

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

Docket No. DG 17-048

Liberty Utilities (EnergyNorth Natural Gas) Corp. d/b/a Liberty Utilities
Distribution Service Rate Case

DIRECT TESTIMONY

OF

DAVID B. SIMEK

AND

GREGG H. THERRIEN

April 28, 2017

THIS PAGE INTENTIONALLY LEFT BLANK

TABLE OF CONTENTS

I.	Introduction and Background	1
II.	Test Year Revenue RECONCILIATION.....	2
III.	Low-Income Discount at Current Rates.....	10
IV.	Rate Design Introduction	11
V.	Class Revenue Requirement	12
VI.	Rate Design.....	16
VII.	Revenue Proof For Proposed Rates	21
VIII.	Indirect Gas Costs.....	21
IX.	Bill Impact Analysis.....	22
X.	Tariff Changes.....	23

ATTACHMENTS

Attachment	Title
Attachment RATES-1	Summary of Revenue Proof
Attachment RATES-2	Development of Volumetric Billing Determinants
Attachment RATES-3	Development of Calendar Month Weather Normalized Base
Attachment RATES-4	Current Base Rates
Attachment RATES-5	Class Revenue Targets and Rate Design Calculations
Attachment RATES-6	Indirect Gas Costs Analysis
Attachment RATES-7	Bill Impact Analysis: Range of Monthly Bills
Attachment RATES-8	Bill Impact Analysis: Cost of Gas Filing Format
Attachment RATES-9	Resume of Gregg H. Therrien

1 **I. INTRODUCTION AND BACKGROUND**

2 **Q. Mr. Simek, please state your full name, business address, and position.**

3 A. My name is David B. Simek. My business address is 15 Buttrick Road, Londonderry,
4 New Hampshire. My title is Regulatory Lead Utility Analyst.

5 **Q. By whom are you employed?**

6 A. I am employed by Liberty Utilities Service Corp. (“Liberty”) which provides services to
7 Liberty Utilities (EnergyNorth Natural Gas) Corp. (“EnergyNorth” or “the Company”).

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

10 A. My educational background and qualifications are set forth in the prefiled joint testimony
11 filed with Daniel S. Dane in support of EnergyNorth’s request for a permanent increase
12 on distribution rates.

13 **Q. Mr. Therrien, please state your name, address and position.**

14 A. My name is Gregg H. Therrien. I am an Assistant Vice President with Concentric Energy
15 Advisors, 293 Boston Post Road West, Suite 500, Marlborough, Massachusetts. My
16 professional qualifications and experience have been provided in Attachment RATES-9.

17 **Q. Mr. Therrien, have you testified previously before the New Hampshire Public Utilities**
18 **Commission (“PUC” or the “Commission”)?**

19 A. No, I have not.

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

2 A. The purpose of this testimony is to (a) explain the development of weather normalized
3 calendar year billing determinants and base revenues for rate design and (b) present and
4 support the calculations and analysis related to the Company's proposed rates, including
5 typical bill impact analyses.

6 **II. TEST YEAR REVENUE RECONCILIATION**

7 **Q. Please explain the purpose of the test year revenue reconciliation.**

8 A. The purpose of the test year revenue reconciliation is to: 1) calculate the appropriate
9 revenue baseline to be used in determining the overall system revenue deficiency, and 2)
10 validate recorded test year operating revenues through a recreation of revenues using test
11 year billing determinants and billing rates.

12 **Q. What is the "appropriate baseline" for test year revenues?**

13 A. The appropriate baseline revenues are normalized and annualized calendar year 2016
14 revenues. This calculation starts with billed revenues then adjusts for non-recurring
15 billings, normal weather, and annualized rates. Further, known and measurable revenue
16 adjustments are also included. In the instant case, revenues from EnergyNorth's Keene
17 Division are proposed to be incorporated into EnergyNorth's rate structure, and the
18 conversion of former Concord Steam customers to direct-fired natural gas use also
19 requires an adjustment to base revenues.

1 **Q. Have you summarized these adjustments and resulting revenues used for**
2 **ratemaking?**

3 A. Yes. The following table summarizes the known and measurable changes to test year
4 base operating revenues:

Table 1: Test Year Revenue Adjustments

Operating Revenues - Summary of Adjustments					
Line No.	Description	EnergyNorth (A)	Keene (B)	Total (C)	Source (D)
1	Calendar Operating Revenue	\$ 68,990,067	\$ 1,422,605	\$ 70,412,672	Annual Reports, p. 28 and 50
2	Less:				
3	Booked-to-Calculated Revenue Proof Difference	\$ 5,765	\$ -	\$ 5,765	RATES-1
4	Other Non-Recurring Billing Adjustments	\$ 10,203	\$ (28,285)	\$ (18,083)	Company data
5	Actual Unbilled Revenue	\$ (2,269,372)	\$ (62,485)	\$ (2,331,857)	Annual Report
6		\$ (2,253,404)	\$ (90,771)	\$ (2,344,174)	L3+L4+L5
7					
8	Cycle Operating Revenue	\$ 66,736,663	\$ 1,331,835	\$ 68,068,498	L1+L6 (See also RATES-3 p. 1 of 4)
9	Add:				
10	Normalized Unbilled Revenues	\$ 121,530	\$ -	\$ 121,530	RATES-3 p. 1 of 4
11	Normalization Adjustment	\$ 1,987,559	\$ -	\$ 1,987,559	RATES-3, p. 2 of 4
12	Annualization Adjustment	\$ 98,531	\$ -	\$ 98,531	RATES-3, p. 3 of 4
13	Concord Steam Adjustment	\$ 378,886	\$ -	\$ 378,886	Table 2
14		\$ 2,586,506	\$ -	\$ 2,586,506	L10+L11+L12+L13
15					
16	Calendar Month Normal Revenue at Current Rates	\$ 69,323,169	\$ 1,331,835	\$ 70,655,003	L8+L14

6

7 **Q. Are the actual customer counts and delivery volumes recorded in the Company's**
8 **records accurate and suitable for use in developing the weather normalized calendar**
9 **year billing determinants for use in determining proposed rates and revenues in this**
10 **proceeding?**

11 A. Yes. Attachment RATES-1 contains a summary of the revenue proof calculation that
12 compares the base revenues on the Company's books with the base revenues derived by
13 applying the approved base rates against the actual bills and volumes for the test year.
14 The results of that calculation are summarized on Attachment RATES-1, pages 2-3.
15 Calculated base revenues differ from booked base revenues by \$5,765. This amount

1 represents non-recurring test year billing adjustments, equaling 0.01% of total base
2 operating revenues.

3 **Q. Why are test year unbilled revenues deducted in the calculation?**

4 A. Test year unbilled revenues utilize actual test year weather conditions to estimate the
5 unbilled revenue accrual. This amount must be substituted by an estimated unbilled
6 revenue based on normal weather.

7 **Q. Please explain the rationale for the weather normalization adjustment.**

8 A. Based on prior Commission decisions and consistent with the practice in many other
9 jurisdictions, the Company's rates are established using weather normalized billing
10 determinants, not actual test year volumes. This is because gas utility net revenues are
11 sensitive to weather conditions, and therefore revenue requirement and rate design
12 activities are typically structured to allow a reasonable expectation of earnings under the
13 presumption of normal weather conditions. As a result, in order to establish the
14 Company's proposed rates, it is first necessary to adjust the actual test year sales volumes
15 and base revenues to generate billing determinants and calculate base revenues that could
16 reasonably be expected to have occurred under normal weather conditions.

17 **Q. Is a normalization adjustment still necessary if the Company's decoupling proposal**
18 **is accepted?**

19 A. Yes. The proposed decoupling mechanism adjusts actual revenue per customer to that
20 allowed in rates. If the test year were not normalized in the base rate setting process the
21 decoupling mechanism would calculate a rate that resets revenues to something other

1 than normal weather, and prove to be confusing. For example, if the test year in the
2 instant case were not normalized the decoupling mechanism would have an unnecessary
3 upward bias. If normal weather were to occur, all else being equal, the decoupling
4 mechanism would result in a charge. In this example, revenues that should be collected
5 in base rates are shifted to the decoupling adjustment, which would potentially distort rate
6 class price signals and revenue collections from the intended class of customers.

7 **Q. Was the weather warmer or colder than normal during the test year?**

8 A. Test Year weather was 7.4% warmer than normal. Normal weather for the Company's
9 service territory is defined as the most recent thirty-year average Heating Degree Day
10 ("HDD") observations for the Manchester, New Hampshire National Oceanic and
11 Atmospheric Administration ("NOAA") weather station (calendar years 1987 through
12 2016). There were 5,806 HDD in the test year compared to 6,273 HDD for the thirty-
13 year normal.

14 **Q. Please summarize the methodology that the Company uses to weather normalize sales
15 and revenues.**

16 A. The normalization technique is the same as that used in the Company's revenue neutral
17 rate case (Docket No. DG 00-063) and the Company's last three rate cases (Dockets Nos.
18 DG 08-009, DG 10-017, and DG 14-180). The Company determined the weather
19 normalization adjustments to calendar month sales for each rate class by identifying the
20 temperature-sensitive portion of sales for each class and calculating how much more or
21 less the monthly sales would have been to that class if weather had been normal. The

1 weather normalizing adjustments to revenues are determined by identifying the average
2 incremental base rate charged to each rate class in each month. This rate is based on the
3 rate block where the class's average use per meter ends, for the base rate schedule
4 applicable to the rate class. The price of the block in which the average use falls is used
5 as the incremental rate. The product of the incremental rate and the weather normalizing
6 adjustment to sales for each rate class equals the monthly revenue adjustment for the
7 class.

8 **Q. Describe the proposed adjustment to sales and revenues to account for the warmer**
9 **than normal weather experienced during the test year.**

10 A. Test Year deliveries were approximately 7.7 million therms less than they would have
11 been if the weather had been normal during the test year, as shown on Attachment
12 RATES-2, page 4. As shown in Table 1 above and on Attachment RATES-3, page 2, if
13 one assumes increased deliveries in this amount, the Company's base revenues would
14 have been \$1,987,559 higher in a normal year compared to actual revenues.

15 **Q. Have you prepared schedules to support your weather normalization adjustment?**

16 A. Yes, the weather normalization calculation is summarized on Attachment RATES-2 and
17 RATES-3.

18 **Q. Why has the Company proposed a pro forma base rate revenue annualization**
19 **adjustment?**

20 A. On July 1, 2016, the Company implemented new base rates for the recovery of approved
21 costs under the Company's Cast Iron/Bare Steel ("CIBS") program in accordance with

1 Order 25,918 issued in Docket No. DG 16-449. Since the test year books reflect full year
2 CIBS program costs while the test year revenues do not, it is necessary to include a pro
3 forma adjustment to reflect the revenue difference between current rates and test year
4 rates.

5 **Q. Please describe how the Company calculated the annualization revenue adjustment.**

6 A. The Company's calculated annualization revenue adjustment is an increase of \$98,531.
7 Rates that went into effect on July 1, 2016, were back cast to January 1, 2016, to form the
8 basis for annualized revenues. This adjustment is calculated as the difference between
9 the calendar month weather normalized test year base revenue utilizing actual 2016 billed
10 rates (actual rates pre-July 1, 2016, and post-July 1, 2016) compared to revenues that
11 would have been generated based on if the post-July 1, 2016, rates were in effect all year.
12 This annualization of revenues matches the actual annual CIBS cost incurred with rates
13 approved in DG 16-449. Please see Attachment RATES-3, page 3, for a summary of this
14 adjustment.

15 **Q. Is an unbilled revenue estimate necessary to adjust test year normalized revenues?**

16 A. Yes. An unbilled revenue estimate, utilizing normalized billing determinants, is
17 necessary to recast cycle-based normalized revenues to a calendar basis.

18 **Q. Why does the Company rely on calendar month data for ratemaking?**

19 A. The decision to use calendar month data was based on three factors. First, calendar
20 month data is used because it allows for a matching of the costs incurred and associated
21 revenues for a given month in accordance with generally accepted accounting principles,

1 which permits a more appropriate comparison between delivery and send out data.

2 Second, the Company currently bills on a service rendered basis where price changes
3 occur at the start of a calendar month; thus, calendar month data permits easier and
4 simpler calculation of revenues. Third, the calendar month method was used in the
5 Company's last four base rate cases, as approved by the Commission.

6 **Q. How was the unbilled normalization adjustment calculated?**

7 A. We followed the method approved in the Company's last fully litigated rate case, Docket
8 No. DR 91-212, which was the same methodology used in the settlements approved in
9 Dockets Nos. DG 08-009, DG 10-017, and DG 14-180. Each month, the calculation
10 starts with system send out data and subtracts all company use and unaccounted for gas to
11 determine total calendar month firm deliveries. The Company determines the
12 unaccounted-for gas by applying the average annual unaccounted for percentage to the
13 total monthly firm send out. The calendar month firm deliveries are then allocated to
14 each individual firm rate class based on a rolling two-month average of class sales to total
15 deliveries. The amount of gas that has been delivered but not yet recorded for billing
16 purposes, known as unbilled volume, is calculated simply as the estimated calendar
17 month deliveries less the actual billed deliveries.

1 **Q. Please describe the Concord Steam Corporation (“Concord Steam”) adjustment to**
2 **revenues and billing determinants.**

3 A. EnergyNorth will acquire certain assets of Concord Steam on May 31, 2017.¹ The
4 transaction will result in the cessation of operations of Concord Steam’s plant,
5 necessitating that their customers switch to a different fuel for space heating. All but
6 three² of the former Concord Steam customers have elected to convert to natural gas and
7 receive service from EnergyNorth. The adjustment to test year revenues recognizes that
8 gas usage by the Concord Steam plant will cease and individually metered gas usage will
9 commence for these converted customers.

10 **Q. What is the change in revenues and test year billing determinants because of the**
11 **Concord Steam adjustment?**

12 A. The Concord Steam adjustment is as follows:

13 **Table 2: Concord Steam Test Year Adjustment**

Concord Steam			
Test Year Sales, Customers and Revenues Adjustment			
Description	Revenues	Bills	Therms
Remove: Concord Steam (Actual)	\$ (281,849)	(24)	(1,512,914)
Add: Direct-Fired Customer Conversions (Annualized)			
Rate G-41	\$ 185,927	1,536	386,383
Rate G-42	\$ 367,304	420	1,149,937
Rate G-43	\$ 107,505	36	399,904
	\$ 660,736	1,992	1,936,224
Net	\$ 378,887	1,968	423,310

14 ¹ See “Asset Purchase Agreement between Concord Steam Corporation and Liberty Utilities (EnergyNorth Natural Gas) Corp.” dated as of July 1, 2016.

² The three heating customers that chose to not switch to natural gas installed electric heat pumps.

1 164 commercial and industrial (“C&I”) customers were added to the revenue estimate
2 while revenues from Concord Steam’s two meters were removed. The net annualized
3 effect³ of this adjustment is an increase of \$378,887 to test year revenues.

4 **Q. Please summarize calendar month normal weather revenue at current rates.**

5 A. The Company’s final test year calendar month weather normalized base revenues
6 including the above adjustments is \$70,655,003. This is the revenue amount at present
7 rates that bill impacts at proposed rates will be used to determine class rate changes, as
8 reflected in the bill impact analyses described in Section IX below.

9 **III. LOW-INCOME DISCOUNT AT CURRENT RATES**

10 **Q. Why has the Company calculated the low-income discount at current rates shown on**
11 **Attachment RATES-3, page 4?**

12 A. The discount for Low-Income Residential Heating Rate R-4 customers is the difference
13 between revenues that would have been produced at Residential Heating Rate R-3 rates
14 and that produced by Residential Heating Rate R-4. Calculating the calendar month
15 weather normalized discount is required for rate design purposes because Rate R-4 prices
16 are derived from the otherwise applicable Rate R-3 prices. The calculation of the
17 calendar month weather normalized discount at current rates equals \$1,678,167 and is
18 shown on Attachment RATES-3, page 4.

³ Actual Concord Steam revenues, bills, and therms were removed from the adjusted test year while full year (annualized) usage for each new conversion customer was added.

1 **IV. RATE DESIGN INTRODUCTION**

2 **Q. Please describe the principles that were followed in designing the Company's**
3 **proposed rates.**

4 A. The proposed rates represent a balancing of the principles of appropriate rate design
5 which include efficiency, simplicity, continuity of rates, fairness between rate classes,
6 and corporate earnings stability.

7 **Q. Please explain your understanding of these principles.**

8 A. An efficient rate structure promotes economically justified use of the Company's sales
9 and distribution services, and discourages wasteful use. As explained in Section V of this
10 testimony, the results of the Marginal Cost Study ("MCS") (Attachments MFB-10 and
11 MFB-11) were used to develop the rate design. Rate design simplicity is achieved if the
12 customers understand what they are being charged - the level of rates and the rate
13 structure. Rate continuity requires that changes to the rate structure should not be abrupt
14 and unexpected; gradual changes to the rate structure should allow customers to modify
15 their usage patterns. A rate design is fair if no customer class pays more than the costs to
16 serve that class. A rate design provides for earnings stability if the Company has a
17 reasonable opportunity to earn its allowed rate of return during the time that the rates are
18 in effect.

1 **V. CLASS REVENUE REQUIREMENT**

2 **Q. What is the revenue requirement that was used to design the Company's proposed**
3 **base rates to recover?**

4 A. Base rates were designed to recover \$90,887,410, as shown in Attachment RATES-5,
5 Lines 38-45. As Mr. Heintz explains in his testimony, the FCOS separates
6 EnergyNorth's revenue requirement into four functions: delivery, direct gas cost,
7 propane and LNG costs, and miscellaneous indirect costs. The proposed base distribution
8 rates were designed to recover the delivery service revenue requirement, as determined
9 by Mr. Heintz.

10 **Q. How did you assign the total Base Revenue Requirement to each of the Company's**
11 **rate classes?**

12 A. Class revenue targets were based on the results of the MCS, and adjusting these results
13 using the Equi-Proportional Method ("EPM") to recover the allowed revenue
14 requirements. As shown in Attachment MFB-10, the total delivery service marginal cost
15 is \$84,458,933. Because the total delivery service marginal cost does not equal the
16 delivery functional costs, the delivery service marginal cost for each rate class was
17 adjusted on a pro-rata basis using the EPM. Because the EPM method adjusts all
18 marginal costs by a uniform percentage, the marginal cost based price signals are
19 preserved. In this context, the marginal cost price signals that include both the overall
20 level of the revenue target for each rate class, and the specific customer charges and
21 variable ("per therm") rates charged to the customers in each rate class. As explained in
22 the following section, the equiproportionally-adjusted delivery service marginal costs, by

1 rate class, were further adjusted to reflect rate design considerations of continuity of
2 rates, and fairness between rate classes.

3 **Q. Have you prepared a schedule that shows how you determined the base revenue target**
4 **and the proposed rates for each class?**

5 A. Yes. Attachment RATES-5 shows how the class base revenue targets were determined,
6 and the process that was used to determine the final proposed base rates. Attachment
7 RATES-5 consists of the following sections that were included to assist in the rate design
8 process.

- 9 • Section A shows proforma test year normalized calendar month revenue detail.
- 10 • Section B shows billing determinant detail.
- 11 • Section C shows the development of class revenue targets.
- 12 • Section D shows the development of the proposed rates.

13 Columns (A) through (M) show the data and analysis by rate class and total Company. A
14 detailed line-by-line explanation of the calculations is provided in Column (N).

15 **Q. Please explain how you determined class revenue targets.**

16 A. The following process was used to determine class revenue targets:

- 17 a. “Current” total class revenues were calculated;
- 18 b. “Proposed” total class fully allocated cost revenues were calculated;
- 19 c. Class impacts were tested by comparing Current revenues to Proposed revenues;

1 and a rate continuity cap was established to limit the amount of the increase
2 assigned to any one class;

3 d. Revenue shortfalls that result from the class impact cap were assigned to all other
4 classes; and

5 e. The final base revenue targets, by class, including equiproportionately-adjusted
6 class marginal costs, class impact caps, and assignments of revenue shortfalls were
7 determined.

8 **Q. Please explain Steps (a) and (b) in the class base-revenue target process.**

9 A. Attachment RATES-5, Section C, shows total proforma revenues by rate class at current
10 rates. To properly calculate proposed discounted rates to the Rate R-4 Residential
11 Heating Low Income rate class, we calculated the revenues that would result if the
12 current Residential Heating R-3 rates had been applied to the Residential Low Income
13 Heating proforma test year billing determinants by adding the calendar month weather
14 normalized discount at current rates as provided in on Attachment RATES-3, page 4, to
15 the Rate R-4 Residential Heating Low Income test year calendar month weather
16 normalized base revenues.

17 Lastly, Section C of Attachment RATES-5 also shows the calculation of total class
18 revenues by applying an Equiproportional Adjustment Factor (Attachment RATES-5,
19 Line 47) to the Total Class Delivery Service Marginal Costs (Attachment RATES-5, Line
20 32).

1 **Q. Please explain Step (c) in the class base revenue target process, which you have**
2 **described as testing class impacts by comparing current revenues to proposed**
3 **revenues.**

4 A. First, we calculated the difference by class between the proforma base revenues and the
5 proposed revenues resulting from steps (a) and (b); this difference is the “Total Potential
6 increase in Base Revenues” that is shown on Line 71 of Attachment RATES-5. We then
7 calculated the percent change, by class, that the Total Potential Increase represents
8 relative to the current total class revenues that were calculated in Step (a). To maintain
9 rate continuity, the percent increase in base revenues was limited to 120 percent of the
10 total Company increase, 25.65%, which is shown in Column M, Line 72 of Attachment
11 RATES-5. We determined that 120 percent was a reasonable cap that would promote
12 efficiency by ensuring that the final rates to most classes would represent the cost to
13 serve that class, and that the limited level cost subsidization created by the cap would not
14 unduly distort rate efficiencies.

15 **Q. Please explain Step (d) in the class base revenue target process.**

16 A. The first revenue deficiency dollars were allocated to eliminate potential rate decreases to
17 any classes with a potential decrease. Once we (a) eliminated rate class revenue
18 decreases and (b) increased class revenue requirements to the levels of the
19 equiproportionately-adjusted marginal costs, subject to the constraint that no class could
20 receive an increase that exceeded 120% of the overall Company increase, the sum of the
21 class revenue targets was less than the delivery service revenue requirement by
22 \$6,187,534 (Attachment RATES-5, Line 80). This revenue shortfall was allocated to all

1 classes that were below the cap by apportioning the shortfall to each of these classes in
2 proportion to their relative contribution to total company test year revenues. This
3 resulted in the residential classes (R-1, R-3/R-4) receiving the maximum percentage
4 increase of 30.78%, or 120% of the 25.65% total. The C&I classes received a 19.24%
5 increase to achieve the Company overall proposed increase.

6 **Q. Please explain Step (e) in the class base revenue target process.**

7 A. As the final step, the final base revenue targets for each class were determined by
8 summing the class revenue requirements plus adjustments calculated in steps (a) through
9 (d). The “Final Base Revenue Target” for each class is shown on RATES-5 Line 95.

10 **VI. RATE DESIGN**

11 **Q. Please explain how you designed the Company’s proposed base rates.**

12 A. The following process was used to design the Company’s proposed base rates:

13 a. The appropriate level of customer charges was determined by evaluating the results
14 of the MCS and bill impacts. Then we:

- 15 • Calculated Customer Charge revenues, and
- 16 • Subtracted the Customer Charge revenues from total class revenue target to
17 determine the Quantity-based revenue requirements;

18 b. We determined (a) Winter and Summer variable (per therm) rates and (b) Head
19 Block and Tail Block rates based on rate continuity and marginal cost
20 considerations;

1 c. Final rates were calculated, and

2 d. The revenue shortfall that is associated with the Low Income discount was
3 calculated.

4 **Q. Please explain Step (a) in the rate design process, determining the appropriate level
5 of customer charges.**

6 A. To determine the appropriate level of customer charges for each class, we considered:
7 (1) the marginal customer costs resulting from the marginal cost study; (2) rate
8 continuity; and (3) customer impacts. Based on these considerations we:

- 9 • Increased the residential R-1 class by \$6.23, or 40.8%;
- 10 • R-3 and R-4 customer charges by \$3.40, or 15.4%;
- 11 • Increased the customer charges for the G-41 and G-51 classes by 15%; and
- 12 • Increased the customer charges G-42, G-52, G-53 and G-54 by 10%.

13 **Q. Is the Company proposing a new rate design strategy for Residential customer
14 classes?**

15 A. Yes. The Company proposes to align the customer charges for the R-1, R-3 and R-4
16 classes over the course of three rate cases. Equalizing these customer charges is
17 supported through the MCS results and new customer installation costs. Marginal costs
18 for the Residential Non-Heating (R-1) and Residential Heating (R-3/R-4) classes are
19 nearly identical - \$61.17 for R-1 and \$59.79 for R3/R4. This is logical, as the cost of a
20 new service installation for a new residential customer, whether non-heating or heating, is

1 very similar. A typical residential new customer installation requires a service tee and
2 line, regulator, and meter set. For most installations, the size of the service line, regulator
3 and meter size are the same. Because the installations are to residential dwellings, it can
4 be assumed that the length of the services would be comparable. The MCS results
5 validate this assumption.

6 The Company realizes that immediately equalizing the R-1 and R-3/R-4 customer
7 charges would violate the rate gradualism principle for R-1 customers. Both the non-
8 heating and heating classes are well below marginal costs (See RATES-5 Line 99),
9 suggesting that an increase to both classes' customer charge is warranted. The Company
10 proposes to move towards equalized residential customer charges over the course of three
11 rate cases to alleviate this concern. In the instant case, the Company is proposing a
12 significantly higher percentage increase to the non-heating class as a first step towards
13 closing the gap. It is noteworthy that the proposed increase to the volumetric portion of
14 rate R-1 is proportionally less, necessary to achieve the overall class base revenue target.
15 The R-3/R-4 proposed customer charge is below the class average proposed increase of
16 30.78%. The volumetric rate proposal is proportionally higher, necessary to achieve the
17 overall class base revenue target.

18 **Q. Are C&I customer charges proposed to increase?**

19 A. Yes. Although Attachment RATES-5 Line 99 also indicates that the proposed C&I rate
20 class customer charges exceed the marginal unit customer costs for rates G-42, G-43, G-
21 52, and G-53, the customer charges for these rate classes were increased by 10 percent,

1 based on rate continuity considerations. Specifically, if we had not increased these rate
2 class customer charges, large gas users in in each of these classes would experience
3 disproportionately large increases, relative to smaller gas users in each of these rate
4 classes. Customer charges for rates G-41 and G-51 are below marginal costs and are
5 recommended to increase by 15%. Finally, Rates G-53 and G-54 class customer charges
6 are proposed to remain equal to each other and receive a 10% increase.

7 **Q. How was the revenue target for volumetric rates determined?**

8 A. To determine the therm-based revenue target (the remaining class revenue target to be
9 recovered from delivery variable rates), the class customer charge revenues were
10 subtracted from the total class revenue target. Attachment RATES-5 (Line 95 – Line
11 107).

12 **Q. Please explain Step (b) in the rate design process, which you described as setting the
13 Summer and Winter rates and Head Block and Tail Block rates.**

14 A. Some of the Company's rate classes have volumetric rates that differ by season and/or by
15 rate block. On a case-by-case basis, we set the rates by season, as appropriate, and/or the
16 rates by block based primarily on rate continuity and rate impact considerations, so that
17 bill impacts at low and high levels of annual use were relatively consistent. This
18 consistency necessitated retaining the existing rate relationship between the head block
19 and tail blocks. This was accomplished by setting a tail block percentage of the average

1 volumetric rate at 85%.⁴ The head block rate is calculated to recover the remaining base
2 class revenues not collected through the customer charge or tail block charge.

3 **Q. Please explain Step (c) in the rate design process, which you described as calculating**
4 **final rates.**

5 A. Step (c) is simply the consolidation of the rate design calculations that were made in
6 Attachment RATES-5, Lines 97 through 122; the final rates are shown in Attachment
7 RATES-5, Lines 123 through 130.

8 **Q. Please explain Step (d) in the rate design process, which you described as calculating**
9 **the revenue shortfall resulting from the low-income discount.**

10 A. The rate design calculations described to this point are predicated on R-4 Low Income
11 Residential Heat being charged the R-3 rates without discount. To properly demonstrate
12 the proposed rates that will be charged to each rate class, we (a) calculated the revenue
13 shortfall that the discounted low-income rates would produce,⁵ and (b) calculated the
14 RLIAP component of the LDAC⁶ that would be charged to all rate classes, based on test
15 year proforma therms. These calculations are shown in Attachment RATES-5, Lines 131
16 to 146.

⁴ The one exception to this approach was to use a 70% tail block target for the G-52 summer period.

⁵ The R-4 revenue shortfall was calculated by multiplying the R-4 billing determinants times the R-3 proposed base rates then multiplying this amount by 60%.

⁶ The RLIAP component of the LDAC, \$0.0093 per therm, was calculated by dividing the total R-4 revenue shortfall, \$1,458,813, by test year total delivery quantity billing determinants

1 **VII. REVENUE PROOF FOR PROPOSED RATES**

2 **Q. Has the Company prepared a proof of the revenues that the proposed rates produce?**

3 A. Yes, we have calculated the revenues that the proposed rates would produce, on Test
4 Year proforma Billing Determinants. The calculations, which are presented in
5 Attachment RATES-5, Lines 147 to 161, show that the proposed base rates, including
6 Low Income RLIAP revenues produce the base revenue requirement of \$90,887,410.
7 This revenue proof includes the RLIAP Revenues (Attachment RATES-5, Line 158) to
8 recover the revenue shortfall associated with the Discounted R-4 rates.

9 **VIII. INDIRECT GAS COSTS**

10 **Q. Has the Company prepared a proof of the revenues that the proposed Indirect Gas**
11 **Cost rates produce?**

12 A. Yes, we have. As set forth in the Company's Cost of Gas Clause ("COG Clause"), the
13 indirect gas costs, which are determined in Mr. Heintz' FCOS will be recovered from the
14 Company's firm sales customers in the Company's COG rates. As specified in the COG
15 Clause, LNG and LP-related costs are recovered in the Winter COG rate; gas cost-related
16 bad debt expense; gas cost-related working capital expense and other A&G and
17 miscellaneous expense are recovered at an annual rate per therm. These indirect costs
18 total \$1,273,432. We have prepared Attachment RATES-6 to demonstrate the revenues
19 that are associated with these indirect gas costs.

1 **IX. BILL IMPACT ANALYSIS**

2 **Q. Have you prepared Bill Impact analyses?**

3 A. Yes, we have prepared Attachment RATES-7 to show monthly bill impact analyses by
4 class and by season for an appropriate range of monthly usage levels. These analyses
5 demonstrate the combined impact of the changes that are being proposed in this
6 proceeding to (a) base rates and (b) Cost of Gas rates (indirect charges).

7 **Q. Please explain the bill impact calculations in more detail.**

8 A. For each rate class, we calculated monthly bills by season at “Current” rates and at
9 proposed rates. To calculate monthly bills at current rates, we used: (a) the currently
10 effective base rates; (b) the current LDAC; and (c) the current COG rate. To calculate
11 monthly bills at proposed rates, we used (a) the proposed base rates; (b) the current
12 LDAC, adjusted to reflect the effect of the R-4 discounted rates; and (c) the current COG
13 rate, adjusted to reflect the effect of the updated indirect gas costs.

14 **Q. Has the Company prepared an alternative set of bill impact analyses?**

15 A. Yes. The Company has also prepared bill impact analyses in the Cost of Gas Compliance
16 format used in Commission filings. This set of bill impacts relies on typical class average
17 usage instead of bill usage strata. These bill impacts are shown in Attachment RATES-8.

18 **Q. Do the bill impact analyses in Attachments RATES-7 and RATES-8 include former
19 Keene Division customers?**

20 A. Yes. As these analyses show, former Keene Division customers will see a significant
21 decrease in their bills because of the adoption of EnergyNorth’s rates. The Keene

1 Division represents 2.0% of total EnergyNorth revenues. Although this is a significant
2 one-time rate decrease for Keene customers, it has a minimal impact on existing
3 EnergyNorth customers. Based on existing rates, Keene customer revenues would be
4 \$536,161 lower. This represents only a 0.78% revenue requirement transfer to existing
5 Energy North customers.

6 **X. TARIFF CHANGES**

7 **Q. Are you proposing any changes to EnergyNorth's tariff?**

8 A. Yes, we are adding the Revenue Decoupling Adjustment Clause to the tariff as part of the
9 LDAC. This mechanism is described in separate testimony of Gregg H. Therrien
10 included in this filing.

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

12 A. Yes, it does.

THIS PAGE INTENTIONALLY LEFT BLANK