Liberty Utilities

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

PAUL M. NORMAND

April 28, 2017

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ATTACHMENTS

Attachment	Title
PMN-1	Qualifications of Paul M. Normand
PMN-2	Depreciation Rate Study

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1 **I.**   **INTRODUCTION**

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

3 A.   My name is Paul M. Normand. I am a principal with Management Applications

4   Consulting, Inc. ("MAC"), 1103 Rocky Drive, Suite 201, Reading, Pennsylvania 19609.

5 **Q.**   **Please describe MAC.**

6 A.   MAC is a management consulting firm that provides rate and regulatory assistance

7   including depreciation services for electric, gas, and water utilities.

8 **Q.**   **Would you please summarize your education and business experience?**

9 A.   This information is contained in Attachment PMN-1.

10 **II.**   **SCOPE OF TESTIMONY**

11 **Q.**   **What the purpose of your testimony in this proceeding?**

12 A.   MAC was engaged by Liberty Utilities (EnergyNorth Natural Gas) Corp. ("EnergyNorth

13   or "the Company") to conduct a depreciation rate study as part of its rate case filing. The

14   purpose of my testimony is to sponsor and describe the study conducted by MAC and

15   summarize the results.

16 **Q.**   **What are your responsibilities in connection with the depreciation study?**

17 A.   I am responsible for planning the study, delineating and coordinating data collection,

18   ensuring the reasonableness of the data, and properly reflecting any accounting

19   adjustments. Beyond data collection, I am responsible for the performance and

1   interpretation of statistical analyses and the preparation of appropriate schedules to reflect

2   the results of the study.

3 **III.   DEPRECIATION STUDY**

4 **Q.   Have you prepared an exhibit summarizing the depreciation study performed by**

5 **MAC?**

6 A.   Yes, the results of the study are shown in a report entitled, "Liberty Utilities

7   (EnergyNorth Natural Gas) Corp. – Depreciation Rate Study – Depreciation Accrual

8   Rates Based on Gas Plant in Service at December 31, 2016" ("the Depreciation Study"),

9   identified as Attachment PMN-2.

10 **Q.   What is the basis of the Company's current depreciation accrual rates?**

11 A.   The current accrual rates were approved by the New Hampshire Public Utilities

12   Commission ("PUC" or "Commission") in Docket No. DG 08-009.

13 **Q.   Is the model used in the Depreciation Study consistent with EnergyNorth's last**

14 **depreciation study?**

15 A.   Generally speaking, yes. The analyses were based on the Simulated Plant Record

16   ("SPR") life analysis approach using a straight line method, broad group procedure,

17   average whole life technique using the "Iowa"-type survivor curves for all accounts.

1 **Q.**   **Are the contents of the Depreciation Study true and correct to the best of your**

2   **knowledge?**

3 A.   Yes. The proposed depreciation rates are the result of a detailed analysis of investment

4   and retirements in plant and represent a fair and reasonable recovery of depreciation

5   expense.

6 **Q.**   **When was the Company's last depreciation study?**

7 A.   The Company's last depreciation study was dated February 15, 2008, using a calendar-

8   year-ended December 31, 2006, history. Appendix A of the Depreciation Study presents

9   the 2006 summary accrual rate schedule results for reference purposes. Included in

10   Appendix B is the comparable schedule from the January 23, 2009, Partial Settlement in

11   Docket No. DG 08-009 that reflected adjustments to the previous study's results and

12   established the current accrual rates for each account.

13 **Q.**   **Are you familiar with the National Association of Regulatory Utility Commissioners**

14   **("NARUC") definition of depreciation?**

15 A.   Yes. The definition of depreciation adopted by the NARUC is:

16   *"Depreciation," as applied to depreciable utility plant, means the loss in*
17   *service value not restored by current maintenance incurred in connection*
18   *with the consumption or prospective retirement of utility plant in the course*
19   *of service from causes which are known to be in current operation and*
20   *against which the utility is not protected by insurance. Among the causes*
21   *to be given consideration are wear and tear, decay, action of the elements,*
22   *inadequacy, obsolescence, changes in the art, changes in demand and*
23   *requirements of public authorities.*

1   Another commonly referenced definition of depreciation is that of the American Institute

2   of Certified Public Accounts (AICPA):

3   *Depreciation accounting is a system of accounting which aims to distribute*
4   *the cost or other basic value of tangible capital assets, less salvage (if any)*
5   *over the estimated useful life of the unit (which may be a group of assets) in*
6   *a systematic and rational manner. It is a process of allocation, not of*
7   *valuation. Depreciation for the year is the portion of the total charge under*
8   *such a system that is allocated to the year. Although the allocation may*
9   *properly take into account occurrences during the year, it is not intended to*
10   *be a measurement of the effect of all such occurrences.*

11   The two foregoing citations are found on pages 13 and 14, respectively, of "Public Utility

12   Depreciation Practices," August 1996, by the NARUC Staff Subcommittee on

13   Depreciation.

14   The AICPA definition helps clarify the NARUC definition in that it brings to the

15   description the process of allocation of cost.

16   **Q.   What is the purpose of conducting a periodic book depreciation rate study?**

17   A.   Consistent with the definitions above, the purpose of a depreciation study is to develop

18   depreciation accrual rates reflective of engineering judgment, current industry and

19   specific company experience, and current projections for the future, relative to the

20   particular depreciable assets under study. The objective of depreciation as an element of

21   the cost of service is to provide for the appropriate and equitable recovery of the

22   investments in depreciable assets over a life term that assures the full recovery of the

1 investments less estimated net salvage. Net salvage is the gross salvage less those costs

2 relating to the removal or retirement of assets.

3 **Q.** **Have you prepared a depreciation study for EnergyNorth?**

4 A. Yes. The results of this study are shown in a report entitled, "Depreciation Rate Study –

5 Depreciation Accrual Rates Based on Gas Plant in Service at December 31, 2016" ("the

6 Depreciation Study"), identified as Attachment PMN-2.

7 **Q.** **What procedures did you employ in compiling the depreciation study?**

8 A. First, the depreciation study databases were created. The Company provided MAC with

9 available property accounting history updates to the existing historical databases from the

10 last study for each relevant account to December 31, 2016. The Company also provided

11 MAC with recent plant account level gross salvage and removal cost history.

12 **Q.** **Please continue.**

13 A. We analyzed the historical data using computerized statistical routines and evaluated the

14 output by considering the indications from the statistical analyses, input from the

15 Company's management, the character of the depreciable assets, MAC's experience with

16 like assets, and engineering knowledge and judgment. Final calculations were then made

17 to develop the recommended accrual rates for each category of plant as shown in the

18 Depreciation Study (Attachment PMN-2) section VII, entitled, "Accrual Rate Schedule

19 and Descriptions."

1 **Q.** **You previously referred to "statistical analyses." Please explain what is meant by this**

2 **term.**

3 A. This term refers to Simulated Plant Record ("SPR") life analysis, a well-known and well-

4 accepted technique employed in depreciation studies. Its purpose is as a tool that can

5 assist in estimating the average life of an asset. An SPR life analysis can be performed

6 whenever there is an adequate volume and frequency of additions and retirements.

7 SPR life analyses are known by some as "semi-actuarial life analyses." The SPR-

8 Balances analysis used in this study is an iterative procedure in which certain values

9 (survivor factors) from empirical survivor curves (Iowa curves) are applied to a

10 company's actual, recorded annual additions to generate theoretical surviving year-end

11 balances. The procedure identifies the empirical curves that best simulate the actual

12 ending balances in a specified band of years.

13 The Iowa survivor curves used in our analyses were developed in the 1930s at Iowa State

14 University; they are empirical curves whose equations are published, along with tables of

15 various values, e.g., survivor factors at various ages. Iowa curves are widely accepted in

16 the industry as a common and convenient means of communicating and calculating

17 technical depreciation parameters.

18 As mentioned previously, the SPR life analyses of property history can be helpful in

19 estimating the life of some historical investments, a starting point in the life estimation

20 process; however, it must be noted that life analysis is _not_ life estimation. Unfortunately,

21 life analysis can only provide an indication as to what has happened in the past. In

1   performing a depreciation study such as the one in this case, the goal is to estimate what

2   will occur in the future, not merely measure the past.

3 **Q.   What are the most prevalent approaches used in developing accrual rates?**

4 A.   The depreciation process consists of selecting one of the more prevalent utility categories

5   from each of the following three areas to develop a complete system in a study of utility

6   plant:

7

Method	Procedure	Technique
Straight Line	Broad Group	Remaining Life
Life Span	Vintage (aged)	Whole Life
	Equal Life Group	

8 **Q.   What system was used to develop the proposed accrual rates?**

9 A.   The accrual rates were derived by using a straight line method, broad group average service

10   life procedure, and a whole life depreciation technique for each plant account as follows:

11

$$\text{Whole Life Accrual Rate} \quad = \frac{100\% - \text{Net Salvage (NS)}}{\text{Average Service Life}}$$

12   This is the depreciation system that was used and approved in the Company's last filing.

13 **Q.   In evaluating the SPR life analyses, you previously stated that you also considered**

14   **input from the Company. What type of information did you consider?**

15 A.   MAC also conferred with the Company to determine if there were any occurrences,

16   changes in policy, procedures, equipment, or practices that might affect service life,

1 salvage, or removal cost associated with depreciable assets. The major consideration was

2 to determine whether indications of the past would likely be representative of the near-

3 term future.

4 **Q.** **Your answers to previous questions indicate judgment and experience are significant**

5 **elements in life estimation and in the interpretation of statistical analyses. Do other**

6 **depreciation experts and authoritative sources concur?**

7 A. Yes, the literature is unambiguous on this point. For example, page I.1 of the New York

8 State Department of Public Service publication, "Computer Supported Property Mortality

9 Studies," published in 1971, states:

10 *The purpose of an actuarial mortality study of public utility property is to*
11 *make a statistical determination of a representative life table and average*
12 *service life. The method used to derive these quantities in this report is that*
13 *of smoothing and extending the retirement ratios.*
14
15 *It must be clearly understood that the computer procedure explained in*
16 *Section II accomplishes electronically only those computations which have*
17 *had to be done manually, and nothing else. Because of the computer's large*
18 *storage capacity and extremely fast running time, it is able to calculate a*
19 *great deal more than has ever been obtained manually in the past.*
20
21 *The computer exercises no judgment, reflects no opinions or company*
22 *policies and does not forecast the future. The computer programs are*
23 *merely the results of applying certain mathematical formulae to a set of*
24 *statistics obtained from accounting records – and, based on these data and*
25 *formulae give an indication of what has been the retirement experience of*
26 *the past and what would be the future life pattern if the same experience*
27 *were constant over the entire life of the surviving property under study.*
28
29 *Under no circumstances should it be construed that a specific indicated*
30 *service life and life table developed by this computer process must*
31 *necessarily be used as the life table and average service life in arriving at*
32 *a final estimate of annual and accrued depreciation. Stress is placed on the*
33 *fact that the selected life table and average service life finally used, whether*

1   *or not developed by program PSU-2 or PSU-2A must be the engineer's best*
2   *estimate for the property under study.*

3   In summary, life estimation considers the blending of many factors, including informed

4   judgment. We are predicting the future expected lives of the Company's various asset

5   categories.

6   **Q.**   **Can you provide other citations?**

7   A.   Mr. Alex E. Bauhan, the person who developed the SPR-Balances method of life

8   analysis, cites the need for exercising judgment in his paper in which the method was

9   introduced to the industry. In his paper, given in April 1947 to the National Conference

10   of Electric and Gas Utility Accountants of the American Gas Association (AGA) and

11   Edison Electric Institute (EEI), under the heading, "Multiple Indications," he states:

12   *The method reads the past and not the future, and has no way of telling*
13   *which patterns will be followed in the future. Neither the actuarial or any*
14   *other statistical process can eliminate this dilemma. Only by the exercise*
15   *of reasonable judgment, or by the passage of time, can a selection be made.*

16   In discussing the Retirement Experience Index, regarding the situation where the index is

17   "poor or valueless," Mr. Bauhan states:

18   *In all such cases, for estimating purposes, the result of the analysis should*
19   *be discarded and a judgment figure should be substituted in place of it. In*
20   *those cases where the experience index is only fair, the result should be*
21   *examined critically, and if it is not supported by reasoned judgment, it*
22   *should be accordingly modified.*

1   Mr. Bauhan's paper is found in the Edison Electric Institute Publication No. 51-23, titled,

2   "Methods of Estimating Utility Plant Life" published in 1952; the foregoing quotations

3   are found on pages 61 and 63, respectively.

4   The Retirement Experience Index (REI) is the percentage of the accumulated retirements

5   with the given Iowa curve from the oldest capital addition, e.g., if the oldest addition was

6   1930, by convention it would be 70.5 years old at year-end 2000. If the Iowa curve in

7   question was a 35-year L 1.0, the REI would be 96; that is, the 35-year L 1.0 Iowa curve

8   shows 4 percent surviving at age 70.5 years, and 100 percent less 4 percent equals 96

9   percent.

10   In summary, life estimates consider many factors, including the importance of informed

11   judgment.

12   **Q.   Have you employed your judgment in this depreciation study?**

13   A.   Yes. In the course of the depreciation study, MAC has conferred with Company

14   management and operating personnel, reviewed and considered the types of property in

15   the various primary plant accounts, and performed life analyses of the history of the

16   property. MAC also relied upon its experience in doing similar studies as engineers and

17   consultants in evaluating, interpreting, and estimating the life analysis of utility property.

1   **Q.   What is the total composite annual accrual rate which results from your depreciation**

2   **study?**

3   A.   The composite of the proposed straight line, whole life individual account rates detailed

4   in the depreciation study is 3.15% as shown in Schedule A, column 8, of the report along

5   with the details for each account. The proposed accrual rates do not include any

6   amortization of the depreciation reserve variance.

7   The accrual rate Schedule A, the "Schedule of Depreciation Accrual Rates, Whole Life

8   Schedule with Reserve Variance," also presents the differences (variances) between the

9   actual book depreciation reserves and our computed (theoretical) reserves.

10   **Q.   Does your current depreciation study indicate any variance between the Company**

11   **booked-to-theoretical reserve levels?**

12   A.   Yes, it does. The current variance is $9,946,778 which reflects an under recovery which

13   is primarily driven by Account 367.00, Mains. As a result, we recommend that the

14   Company stop its monthly reserve adjustments. Our recommendation with respect to this

15   variance is to amortize this amount over two depreciation cycles or twelve years as one

16   cycle reflects periodic studies taken every five to seven years.

17   **Q.   What is the theoretical reserve you just mentioned?**

18   A.   The theoretical reserve is a calculation of the estimated future reserve requirement of

19   depreciation expense to be charged if the future retirements follow the recommended

20   mortality characteristics and the parameters chosen for each plant account in a study

21   (average service life, survivor curve, net salvage).

1   **Q.**   **What plant accounts did you consider in your proposed net salvage (NS) calculations?**

2   A.   The net salvage factors incorporated into the proposed accrual rates were kept consistent

3   with those levels included and approved in the Company's existing accrual rates as shown

4   below:

5

Plant Account	Proposed NS	Existing NS
1356 Mains	-15%	-15%
1359 Services	-60%	-60%
1372.1 Office Equipment	5%	5%

6   These NS factors were not adjusted from existing levels based on our review of the

7   historical data and represent a reasonable level of cost recovery based on our experience.

8   **Q.**   **Do your depreciation study results indicate any change to the Company's annual**

9   **accrual expense?**

10   A.   Yes, they do. Using December 31, 2016, plant balances and the recommended accrual

11   rates proposed, the annual accrual expense results in an ($82,740) reduction from the

12   existing approved rates as can be noted on page 11 of the Depreciation Study,

13   Attachment PMN-2, and Schedule B, column (10), showing each account.

14   **IV.**   **CONCLUSION**

15   **Q.**   **Does this complete your testimony?**

16   A.   Yes.