BEFORE THE
NEW HAMPSHIRE PUBLIC UTILITIES COMMISSION

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

Docket No. DG 15-494

Petition for Approval of Tennessee Gas Pipeline Company, L.L.C. Supply Path Precedent
Agreement

DIRECT TESTIMONY OF JOHN A. ROSENKRANZ

ON BEHALF OF

NEW HAMPSHIRE MUNICIPAL PIPELINE COALITION

April 15, 2016

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1   **I.   INTRODUCTION AND QUALIFICATIONS**

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

3   A.   My name is John A. Rosenkranz. I am a Principal with North Side Energy, LLC. My

4   business address is 56 Washington Drive, Acton, MA 01720.

5   **Q.   Please describe your professional background and experience.**

6   A.   I have more than 25 years of experience in the areas of natural gas supply planning, gas

7   utility regulation, and pipeline and storage project management. I have worked as a

8   consultant to natural gas distribution companies ("LDCs") and electricity generators,

9   helping clients evaluate gas supply options and document their decisions. I received a

10   BA degree in economics from George Washington University, and completed all course

11   and examination requirements for a doctorate in economics at Northwestern University.

12   My resume is attached as Exhibit JAR-1.

13   **Q.   Have you previously testified before utility regulatory agencies?**

14   A.   Yes. I have testified before several state and provincial regulatory agencies, including

15   the New Hampshire Public Utilities Commission, the Maine Public Utilities Commission

16   and the Ontario Energy Board. I have submitted testimony in cases at the Federal Energy

17   Regulatory Commission, the Massachusetts Department of Public Utilities, and the New

18   Jersey Board of Public Utilities.

19   **Q.   On whose behalf are you submitting testimony in this proceeding?**

20   A.   I am testifying on behalf of the New Hampshire Municipal Pipeline Coalition.

21

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

2 A. EnergyNorth Natural Gas d/b/a Liberty Utilities ("EnergyNorth" or the "Company") is

3 requesting approval for a long-term agreement with Tennessee Gas Pipeline Company,

4 L.L.C. ("Tennessee") for gas transportation service on the proposed Northeast Energy

5 Direct ("NED") Supply Path pipeline. The purpose of my testimony is to evaluate

6 whether the proposed contract quantity of 78,000 dekatherms ("Dth") per day is

7 reasonable, taking into account the costs that would be paid by EnergyNorth customers.

8 **Q.** **Please summarize your testimony.**

9 A. EnergyNorth claims that the proposed NED Supply Path service will produce cost

10 savings for customers because lower gas purchase costs will outweigh the higher gas

11 transportation costs over the term of the contract. However, the gas supply modeling

12 analysis that EnergyNorth used to support this claim relies on forecasts of natural gas

13 prices that overstate the likely cost savings from the NED Supply Path service.

14 EnergyNorth also failed to consider other gas forecast scenarios to assess the risk that

15 future changes in natural gas prices would cause the savings in gas purchase costs to be

16 much smaller, causing the total gas supply costs paid by EnergyNorth customers to be

17 higher, not lower, with the NED Supply Path service. Because the NED Supply Path

18 proposal would commit EnergyNorth's customers to very high fixed transportation

19 charges with no guarantee that these charges would be offset by lower gas purchase costs,

20 the proposed agreement with Tennessee for NED Supply Path service should not be

21 approved.

1   **Q.   Please discuss how your testimony is organized.**

2   A.   Section II describes EnergyNorth's proposal. Section III addresses the methodology that

3   EnergyNorth used to develop the gas price forecasts that it used in its analysis of the

4   NED Supply Path service, and compares the gas price forecasts used in this analysis to

5   the gas price forecasts that were used to evaluate the NED Market Path service. Section

6   IV explains how EnergyNorth used its gas supply model to determine the recommended

7   quantity of NED Supply Path capacity. My conclusions are presented in Section V.

8   **II.   NED SUPPLY PATH PROPOSAL**

9   **Q.   Please describe the NED Supply Path project.**

10   A.   NED Supply Path is a proposed new pipeline that would transport natural gas from the

11   Marcellus Shale gas producing areas in northern Pennsylvania to Wright, New York.

12   Wright, located near Albany, is an existing interconnection between Tennessee and the

13   Iroquois Gas Transmission System ("Iroquois"), and is the starting point for the proposed

14   NED Market Path pipeline.[1] The proposed in-service date for the new pipeline is

15   November 2018.

16   Tennessee filed a certificate application with the Federal Energy Regulatory

17   Commission ("FERC") for the NED Supply Path and NED Market Path pipelines on

18   November 20, 2015. Tennessee has proposed an initial tariff rate ("recourse rate") for

19   NED Supply Path service that includes a monthly fixed charge of $24.8189 and a

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[1] The Commission approved an agreement between EnergyNorth and Tennessee for
transportation service on the proposed NED Market Path pipeline in Docket No. DG 14-380.

1   variable rate of $0.0024/Dth. This monthly charge corresponds to an average fixed cost

2   of $0.816/Dth. These rates are based on the project reaching its design capacity of 1.2

3   billion cubic feet ("Bcf") per day. If the project is downsized to 0.7 Bcf/day, Tennessee

4   indicates that the monthly recourse rate could increase to $32.9343, or $1.084/Dth.[2] In its

5   November 2015 FERC application Tennessee indicated that the total contract quantity of

6   its existing agreements with gas producers, power generators, and LDCs already

7   exceeded the 0.7 Bcf/day threshold.[3]

8 **Q.   What is the EnergyNorth proposal?**

9 A.   EnergyNorth has entered to a Precedent Agreement ("PA") with Tennessee that would

10   commit the Company to 78,000 Dth per day of transportation service for an initial term of

11   20 years. The PA provides for a negotiated rate of ▮▮▮▮ per Dth. This translates to a

12   fixed cost of ▮▮▮▮▮▮▮ per year, and ▮▮▮▮▮▮▮ over 20 years.

13   EnergyNorth says that the decision to contract for service on the NED Supply

14   Path project was based on its analysis of the potential cost savings that could be obtained

15   for customers by procuring gas transportation capacity to gain direct access to natural gas

16   producing areas located "upstream" of the NED Market Path pipeline.[4] More

17   specifically, the NED Supply Path service would allow EnergyNorth to substitute gas

18   purchases in the Marcellus Shale gas producing areas in Northern Pennsylvania (the

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[2] FERC Docket No. CP16-21 Application, Exhibit Z-5.
[3] FERC Docket No. CP16-21 Application, Exhibit I.
[4] Petition, p. 3.

1   "Marcellus Area"), where gas prices are currently relatively low, for gas purchases at

2   Wright.

3   **Q.   Is the NED Supply Path pipeline needed to increase gas deliveries to EnergyNorth's**

4   **distribution area?**

5   A.   No. EnergyNorth makes clear that the NED Supply Path pipeline would not increase the

6   capacity to deliver gas to EnergyNorth's distribution area.[5] Because the pipeline would

7   terminate at Wright, the NED Supply Path project would not add any new gas delivery

8   capacity into the New England market.

9   **Q.   Are there alternatives to the NED Supply Path service?**

10   A.   Yes. In addition to long-term gas transportation services on other proposed pipelines,

11   such as the Constitution Pipeline, EnergyNorth acknowledges that it will continue to have

12   opportunities to access Marcellus Area gas supplies, and reduce its dependence on gas

13   purchases at Wright, by obtaining released capacity, or buying gas at upstream points on

14   Iroquois.[6]

15   **Q.   Please address the cost savings that EnergyNorth attributes to the negotiated rate.**

16   A.   EnergyNorth claims that the negotiated rate in the NED Supply Path PA is a discount that

17   would result in annual savings to customers of approximately $14 million.[7] However,

18   this savings estimate is based on an assumed recourse rate of ████████ which is ████

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[5] DaFonte Direct Testimony, Bates p. 27, lines 3-4.
[6] DaFonte Direct Testimony, Bates p. 14, lines 6-7.
[7] DaFonte Direct Testimony, Bates p. 11, lines 5-7.

1   ████████ the $0.82/Dth to $1.08/Dth range of possible recourse rates that Tennessee

2   included in its FERC application, and a fixed quantity of 78,000 Dth/day.[8] For these

3   reasons, the claimed customer savings amount is simply not meaningful.

4   **III.   GAS PRICE FORECASTS**

5   **Q.   How did EnergyNorth evaluate the costs and benefits of contracting for NED**

6   **Supply Path service?**

7   A.   EnergyNorth used the SENDOUT® gas supply model to estimate total gas supply costs

8   with and without the proposed NED Supply Path contract. The model uses forecasts of

9   customer gas requirements, gas supply resource capacities, transportation and storage

10   rates, and gas commodity prices to calculate a daily dispatch that minimizes total costs.

11   **Q.   How did EnergyNorth develop the gas price forecasts for this analysis?**

12   A.   NED Supply Path service will create net savings for EnergyNorth customers if the

13   reduction in gas commodity costs from buying gas in the Marcellus Area instead of

14   buying gas at the inlet to the NED Market Path pipeline at Wright is greater than the

15   increase in pipeline transportation charges. While the cost of the NED Supply Path

16   transportation service is defined by the PA, future gas prices are uncertain.

17   EnergyNorth's gas price forecasts for the Marcellus Area and Wright are therefore key

18   elements of its cost analysis.

19   EnergyNorth used gas prices for Leidy, Pennsylvania as a proxy for gas purchases

20   in the Marcellus Area and the Iroquois Zone 2 gas price as a proxy for gas purchases at

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[8] DaFonte Direct Testimony, Bates p. 11, line 1 and Table 1.

1   Wright. The Leidy area is an active natural gas trading hub, with multiple pipeline

2   interconnections and access to underground storage. The Leidy price is broadly

3   representative of gas pricing in the northern Pennsylvania area where EnergyNorth would

4   be expected to buy gas that would be delivered using the NED Supply Path pipeline.

5   Wright, NY is an interconnection point between the Tennessee and Iroquois

6   pipelines, and is the boundary between the Iroquois Zone 1 and Zone 2 rate zones.

7   Because Wright is not currently an active trading location, there are published gas price

8   indexes for Waddington (the New York-Ontario border point where Iroquois connects

9   with the TransCanada PipeLines system) and Iroquois Zone 2 (the portion of the Iroquois

10   system that extends through Connecticut to Long Island and New York City), but not for

11   Wright. Since natural gas is generally transported from lower-price locations to higher-

12   price locations, as long as gas at the northern end of the Iroquois system continues to

13   flow from Waddington to Wright, it is reasonable to expect that the price of gas at Wright

14   will generally be higher than the Waddington price, but lower than the Iroquois Zone 2

15   price. The Iroquois Zone 2 price index is therefore at the high end of the price range that

16   would likely bracket the price of gas traded at Wright.

17 **Q.** **Please describe the methodology that EnergyNorth used to create the Marcellus**

18   **Area gas price forecast.**

19 A. The price of natural gas at any location can be expressed as the sum of two components:

20   the Henry Hub benchmark price, and the difference, or "basis", between the Henry Hub

21   price and the local price. The Henry Hub price is used as a benchmark because it is the

1   pricing point for natural gas futures contracts traded on the New York Mercantile

2   Exchange ("NYMEX"). EnergyNorth developed its gas price forecast for Leidy by

3   adding forward basis quotes from the Intercontinental Exchange, Inc. to the NYMEX

4   Henry Hub futures prices.[9] Since forward basis quotes for Leidy were only available for

5   the first two contract years, EnergyNorth used the monthly basis quotes for the 2019-20

6   contract year for all future years. NYMEX Henry Hub prices were available through

7   June 2020. EnergyNorth calculated Henry Hub prices for the remaining months by

8   escalating the prior year price for the month by one percent.[10]

9 Q.   **Please describe the methodology that EnergyNorth used to create the Wright gas**

10   **price forecast.**

11 A.   EnergyNorth developed its forecast for Wright gas prices in two steps:

12   Step 1

13   EnergyNorth first created a "Structured Wright Price" for each month by adding a basis

14   differential to the projected Marcellus Area price. To calculate the basis, EnergyNorth

15   assumed that gas price differential between the Marcellus Area and Wright will be tied to

16   the pipeline transportation cost between the two points. Specifically, EnergyNorth set the

17   basis differential for five winter months so that a shipper holding firm pipeline

18   transportation service who buys gas in the Marcellus Area and sells gas at Wright would

19   earn a total margin on gas sales at Wright over the winter season that would equal the

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[9] *See* attached Exhibit JAR-2, Petitioner's Response to Data Request PLAN 1-3.
[10] *See* attached Exhibit JAR-3, Petitioner's Response to Data Request Staff 1-24 (and
particularly, the referenced Attachment Staff 1-24 therein).

1   fixed transportation charges paid over a full year. In this case EnergyNorth used an

2   average fixed transportation charge for service between the Marcellus Area and Wright of

3    $0.65/Dth, which produced an average winter price differential of $1.59/Dth.[11]

4   EnergyNorth then adjusted the monthly numbers so that the basis would be higher in the

5   colder winter months (e.g. January) and lower during the relatively warmer winter

6   months (e.g. November), but the average basis over the winter season was not affected by

7   this adjustment. For the summer months, EnergyNorth set the basis differential between

8   the Marcellus Area and Wright equal to the average transportation charge of ███████.[12]

9   Step 2

10   After completing the Structured Wright Price forecast, EnergyNorth adjusted the winter

11   prices by applying temperature-based "price multipliers". EnergyNorth created the

12   multipliers using Structured Wright Prices and actual Iroquois Zone 2 prices for the

13   period November 1, 2011 through June 30, 2015. The Structured Wright Prices for the

14   historical period were based on actual Leidy prices and the same assumed pipeline

15   charges for service between the Marcellus Area and Wright that EnergyNorth used for

16   the forecast period. EnergyNorth divided the actual Iroquois Zone 2 price for each day

17   by the Structured Wright Price, and grouped these ratios based on the heating degree days

18   ("HDDs") for the day. EnergyNorth then calculated average ratios for each of five HDD

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[11] *See* attached Exhibit JAR-4, Petitioner's Response to Data Request Staff 1-11. The average winter basis differential is the fixed transportation cost of $1.57/Dth ($0.65 × 365 days ÷ 151 winter days = $1.57), plus a small allowance for variable transportation costs.
[12] *See* attached Exhibit JAR-5, Petitioner's Response to Data Request Staff 1-1 (and particularly, the referenced CONFIDENTIAL Attachment Staff 1-1 Revised, Tab Table 2 Support Revised).

1   ranges. These average ratios became the price multipliers that were applied to the

2   structured Wright prices over the forecast period. Because EnergyNorth chose to develop

3   the price multipliers using a prices from a time period in which the Iroquois Zone 2 index

4   prices were relatively high, the price multipliers that EnergyNorth created were all

5   greater than one, ranging from 1.1, for days between 20 HDDs and 29 HDDs, to 5.1 for

6   days 60 HDDs and higher.[13]

7   **Q.   How did these price multipliers change the Wright gas price forecast?**

8   A.   Table 1 shows how EnergyNorth developed its price forecasts, using monthly average

9   values for the 2018-19 winter season. Comparing the Structured Wright Prices on line 5

10   to the adjusted prices on line 7 shows that EnergyNorth's price multipliers caused the

11   average winter Wright price to be 67 percent higher. More critically for the NED Supply

12   Path cost savings analysis, however, the price multipliers nearly tripled the average gas

13   price difference between the Marcellus Area and Wright (line 8 vs. line 4). Because

14   EnergyNorth created the price multipliers using the ratios between the actual Iroquois

15   Zone 2 prices and the Structured Wright Prices over the 2011-12 through 2014-15 winter

16   seasons, by applying these price multipliers to the Structured Wright Prices for the

17   forecast period, EnergyNorth essentially inflated the Structured Wright Prices to bring its

18   basis forecast into line with the average Wright-Leidy basis during those four winter

19   seasons. For example, as shown on Table 1, the average Wright-Marcellus basis for the

20   2018-19 winter season in the EnergyNorth forecast is $4.43/Dth. This adjusted basis is

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[13] DaFonte Direct Testimony, Bates p. 24R, Table 2.

1   much closer to the average difference between the Iroquois Zone 2 price and Leidy price

2   over the 2011-12 through 2014-15 winter seasons, which was $4.65/Dth, than is

3   EnergyNorth's "structured" basis estimate of $1.59/Dth.[14]

4   **Table 1: Marcellus Area and Wright Price Forecasts for Winter 2018-19 ($/Dth)[15]**

		NOV18	DEC18	JAN19	FEB19	MAR19	AVG
1	Henry Hub Price (NYMEX)	3.43	3.59	3.72	3.70	3.63	3.61
2	Leidy-Henry Hub Basis Quotes	(1.03)	(0.96)	(0.93)	(0.93)	(0.99)	(0.97)
3	Leidy Price *(1) + (2)*	2.40	2.63	2.79	2.77	2.64	2.64
4	EnergyNorth Wright-Leidy Basis	1.00	1.70	2.03	1.70	1.50	1.59
5	Structured Wright Price *(3) + (4)*	3.40	4.32	4.82	4.46	4.14	4.23
6	EnergyNorth Price Multiplier	1.21	1.67	2.07	1.88	1.37	1.67
7	Adjusted Wright Price *(5) × (6)*	4.10	7.22	9.98	8.39	5.66	7.07
8	Wright-Leidy Basis *(7) – (3)*	1.70	4.59	7.19	5.62	3.02	4.43

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6   **Q.   Are the price multipliers reasonable?**

7   A.   No. The EnergyNorth price multipliers do not do what EnergyNorth says they were

8   intended to do. According to EnergyNorth, the price multipliers were created to account

9   for the influence of winter weather on natural gas price and basis levels.[16] If this was the

10   case, EnergyNorth should have developed factors to measure the variability of daily

11   values around the mean, so that the daily price multipliers for the winter season would be

12   centered on one. This is the approach that EnergyNorth used, correctly, to develop

13   structured Wright basis values for individual winter months from the winter season

14   averages in Step 1 of its Wright forecast calculation. In Step 2, EnergyNorth introduced

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[14] DaFonte Direct Testimony, Bates p. 30, Table 4.
[15] *See* attached Exhibit JAR-3.
[16] DaFonte Direct Testimony, Bates p. 23, lines 11-16.

1   daily variability to its Wright price forecast, but also ratcheted up the projected price

2   basis between the Marcellus Area and Wright.

3   **Q.   Does EnergyNorth's price forecast methodology bias the cost analysis?**

4   A.   Yes, it does. EnergyNorth's modeling analysis should assess the risk that customers' gas

5   costs will increase because the reduction in gas purchase costs resulting from the NED

6   Supply Path contract does not fully offset the large increase in gas transportation costs.

7   However, instead of considering this risk, EnergyNorth's price forecast methodology

8   starts with the assumption that it will be profitable to contract for pipeline capacity

9   between the Marcellus Area and Wright. The Structured Wright Price is calculated so

10   that 100 percent of the annual fixed transportation cost will be recovered during the

11   winter months, and an additional 58 percent of the annual fixed transportation cost will

12   recovered during the summer months.[17] EnergyNorth's application of inflationary price

13   multipliers to the Structured Wright Prices further reinforces that pipeline capacity

14   between the Marcellus Area and Wright will be "in the money."

15   **Q.   Are the Wright gas prices that EnergyNorth used for this analysis consistent with**

16   **the prices that EnergyNorth used to evaluate the NED Market Path contract?**

17   A.   No, they are not. In the NED Market Path proceeding (DG 14-380), EnergyNorth used a

18   similar "Structured Wright Price" methodology to develop monthly gas price projections

19   for Wright based on forward basis quotes for the Marcellus Area and assumed pipeline

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[17] The structured Wright price for the 214 days of the summer months is the Leidy price plus the average fixed transportation cost (214 days ÷ 365 days = 58%).

1   transportation costs.[18] The Wright-Marcellus Area basis values that EnergyNorth used

2   for the DG 14-380 case were ████████████████████████████████

3   ██

4   ████████████████████████████████████ The biggest

5   difference, however, is that EnergyNorth did not create price multipliers to inflate the

6   Structured Wright Prices when it did the NED Market Path analysis.

7 **Q.** **How do the price forecasts that EnergyNorth used in the two cases compare?**

8 A.   The projected price basis values between the Marcellus Area and Wright that

9   EnergyNorth used to evaluate the NED Supply Path service were substantially higher

10   than the values that EnergyNorth used for the NED Market Path service. As is shown by

11   Table 2, the average Wright-Marcellus Area price basis for the winter months is ███

12   ████████████ the basis used in the NED Market Path case. The average Wright-

13   Marcellus Area basis for the summer months is █████████ the basis used in the

14   NED Market Path case.

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[18] DaFonte Direct Testimony, Bates p. 24R, footnote 22.

1   **Table 2: Comparison of Wright-Marcellus Area Basis Forecasts ($/Dth)[19]**

		NOV	DEC	JAN	FEB	MAR		AVG
DG 15-494		1.71	4.59	7.19	5.62	3.02		4.43
DG 14-380		███						
Difference		███						
	APR	MAY	JUN	JUL	AUG	SEP	OCT	AVG
DG 15-494	██							
DG 14-380	██							
Difference	██							

2

3   **Q.**   **Is it reasonable to use different price forecast methodologies for the NED Market**

4   **Path and NED Supply Path cases?**
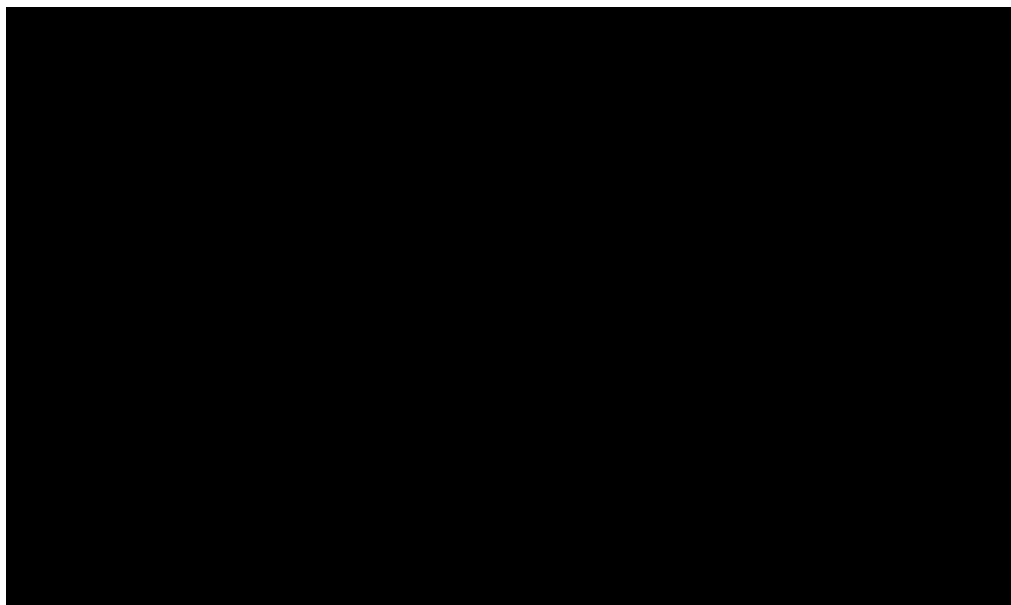
5   A.   No. NED Market Path and NED Supply Path are two segments of the same proposed

6   pipeline project, and EnergyNorth filed its petition for approval of the NED Supply Path

7   PA less than a year after it applied for approval of the NED Market Path PA. Because

8   the two contract proposals are closely interrelated, there is no reason for EnergyNorth to

9   use one price forecast methodology for evaluating the NED Market Path service and a

10   different price forecast methodology for evaluating the NED Supply Path service.   Under

11   the circumstances, it is hard to avoid the conclusion that EnergyNorth used a lower

12   Wright gas price forecast in the DG 14-380 case to show greater benefits from

13   contracting for NED Market Path capacity, and a higher Wright gas price forecast in this

14   case to show greater benefits from contracting for NED Supply Path capacity.

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[19] *See* attached Exhibit JAR-3; *See* attached Exhibit JAR-6, Petitioner's Response to Data
Request PLAN 1-3 in Docket No. DG 14-380 (and particularly, the referenced CONFIDENTIAL
Attachment PLAN 1-3, Tab Analysis).

1 **Q.   How do the projected Wright-Marcellus Area basis forecasts compare with**

2   **historical and forward market prices?**

3 A.   Figure 1 shows the average Wright-Marcellus Area basis values for the winter months.

4   The market prices for the 2010-11 through 2015-16 winter seasons are based on the

5   actual daily prices for Leidy and Iroquois Zone 2, and the market prices for the 2016-17

6   through 2021-22 winter seasons are based on monthly forward basis quotes. The basis

7   relationship indicated by the forward prices is ███ than the basis forecast that

8   EnergyNorth used for this case, but ███ than the basis forecast that EnergyNorth used

9   for the NED Market Path case.

10   **Figure 1: Wright-Marcellus Area Price Basis – Winter Season[20]**
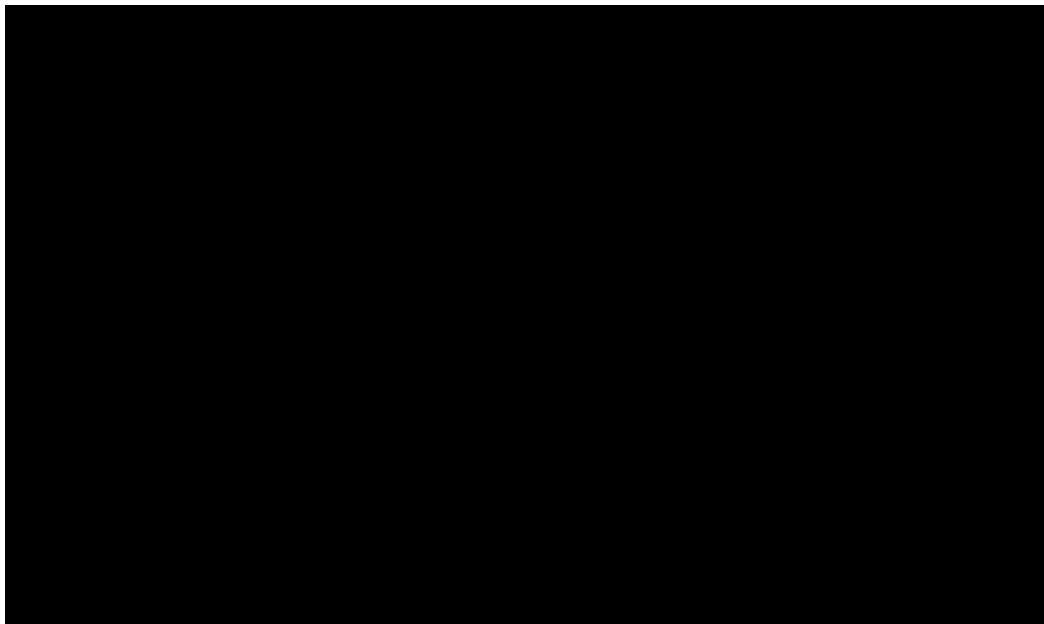

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[20] *See* attached Exhibit JAR-3; *See* attached Exhibit JAR-6; *See* attached Exhibit JAR-7,
Petitioner's Response to Data Request Staff Tech 2-3 (and particularly, the REDACTED
Attachment Staff Tech 2-3); *See* attached Exhibit JAR-8, Petitioner's Response to Data Request

1   Figure 2 shows the average Wright-Marcellus Area basis values for the summer months.

2   The market prices for the 2011 through 2015 summer seasons are based on the actual

3   daily prices, and the market prices for the 2016 through 2022 summer seasons are based

4   on monthly forward basis quotes. The basis relationship indicated by the forward prices

5   is ████████████ than the basis values used for this case, and ████████████ than the basis

6   values used for the NED Market Path analysis.

7   **Figure 2: Wright-Marcellus Area Price Basis – Summer Season**[21]

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PLAN Tech 1-4 (and particularly, the referenced CONFIDENTIAL Attachment PLAN Tech 1-4 therein).

[21] Data sources for Figure 2 are the same as Figure 1.

1   **Q.   Which gas price forecast is correct?**

2   A.   Neither price forecast is the "correct" forecast. Because future gas prices are so

3   uncertain, it is important for a gas distribution company to consider a range of possible

4   gas price scenarios when it evaluates a long-term supply gas resource commitment.

5   **Q.   Did EnergyNorth consider any other price forecast scenarios?**

6   No. EnergyNorth plans make a major commitment to long-term pipeline capacity based

7   on the results from a single gas price forecast scenario that essentially continues the gas

8   price relationship between the Marcellus Area and Wright that existed during the 2011

9   through 2015 time period through the year 2038. The difference between gas prices in

10   the Marcellus Area and gas prices at Wright is relatively large today, but there are

11   reasons to expect that this price differential will narrow. Gas prices in the Marcellus

12   Area have been depressed by a combination of rapid growth in shale gas production, as

13   well as pipeline capacity constraints that have kept new, low-cost gas supplies in the

14   producing areas from reaching higher-value markets. Gas prices at Wright have been

15   influenced by relatively high gas prices in the New England and Long Island markets that

16   are supplied by the Iroquois pipeline. Over time, the market should adjust to eliminate

17   large difference in gas prices between relatively nearby locations, such as the Marcellus

18   Area and Wright. The pipeline projects that are currently in development to take gas

19   away from the Marcellus Area and increase deliverability into the New England market

20   are one indication that this adjustment is already underway. EnergyNorth fails to account

21   for the significant risk that the gas price differential between the Marcellus Area and

1   Wright will become narrower, causing customers' gas costs to increase, not decrease, as a

2   result of the NED Supply Path PA.

3   **IV.   NED SUPPLY PATH QUANTITY**

4   **Q.   How did EnergyNorth determine the NED Supply Path quantity of 78,000 Dth/day?**

5   A.   EnergyNorth used the Resource Mix feature of the SENDOUT® gas supply model to

6   determine the contract quantity between zero and 115,000 Dth/day that minimized total

7   gas supply costs over a 20-year planning period. Based on the demand and price

8   forecasts that EnergyNorth entered into the model, and the assumption that 115,000

9   Dth/day of NED Market Path service was already included in the supply portfolio, the

10   model determined that the quantity of NED Supply Path service that produced the lowest

11   total cost was 79,920 Dth/day.[22] From these results EnergyNorth set the contract quantity

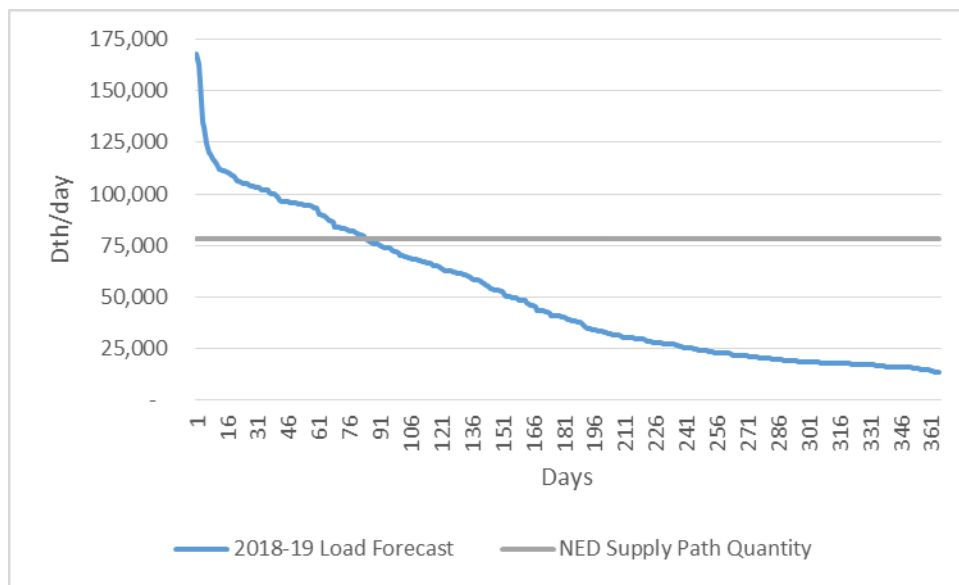12   for the NED Supply Path PA at 78,000 Dth/day.

13 **Q.   If the Wright price forecast guarantees that the pipeline capacity will be profitable,**

14   **why did the model select a quantity lower than the maximum?**

15 A.   The SENDOUT® model selected a lower quantity because there is a limit to the amount

16   of NED Supply Path capacity that EnergyNorth can use to meet customer requirements.

17   Figure 3 presents EnergyNorth's load forecast for the 2018-19 contract year, with the

18   daily values sorted from highest to lowest to create a load curve. This graph shows that

19   there are expected to be 281 days during the 2018-19 contract year when EnergyNorth's

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[22] DaFonte Direct Testimony, Bates p. 25R.

1 gas total requirement is less than 78,000 Dth, and just 10 days in which the requirement

2 exceeds 115,000 Dth.[23] EnergyNorth's modeling analysis allowed for the remarketing of

3 unneeded NED Supply Path and NED Market Path capacity through capacity release, but

4 it is apparent that the potential capacity release value did not justify contracting for

5 additional NED Supply Path capacity that would not be needed on most days of the

6 year.[24]

7   **Figure 3: EnergyNorth 2018-19 Load Forecast**

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[23] *See* attached Exhibit JAR-9, Petitioner's Response to Data Request PLAN Tech 1-1 (and particularly, the referenced Attachment PLAN Tech 1-1 therein).
[24] *See* attached Exhibit JAR-10, Petitioner's Response to Data Request PLAN Tech 1-2. EnergyNorth used capacity release values equal to 100% of the average fixed transportation charge during the winter months and 25% of the average fixed transportation charge during the summer months.

1   **Q.   How is the NED Market Path capacity utilized in this analysis?**
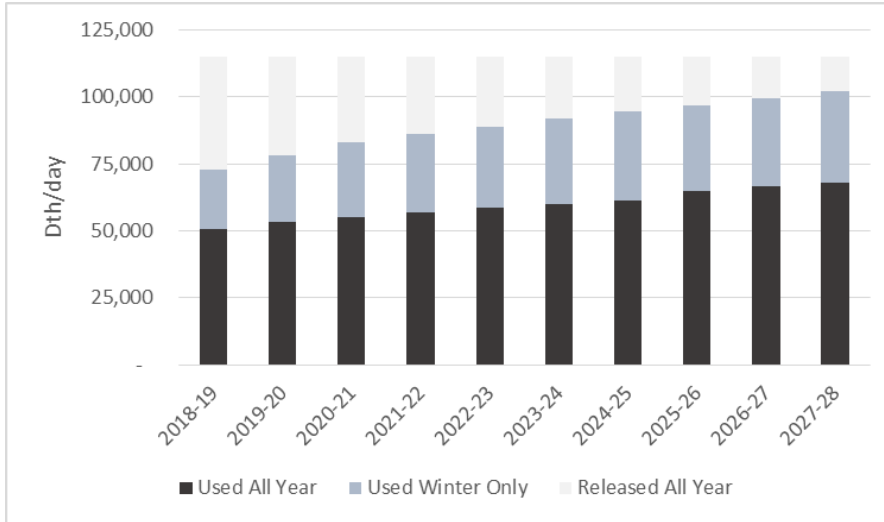
2   A.   EnergyNorth's gas modeling analysis for this case shows that much of the 115,000

3   Dth/day of NED Market Path service is not needed.   As shown by Figure 4, the gas

4   supply model used only 73,000 Dth/day of NED Market Path service during the 2018-19

5   winter season, and released the remaining capacity over the entire year at an average

6   capacity release price that recovered just 56 percent of the fixed cost for customers.[25]

7   The model released an additional 22,000 Dth/day of NED Market Path service during the

8   summer months at a price of 25 cents on the dollar. These results reflect the fact that

9   EnergyNorth's total daily gas requirement is much lower than 115,000 Dth on nearly all

10   days of the year. The capacity release results also show that there are days when the

11   NED Market Path service could be utilized, but based on the higher Wright gas prices

12   used for the NED Supply Path analysis, it is better to resell NED Market Path capacity at

13   a loss for the entire year than to use that capacity to buy gas at Wright only a few days

14   per year. In fact, based on the higher price forecast, the gas model does not utilize all of

15   the NED Market Path service during the winter season at any time during the first ten

16   contract years.

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[25] EnergyNorth assumes that the capacity release price is 100% of the fixed transportation charge during the five winter months, and 25% of the fixed transportation charge during the seven summer months. (5 months $\times$ 100% + 7 months $\times$ 25%) $\div$ 12 months = 56.25%.

1   **Figure 4: NED Market Path Capacity Utilization**[26]

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3   **Q.   Does the proposed NED Supply Path contract quantity provide flexibility to the**

4   **EnergyNorth supply portfolio?**

5   A.   No. EnergyNorth says that the proposed NED Supply Path quantity would provide

6   flexibility and preserve the option to supply customers from other sources at, or upstream

7   of, Wright. [27] However, the EnergyNorth proposal would result in nearly all of the gas

8   shipped on the NED Market Path pipeline to be sourced from NED Supply Path and

9   virtually no gas being purchased at Wright. To maintain a more diverse supply portfolio,

10   and to retain the option to obtain additional services as they are needed, the quantity of

11   transportation capacity that EnergyNorth obtains upstream of Wright should be much

12   lower than 78,000 Dth/day.

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[26] REVISED Attachment FCD-6, Bates p. 127.
[27] DaFonte Direct Testimony, Bates p. 14, lines 3-7.

1   **V.   CONCLUSIONS**

2   **Q.   What are your conclusions with regard to EnergyNorth's modeling analysis?**

3   A.   EnergyNorth's gas supply modeling analysis should examine whether the proposed

4   pipeline transportation service is in the best interests of customers, taking into account the

5   risk that natural gas prices over the term of the contract could be very different from the

6   prices that are seen in the market today. However, instead of evaluating the NED Supply

7   Path service over a range of price forecast scenarios to incorporate this risk into its

8   analysis, EnergyNorth used a single forecast scenario that the Company created

9   specifically for this case, which presumes that relatively high Wright-Marcellus Area

10   basis values will continue over a period of 20 years.   EnergyNorth also solved for a

11   single NED Supply Path quantity, instead of adding services over time, as customer

12   requirements increase. EnergyNorth's cost savings analysis does not support a large,

13   long-term commitment to gas transportation service that would provide no additional gas

14   delivery capacity to EnergyNorth's distribution system. EnergyNorth should provide a

15   more comprehensive and unbiased analysis that incorporates price basis values and

16   customer gas requirements over a reasonable range of demand growth and market price

17   scenarios.

18   **Q.   Should EnergyNorth obtain any gas transportation services upstream of Wright?**

19   A.   There may well be reasons for EnergyNorth to obtain some amount of gas transportation

20   service upstream of Wright to diversify its gas supply sources and reduce customers'

21   dependence on gas purchases at Wright during peak winter periods, provided that

1   EnergyNorth has completed the appropriate analysis as discussed above. However, there

2   is no need for EnergyNorth to rely on a single pipeline expansion project, or acquire all

3   of the capacity it may need over a multi-year planning period at a single point in time.

4   The NED Supply Path PA would commit EnergyNorth's customers to very high fixed

5   transportation charges over a 20-year period with no guarantee that these charges would

6   be offset by lower gas purchase costs. The proposed NED Supply Path service is too

7   much, too soon. The NED Supply Path PA should not be approved.

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

9   A.   Yes, it does.