



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

Docket No. DG 14-180

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

**DIRECT TESTIMONY
OF
CHRISTIAN P. BROUILLARD**

August 1, 2014

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1 **I. INTRODUCTION**

2 **Q. Mr. Brouillard, please state your name and business address.**

3 A. My name is Christian P. Brouillard. My business address is 15 Buttrick Road,
4 Londonderry, New Hampshire 03053.

5

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

7 A. I am employed as the Director of Engineering by Liberty Energy Utilities (New
8 Hampshire) Corp. (“Liberty Energy NH”). In my capacity as Director of
9 Engineering, I am responsible for delivery system planning and capital investments,
10 engineering and design, and maps and records integrity for Liberty Energy NH’s
11 electric and gas businesses in New Hampshire, including Liberty Utilities (Granite
12 State Electric) Corp. (“Granite State”) and Liberty Utilities (EnergyNorth Natural
13 Gas) Corp. (“EnergyNorth” or the “Company”).

14

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

16 A. I graduated from the University of New Hampshire in 1982, earning a bachelor’s
17 degree in electrical engineering. I also completed the Public Utility Executive
18 Course, sponsored by the University of Idaho. I am a registered professional
19 engineer in the states of New Hampshire and Massachusetts and a certified Project
20 Management Professional. In 1982, I began my engineering career as an associate
21 engineer with Massachusetts Electric Company, a subsidiary of National Grid USA
22 (“National Grid”) and a former affiliate of Granite State, in North Andover,

1 Massachusetts. From 1982 to 1992, I held positions of progressive responsibility in
2 the distribution engineering, planning, protection, and executive support functions.
3 In 1993, I was promoted to Manager of District Engineering and held various
4 engineering and management positions since that time, including Manager of Asset
5 Strategy. In 2005, I became Manager of Work Planning and was responsible for
6 developing Granite State's capital construction plans. In 2008, I was promoted to
7 Director, Investment Planning for the Company's electric distribution system in
8 both New England and New York for National Grid. In 2011, I assumed my
9 current role as Director of Engineering for Liberty Energy NH.

10

11 **Q. Have you previously testified before the Commission?**

12 A. Yes, I have previously testified before the Commission on Granite State's
13 Reliability Enhancement Program and Vegetation Management Program and
14 Granite State's Integrated Resource Plan.

15

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

17 A. My testimony discusses: (i) EnergyNorth's gas distribution system and its capital
18 investments since the Company's last general distribution rate case; (ii) capital
19 improvements that will be made post-test year and the Company's request for a
20 step-increase; and (iii) increases in expense as a direct result of the recently issued
21 Puc 500 rules governing gas service. I also provide a description of a major
22 reliability project the Company will be undertaking beginning in 2015. Although

1 that project is not a part of this rate proceeding, the Company wants to keep the
2 Commission apprised of this major project that will be commencing in the near
3 future.

4
5 **II. ENERGINORTH'S OPERATIONS AND SYSTEM INVESTMENT**

6 **Q. Please provide an overview of EnergyNorth's operations.**

7 A. EnergyNorth distributes natural gas to approximately 86,000 residential,
8 commercial and industrial customers across 30 communities in southern and central
9 New Hampshire as well as in the City of Berlin. To serve its customers, the
10 Company uses seven pipeline take stations serving approximately 1,400 miles of
11 distribution main operating from 0.5 psig to 200 psig. The Company also operates
12 approximately 2.8 miles of transmission-pressure main.

13
14 **Q. How much capital has the Company invested in its distribution system since its
15 last distribution rate case, Docket No. DG 10-017?**

16 A. The Company has invested approximately \$93 million in capital from July 1, 2009
17 (the end of its test year in Docket No. DG 10-017) through March 31, 2014 (the end
18 of the test year in this case) in its distribution system. A breakdown of the major
19 cost categories are shown in Table 1:

1

Table 1: Capital Additions Cost Breakdown

Growth	<u>(\$M)</u>
New Mains	14.7
Reinforcement Mains	3.4
Residential Services	9.3
Commercial Services	1.0
Uncategorized Services ¹	1.0
Meters and Regulators	1.3
Meter Purchases ²	0.5
Customer Contributions/Marketing/Sales	<u>(2.2)</u>
	29.0
Improvement	
Main and Service Relocations due to Municipal Projects	18.4
Gas Planning, Improvement, Reliability and Regulation	<u>1.8</u>
	20.2
Replenishment	
Cast Iron/Bare Steel (CIBS) Replacements	14.3
Replacement of Services	5.6
Corrosion Prevention Installations	3.1
Gas Production Facilities Upgrades	1.8
Valve Installations and Replacements	1.0
Meter Purchase and Change-Out	3.5
Dispatch & Control, Instrumentation & Regulation	<u>0.2</u>
	29.5
Non-Infrastructure Capital Investments	
Computers and Hardware	0.5
Facilities Upgrades, Renovations and Equipment	0.9
Vehicles	0.6
Tools and Equipment	0.4
Non-Categorized	<u>3.4</u>
	5.8
Total	84.5

2

¹ Uncategorized services are services that were initiated by National Grid as work orders prior to the sale and came across to Liberty Utilities without categorization to a residential or commercial investment category.

² Meter Purchases cover the material costs of meters to support system residential and commercial growth, labor costs are captured in the Meters and Regulators category above.

1 **Q. Please describe some of the capital projects that have been undertaken since**
2 **Docket No. DG 10-017.**

3 **A.** From July 1, 2009 through March 31, 2014, the major categories of capital
4 investments included the following:

5 **Growth:**

- 6 • 102,700 feet of new main,
- 7 • 35,000 feet of new main related to new high pressure service mains to major
8 area asphalt plants,
- 9 • 1,760 new residential services,
- 10 • 350 new commercial services, and
- 11 • 2,750 meters.

12 **Improvement:**

- 13 • 44,000 feet of main replaced,
- 14 • Approximately 900 service replacements due to city and municipal utility
15 encroachments and repaving projects, and
- 16 • 2,400 feet of main replacements necessary for the maintenance of system
17 operating pressures and reliability.

18 **Replenishment**

- 19 • 73,000 feet of leak prone pipe replacements,³
- 20 • 760 bare steel service replacements under the CIBS program,⁴

³ Recovery of the costs associated with the leak prone pipe replacements and bare steel services are being recovered under the CIBS rate recovery mechanism.

- 1 • Installation of the following upgrades to the Company’s LNG/LPG
2 production plants:
- 3 ○ In Tilton, the expansion of the service building, the installation of a
4 new vaporizer, new vaporizer controls, a chromatograph, and an
5 exhaust stab air compressor.
- 6 ○ In Manchester, the installation of a new diesel tank, and
7 • 18,150 meters.
- 8

9 **Q. Is all the capital investment included in rate base used and useful in providing**
10 **service to the Company’s customers?**

11 A. Yes. The entire rate base is used and useful in the provision of service to the
12 Company’s customers.

13

14 **Q. Were the costs for all the projects prudently incurred?**

15 A. Yes. While the majority of the capital investment included in this case occurred
16 during ownership of the Company by National Grid, I am aware that the
17 investments made during National Grid’s ownership were made pursuant to a
18 formal evaluation process to ensure continued safe and reliable operation of the
19 distribution system as well as meeting all regulatory and statutory requirements.
20 Under Liberty Energy NH’s ownership, the following criteria are used to evaluate
21 proposed capital expenditures:

⁴ See footnote 3.

1 Each year, EnergyNorth develops a Five-Year Capital Investment Plan that is
2 designed to achieve the overriding performance objectives of safety, compliance,
3 reliability, efficiency, and customer satisfaction. The Plan represents a compilation
4 of proposed spending for Delivery System Growth, Improvement, Replenishment,
5 and Non-Infrastructure requirements. The Plan also reflects a mix of continuing
6 blanket projects, multi-year programs, and individual capital projects.

7
8 Projects may be aimed at addressing a one-time objective or may be developed to
9 address multi-year programs. In either case, management reviews the scope of
10 work and the estimated costs to ensure they will satisfy business objectives.

11
12 **Q. Are there any significant capital investments planned for the period April 1,**
13 **2014 through March 31, 2015 that either already are or will be used and useful**
14 **and placed in service during that period for which the Company is seeking**
15 **rate recovery?**

16 A. Yes. In 2014, the Company initiated its new pipeline integrity programs. These
17 programs, as further detailed below, include the K-meter Replacement Program,
18 Bare Steel Services Replacement Program, and Aldyl-A Replacement Program
19 (beginning in 2015) and are designed to improve the integrity of the system. From
20 April 2014 to March 2015, the Company will expend approximately \$920,000 on
21 these programs:

22 i) K-meter Replacement Program (10-year ± program; approximately

1 \$650,000/year): Built by the Sprague Meter Company, since acquired by
2 Itron, the K Meter is a combination residential meter/regulator. It is
3 designed to self-regulate the gas pressure from 60 psig to customer
4 utilization pressure. These meters were built for a variety of applications
5 from inside to outside installations and were first installed in the 1960s but
6 are no longer manufactured. At one point, EnergyNorth had over 6,000
7 such meters in service. Today, there are approximately 2,600 K meters in
8 service in the communities of Nashua, Hudson, Merrimack and Amherst
9 that are inside customers' premises. These customers have a short section of
10 ¾-inch coated-steel high pressure (60 psig) service entering their homes
11 through the house foundation. These services typically have corrosion
12 protection and are considered to be in good condition. Nonetheless, K-
13 meters present the risk of a leak inside the customer premise, present repair
14 and replacement challenges, and also present access issues for meter reads,
15 inspection, and repair. The program replaces a discontinued meter and
16 moves the meter and the company-owned service line outside. The
17 relocation of the meter to outside the dwelling improves safety,
18 maintenance, and billing, and restoration efforts.

19
20 ii) Bare Steel Services Replacement Program (10-year Program;
21 Approximately \$270,000/year): The Company plans to replace
22 approximately 60 bare-steel services per year to enhance the safety and

1 reliability of its system. The services are selected and prioritized using
2 maintenance and condition criteria.

3
4 iii) Aldyl-A Replacement Program (2015: Approximately \$500,000/Year):

5 Aldyl A Pipe is an early vintage of plastic pipe installed by legacy
6 companies through the early 1980s, particularly in Concord. We have seen
7 a rise in joint failures on the pipe — similar to other local distribution
8 companies across the country. Documentation of this appears in PHMSA
9 advisory bulletin ADB-99-02. The greatest risk is present in our 60 psig gas
10 mains, where a joint may partially separate in-service or completely
11 separate during excavation. The Company has prioritized Aldyl-A
12 replacement segments with recent and historical failures.

13
14 In addition, during the year following the test year in this case, the Company will
15 incur the following capital expenditures:

16
17 i) Facility Upgrades in Nashua, Tilton, and Manchester (2014: \$1,300,000;
18 and 2015: \$70,000): Several improvements will be made to the Nashua,
19 Manchester and Tilton facilities that will be completed by March 31, 2015
20 and consist of the following:

- 21 • In Nashua, the installation of a new vertical conveyor and additional
22 shelving to expand our meter storage capacity, energy efficiency and

1 structural improvements in Nashua that include replacement of HVAC
2 equipment, single pane windows, roofing and roofing insulation, and the
3 installation of a proximity gate-opener in order to enhance security to
4 the Meter Building;

5 • In Tilton, the replacement of the hydraulic warehouse dock lift, the
6 replacement of the end-of-life HVAC equipment with high efficiency
7 heating and cooling equipment, and the construction of a conference
8 room;

9 • In Manchester the construction of a conference room and cubical space
10 on the second floor in Manchester with required stairwell and elevator
11 access, the renovation of the men's and women's locker rooms,
12 restroom facilities and field force staging room in Manchester to correct
13 structural deficiencies and meet code requirements, and the installation
14 of new roofing with insulation to meet current energy codes.

15

16 ii) New Training Center in Concord (2014: approximately \$1,450,000):
17 EnergyNorth will be constructing a new state of the art Training Center in
18 Concord. The new Liberty Utilities Training Center (LUTC) will be built at
19 10 Broken Bridge Road, Concord on property owned by the Company. The
20 new two-story building will be approximately 6,200 square feet and contain
21 two instructional classrooms to accommodate 15 students each, two offices,
22 one lab, two accessible restrooms, and an accessible lift to the second-floor

1 and a lunchroom. The new facility will serve as a multi-purpose training
2 center for year-round training of those employees who provide service to
3 EnergyNorth and/or Granite State, and will provide a variety of technical
4 hands-on training to meet federal and state mandated requirements for
5 training, certification and re-certification for gas and electric employees and
6 outside utility contractors. The LUTC outside grounds will have simulated
7 gas distribution “leak field” for leak classification and gas line training.

8
9 iii) Vehicle Purchases (2014; approximately \$630,000; and 2015:
10 approximately \$410,000): In 2014, the Company will take delivery of 11
11 cargo vans and three Transit Connect Vans. The 11 vans will be replacing
12 existing vans in Field Operations that are high mileage and older than 7
13 years in service. The 3 Transit connects are replacing SUVs presently used
14 for meter reading that also qualify for replacement. In the first quarter of
15 2015, the Company will be taking delivery of one backhoe, two utility
16 trailers, two mid-size crew trucks, and four full size pickup trucks, all used
17 for day-to-day gas operations.

18
19 The joint testimony of Mr. Mullen and Mr. Gorman describes the Company’s
20 request for recovery of the costs of these projects through a step adjustment to
21 distribution rates.

22

1 **Q. Does the Company have any other significant capital projects or programs**
2 **planned for the near future?**

3 A. Yes. The Company expects to begin the Tilton Hi-line reliability project, which is
4 a significant multi-year capital project that will commence in 2015. The project
5 will involve five phases and include the installation of approximately 16 total miles
6 of 12-inch steel gas main, rated at 300 psig. Currently, the Company operates LNG
7 and propane plants in Tilton. The objective of this project is to significantly
8 improve reliability to the area by greatly reducing the need for pressure support
9 during cold days, thereby increasing pipeline reliability to approximately 4,500
10 customers in the Tilton area from December through March. This is necessary
11 because the number of days in which those plants have operated has increased over
12 the last several years, mainly to support low pressures occurring in the system
13 during cold days. The pipeline project will result in improved reliability in the
14 Company's gas distribution system. While the costs of this project are not included
15 in the Company's request for a rate increase in this case, this project demonstrates
16 that the Company does have an ongoing and continued need to invest capital in its
17 system.

18

19 **Q. Has the Company incurred any increases in operating or capital expenditures**
20 **as result of the newly issued Puc 500 rules? If so, please explain.**

21 A. Yes, as a result of the repromulgation of the Puc 500 rules in May 2013, the
22 Company has experienced cost increases as a result of these rule changes. The

1 majority of the cost additions are from (1) additional telemetry points; (2)
 2 additional distinct odor level points; (3) new welding rules; (4) meter label
 3 requirements; (5) new leakage survey requirements; and (6) new leak classification
 4 criteria. These changes yield approximate cost increases as shown in Table 2:

Table 2: Costs Resulting from Puc 500 Rules Changes

<u>Rule</u>	<u>Subsection</u>	<u>Description</u>	<u>Capital Cost</u>	<u>Expense</u>	<u>Recurring</u>	<u>Notes</u>
506.01	(d)	Welding Safety Training		\$8,000	N	One-time training
506.01	(q)(r)(s)	Marking Liberty Facilities		\$37,500	2 years Non-recurring	\$18,750/yr until complete
508.04	(l)	Leakage surveys & inspections		\$72,000	N	One-time training cost re: new leakage classifications
508.04	(m)(2)	Leakage surveys & inspections	\$61,500	\$91,500	Y	Annual incremental leak repair
508.04	(m)(3)	Leakage surveys & inspections	\$350,000	\$520,000	Y	One-time cost to repair 330 leaks (Grade 3 reclassified to Grade 2)
506.01	(t) (2)	Telemetry stations	\$51,900		N	
506.01	(t) (2)	Telemetry stations		\$2,160	Y	Annual labor

6
 7 An adjustment to the test year for recovery of these costs is included in the joint
 8 testimony of Mr. Mullen and Mr. Gorman.

9
 10 **Q. Is the Company seeking recovery of these expenses in this case?**

11 A. Yes. The Company is requesting recovery of the annual expenses because they are
 12 ongoing so long as the Puc 500 rules remain in effect. In addition, as detailed
 13 above, the Company has incurred or will incur one-time expenses and capital costs

1 in order to comply with the rule changes. The Company believes that recovery of
2 these costs is appropriate because they were the direct result of a change in
3 regulatory requirements over which the Company had no control.

4

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

6 A. Yes, it does.