

NORTHERN UTILITIES, INC.

DIRECT TESTIMONY OF

KEVIN E. SPRAGUE

EXHIBIT KES-1

New Hampshire Public Utilities Commission

Docket No. DG 17-070

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1 **I. INTRODUCTION**

2 **Q. Mr. Sprague, would you please state your name and business address?**

3 A. My name is Kevin E. Sprague. My business address is 6 Liberty Lane West,
4 Hampton, New Hampshire 03842.

5

6 **Q. What is your position and what are your responsibilities?**

7 A. I am Director of Engineering for Unitil Service Corp., which is a subsidiary of
8 Unitil Corporation (“Unitil”) that provides managerial, financial, regulatory and
9 engineering services to Unitil’s principal utility subsidiaries, including Northern
10 Utilities, Inc. (“Northern” or the “Company”). In this capacity, I manage all of
11 Northern’s engineering functions, including electric engineering, gas engineering,
12 computer-aided design and drafting, Geographic Information Systems (GIS), and
13 management of utility-owned land and property.

14

15 **Q. Please describe your business and educational background.**

16 A. I have been employed by Unitil Service Corp. for approximately 21 years. I was
17 originally hired as an Associate Engineer in the Distribution Engineering group. I
18 have held the positions of Engineer, Distribution Engineer and Manager of
19 Distribution Engineering. I accepted the Director of Engineering position in
20 November of 2007. I hold a Bachelor of Science in Electric Power Engineering

1 from Rensselaer Polytechnic Institute and a Master of Business Administration
2 from the University of New Hampshire.

3

4 **Q. Do you have any licenses that qualify you to speak to issues related to**
5 **engineering?**

6 A. Yes. I am a registered Professional Engineer in the State of New Hampshire and
7 the Commonwealth of Massachusetts.

8

9 **Q. Have you previously testified before the Commission, or other regulatory**
10 **agencies?**

11 A. Yes, I have testified on previous occasions before the Commission, the Maine
12 Public Utilities Commission and the Massachusetts Department of Public Utilities.
13 I also filed testimony in Unitil Energy Systems Inc.'s base rate case proceeding in
14 DE 16-384.

15

16 **Q. What is the purpose of your testimony and how is it organized?**

17 A. The purpose of my testimony is to support the Company's capital spending as it
18 relates to Northern's proposed Rate Plan to include annual revenue increases
19 through step adjustments in order to collect costs associated with "Eligible
20 Facilities". Mr. Chong's testimony provides support for the proposed Rate Plan.
21 Specifically, I will: 1) describe the settlement agreement made in the Company's
22 last base rate case proceeding, DG 13-086, ("the Agreement") with respect to

1 capital spending on Eligible Facilities; 2) describe the recent and future capital
2 spending on the identified Eligible Facilities: New Hampshire (“NH”) Mains
3 Replacement Program, Gas Mains Extensions, and Gas Highway Projects City
4 State; and 3) propose a modification to the list of the Eligible Facilities to add:
5 Farm Tap Replacements, Excess Flow Valve Installations and Rochester
6 Reinforcement Projects.

7
8 As indicated in the testimony of Mr. Chong, the Rate Plan expands the list of
9 Eligible Facilities in recognition of a growing level of identified non-revenue
10 producing gas safety and reliability improvement related investments included in
11 the capital budget causing the Company to not earn its authorized rate of return on
12 equity over the last several years in spite of having been allowed annual base rate
13 step adjustments.

14
15 Also, my testimony supports the Company’s proposal to update two miscellaneous
16 charges, a Meter Read Charge to Northern’s Retail Choice Program customers and
17 the Turn-on Charge.

18
19 **Q. Please describe the Agreement with respect to capital projects.**

20 A. The Agreement provided that Northern file for annual step increases associated
21 with the cost of Eligible Facilities identified as: 1) the NH Mains Replacement
22 Program; 2) Gas Mains Extensions; and 3) Gas Highway Projects City State.

II. ELIGIBLE FACILITIES

Q. Please summarize Eligible Facilities as defined in the Agreement?

A. The Agreement provided an annual revenue increase through step adjustments to recover the prudently incurred costs of the defined Eligible Facilities:

- NH Mains Replacement Program covers replacement of cast iron and bare steel mains and services and associated facilities.
- Gas Mains Extensions consists of extensions and gas mains, excluding services, costing more than \$30,000 as required to serve customers under the Company's line extension policy.
- Gas Highway Projects covers replacement of facilities caused by forced relocations of gas facilities due to City and State roadway and municipal infrastructure project (e.g., sewer separation).

Q. Are the Eligible Facilities considered revenue producing or non-revenue producing capital expenditures¹?

A. Both. The NH Mains Replacement Program and the Gas Highway Projects are designed to improve the reliability and safety of the the Company's distribution system. These projects do not result in new customer load or growth. Gas Main Extensions are system improvement projects designed to support additional load

¹ See Direct Testimony of David L. Chong for what is considered as non-revenue producing capital expenditures (or investments).

1 from potential customers or growth to the system and as such are considered
2 revenue producing projects.

3 **A. NH MAINS REPLACEMENT PROGRAM**

4 **Q. Can you describe the progress made under the NH Main Replacement**
5 **Program?**

6 A. As part of the Commission's approval of Unitil's acquisition of Northern in 2008,
7 the Company agreed to replace all bare steel mains in New Hampshire over a
8 defined period of time beginning in calendar year 2009. Under the terms of the
9 settlement agreement approved by the Commission in Order No. 24,906, the
10 Company agreed that all such replacement would be completed within nine years.
11 Order at 18. As agreed to in the settlement agreement, the Company implemented
12 a bare steel replacement program beginning in calendar year 2009.

13

14 **Q. Does the Company expect to complete the NH Main Replacement Program in**
15 **2017?**

16 A. Yes. Since Northern's acquisition, the Company has replaced approximately 38
17 miles and has plans to replace the final 3.2 miles of mains in 2017. At the end of
18 2017, the Company expects to have replaced all identified bare steel and cast iron
19 mains.

20

1 **Q. How much does the Company intend to spend on mains and bare steel**
2 **services replacements in 2017 and beyond?**

3 A. The only remaining spending on mains replacement will occur in 2017. The
4 Company expects to spend approximately \$6 million to finish the NH Mains
5 Replacement Program and bare steel services and associated facilities.

6 **B. GAS MAINS EXTENSIONS**

7 **Q. Please describe the Company's plans to expand natural gas service in New**
8 **Hampshire.**

9 A. Since acquiring Northern, the Company has added and converted over 4,000
10 natural gas customers in New Hampshire. The Company plans to continue to
11 increase its customer base as shown by the recent expansion into Brentwood as
12 well as a gas mains extension in Rochester with expectation of further expansion
13 into Farmington.

14

15 **Q. How large is the conversion opportunity in terms of the number of**
16 **prospective customers within Northern's existing service areas?**

17 A. Northern currently serves approximately 32,000 customers in 24 communities in
18 New Hampshire. Yet, in those same communities, there are an additional
19 estimated 70,000 homes and businesses that do not currently have natural gas
20 service. Of these potential customers, Northern has identified nearly 20,000 that
21 are on-the-main prospects. These are potential customers who have an existing

1 main directly in front of their home or business. The Company intends to continue
2 to target these potential customers in the coming years with the objective of
3 increasing our on-the-main penetration. Also, the Company expects to continue to
4 extend gas mains to new areas and off-the-main customers as opportunities arise.
5

6 **Q. What are the benefits of natural gas expansion for New Hampshire energy**
7 **customers?**

8 A. As stated by Company witness Mr. David Chong, Northern will expand the
9 availability of natural gas in New Hampshire because energy users want it and
10 because it has broad public benefits. Further, for Northern's customers, growth
11 leads to economies and efficiencies that reduce rates to all customers. In addition,
12 growth helps to mitigate earnings attrition the Company experiences between base
13 rate proceedings allowing for longer stay out periods.
14

15 **Q. How has the price of gas and oil influenced mains extension activity over the**
16 **recent past?**

17 A. In the years following the acquisition of Northern, natural gas fundamentals
18 changed, driven largely by the availability of shale gas from Marcellus and other
19 shale formations in the U.S. This new natural gas supply caused prices to fall, in
20 turn leading to a significant price advantage relative to fuel oil, propane, and other
21 fuel alternatives. In the past couple of years, however, the price of oil has fallen
22 thus reducing the price advantage that favored gas in the preceding years. For

1 Northern, this has had an impact on the addition of new gas customers. Going
2 forward, the U.S. Energy Information Administration (“EIA”) Annual Energy
3 Outlook 2016 Reference Case forecasts that crude oil prices will increase while the
4 cost of gas will generally remain constant with the plentiful source of shale gas
5 from Marcellus. As a result, the desire for customers to convert to natural gas
6 should increase again across Northern’s service territory.

7

8 **Q. How much does the Company expect to spend on Gas Mains Extensions over**
9 **the next 5 years?**

10 A. The Company expects to spend approximately \$13.5 million on Gas Mains
11 Extensions from 2017 to 2021. This amount is based on the level of Company
12 activity experienced in 2016 with a 3% increase year over year for increases
13 related to materials and labor. As the expected price advantage between gas and
14 oil prices begins to improve, the Company expects this level of spending to
15 increase.

16 **C. GAS HIGHWAY PROJECTS CITY/STATE**

17 **Q. Please describe what you mean by Gas Highway Projects City/State?**

18 A. The Company’s gas mains are predominantly installed within city and state road
19 rights-of-way and are there by license. The license dictates that the Company
20 must relocate any facilities which are in conflict with any city or state roadway
21 projects. Typical highway projects may include sewer separation projects, full

1 depth restoration, roadway realignment, bridge reconstruction or replacement and
2 water main replacements. The Company works closely with the cities and state to
3 identify locations where roadway projects will encroach upon or create the need
4 for a relocation of gas facilities.

5

6 **Q. Has the Company used Gas Highway Projects to replace cast iron and bare**
7 **steel mains?**

8 A. Yes. The Company has replaced cast iron and bare steel mains and services in
9 conjunction with Gas Highway Projects whenever possible. This has proven to be
10 beneficial for our customers because the city and state, and not the Company, are
11 responsible and required to complete final roadway pavement restoration for their
12 projects.

13

14 **Q. How does the Company determine the need for replacement, and what**
15 **happens if such projects are delayed or canceled?**

16 A. The Company relies upon plans submitted by state and local officials to determine
17 if there are any conflicts with the Company's existing facilities that need to be
18 addressed. In evaluating the requirements of each project, the Company considers
19 such factors as the age, location, and physical condition of the affected facilities,
20 as well as leak history. Facilities are only replaced if such replacement is essential
21 to the state or municipal construction project, or if removal of aging facilities is
22 consistent with the prioritization of risks identified in the Company's Distribution

1 Integrity Management Plan (“DIMP”). If state and municipal projects are delayed,
2 canceled, or never materialize, then this money is not spent. Alternatively,
3 replacement would otherwise be justified based on prioritization of risks under
4 Northern’s DIMP.

5

6 **Q. How much does the Company intend to spend on Gas Highway Projects over**
7 **the next 5 years?**

8 A. The Company anticipates spending approximately \$22 million on Gas Highway
9 Projects from 2017 to 2021. This represents a consistent level of spending in
10 comparison to historic norms, driven by government funding and mandates (e.g.,
11 sewer separation projects). In the recent past, some of the Gas Highway Projects
12 involved replacement of cast iron mains and other aging infrastructure that have
13 already been identified as improving the safety and reliability of Northern’s
14 distribution system.

15 **III. PROPOSED MODIFICATION TO LIST OF ELIGIBLE FACILITIES**

16 **Q. Are there other capital projects that the Company believes should be**
17 **considered as Eligible Facilities?**

18 A. Yes. There are three groups of capital projects the Company believes meet the
19 intention of Eligible Facilities. These projects consist of: 1) Farm Tap Regulator
20 Replacements; 2) Excess Flow Valve Installations; and 3) Rochester
21 Reinforcement Projects.

1

2 **Q. Why is there a need to include additional capital investments as Eligible**
3 **Facilities?**

4 **A.** In DG 13-086, the Rate Plan within the Agreement allowed the Company to
5 include the aforementioned capital investments as Eligible Facilities and to
6 increase base rates with two annual step adjustments. The Company believes
7 adding these additional identified non-revenue and limited revenue producing
8 capital investments as Eligible Facilities is consistent with the types of gas safety
9 and reliability investments that should be included in Eligible Facilities. In
10 addition, as noted by Mr. Chong, including these capital investments as Eligible
11 Facilities will provide a reasonable opportunity for the company to earn its
12 allowed ROE and lengthen the period between rate cases.

13 **A. FARM TAP REGULATOR REPLACEMENTS**

14 **Q. What are farm tap regulators and why are they being replaced?**

15 **A.** Farm tap regulators are direct-buried regulators that were installed prior to Unitil's
16 acquisition of Northern to serve rural residential and commercial customers. The
17 Pipeline and Hazardous Materials Safety Administration ("PHMSA") of the U.S.
18 Department of Transportation has defined a farm tap as "industry jargon for a
19 pipeline that branches from a transmission or gathering line to deliver gas to a
20 farmer or other landowner." They may also be referred to in the industry as
21 pressure limiting valves ("PLVs"). While commonly used in the industry, these

1 buried farm tap regulators were identified in Northern's DIMP as posing a
2 corrosion risk. As a result, the Company is developing a risk assessment model to
3 prioritize the replacement of these regulators.

4

5 **Q. How much does the Company expect to spend on Farm Tap Regulator**
6 **Replacements over the next 5 years?**

7 A. Northern currently has 447 farm tap regulators in the New Hampshire distribution
8 system and the cost to replace these regulators has been estimated at
9 approximately \$40,000 per PLV replacement, or about \$18 million in total. The
10 Company intends to spend approximately \$4.5 million on farm tap regulator
11 replacements between 2017 and 2021.

12

13 **Q. Why should Farm Tap Replacements be included in the definition of Eligible**
14 **Facilities?**

15 A. This is a non-revenue producing capital investment being completed to improve
16 the safety and reliability of Northern's gas system. In addition, the Company's
17 DIMP is a risk management program tailored to natural gas distribution pipelines,
18 and is intended to promote continuous improvement in pipeline safety by requiring
19 the operator to identify and invest in risk control measures beyond core regulatory
20 requirements. The basic principle underlying integrity management is for
21 operators to identify the threats to their pipelines and apply their safety resources
22 commensurate with the importance of each threat. Upon implementing its plan,

1 the Company has confirmed that corrosion of farm tap regulators is a risk in our
2 system.

3 **B. EXCESS FLOW VALVE INSTALLATIONS**

4 **Q. Please describe the project for Excess Flow Valve Installations.**

5 A. On October 14, 2016, the PHMSA amended 49 C.F.R. §192.383 regarding Excess
6 Flow Valve (“EFV”) Installation. In pertinent part, the amended regulation
7 requires gas operators to install an EFV on any new or replaced service line for
8 specified types of services before the line is activated [49 C.F.R. §192.383(b)]. In
9 addition, 49 C.F.R. §192.383(d) generally provides that a customer with an
10 existing service line may request that an EFV be installed on that service line and
11 that operators must notify customers of their right to request an EFV installation.
12 The amendment became effective April 14, 2017.

13
14 This is a new federal regulation and the Company has a significant concern
15 regarding the impact of the new requirements encompassed in 49 C.F.R.
16 §192.383(d) on customers exercising their option to request an EFV installation.
17 Although the language in part (d) states that “the operator’s rate-setter determines
18 how and to whom the costs of the requested EFVs are distributed,” PHMSA’s
19 guidance suggests that individual customers could be charged directly for the cost
20 of EFV installation on an existing service. This raises a substantial concern for the
21 Company because customers may perceive a safety need for EFV installation as a

1 result of the notification and may not be willing or able to pay for the requested
2 installation. The Company estimates that the cost of an EFV installation on a
3 service line is anticipated to be in the general range of \$3,000, depending upon the
4 system and the circumstances of installation.

5

6 **Q. Has the Company been installing EFVs as a routine course on services?**

7 A. Yes. The Company has been installing EFVs on new services, when possible, for
8 many years. The cost of the EFVs on new or replacement services are not charged
9 to the individual customer, but rather are collected through the cost of service. As
10 a result, there could be an inequity involved with charging individual customers
11 for EFV installations that are requested in accordance with Section 192.383(d)
12 following the required notification where other customers are not required to pay
13 for the same installation. However, on a new service, the incremental cost of the
14 EFV (approximately \$150) is much less than retrofitting an existing service with
15 an EFV.

16

1 **Q. How many service lines do not have EFVs installed within the Company's**
2 **service territory?**

3 A. The Company has identified almost 17,000 service lines that do not have an
4 existing EFV installed.

5

6 **Q. How much does the Company expect to spend on Service Valve Installations**
7 **from 2017-2021?**

8 A. This amount will be based upon that currently being replaced in the routine course
9 of installing new or replacement services and the number of customer requests that
10 are outside this process. At this point, the Company is estimating that
11 approximately \$500,000 will be spent annually (\$2.5 million total) between 2017
12 and 2021. This will translate to approximately 170 service valve installations per
13 year (or approximately 850 installations over the five year timeframe). This is an
14 estimate at this point and could vary depending upon the customer requests.

15

16 **Q. Should EFV be included in the definition of Eligible Facilities?**

17 A. Yes, including EFV installations as an Eligible Facility is entirely consistent with
18 the gas safety related focus and the non-revenue producing nature of these
19 investments. This is a new federal requirement that has the potential to be a
20 considerable capital investment for the Company. Thus, the Company has no way
21 to ascertain, in advance, to what extent customers will seek to obtain EFV
22 installations. In addition, the Company will need to deal with the timeframe and

1 schedule for installation and the potential need to secure additional resources to
2 perform the installations.

3
4 **Q. How will Northern schedule requests from customers seeking an EFV**
5 **installation?**

6 **A.** The Company proposes to schedule customer requests similar to how the gas
7 operators in Massachusetts, including the Company's affiliate Fitchburg Gas and
8 Electric Light Company, have proposed to schedule such requests. The Company
9 will establish a process for accepting and verifying applications by customers
10 seeking a qualifying installation; customers who contact the Company to obtain an
11 EFV installation will be asked to complete the application process and be verified
12 as the owner of a property with a qualifying gas service; EFV installations on
13 services that require to be replaced or on plastic services that will be transferred to
14 the replaced main will be scheduled and completed, whereas other installation on
15 services will be scheduled and completed on a reasonable basis as resources allow.
16 If at all possible these other installations will be scheduled and completed in
17 combination with other regularly scheduled work at the customer's location.

18
19 If a customer requests an EFV installation on an expedited date preceding the date
20 reasonably planned by the Company, the customer may obtain the expedited
21 installation at the customer's cost. Upon approval by the Commission, Northern
22 will file an amendment to its existing Terms and Conditions listing a provision to
23 charge individual customers who accept cost responsibility with an expedited date
24 for the cost of that installation.

25
26 **C. ROCHESTER REINFORCEMENT PROJECT**

27 **Q. Can you describe the Rochester Reinforcement Project?**

1 A. Yes. The Company has identified that in order to continue to serve existing and
2 new customers in the Rochester area of the gas system, a significant reinforcement
3 is required to the gas system. The Rochester Reinforcement Project includes
4 reinforcement of the Distribution Hi-Line located in Dover as well as mains and
5 regulator station reinforcements required in Rochester.

6
7 The Distribution Hi-Line Dover project is a three-year high pressure main
8 replacement project necessary to reinforce the Dover – Somersworth Hi-Line
9 Dover 397 psig MAOP system. Based upon recent Company network analysis, the
10 Dover – Somersworth Hi-line is expected to experience a significant
11 (approximately 100 psig) pressure drop in the future across 11,928 feet of existing
12 6-inch Coated Steel from the Varney Brook Station in Dover to the Applevale
13 Lateral in Dover without a Rochester Reinforcement Project. This system
14 reinforcement is necessary because the end of line pressure at the inlet to the
15 Bartlett Avenue Station in Somersworth is predicted to drop below 150 psig,
16 which is less than the design outlet pressure at this facility (150 psig). The
17 pressure regulators at this facility require a minimum of 40 psig in differential
18 pressure to properly operate and provide the capacity to meet the downstream
19 demand. Without the Rochester Reenforcement Project the outlet pressure at
20 Bartlett Avenue will droop and will produce outlet pressures of approximately 120
21 psig and will result in system pressures falling below standard pressures causing

1 operational and pressure issues in downstream subordinate systems serving the
2 area of Rochester.

3

4 **Q. How much does the Company expect to spend on Rochester Reinforcement**
5 **Project from 2017-2021?**

6 A. The Company expects to spend approximately \$10 million on the project. It
7 expects to complete the reinforcement project in 2020.

8

9 **Q. Why should the Rochester Reinforcement project be included in the**
10 **definition of Eligible Facilities?**

11 A. The Company has identified a significant portion of its system that has become
12 constrained and cannot support load growth from existing or new customers. In
13 order to eliminate the constraint with increased pressure and allow this area to flow
14 additional gas supply, capital improvements and reinforcement are required. Thus,
15 the Rochester Reinforcement Project is a part revenue and part non-revenue capital
16 investment. Also, these types of distribution reinforcement projects are infrequent
17 but significant capital investments required to allow existing and future customer
18 load in areas which have reached the capacity of the main.

19 **IV.SUMMARY OF CAPITAL SPENDGING ON ELIGIBLE FACILITIES**

Q. Please summarize how much capital spending on Eligible Facilities has occurred since 2013 and how much capital spending is expected over the next 5 years?

A. Table 1 below identifies the actual capital spending from 2013-2016 and forecast capital spending from 2017-2021 on Eligible Facilities.

Table 1 Capital Spending on Eligible Facilities

	Actual (000's)				Forecast (000's)				
	2013	2014	2015	2016	2017	2018	2019	2020	2021
Eligible Facilities									
NH Mains Replacement	2,993	6,504	1,980	485	5,997	0	0	0	0
Mains Extension excl. services	3,187	5,020	7,748	6,918	2,766	2,168	2,513	2,679	3,390
City/State Highway Projects	4,091	2,160	1,073	2,953	3,121	5,499	4,020	4,283	5,399
Subtotal Eligible Facilities	10,270	13,684	10,802	10,357	11,884	7,667	6,534	6,961	8,789
Additional Eligible Facilities									
Farm Tap Replacements					0	516	1,180	1,237	1,595
Excess Flow Valve Installations					500	500	500	500	500
Rochester Reinforcement					773	4,031	2,814	2,426	0
Subtotal Additional Eligible Facilities	0	0	0	0	1,273	5,047	4,495	4,163	2,095
Total Eligible Facilities	10,270	13,684	10,802	10,357	13,157	12,714	11,028	11,124	10,884
Total Capital Spending	14,747	20,406	19,177	19,399	16,912	18,640	14,905	15,205	15,616
% Eligible Facilities to Total Spending	70%	67%	56%	53%	78%	68%	74%	73%	70%

V. COST MANAGEMENT

Q. How does the Company ensure that projects associated with Eligible Facilities are completed as cost effectively as possible?

A. The primary means by which the Company controls costs and ensures the lowest price for its construction, is the contracting strategy devised for these activities.

1 Unitil awards multi-year contracts structured as “unit price contracts” through a
2 competitive bidding process. Before awarding the contract, Northern performs
3 analyses to ensure that the winning bidder delivers the lowest overall cost given
4 the actual units of work to be completed.

5

6 **Q. Please describe the unit price contract.**

7 A. A unit price contract is one under which the Company pays a predetermined price
8 for a defined quantity of work to be performed, including the price charged for
9 labor, construction materials, equipment rental, and associated services. In this
10 way, the cost of construction is “controlled” because the cost is fixed for the
11 duration of the contract and the contractor is only paid for units of work
12 completed. The contractor is incented to work efficiently and complete as many
13 units of work as possible, while the Company and its ratepayers are protected from
14 construction inefficiencies. Through this contracting strategy, the Company
15 accomplishes two key objectives:

- 16 1. The objective of ensuring that services (unit prices) are obtained at the
17 lowest available cost is ensured through competitive solicitation; and
18 2. The objective of cost control is accomplished through the unit pricing
19 (fixed pricing) in the contract.

20

21 **Q. Do the Company’s project supervisors have incentives for cost containment?**

1 A. Yes. Unitil has a performance management system for setting performance
2 expectations, monitoring progress, measuring results, appraising, rewarding and/or
3 correcting employee performance. In addition, the Company uses project
4 management techniques to manage construction and maintenance activities. The
5 project supervisors have ownership of assigned projects and are responsible for the
6 scope, schedule and budgetary objectives for each project. As part of the
7 Company's performance management system each manager and supervisor
8 receives an annual performance contract. This performance contract covers all
9 aspects of job expectations, including meeting established financial objectives,
10 which are weighted heavily. The performance review process includes, at a
11 minimum, two written performance appraisals (mid-year and year end) and our
12 organizational structure provides the opportunity for continuous feedback. Annual
13 salary increases for established supervisors are merit based, and the financial
14 incentive for project cost control is established through this process.

15
16 **Q. Does the Commission have an avenue to contain the Company's cost for**
17 **Eligible Facilities?**

18 A. Yes. The Company's proposed annual revenue and base rate step adjustment
19 recovery mechanism allows it to recover only prudently incurred costs of the
20 defined Eligible Facilities as approved by the Commission.

21 **VI. MISCELLANEOUS CHARGES**

1 **Q. What are proposed revisions to the Company's miscellaneous charges?**

2 A. The Company is proposing a Meter Read Charge, as found in Appendix A to the
3 Company's Delivery Service Terms and Conditions, for when a Retail Choice
4 Program customer-maintained phone line is not reporting daily telemetered usage
5 and the Company is required to make a specific trip to the customer location at the
6 end of the billing cycle in order to read the meter and obtain the daily usage data.
7 In addition, the Company is proposing to update its Turn-On Charge, as found in
8 the Company's Rate Schedules. Both charges better reflect the cost of providing
9 the service.

10 The proposed charge for each miscellaneous service is based on the labor and
11 travel expenses required.

12 **VII. CONCLUSION**

13 **Q. Can you please summarize your testimony?**

14 A. Yes. I have provided testimony regarding the reasonableness of Company's plans
15 to replace outdated infrastructure, comply with federal and state safety and
16 integrity management regulations, and state and city road relocation projects,
17 while investing in the expansion of our natural gas system to continue to safely
18 and reliably serve thousands of existing and new customers in New Hampshire,
19 and on the need for a rate plan to recover the costs related to these significant
20 capital infrastructure replacement programs. Also, I have provided testimony

1 regarding the need to update miscellaneous charges to reflect the costs of
2 providing the service.

3

4 I will summarize my testimony briefly here as to what the Company proposes for
5 Eligible Facilities for inclusion in its proposed step adjustments :

6 NH Mains Replacement Program

- 7 • The Company plans to complete the NH Mains Replacement Program in
8 2017 which originated with the acquisition of Northern in 2008. In 2017,
9 the Company plans on spending approximately \$6 million to finish the
10 replacement of mains in addition to other bare steel services and associated
11 facilities. These are non-revenue producing capital investments designed
12 to improve the reliability and safety of the gas system.

13 Gas Mains Extensions

- 14 • The Company expects to approximately \$13.5 million on gas mains
15 extensions from 2017 to 2021. This forecast is based on the level of
16 activity experienced in 2016 with a 3% increase year over year for
17 increases related to materials and labor. This amount may increase or
18 decrease depending upon the price advantage of gas to oil.
- 19 • As Northern's distribution system grows, customers will benefit as the
20 Company's cost of service is spread over higher distribution volumes.

21 Gas Highway Projects City State

- The Company plans to invest approximately \$22 million over the next five years on projects initiated by state or local agencies. This investment level is consistent with historic norms. These are non-revenue producing capital investments.

Farm Tap Regulator Replacements

- The Company has identified farm tap regulator replacements as a risk to the system. The Company plans to invest approximately \$4.5 million over the next five years on projects designed to replace buried farm taps. These are non-revenue producing capital investments designed to improve the reliability and safety of the gas system.

Excess Flow Valve Installations

- PHMSA has amended C.F.R. §192.383 regarding Excess Flow Valve installations. The new regulations allow customers to request EFV installations on service lines where and EFV does not exist. The Company is unclear at the impact of this new regulation, but has estimated spending \$500,000 a year. These are non-revenue producing capital investments designed to improve the reliability and safety of the gas system.

Rochester Reinforcement Projects

- The Company plans to invest approximately \$9 million over the next five years on projects designed to increase the system capacity in the Rochester area for existing and new customers. This project, similar to a mains extension project, does not directly translate entirely to load growth but is

1 required, in part, to increase pressure in that section of the Company's
2 distribution system.

3

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

5 **A. Yes, it does.**