</u>		<u>464,841</u>	
Total Bad Debt Allowance		(202,272)		640,683
Production and Storage Capacity				-
Miscellaneous Overhead <del>(05/01/2018 - 10/31/2018)</del> (05/01/19 - 10/31/19)	\$ 13,170		\$ -	
Times Summer <del>Winter</del> Sales	<u>20,973</u>		<u>23,366</u>	
Divided by Total Sales	<u>109,299</u>		<u>115,043</u>	
Miscellaneous Overhead		<u>2,527</u>		-
Total Anticipated Indirect Cost of Gas		\$ (212,188)		\$ 667,042
<b>Total Cost of Gas</b>		\$ 6,869,039		\$ 25,928,623

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

Issued by: \_\_\_\_\_  
Title: Neil Proudman  
President

Authorized by NHPUC Order No. 26,xxx dated Xxx xx, 2022, in Docket No. DG 21-130  
~~Authorized by NHPUC Order No. 26,541 dated October 29, 2021, in Docket No. DG 21-130~~

NHPUC NO. 11 GAS  
LIBERTY UTILITIES

Proposed Third Revised Page 92  
Superseding Second Page 92  
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, 2022 THROUGH OCTOBER 31, 2022  
~~PERIOD COVERED: SUMMER PERIOD, MAY 1, 2021 THROUGH OCTOBER 31, 2021.~~  
(Refer to Text in Section 17 Cost of Gas Clause)

(Col 1)	(Col 2)	(Col 3)	(Col 2)	(Col 3)
Total Anticipated Direct Cost of Gas	\$ 9,653,380		\$ 25,261,581	
Projected Sales June 2022 - October 2022 (05/01/21 - 10/31/21)	<u>20,973,031</u>		18,091,280	
<b>Direct Cost of Gas Rate</b>		\$ 0.4603		\$ 1.3963 per therm
<b>Demand Cost of Gas Rate</b>	\$ 4,548,346	\$ 0.2169	\$ 3,276,842	\$ 0.1811
<b>Commodity Cost of Gas Rate</b>	<u>3,136,847</u>	<u>\$ 0.1496</u>	14,109,203	\$ 0.7799
<b>Adjustment Cost of Gas Rate</b>	<u>1,968,188</u>	<u>\$ 0.0938</u>	<u>7,875,536</u>	<u>\$ 0.4353</u>
<b>Less May 2022 Costs</b>			<u>(3,573,233)</u>	<u>\$ (0.1975)</u>
<b>Total Direct Cost of Gas Rate</b>	\$ 9,653,380	\$ 0.4603	\$ 21,688,348	\$ 1.1988
Total Anticipated Indirect Cost of Gas	\$ (174,652)		555,868	
Projected Sales June 2022 - October 2022 (05/01/21 - 10/31/21)	<u>20,973,031</u>		18,091,280	
<b>Indirect Cost of Gas</b>		\$ (0.0083)		\$ 0.0307 per therm
<b>TOTAL PERIOD AVERAGE COST OF GAS EFFECTIVE 06/01/22</b>				\$ 1.2295 per Therm
<del>TOTAL PERIOD AVERAGE COST OF GAS EFFECTIVE 05/01/21</del>		<del>\$ 0.4520</del>		
<b>RESIDENTIAL COST OF GAS RATE - 06/01/2022</b>			<b>COGsr</b>	<b>\$ 1.2295 /therm</b>
<b>COM/IND HIGH WINTER USE COST OF GAS RATE - 06/01/2022</b>			<b>COGsh</b>	<b>\$ 1.2303 /therm</b>
<b>COM/IND LOW WINTER USE COST OF GAS RATE - 06/01/2022</b>			<b>COGsl</b>	<b>\$ 1.2284 /therm</b>

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

Issued by: \_\_\_\_\_  
Neil Proudman  
President

Authorized by NHPUC Order No. 26,xxx dated Xxx xx, 2022, in Docket No. DG 21-130  
~~Authorized by NHPUC Order No. 26,541 dated October 29, 2021, in Docket No. DG 21-130~~

**Liberty Utilities (EnergyNorth Natural Gas) Corp. d/b/a Liberty**  
**Off Peak 2022 Summer Cost of Gas Filing**

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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 21–Oct 21 vs May 22–Oct 22 — Residential Heating Rate R-3 Annual Bill Comparisons, May 21–Oct 21 vs May 22–Oct 22 — Commercial Rate G-41 Annual Bill Comparisons, May 19–Oct 19 vs May 20–Oct 20 — Commercial Rate G-42 Annual Bill Comparisons, May 21–Oct 21 vs May 22–Oct 22 — Commercial Rate G-52 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 2020-2021 Derivation of Class Assignments and Weightings Correction Factor Calculation Off Peak 2022 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
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1	<b>Liberty Utilities (EnergyNorth Natural Gas) Corp. d/b/a Liberty</b>		Summary
2			Page 1 of 1
3	<b>Off Peak 2022 Summer Cost of Gas Filing</b>		
4	<b>Summary</b>		
5			OP 22
6		Reference	May – Oct
7	(a)	(b)	(c)
8			
9	<b>Anticipated Direct Cost of Gas</b>		
10	Purchased Gas:		
11	Demand Costs:	Sch. 5A, col (j), In 46	\$ 3,276,842
12	Supply Costs	Sch. 6, col (i), In 45	14,026,699
13			
14	Storage Gas:		
15	Demand, Capacity:	Sch. 5A, col (j), In 61	\$ -
16	Commodity Costs:	Sch. 6, col (i), In 48	-
17			
18	Produced Gas:	Sch. 6, col (i), In 54	\$ 82,504
19			
20	Hedge Contract (Savings)/Loss		\$ -
21			
22			
23	<b>Total Unadjusted Cost of Gas</b>		<b>\$ 17,386,045</b>
24			
25	<b>Adjustments</b>		
26			
27	Prior Period (Over)/Under Recovery)	Sch. 3, col (c) In 28	\$ 7,707,954
28	Interest 11/01/21 - 10/31/22	Sch. 3, col (q) In 193	167,582
29	Prior Period Adjustments	Sch. 4, In 24 col (b)	-
30	Refunds from Suppliers	Sch. 4, In 24 col (c)	-
31	Broker Revenue	Sch. 4, In 24 col (d)	-
32	Fuel Financing	Sch. 4, In 24 col (e)	-
33	Transportation CGA Revenues	Sch. 4, In 24 col (f)	-
34	Interruptible Sales Margin	Sch. 4, In 24 col (g)	-
35	Capacity Release and Off System Sales Margins	Sch. 4, In 24 col (h) + col (i)	-
36	Hedging Costs	Sch. 4, In 24 col (j)	-
37	FPO Premium - Collection		-
38	Fixed Price Option Administrative Costs	Sch. 4, In 24 col (k)	-
39			
40	<b>Total Adjustments</b>		<b>\$ 7,875,536</b>
41			
42	<b>Total Anticipated Direct Costs</b>	In 23 + 40	<b>\$ 25,261,581</b>
43			
44	<b>Anticipated Indirect Cost of Gas</b>		
45	<b>Working Capital</b>		
46	Total Unadjusted Anticipated Cost of Gas	Ln 23	\$ 17,386,045
47	Lead Lag Days / 365	DG 10-017, 14 27 / 365	0.0023
48	Prime Rate		3 25%
49	Working Capital Percentage	In 47 * In 48	0.007%
50	Working Capital	In 46 * In 49	1,294
51	Plus: Working Capital Reconciliation	Sch. 3, col (c), In 98	25,064
52			
53	<b>Total Working Capital Allowance</b>	In 50 + 51	<b>\$ 26,358</b>
54			
55	<b>Bad Debt</b>		
56	Total Unadjusted Anticipated Cost of Gas	In 23	\$ 17,386,045
57	Less Refunds	In 30	-
58	Plus Working Capital	In 53	26,358
59	Plus Prior Period (Over) Under Recovery	In 27	7,707,954
60	Subtotal		\$ 25,120,357
61	Bad Debt Percentage	per GTC 17(f)	0.70%
62			
63	Bad Debt Allowance	In 60 * In 61	\$ 175,843
64	Prior Period Bad Debt Allowance	Sch. 3, col (c), In 163	464,841
65			
66	<b>Total Bad Debt Allowance</b>	In 63 + 64	<b>\$ 640,683</b>
67			
68	<b>Production and Storage Capacity</b>	per GTC17(f)	<b>\$ -</b>
69			
70	<b>Miscellaneous Overhead</b>	per GTC 17(f)	<b>\$ -</b>
71	Sales Volume	Sch. 10B, In 23/1000	23,366
72	Divided by Total Sales	Sch. 10B, In 23/1000	115,043
73	Ratio		20 31%
74			
75	<b>Miscellaneous Overhead</b>	In 70 * 73	<b>\$ -</b>
76			
77	<b>Total Anticipated Indirect Cost of Gas</b>	In 53 + 66 + 68 + 75	<b>\$ 667,042</b>
78			
79	<b>Total Cost of Gas</b>	In 42 + 77	<b>\$ 25,928,623</b>
80			
81	<b>Projected Forecast Sales (Therms)</b>	Sch. 3, col (q), In 52	<b>23,366,130</b>



1 **Liberty Utilities (EnergyNorth Natural Gas) Corp. d/b/a Liberty**  
2  
3 **Off Peak 2022 Summer Cost of Gas Filing**  
4 **Summary of Supply and Demand Forecast**

Schedule 1  
Page 1 of 4

5									
6									
7	For Month of:		May-22	Jun-22	Jul-22	Aug-22	Sep-22	Oct-22	Nov-22
8	(a)	(b)	(c)	(d)	(e)	(d)	(e)	(f)	(g)
9	Off Peak Period								
10	May - Oct								
11	(h)								
12	<b>I. Gas Volumes (Therms)</b>								
13	<b>A. Firm Demand Volumes</b>								
14	Firm Gas Sales	Sch. 10B, In 23	94,947	275,183	228,617	231,803	343,419	730,106	855,832
15	Lost Gas (Unaccounted for)		949,473	2,751,830	2,286,170	2,318,030	3,434,190	7,301,060	27,599,069
16	Company Use		53,988	29,666	24,501	25,149	36,419	78,230	247,952
17	Unbilled Therms		3,081	1,693	1,398	1,435	2,079	4,465	14,152
18			3,990,670	(37,254)	(44,266)	(16,829)	(101,704)	(142,654)	(8,558,316)
19	<b>Total Firm Volumes</b>	Sch. 6, In 93	4,997,212	2,745,936	2,267,802	2,327,785	3,370,983	7,241,101	22,950,820
20	<b>B. Supply Volumes (Therms)</b>								
21	<u>Pipeline Gas:</u>								
22	Dawn Supply	Sch. 6, In 63	739,535	95,658	-	-	206,295	636,518	1,678,006
23	Niagara Supply	Sch. 6, In 64	668,413	540,809	542,484	545,801	591,423	687,667	3,576,596
24	TGP Supply (Gulf)	Sch. 6, In 65	13,120	-	-	-	-	384,326	397,446
25	Dracut Supply 1 - Baseload	Sch. 6, In 66	-	-	-	-	-	-	-
26	Dracut Supply 2 - Swing	Sch. 6, In 67	-	-	-	-	-	436,185	436,185
27	City Gate Delivered Supply	Sch. 6, In 68	-	-	-	-	-	-	-
28	LNG Truck	Sch. 6, In 69	44,883	18,131	-	-	55,566	20,602	139,181
29	Propane Truck	Sch. 6, In 70	79,409	71,899	69,472	69,279	73,449	81,696	445,204
30	PNGTS	Sch. 6, In 71	205,081	146,300	119,612	125,908	176,916	218,093	991,910
31	Portland Natural Gas	Sch. 6, In 72	152,602	3,126	-	-	2,555	574,003	732,286
32	TGP Supply (Zone 4)	Sch. 6, In 73	5,386,659	4,708,479	4,708,982	4,696,535	4,819,522	5,546,088	29,866,267
33	Subtotal Pipeline Volumes		7,289,702	5,584,403	5,440,551	5,437,523	5,925,726	8,585,177	38,263,081
34	<u>Storage Gas:</u>								
35	TGP Storage	Sch. 6, In 78	-	-	-	-	-	-	-
36	<u>Produced Gas:</u>								
37	LNG Vapor	Sch. 6, In 81	20,024.76	18,131.18	17,518.99	17,470.44	18,521.89	20,601.58	112,268.82
38	Propane	Sch. 6, In 82	-	-	-	-	-	-	-
39	Subtotal Produced Gas		20,024.76	18,131.18	17,518.99	17,470.44	18,521.89	20,601.58	112,268.82
40	<u>Less - Gas Refill:</u>								
41	LNG Truck	Sch. 6, In 87	(44,883.07)	(18,131.18)	-	-	(55,565.66)	(20,601.58)	(139,181.49)
42	Propane	Sch. 6, In 88	(79,408.52)	(71,899.50)	(69,471.84)	(69,279.32)	(73,448.86)	(81,695.93)	(445,203.96)
43	TGP Storage Refill	Sch. 6, In 89	(2,188,222.48)	(2,766,567.68)	(3,120,795.80)	(3,057,928.82)	(2,444,250.24)	(1,262,379.73)	(14,840,144.76)
44	Subtotal Refills		(2,312,514.07)	(2,856,598.36)	(3,190,267.64)	(3,127,208.14)	(2,573,264.76)	(1,364,677.25)	(15,424,530.21)
45									
46									
47									
48	<b>Total Firm Sendout Volumes</b>	Ins 32 + 35 + 40 + 46	4,997,212.39	2,745,935.65	2,267,802.45	2,327,785.06	3,370,983.22	7,241,101.08	22,950,819.85

1 **Liberty Utilities (EnergyNorth Natural Gas) Corp. d/b/a Liberty**  
2  
3 **Off Peak 2022 Summer Cost of Gas Filing**  
4 **Summary of Supply and Demand Forecast**

49

50 **II. Gas Costs**

51

52 **A. Demand Costs**

53 Supply

54 Niagara Supply Sch.5A, In 12  
55 Subtotal Supply Demand  
56 Less Capacity Credit  
57 Net Pipeline Demand Costs  
58

59 Pipeline:

60 Iroquois Gas Trans Service RTS 470-0 Sch.5A, In 16  
61 Tenn Gas Pipeline 95346 Z5-Z6 Sch.5A, In 17  
62 Tenn Gas Pipeline 2302 Z5-Z6 Sch.5A, In 18  
63 Tenn Gas Pipeline 8587 Z0-Z6 Sch.5A, In 19  
64 Tenn Gas Pipeline 8587 Z1-Z6 Sch.5A, In 20  
65 Tenn Gas Pipeline 8587 Z4-Z6 Sch.5A, In 21  
66 Tenn Gas Pipeline (Dracut) 42076 Z6-Z7 Sch.5A, In 22  
67 Tenn Gas Pipeline (Dracut) 358905 Z6-Z7 Sch.5A, In 23  
68 Tenn Gas Pipeline (Concord Lateral) Z6-Z6 Sch.5A, In 24  
69 Portland Natural Gas Trans Service Sch.5A, In 25  
70 ANE (TransCanada via Union to Iroquois) Sch.5A, In 27  
71 Portland Natural Gas Sch.5A, In 25  
72 TransCanada via Union to Portland Sch.5A, In 27  
73 Tenn Gas Pipeline Z4-Z6 stg 632 Sch.5A, In 29  
74 Tenn Gas Pipeline Z4-Z6 stg 11234 Sch.5A, In 30  
75 Tenn Gas Pipeline Z5-Z6 stg 11234 Sch.5A, In 31  
76 National Fuel FST 2358 Sch.5A, In 32  
77 Subtotal Pipeline Demand  
78 Less Capacity Credit  
79 Net Pipeline Demand Costs  
80

81 Peaking Supply:

82 Tenn Gas Pipeline (Concord Lateral) Z6-Z6 Sch.5A, In 37  
83 Granite Ridge Demand Sch.5A, In 38  
84 DOMAC Demand NSB041 Sch.5A, In 39  
85 Subtotal Peaking Demand  
86 Less Capacity Credit  
87 Net Peaking Supply Demand Costs  
88

89 Storage:

90 Dominion - Demand Sch.5A, In 49  
91 Dominion - Storage Sch.5A, In 50  
92 Honeoye - Demand Sch.5A, In 51  
93 National Fuel - Demand Sch.5A, In 52  
94 National Fuel - Capacity Sch.5A, In 53  
95 Tenn Gas Pipeline - Demand Sch.5A, In 54  
96 Tenn Gas Pipeline - Capacity Sch.5A, In 55  
97 Subtotal Storage Demand  
98 Less Capacity Credit  
99 Net Storage Demand Costs  
100

101 Total Demand Charges Ins 55 + 77 + 85 + 97  
102 Total Capacity Credit Ins 56 + 78 + 86 + 98  
103 Net Demand Charges  
104

REDACTED

Schedule 1

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[REDACTED]

[REDACTED]

\$	823,110	\$	826,258	\$	826,258	\$	826,258	\$	826,258	\$	826,258	\$	3,703,482	\$	4,954,402
	(278,705)		(279,771)		(279,771)		(279,771)		(279,771)		(279,771)		(1,253,999)		(1,677,561)
\$	544,405	\$	546,487	\$	546,487	\$	546,487	\$	546,487	\$	546,487	\$	2,449,483	\$	3,276,842

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\$	-	\$	-	\$	-	\$	-	\$	-	\$	-	\$	-	\$	-

\$	823,110	\$	826,258	\$	826,258	\$	826,258	\$	826,258	\$	826,258	\$	3,703,482	\$	4,954,402
	(278,705)		(279,771)		(279,771)		(279,771)		(279,771)		(279,771)		(1,253,999)		(1,677,561)
\$	544,405	\$	546,487	\$	546,487	\$	546,487	\$	546,487	\$	546,487	\$	2,449,483	\$	3,276,842

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Schedule 1  
Page 3 of 4

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

2

## 3 Off Peak 2022 Summer Cost of Gas Filing

## 4 Summary of Supply and Demand Forecast

## 157 D. Supply and Demand Costs by Source

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Schedule 1

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158  
159  
160 Purchased Gas Demand Costs

161 Pipeline Gas Demand Costs	Ins 55 + 77	\$ 823,110	\$ 826,258	\$ 826,258	\$ 826,258	\$ 826,258	\$ 826,258	\$ 4,954,402
162 Peaking Gas Demand Costs	Ins 85	-	-	-	-	-	-	-
163 Subtotal Purchased Gas Demand Costs		\$ 823,110	\$ 826,258	\$ 826,258	\$ 826,258	\$ 826,258	\$ 826,258	\$ 4,954,402
164 Less Capacity Credit	Ins 56 + 78 + 86	(278,705)	(279,771)	(279,771)	(279,771)	(279,771)	(279,771)	(1,677,561)
165 Net Purchased Gas Demand Costs		\$ 544,405	\$ 546,487	\$ 546,487	\$ 546,487	\$ 546,487	\$ 546,487	\$ 3,276,842

166  
167 Storage Gas Demand Costs

168 Storage Demand	Ins 97	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
169 Less Capacity Credit	Ins 98	-	-	-	-	-	-	-
170 Net Storage Demand Costs		\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -

171 172 <b>Total Demand Costs</b>	Ins 165 + 170	\$ 544,405	\$ 546,487	\$ 546,487	\$ 546,487	\$ 546,487	\$ 546,487	\$ 3,276,842
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173

174 Purchased Gas Supply

175 Commodity Costs	Ins 120							
176 Less Storage Inj (TGP Storage)	Ins 133							
177 Less Storage Transportation	Ins 134							
178 Less LNG Truck	Ins 131							
179 Less Propane Truck	Ins 132							
180 Plus Transportation Costs	Ins 146							
181 Subtotal Purchased Gas Supply		\$ 3,208,664	\$ 1,631,573	\$ 1,316,039	\$ 1,343,203	\$ 1,919,305	\$ 4,607,915	\$ 14,026,699

182  
183 Storage Commodity Costs

184 Commodity Costs	Ins 123	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
185 Transportation Costs	Ins 148	-	-	-	-	-	-	-
186 Subtotal Storage Commodity Costs		\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -

187 188 <u>Produced Gas Commodity Costs</u>	Ins 128	\$ 13,993	\$ 13,159	\$ 12,913	\$ 12,877	\$ 13,652	\$ 15,911	\$ 82,504
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189 190 <b>Subtotal Commodity Costs</b>	Ins 181 + 186 + 188	\$ 3,222,657	\$ 1,644,732	\$ 1,328,952	\$ 1,356,080	\$ 1,932,957	\$ 4,623,826	\$ 14,109,203
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191 192 Hedge Contract (Savings)/Loss		\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
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193 194 <b>Total Commodity Costs</b>	Ins 190 + 192	\$ 3,222,657	\$ 1,644,732	\$ 1,328,952	\$ 1,356,080	\$ 1,932,957	\$ 4,623,826	\$ 14,109,203
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195 196 <b>Total Demand Costs</b>	Ins 103	\$ 544,405	\$ 546,487	\$ 546,487	\$ 546,487	\$ 546,487	\$ 546,487	\$ 3,276,842
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197 <b>Total Supply Costs</b>	Ins 194	3,222,657	1,644,732	1,328,952	1,356,080	1,932,957	4,623,826	14,109,203
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198 199 <b>Total Direct Gas Costs</b>	Ins 196 + 197	\$ 3,767,062	\$ 2,191,219	\$ 1,875,439	\$ 1,902,568	\$ 2,479,444	\$ 5,170,313	\$ 17,386,045
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1 **Liberty Utilities (EnergyNorth Natural Gas) Corp. d/b/a Liberty**

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3 **Off Peak 2022 Summer Cost of Gas Filing**

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

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9 **Demand Costs**

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

3 Off Peak 2022 Summer Cost of Gas Filing  
4 COG (Over)/Under Cumulative Recovery Balances and Interest Calculation

		Prior Period Balance Plus Nov Collections October 31, 2021	Nov-21 30	Dec-21 31	Jan-22 31	Feb-22 28	Mar-22 31	Apr-22 30	May-22 31	Jun-22 30	Jul-22 31	Aug-22 31	Sep-22 30	Oct-22 31	Nov-22 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)
Account 8840-2-0000-10-1920-1741 (formerly, 175.40) COG (Over)/Under Balance - Interest Calculation																
Beginning Balance	Account 1920-1741 1/	\$ 8,665,170	\$ 8,665,170	\$ 9,223,873	\$ 9,148,110	\$ 7,022,829	\$ 7,042,250	\$ 7,063,101	\$ 7,083,418	\$ 5,785,269	\$ 5,250,646	\$ 4,896,389	\$ 4,505,643	\$ 3,604,663	\$ 1,366,420	\$ 8,665,170
Forecast Direct Gas Costs		-	(105)	-	(2,143,633)	20	-	-	3,877,696	2,301,853	1,986,073	2,013,201	2,590,078	5,280,947	-	15,906,130
Production & Storage & Misc Overhead		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Projected Revenues w/o Int.	In 54 * In 64	-	(1,439,782)	(101,084)	(3,936)	1,890	1,410	-	(998,445)	(2,893,763)	(2,404,085)	(2,437,588)	(3,611,317)	(7,677,631)	(4,548,470)	(26,112,801)
Projected Unbilled Revenue	In 58 * In 64	-	1,974,730	-	-	-	-	-	(4,196,499)	(4,157,324)	(4,110,774)	(4,093,078)	(3,986,128)	(3,836,116)	-	(22,405,189)
Reverse Prior Month Unbilled		-	-	-	-	-	-	-	4,196,499	4,157,324	4,110,774	4,093,078	3,986,128	3,836,116	-	24,379,918
Add Net Adjustments (with TGP Refund)		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Gas Cost Billed	Account 1920-1741 2/	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Monthly (Over)/Under Recovery		\$ 8,665,170	\$ 9,200,012	\$ 9,122,789	\$ 7,000,542	\$ 7,024,739	\$ 7,043,661	\$ 7,063,101	\$ 5,766,171	\$ 5,232,534	\$ 4,879,183	\$ 4,489,699	\$ 3,591,353	\$ 1,357,991	\$ 654,066	\$ 433,228
Average Monthly Balance	(In 13 + 21)/ 2	\$ -	\$ 8,932,591	\$ 9,173,331	\$ 8,074,326	\$ 7,023,784	\$ 7,042,955	\$ 7,063,101	\$ 6,424,794	\$ 5,508,902	\$ 5,064,914	\$ 4,693,044	\$ 4,048,498	\$ 2,481,327	\$ 1,010,243	
Interest Rate	Prime Rate		3.25%	3.25%	3.25%	3.25%	3.25%	3.50%	3.50%	4.00%	4.00%	4.00%	4.00%	4.00%		
Interest Applied	In 22 * In 24 /365 *Days/Mo.	\$ -	\$ 23,861	\$ 25,321	\$ 22,287	\$ 17,511	\$ 19,440	\$ 20,317	\$ 19,098	\$ 18,111	\$ 17,207	\$ 15,943	\$ 13,310	\$ 8,430	\$ -	\$ 220,838
(Over)/Under Balance	In 21 + In 26	\$ 8,665,170	\$ 9,223,873	\$ 9,148,110	\$ 7,022,829	\$ 7,042,250	\$ 7,063,101	\$ 7,083,418	\$ 5,785,269	\$ 5,250,646	\$ 4,896,389	\$ 4,505,643	\$ 3,604,663	\$ 1,366,420	\$ 654,066	\$ 654,066
Calculation of COG with Interest																
Beginning Balance	In 13	\$ 8,665,170	\$ 8,665,170	\$ 7,246,506	\$ 7,165,285	\$ 5,034,531	\$ 5,048,995	\$ 5,064,344	\$ 5,078,912	\$ 3,733,471	\$ 3,169,400	\$ 2,789,328	\$ 2,372,178	\$ 1,436,300	\$ (869,242)	\$ 8,665,170
Forecast Direct Gas Costs	In 14	-	(105)	-	(2,143,633)	20	-	-	3,877,696	2,301,853	1,986,073	2,013,201	2,590,078	5,280,947	-	15,906,130
Prod Storage & Misc Overhead	In 15	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Projected Revenues with int.	In 54 * 66	-	(1,439,782)	(101,084)	(3,936)	1,890	1,410	-	(1,006,382)	(2,916,769)	(2,423,198)	(2,456,968)	(3,640,028)	(7,738,670)	(4,584,631)	(26,308,147)
Projected Unbilled Revenue	In 58 * 66	-	-	-	-	-	-	-	(4,229,862)	(4,190,375)	(4,143,456)	(4,125,618)	(4,017,818)	(3,866,613)	-	(24,573,743)
Reverse Prior Month Unbilled		-	-	-	-	-	-	-	4,229,862	4,190,375	4,143,456	4,125,618	4,017,818	3,866,613	-	24,573,743
Add Net Adjustments	In 19	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Gas Cost Billed	In 20	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Reverse Prior Month Unbilled		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Add Interest	In 26	-	-	-	-	-	-	-	19,098	18,111	17,207	15,943	13,310	8,430	-	92,100
(Over)/Under Balance		\$ 8,665,170	\$ 7,225,282	\$ 7,145,422	\$ 5,017,716	\$ 5,036,440	\$ 5,050,405	\$ 5,064,344	\$ 3,739,462	\$ 3,176,153	\$ 2,796,401	\$ 2,379,342	\$ 1,443,338	\$ (861,788)	\$ (1,587,259)	\$ (1,644,748)
Average Monthly Balance		\$ 7,945,226	\$ 7,195,964	\$ 6,091,501	\$ 5,035,485	\$ 5,049,700	\$ 5,064,344		\$ 4,409,187	\$ 3,454,812	\$ 2,982,900	\$ 2,584,335	\$ 1,907,758	\$ 287,256		
Interest Applied	In 24 * In 46 /365 *Days/Mo.	\$ 21,224	\$ 19,863	\$ 16,814	\$ 12,554	\$ 13,939	\$ 14,569		\$ 13,107	\$ 11,358	\$ 10,134	\$ 8,780	\$ 6,272	\$ 976	\$ -	\$ 149,588
(Over)/Under Balance	In 43 +In 44 + In 48	\$ 8,665,170	\$ 7,246,506	\$ 7,165,285	\$ 5,034,531	\$ 5,048,995	\$ 5,064,344	\$ 5,078,912	\$ 3,733,471	\$ 3,169,400	\$ 2,789,328	\$ 2,372,178	\$ 1,436,300	\$ (869,242)	\$ (1,587,259)	\$ (1,587,260)
Forecast Sendout Therms	Sch 1								4,997,212	2,745,936	2,267,802	2,327,785	3,370,983	7,241,101		22,950,820
Less Forecast Billing Therm Sales	Sch. 10B, In 23 May - Oct								949,473	2,751,830	2,286,170	2,318,030	3,434,190	7,301,060	4,325,377	23,366,130
Less Forecast Unaccounted For	Sch 1								53,988	29,666	24,501	25,149	36,419	78,230		247,952
Less Forecast Company Use	Sch 1								3,081	1,693	1,398	1,435	2,079	4,465		14,152
Unbilled Volumes									3,990,670	(37,254)	(44,266)	(16,829)	(101,704)	(142,654)	(4,325,377)	(677,415)
Gross Unbilled									3,990,670	3,953,416	3,909,150	3,892,321	3,790,617	3,647,962		
Beg Balance									-	3,990,670	3,953,416	3,909,150	3,892,321	3,790,617	3,647,962	
Incremental									3,990,670	(37,254)	(44,266)	(16,829)	(101,704)	(142,654)	(4,325,377)	
Ending Balance									3,990,670	3,953,416	3,909,150	3,892,321	3,790,617	3,647,962		
COG w/o Interest	Sch. 3, pg. 4, In 211 col. (c)								\$ 1,0516	\$ 1,0516	\$ 1,0516	\$ 1,0516	\$ 1,0516	\$ 1,0516	\$ 1,0516	
COG With Interest	Sch. 3, pg. 4, In 211 col. (d)								\$ 1,0599	\$ 1,0599	\$ 1,0599	\$ 1,0599	\$ 1,0599	\$ 1,0599	\$ 1,0599	

Schedule 3  
Page 2 of 3

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

	Days in Month	Prior Period Balance Plus Nov Collections October 31, 2021	Nov-21 30	Dec-21 31	Jan-22 31	Feb-22 28	Mar-22 31	Apr-22 30	May-22 31	Jun-22 30	Jul-22 31	Aug-22 31	Sep-22 30	Oct-22 31	Nov-22 30	Off Peak Period Total
(a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)	(i)	(j)	(k)	(l)	(m)	(n)	(o)	(p)	(q)
<b>Account 8840-2-0000-10-1163-1424 (formerly, 142.40) Working Capital (Over)/Under Balance - Interest Calculation</b>																
<b>Beginning Balance</b>	Account 1163-1424 1/	\$ 25,064	\$ 25,064	\$ 27,157	\$ 27,335	\$ 27,415	\$ 27,480	\$ 27,553	\$ 27,633	\$ 22,408	\$ 19,565	\$ 17,222	\$ 14,808	\$ 11,277	\$ 3,623	\$ 25,064
Days Lag									0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	
Prime Rate									3.25%	3.25%	3.25%	3.25%	3.25%	3.25%	3.25%	
Forecast Working Capital	In 34 * In 80 / 365 * In 81		-	-	-	-	-	-	-	-	-	-	-	-	-	-
Projected Revenues w/o Int.	In 123 * In 126		2,023	103	5	(3)	(3)	-	(1,018)	(2,952)	(2,452)	(2,486)	(3,684)	(7,832)	(4,640)	(22,940)
Projected Unbilled Revenue	In 124 * In 126								(4,281)	(4,241)	(4,193)	(4,175)	(4,066)	(3,913)		(24,869)
Reverse Prior Month Unbilled										4,281	4,241	4,193	4,175	4,066	3,913	24,869
Add Net Adjustments			-	-		-	-	-	-	-	-	-	-	-	-	-
Working Capital Billed	Account 1163-1424 2/															
Monthly (Over)/Under Recovery		\$ 25,064	\$ 27,087	\$ 27,260	\$ 27,340	\$ 27,412	\$ 27,478	\$ 27,553	\$ 22,334	\$ 19,496	\$ 17,160	\$ 14,754	\$ 11,234	\$ 3,598	\$ 2,897	\$ 2,125
Average Monthly Balance	(In 78 + 92) / 2	\$ 26,076	\$ 27,208	\$ 27,337	\$ 27,413	\$ 27,479	\$ 27,553	\$ 27,553	\$ 24,983	\$ 20,952	\$ 18,362	\$ 15,988	\$ 13,021	\$ 7,437		
Interest Rate	Prime Rate	3.25%	3.25%	3.25%	3.25%	3.25%	3.25%	3.50%	3.50%	4.00%	4.00%	4.00%	4.00%	4.00%		
Interest Applied	In 94 * In 96 / 365 * Days of Month	\$ 70	\$ 75	\$ 75	\$ 75	\$ 68	\$ 76	\$ 79	\$ 74	\$ 69	\$ 62	\$ 54	\$ 43	\$ 25		\$ 772
<b>(Over)/Under Balance</b>	In 92 + In 98	\$ 25,064	\$ 27,157	\$ 27,335	\$ 27,415	\$ 27,480	\$ 27,553	\$ 27,633	\$ 22,408	\$ 19,565	\$ 17,222	\$ 14,808	\$ 11,277	\$ 3,623	\$ 2,897	2,896
<b>Calculation of Working Capital with Interest</b>																
<b>Beginning Balance</b>		\$ 25,064	\$ 25,064	\$ 27,157	\$ 27,335	\$ 27,415	\$ 27,480	\$ 27,553	\$ 27,633	\$ 22,367	\$ 19,502	\$ 17,141	\$ 14,708	\$ 11,149	\$ 3,436	\$ 25,064
Forecast Working Capital	In 82		-	-	-	-	-	-	-	-	-	-	-	-	-	-
Projected Rev. with interest	In 123 * In 128		2,023	103	5	(3)	(3)	-	(1,026)	(2,974)	(2,471)	(2,505)	(3,712)	(7,891)	(4,675)	(23,131)
Projected Unbilled Revenue	In 124 * In 128								(4,313)	(4,273)	(4,225)	(4,207)	(4,097)	(3,943)		(25,059)
Reverse Prior Month Unbilled										4,313	4,273	4,225	4,207	4,097	3,943	25,059
Add Net Adjustments	In 88	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Working Capital Billed	In 90	-							-	-	-	-	-	-	-	-
WC Unbilled																
Reverse WC Unbilled																
Add Interest	In 98		-	-	-	-	-	-	74	69	62	54	43	25		328
Monthly (Over)/Under Recovery		\$ 25,064	\$ 27,087	\$ 27,260	\$ 27,340	\$ 27,412	\$ 27,478	\$ 27,553	\$ 22,367	\$ 19,502	\$ 17,141	\$ 14,708	\$ 11,149	\$ 3,437	\$ 2,704	\$ 2,262
Average Monthly Balance		\$ 26,076	\$ 27,208	\$ 27,337	\$ 27,413	\$ 27,479	\$ 27,553	\$ 27,553	\$ 25,000	\$ 20,935	\$ 18,322	\$ 15,925	\$ 12,929	\$ 7,293		
Interest Applied	In 96 * In 117 / 365 * Days of Month	70	75	75	75	68	76	79	74	69	62	54	43	25	-	\$ 770
<b>(Over)/Under Balance</b>	-In 114 +In 115 + In 119	\$ 25,064	\$ 27,157	\$ 27,335	\$ 27,415	\$ 27,480	\$ 27,553	\$ 27,633	\$ 22,367	\$ 19,502	\$ 17,141	\$ 14,708	\$ 11,149	\$ 3,436	\$ 2,704	\$ 2,704
Forecast Therm Sales	In 53								949,473	2,751,830	2,286,170	2,318,030	3,434,190	7,301,060	4,325,377	23,366,130
Unbilled Therm	In 55								3,990,670	3,953,416	3,909,150	3,892,321	3,790,617	3,647,962	(677,415)	
Working Cap. Rate w/out Int.	Sch. 3, pg. 4, In 228 col. (c)								\$ 0.0011	\$ 0.0011	\$ 0.0011	\$ 0.0011	\$ 0.0011	\$ 0.0011	\$ 0.0011	
Working Capital Rate w/ Int.	Sch. 3, pg. 4, In 228 col. (d)								\$ 0.0011	\$ 0.0011	\$ 0.0011	\$ 0.0011	\$ 0.0011	\$ 0.0011	\$ 0.0011	

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

		Prior Period Balance Plus Nov Collections October 31, 2021	Nov-21 30	Dec-21 31	Jan-22 31	Feb-22 28	Mar-22 31	Apr-22 30	May-22 31	Jun-22 30	Jul-22 31	Aug-22 31	Sep-22 30	Oct-22 31	Nov-22 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)
<b>Account 8840-2-0000-10-1163-1754 (formerly, 175.54) Bad Debt (Over)/Under Balance - Interest Calculation</b>																
Forecast Direct Gas Costs	In 34 In 106 + (May includes prior period )	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 3,877,696	\$ 2,301,853	\$ 1,986,073	\$ 2,013,201	\$ 2,590,078	\$ 5,280,947	\$ -	18,049,847
Forecast Working Capital		-	-	-	-	-	-	-	25,064	-	-	-	-	-	-	25,064
Prior Period Balance (with Refund)	In 21 / 6	-	-	-	-	-	-	-	1,444,195	1,444,195	1,444,195	1,444,195	1,444,195	1,444,195	-	8,665,170
Total Forecast Direct Gas Costs & Working Capital		-	-	-	-	-	-	-	5,346,955	3,746,048	3,430,267	3,457,396	4,034,273	6,725,142	-	18,074,912
<b>Beginning Balance</b>	Account 1163-1754 1/ <b>Oct Collections &amp; Unbilled</b>	\$ 464,841	\$ 464,841	\$ 581,472	\$ 591,177	\$ 593,131	\$ 594,447	\$ 595,954	\$ 597,731	\$ 498,935	\$ 449,409	\$ 412,322	\$ 373,643	\$ 310,013	\$ 158,131	\$ 464,841
Forecast Bad Debt	In 142 * 0.007	-	-	-	-	-	-	-	37,429	26,222	24,012	24,202	28,240	47,076	-	187,181
Projected Revenues w/o int	In 184 * In 187	-	115,235	8,089	322	(162)	(134)	63	(26,495)	(76,789)	(63,795)	(64,684)	(95,830)	(203,733)	(120,698)	(528,608)
Projected Unbilled Revenue	In 185 * In 187	-	-	-	-	-	-	-	(111,358)	(110,318)	(109,083)	(108,613)	(105,775)	(101,795)	-	(646,943)
Reverse Prior Month Unbilled		-	-	-	-	-	-	-	-	111,358	110,318	109,083	108,613	105,775	101,795	646,943
Bad Debt Billed	Account 1163-1754 2/ Add Net Adjustments	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Monthly (Over)/Under Recovery		\$ 464,841	\$ 580,076	\$ 589,561	\$ 591,499	\$ 592,969	\$ 594,313	\$ 596,017	\$ 497,308	\$ 449,409	\$ 410,861	\$ 372,310	\$ 308,891	\$ 157,337	\$ 139,228	\$ 123,413
Average Monthly Balance	(In 144 + 155) / 2	\$ 522,458	\$ 585,516	\$ 591,338	\$ 593,050	\$ 594,380	\$ 595,985	\$ 597,731	\$ 547,520	\$ 474,172	\$ 430,135	\$ 392,316	\$ 341,267	\$ 233,675	\$ 148,680	\$ 17,374
Interest Rate	Prime Rate	3.25%	3.25%	3.25%	3.25%	3.25%	3.50%		3.50%	4.00%	4.00%	4.00%	4.00%	4.00%		
Interest Applied	In 157 * In 159 / 365 * Days of Mo.	\$ 1,396	\$ 1,616	\$ 1,632	\$ 1,479	\$ 1,641	\$ 1,714		\$ 1,628	\$ 1,559	\$ 1,461	\$ 1,333	\$ 1,122	\$ 794		\$ 17,374
<b>(Over)/Under Balance</b>	In 155 + In 161	\$ 464,841	\$ 581,472	\$ 591,177	\$ 593,131	\$ 594,447	\$ 595,954	\$ 597,731	\$ 498,935	\$ 450,967	\$ 412,322	\$ 373,643	\$ 310,013	\$ 158,131	\$ 148,680	\$ 140,787
<b>Calculation of Bad Debt with Interest</b>																
<b>Beginning Balance</b>		\$ 464,841	\$ 464,841	\$ 581,472	\$ 591,177	\$ 593,131	\$ 594,447	\$ 595,954	\$ 597,731	\$ 494,539	\$ 444,141	\$ 405,043	\$ 364,291	\$ 297,665	\$ 139,366	\$ 464,841
Forecast Bad Debt	In 146	-	-	-	-	-	-	-	37,429	26,222	24,012	24,202	28,240	47,076	-	187,181
Projected Revenues with int.	In 184 * 189	115,235	8,089	322	(162)	(134)	63		(27,339)	(79,235)	(65,827)	(66,745)	(98,883)	(210,225)	(124,544)	(549,385)
Projected Unbilled Revenue	In 185 * 189	-	-	-	-	-	-	-	(114,906)	(113,834)	(112,559)	(112,074)	(109,146)	(105,038)	-	(667,557)
Reverse Prior Month Unbilled		-	-	-	-	-	-	-	-	114,906	113,834	112,559	112,074	109,146	105,038	667,557
Bad Debt Billed	In 152	-	-	-	-	-	-	-	1,628	1,559	1,461	1,333	1,122	794	-	7,896
Add Interest	In 161	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Add Net Adjustments	In 153	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Monthly (Over)/Under Recovery		\$ 464,841	\$ 580,076	\$ 589,561	\$ 591,499	\$ 592,969	\$ 594,313	\$ 596,017	\$ 494,543	\$ 444,157	\$ 405,062	\$ 364,317	\$ 297,699	\$ 139,418	\$ 119,861	\$ 110,533
Average Monthly Balance	(In 168 + 176) / 2	\$ 522,458	\$ 585,516	\$ 591,338	\$ 593,050	\$ 594,380	\$ 595,985	\$ 597,731	\$ 546,137	\$ 469,348	\$ 424,601	\$ 384,680	\$ 330,995	\$ 218,541	\$ 129,613	\$ 17,224
Interest Applied	In 159 * In 178 / 365 * Days of Month	1,396	1,616	1,632	1,479	1,641	1,714		1,623	1,543	1,442	1,307	1,088	742	-	\$ 17,224
<b>(Over)/Under Balance</b>	-In 174 +In 176 + In 180	\$ 464,841	\$ 581,472	\$ 591,177	\$ 593,131	\$ 594,447	\$ 595,954	\$ 597,731	\$ 494,539	\$ 444,141	\$ 405,043	\$ 364,291	\$ 297,665	\$ 139,366	\$ 119,861	\$ 119,861
Forecast Therm Sales	In 53	-	-	-	-	-	-	-	949,473	2,751,830	2,286,170	2,318,030	3,434,190	7,301,060	4,325,377	23,366,130
Unbilled Therm	In 55	-	-	-	-	-	-	-	3,990,670	3,953,416	3,909,150	3,892,321	3,790,617	3,647,962	-	-
COG Rate Without Interest	Sch. 3, pg. 4, In 245 col. (c)	\$ 0.0279	\$ 0.0279	\$ 0.0279	\$ 0.0279	\$ 0.0279	\$ 0.0279	\$ 0.0279	\$ 0.0279	\$ 0.0279	\$ 0.0279	\$ 0.0279	\$ 0.0279	\$ 0.0279	\$ 0.0279	\$ 0.0279
COG With Interest	Sch. 3, pg. 4, In 245 col. (d)	\$ 0.0288	\$ 0.0288	\$ 0.0288	\$ 0.0288	\$ 0.0288	\$ 0.0288	\$ 0.0288	\$ 0.0288	\$ 0.0288	\$ 0.0288	\$ 0.0288	\$ 0.0288	\$ 0.0288	\$ 0.0288	\$ 0.0288
<b>Total Interest</b>	Ins 48 + 119 + 180	\$ 22,689	\$ 21,554	\$ 18,522	\$ 14,101	\$ 15,655	\$ 16,362	\$ 14,805	\$ 12,970	\$ 11,638	\$ 10,141	\$ 7,403	\$ 1,743	\$ -	\$ -	\$ 167,582



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

2 Schedule 4

3 Off Peak 2022 Summer Cost of Gas Filing

4 Adjustments to Gas Costs

		Prior Period	Refunds from	Broker	Fuel Financing	Transportation	Interruptible	Off System	Capacity	Net Option	Fixed Price	Total
		Adjustments	Suppliers /	Revenue		CGA Revenues	Sales Margin	Sales Margin	Release Margin	Premiums	Option	Adjustments
		(b)	Pipelines	(d)	(e)	(f)	(g)	(h)	(i)	(j)	Administrative	(m)
		(a)	(c)								Costs	
6	<u>Adjustments</u>											
7	(a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)	(i)	(j)	(k)	(m)
8												
9	Nov-20	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
10	Dec-20	-	-	-	-	-	-	-	-	-	-	-
11	Jan-21	-	-	-	-	-	-	-	-	-	-	-
12	Feb-21	-	-	-	-	-	-	-	-	-	-	-
13	Mar-21	-	-	-	-	-	-	-	-	-	-	-
14	Apr-21	-	-	-	-	-	-	-	-	-	-	-
15	May-21	-	-	-	-	-	-	-	(149,464)	-	-	(149,464)
16	Jun-21	-	-	-	-	-	-	-	(141,180)	-	-	(141,180)
17	Jul-21	-	-	-	-	-	-	-	(211,505)	-	-	(211,505)
18	Aug-21	-	-	-	-	-	-	-	(224,684)	-	-	(224,684)
19	Sep-21	-	-	-	-	-	-	-	(162,433)	-	-	(162,433)
20	Oct-21	-	-	-	-	-	-	-	(191,448)	-	-	(191,448)
21												
22	Total Off Peak Period	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ (1,080,715)	\$ -	\$ -	\$ (1,080,715)

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

**REDACTED**  
Schedule 5A  
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3 **Off Peak 2022 Summer Cost of Gas Filing**

4 **Demand Costs**

										Off Peak	Peak
		Peak	Reference	May-22	Jun-22	Jul-22	Aug-22	Sep-22	Oct-22	May – Oct	May – Oct
	(a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)	(i)	Total	Total
										(j)	(k)
11	Supply										
12	Niagara Supply		Sch 5B, ln 9 * Sch 5C ln 9 x days	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
13	Subtotal Supply Demand & Reservation Charges			\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
14											
15	Pipeline										
16	Iroquois Gas Trans Service RTS 470-0		Sch 5B, ln 12 * Sch 5C ln 12 x days								
17	Tenn Gas Pipeline 95346 Z5-Z6		Sch 5B, ln 13 * Sch 5C ln 14 x days								
18	Tenn Gas Pipeline 2302 Z5-Z6		Sch 5B, ln 14 * Sch 5C ln 16 x days								
19	Tenn Gas Pipeline 8587 Z0-Z6		Sch 5B, ln 15 * Sch 5C ln 18 x days								
20	Tenn Gas Pipeline 8587 Z1-Z6		Sch 5B, ln 16 * Sch 5C ln 20 x days								
21	Tenn Gas Pipeline 8587 Z4-Z6		Sch 5B, ln 17 * Sch 5C ln 22 x days								
22	Tenn Gas Pipeline (Dracut) 42076 Z6-Z6		Sch 5B, ln 18 * Sch 5C ln 24 x days								
23	Tenn Gas Pipeline (Dracut) 358905 Z6-Z7		Sch 5B, ln * Sch 5C ln 25 x days								
24	Tenn Gas Pipeline (Concord Lateral) Z6-Z6		Sch 5B, ln 19 * Sch 5C ln 28 x days								
25	Portland Natural Gas Trans Service		Sch 5B, ln 20 * Sch 5C ln 30 x days								
26	Portland Natural Gas		Sch 5B, ln 21 * Sch 5C ln 31 x days								
27	ANE (TransCanada via Union to Iroquois)		Sch 5B, ln 22 * Sch 5C ln 48 x days								
28	TransCanada via Union to Portland		Sch 5B, ln 23 * Sch 5C ln 49 x days								
29	Tenn Gas Pipeline Z4-Z6 stg 632	peak	Sch 5B, ln 24 * Sch 5C ln 34 x days								
30	Tenn Gas Pipeline Z4-Z6 stg 11234	peak	Sch 5B, ln 25 * Sch 5C ln 36 x days								
31	Tenn Gas Pipeline Z5-Z6 stg 11234	peak	Sch 5B, ln 26 * Sch 5C ln 38 x days								
32	National Fuel FST 2358	peak	Sch 5B, ln 27 * Sch 5C ln 40 x days								
33											
34	Subtotal Pipeline Demand Charges			\$ 1,640,391	\$ 1,643,539	\$ 1,643,539	\$ 1,643,539	\$ 1,643,539	\$ 1,643,539	\$ 4,954,402	\$ 4,903,685
35											
36	Peaking Supply										
37	Tenn Gas Pipeline (Concord Lateral) Z6-Z6	peak	Sch 5B, ln 30 * Sch 5C ln 28 x days	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
38	Granite Ridge Demand	peak	Sch 5B, ln 31 * Sch 5C ln 59 x days	-	-	-	-	-	-	-	-
39	DOMAC Demand NSB041	peak	Per Contract	-	-	-	-	-	-	-	-
40	Subtotal Peaking Demand Charges			\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
41											
42	Subtotal Supply, Pipeline & Peaking		ln 13 + ln 34 + ln 40	\$ 1,640,391	\$ 1,643,539	\$ 1,643,539	\$ 1,643,539	\$ 1,643,539	\$ 1,643,539	\$ 4,954,402	\$ 4,903,685
43											
44	Less Transportation Capacity Credit			\$ (555,436)	\$ (556,502)	\$ (556,502)	\$ (556,502)	\$ (556,502)	\$ (556,502)	\$ (1,677,561)	\$ (1,660,388)
45											
46	Total Supply, Pipeline & Peaking Demand			\$ 1,084,955	\$ 1,087,037	\$ 1,087,037	\$ 1,087,037	\$ 1,087,037	\$ 1,087,037	\$ 3,276,842	\$ 3,243,297

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

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3 **Off Peak 2022 Summer Cost of Gas Filing**

4 **Demand Costs**

47

48 **Storage**

49	Dominion - Demand	peak	Sch 5B, In 35 * Sch 5C In 63 x days	\$ 1,748	\$ 1,748	\$ 1,748	\$ 1,748	\$ 1,748	\$ 1,748	\$ -	\$ 10,488
50	Dominion - Storage	peak	Sch 5B, In 36 * Sch 5C In 64 x days	1,489	1,489	1,489	1,489	1,489	1,489	-	8,935
51	Honeoye - Demand	peak	Sch 5B, In 37 * Sch 5C In 67 x days	8,351	8,351	8,351	8,351	8,351	8,351	-	50,105
52	National Fuel - Demand	peak	Sch 5B, In 39 * Sch 5C In 69 x days	16,053	16,053	16,053	16,053	16,053	16,053	-	96,318
53	National Fuel - Capacity	peak	Sch 5B, In 40 * Sch 5C In 70 x days	31,930	31,930	31,930	31,930	31,930	31,930	-	191,580
54	Tenn Gas Pipeline - Demand	peak	Sch 5B, In 41 * Sch 5C In 73 x days	28,603	28,603	28,603	28,603	28,603	28,603	-	171,615
55	Tenn Gas Pipeline - Capacity	peak	Sch 5B, In 42 * Sch 5C In 74 x days	27,931	27,931	27,931	27,931	27,931	27,931	-	167,586

56

57 **Subtotal Storage Demand Costs**

58

59 Less Transportation Capacity Credit

60

61 **Total Storage Demand Costs**

62

63 **Total Demand Charges**

64

65 Total Transportation Capacity Credit

66

67 **Total Demand Charges less Cap. Cr.**

68

69

70 Monthly Off Peak Demand

71 Monthly Off Peak Transportation Cap Credit

72 **Total Off Peak Demand**

73

74 Monthly Peak Demand

75 Monthly Peak Transportation Cap Credit

76 **Total Peak Demand**

\$ 116,105	\$ 116,105	\$ 116,105	\$ 116,105	\$ 116,105	\$ 116,105	\$ -	\$ 696,628
\$ (39,313)	\$ (39,313)	\$ (39,313)	\$ (39,313)	\$ (39,313)	\$ (39,313)	\$ -	\$ (235,878)
\$ 76,792	\$ 76,792	\$ 76,792	\$ 76,792	\$ 76,792	\$ 76,792	\$ -	\$ 460,750
<u>\$ 1,756,496</u>	<u>\$ 1,759,644</u>	<u>\$ 1,759,644</u>	<u>\$ 1,759,644</u>	<u>\$ 1,759,644</u>	<u>\$ 1,759,644</u>	<u>\$ 4,954,402</u>	<u>\$ 5,600,313</u>
\$ (594,749)	\$ (595,815)	\$ (595,815)	\$ (595,815)	\$ (595,815)	\$ (595,815)	\$ (1,677,561)	\$ (1,896,266)
<u>\$ 1,161,746</u>	<u>\$ 1,163,829</u>	<u>\$ 1,163,829</u>	<u>\$ 1,163,829</u>	<u>\$ 1,163,829</u>	<u>\$ 1,163,829</u>	<u>\$ 3,276,842</u>	<u>\$ 3,704,047</u>
\$ 990,382	\$ 993,530	\$ 993,530	\$ 993,530	\$ 993,530	\$ 993,530	\$ 4,954,402	\$ -
(335,343)	(336,409)	(336,409)	(336,409)	(336,409)	(336,409)	(1,677,561)	-
\$ 655,039	\$ 657,121	\$ 657,121	\$ 657,121	\$ 657,121	\$ 657,121	\$ 3,276,842	\$ -
\$ 766,114	\$ 766,114	\$ 766,114	\$ 766,114	\$ 766,114	\$ 766,114	\$ -	\$ 5,600,313
(259,406)	(259,406)	(259,406)	(259,406)	(259,406)	(259,406)	-	(1,896,266)
\$ 506,708	\$ 506,708	\$ 506,708	\$ 506,708	\$ 506,708	\$ 506,708	\$ -	\$ 3,704,047

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

Schedule 5B  
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**Off Peak 2022 Summer Cost of Gas Filing**

**Demand Volumes**

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

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

Schedule 5C

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3 Off Peak 2022 Summer Cost of Gas Filing

4 Demand Rates

5  
6 Tariff Rates

7 **Supply**

8 Niagara Supply \$ - Per Contract \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ -

9 **Pipeline**

10 Iroquois Gas RTS 470-01 \$ 5.2357 Forth Revised Sheet No. 4 \$ 0.1689 \$ 0.1745 \$ 0.1689 \$ 0.1689 \$ 0.1745 \$ 0.1689 \$ 0.1708 \$ 0.1745 \$ 0.1689 \$ 0.1689 \$ 0.1870 \$ 0.1689 \$ 0.1745

11 Tenn Gas Pipeline 95346 Z5-Z6 \$ 6.2957 17th Rev Sheet No. 14 \$ 0.4746 \$ 0.4904 \$ 0.4746 \$ 0.4746 \$ 0.4904 \$ 0.4746 \$ 0.4799 \$ 0.4904 \$ 0.4746 \$ 0.4746 \$ 0.5254 \$ 0.4746 \$ 0.4904

12 Tenn Gas Pipeline 2302 Z5-Z6 \$ 6.2957 17th Rev Sheet No. 14 \$ 0.2031 \$ 0.2099 \$ 0.2031 \$ 0.2031 \$ 0.2099 \$ 0.2031 \$ 0.2053 \$ 0.2099 \$ 0.2031 \$ 0.2031 \$ 0.2248 \$ 0.2031 \$ 0.2099

13 Tenn Gas Pipeline 8587 Z0-Z6 \$ 20.3736 FT-A (Z0 - Z6) \$ 0.6572 \$ 0.6791 \$ 0.6572 \$ 0.6572 \$ 0.6791 \$ 0.6572 \$ 0.6645 \$ 0.6791 \$ 0.6572 \$ 0.6572 \$ 0.7276 \$ 0.6572 \$ 0.6791

14 Tenn Gas Pipeline 8587 Z1-Z6 \$ 18.0875 FT-A (Z1 - Z6) \$ 0.5835 \$ 0.6029 \$ 0.5835 \$ 0.5835 \$ 0.6029 \$ 0.5835 \$ 0.5900 \$ 0.6029 \$ 0.5835 \$ 0.5835 \$ 0.6460 \$ 0.5835 \$ 0.6029

15 Tenn Gas Pipeline 8587 Z4-Z6 \$ 7.1645 FT-A (Z4 - Z6) \$ 0.2311 \$ 0.2388 \$ 0.2311 \$ 0.2311 \$ 0.2388 \$ 0.2311 \$ 0.2337 \$ 0.2388 \$ 0.2311 \$ 0.2311 \$ 0.2559 \$ 0.2311 \$ 0.2388

16 TGP Dracut 42076 FTA Z6-Z6 \$ 4.1818 17th Rev Sheet No. 14 \$ 0.1349 \$ 0.1394 \$ 0.1349 \$ 0.1349 \$ 0.1394 \$ 0.1349 \$ 0.1364 \$ 0.1394 \$ 0.1349 \$ 0.1349 \$ 0.1494 \$ 0.1349 \$ 0.1394

17 TGP Dracut 358905 FTA Z6-Z6 \$ 4.1818 17th Rev Sheet No. 14 \$ 0.1349 \$ 0.1394 \$ 0.1349 \$ 0.1349 \$ 0.1394 \$ 0.1349 \$ 0.0227 \$ 0.1394 \$ 0.1349 \$ 0.1349 \$ 0.1494 \$ 0.1349 \$ 0.1394

18 TGP Concord Lateral Firm Transportation \$ 12.2113 Per contract \$ 0.3939 \$ 0.4070 \$ 0.3939 \$ 0.3939 \$ 0.4070 \$ 0.3939 \$ 0.3983 \$ 0.4070 \$ 0.3939 \$ 0.3939 \$ 0.4361 \$ 0.3939 \$ 0.4070

19 Portland Natural Gas FT-1999-001 \$ 18.2633 Negot Dmd /CMDY=Part 4.1 V; \$ 0.5891 \$ 0.6088 \$ 0.5891 \$ 0.5891 \$ 0.6088 \$ 0.5891 \$ 0.5957 \$ 0.6088 \$ 0.5891 \$ 0.5891 \$ 0.6523 \$ 0.5891 \$ 0.6088

20 Portland Natural Gas FTN \$ 22.8125 Negot Dmd /CMDY=Part 4.1 V; \$ 0.7359 \$ 0.7604 \$ 0.7359 \$ 0.7359 \$ 0.7604 \$ 0.7359 \$ 0.7441 \$ 0.7604 \$ 0.7359 \$ 0.7359 \$ 0.8147 \$ 0.7359 \$ 0.7604

21 Tenn Gas Pipeline 632 Z4-Z6 (stg) \$ 7.1645 17th Rev Sheet No. 14 \$ 0.2311 \$ 0.2388 \$ 0.2311 \$ 0.2311 \$ 0.2388 \$ 0.2311 \$ 0.2337 \$ 0.2388 \$ 0.2311 \$ 0.2311 \$ 0.2559 \$ 0.2311 \$ 0.2388

22 Tenn Gas Pipeline 11234 Z4-Z6(stg) \$ 7.1645 17th Rev Sheet No. 14 \$ 0.2311 \$ 0.2388 \$ 0.2311 \$ 0.2311 \$ 0.2388 \$ 0.2311 \$ 0.2337 \$ 0.2388 \$ 0.2311 \$ 0.2311 \$ 0.2559 \$ 0.2311 \$ 0.2388

23 Tenn Gas Pipeline 11234 Z5-Z6(stg) \$ 6.2957 17th Rev Sheet No. 14 \$ 0.2031 \$ 0.2099 \$ 0.2031 \$ 0.2031 \$ 0.2099 \$ 0.2031 \$ 0.2053 \$ 0.2099 \$ 0.2031 \$ 0.2031 \$ 0.2248 \$ 0.2031 \$ 0.2099

24 National Fuel FST N02358 \$ 4.5274 4.010 Version 31.0.1 Pg 1 \$ 0.1460 \$ 0.1509 \$ 0.1460 \$ 0.1460 \$ 0.1509 \$ 0.1460 \$ 0.1477 \$ 0.1509 \$ 0.1460 \$ 0.1460 \$ 0.1617 \$ 0.1460 \$ 0.1509

25 ANE Union Gas \$ 3.6665

26 TransCanada Pipelines Limited \$ 11.9842 Union Parkway to Iroquois

27 Delivery Pressure Demand Charge 0.6083 Union Parkway to Iroquois

28 Sub Total Demand Charges 16.2590

29 Conversion rate GJ to MMBTU 1.0551

30 Conversion rate to US\$ 1.2589 1/0/1900

31 Demand Rate/US\$ \$ 13.6260 \$ 0.4395 \$ 0.4542 \$ 0.4395 \$ 0.4395 \$ 0.4542 \$ 0.4395 \$ 0.4444 \$ 0.4542 \$ 0.4395 \$ 0.4395 \$ 0.4866 \$ 0.4395 \$ 0.4542

32 Union Gas \$ 3.6665

33 TransCanada Pipelines Limited \$ 20.4218

34 Delivery Pressure Demand Charge \$ 0.6083

35 Sub Total Demand Charges \$ 24.6966

36 Conversion rate GJ to MMBTU \$ 1.0551

37 Conversion rate to US\$ \$ 1.2589 \$0.0000

38 Demand Rate/US\$ \$ 20.6972 \$ 0.6677 \$ 0.6899 \$ 0.6677 \$ 0.6677 \$ 0.6899 \$ 0.6677 \$ 0.6751 \$ 0.6899 \$ 0.6677 \$ 0.6677 \$ 0.7392 \$ 0.6677 \$ 0.6899

39 **Peaking**

40 Granite Ridge Demand \$ - Per Contract \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ -

41 DOMAC Demand NSB041 \$ - Per Contract \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ -

42 **Storage**

43 Dominion - Demand GSS 300076 \$ 1.8716 GSS Settled,Tariff Rec #10.30 \$ 0.0604 \$ 0.0624 \$ 0.0604 \$ 0.0604 \$ 0.0624 \$ 0.0604 \$ 0.0612 \$ 0.0624 \$ 0.0604 \$ 0.0604 \$ 0.0668 \$ 0.0604 \$ 0.0624

44 Dominion - Capacity GSS 300076 \$ 0.0145 GSS Settled,Tariff Rec #10.30 \$ 0.0005 \$ 0.0005 \$ 0.0005 \$ 0.0005 \$ 0.0005 \$ 0.0005 \$ 0.0005 \$ 0.0005 \$ 0.0005 \$ 0.0005 \$ 0.0005 \$ 0.0005 \$ 0.0005

45 \$ 1.8861 \$ 0.0608 \$ 0.0629 \$ 0.0608 \$ 0.0608 \$ 0.0629 \$ 0.0608 \$ 0.0617 \$ 0.0629 \$ 0.0608 \$ 0.0608 \$ 0.0674 \$ 0.0608 \$ 0.0629

46 Honeoye - Demand SS-NY \$ 6.1299 Sub 1st Rev Sheet No. 5 \$ 0.1977 \$ 0.2043 \$ 0.1977 \$ 0.1977 \$ 0.2043 \$ 0.1977 \$ 0.2004 \$ 0.2043 \$ 0.1977 \$ 0.1977 \$ 0.2189 \$ 0.1977 \$ 0.2043

47 National Fuel - Demand FSS-1 2357 \$ 2.6325 4.020 Version 26.0.0 Pg 1 \$ 0.0849 \$ 0.0878 \$ 0.0849 \$ 0.0849 \$ 0.0878 \$ 0.0849 \$ 0.0861 \$ 0.0878 \$ 0.0849 \$ 0.0849 \$ 0.0940 \$ 0.0849 \$ 0.0878

48 National Fuel - Capacity FSS-1 2357 \$ 0.0476 4.020 Version 26.0.0 Pg 1 \$ 0.0015 \$ 0.0016 \$ 0.0015 \$ 0.0015 \$ 0.0016 \$ 0.0015 \$ 0.0016 \$ 0.0016 \$ 0.0015 \$ 0.0015 \$ 0.0017 \$ 0.0015 \$ 0.0016

49 \$ 2.6801 \$ 0.0865 \$ 0.0893 \$ 0.0865 \$ 0.0865 \$ 0.0893 \$ 0.0865 \$ 0.0876 \$ 0.0893 \$ 0.0865 \$ 0.0865 \$ 0.0957 \$ 0.0865 \$ 0.0893

50 Tenn Gas Pipeline FS-MA 523 \$ 1.3094 20th Rev Sheet No.61 \$ 0.0422 \$ 0.0436 \$ 0.0422 \$ 0.0422 \$ 0.0436 \$ 0.0422 \$ 0.0428 \$ 0.0436 \$ 0.0422 \$ 0.0422 \$ 0.0468 \$ 0.0422 \$ 0.0436

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

REDACTED  
Schedule 6  
Page 1 of 5

6	For Month of:	Reference	May-22	Jun-22	Jul-22	Aug-22	Sep-22	Oct-22	Off-Peak
7	(a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)	May - Oct
8									(i)
9	<b>Supply and Commodity Costs</b>								
10									
11	<b>Pipeline Gas:</b>								
12	Dawn Supply	In 63 * In 104							
13	Niagara Supply	In 64 * In 109							
14	TGP Supply (Gulf)	In 65 * In 129							
15	Dracut Supply 1 - Baseload	In 66 * In 114							
16	Dracut Supply 2 - Swing	In 67 * In 119							
	Dracut Supply 3 - Swing								
17	City Gate Delivered Supply	In 68 * In 135							
18	LNG Truck	In 69 * In 137							
19	Propane Truck	In 70 * In 139							
20	PNGTS	In 71 * In 144							
21	Portland Natural Gas								
22	TGP Supply (Zone 4)	In 73 * In 154							
23									
24	Subtotal Pipeline Gas Costs		\$ 4,801,442	\$ 3,736,158	\$ 3,729,693	\$ 3,700,091	\$ 3,769,526	\$ 5,497,023	\$ 25,271,639
25									
26	<b>Volumetric Transportation Costs</b>								
27	Dawn Supply	In 63 * In 202							
28	Niagara Supply	In 64 * In 213							
29	TGP Supply (Zone 4)	In 73 * In 251							
30	Dracut Supply 1 - Baseload	In 66 * In 262							
31	Dracut Supply 2 - Swing	In 67 * In 262							
	Dracut Supply 3 - Swing								
32	City Gate Delivered Supply	In 68 * In 262							
33	TGP Storage - Withdrawals	In 78 * In 177							
34									
35	Total Volumetric Transportation Costs		\$ 117,228	\$ 92,048	\$ 91,165	\$ 90,661	\$ 93,690	\$ 113,513	\$ 598,305
36									
37	<b>Less - Gas Refill:</b>								
38	LNG Truck	In 87 * In 161							
39	Propane	In 88 * In 162							
40	TGP Storage Refill	In 89 * In 127							
41	Storage Refill (Trans.)	In 89 * In 241							
42									
43	Subtotal Refills		\$ (1,710,006)	\$ (2,196,633)	\$ (2,504,819)	\$ (2,447,549)	\$ (1,943,912)	\$ (1,002,621)	\$ (11,805,539)
44									
45	Total Supply & Pipeline Commodity Costs	In 24 + In 35 + In 43	\$ 3,208,664	\$ 1,631,573	\$ 1,316,039	\$ 1,343,203	\$ 1,919,305	\$ 4,607,915	\$ 14,026,699
46									
47	<b>Storage Gas:</b>								
48	TGP Storage - Withdrawals	In 78 * In 169	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
49									
50	<b>Produced Gas:</b>								
51	LNG Vapor	In 81 * In 156							
52	Propane	In 82 * In 158							
53									
54	Total Produced Gas	In 51 + In 52	\$ 13,993	\$ 13,159	\$ 12,913	\$ 12,877	\$ 13,652	\$ 15,911	\$ 82,504
55									
56									
57	Total Commodity Gas & Trans. Costs	In 45 + In 48 + In 54	\$ 3,222,657	\$ 1,644,732	\$ 1,328,952	\$ 1,356,080	\$ 1,932,957	\$ 4,623,826	\$ 14,109,200

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

2

3 **Off Peak 2022 Summer Cost of Gas Filing**

4 **Supply and Commodity Costs, Volumes and Rates**

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Schedule 6

60 **Volumes (Therms)**

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61

62 **Pipeline Gas:** See Schedule 11A

63	Dawn Supply	739,535	95,658	-	-	206,295	636,518	1,678,006
64	Niagara Supply	668,413	540,809	542,484	545,801	591,423	687,667	3,576,596
65	TGP Supply (Gulf)	13,120	-	-	-	-	384,326	397,446
66	Dracut Supply 1 - Baseload	-	-	-	-	-	-	-
67	Dracut Supply 2 - Swing	-	-	-	-	-	436,185	436,185
	Dracut Supply 3 - Swing	-	-	-	-	-	-	-
68	City Gate Delivered Supply	-	-	-	-	-	-	-
69	LNG Truck	44,883	18,131	-	-	55,566	20,602	139,181
70	Propane Truck	79,409	71,899	69,472	69,279	73,449	81,696	445,204
71	PNGTS	205,081	146,300	119,612	125,908	176,916	218,093	991,910
72	Portland Natural Gas	152,602	3,126	-	-	2,555	574,003	732,286
73	TGP Supply (Zone 4)	5,386,659	4,708,479	4,708,982	4,696,535	4,819,522	5,546,088	29,866,267
74								
75	Subtotal Pipeline Volumes	7,289,702	5,584,403	5,440,551	5,437,523	5,925,726	8,585,177	38,263,081
76								
77	<b>Storage Gas:</b>							
78	TGP Storage	-	-	-	-	-	-	-
79								
80	<b>Produced Gas:</b>							
81	LNG Vapor	20,025	18,131	17,519	17,470	18,522	20,602	112,269
82	Propane	-	-	-	-	-	-	-
83								
84	Subtotal Produced Gas	20,025	18,131	17,519	17,470	18,522	20,602	112,269
85								
86	<b>Less - Gas Refill:</b>							
87	LNG Truck	(44,883)	(18,131)	-	-	(55,566)	(20,602)	(139,181)
88	Propane	(79,409)	(71,899)	(69,472)	(69,279)	(73,449)	(81,696)	(445,204)
89	TGP Storage Refill	(2,188,222)	(2,766,568)	(3,120,796)	(3,057,929)	(2,444,250)	(1,262,380)	(14,840,145)
90								
91	Subtotal Refills	(2,312,514)	(2,856,598)	(3,190,268)	(3,127,208)	(2,573,265)	(1,364,677)	(15,424,530)
92								
93	<b>Total Sendout Volumes</b>	<b>4,997,212</b>	<b>2,745,936</b>	<b>2,267,802</b>	<b>2,327,785</b>	<b>3,370,983</b>	<b>7,241,101</b>	<b>22,950,820</b>

94

95

96

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

2

3 Off Peak 2022 Summer Cost of Gas Filing

4 Supply and Commodity Costs, Volumes and Rates

97

98 Gas Costs and Volumetric Transportation Rates

99

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Schedule 6

Page 3 of 5

100 Pipeline Gas:

101 Dawn Supply

Average Rate

102 NYMEX Price Sch 7, In 10/10

103 Basis Differential

104 Net Commodity Costs

105

106 Niagara Supply

107 NYMEX Price Sch 7, In 10/10

108 Basis Differential

109 Net Commodity Costs

110

111 Dracut Supply 1 - Baseload

112 Commodity Costs - NYMEX Price Sch 7, In 10 / 10

113 Basis Differential

114 Net Commodity Costs

115

116 Dracut Supply 2 - Swing

117 Commodity Costs - NYMEX Price Sch 7, In 10 / 10

118 Basis Differential

119 Net Commodity Costs

120

121 Dracut Supply 3 - Swing

122 Commodity Costs - NYMEX Price Sch 7, In 10 / 10

123 Basis Differential

124 Net Commodity Costs

125

126 TGP Supply (Gulf)

127 NYMEX Price Sch 7, In 10/10

128 Basis Differential

129 Net Commodity Costs

130

131

132 TGP Citygate Supply

133 NYMEX Price Sch 7, In 10/10

134 Basis Differential

135 Net Commodity Costs

136

137 LNG Truck

138 Sch 7, In 10/10

139 Propane Truck

140 NYMEX - Propane

141 PNGTS

142 NYMEX Price

143 Additional Cost

144 Net Commodity Cost

145

146 PNGTS EXP

147 NYMEX Price

148 Basis Differential

149 Net Commodity Cost

150

151 TGP Supply (Zone 4)

152 NYMEX Price Sch 7, In 10/10

153 Basis Differential

154 Net Commodity Cost

155

156 LNG Vapor (Storage)

157 Sch 13, In 97 /10

158 Propane

159 Sch 13, In 67 /10

160 Storage Refill:

161 LNG Truck

162 Propane

163

164

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\$0.7267	\$0.7385	\$0.7467	\$0.7446	\$0.7400	\$0.7391	\$0.7393
(\$0.0647)	(\$0.0625)	(\$0.0553)	(\$0.0588)	(\$0.0993)	(\$0.1170)	(\$0.0762)
\$0.6620	\$0.6760	\$0.6915	\$0.6859	\$0.6408	\$0.6221	\$0.6630
\$0.6988	\$0.7258	\$0.7371	\$0.7371	\$0.7371	\$0.7723	\$0.7347
\$1.1475	\$1.0155	\$0.9197	\$0.8429	\$0.7781	\$0.7194	\$0.9038
\$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



**SUBJECT TO CONFIDENTIAL TREATMENT**

**SUBJECT TO CONFIDENTIAL TREATMENT**

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

CONFIDENTIAL  
Schedule 6  
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Average Rate

220 TGP Direct Volumetric Transportation Charge								
221 Commodity Costs Ln 127								
222								
223	TGP - Max Comm. Base Rate - Z 0-6 19th Rev Sheet No. 15	\$0.02672	\$0.02672	\$0.02672	\$0.02672	\$0.02672	\$0.02672	\$0.02672
224	TGP - Max Commodity ACA Rate - Z 0-6 19th Rev Sheet No. 15	\$0.00012	\$0.00012	\$0.00012	\$0.00012	\$0.00012	\$0.00012	\$0.00012
225	Subtotal TGP - Max Comm. Rate Z 0-6	\$0.02684	\$0.02684	\$0.02684	\$0.02684	\$0.02684	\$0.02684	\$0.02684
226	Prorated Percentage	32.60%	32.60%	32.60%	32.60%	32.60%	32.60%	32.60%
227	Prorated TGP - Max Commodity Rate - Z 0-6	\$0.00875	\$0.00875	\$0.00875	\$0.00875	\$0.00875	\$0.00875	\$0.00875
228	TGP - Max Comm. Base Rate - Z 1-6 19th Rev Sheet No. 15	\$0.02331	\$0.02331	\$0.02331	\$0.02331	\$0.02331	\$0.02331	\$0.02331
229	TGP - Max Commodity ACA Rate - Z 1-6 19th Rev Sheet No. 15	\$0.00012	\$0.00012	\$0.00012	\$0.00012	\$0.00012	\$0.00012	\$0.00012
230	Subtotal TGP - Max Commodity Rate - Z 1-6	\$0.02343	\$0.02343	\$0.02343	\$0.02343	\$0.02343	\$0.02343	\$0.02343
231	Prorated Percentage	67.40%	67.40%	67.40%	67.40%	67.40%	67.40%	67.40%
232	Prorated TGP - Trans Charge - Max Commodity Rate - Z 1-6	\$0.01579	\$0.01579	\$0.01579	\$0.01579	\$0.01579	\$0.01579	\$0.01579
233	TGP - Fuel Charge % - Z 0-6 17th Rev Sheet No. 32	4.66%	4.66%	4.66%	4.66%	4.66%	4.66%	4.66%
234	Prorated Percentage	32.6%	32.6%	32.6%	32.6%	32.6%	32.6%	32.6%
235	Prorated TGP Fuel Charge % - Z 0-6	1.52%	1.52%	1.52%	1.52%	1.52%	1.52%	1.52%
236	TGP - Fuel Charge % - Z 1-6 17th Rev Sheet No. 32	4.06%	4.06%	4.06%	4.06%	4.06%	4.06%	4.06%
237	Prorated Percentage	67.40%	67.40%	67.40%	67.40%	67.40%	67.40%	67.40%
238	Prorated TGP Fuel Charge - Fuel Charge % - Z 1-6	2.74%	2.74%	2.74%	2.74%	2.74%	2.74%	2.74%
239	TGP - Fuel Charge % - Z 0-6 In 221 x In 235	\$0.01079	\$0.01105	\$0.01120	\$0.01116	\$0.01098	\$0.01092	\$0.01102
240	TGP - Fuel Charge % - Z 1-6 In 221 x In 238	\$0.01943	\$0.01990	\$0.02018	\$0.02010	\$0.01978	\$0.01967	\$0.01984
241	Total Volumetric Transportation Rate - TGP (Direct)	\$0.05476	\$0.05549	\$0.05592	\$0.05579	\$0.05530	\$0.05513	\$0.05540
242								
243	TGP (Zone 4 Purchase) Volumetric Transportation Charge							
244	Commodity Costs Ln 127							
245								
246	TGP - Max Comm. Base Rate - Z 4-6 19th Rev Sheet No. 15	\$0.00928	\$0.00928	\$0.00928	\$0.00928	\$0.00928	\$0.00928	\$0.00928
247	TGP - Max Commodity ACA Rate - Z 4-6 19th Rev Sheet No. 15	\$0.00012	\$0.00012	\$0.00012	\$0.00012	\$0.00012	\$0.00012	\$0.00012
248	Subtotal TGP - Max Commodity Rate - Z 4-6	\$0.00940	\$0.00940	\$0.00940	\$0.00940	\$0.00940	\$0.00940	\$0.00940
249	TGP - Fuel Charge % - Z 4-6 17th Rev Sheet No. 32	1.22%	1.22%	1.22%	1.22%	1.22%	1.22%	1.22%
250	TGP - Fuel Charge In 244 x In 249	\$0.00808	\$0.00825	\$0.00844	\$0.00837	\$0.00782	\$0.00759	\$0.00809
251	Total Vol. Trans. Rate - TGP (Zone 6)	\$0.01748	\$0.01765	\$0.01784	\$0.01777	\$0.01722	\$0.01699	\$0.01749
252								
253								
254	TGP Dracut							
255	Commodity Costs - NYMEX Price Ln 114							
256								
257	TGP - Trans Charge - Comm. - Z 6-6 19th Rev Sheet No. 15	\$0.00300	\$0.00300	\$0.00300	\$0.00300	\$0.00300	\$0.00300	\$0.00300
258	TGP - Trans Charge - ACA Rate - Z6-6 19th Rev Sheet No. 15	\$0.00012	\$0.00012	\$0.00012	\$0.00012	\$0.00012	\$0.00012	\$0.00012
259	Subtotal TGP - Trans Charge - Max Commodity Rate - Z 6-6	\$0.00312	\$0.00312	\$0.00312	\$0.00312	\$0.00312	\$0.00312	\$0.00312
260	TGP - Fuel Charge % - Z 6-6 17th Rev Sheet No. 32	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
261	TGP - Fuel Charge In 255 x In 260	\$0.00000	\$0.00000	\$0.00000	\$0.00000	\$0.00000	\$0.00000	\$0.00000
262	Total Volumetric Transportation Rate - TGP Dracut	\$0.00312	\$0.00312	\$0.00312	\$0.00312	\$0.00312	\$0.00312	\$0.00312

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

Schedule 7

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3 **Off Peak 2022 Summer Cost of Gas Filing**

4 **NYMEX Futures @ Henry Hub**

5

6 For Month of:

Reference

May-22

Jun-22

Jul-22

Aug-22

Sep-22

Oct-22

May – Oct  
Off Peak  
Strip Average

7 (a)

(b)

(c)

(d)

(e)

(f)

(g)

(h)

(i)

8 **I. NYMEX Opening Prices as of:** 5/10/2022

9

Opening Prices

Line 206

\$7.2670

\$7.3850

\$7.4670

\$7.4460

\$7.4000

\$7.3910

\$ 7.3927

\$7.2670

\$7.3850

\$7.4670

\$7.4460

\$7.4000

\$7.3910

\$ 7.3927

1 Liberty Utilities (EnergyNorth Natural Gas) Corp. d/b/a Liberty  
2 Off Peak 2022 Summer Cost of Gas Filing  
3 Annual Bill Comparisons, May 21–Oct 21 vs May 22–Oct 22 — Residential Heating Rate R-3  
4  
5

Schedule 8  
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6 May 1, 2022 – October 31, 2022

7 Residential Heating (R3)

		May-22	Jun-22	Jul-22	Aug-22	Sep-22	Oct-22	Summer May–Oct
8		51	28	16	14	14	21	144
9	Typical Usage (Therms)							
10								
11	Summer	8/1/2021 - Current						
12	Cust. Chg	\$ 15.39	\$ 15.39	\$ 15.39	\$ 15.39	\$ 15.39	\$ 15.39	\$ 92.34
13	Headblock	\$ 0.5632	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
14	Tailblock	\$ 0.5632	\$ 15.77	\$ 9.01	\$ 7.88	\$ 7.88	\$ 11.83	\$ 81.10
15	HB Threshold	-						
16	Total Base Rate Amount	\$ 44.11	\$ 31.16	\$ 24.40	\$ 23.27	\$ 23.27	\$ 27.22	\$ 173.44
17	COG Rate - (Seasonal)	\$ 1.2295	\$ 1.2295	\$ 1.2295	\$ 1.2295	\$ 1.2295	\$ 1.2295	\$ 1.2295
18	COG amount	\$ 62.70	\$ 34.43	\$ 19.67	\$ 17.21	\$ 17.21	\$ 25.82	\$ 177.05
19	LDAC	\$ 0.1318	\$ 0.1318	\$ 0.1318	\$ 0.1318	\$ 0.1318	\$ 0.1318	\$ 0.1318
20	LDAC amount	\$ 6.72	\$ 3.69	\$ 2.11	\$ 1.85	\$ 1.85	\$ 2.77	\$ 18.98
21	Total Bill	\$ 113.54	\$ 69.28	\$ 46.18	\$ 42.33	\$ 42.33	\$ 55.80	\$ 369.47

22 May 1, 2021 – October 31, 2021

23 Residential Heating (R3)

		May-21	Jun-21	Jul-21	Aug-21	Sep-21	Oct-21	Summer May–Oct
24		51	28	16	14	14	21	144
25	Typical Usage (Therms)							
26								
27	Summer	7/1/20 - 7/31/21		8/1/2021 - Current				
28	Cust. Chg	\$ 15.50	\$ 15.50	\$ 15.50	\$ 15.39	\$ 15.39	\$ 15.39	\$ 92.67
29	Headblock	\$ 0.5678	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
30	Tailblock	\$ 0.5678	\$ 15.90	\$ 9.08	\$ 7.88	\$ 7.88	\$ 11.83	\$ 81.54
31	HB Threshold	-						
32	Total Base Rate Amount	\$ 44.46	\$ 31.40	\$ 24.58	\$ 23.27	\$ 23.27	\$ 27.22	\$ 174.21
33	COG Rate - (Seasonal)	\$ 0.3935	\$ 0.3935	\$ 0.3935	\$ 0.3935	\$ 0.3935	\$ 0.3935	\$ 0.3935
34	COG amount	\$ 20.07	\$ 11.02	\$ 6.30	\$ 5.51	\$ 5.51	\$ 8.26	\$ 56.66
35	LDAC	\$ 0.0589	\$ 0.0589	\$ 0.0589	\$ 0.0589	\$ 0.0589	\$ 0.0589	\$ 0.0589
36	LDAC amount	\$ 3.00	\$ 1.65	\$ 0.94	\$ 0.82	\$ 0.82	\$ 1.24	\$ 8.48
37	Total Bill	\$ 67.53	\$ 44.07	\$ 31.82	\$ 29.61	\$ 29.61	\$ 36.72	\$ 239.35

38 DIFFERENCE Residential Heating (R3)

39	Total Bill	\$ 46.01	\$ 25.21	\$ 14.36	\$ 12.72	\$ 12.72	\$ 19.09	\$ 130.11
40	% Change	68.13%	57.21%	45.12%	42.98%	42.98%	51.98%	54.36%
41	Base Rate	\$ (0.34)	\$ (0.24)	\$ (0.18)	\$ -	\$ -	\$ -	\$ (0.77)
42	% Change	-0.78%	-0.76%	-0.75%	0.00%	0.00%	0.00%	-0.44%
43	COG	\$ 42.64	\$ 23.41	\$ 13.38	\$ 11.70	\$ 11.70	\$ 17.56	\$ 120.38
44	% Change	212.45%	212.45%	212.45%	212.45%	212.45%	212.45%	212.45%
45	LDAC	\$ 3.72	\$ 2.04	\$ 1.17	\$ 1.02	\$ 1.02	\$ 1.53	\$ 10.50
46	% Change	123.77%	123.77%	123.77%	123.77%	123.77%	123.77%	123.77%

1 Liberty Utilities (EnergyNorth Natural Gas) Corp. d/b/a Liberty  
2 Off Peak 2022 Summer Cost of Gas Filing  
3 Annual Bill Comparisons, May 21–Oct 21 vs May 22–Oct 22 — Commercial Rate G-41

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4 May 1, 2022 – October 31, 2022  
5 Commercial Rate (G-41)

		May-22	Jun-22	Jul-22	Aug-22	Sep-22	Oct-22	Summer May–Oct
Typical Usage (Therms)		153	39	26	34	25	29	306
Summer	8/1/2021 - Current							
Cust. Chg	\$ 57.06	\$ 57.06	\$ 57.06	\$ 57.06	\$ 57.06	\$ 57.06	\$ 57.06	\$ 342.36
Headblock	\$ 0.4688	\$ 9.38	\$ 9.38	\$ 9.38	\$ 9.38	\$ 9.38	\$ 9.38	\$ 56.26
Tailblock	\$ 0.3149	\$ 41.88	\$ 5.98	\$ 1.89	\$ 4.41	\$ 1.57	\$ 2.83	\$ 58.57
HB Threshold	20							
Total Base Rate Amount		\$ 108.32	\$ 72.42	\$ 68.33	\$ 70.84	\$ 68.01	\$ 69.27	\$ 457.19
COG Rate - (Seasonal)		\$ 1.2303	\$ 1.2303	\$ 1.2303	\$ 1.2303	\$ 1.2303	\$ 1.2303	\$ 1.2303
COG amount		\$ 188.24	\$ 47.98	\$ 31.99	\$ 41.83	\$ 30.76	\$ 35.68	\$ 376.47
LDAC		\$ 0.0991	\$ 0.0991	\$ 0.0991	\$ 0.0991	\$ 0.0991	\$ 0.0991	\$ 0.0991
LDAC amount		\$ 15.16	\$ 3.86	\$ 2.58	\$ 3.37	\$ 2.48	\$ 2.87	\$ 30.32
Total Bill		\$ 311.72	\$ 124.27	\$ 102.89	\$ 116.04	\$ 101.25	\$ 107.82	\$ 863.98

32 May 1, 2021 – October 31, 2021  
33 Commercial Rate (G-41)

		May-21	Jun-21	Jul-21	Aug-21	Sep-21	Oct-21	Summer May–Oct
Typical Usage (Therms)		153	39	26	34	25	29	306
Summer	7/1/20 - 7/31/21 8/1/2021 - Current							
Cust. Chg	\$ 57.46 \$ 57.06	\$ 57.46	\$ 57.46	\$ 57.46	\$ 57.06	\$ 57.06	\$ 57.06	\$ 343.56
Headblock	\$ 0.4711 \$ 0.4688	\$ 9.42	\$ 9.42	\$ 9.42	\$ 9.38	\$ 9.38	\$ 9.38	\$ 56.39
Tailblock	\$ 0.3165 \$ 0.3149	\$ 42.09	\$ 6.01	\$ 1.90	\$ 4.41	\$ 1.57	\$ 2.83	\$ 58.82
HB Threshold	20 20							
Total Base Rate Amount		\$ 108.98	\$ 72.90	\$ 68.78	\$ 70.84	\$ 68.01	\$ 69.27	\$ 458.78
COG Rate - (Seasonal)		\$ 0.3886	\$ 0.3886	\$ 0.3886	\$ 0.3886	\$ 0.3886	\$ 0.3886	\$ 0.3886
COG amount		\$ 59.46	\$ 15.16	\$ 10.10	\$ 13.21	\$ 9.72	\$ 11.27	\$ 118.91
LDAC		\$ 0.0555	\$ 0.0555	\$ 0.0555	\$ 0.0555	\$ 0.0555	\$ 0.0555	\$ 0.0555
LDAC amount		\$ 8.49	\$ 2.16	\$ 1.44	\$ 1.89	\$ 1.39	\$ 1.61	\$ 16.98
Total Bill		\$ 176.92	\$ 90.22	\$ 80.33	\$ 85.94	\$ 79.11	\$ 82.15	\$ 594.67

60 DIFFERENCE Commercial Rate (G-41)

Total Bill	\$ 134.79	\$ 34.05	\$ 22.56	\$ 30.10	\$ 22.13	\$ 25.67	\$ 269.31
% Change	76.19%	37.74%	28.09%	35.02%	27.98%	31.25%	45.29%
Base Rate	\$ (0.66)	\$ (0.48)	\$ (0.46)	\$ -	\$ -	\$ -	\$ (1.59)
% Change	-0.60%	-0.65%	-0.66%	0.00%	0.00%	0.00%	-0.35%
COG	\$ 128.78	\$ 32.83	\$ 21.88	\$ 28.62	\$ 21.04	\$ 24.41	\$ 257.56
% Change	216.60%	216.60%	216.60%	216.60%	216.60%	216.60%	216.60%
LDAC	\$ 6.67	\$ 1.70	\$ 1.13	\$ 1.48	\$ 1.09	\$ 1.26	\$ 13.34
% Change	78.56%	78.56%	78.56%	78.56%	78.56%	78.56%	78.56%

1 **Liberty Utilities (EnergyNorth Natural Gas) Corp. d/b/a Liberty**  
2 **Off Peak 2022 Summer Cost of Gas Filing**  
3 **1 Annual Bill Comparisons, May 19–Oct 19 vs May 20–Oct 20 — Commercial Rate G-42**

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4 **May 1, 2022 – October 31, 2022**

		May-22	Jun-22	Jul-22	Aug-22	Sep-22	Oct-22	Summer May–Oct
Typical Usage (Therms)		1,319	484	285	247	269	340	2,944
Summer	8/1/2021 - Current							
Cust. Chg	\$ 171.19	\$ 171.19	\$ 171.19	\$ 171.19	\$ 171.19	\$ 171.19	\$ 171.19	\$ 1,027.14
Headblock	\$ 0.4261	\$ 170.44	\$ 170.44	\$ 121.44	\$ 105.25	\$ 114.62	\$ 144.87	\$ 827.06
Tailblock	\$ 0.2839	\$ 260.90	\$ 23.85	\$ -	\$ -	\$ -	\$ -	\$ 284.75
HB Threshold	400							
Total Base Rate Amount		\$ 602.53	\$ 365.48	\$ 292.63	\$ 276.44	\$ 285.81	\$ 316.06	\$ 2,138.95
COG Rate - (Seasonal)		\$ 1.2303	\$ 1.2303	\$ 1.2303	\$ 1.2303	\$ 1.2303	\$ 1.2303	\$ 1.2303
COG amount		\$ 1,622.77	\$ 595.47	\$ 350.64	\$ 303.88	\$ 330.95	\$ 418.30	\$ 3,622.00
LDAC		\$ 0.0991	\$ 0.0991	\$ 0.0991	\$ 0.0991	\$ 0.0991	\$ 0.0991	\$ 0.0991
LDAC amount		\$ 130.71	\$ 47.96	\$ 28.24	\$ 24.48	\$ 26.66	\$ 33.69	\$ 291.75
<b>Total Bill</b>		<b>\$ 2,356.01</b>	<b>\$ 1,008.91</b>	<b>\$ 671.51</b>	<b>\$ 604.80</b>	<b>\$ 643.42</b>	<b>\$ 768.06</b>	<b>\$ 6,052.71</b>

32 **May 1, 2021 – October 31, 2021**  
33 **0**

		May-21	Jun-21	Jul-21	Aug-21	Sep-21	Oct-21	Summer May–Oct
Typical Usage (Therms)		1,319	484	285	247	269	340	2,944
Summer	7/1/20 - 7/31/21 8/1/2021 - Current							
Cust. Chg	\$ 172.39 \$ 171.19	\$ 172.39	\$ 172.39	\$ 172.39	\$ 171.19	\$ 171.19	\$ 171.19	\$ 1,030.74
Headblock	\$ 0.4284 \$ 0.4261	\$ 171.36	\$ 171.36	\$ 122.09	\$ 105.25	\$ 114.62	\$ 144.87	\$ 829.56
Tailblock	\$ 0.2855 \$ 0.2839	\$ 262.37	\$ 23.98	\$ -	\$ -	\$ -	\$ -	\$ 286.36
HB Threshold	400 400							
Total Base Rate Amount		\$ 606.12	\$ 367.73	\$ 294.48	\$ 276.44	\$ 285.81	\$ 316.06	\$ 2,146.65
COG Rate - (Seasonal)		\$ 0.3886	\$ 0.3886	\$ 0.3886	\$ 0.3886	\$ 0.3886	\$ 0.3886	\$ 0.3886
COG amount		\$ 512.56	\$ 188.08	\$ 110.75	\$ 95.98	\$ 104.53	\$ 132.12	\$ 1,144.04
LDAC		\$ 0.0555	\$ 0.0555	\$ 0.0555	\$ 0.0555	\$ 0.0555	\$ 0.0555	\$ 0.0555
LDAC amount		\$ 73.20	\$ 26.86	\$ 15.82	\$ 13.71	\$ 14.93	\$ 18.87	\$ 163.39
<b>Total Bill</b>		<b>\$ 1,191.89</b>	<b>\$ 582.68</b>	<b>\$ 421.05</b>	<b>\$ 386.13</b>	<b>\$ 405.27</b>	<b>\$ 467.06</b>	<b>\$ 3,454.08</b>

60 **DIFFERENCE C&I High Winter Use Medium G-42**

Total Bill	\$ 1,164.12	\$ 426.23	\$ 250.46	\$ 218.67	\$ 238.15	\$ 301.00	\$ 2,598.62
% Change	97.67%	73.15%	59.48%	56.63%	58.76%	64.45%	75.23%
Base Rate	\$ (3.59)	\$ (2.25)	\$ (1.86)	\$ -	\$ -	\$ -	\$ (7.70)
% Change	-0.59%	-0.61%	-0.63%	0.00%	0.00%	0.00%	-0.36%
COG	\$ 1,110.20	\$ 407.38	\$ 239.88	\$ 207.90	\$ 226.42	\$ 286.18	\$ 2,477.96
% Change	216.60%	216.60%	216.60%	216.60%	216.60%	216.60%	216.60%
LDAC	\$ 57.51	\$ 21.10	\$ 12.43	\$ 10.77	\$ 11.73	\$ 14.82	\$ 128.36
% Change	78.56%	78.56%	78.56%	78.56%	78.56%	78.56%	78.56%

1 **Liberty Utilities (EnergyNorth Natural Gas) Corp. d/b/a Liberty**  
2 **Off Peak 2022 Summer Cost of Gas Filing**  
3 **Annual Bill Comparisons, May 21–Oct 21 vs May 22–Oct 22 — Commercial Rate G-52**

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4 **May 1, 2022 – October 31, 2022**

5 **Commercial Rate (G-52)**

		May-22	Jun-22	Jul-22	Aug-22	Sep-22	Oct-22	Summer May–Oct
Typical Usage (Therms)		1,497	1,128	1,032	1,025	1,050	897	6,629
Summer	8/1/2021 - Current							
Cust. Chg	\$ 171.19	\$ 171.19	\$ 171.19	\$ 171.19	\$ 171.19	\$ 171.19	\$ 171.19	\$ 1,027.14
Headblock	\$ 0.1749	\$ 174.90	\$ 174.90	\$ 174.90	\$ 174.90	\$ 174.90	\$ 156.89	\$ 1,031.39
Tailblock	\$ 0.1000	\$ 49.70	\$ 12.80	\$ 3.20	\$ 2.50	\$ 5.00	\$ -	\$ 73.20
HB Threshold	1,000							
Total Base Rate Amount		\$ 395.79	\$ 358.89	\$ 349.29	\$ 348.59	\$ 351.09	\$ 328.08	\$ 2,131.73
COG Rate - (Seasonal)		\$ 1.2284	\$ 1.2284	\$ 1.2284	\$ 1.2284	\$ 1.2284	\$ 1.2284	\$ 1.2284
COG amount		\$ 1,838.91	\$ 1,385.64	\$ 1,267.71	\$ 1,259.11	\$ 1,289.82	\$ 1,101.87	\$ 8,143.06
LDAC		\$ 0.0991	\$ 0.0991	\$ 0.0991	\$ 0.0991	\$ 0.0991	\$ 0.0991	\$ 0.0991
LDAC amount		\$ 148.35	\$ 111.78	\$ 102.27	\$ 101.58	\$ 104.06	\$ 88.89	\$ 656.93
<b>Total Bill</b>		<b>\$ 2,383.06</b>	<b>\$ 1,856.31</b>	<b>\$ 1,719.27</b>	<b>\$ 1,709.28</b>	<b>\$ 1,744.97</b>	<b>\$ 1,518.84</b>	<b>\$ 10,931.72</b>

32 **May 1, 2021 – October 31, 2021**

33 **Commercial Rate (G-52)**

		May-21	Jun-21	Jul-21	Aug-21	Sep-21	Oct-21	Summer May–Oct
Typical Usage (Therms)		1,497	1,128	1,032	1,025	1,050	897	6,629
Summer	7/1/20 - 7/31/21 8/1/2021 - Current							
Cust. Chg	\$ 172.39 \$ 171.19	\$ 172.39	\$ 172.39	\$ 172.39	\$ 171.19	\$ 171.19	\$ 171.19	\$ 1,030.74
Headblock	\$ 0.1767 \$ 0.1749	\$ 176.70	\$ 176.70	\$ 176.70	\$ 174.90	\$ 174.90	\$ 156.89	\$ 1,036.79
Tailblock	\$ 0.1004 \$ 0.1000	\$ 49.90	\$ 12.85	\$ 3.21	\$ 2.50	\$ 5.00	\$ -	\$ 73.46
HB Threshold	1,000 1,000							
Total Base Rate Amount		\$ 398.99	\$ 361.94	\$ 352.30	\$ 348.59	\$ 351.09	\$ 328.08	\$ 2,140.99
COG Rate - (Seasonal)		\$ 0.3999	\$ 0.3999	\$ 0.3999	\$ 0.3999	\$ 0.3999	\$ 0.3999	\$ 0.3999
COG amount		\$ 598.65	\$ 451.09	\$ 412.70	\$ 409.90	\$ 419.90	\$ 358.71	\$ 2,650.94
LDAC		\$ 0.0555	\$ 0.0555	\$ 0.0555	\$ 0.0555	\$ 0.0555	\$ 0.0555	\$ 0.0555
LDAC amount		\$ 83.08	\$ 62.60	\$ 57.28	\$ 56.89	\$ 58.28	\$ 49.78	\$ 367.91
<b>Total Bill</b>		<b>\$ 1,080.72</b>	<b>\$ 875.63</b>	<b>\$ 822.28</b>	<b>\$ 815.38</b>	<b>\$ 829.26</b>	<b>\$ 736.57</b>	<b>\$ 5,159.83</b>

60 **DIFFERENCE Commercial Rate (G-52)**

Total Bill	\$ 1,302.33	\$ 980.68	\$ 896.99	\$ 893.90	\$ 915.71	\$ 782.27	\$ 5,771.89
% Change	120.51%	112.00%	109.09%	109.63%	110.42%	106.21%	111.86%
Base Rate	\$ (3.20)	\$ (3.05)	\$ (3.01)	\$ -	\$ -	\$ -	\$ (9.26)
% Change	-0.80%	-0.84%	-0.86%	0.00%	0.00%	0.00%	-0.43%
COG	\$ 1,240.26	\$ 934.55	\$ 855.01	\$ 849.21	\$ 869.93	\$ 743.16	\$ 5,492.13
% Change	207.18%	207.18%	207.18%	207.18%	207.18%	207.18%	207.18%
LDAC	\$ 65.27	\$ 49.18	\$ 45.00	\$ 44.69	\$ 45.78	\$ 39.11	\$ 289.02
% Change	78.56%	78.56%	78.56%	78.56%	78.56%	78.56%	78.56%

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

2 **Off Peak 2022 Summer Cost of Gas Filing**

3 **Residential Heating**

4			<u>Summer 2021</u>
5	Customer Charge	\$	15.50
6	First 20 Therms	\$	0.5678
7	Excess 20 Therms	\$	0.5678
8	LDAC	\$	0.0589
9	COG	\$	1.2295
10	Total Adjust	\$	1.2884

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14						
15		<u>Summer 2021 COG @</u>				
16		\$	1.2884			
17						
18	Cooking alone	5 \$	24.78	\$	-	0%
19						
20		10 \$	34.06	\$	-	0%
21						
22		20 \$	52.62	\$	-	0%
23						
24	Water Heating alone	30 \$	71.19	\$	-	0%
25						
26		45 \$	99.03	\$	-	0%
27						
28		50 \$	108.31	\$	-	0%
29						
30	Heating Alone	80 \$	154.72	\$	-	0%
31						
32		125 \$	262.37	\$	-	0%
33						
34		150 \$	293.93	\$	-	0%
35						
36		200 \$	386.74	\$	-	0%



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

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

Basic assumptions:

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

		(a)	(b)	(c)	(d)	(e)	(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	659	715	0.4%		103	613
2	RATE R-3-Resi Htg	66,114	72,399	42.2%		3,617	68,783
3	RATE G-41 (T)	28,689	31,499	18.4%		750	30,749
4	RATE G-51 (S)	2,361	2,534	1.5%		641	1,893
5	RATE G-42 (V)	36,728	40,301	23.5%		1,198	39,104
6	RATE G-52	5,125	5,490	3.2%		1,498	3,992
7	RATE G-43	9,793	10,710	6.2%		678	10,031
8	RATE G-53	5,922	6,346	3.7%		1,715	4,631
9	RATE G-54	1,495	1,608	0.9%		378	1,230
10							
11	Total	156,887	171,602	100.0%		10,577	161,025
12							-
13	Residential Total	66,773	73,115	<b>42.607%</b>		3,719	69,396
14	LLF Total	75,211	82,510	<b>48.083%</b>		2,626	79,885
15	HLF Total	14,903	<u>15,977</u>	<b>9.310%</b>		<u>4,232</u>	<u>11,745</u>
16	Total	156,887	171,602	100.0%		10,577	161,025
17							
18	C&I Breakdown						
19	LLF Total					2,626	79,885
20	HLF Total					4,232	11,745
21	Total					6,858	91,630
22							
23	C&I Breakdown Percentage						
24	LLF Total					38.291%	87.182%
25	HLF Total					61.709%	12.818%
26	Total					<b>100.0%</b>	<b>100.0%</b>
27							
28		Capacity Cost	MDQ, Dt	\$/Dt-Mo.			
29	Pipeline	\$16,344,325	119,718	\$11.3770			
30	Storage	\$4,121,310	28,115	\$12.2156			
31							
32	Peaking	\$4,119,000					
33	Peaking Additional Costs (Concord Lateral Peaking x Differential)	<u>\$0</u>					
34	Subtotal Peaking Costs	<u>\$4,119,000</u>	<u>23,769</u>	<u>\$14.4412</u>			
35	Total	\$24,584,635	171,602	\$11.9388			
36							
37		Capacity Cost	MDQ, Dt	\$/Dt-Mo.			
38	Pipeline - Baseload	1,443,958	10,577	\$11.3770			
39	Pipeline - Remaining	14,900,367	109,141	\$11.3770			
40	Storage	4,121,310	28,115	\$12.2156			
41	Peaking	<u>4,119,000</u>	<u>23,769</u>	<u>\$14.4412</u>			
42	Total	24,584,635	171,602	\$11.9388			
43							
44							
45	Residential Allocation		Capacity Cost	MDQ, Dt	\$/Dt-Mo.		
46	Pipeline - Base	Line 38 * Line 13 Col C	615,228	4,506	\$11.3770		
47	Pipeline - Remaining	Line 39 * Line 13 Col C	6,348,623	46,502	\$11.3770		
48	Storage	Line 40 * Line 13 Col C	1,755,962	11,979	\$12.2156		
49	Peaking	Line 41 * Line 13 Col C	<u>1,754,952</u>	<u>10,127</u>	<u>\$14.4412</u>		
50	Total	<b>42.607%</b>	10,474,751	73,114	\$11.9388		
51							

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

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

						<b>Ratios for COG</b>	
58	C&I Allocation		Capacity Cost	MDQ, Dt	\$/Dt-Mo.		
59	Pipeline - Base	Line 38 - Line 46	828,730	6,070	\$11.3770		
61	Pipeline - Remaining	Line 39 - Line 47	8,551,745	62,640	\$11.3769		
62	Storage	Line 40 - Line 48	2,365,348	16,136	\$12.2157		
63	Peaking	Line 41 - Line 49	2,364,048	13,642	\$14.4410		
64	Total		57.393%	14,109,870	98,488	\$11.9388	1.0000
65							
66	LLF - C&I Allocation		Capacity Cost	MDQ, Dt	\$/Dt-Mo.		
68	Pipeline - Base	Line 60 * Line 24 Col E	317,329	2,324	\$11.3787		
69	Pipeline - Remaining	Line 61 * Line 24 Col F	7,455,589	54,610	\$11.3770		
70	Storage	Line 62 * Line 24 Col F	2,062,160	14,068	\$12.2154		
71	Peaking	Line 63 * Line 24 Col F	2,061,026	11,893	\$14.4415		
72	Total		48.3884%	11,896,104	82,895	\$11.9590	1.0017
73			38.291%	84%			(Line 72 / Line 64)
74							
75	HLF - C&I Allocation		Capacity Cost	MDQ, Dt	\$/Dt-Mo.		
76	Pipeline - Base	Line 60 - Line 68	511,401	3,746	\$11.3766		
77	Pipeline - Remaining	Line 61 - Line 69	1,096,156	8,030	\$11.3756		
78	Storage	Line 62 - Line 70	303,188	2,068	\$12.2174		
79	Peaking	Line 63 - Line 71	303,022	1,749	\$14.4379		
80	Total		9.0047%	2,213,767	15,593	\$11.8310	0.9910
81							(Line 80 / Line 64)
82							
83	Unit Cost		Residential	LLF C&I	HLF C&I		
84							
85	Pipeline		\$ 11.3770	\$ 11.3770	\$ 11.3770		
86	Storage		\$ 12.2156	\$ 12.2156	\$ 12.2156		
87	Peaking		\$ -	\$ -	\$ -		
88	Total		\$ 11.9388	\$ 11.9590	\$ 11.8310		
89							
90							
91	Load Makeup		Residential	LLF C&I	HLF C&I		
92							
93	Pipeline		69.77%	68.68%	75.52%		
94	Storage		16.38%	16.97%	13.26%		
95	Peaking		13.85%	14.35%	11.22%		
96	Total		100.00%	100.00%	100.00%		
97							
98							
99	Supply Makeup		Residential	LLF C&I	HLF C&I	Total	
100							
101	Pipeline		42.61%	47.56%	9.84%	100.00%	
102	Storage		42.61%	50.04%	7.36%	100.00%	
103	Peaking		42.61%	50.04%	7.36%	100.00%	

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

3 **2022 Summer Cost of Gas Filing**

4 **Correction Factor Calculation**

	(d)	(e)	(f)	(g)	(h)	(i)	
8 Data Source: Schedule 10B							Total
9	May	June	July	Aug	Sep	Oct	Sales
11 G-41	735,770	276,570	203,130	205,140	361,450	944,100	2,726,160
12 G-42	689,280	298,640	221,790	230,200	400,180	866,050	2,706,140
13 G-43	179,740	73,660	58,680	59,440	100,920	204,000	676,440
14 High Winter Use	1,604,790	648,870	483,600	494,780	862,550	2,014,150	6,108,740
16 G-51	201,180	178,670	180,600	181,250	187,340	243,850	1,172,890
17 G-52	222,310	202,670	214,620	214,540	214,530	259,620	1,328,290
18 G-53	308,310	268,810	269,370	265,280	270,620	322,980	1,705,370
19 G-54	15,120	18,750	22,560	24,140	22,080	24,180	126,830
21 Low Winter Use	746,920	668,900	687,150	685,210	694,570	850,630	4,333,380
23 Gross Total	2,351,710	1,317,770	1,170,750	1,179,990	1,557,120	2,864,780	10,442,120

26 Total Sales 10,442,120

27 Low Winter Use 4,333,380

28 Summer Ratio for Low Winter Use **0.9910 Schedule 10A p 2, In 80**

29 High Winter Use 6,108,740

30 Summer Ratio for High Winter Use **1.0017 Schedule 10A p 2, In 72**

32 Correction Factor =  $\text{Total Sales} / ((\text{Low Winter Use} \times \text{Winter Ratio for Low Winter Use}) + (\text{High Winter Use} \times \text{Winter Ratio for High Winter Use}))$

33 Correction Factor = **100.2748%**

36 **Allocation Calculation for Miscellaneous Overhead**

38 Projected Winter Sales Volume 11/1/21- 4/30/22 91,676,680 Sch.10B, In 23

39 Projected Annual Sales Volume 11/1/21 - 10/31/22 115,042,810 Sch.10B, In 23

40 Percentage of Winter Sales to Annual Sales 79.69%

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

2

3 Off Peak 2022 Summer Cost of Gas Filing

4 2022 Summer Cost of Gas Filing

5

6

7 Firm Sales

Dry Therms

	Nov-21	Dec-21	Jan-22	Feb-22	Mar-22	Apr-22	Subtotal PK 21-22	May-22	Jun-22	Jul-22	Aug-22	Sep-22	Oct-22	Subtotal OP 22	Total
8															
9 R-1	68,340	87,950	100,820	86,060	85,740	64,450	493,360	51,360	38,850	33,950	34,160	38,040	51,620	247,980	741,340
10 R-3	6,259,770	9,415,520	10,967,410	9,270,440	7,794,900	4,711,810	48,419,850	2,667,890	1,294,670	1,005,090	1,028,340	1,719,640	4,100,280	11,815,910	60,235,760
11 R-4	454,380	670,430	779,980	661,890	559,780	360,860	3,487,320	203,890	100,540	76,380	75,540	119,390	284,380	860,120	4,347,440
12 Total Residential.	6,782,490	10,173,900	11,848,210	10,018,390	8,440,420	5,137,120	52,400,530	2,923,140	1,434,060	1,115,420	1,138,040	1,877,070	4,436,280	12,924,010	65,324,540
13															
14 G-41	1,993,710	3,256,330	3,928,840	3,309,510	2,686,900	1,577,780	16,753,070	735,770	276,570	203,130	205,140	361,450	944,100	2,726,160	19,479,230
15 G-42	1,614,090	2,539,420	3,002,840	2,538,570	2,173,870	1,204,090	13,072,880	689,280	298,640	221,790	230,200	400,180	866,050	2,706,140	15,779,020
16 G-43	351,200	532,700	648,170	538,750	488,120	288,000	2,846,940	179,740	73,660	58,680	59,440	100,920	204,000	676,440	3,523,380
17 G-51	269,320	351,810	388,860	324,250	336,580	212,980	1,883,800	201,180	178,670	180,600	181,250	187,340	243,850	1,172,890	3,056,690
18 G-52	317,340	408,180	446,890	364,850	374,660	242,020	2,153,940	222,310	202,670	214,620	214,540	214,530	259,620	1,328,290	3,482,230
19 G-53	360,520	440,110	480,670	393,940	408,840	343,630	2,427,710	308,310	268,810	269,370	265,280	270,620	322,980	1,705,370	4,133,080
20 G-54	35,050	39,900	17,030	15,360	16,670	13,800	137,810	15,120	18,750	22,560	24,140	22,080	24,180	126,830	264,640
21 Total C/I	4,941,230	7,568,450	8,913,300	7,485,230	6,485,640	3,882,300	39,276,150	2,351,710	1,317,770	1,170,750	1,179,990	1,557,120	2,864,780	10,442,120	49,718,270
22															
23 Sales Volume	11,723,720	17,742,350	20,761,510	17,503,620	14,926,060	9,019,420	91,676,680	5,274,850	2,751,830	2,286,170	2,318,030	3,434,190	7,301,060	23,366,130	115,042,810
24															
25 Transportation Sales															
26															
27 G-41	574,020	867,030	1,039,180	856,480	763,130	450,870	4,550,710	261,840	140,990	106,460	95,760	156,800	326,870	1,088,720	5,639,430
28 G-42	1,968,530	2,914,590	3,391,170	2,830,750	2,515,270	1,523,590	15,143,900	906,300	496,460	395,030	398,340	659,800	1,261,210	4,117,140	19,261,040
29 G-43	771,060	1,044,290	1,235,960	1,039,110	971,040	538,960	5,600,420	365,460	237,030	213,480	240,670	339,080	530,620	1,926,340	7,526,760
30 G-51	84,590	105,400	113,700	94,860	99,260	81,810	579,620	77,390	64,770	61,300	61,170	63,740	76,000	404,370	983,990
31 G-52	497,790	617,920	679,580	565,210	579,610	430,990	3,371,100	389,470	360,850	367,700	363,660	373,650	442,840	2,298,170	5,669,270
32 G-53	855,560	987,600	1,082,920	916,680	934,740	840,440	5,617,940	724,650	621,190	623,930	659,410	675,470	791,330	4,095,980	9,713,920
33 G-54	1,585,390	1,292,050	1,269,400	1,054,210	1,161,320	1,357,730	7,720,100	1,561,020	1,567,000	1,631,330	1,739,250	1,682,640	1,755,260	9,936,500	17,656,600
34															
35 Total Trans. Sales	6,336,940	7,828,880	8,811,910	7,357,300	7,024,370	5,224,390	42,583,790	4,286,130	3,488,290	3,399,230	3,558,260	3,951,180	5,184,130	23,867,220	66,451,010
36															
37 Total All Sales	18,060,660	25,571,230	29,573,420	24,860,920	21,950,430	14,243,810	134,260,470	9,560,980	6,240,120	5,685,400	5,876,290	7,385,370	12,485,190	47,233,350	181,493,820

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

**Schedule 11A**

2

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3 **Off Peak 2022 Summer Cost of Gas Filing**

4 **Normal and Design Year Volumes**

5

6

7 **Volumes (Therms)**

**Normal Year**

8

9 **For the Months of May 22 -October 22**

10

11

12

**May-22      Jun-22      Jul-22      Aug-22      Sep-22      Oct-22      Off Peak  
May – Oct**

13 **Pipeline Gas:**

14 Dawn Supply 739,535 95,658 - - 206,295 636,518 1,678,006

15 Niagara Supply 668,413 540,809 542,484 545,801 591,423 687,667 3,576,596

16 TGP Supply (Gulf) 13,120 - - - - 384,326 397,446

17 Dracut Supply 1 - Baseload - - - - - - 0

18 Dracut Supply 2 - Swing - - - - - 436,185 436,185

19 Dracut Supply 3 - Swing - - - - - - -

20 Constellation Combo - - - - - - 0

21 LNG Truck 44,883 18,131 - - 55,566 20,602 139,181

22 Propane Truck 79,409 71,899 69,472 69,279 73,449 81,696 445,204

23 PNGTS 205,081 146,300 119,612 125,908 176,916 218,093 991,910

24 Portland Natural Gas 152,602 3,126 - - 2,555 574,003 732,286

25 TGP Supply (Z4) 5,386,659 4,708,479 4,708,982 4,696,535 4,819,522 5,546,088 29,866,267

26 7,289,702 5,584,403 5,440,551 5,437,523 5,925,726 8,585,177 38,263,081

27

28 **Storage Gas:**

29 - - - - - - 0

30

31 **Produced Gas:**

32 LNG Vapor 20,025 18,131 17,519 17,470 18,522 20,602 112,269

33 Propane - - - - - - 0

34 20,025 18,131 17,519 17,470 18,522 20,602 112,269

35

36 **Less - Gas Refills:**

37 LNG Truck (44,883) (18,131) - - (55,566) (20,602) (139,181)

38 Propane (79,409) (71,899) (69,472) (69,279) (73,449) (81,696) (445,204)

39 TGP Storage Refill (2,188,222) (2,766,568) (3,120,796) (3,057,929) (2,444,250) (1,262,380) (14,840,145)

40 (2,312,514) (2,856,598) (3,190,268) (3,127,208) (2,573,265) (1,364,677) (15,424,530)

41

42 **Total Sendout Volumes**

43 4,997,212 2,745,936 2,267,802 2,327,785 3,370,983 7,241,101 22,950,820

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

2

3 **Off Peak 2022 Summer Cost of Gas Filing**

**Schedule 11B**

**Page 1 of 1**

44 **Normal and Design Year Volumes**

45

46

47 **Volumes (Therms)**

**Design Year**

48

49 **For the Months of May 22 -October 22**

50

51

52

53 **Pipeline Gas:**

54 Dawn Supply

55 Niagara Supply

56 TGP Supply (Gulf)

57 Dracut Supply 1 - Baseload

58 Dracut Supply 2 - Swing

Dracut Supply 3 - Swing

59 Constellation Combo

60 LNG Truck

61 Propane Truck

62 PNGTS

63 Portland Natural Gas

64 TGP Supply (Z4)

65 Subtotal Pipeline Volumes

66

67 **Storage Gas:**

68 TGP Storage

69

70 **Produced Gas:**

71 LNG Vapor

72 Propane

73 Subtotal Produced Gas

74

75 **Less - Gas Refills:**

76 LNG Truck

77 Propane

78 TGP Storage Refill

79 Subtotal Refills

80

81 **Total Sendout Volumes**

	May-22	Jun-22	Jul-22	Aug-22	Sep-22	Oct-22	Off Peak May – Oct
Pipeline Gas:							
Dawn Supply	738,844	49,392	-	-	102,190	658,540	1,548,966
Niagara Supply	668,413	540,809	542,484	545,801	591,423	687,667	3,576,596
TGP Supply (Gulf)	12,429	-	-	-	-	384,326	396,755
Dracut Supply 1 - Baseload	-	-	-	-	-	-	0
Dracut Supply 2 - Swing	-	-	-	-	-	436,185	436,185
Dracut Supply 3 - Swing	-	-	-	-	-	-	-
Constellation Combo	-	-	-	-	-	-	0
LNG Truck	44,883	18,131	-	-	55,566	20,602	139,181
Propane Truck	79,409	71,899	69,472	69,279	73,449	81,696	445,204
PNGTS	205,081	146,300	119,612	125,908	176,916	218,093	991,910
Portland Natural Gas	133,959	3,126	-	-	2,555	574,003	713,642
TGP Supply (Z4)	5,536,500	4,925,428	4,951,832	4,939,917	5,049,449	5,697,403	31,100,529
Subtotal Pipeline Volumes	7,419,517	5,755,086	5,683,400	5,680,904	6,051,547	8,758,514	39,348,969
Storage Gas:							
TGP Storage	-	-	-	-	-	-	0
Produced Gas:							
LNG Vapor	20,025	18,131	17,519	17,470	18,522	20,602	112,269
Propane	-	-	-	-	-	-	-
Subtotal Produced Gas	20,025	18,131	17,519	17,470	18,522	20,602	112,269
Less - Gas Refills:							
LNG Truck	(44,883)	(18,131)	-	-	(55,566)	(20,602)	(139,181)
Propane	(79,409)	(71,899)	(69,472)	(69,279)	(73,449)	(81,696)	(445,204)
TGP Storage Refill	(2,340,825)	(2,937,251)	(3,363,645)	(3,301,310)	(2,570,071)	(1,435,717)	(15,948,820)
Subtotal Refills	(2,465,117)	(3,027,282)	(3,433,117)	(3,370,589)	(2,699,086)	(1,538,015)	(16,533,205)
Total Sendout Volumes	4,974,426	2,745,936	2,267,802	2,327,785	3,370,983	7,241,101	22,928,033

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

2

3 **Off Peak 2022 Summer Cost of Gas Filing**

4 **Capacity Utilization**

5 **Volumes (Therms)**

6

7

8

9

10

11 **Pipeline Gas:**

12 Dawn Supply 1,678,006 4,000 7,360,000 23% 1,548,966 4,000 7,360,000 21%

13 Niagara Supply 3,576,596 3,122 5,744,480 62% 3,576,596 3,122 5,744,480 62%

14 TGP Supply (Gulf) 397,446 21,596 39,736,640 1% 396,755 21,596 39,736,640 1%

15 Dracut Supply 1 & 2 & 3 436,185 50,000 92,000,000 0% 436,185 50,000 92,000,000 0%

16 LNG Truck 139,181 - - 139,181 - - -

17 Propane Truck 445,204 - - 445,204 - - -

18 PNGTS 991,910 1,000 1,840,000 54% 991,910 1,000 1,840,000 54%

Portland Natural Gas 732,286 1,784 3,282,560 22% 713,642 1,784 3,282,560 22%

19 TGP Supply (Z4) 29,866,267 21,596 39,736,640 75% 31,100,529 21,596 39,736,640 78%

20 Other Purchased Resources - - - - - - -

21

22 Subtotal Pipeline Volumes 38,263,081 39,348,969

23

24 **Storage Gas:**

25 0 0 25,792,710 0% - 25,792,710 0%

26

27 **Produced Gas:**

28 LNG Vapor 112,269 112,269

29 Propane - -

30

31 Subtotal Produced Gas 112,269 112,269

32

33 **Less - Gas Refills:**

34 LNG Truck (139,181) (139,181)

35 Propane (445,204) (445,204)

36 TGP Storage Refill (14,840,145) (15,948,820)

37

38 Subtotal Refills (15,424,530) (16,533,205)

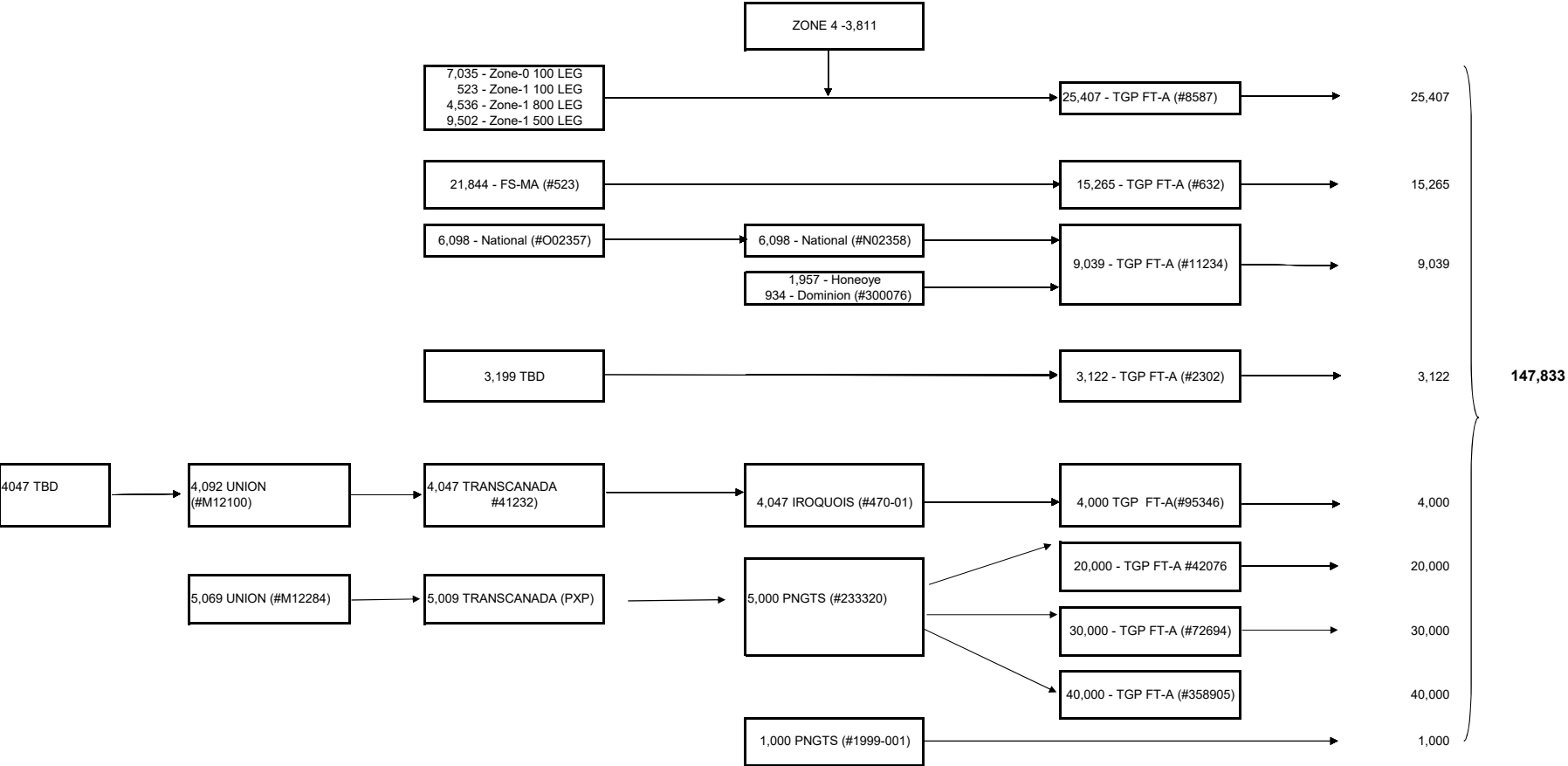
39

40 Total Sendout Volumes 22,950,820 22,928,033

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

Off Peak 2022 Summer Cost of Gas Filing  
Transportation Available for Pipeline Supply and Storage  
(MMBtu)

Schedule 12  
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Liberty Utilities (EnergyNorth Natural Gas) Corp. d/b/a Liberty

Off Peak 2022 Summer Cost of Gas Filing  
Agreements for Gas Supply and TransportationSchedule 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		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	O02358	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 Liberty**

Schedule 13  
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2  
3 **Off Peak 2022 Summer Cost of Gas Filing**

4 **Storage Inventory**

5  
6 **Underground Storage Gas**

		May-21 (Actual)	Jun-21 (Actual)	Jul-21 (Estimate)	Aug-21 (Estimate)	Sep-21 (Estimate)	Oct-21 (Estimate)	Total
7								
8								
9	Beginning Balance (MMBtu)	1,895,479	1,901,645	1,929,241	1,929,241	1,929,241	2,113,358	1,951,935
10								
11	Injections (MMBtu) Sch 11A In 39 /10	11,436	27,746	-	-	184,117	184,117	1,961,830
12								
13	Subtotal	1,906,915	1,929,391	1,929,241	1,929,241	2,113,358	2,297,475	
14								
15	Storage Sale	-	-	-	-	-	-	
16								
17	Withdrawals (MMBtu) Sch 11A In 29 /10	(5,270)	(150)	-	-	-	-	(1,368,064)
18								
19	Ending Balance (MMBtu)	1,901,645	1,929,241	1,929,241	1,929,241	2,113,358	2,297,475	2,545,701
20								
21								
22	Beginning Balance	\$ 9,092,272	\$ 9,085,950	\$ 9,164,894	\$ 9,164,894	\$ 9,164,894	\$ 9,798,690	\$ 3,609,668
23								
24	Injections In 11 * In 36	18,859	78,943	-	-	633,796	637,943	11,868,368
25								
26	Subtotal	\$ 9,111,130	\$ 9,164,894	\$ 9,164,894	\$ 9,164,894	\$ 9,798,690	\$ 10,436,633	
27								
28	Storage Sale	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	
29								
30	Withdrawals In 17 * In 34	\$ (25,180)	\$ -	\$ -	\$ -	\$ -	\$ -	\$ (2,634,626)
31								
32	Ending Balance	\$ 9,085,950	\$ 9,164,894	\$ 9,164,894	\$ 9,164,894	\$ 9,798,690	\$ 10,436,633	\$ 12,843,410
33								
34	Average Rate For Withdrawals In 22 /In 9	\$ 4.7779	\$ 4.7501	\$ 4.7505	\$ 4.7505	\$ 4.6365	\$ 4.5427	
35								
36	TGP Storage Rate for Injections Actual or NYMEX plus TGP Transportation	\$ 1.6490	\$ 2.8452	\$ -	\$ -	\$ 3.4424	\$ 3.4649	

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

Schedule 13  
Page 2 of 3

38  
39 **Off Peak 2022 Summer Cost of Gas Filing**

40  
41 **Liquid Propane Gas (LPG)**

		May-21 (Actual)	Jun-21 (Actual)	Jul-21 (Estimate)	Aug-21 (Estimate)	Sep-21 (Estimate)	Oct-21 (Estimate)	Total
42								
43								
44	Beginning Balance	93,824	93,828	94,844	94,844	94,844	94,844	96,655
45								
46	Injections	Sch 11A In 38 /10	72	1,016	-	-	-	49,431
47								
48	Subtotal		93,896	94,844	94,844	94,844	94,844	
49								
50	Withdrawals	Sch 11A In 33 /10	(68)	-	-	-	-	(61,632)
51								
52	Adjustment for change in temperature	-	-	-	-	-	-	-
53	Adjustment for Transfer	-	-	-	-	-	-	-
54	Ending Balance	93,828	94,844	94,844	94,844	94,844	94,844	84,454
55								
56								
57	Beginning Balance	\$ 1,382,938	\$ 1,382,997	\$ 1,396,098	\$ 1,406,774	\$ 1,406,774	\$ 1,406,774	\$ 1,193,497
58								
59	Injections	In 46 * In 69	1,061	13,101	-	-	-	168,840
60								
61	Subtotal		\$ 1,384,000	\$ 1,396,098	\$ 1,396,098	\$ 1,406,774	\$ 1,406,774	\$ 1,406,774
62								
63	Withdrawals	In 52 * In 67	(1,002)	-	10,676	-	-	(763,126)
64								
65	Ending Balance		\$ 1,382,997	\$ 1,396,098	\$ 1,406,774	\$ 1,406,774	\$ 1,406,774	\$ 599,211
66								
67	Average Rate For Withdrawals		\$ 14.7397	\$ 14.7199	\$ 14.7199	\$ 14.8325	\$ 14.8325	\$ 14.8325
68								
69	Propane Rate for Injections	Actual or Sch. 6, In 162 * 10	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -

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

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71  
72 **Off Peak 2022 Summer Cost of Gas Filing**

73  
74 **Liquid Natural Gas (LNG)**

		May-21 (Actual)	Jun-21 (Actual)	Jul-21 (Estimate)	Aug-21 (Estimate)	Sep-21 (Estimate)	Oct-21 (Estimate)	Total
75								
76	Beginning Balance	7,885	5,928	10,583	10,583	10,583	10,583	12,057
77								
78	Injections	Sch 11A In 37 /10	797	6,395	-	-	-	136,806
79								
80	Subtotal		8,682	12,323	10,583	10,583	10,583	
81								
82	Withdrawals	Sch 11A In 32 /10	(2,754)	(1,740)	-	-	-	(132,648)
83								
84	Ending Balance		5,928	10,583	10,583	10,583	10,583	16,216
85								
86								
87	Beginning Balance	\$ 34,430	\$ 25,885	\$ 42,850	\$ 42,850	\$ 42,850	\$ 42,850	\$ 135,659
88								
89	Injections	In 78 * In 99	3,480	24,011	-	-	-	653,097
90								
91	Subtotal	\$ 37,910	\$ 49,896	\$ 42,850	\$ 42,850	\$ 42,850	\$ 42,850	
92								
93	Withdrawals	In 82 * In 97	(12,025)	(7,045)	-	-	-	(825,208)
94								
95	Ending Balance	\$ 25,885	\$ 42,850	\$ 42,850	\$ 42,850	\$ 42,850	\$ 42,850	\$ (36,451)
96								
97	Average Rate For Withdrawals	\$ 4.3665	\$ 4.0490	\$ 4.0490	\$ 4.0490	\$ 4.0490	\$ 4.0490	
98								
99	LNG Rate for Injections	Actual or Sch. 6, In 161 * 10	\$ 4.3665	\$ 3.7546	\$ 11.2630	\$ 11.1000	\$ -	\$ -