

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

Docket No. DG 22-045

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

**DIRECT TESTIMONY
OF
DEBORAH M. GILBERTSON**

September 1, 2022



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

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

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

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

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

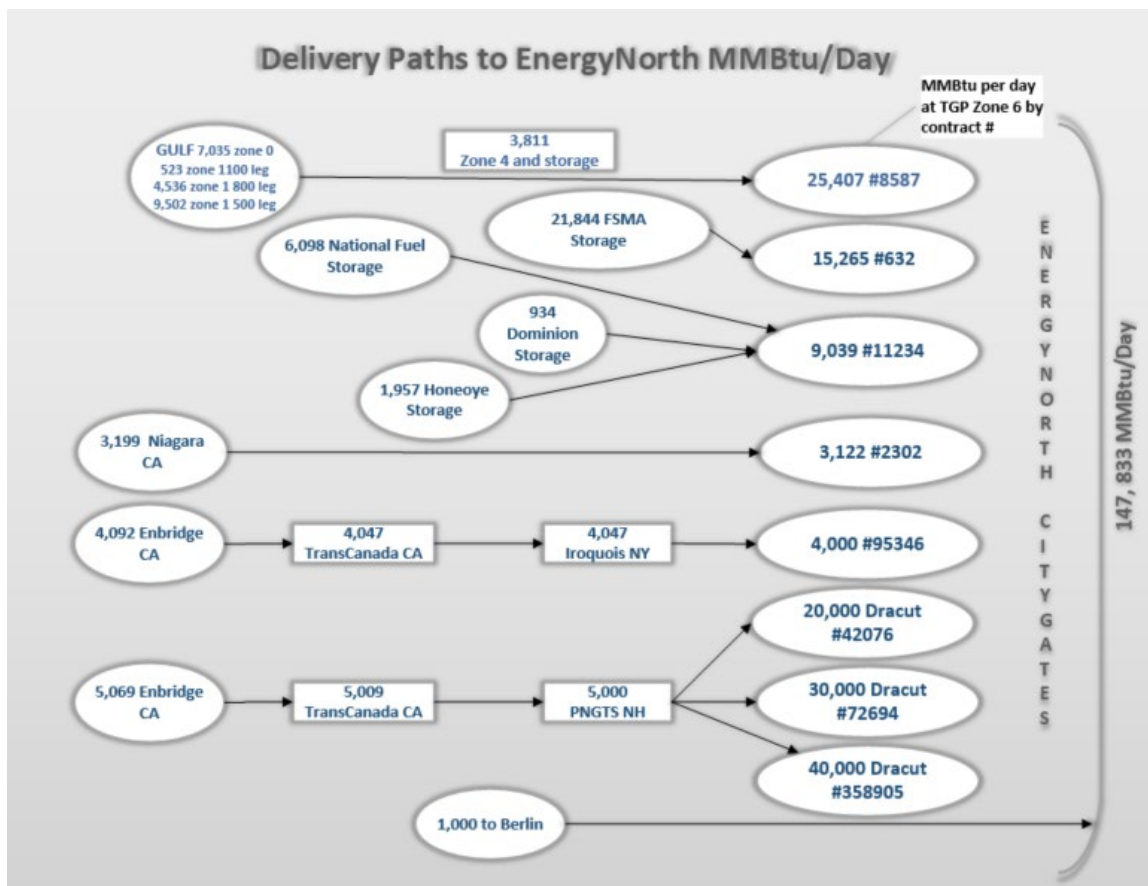
19 A. Yes, I have testified before the New Hampshire Public Utilities Commission
20 (“Commission”) on prior occasions.

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

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

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

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



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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

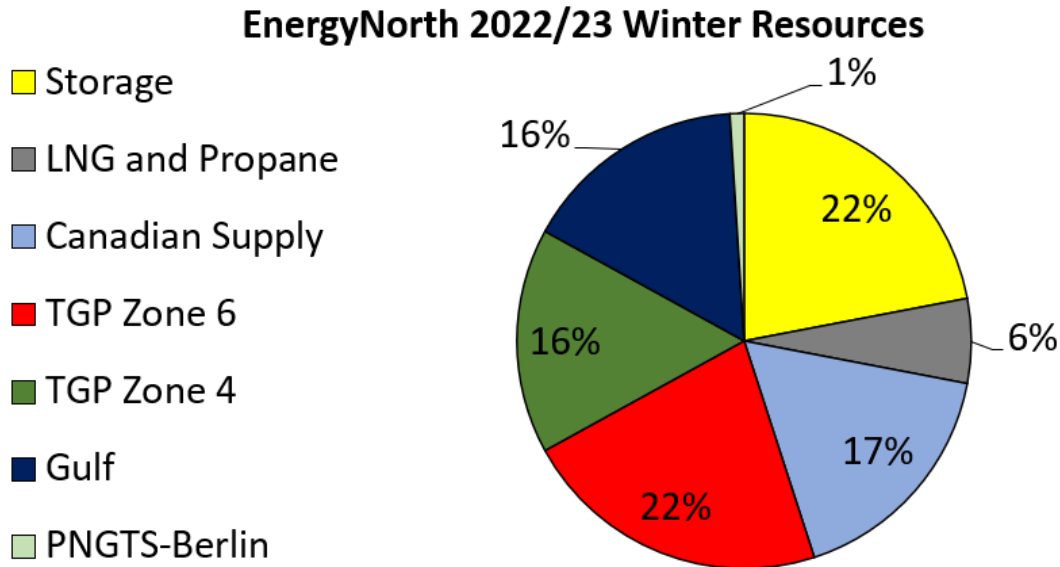
7 A. Schedule 11A of the Company's filing shows the Company's forecasted sendout
8 requirements of 26,067,561 therms over the period May 1 to October 31, 2023, under
9 normal weather conditions, which is higher than last year's forecasted volume of
10 22,950,820 therms over the period May 1 to October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

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

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

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

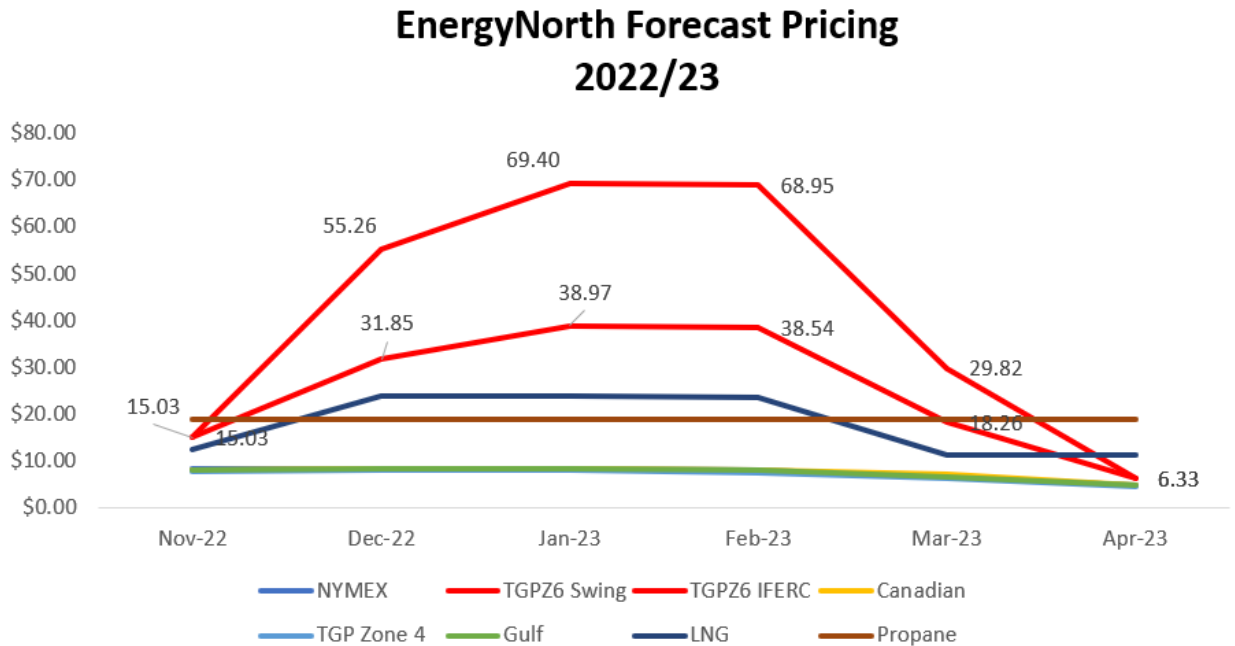
4 A. Yes, the chart below shows the expected purchase and dispatch of natural gas using the
5 Company’s transportation resources described above. The Company will purchase gas at
6 the least cost using pricing at the various receipt points to which the Company has access.
7 Because prices are lowest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



12

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

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



9

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

8 A. Yes, it does.

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