STATE OF NEW HAMPSHIRE

BEFORE THE

PUBLIC UTILITIES COMMISSION

City of Nashua: Taking of Pennichuck Water Works, Inc.

Docket No. DW 04-048

REPLY TESTIMONY OF RICHARD RIETHMILLER

May 22, 2006

138

Q. Please state your name.

A. My name is Richard Riethmiller. I testified earlier in this proceeding, on January 12, 2006.

Q. What is the purpose of your reply testimony?

A. I have reviewed the testimony and reports of the City of Nashua's valuation witnesses, George E. Sansoucy and Glenn C. Walker of George E. Sansoucy, P.E., LLC. Collectively, I refer to both as Mr. Sansoucy. The purpose of my testimony is to compare and contrast Mr. Sansoucy's age-life depreciation method with the observed depreciation method I used in the replacement cost new less depreciation ("RCNLD") method.

Q. Briefly describe your approach to determining observed depreciation of the assets of the PWW System.

A. Unless an asset is new or is retired with no scrap value, the estimate of observed depreciation is rarely simple and requires (1) the analysis of multiple factors, (including historical system information) and (2) the application of engineering experience and professional judgment. In fact, an engineer evaluating the observed depreciation of any given asset will seek to obtain as much physical and historical information as possible concerning that asset. Ideally, the engineer will inspect the physical condition of the asset, provided it is visible and accessible. Whether the asset is visible or not, the engineer will review any historical information and/or data in the company's records concerning the asset, such as its age, frequency of use, capacity, exposure to the elements, conditions under which the asset is operated, internal vibration (if applicable), and other operating stresses.

The information gathering process also includes in-depth discussions with personnel who are familiar with the operation of the system and who have institutional knowledge of the system to learn about the level of system maintenance and rehabilitation, the frequency of use, the system's experience with similar assets that have already been retired, and the historical performance of the subject assets. In the case of buried assets, such as transmission and distribution mains, I follow the same information gathering protocol on the specific asset. In addition, it is important to inspect random pipeline samples, particularly of the pipe materials that typically evidence the highest level of depreciation over time.

In assigning an observed depreciation percentage to the property, I determined the condition of the property as of the valuation date, December 31, 2004.

Q. What method did Mr. Sansoucy use to determine the depreciation of the assets of the PWW System?

A. In attempting to estimate depreciation, Mr. Sansoucy did something completely different in his report. He used an age-life method to determine what he calls the "incurable physical deterioration" of the property, which he defines as the "decay of items over the course of time that cannot be reversed or eliminated without replacement or major repairs to the property."[1] Mr. Sansoucy's use of the age-life method relies on what he describes as two "primary factors": (1) the ***expected useful physical life***, or economic life expectancy, as compared against, (2) ***the actual age of the asset*** as reflected in the PWW records. Any way you look at the age-life method, Mr. Sansoucy's depreciation

[1] Sansoucy Report at p. 40.

calculation is only as credible as (1) the data used for the expected life of the PWW assets and (2) the data used to conclude the actual age of the PWW assets.

Q. Other than the dependency on the reliability of the underlying system data, what are the limitations of Mr. Sansoucy's application of the age-life method?

A. Mr. Sansoucy assumes in his application of the age-life method that the subject property or categories of property depreciate on a straight line basis over the course of its economic life. In addition, Mr. Sansoucy's application of the age-life method does not adequately recognize the long-lived nature of a water distribution system.

Q. You testified earlier that transmission and distribution piping is a relatively large investment for a water company, correct?

A. Yes, and transmission and distribution piping is also the category of assets where the deficiency of the age-life depreciation method is most evident due to the long lived nature of the asset.

Q. Why is the age-life method not appropriate to value the assets of a water company for these proceedings, and specifically the water pipe?

A. My experience has shown that a water system does not physically deteriorate on a straight line basis. Therefore, straight line depreciation is a poor indicator of its condition at any given point in time. As I testified earlier, the enormous capital investment in a water system is justified by the long lived nature of the assets, particularly water pipes. Water pipes can last for, and have lasted for, hundreds of years. In comparing pipe installed in 1900 versus pipe installed in 1918, there is likely no demonstrable difference in the physical condition of the material. Similarly, there may be no difference in pipe installed in 1920 versus 1955. A host of factors bear upon the current and actual

condition of the piping. These factors include the quality of manufacturing, the stresses in the pipe, the care taken in installing the pipe in the trench, how the pipe is bedded, and how corrosive the soils are in that area of the system. None of these factors, or the consequential long lived nature of water pipe in general, is reflected or considered in an age-life study utilizing straight line depreciation such as conducted by Mr. Sansoucy. Not only do conditions other than age directly impact the actual condition of the pipe of any system, we simply have insufficient data to reliably estimate the expected service lives of the water piping used in the PWW System. For an age-life study to be reliable, you must have records that accurately reflect a reasonable percentage of pipe that has (1) actually reached the end of its service life and (2) has actually died a natural death.

Q. Mr. Sansoucy's report states that three factors were considered in "calculating the useful physical life for the assets of PWW": "[1] the materials and design used to construct the assets, [2] the regulatory service lives, and [3] the age of the property."[2] Please comment on whether this is a proper method to determine the useful life of the PWW assets.

A. While you can garner some information on how an asset will perform over time from the type of material that was used to construct it, you need a lot of other information to accurately determine its current condition. Pipes are installed and then remain in the ground for years.

As to the use of regulatory service lives, these are not a reflection of the actual service lives of the water piping. Regulatory service lives include all pipe retirements. For rate-making purposes, this is appropriate. However, for sale price valuation purposes, this is

[2] Sansoucy Report at p. 41.

not appropriate. Regulatory service lives are used to calculate "book" depreciation and utilize straight line depreciation rather than the more accurate determination of the observed (or existing) depreciation at the time of sale. Water pipes can still be serviceable, and can still be providing a necessary function for the water system, long after they are fully depreciated and reach the end of their regulatory service lives.

Q. Why is observed depreciation a preferred method of determining the existing degree of depreciation in a water distribution system?

A. Observed depreciation informs the Commission of the ***existing condition*** of the pipe in the PWW System as of the valuation date. It tells the Commission what is there, and what it is worth at the time of sale, and it takes into account the long lived nature of the assets.

Q. Does this conclude your testimony?

A. Yes.