

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

Re: EnergyNorth Natural Gas, Inc. d/b/a National Grid NH

DG 12-001

**PREFILED TESTIMONY
OF
ELIZABETH D. ARANGIO**

April 24, 2012

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1 **I. INTRODUCTION AND QUALIFICATIONS**

2
3 **Q. Please state your name and business.**

4 A. My name is Elizabeth D. Arangio. My business address is 40 Sylvan Road,
5 Waltham, Massachusetts 02451.

6
7 **Q. By whom are you employed and in what capacity?**

8 A. I am the Director of Gas Supply Planning for National Grid.

9
10 **Q. Please summarize your educational background and your professional**
11 **experience.**

12 A. I graduated from the University of Massachusetts in 1991 with a Bachelor of
13 Business Administration degree. In 1995, I graduated from Bentley College with a
14 Master of Business Administration degree. From 1991 to 1994, I worked as a Gas
15 Accounting Analyst in the Marketing Operations Department at Algonquin Gas
16 Transmission Company. In 1994, I joined Boston Gas Company as a Gas Supply
17 Analyst. In 1997, I was promoted to Group Leader Transportation Services, with
18 responsibility for managing all activities associated with the customer-choice
19 program. In 1998, I was promoted to Director of Gas Acquisition and
20 Transportation Services with responsibility for the administration of the company's
21 gas-resource portfolio and customer-choice program in Massachusetts and, as of
22 2000, the resource portfolio of EnergyNorth Natural Gas, Inc. ("EnergyNorth" or
23 "Company"). In February 2004, I assumed the additional responsibility of gas
24 supply planning for the former KeySpan Corporation New York and Long Island
25 resource portfolios. Following the acquisition of KeySpan Corporation by National

1 Grid, plc, I was named to my current position with the added responsibility for the
2 National Grid gas resource portfolios in upstate New York and in Rhode Island.

3
4 **Q. Are you a member of any professional organizations?**

5 **A.** I am a member of the Northeast Gas Association and the New England-Canada
6 Business Council.

7
8 **Q. Have you previously testified in any regulatory proceedings?**

9 **A.** Yes. I have testified in a number of regulatory proceedings before the New
10 Hampshire Public Utilities Commission, the Massachusetts Department of Public
11 Utilities, and the Rhode Island Public Utilities Commission on a variety of gas
12 supply matters.

13
14 **II. PURPOSE OF TESTIMONY**

15
16 **Q. What is the purpose of your testimony?**

17
18 **A.** My testimony has several purposes. First, I will summarize the Company's
19 understanding of the issue it has been directed to address in this proceeding and that
20 provides the basis for this testimony. Second, I will discuss the design of the
21 Company's gas supply resource portfolio. Third, I will explain why it is clear that
22 the Company does not have excess capacity and describe the supply/demand
23 balance of the Company's resource portfolio. Fourth, I will discuss the role of the
24 Company's on-system peaking facilities in meeting the requirements of the
25 Company's customers. Fifth, I will discuss the Commission's seven-day on-system
26 storage requirement set forth in Rule Puc 506.03 of the New Hampshire Code of
27 Administrative Rules and how this requirement factors into planning the

1 Company's gas supply portfolio. Lastly, I will discuss the Company's peaking
2 agreement with Granite Ridge Energy, LLC ("Granite Ridge"), which expires on
3 September 30, 2012 and cannot be renewed due to the fact that Granite Ridge will
4 no longer be able to guarantee delivery of the required supply.

5
6 **III. SCOPE OF THIS PROCEEDING**

7
8 **Q. Please summarize the Company's understanding of the issues it has been**
9 **directed to address in this proceeding.**

10 **A.** In the Company's most recent Integrated Resource Planning ("IRP") proceeding,
11 DG 10-041, the Commission staff ("Staff") concluded that the amount of gas
12 supply capacity in EnergyNorth's resource portfolio appeared to exceed the
13 Company's forecasted load, and asked the Commission to open a proceeding to
14 determine whether the Company has excess capacity and whether the Company
15 should be required to take actions to reduce any such excess, including retiring
16 certain assets. The Company stated its view that it would not be prudent from a
17 resource planning standpoint to retire any of its gas supply capacity assets, but did
18 not oppose the opening of a new docket to consider the issue.

19
20 On February 22, 2012, the Commission issued an Order of Notice opening this
21 investigation (Docket 12-001) of "EnergyNorth's projected supply/demand balance
22 and whether it is prudent for EnergyNorth to plan to retain more gas supply
23 capacity than it needs to meet forecasted design-day peak demands or whether
24 EnergyNorth ought to take actions to reduce the excess." The Order of Notice
25 required that EnergyNorth file testimony regarding the extent of excess capacity,

1 the prudence of retaining excess capacity or whether actions should be taken to
2 reduce excess capacity, and the role of the Granite Ridge peaking contract in
3 meeting peak day demand.

4
5 **IV. DESIGN OF THE COMPANY'S GAS SUPPLY RESOURCE PORTFOLIO**

6
7 **Q. What is the Company's objective in designing its gas supply resource**
8 **portfolio?**

9 A. The Company's objective is to meet its obligation to provide safe and reliable
10 natural gas service to its customers at the least cost possible within the constraints
11 of the terms of the resource contracts it enters into, as well as the regulatory
12 mandates and operating conditions under which it operates.

13
14 **Q. What resources are included in the Company's portfolio?**

15
16 A. The Company's daily gas requirements have a load profile that is seasonal in nature
17 due to the significant space heating demand of its customers. The Company's
18 largest daily sendout on a frigid winter day is approximately ten times the typical
19 summertime daily load.

20
21 To meet these varying requirements, the Company has designed a resource
22 portfolio that consists of long-haul pipeline transportation contracts from supply
23 basins, short-haul transportation contracts from underground storage fields as well
24 as liquid pooling points where it can purchase flowing gas supplies from a
25 number of sellers, and supplemental resources including both liquefied natural gas
26 ("LNG") and liquefied propane gas ("LPG") facilities.

27

1 The Company selects from among these various resources by evaluating the load
2 shape of the demand that it needs to meet and the fixed and variable costs of the
3 resources available. "Shape" refers to the degree of uniformity that a resource
4 need exhibits throughout the course of a year. There are three broad categories of
5 resource needs: baseload, seasonal, and peaking. A need that is substantially
6 uniform throughout the year is described as a baseload need. A need that is
7 driven by temperature fluctuations, and is therefore concentrated in a finite
8 portion of the year (*i.e.*, 60-180 days), is described as a seasonal need. A need
9 that is observed at the very upper limits of the demand profile (*i.e.*, the coldest
10 days of the year) is described as a peaking need. Specific resource needs do not
11 necessarily fall discretely into one of these categories, but rather can exhibit
12 characteristics of any or all of these classifications.

13
14 Determining the shape of a need is also important in terms of narrowing the range
15 of possible resource options that may be able to satisfy the need. Baseload needs,
16 for example, tend to be best met through pipeline supplies from supply basins in
17 Texas, Louisiana, and Canada since this allows the Company to spread the high
18 fixed charges of the resource over the greatest number of days, thereby
19 minimizing the unit cost. Conversely, resources that can be stored and dispatched
20 in response to temperature variations (such as underground storage) tend to be cost-
21 effective in meeting seasonal demands because they have relatively lower fixed
22 costs and higher variable costs than long haul pipeline resources.

1 Finally, peaking demands are likely to be best met by on-system LNG or LPG
 2 facilities because these resources are under Company control and can be
 3 dispatched at a moment's notice, and therefore provide the Company with
 4 flexibility to respond to especially high demand, unanticipated intra-day changes
 5 in demand, and otherwise to adjust the incremental supply more finely. These
 6 peaking resources tend to have lower fixed costs and higher variable costs than
 7 the other types of resources.

8
 9 By resource type, the Company's currently available resources to meet
 10 deliverability requirements on the peak day are shown in Table 1 below. However,
 11 as discussed in Section VIII, the Granite Ridge peaking supply, which is shown in
 12 the table as Off-System Peaking Resource, will no longer be available as of
 13 September 30, 2012.

14
 15 **Table 1**

	Available Resources (Citygate quantity in Dth)
Pipeline Transportation	79,718
<u>Underground Storage</u>	<u>28,115</u>
Subtotal Pipeline Resources	107,833
Off-System Peaking Resource	15,000
On-System LNG	22,800
<u>On-System Propane</u>	<u>34,600</u>
<u>Subtotal Peaking Resources</u>	<u>72,400</u>
TOTAL ALL RESOURCES	180,233

16
 17
 18 **V. THE COMPANY'S RESOURCE PORTFOLIO DOES NOT HAVE EXCESS**
 19 **CAPACITY**

20
 21 **Q. Does the Company have excess capacity in its resource portfolio?**
 22

1 **A.** No. The Company does not have excess capacity in its resource portfolio.
2
3 Although the simple math of comparing the Company’s design day requirements
4 with its projected load may make it appear that there is more capacity than is
5 currently needed to serve its customers, when the realities of resource planning and
6 procurement, the Commission’s regulatory requirements, and the contractual and
7 operational constraints under which the Company operates are taken into account, it
8 is clear that the Company does not have an excess. Requiring EnergyNorth to retire
9 or otherwise dispose of any of its capacity assets not only would not be in the public
10 interest, it would damage the Company’s ability to maintain reliable service and
11 meet its obligations under the Commission’s own regulations and other applicable
12 requirements.

12
13 **A. Determination of the Quantity of Supplemental Capacity Required**
14

15 **Q.** **What is the basis for your statement that the Company appears to have excess**
16 **capacity on a design day?**

17 **A.** In the IRP proceeding, the Company provided information that compared its
18 available capacity with its peak day requirements. This comparison involves a two-
19 step process. First, the Company forecasts customer requirements for the next five
20 years. Below is a summary of these requirements, which were developed based on
21 the design-day planning standard approved in Docket DG 10-041 and on the most
22 recently completed design-day peak demand forecast adjusted for projected
23 demand-side management programs.

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Table 2

	2011Q2 Forecasted Design Day (Dth)
2011/12	137,200
2012/13	137,400
2013/14	138,300
2014/15	139,100
2015/16	142,200

Next, the Company compares the forecasted design day requirements against capacity in the portfolio. In doing so, the Company must address the fact that its pipeline citygate deliverability is 107,833 Dth. For purposes of resource planning, the Company must assume that, on a design day, all of its pipeline resources will be dispatched, and that any difference between the total customer load and the Company's pipeline capacity will be met with the Company's peaking resources. The results of the comparison of available resources, forecasted design day load, and citygate pipeline deliverable capacity are shown in Table 3 below.

Table 3 (all figures in Dth)

	Forecasted Design Day	minus	Pipeline Resources	equals	Supplemental Requirements	Supplemental Resources	Supplementals Used
2011/12	137,200		107,833		29,367	72,400	40%
2012/13	137,400		107,833		29,567	72,400	41%
2013/14	138,300		107,833		30,467	72,400	42%
2014/15	139,100		107,833		31,267	72,400	43%
2015/16	142,200		107,833		34,367	72,400	48%

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14
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19
As Table 3 shows, based on the Company's 2011Q2 forecast, the forecasted design days all exceed the Company's pipeline citygate deliverability of 107,833 Dth., and therefore the Company must plan to dispatch at least 40% of its daily on-system peaking resources to meet the remainder of its customer requirements. The determination that the Company only requires 40 percent of its supplemental

1 resources, however, assumes that all of the remaining assets will be available
2 (which is not the case, as is discussed below) and does not consider other
3 significant constraints under which the Company operates, such as the manner in
4 which new resources are planned for and procured (*i.e.*, the lumpy nature of
5 bringing on new capacity when needed), the Commission's seven-day storage
6 requirement (which is discussed in Section VII below), and the operational and
7 related constraints associated with the liquid gas supplies needed for the Company's
8 on-system facilities.

9
10 **B. Temporary Excess Capacity—Reasons It Occurs and How Value is**
11 **Obtained for Customers**

12
13 **Q. Are there circumstances under which the Company is likely to have excess**
14 **capacity on a temporary basis?**

15 A. Yes. Like any gas utility, the Company does have excess capacity on a *temporary*
16 basis from time to time. Temporary excess capacity arises from several factors,
17 including but not limited to the Company's planning cycle timing, the weather, and
18 forecasted load variations. In particular, because gas supply capacity cannot
19 normally be obtained in precisely the quantity needed and may not be available in
20 precisely the timeframe needed, investments in capacity assets do not perfectly
21 match the Company's needs at any given point in time, that is, they are lumpy in
22 nature.

23
24 Given the long lead time necessary to complete a resource planning cycle (from
25 identification of a resource need to project planning to contract negotiation to
26 project in-service date), the Company needs to begin planning several years in

1 advance of when a resource is actually needed. Because project in-service dates are
2 typically at least several years out, the size of a facility will be based on the
3 forecasted load at the time the Company makes the commitment. While the
4 Company makes every effort to 'right-size' a project, it is not practically possible to
5 pinpoint the exact amount of capacity needed at any given time, and the amount of
6 capacity that is cost-effective to procure is highly unlikely to exactly match the
7 need that the Company is seeking to fill.

8
9 The time horizon for a resource need is also an important element of the resource
10 procurement process because the availability of specific resource alternatives may
11 not perfectly coincide with the initial timing of an identified need. For example, an
12 incremental seasonal need arising four years in the future may be met best by a
13 storage option that will become available in three years if no other storage
14 alternatives are available until the fifth year.

15
16 In DG 10-041, the Company explained that the nature of a lumpy investment is
17 such that the Company grows into the investment, and when it eventually
18 maximizes the use of the investment it must, by necessity, make another investment
19 in additional resources to meet customer requirements. It is noteworthy that in
20 other jurisdictions in which the Company operates, it has taken roughly three to five
21 years, and in some cases longer, for new projects to go into service from the time
22 when the need first identified; contract first signed.

23
24 The Company must also plan to meet design day and design winter season weather
25 conditions. Statistically, these weather scenarios are specified to occur two standard

1 deviations from the mean value of occurrence, or once in 43.9 years. Thus, when
2 actual weather varies from the design pattern, the Company will temporarily have
3 excess capacity.

4
5 Lastly, load forecasts are developed based on several key inputs, including but not
6 limited to projections of economic and demographic growth or contraction, as well
7 as gas and oil price forecasts. Should one of these factors differ over time from the
8 level that was forecasted when a resource was procured, capacity may exceed the
9 revised load forecast for a period of time. Thus, variations in forecasted load may
10 also be a contributing factor for the existence of temporarily excess capacity. This
11 certainly has happened to the Company in recent years, as the impact of the major
12 recession that affected the economy slowed the previously anticipated growth in
13 load on the Company's system and resulted in a longer than anticipated time period
14 for the Company to grow into the additional capacity from the Concord lateral
15 project that the Commission approved in DG 07-101.

16
17 **Q. Can the Company match its customers' year-to-year forecasted requirements**
18 **when acquiring resources?**

19 A. No. As discussed above, it is not practically possible for the Company to fine-tune
20 its resource portfolio to that degree. Given this impracticality, it is imperative that
21 the Company have available resources within the portfolio to meet customer
22 requirements in both the short term as well as the longer term. Even if it were
23 possible, it would not be prudent to retire an asset in the immediate term if it were

1 likely to be required in the foreseeable future and the availability of a replacement
2 asset is not certain.

3
4 **Q. What does the Company do to protect customers from unnecessary costs when
5 it temporarily has excess capacity?**

6 A. The Company seeks to optimize its resource portfolio when it temporarily has
7 excess capacity. Optimizing resources means that the Company releases some of
8 its resources to other market participants in exchange for payments to the Company
9 that are, in turn, credited back to customers. These credits result in a reduction to
10 customer bills by lowering the gas costs charged to them. Optimization can entail
11 making additional sales of gas to non-firm customers or releasing unneeded
12 capacity to third-party marketers.

13
14 **Q. What has been the result of the Company's optimization efforts?**

15 A. From the beginning of the 2006-07 peak period in November 2006 through
16 February 2012 (the most recent month for which data is readily available), the
17 Company has generated \$4.3 million dollars in optimization credits for the benefit
18 of its customers. That is, the Company reduced the cost of the gas supply portfolio
19 when it wasn't fully needed to serve customers by \$4.3 million during this period.

20
21 **VI. ON-SYSTEM PEAKING FACILITIES**

22
23 **Q. Please describe the Company's on-system peaking facilities.**

24
25 A. The on-system peaking facilities are the local production plants that store LNG and
26 LPG and vaporize them and inject them into the Company's distribution system

1 when needed. They are located strategically across the Company's service territory
 2 and provide a supplemental source of supply for the entire distribution system. The
 3 Company's on-system supplemental resources are listed below:

4
 5 **Table 4**

<u>Location</u>	<u>Facility Type</u>	<u>Maximum Vaporization [Dth/day]</u>	<u>Storage Capacity [Dth]</u>
Concord	LNG	4,800	4,200
Tilton	LNG	9,600	4,200
Manchester	LNG	8,400	4,200
Nashua	Propane	11,000	23,672
Amherst	Propane	0	28,450
Manchester	Propane	21,600	47,317
Tilton	Propane	2,000	4,730

6
 7 The Amherst facility is storage-related only, and therefore it is shown as having no
 8 vaporization capacity.

9
 10 **Q. Please describe the role of these on-system peaking facilities.**

11
 12 A. These on-system peaking facilities play four key roles in the Company's gas supply
 13 portfolio:

- 14
 15 1. Supply Resource: The on-system facilities are critical assets within
 16 EnergyNorth's portfolio because they fulfill supply needs on the coldest days.
 17 In addition, maintaining on-system peaking supplies within the portfolio is
 18 significant because the facilities enhance supply reliability and diversity should
 19 other resources in the portfolio be curtailed.
- 20
 21 2. Balancing Resource: The LNG and LPG facilities represent the most flexible
 22 supplies in the gas supply portfolio because the Company controls their

1 operation and production and maintains the ability to use the related supplies
2 whenever needed and for as short or long a period as is needed. The peaking
3 facilities allow the Company to maintain its supply/demand balance as well as
4 meet hourly peaks. For example, even when the weather is not extremely cold,
5 there are periods when the plants operate for a few hours in the morning to meet
6 peak morning loads.

7
8 3. Reliability Asset: The peaking facilities are clearly the Company's most
9 important reliability asset because the Company maintains total control over
10 when they are utilized. They also serve as a backup should supplies being
11 delivered from the upstream pipeline be curtailed or interrupted.

12
13 4. Distribution System Resource: The Company uses its on-system peaking
14 facilities to support the distribution system by operating them when needed to
15 support system pressures.

16
17 **Q. What is the Company's forecasted design day need for on-system peaking
18 supplies?**

19 A. The Company's forecasted need for the on-system supplemental supplies was
20 29,367 Dth for the 2011/12 peak season, as can be seen on Table 3. This is the
21 amount required to meet the Company's design day load, and does not take into
22 account any additional requirements arising under the seven-day storage rule
23 discussed in Section VII. The supplemental volumes from the on-system peaking
24 facilities must be available to the Company's distribution system to ensure service
25 to customers when the Company has exhausted its available pipeline supplies.

1 Thus, the availability of liquid natural gas and liquid propane to refill the
2 Company's local storage tanks throughout the winter season is also a necessity.

3
4 **VII. SEVEN-DAY ON-SITE STORAGE RULE**

5
6 **Q. Please explain EnergyNorth's obligations under Puc 506.03, the seven day on-**
7 **site storage requirement.**

8 A. The Company is required by law to "maintain an on-site storage capability in
9 connection with the operation of its gas distribution system between December 1
10 and February 14 of each year which will provide peak shaving supplies for an
11 estimated maximum-design cold period of 7 consecutive days." Under the rule,
12 between February 15 and February 28, the minimum on-site storage capacity may
13 then be reduced to 75% of the total requirement and between March 1 and March
14 31 the minimum on-site storage requirement may then be reduced to 50% of the
15 original total requirement.

16
17 **Q. Please describe how the Company calculates the capacity required to satisfy**
18 **the requirement of Puc 506.03.**

19 A. By October 1st of each year, pursuant to Puc 509.16, the Company submits to the
20 NHPUC its Annual Peak Shaving Fuel Storage Capability Report in which the
21 Company presents its forecast of the natural gas requirements of its Sales and
22 Customer Choice customers for a seven-day period of design weather conditions.
23 The design weather scenario used by the Company is the actual observed weather
24 for January 9 – 15, 2004, as shown in Table 5 below.

25

1

Table 5

Coldest 7 Day Period – Manchester, NH		
DATE	Heating Degree Days	Manchester, NH Avg. Temp. (oF)
Jan 9, 2004	65.5	-0.5
Jan 10, 2004	61.5	3.5
Jan 11, 2004	45.0	20.0
Jan 12, 2004	38.5	26.5
Jan 13, 2004	50.5	14.5
Jan 14, 2004	66.5	-1.5
Jan 15, 2004	68.5	-3.5
	Total	Mean
	396	8.4

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Based on its customer requirements forecast, the Company determines the amount of peak shaving resources required by the rule by subtracting its anticipated pipeline deliveries from this forecasted total requirement, as shown in Table 6.

Table 6

2011/12 EnergyNorth Natural Gas, Inc.		
Regression Coefficients with Growth Factors		
Firm Sales Base Load	78,069.1	MMBtu
Firm Sales Heating Load	681,596.0	MMBtu
Seven Day Sales Calculation	759,665.1	MMBtu
Standby Base Load	0.0	MMBtu
Standby Heat Load	0.0	MMBtu
Seven Day FT Calculation	0.0	MMBtu

9

10

11

12

It then expresses the equivalent gallons of LNG and LPG it anticipates needing to satisfy this peak shaving resource requirement, as shown in Table 7.

13

14

Table 7

2011/12 Seven Day Requirements Calculations		
Total MMBtu Sales Sendout	Available MMBtu Pipeline (*)	Supplemental Requirements
759,665.1	751,059.9	8,605.2 MMBtu
		91,864 Gal

15

16

1 As noted above, under the seven-day storage requirement, the Company must
2 maintain 100 percent of this peak shaving (or “supplemental”) resource in inventory
3 from December 1st through February 15th of the heating season, 75 percent of this
4 peak shaving resource from February 16th until March 1st, and then 50 percent of
5 this peak shaving resource from March 1st through March 31st.

6
7 **Q. Does the Company have a resource portfolio sufficient to meet the**
8 **requirements of the seven-day storage requirement?**

9 A. Presently, the Company has a workable LPG storage capability of 819,570 gallons
10 and a workable LNG storage capability of 148,500 gallons, for a total of 968,070
11 gallons. By “workable”, I mean the usable part of the liquid in storage. A portion
12 of the liquid within a storage tank always remains as the “heel” during normal
13 operation and is not operationally available. Additionally, the Company is
14 permitted under the seven-day storage requirement to include a portion of its
15 truckable LNG and LPG capacity as part of the inventory requirement. This is
16 important because the storage requirement has in the past exceeded the Company’s
17 on-site storage capability, particularly from 1999/00 until the recent increase in the
18 Company’s TGP Dracut pipeline capacity in 2009/10, as can be seen in Table 8.

19
20 On a temporary basis, the expansion of this pipeline capacity, in conjunction with
21 the downturn in natural gas demand during the recent recession, has lowered the
22 Company’s seven-day storage requirement. This can be seen in Table 8 where the
23 storage requirement dropped from 1,287,055 gallons in 2008/09 to 435,782 gallons
24 in 2009/10 because of the introduction of the additional 30,000 Dth per day of TGP

1 capacity at Dracut. In 2011/2012, the storage requirement further declined to
 2 91,864 Dth per day because of lower demand.

3
 4 **Table 8**

Historical Seven-Day Storage Requirements (U.S. Gallons)		
Scenario with AES		
	Storage Requirement (Gal)	Pipeline Deliveries Portfolio In Addition To TGP Deliveries from US Gulf Coast, Canada, <u>and Underground Storage</u>
1999/00	1,274,652	CityGate 23
2000/01	1,434,014	CityGate 23
2001/02	1,182,404	CityGate 23
2002/03	1,368,538	CityGate 23
2003/04	1,311,993	AES 0; TGP Dracut 20; CityGate 8
2004/05	989,594	AES 15; TGP Dracut 20; CityGate 8
2005/06	1,188,735	AES 15; TGP Dracut 20; CityGate 8
2006/07	1,300,506	AES 15; TGP Dracut 20; CityGate 8
2007/08	1,495,191	AES 15; TGP Dracut 20; CityGate 8
2008/09	1,287,055	AES 15; TGP Dracut 20; CityGate 13
2009/10	435,782	AES 15; TGP Dracut 50
2010/11	194,723	AES 15; TGP Dracut 50
2011/12	91,864	AES 15; TGP Dracut 50

5
 6
 7
 8 Proper management of the quantity of supplies for the seven-day storage
 9 requirement is important due to cost implications to the Company's customers.

10 When the weather is colder than normal, the Company will tend to use its
 11 supplemental facilities more and dispatch what it has in storage. However, when
 12 the weather is warmer than normal, the supplemental facilities are used less and the
 13 supplemental supplies will sit in storage.

14
 15 As long as the Company's seven-day storage inventory requirement is small and the
 16 Company can maintain the inventory in its own storage tanks while maintaining

1 safe and cost-effective operation of its distribution system, there are no significant
2 portfolio implications to the requirement—the Company can simply ‘bank’ the
3 seven-day supply from year to year due to the infrequent occurrence of design
4 weather that would require its use. However, when the seven-day storage
5 requirement volume becomes a sizeable fraction of the Company’s total storage
6 capability, as has been the case in the recent past, the Company must contract for
7 liquid supplies for delivery during the winter to refill the on-site tanks as they are
8 depleted, and this tends to add to the cost of maintaining the necessary gas
9 inventory because the contracts typically contain take-or-pay pricing provisions and
10 charges for dedicated trucking.

11
12 **Q. Are there any other Commission requirements, besides the seven-day storage**
13 **requirement, that the Company must comply with and for which it relies on its**
14 **on-system facilities?**

15 A. Yes. The Company is required to comply with a storage rule curve as the result of
16 the Commission’s order in DG 04-152. Under the storage rule curve, the
17 Company’s underground gas storage must be at specified levels at the end of each
18 month during the peak season. The availability of on-system resources helps the
19 Company to manage its underground storage assets and meet this requirement.

20
21 **VIII. GRANITE RIDGE PEAKING AGREEMENT**

22
23 **Q. Please summarize the Granite Ridge Peaking Agreement and the role this**
24 **contract plays in meeting peak day requirements.**

1 A. The Peaking Agreement between the Company and Granite Ridge Energy, LLC,
2 formerly known as the AES Londonderry, LLC, was signed on April 20, 2000, and
3 supplies became available in January 2003. This Peaking Agreement provides for
4 15,000 MMBtu/day in supplies to be delivered at the citygate for up to 450,000
5 MMBtus in total during the months of December, January, and February each
6 contract year. As with other traditional peaking supplies, the fixed costs under this
7 Peaking Agreement are very low, while the variable costs are high relative to other
8 variable-priced supplies in the Company's resource portfolio. Thus, if the supply is
9 not called upon because the Company does not experience peak weather conditions,
10 the costs under the Peaking Agreement are limited to the very low fixed cost. The
11 original term of the Peaking Agreement was five years.

12
13 At the end of the initial five year term, the Company had the option to renew, and
14 did renew, the Peaking Agreement for another five year period. This second
15 term will expire on September 30, 2012. Pursuant to Section 2.3 of the Peaking
16 Agreement, the Company was required to provide notice of its intent to either
17 terminate the contract or renew it for a third term by March 31, 2012. The
18 Company notified Granite Ridge on March 14, 2012 of its desire to extend the
19 agreement, but in response Granite Ridge informed the Company that its long term
20 commodity agreement with El Paso would be expiring on May 31, 2012. Because
21 Granite Ridge's ability to supply EnergyNorth with gas under the Peaking
22 Agreement was dependent on Granite Ridge itself having access to the gas, it could
23 no longer guarantee deliveries to EnergyNorth as required. As a result, the Peaking

1 Agreement will no longer be a component of EnergyNorth's gas supply portfolio as
2 of September 30, 2012.

3
4 **Q. What effect will the loss of the Granite Ridge Peaking Agreement have on**
5 **EnergyNorth's gas supply portfolio?**

6 A. The Company will no longer have access to up to 15,000 MMBtu/day and 450,000
7 MMBtus in the aggregate during the months of December, January, and February.

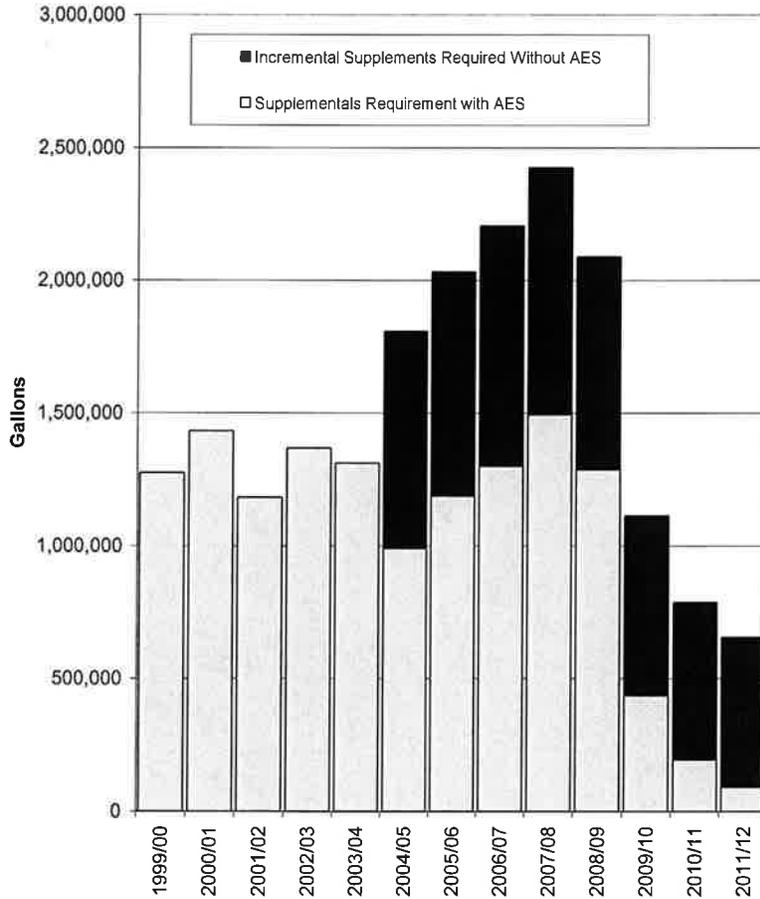
8 While the Company will continue to have adequate peak-day capacity to meet its
9 customers' forecasted design day requirements, the loss of this Peaking Agreement
10 will have other significant effects on the Company's supply obligations, in
11 particular the seven-day storage requirement set forth in Puc 506.03.

12
13 Figure 1 below depicts the reduction in the Company's historical seven-day storage
14 requirement that occurred when the Granite Ridge contract was added to the
15 Company's portfolio.

16

Figure 1

Reduction in Seven-Day Storage Requirement By Adding AES to Portfolio



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To provide a sense of the impact that the absence of the Granite Ridge contract will have, the Company’s seven-day storage requirement for the 2011/12 heating season would have been 656,406 gallons of LNG and LPG without the contract. This incremental 564,542 gallons (656,406 gallons less the 91,864 gallon storage requirement for 2011/12 set forth in Table 8 above) would have necessitated additional dedicated supply and trucking contracts. Assuming that the Company’s upcoming annual forecast continues to indicate minor growth from 2011/12 to 2012/13, similar to the growth shown in Table 2 above, the Company expects that

1 its 2012/13 seven-day storage requirement will be on the order of 656,000 gallons
2 in the absence of the Granite Ridge contract. In other words, the Company will
3 require all of its on-system facilities as well as a significant volume of additional
4 capacity through dedicated supply and trucking contracts designed to refill the
5 liquid gas inventory at those facilities.

6
7 **Q. Will the Company seek to replace the Granite Ridge Peaking Agreement?**

8
9 A. Once the annual load forecast has been developed for the 2012/13 winter season,
10 the Company will determine the need to replace the supply previously provided
11 under the Peaking Agreement.

12
13 **IX. CONSEQUENCES OF RETIRING THE COMPANY'S ON-SYSTEM**
14 **FACILITIES**

15
16 **Q. Does the Company believe it would be prudent or otherwise in the public**
17 **interest to retire its on-system facilities?**

18 A. No. As indicated above, the Company does not believe that retirement of its on-
19 system facilities would be prudent or in the public interest. To the extent that the
20 Company has capacity that is not needed to meet its design day requirements, that
21 capacity is needed to comply with the Commission's regulations and offers the
22 Company significant flexibility in being able to reliably meet its customers'
23 requirements.

24
25 **Q. Even if the Company had sufficient pipeline capacity to meet all of its**
26 **requirements, would it be prudent for the Company to retire its on-system**
27 **facilities?**

1 A. No. Even if the Company's pipeline capacity were sufficient to serve the projected
2 load on its system, retiring the Company's on-system resources would not be
3 prudent and would be contrary to the public interest.

4
5 **Q. Please explain why retiring the Company's on-system resources would be**
6 **contrary to the public interest.**

7 A. In addition to the fact that these facilities are currently needed to serve the
8 Company's customers and meet the regulatory requirements under which the
9 Company operates, as the Company explained in DG 10-041, its LNG and LPG
10 supplemental facilities are extremely valuable resources that would be costly and
11 extremely difficult to replace if they are needed again in the future. If the existing
12 facilities were to be retired and then new supplemental supply facilities were
13 required in the future, constructing new on-system facilities would require the
14 Company to undertake the siting and permitting process from scratch. The existing
15 facilities have been in place for decades. In this day and age, the siting and
16 permitting process for storing significant quantities of LPG or LNG and an
17 associated vaporization unit would be highly controversial and would likely take
18 upwards of a half dozen years or so. Frankly, aside from the significant cost
19 associated with such a process, it is possible that the necessary approvals for such a
20 facility might not be obtainable at all.

21
22 **Q. What would be the consequences of retiring peaking assets as recommended**
23 **by the Staff in DG 10-041?**

1 A. Retiring these facilities would significantly impair EnergyNorth's ability to
2 maintain reliable service for its customers because these are the only assets that
3 EnergyNorth can fully control to support on-system pressure, meet peak customer
4 requirements, and maintain the supply/demand balance on the system.
5 Furthermore, EnergyNorth would not be able to meet the requirements of the
6 Commission's seven-day on-system storage requirement if these assets were retired
7 without replacing them with other assets.

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

10 A. Yes.
11