

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

**Pennichuck Water Works, Inc.**

**Docket No. DW 08-073**

**DIRECT TESTIMONY OF HAROLD WALKER, III**

**June 20, 2008**

**DIRECT TESTIMONY  
OF  
HAROLD WALKER, III  
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1   **INTRODUCTION**

2  
3       **Q.   PLEASE STATE YOUR NAME AND BUSINESS ADDRESS.**

4       A.   My name is Harold Walker, III. My business mailing address is P. O. Box 80794, Valley  
5           Forge, Pennsylvania, 19484.

6  
7       **Q.   BY WHOM ARE YOU EMPLOYED AND IN WHAT CAPACITY?**

8       A.   I am employed by Gannett Fleming, Inc. as Manager, Financial Studies of the Valuation and  
9           Rate Division.

10  
11       **Q.   WHAT IS YOUR EDUCATIONAL BACKGROUND AND EMPLOYMENT**  
12       **EXPERIENCE?**

13       A.   My educational background, business experience and qualifications are provided in  
14           Appendix A.

15  
16   **SCOPE OF TESTIMONY**

17  
18       **Q.   WHAT IS THE PURPOSE OF YOUR TESTIMONY?**

19       A.   The purpose of my testimony is to recommend an appropriate overall rate of return that  
20           Pennichuck Water Works, Inc. (PWW or the Company) should be afforded an opportunity  
21           to earn on its water utility service rate base. My testimony is supported by Attachment HW-  
22           2, which is composed of 20 Schedules.

23  
24   **SUMMARY OF RECOMMENDATION**

1  
2 **Q. WHAT IS YOUR RECOMMENDED COST OF EQUITY?**

3 A. My recommendation is that PWW be permitted an overall rate of return of 7.81% based  
4 upon the Company's pro forma capital structure at December 31, 2007 including an 11.25%  
5 cost of common equity. My recommended cost of common equity reflects PWW's unique  
6 risk characteristics.

7  
8 **Q. HOW DID YOU DETERMINE YOUR RECOMMENDED COMMON EQUITY**  
9 **COST RATE?**

10 A. I used several models to help me in formulating my recommended common equity cost rate  
11 including Discounted Cash Flow (DCF), Capital Asset Pricing Model (CAPM) and Risk  
12 Premium (RP).

13  
14 **Q. IS IT IMPORTANT TO USE MORE THAN ONE MARKET MODEL?**

15 A. Yes. It is necessary to estimate common equity cost rates using a number of different  
16 models. At any given time, a particular model may understate or overstate the cost of  
17 equity. While any single investor may rely solely upon one model, different investors rely  
18 on different models and many investors use many models. Therefore, because the price of  
19 common stock reflects a number of valuation models, it is appropriate to estimate the  
20 market-required common equity cost rate by applying a broad range of analytical models.

21  
22 **Q. PLEASE SUMMARIZE YOUR COMMON EQUITY COST RATE**  
23 **RECOMMENDATION.**

1       A. There is no market data concerning PWW's shares of common stock because PWW's shares  
2       of common stock are not publicly traded. Accordingly, due to the lack of market data  
3       concerning PWW's equity, I used a comparable group of publicly traded companies to  
4       estimate the common equity cost rate. Based upon the results of my entire analysis, I  
5       conclude PWW's current common equity cost rate is 11.5%. The current range of common  
6       equity cost for PWW is 11.65% (DCF), 14.45% (CAPM), and 11.25% (RP). Based on my  
7       discussions with PWW's management about their desire of limiting the rate increase on  
8       customers, I recommend a 11.25% cost of equity. As a check on the reasonableness of my  
9       common equity cost rate recommendation, I reviewed Value Line's projected returns on  
10      common equity for comparable utilities. Value Line is relied upon by many investors and  
11      is the only investment advisory service of which I am aware that projects return on equity.  
12      Value Line's projected returns on common equity for comparable utilities range from  
13      11.5% to 11.9%. The range of the projected returns suggests that my recommendation that  
14      PWW be permitted an opportunity to earn 11.25% is reasonable.

## 16   **PRINCIPLES OF RATE REGULATION AND FAIR RATE OF RETURN**

### 18   **Q. WHAT ARE THE PRINCIPLES GUIDING FAIR RATE OF RETURN IN THE** 19   **CONTEXT OF RATE REGULATION?**

20   A. In a capitalistic or free market system, competition determines the price for all goods and  
21   services. Utilities are permitted to operate as monopolies or near monopolies as a tradeoff  
22   for a ceiling on the price of service because: (1) the services provided by utilities are  
23   considered necessities by society; and (2) capital-intensive and long-lived facilities are

1 necessary to provide utility service. Generally, utilities are required to serve all customers  
2 in their service territory at reasonable rates determined by regulators. As a result, regulators  
3 act as a substitute for a competitive-free market system when they authorize a price for  
4 utility service.

5  
6 Although utilities operate in varying degrees as regulated monopolies, they must compete  
7 with governmental bodies, non-regulated industries, and other utilities for labor, materials,  
8 and capital. Capital is provided by investors who seek the highest return commensurate  
9 with the perceived level of risk. The greater the perceived risk, the higher the required  
10 return rate. In order for utilities to attract the capital required to provide service, a fair rate  
11 of return should equal the investor-required, market-determined rate of return.

12  
13 **Q. WHAT CONSTITUTES A FAIR RATE OF RETURN?**

14 A. Two noted Supreme Court cases define the benchmarks of a fair rate of return. In  
15 *Bluefield*<sup>1</sup>, a fair rate of return is defined as: (1) equal to the return on investments in other  
16 business undertakings with the same level of risks (the comparable earnings standard); (2)  
17 sufficient to assure confidence in the financial soundness of a utility (the financial integrity  
18 standard); (3) will maintain and support its credit, enabling the utility to raise or attract  
19 additional capital necessary to provide reliable service (the capital attraction standard). The  
20 second case, *Hope*<sup>2</sup>, determined a fair rate of return to be based upon guidelines found in  
21 *Bluefield* as well as stating that: (1) allowed revenues must cover capital costs including

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<sup>1</sup>Bluefield Water Works & Improvement Company v. P.S.C. of West Virginia, 262 U.S. 679 (1923).

<sup>2</sup>Federal Power Commission v. Hope Natural Gas Company, 320 U.S. 391 (1944).

---

1 service on debt and dividends on stock; and (2) the Commission was not bound to use any  
2 single formula or combination of formulae in determining rates. Utilities are not entitled  
3 to a guaranteed return. However, the regulatory-determined price for service must allow  
4 the utility a fair opportunity to recover all costs associated with providing the service,  
5 including a fair rate of return for investors.

## 7 **INVESTMENT RISK**

9 **Q. PREVIOUSLY, YOU REFERRED TO RISK. PLEASE DEFINE THE TERM RISK.**

10 A. Risk is the uncertainty associated with a particular action. The greater the uncertainty of a  
11 particular outcome, the greater the risk. Investors who invest in risky assets expose  
12 themselves to investment risk particular to that investment. Investment risk is the sum of  
13 business risk and financial risk. Business risk is the risk inherent in the operations of a  
14 business. Assuming a Company is financed with 100% common equity, business risk  
15 includes all operating factors that affect the probability of receiving expected future income  
16 such as: sales volatility, management actions, availability of product substitutes,  
17 technological obsolescence, regulation, raw materials, labor, size and growth of the market  
18 served, diversity of the customer base, economic activity of the area served, and other  
19 similar factors.

21 **Q. WHAT IS FINANCIAL RISK?**

22 A. Financial risk reflects the manner in which an enterprise is financed. Financial risk arises  
23 from the use of fixed cost capital (leverage) such as debt and/or preferred stock because of

1 the contractual obligations associated with the use of such capital. Because the fixed  
2 contractual obligations must be serviced before earnings are available for common  
3 stockholders, the introduction of leverage increases the potential volatility of the earnings  
4 available for common shareholders and therefore increases common shareholder risks.

5  
6 Although financial risk and business risk are separate and distinct, they are interrelated. In  
7 order for a company to maintain a given level of investment risk, business risk and financial  
8 risk should complement one another to the extent possible. For example, two firms may  
9 have similar investment risks, while having different levels of business risk if the business  
10 risk differences are compensated for by using more or less leverage (financial risk) thereby  
11 resulting in similar investment risk.

## 12 13 **DESCRIPTION OF THE COMPANY**

### 14 15 **Q. PLEASE GIVE A BRIEF DESCRIPTION OF THE COMPANY.**

16 A. PWW is an operating water company providing service to about 25,600 customers who are  
17 located in its franchise territory in southern New Hampshire. Water service is supplied  
18 through the Company's own distribution system to the inhabitants in the City of Nashua,  
19 New Hampshire and in portions of the towns of Amherst, Bedford, Derry, Epping, Hollis,  
20 Merrimack, Milford, Newmarket, Plaistow and Salem, New Hampshire. The Company's  
21 service territory has an estimated population of 257,000, about 19% of the population of the  
22 state of New Hampshire.



1 PWW is a wholly-owned subsidiary of Pennichuck Corporation (Pennichuck). Pennichuck  
2 is a holding company whose principal business is the ownership and operation of water  
3 utility subsidiaries. Pennichuck has three business segments, regulated water utilities,  
4 non-regulated water management services and real estate development and investment.  
5 PWW's revenues constituted 74% of Pennichuck's consolidated revenues in 2007.

## 7 **COMPARABLE GROUP**

### 9 **Q. HOW DO YOU ESTIMATE THE COST OF COMMON EQUITY FOR THE** 10 **COMPANY?**

11 A. PWW's common stock is not traded since it is held by Pennichuck. Accordingly, I  
12 employed a comparable group of utility companies with actively traded stock, to determine  
13 a market-required cost rate of common equity capital for PWW. Since there are no  
14 perfectly comparable companies to PWW, it is reasonable to determine the market-required  
15 cost rate for a comparable group of utility companies and adjust, to the extent necessary,  
16 for investment risk differences between PWW and the comparable group.

### 18 **Q. PLEASE GIVE A BRIEF OVERVIEW OF THE INDUSTRY IN WHICH THE** 19 **COMPANY OPERATES.**

20 A. PWW operates in the water supply industry. All of the water supply industry has a Standard  
21 Industrial Classification (SIC) code of 4941, water utilities, and includes establishments  
22 primarily engaged in distributing water for sale for residential, commercial, and industrial  
23 uses. Government-controlled establishments such as municipal service districts and public

1 utilities dominate the industry. Private companies or investor owned utilities (IOU) are  
2 active in the construction and improvement of water supply facilities and infrastructure.

3  
4 The water supply industry is the most fragmented of the major utility industries with more  
5 than 53,000 community water systems in the U.S. (83% of which serve less than 3,300  
6 customers). The nation's water systems range in size from large municipally-owned systems,  
7 such as the New York City water system that serves approximately 9 million people, to  
8 small systems, where a few customers share a common well.

9  
10 A comparative industry to the water supply industry is the wastewater utility industry. The  
11 wastewater utility industry is another fragmented industry, although not as fragmented as  
12 the water supply industry. According to the U.S. Environmental Protection Agency's (EPA)  
13 most recent survey of publicly-owned wastewater treatment facilities in 2004, there are  
14 approximately 16,600 such facilities in the nation serving approximately 75% of the U.S.  
15 population. Eighty percent of domestic wastewater systems are government-owned rather  
16 than IOUs. Currently, there are no wastewater utility companies that have actively traded  
17 stock.

18  
19 An estimated 14% of all water supplies are managed or owned by IOUs. IOUs consist of  
20 both companies with common stock that is either actively traded or inactively traded and  
21 companies that are closely held, or not publicly traded. Currently, there are only about 11  
22 investor owned water utility companies with publicly traded stock in the U.S.

**Q. HOW DID YOU SELECT THE COMPARABLE GROUP USED TO DETERMINE THE COST OF COMMON EQUITY FOR PWW?**

A. I selected a comparable group of water utilities to determine the cost of common equity for PWW. Unlike the other utility industries, only a portion of the IOU water companies with publicly traded stock in the U.S. are followed by security analysts. Coverage by security analysts is important when determining a market required cost of common equity. Accordingly, security analysts' coverage was considered when selecting my comparable group. I selected my water utility comparable group, Water Group Followed by Analysts (Water Group), based upon a general criteria that includes: (1) all U.S. water utilities who are covered by several security analysts as measured by the existence of several sources of published projected five-year growth rates in EPS; (2) with a Global Industry Classification System<sup>3</sup> (GICS) of 55104010 (i.e., Water Utility); (3) are not the announced subject of an acquisition; (4) currently pay a common dividend and have not reduced their common dividend within the past five years; and (5) have market capitalization greater than \$75.0 million.

It should be noted that the Water Group is also referred to as the Comparable Group and/or the Comparable Companies. The names of the utilities that comprise the Comparable Group are listed on page 1 of Schedule 8.

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<sup>3</sup>GICS are an eight-digit code that represents a company's Global Industry Classification Standard that was developed by Standard & Poor's and Morgan Stanley Capital International. The eight-digit code can be broken down according to a hierarchy of economic sectors, industry groups, industries and sub-industries: All Economic Sectors are represented by the leftmost two-digits; Industry Groups are represented by the combination of the leftmost four-digits; Industries are represented by the combination of the leftmost six-digits; and Sub-Industries are represented by the combination of the leftmost eight-digits.

---

1       **Q. WHY DID YOU CONSIDER WHETHER COMPARABLE COMPANIES WERE**  
2       **THE SUBJECT OF AN ACQUISITION?**

3       A. To begin with, there are only about 11 investor owned water utility companies with publicly  
4       traded stock in the U.S., and some of these companies are very small. As stated previously,  
5       the IOU water industry receives only limited exposure on Wall Street.

6  
7       Additionally, the merger activity in the water industry has resulted in abnormal or “tainted”  
8       stock prices in terms of a DCF analysis. Eight acquisitions of publicly traded water utility  
9       stocks have occurred or been announced since June 1998. This is a very large percentage  
10      (~50%) of available publicly traded water utility stocks. Typically, premiums are paid in  
11      corporate acquisitions. That is, when a tender offer is made for the purchase of all the  
12      outstanding stock of a company, the amount of that offer usually exceeds the price at which  
13      the stock was previously traded in the market. These large premiums are reflected in the  
14      prices of other water utilities that are not currently the announced subject of acquisition.<sup>4</sup>  
15      The merger activity in the water industry is still occurring as evidenced by the announced  
16      acquisitions of New York Service Co., Aquarion Water Company of Sea Cliff, Aquarion  
17      Water Company of New York and Birmingham Utilities over last year.

18  
19      **CAPITAL STRUCTURE**

20  
21      **Q. WHAT IS REQUIRED TO DEVELOP AN OVERALL RATE OF RETURN?**

---

<sup>4</sup>Multiple publications mention these impacts including numerous editions of the Value Line Investment Survey, Barron's - 3/01, and Utility Business - 6/02.

---

1 A. The first step in developing an overall rate of return is the selection of capital structure  
2 ratios to be employed. Next, the cost rate for each capital component is determined. The  
3 overall rate of return is the product of weighting each capital component by its respective  
4 capital cost rate. This procedure results in the Company's overall rate of return being  
5 weighted proportionately to the amount of capital and cost of capital employed by each class  
6 of investor.

7  
8 **Q. WHAT CAPITAL STRUCTURE RATIOS DO YOU RECOMMEND TO BE USED**  
9 **TO DEVELOP THE COMPANY'S OVERALL RATE OF RETURN?**

10 A. I recommend the adoption of the Company's pro forma capital structure ratios at the end of  
11 the test period, December 31, 2007, that include 57.8% debt and 42.2% common equity and  
12 are shown on Schedule 3. These capital structure ratios are currently the best available  
13 estimates of ratios likely to exist during the period that the proposed rates for water service  
14 will be in effect.

15  
16 **Q. HOW DOES THE COMPANY'S RECOMMENDED COMMON EQUITY RATIO**  
17 **COMPARE WITH RATIOS EMPLOYED BY OTHER INVESTOR-OWNED**  
18 **COMPANIES?**

19 A. The Company's pro forma capital structure reflects a common equity ratio of 42.2% is  
20 similar to ratios employed by other investor-owned water companies shown on page 2 of  
21 Schedule 3 and summarized below in Table 1. A comparison of the Company's capital  
22 structure ratios to those recently employed and forecasted to be employed by the  
23 Comparison Group is shown in Table 1.

TABLE 1

Capital Structure Ratios

12/31/0

7

Projected 2012

PWW

Water  
Group

Water  
Group

Debt	57.8	48.4	47.3
Preferred Stock	0.0	0.1	0.1
Common Equity	<u>42.2</u>	<u>51.5</u>	<u>52.6</u>
	<u>100.0</u>	<u>100.0</u>	<u>100.0</u>

PWW's rate making capital structure ratios are reasonable based upon the above information. PWW's smaller size can justify the use of more equity capital than the Comparison Group in order to counterbalance some of the risk associated with its size. The size of a company is an indicator of risk and is discussed later in my testimony in more detail. However, at this time, the Company has been unable to get additional equity due to the on going eminent domain proceeding. Prospectively, I believe the Company's equity ratio will increase closer to that of the Comparable Companies.

**Q. IS THE COMPANY'S TOTAL AMOUNT OF CAPITAL OUTSTANDING EXPECTED TO INCREASE MUCH OVER THE NEXT SEVERAL YEARS?**

A. Yes, due to capital expenditures. PWW's plant additions are estimated to total \$29.595 million for 2008 through 2010, averaging about \$9.865 million annually. Due to the

1 magnitude of PWW's future capital expenditures, it is imperative that the Company is  
2 afforded the opportunity to present a favorable financial profile.

3  
4 **EMBEDDED COST RATE**

5  
6 **Q. WHAT EMBEDDED COST RATES DO YOU RECOMMEND BE USED TO**  
7 **CALCULATE THE COMPANY'S OVERALL RATE OF RETURN?**

8 A. I recommend using the Company's embedded debt cost rate of 5.30% pro forma at  
9 December 31, 2007.

10  
11 **Q. HOW DID YOU DETERMINE THE COMPANY'S EMBEDDED COST RATES?**

12 A. The determination of an embedded cost rate is a relatively simple arithmetic exercise  
13 because a company has contracted for this capital for a specific period of time and at a  
14 specific cost, including issuance expenses and coupon rate.

15  
16 The embedded cost rate is determined by employing an "all in annual cost," using as inputs  
17 the coupon rate, annual amortization of issuance expenses. Once the "all in annual cost,"  
18 is determined for each issue, it is weighted according to the amount of capital outstanding  
19 for each series to determine the weighted composite cost or the embedded cost.

1 **FINANCIAL ANALYSIS**

2

3 **Q. HAVE YOU REVIEWED HISTORICAL FINANCIAL INFORMATION OF PWW**  
4 **AS PART OF YOUR ANALYSIS?**

5 A. Yes. On page 1 of Schedule 5, I developed a five-year analysis, ending 2007, detailing  
6 various financial ratios for PWW. On Schedules 6 and 7, I performed a similar analysis for  
7 the Water Group and the results of operations for a large broad-based group of utilities  
8 known as the S&P Utilities for the five years ended 2007. This information is useful in  
9 determining relative risk differences between different types of utilities.

10

11 **Q. WHAT DO YOU CONCLUDE FROM THE COMPARISON OF ALL THE**  
12 **INFORMATION SHOWN ON SCHEDULES 5 THROUGH 7?**

13 A. Taken together, these comparisons show that PWW is exposed to risk that is similar in  
14 nature but greater in degree compared with the comparable groups. This is evident in  
15 particular when one considers the magnitude of PWW's future construction expenditures  
16 and the downward pressure it will place on PWW's financial ratios as measured by interest  
17 coverage and cash generation.

18

19 **Q. WHAT INFORMATION IS SHOWN ON SCHEDULE 8?**

20 A. Schedule 8 lists the names, issuer credit ratings, common stock rankings, betas and market  
21 values of the companies contained in the Comparable Group and the S&P Utilities. As is  
22 evident from the information shown on Table 2, the Comparable Group and the S&P  
23 Utilities are similar to each other in risk. The Water Group's average issuer credit ratings



and common stock rankings are higher than and the S&P Utilities. The average beta of the Comparable Group, 1.01, is higher than the average beta of the S&P Utilities. Beta is a measure of volatility or market risk, the higher the beta, the higher the market risk. The market values provide an indication of the relative size of each group. As a generalization, the smaller the average size of a group, the greater the risk.

Page 2 of Schedule 8 shows that PWW has experienced the lowest return on equity (ROE) when compared to the Comparable Companies and the S&P Utilities. Moreover, PWW's dividend payout ratio is lower than the Comparable Companies and the S&P Utilities.

TABLE 2

	S&P Issuer Credit <u>Rating</u>	S&P Common <u>Stock Ranking</u>	Value Line <u>Beta</u>	Recent Market <u>Value</u> (Mill \$)	Market Quartile <u>Name</u>
Pennichuck Corp*	BBB-	Below Average (B)	NA		Mico-Cap
				97.9	
Water Group	A	Above Average (A-)	1.01		Mico-Cap
				552.7	
S&P Utilities	BBB	Average (B+)	0.91		Large-
				13,823.6	Cap
* - Bond rating equivalent to PWW's Baa3 rating by Moody's					

Standard & Poor's (S&P), the predominant bond rating agency, considers profit to be a fundamental determinant of credit protection. S&P states that a firm's profit level

1 . . . is a critical determinant of credit protection. A company that generates  
2 higher operating margins and returns on capital has a greater ability to  
3 generate equity capital internally, attract capital externally, and withstand  
4 business adversity. Earnings power ultimately attests to the value of the  
5 company's assets, as well. In fact, a company's profit performance offers a  
6 litmus test of its fundamental health and competitive position. Accordingly,  
7 the conclusions about profitability should confirm the assessment of business  
8 risk.<sup>5</sup>  
9

10  
11 **Q. WHAT INFORMATION IS SHOWN ON SCHEDULE 9?**

12 A. Schedule 9 reveals the capital intensity and capital recovery for PWW, the Comparable  
13 Companies and the S&P Utilities. Based upon the 2007 capital intensity ratio of plant to  
14 revenues, PWW (\$6.59) is the most capital intensive as compared to the Water Group  
15 (\$4.79), and S&P Utilities (\$2.36). In other words, PWW must invest \$6.59 in plant to  
16 produce a dollar of revenue or about 38% more than the amount of capital required in the  
17 Water Group just to produce the same level of revenue.

18  
19 From a purely financial point of view, based on current accounting practices, the rate of  
20 capital recovery or depreciation rate is an indication of risk because it represents cash flow  
21 and the return of an investment. The Company's average rate of capital recovery is about  
22 5% higher than the Comparable Group's, suggesting lower risk.  
23  
24  
25

---

<sup>5</sup> *Standard & Poor's Corporate Rating Criteria*, 2006, pg 26.

---

1           **RISK ANALYSIS**

2

3           **Q. PLEASE EXPLAIN THE INFORMATION SHOWN ON SCHEDULE 9.**

4           A. Schedule 10 details the large size difference between PWW and the Comparable Group.

5           Company size is an indicator of business risk and is summarized in Table 3.

6

7

8

9

10

11

12

13

14

15

<b>TABLE 3</b>	
Number of Times Larger Than PWW	
	<u>Water Group</u>
Capitalization	6.7
Revenues	11.8
Number of Customers	12.2

16

17           As shown in Table 3, PWW is many times smaller than the Water Group. The size of a

18           company affects risk. A smaller company requires the employment of proportionately less

19           financial leverage (i.e., debt and preferred capital) than a larger company to balance out

20           investment risk. If investment risk is not balanced out, then a higher cost of capital is

21           required.

22

23           **Q. WHY IS SIZE SIGNIFICANT TO YOUR ANALYSIS?**

24           A. The size of a company can be likened to ships on the ocean since a large ship has a much

25           better chance of weathering a storm than a small ship. The loss of a large customer will

26           impact a small company much more than a large company because a large customer of a

27           small company usually accounts for a larger percentage of the small company's sales.

1 Moreover, a larger company is likely to have a more diverse geographic operation than a  
2 smaller company, which enables it to sustain earnings fluctuations caused by abnormal  
3 levels of rainfall in one portion of its service territory. A larger company operating in more  
4 than one regulatory jurisdiction enjoys "regulatory diversification" which makes it less  
5 susceptible to adverse regulatory developments or eminent domain claims in any single  
6 jurisdiction. Further, a larger company with a more diverse customer base is less  
7 susceptible to downturns associated with regional economic conditions than a small  
8 company. Within PWW's business segment, one customer accounted for approximately  
9 8% of water utility revenues in 2007, 8% of water utility revenues in 2006 and 9% of water  
10 utility revenues in 2005.

11  
12 Further, on average, the average company in the Water Group provide water/sewer service  
13 in multiple states for 315,000 customers. The average population of the communities  
14 served by this average company is about 1.0 million people. These wide ranging operations  
15 provide the Water Group substantial geographic, economic, regulatory, weather and  
16 customer diversification. PWW provides regulated water service to about 25,600  
17 customers. The concentration of PWW's business in southern New Hampshire,  
18 predominately in Nashua, makes it very susceptible to any adverse development in local  
19 regulatory, economic, demographic, competitive and weather conditions.

20  
21 The size of a company can be a barrier to fluid access to capital markets (i.e., liquidity risk).  
22 Investors require compensation for the lack of marketability and liquidity of their  
23 investments. If no compensation is provided, then investors, or at least sophisticated

1 investors, shy away.

2  
3 As shown on Schedule 11, size plays a role in the composition of investors, and hence  
4 liquidity. In 2007 only 133% of the Water Group's shares traded while the larger  
5 companies comprising the S&P Utilities had much higher trading volume of 176%.  
6 Insiders<sup>6</sup> hold more than four times more, as a percent to total, of the Water Group's shares  
7 than the S&P Utilities. Currently, only about 40% of the Water Group shares are held by  
8 institutions<sup>7</sup> while the larger companies comprising the S&P Utilities had much higher  
9 institutional holdings of 68%. Due to small size and less interest by financial institutions,  
10 fewer security analysts follow the Comparable Group and none follow PWW<sup>8</sup>.

11  
12 The lack of trading activity may affect the cost of equity estimates for small companies such  
13 as PWW and the Water Group. When stock prices do not change because of inactive  
14 trading activity, estimates of dividend yield for use in a dividend cash flow model and beta  
15 estimates for use in the capital asset pricing model are affected. In a stock market that is  
16 generally up, the beta estimates for the Comparable Companies are understated due to thin  
17 trading.

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<sup>6</sup>An insider is a director or an officer who has a policy-making role or a person who is directly or indirectly the beneficial owner of more than 10% of a certain company's stock.

<sup>7</sup>Institutional holders are those investment managers having a fair market value of equity assets under management of \$100 million or more. Certain banks, insurance companies, investment advisers, investment companies, foundations and pension funds are included in this category.

<sup>8</sup>PWW's parent company, Pennichuck, is followed less than the comparable companies as evidenced by: insider holdings of 9.2%; institutional holdings of 40.4%; and an average of 31 months for all common shares to turnover.

---

1     **Q. IS THE IMPACT OF SIZE COMMONLY RECOGNIZED?**

2     A. Yes, the National Association of Regulatory Utility Commissioners (NARUC) recognizes  
3         that size affects relative business risk as do most good financial texts. Liquidity risk and  
4         the existence of the small firm effect relating to business risk of small firms are well-  
5         documented in financial literature.<sup>9</sup> Investors' expectations reflect the highly-publicized  
6         existence of the small firm effect. For example, many mutual funds classify their  
7         investment strategy as small capitalization in an attempt to profit from the existence of the  
8         small firm effect.

9  
10        Further, Standard & Poor's (S&P), a major credit rating agency, recognizes that size plays  
11        a role in credit ratings.

12           Standard & Poor's has no minimum size criterion for any given rating level.  
13           However, size turns out to be significantly correlated to ratings. The reason:  
14           size often provides a measure of diversification, and/or affects competitive  
15           position. . . . Small companies are, almost by definition, more concentrated  
16           in terms of product, number of customers, or geography. In effect, they lack  
17           some elements of diversification that can benefit larger companies. To the  
18           extent that markets and regional economies change, a broader scope of  
19           business affords protection. This consideration is balanced against the  
20           performance and prospects of a given business. . . . In addition, lack of  
21           financial flexibility is usually an important negative factor in the case of very  
22           small companies. Adverse developments that would simply be a setback for  
23           companies with greater resources could spell the end for companies with  
24           limited access to funds.<sup>10</sup>

25  
26     **Q. IS THERE ANY SINGLE MEASURE THAT BEST SHOWS INVESTMENT RISK**  
27     **FROM A COMMON STOCKHOLDER'S PERSPECTIVE?**

---

<sup>9</sup>Banz, Rolf, W. "The Relationship Between Return and Market Value of Common Stocks," Journal of Financial Economics, 9:3-18 1981. For subsequent studies see Fama and French, etc.

<sup>10</sup>*Standard & Poor's, Corporate Ratings Criteria 2006*; pg 22.

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1 A. No. However, from a creditor's viewpoint, the best measure of investment risk is debt  
2 rating. The debt rating process generally provides a good measure of investment risk for  
3 common stockholders because the factors considered in the debt rating process are usually  
4 relevant factors that a common stock investor would consider in assessing the risk of an  
5 investment.

6  
7 **Q. WHAT IS THE BOND RATING OF PWW AND THE COMPARABLE GROUP?**

8 A. Page 1 of Schedule 12 shows the average bond/credit rating and business position for the  
9 Comparable group. The Comparable Group have an A credit profile and an *above-average*  
10 business profile. The Company's credit profile is determined to be Baa3 by Moody's  
11 Investors Service (Moody's). The major bond rating/credit rating agencies append  
12 modifiers, such as +, - for S&P and 1, 2, and 3 for Moody's to each generic rating  
13 classification. For example, an "A" credit profile is comprised of three subsets such as A+,  
14 A, A- for S&P or A1, A2 or A3 for Moody's. The modifier +/1 indicates that the obligation  
15 ranks in the higher end of its generic rating category; the modifier 2 indicates a mid-range  
16 ranking; and the modifier -/3 indicates a ranking in the lower end of that generic rating  
17 category. Accordingly, PWW's Baa3 rating is four notches below the Comparable Groups'  
18 A credit profile.

19  
20 In a recent debt offering, PWW purchased bond insurance to get an "AAA insured rating."  
21 It should be noted that the market does not equate an AAA bond rating to an "AAA insured  
22 rating" as is evident by the higher yield required on an "AAA insured" bond. Purchasing  
23 bond insurance can be likened to an individual with poorer credit being required to pay more

1 points on a home mortgage to result in a similar interest rate on a home mortgage as an  
2 individual with a higher credit rating.

3  
4 Standard & Poor's (S&P) publishes financial benchmark criteria necessary to obtain a bond  
5 rating for different types of utilities. As a generalization, the higher the perceived business  
6 risk, the more stringent the financial criteria so the sum of the two, investment risk and bond  
7 rating, remains the same.

8  
9 **Q. WHAT ARE SOME FINANCIAL BENCHMARKS APPLIED BY CREDIT RATING**  
10 **AGENCIES FOR RATING PUBLIC UTILITY DEBT?**

11 A. S&P describes their range of financial benchmarks as

12 Risk-adjusted ratio guidelines depict the role that financial ratios play in  
13 Standard & Poor's rating process, since financial ratios are viewed in the  
14 context of a firm's business risk. A company with a stronger competitive  
15 position, more favorable business prospects, and more predictable cash flows  
16 can afford to undertake added financial risk while maintaining the same credit  
17 rating. The guidelines displayed in the matrices make explicit the linkage  
18 between financial ratios and levels of business risk.<sup>11</sup>

19  
20  
21 **Q. WHAT OTHER INFORMATION IS SHOWN ON SCHEDULE 12?**

22 A. Page 2 of Schedule 12 summarizes the application of S&P's measures of financial risk for  
23 PWW and the Comparable Group. S&P's measures of financial risk are broader than the  
24 traditional measure of financial risk, leverage. Besides reviewing amounts of leverage  
25 employed, S&P also focuses on earnings protection and cash flow adequacy.

26  

---

<sup>11</sup>Standard & Poor's Corporate Rating Criteria, 2000.  

---



1 As is evident from the information shown on page 2 of Schedule 12, for the five years ended  
2 2007, PWW's ratios were similar or below the Water Group in most instances. PWW's  
3 ratios improved during the year 2007. Based solely upon PWW's historical ratios, it is my  
4 opinion that PWW's debt would be rated lower than the comparable groups'. PWW's  
5 historical ratios support a "BBB" credit profile.

6  
7 In order to compete with the comparable groups for capital, in the future, it will be necessary  
8 for PWW to achieve higher returns on equity, and increase cash flow just to maintain a  
9 similar credit quality.

10  
11 S&P has stated:

12 ... low authorized returns may affect the industry's ability to attract necessary  
13 capital to develop new water supplies and upgrade the quality of existing  
14 supplies . . . Traditional ratemaking policy has not provided sufficient credit  
15 support during the construction cycle of the electric industry over the past 15  
16 years. To avoid a repeat in the water industry, regulators must be aware of the  
17 increased challenges the industry faces.<sup>12</sup> (Emphasis added)

18  
19 Investors will not provide the equity capital necessary for increasing the amount of common  
20 equity in a capital structure unless the regulatory authority allows an adequate rate of return  
21 on the equity.<sup>13</sup>

22 PWW's credit profile is that of BBB rated companies. An analysis of corporate credit  
23 ratings indicates that there is only a 6% chance that PWW's credit profile falls above BBB

---

<sup>12</sup>Standard & Poor's CreditWeek, May 25, 1992.

<sup>13</sup>National Association of Regulatory Utility Commissioners, loc. cit.

---

1 based on their small size alone. As S&P has stated, size is significantly correlated to credit  
2 ratings. An analysis of corporate credit ratings found The York Water Company to be the  
3 smallest utility with a credit rating. Their credit rating is only A- despite having a  
4 capitalization comprised of more than \$126 million and a common equity ratio in excess of  
5 50%.

6  
7 **Q. DO PWW AND THE COMPARABLE COMPANIES HAVE SIMILAR RISKS?**

8 A. Yes. From an operations standpoint, PWW and Comparable Group are indistinguishable.  
9 Both are required to meet Clean Water Acts and Safe Drinking Water Act requirements and  
10 are also required to provide safe and reliable services to their customers and comply with  
11 public utility commission regulations.

12  
13 The concentration of PWW's assets in southern New Hampshire makes it much more  
14 susceptible to any adverse development in local regulatory, economic, demographic,  
15 competitive and weather conditions than the comparable companies. For example, PWW's  
16 purchased water, power, and chemical expenses increased by about \$421,863 or 26% from  
17 2005 to 2007. PWW has no regulatory pass-through mechanism that enables it to makeup  
18 for these large and volatile operating expense items that other utility companies benefit from.

19  
20 Many of the comparable companies are allowed to adjust their rates and charge water  
21 customers' "improvement charges"<sup>14</sup> as a means of lessening the burden of replacing aging

---

<sup>14</sup>Within the water industry and their regulatory commissions, improvement charges are referred to in varying terms, including: DSIC or Distribution System Improvement Charge; DSR or Distribution System Replacement; AMRP or Accelerated Main Replacement Program; and PRP Pipeline Replacement Program.

---

1 infrastructure. These “improvement charges” allow immediate rate recovery of capital  
2 investments for new projects on a year-by-year basis. The “improvement charges” assist in  
3 providing the comparable companies required capital and pro-long the time period between  
4 required rate filings. PWW is not afforded a similar opportunity to recover aging  
5 infrastructure replacement through “improvement charges.”

6  
7 Replacement of aging infrastructure is a water industry problem. In the water industry, the  
8 cost of replacing infrastructure is often more than 100 times the original installation cost.  
9 For PWW, the cost of infrastructure replacement is staggering. Replacing just 1% of  
10 infrastructure annually requires about \$3.4 million be invested each year.

11  
12 **Q. ARE THERE ANY ADVERSE DEVELOPMENTS IN PWW’S LOCAL SERVICE**  
13 **TERRITORY THAT HAS INCREASED ITS RISK?**

14 A. Yes, the concentration of PWW’s assets in southern New Hampshire has resulted in its  
15 shareholders being held captive by a local municipality. The interruption of PWW’s business  
16 began in 2002 when the City of Nashua started an eminent domain proceeding to acquire  
17 PWW’s assets. PWW has spent thousands of hours and millions of dollars defending its  
18 assets from this unwelcome intrusion into its business practice. There is no vehicle within the  
19 regulatory framework that enables PWW to be compensated for the lost business  
20 opportunities from enduring this attempted expropriation. Even recovery of the direct costs  
21 associated with defending the Company is highly uncertain. The uncertainties of  
22 expropriation and the related stress can have an overwhelming impact upon a company’s  
23 workforce, business practices, and creditworthiness, both direct and indirect.

1  
2 PWW's shares have essentially become illiquid as a result of the eminent domain proceeding.  
3 Investors prefer liquidity to lack of liquidity. Accordingly, a share in a business is worth more  
4 if it is easily marketable or, conversely, worth less if it is not. Investors require a high  
5 premium<sup>15</sup> for the lack of liquidity or marketability of an investment.  
6

7 **Q. WHAT INFORMATION IS SHOWN ON SCHEDULE 13?**

8 A. Schedule 13 reviews long-term and short-term interest rate trends. Long-term and short-term  
9 interest rate trends are reviewed to ascertain the "sub-flooring" or "basement" on which the  
10 Comparable Companies' common equity market capitalization rate is built on. Based upon  
11 the settled yields implied in the Treasury Bond future contracts and the long-term and recent  
12 trends in spreads between long-term government bonds and A-rated public utility available  
13 to me at the time Schedule 13 was prepared, I conclude that the market believes that if the  
14 Comparable Companies issued new long-term bonds prospectively, they would be priced to  
15 yield about 6.1% based upon a credit profile of "A." Further, its reasonable to conclude the  
16 market anticipates that long-term government bonds will be priced to yield about 4.7%,  
17 prospectively.  
18

---

<sup>15</sup>The premium relates to the increased cost of capital where as, the discount relates to the price paid. The term premium is used if the subject is risk/return and the term discount is used when discussing price.

---

## 1 COMMON EQUITY COST RATE ESTIMATE

### 3 Q. WHAT IS THE BEST METHOD OF ESTIMATING COMMON EQUITY COST 4 RATES?

5 A. There is no single method (model) suitable for estimating the cost rate for common equity.

6 While a single investor may rely solely upon one model in evaluating investment  
7 opportunities, other investors rely on different models. Most sophisticated investors who use  
8 an equity valuation model rely on many models in evaluating their common equity  
9 investment alternatives. Therefore, the average price of an equity security reflects the results  
10 of the application of many equity models used by investors in determining their investment  
11 decisions.

12  
13 The application of any single model to estimate common equity cost rates is not appropriate  
14 because the security price for which the equity cost rate is being estimated reflects the  
15 application of many models used in the valuation of the investment. That is, the price of any  
16 security reflects the collective application of many models. Accordingly, if only one model  
17 is used to estimate common equity cost rates, that cost rate will most likely be different from  
18 the collective market's cost rates because the collective valuation in the market reflects more  
19 than one method.

20  
21 Noted financial texts, investor organizations and professional societies all endorse the use  
22 of more than one valuation method. "We endorse the dividend discount model, particularly  
23 when used for establishing companies with consistent earnings power and when used along

1 with other valuation models. It is our view that, in any case, an investor should employ more  
2 than one model."<sup>16</sup> (Emphasis added)

3  
4 The American Association of Individual Investors state, "No one area of investment is  
5 suitable for all investors and no single method of evaluating investment opportunities has  
6 been proven successful all of the time."<sup>17</sup>

7  
8 In their study guide, the National Society of Rate of Return Analysts state, "No cost of equity  
9 model or other concept is recommended or emphasized, nor is any procedure for employing  
10 any model recommended . . . it remains important to recognize that alternative methods exist  
11 and have merit in cost of capital estimation. To this end, analysts should be knowledgeable  
12 of a broad spectrum of cost of capital techniques and issues."<sup>18</sup>

13  
14 Several different models should be employed to measure accurately the market-required cost  
15 of equity reflected in the price of stock. Therefore, I used three recognized methods  
16 including the Discounted Cash Flow or DCF shown on Schedule 14, the Capital Asset  
17 Pricing Model or CAPM shown on Schedule 19, and the Risk Premium or RP shown on  
18 Schedule 20.

---

<sup>16</sup>Sidney Cottle, Roger F. Murray and Frank E. Block, Graham and Dodd's Securities Analysis 5th Edition, McGraw-Hill, Inc., 1988, p. 568.

<sup>17</sup>Editorial Policy, AAII Journal, American Association of Individual Investors, Volume 18, No. 1, January 1996, p. 1.

<sup>18</sup>David C. Parcell, The Cost of Capital - A Practitioners Guide, National Society of Rate of Return Analysts, 1995 Edition.

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## 1 IMPACT OF MERGERS ON COST OF EQUITY ESTIMATES

2  
3 **Q. HAVE MERGERS IN THE WATER INDUSTRY AFFECTED COST OF EQUITY**  
4 **ESTIMATES FOR WATER UTILITIES?**

5 A. Yes. Mergers in the water industry have greatly diminished the number of companies to  
6 draw from for estimating the cost of equity. Further, even the companies that have not been  
7 the subject of an announced merger have been affected. Specifically, the merger activity in  
8 the water industry has resulted in abnormal or “tainted” stock prices in terms of a market-  
9 based DCF analysis or even beta estimates.

10  
11 **Q. PLEASE EXPLAIN WHY THE MERGER ACTIVITY IN THE WATER INDUSTRY**  
12 **HAS RESULTED IN ABNORMAL OR “TAINTED” STOCK PRICES IN TERMS OF**  
13 **A DCF ANALYSIS.**

14 A. More than eight acquisitions of publicly traded water utility stocks have occurred or been  
15 announced since June 1998. This is a very large percentage (~50%) of available publicly  
16 traded water utility stocks. Previously Value Line<sup>19</sup> stated:

17 Investors who held shares of takeover targets in 1999 were well rewarded  
18 with prices in the neighborhood of three times book value. Consequently,  
19 potential takeover targets in the U.S. have seen their share prices rise in  
20 recent months.  
21

22 Typically, premiums are paid in corporate acquisitions. The average acquisition premium  
23 of publicly traded water utility stocks has averaged 40%. That is, when a tender offer is  
24 made for the purchase of all the outstanding stock of a company, the amount of that offer

---

<sup>19</sup>February 4, 2000 edition

---

1 usually exceeds the price at which the stock was previously traded in the market. These large  
2 premiums are reflected in the prices of other water utilities that are not currently the  
3 announced subject of acquisition.

4  
5 Most water utility stocks that are not the targets of a merger have been affected by  
6 speculators. Specifically, the numerous announced mergers have resulted in speculators  
7 bidding up the price of stock of non-target companies in hopes of receiving an acquisition  
8 premium from a yet to be announced merger. A speculator's investment horizon is short-  
9 term and their growth expectation is based on capital gains and is equal to an expected  
10 acquisition premium, or about 40%. Under a DCF analysis, the investment horizon is usually  
11 longer-term and the growth rate reflects the fundamentals of the company, not a short-term  
12 acquisition premium of about 40%.

13  
14 Based upon this, I recommend that the impact of mergers be considered when weight is given  
15 to the derived market capitalization cost rates since water utility stock prices have been  
16 greatly influenced by the speculation of acquisition.

## 17 18 **DISCOUNTED CASH FLOW**

### 19 20 **Q. PLEASE EXPLAIN THE DISCOUNTED CASH FLOW MODEL.**

21 A. The discounted cash flow model or DCF, is based upon the assumption that the price of a  
22 share of stock is equal to a future stream of cash flows to which the holder is entitled. The  
23 stream of cash flows is discounted at the investor-required cost rate (cost of capital).



1 Although the traditional DCF assumes a stream of cash flow into perpetuity, a termination,  
2 or sale price can be calculated at any point in time. Therefore, the return rate to the  
3 stockholder consists of cash flow (earnings or dividends) received and the change in the price  
4 of a share of stock. The cost of equity is defined as:

5 ...the minimum rate of return that must be earned on equity finance  
6 and investments to keep the value of existing common equity  
7 unchanged. This return rate is the rate of return that investors expect  
8 to receive on the Company's common stock . . . the dividend yield  
9 plus the capital gains yield . . . <sup>20</sup>(Emphasis added)  
10

11 **Q. PLEASE EXPLAIN HOW YOU CALCULATED YOUR DIVIDEND YIELD IN THE**  
12 **DCF SHOWN ON SCHEDULE 14.**

13 A. As shown on page 1 of Schedule 14, I used the average dividend yield of 2.7% for the Water  
14 Group. The individual dividend yields are shown on page 2 of Schedule 14 and are based  
15 upon the most recent months' yield, April 2008, and the twelve-month average yield, ending  
16 April 2008. The second input to a market DCF calculation is the determination of an  
17 appropriate share price growth rate.  
18

19 **Q. WHAT SOURCES OF GROWTH RATES DID YOU REVIEW?**

20 A. I reviewed both historical and projected growth rates. Schedule 15 shows the array of  
21 projected growth rates for the Comparable Companies that are published. Specific historical  
22 growth rates are not shown because the meaningful historical growth rates are already  
23 considered when analysts arrive at their projected growth rates.  
24

---

<sup>20</sup>J. Fred Weston and Eugene F. Brigham, Essentials of Managerial Finance, 3rd ed. (The Dryden Press), 1974, p. 504.

---

1     **Q. PLEASE EXPLAIN THE SOURCES OF THE PROJECTED GROWTH RATES**  
2     **SHOWN ON SCHEDULE 15.**

3     A. I relied upon three sources for projected growth rates, First Call, Zacks Investment Research  
4     and Value Line.<sup>21</sup>

6     **Q. DID YOU REVIEW ANY OTHER GROWTH RATES THAN THOSE SHOWN ON**  
7     **SCHEDULE 15?**

8     A. Yes. I reviewed earnings per share or EPS growth rate reflecting changes in return rates on  
9     book common equity (ROE) over time. On page 1 of Schedule 16, I summarized recent  
10    ROEs and compared those to the Water Group's higher levels projected to be achieved by  
11    Value Line shown on page 2 of Schedule 16. ROEs increase when EPS grows at much  
12    higher/faster rates than book value.

14    I also reviewed industry specific average projected growth rates that are published by First  
15    Call and Zacks for the industries in which the Comparable Companies operate. On average,  
16    the Water Group's industry is projected to have EPS growth rates that average 7.6% to 9.7%  
17    over the next five years. The entire utility sector is projected to have EPS growth rates that  
18    average 8.8% over the next five years.

---

<sup>21</sup>With the exception of Value Line, the earnings growth rate projections are consensus estimates five-year EPS estimates. These consensus estimates are compiled from more than 1,700 financial analysts and brokerage firms nationwide. It should be noted that none of the consensus forecasts provides projected DPS estimates. Value Line publishes projected Cash flow, EPS and DPS five-year growth projections as well.

---

**Q. WHAT DO YOU CONCLUDE FROM THE GROWTH RATES YOU HAVE REVIEWED?**

A. Table 5 summarizes some of the various growth rates reviewed.

**TABLE 4**

Summary of Growth Rates

	<u>Water Group</u>
Projected 5 Year Growth in EPS	8.7
Projected 5 Year Growth in EPS, DPS & Cash Flow	8.2
Projected 5 Year Growth in EPS for the industry	8.7
Projected 5 Year Growth in EPS for utility sector	8.8

Academic studies suggest that growth rate conclusions should be tested for reasonableness against long-term interest rate levels. Further, the minimum growth rate must at least exceed expected inflation levels. Otherwise, investors would experience decreases in the purchasing power of their investment. Finally, the combined result of adding the growth rate to the market value dividend yield must provide a sufficient margin over yields of public utility debt.

**Q. WHAT METHOD DID YOU USE TO ARRIVE AT YOUR GROWTH RATE CONCLUSION?**

A. No single method is necessarily the correct method of estimating share value growth. It is reasonable to assume that investors anticipate that the Water Group's current ROE will expand to higher levels (i.e., current ROE of 7.1% is projected to be 11.5%). Because there is not necessarily any single means of estimating share value growth, I considered all of this information in determining a growth rate conclusion for the Comparable Companies.

Moreover, while some rate of return practitioners would advocate that mathematical precision should be followed when selecting a growth rate, the fact is that investors do not behave in the same manner when establishing the market price for a firm. Rather, investors consider both company-specific variables and overall market sentiment such as inflation rates, interest rates and economic conditions when formulating their capital gains expectations. This is especially true when one considers the relatively meaningless negative growth rates. That is, use of a negative growth rate in a DCF implies that investors invest with the expectation of losing money.

The range of growth rates previously summarized supports the reasonableness of an expected 8.2% growth rate for the Water Group based on the projected five-year growth in EPS.

**Q. WHAT IS YOUR MARKET VALUE DCF ESTIMATE FOR THE COMPARABLE COMPANIES?**

A. The market value DCF cost rate estimate for the Water Group is 11.0%, as detailed on page 1 of Schedule 14.

**Q. ARE THERE OTHER CONSIDERATIONS THAT SHOULD BE TAKEN INTO ACCOUNT IN REVIEWING A MARKET VALUE CAPITALIZATION DCF COST RATE ESTIMATE?**

A. Yes, it should be noted that although I recommend specific dividend yields for the comparable group, I recommend that less weight be given the resultant market value DCF

1 cost rate due to the market's current market capitalization ratios and the impact that the  
2 market-to-book ratio has on the DCF results. The Comparable Companies' current market-  
3 to-book ratios of 210% and low dividend yields are being affected by a short-term  
4 acquisition frenzy, worldwide market sentiment and not DCF fundamentals.

5  
6 Although the DCF cost for common equity appears to be based upon mathematical precision,  
7 the derived result does not reflect the reality of the marketplace since the model proceeds  
8 from unconnected assumptions. The traditional DCF derived cost rate for common equity  
9 will continuously understate or overstate investors' return requirements as long as stock  
10 prices continually sell above or below book value. A traditional DCF model implicitly  
11 assumes that stock price will be driven to book value over time. However, such a  
12 proposition is not rational when viewed in the context of an investor purchasing stock above  
13 book value. It is not rational to assume that an investor would expect share price to decrease  
14 52% ( $100\% \div 210\% = 48\% - 100\% = 52\%$ ) in value to equal book value.

15  
16 Utility stocks do not trade in a vacuum. Utility stock prices, whether they are above or  
17 below book value, reflect worldwide market sentiment and are not reflective of only one  
18 element.

19  
20 **Q. WHAT DO YOU MEAN BY YOUR STATEMENT THAT UTILITY STOCKS ARE**  
21 **NOT TRADED IN A VACUUM?**

22 A. Utility stocks cannot be viewed solely by themselves. They must be viewed in the context  
23 of the market environment. Table 5 summarizes recent market-to-book ratios ("M/B") for

well-known measures of market value reported in the May 26, 2008 issue of Barron's and page 1 of Schedule 16.

TABLE 5

		<u>M/B Ratios(%)</u>
Dow Jones Industrials		375
Dow Jones Transportation		272
Dow Jones Utilities		266
S&P 500		273
S&P Industrials		342
	Vs.	
Water Group		210

Utility stock investors view their investment decisions compared with other investment alternatives, including those of the various market measures shown in Table 5.

**Q. HOW DOES A TRADITIONAL DCF IMPLICITLY ASSUME THAT MARKET PRICE WILL EQUAL BOOK VALUE?**

A. Under traditional DCF theory, price will equal book value ( $M/B=1.00$ ) only when a company is earning its cost of capital. Traditional DCF theory maintains that a company is under-earning its cost of capital when the market price is below book value ( $M/B<1.00$ ), while a company over-earning its cost of capital will have a market price above its book value ( $M/B>1.00$ ). If this were true, it would imply that the capitalistic free-market is not efficient because the overwhelming majority of stocks would currently be earning more than their cost of capital. Table 5 shows that most stocks sell at an M/B that is greater than 1.0.

1  
2 **Q. PLEASE EXPLAIN WHY SUCH A PHENOMENON WOULD SHOW THAT THE**  
3 **CAPITALISTIC FREE-MARKET IS NOT EFFICIENT.**

4 A. Historically, the S&P Industrials, which represented approximately 400 companies, have  
5 sold at an M/B as low as 1.0 only one time out of the past 53 years (period 1947-1999).  
6 Based upon the traditional DCF assumption, which suggests that companies with M/Bs  
7 greater than 1.0 earn more than their cost of capital, this data would suggest that the S&P  
8 Industrial companies have earned more than their cost of capital while competing in a  
9 competitive environment over the past 53 years. In a competitive market, new companies  
10 would continually enter the market up to the point that the earnings rate was at least equal  
11 to their cost of capital.

12  
13 During this period the S&P Industrials sold at an average M/B of 223.7% while experiencing  
14 a ROE of 14.7% over a period in which interest rates averaged 7.2%. It is important to note  
15 that the average ROE of 14.7% is relative to a common equity ratio of more than 60% for  
16 the S&P Industrials over many years.

17  
18 **Q. WHAT IS THE SIGNIFICANCE OF INDUSTRIAL COMPANIES' M/B AND THE**  
19 **COST OF CAPITAL FOR A WATER UTILITY?**

20 A. As stated previously, utility stocks do not trade in a vacuum. They must compete for capital  
21 with other firms including industrial stocks. Over time, there has been a relationship  
22 between M/Bs of industrial stocks and utility stocks. Although industrial stocks have sold  
23 at a higher multiple of book value than utility stocks, both have tracked in similar directions.

1 Because utility stocks' and industrial stocks' prices relative to book values' move in similar  
2 directions, it is irrational to conclude that stock prices that are different from book value,  
3 either above or below, suggests that a firm is over- or under-earning its cost of capital when  
4 competitive free-markets exist.

5  
6 **Q. DOES THE MARKET VALUE DCF PROVIDE A REASONABLE ESTIMATE OF**  
7 **THE WATER GROUP'S COMMON EQUITY COST RATE?**

8 A. No, the DCF only provides a reasonable estimate of the Comparable Group's common equity  
9 cost rate when their market price and book value are similar ( $M/B=100\%$ ).<sup>22</sup> A DCF will  
10 overstate a common equity cost rate when M/Bs are below 100% and understate when they  
11 are above 100%. Since the Comparable Group's current M/Bs average 210%, the DCF  
12 understates their common equity cost rate. Schedule 17 provides a numerical illustration of  
13 the impact of M/Bs on investors' market returns and DCF returns. The reason that DCF  
14 understates or overstates investors' return requirements depending upon M/B levels is that  
15 a DCF derived equity cost rate is applied to a book value rate base while investors' returns  
16 are measured relative to stock price levels. Based upon this, I recommend that less weight  
17 be given to the market value DCF cost rate unless the increased financial risk, resulting from  
18 applying a market value cost rate to a book value, is accounted for.

19  
20 **Q. HOW DO YOU REFLECT THE RISK DIFFERENCE MARKET VALUE AND**  
21 **BOOK VALUE A COST RATE?**

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<sup>22</sup>Roger A Morin, Regulatory Finance - Utilities' Cost of Capital, Public Utility Reports, Inc., 1994, pp. 236-237.

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1 A. The basic proposition of financial theory regarding economic value of a company is based  
2 on market value. That is, a company's value is based on their market value weighted  
3 average cost of capital.<sup>23</sup> Accordingly, the market value derived cost rate reflects the  
4 financial risk or leverage associated with capitalization ratios based on market value, not  
5 book value. As shown on page 1 of Schedule 18, for the Water Group there is a large  
6 difference in leverage as a result of the average \$399 million difference in market value  
7 common equity and book value common equity. This difference in market values and book  
8 values results in debt/equity ratios based on market value of 31%/69% (debt/equity) verses  
9 48%/52% (debt/equity) based on book value as shown on page 1 of Schedule 18.

10  
11 Differences in the amount of leverage employed can be quantified based upon the  
12 Comparable Group's levered beta being "unlevered" through the application of the "Hamada  
13 Formula". The details of the model are shown on page 2 Schedule 18. For example, the  
14 inputs to the formula for the Water Group market value capitalization consist of their levered  
15 beta of 1.01, debt ratio of 31.1%, preferred stock ratio of 0.0%, common equity ratio of  
16 68.9% and combined tax rate of 39.6%. The group's unlevered beta is determined to be .79  
17 through the use of the following Hamada formula:

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<sup>23</sup>Shannon P. Pratt, Cost of Capital, John Wiley & Sons, Inc., 1998, pp. 45-46.

---

1 
$$B_l = B_u (1 + (1 - t) D/E + P/E)$$

2  
3 where:

4  $B_l$  = observed, levered beta

5  $B_u$  = calculated, unlevered beta

6  $t$  = income tax rate

7  $D$  = debt ratio

8  $P$  = preferred stock ratio

9  $E$  = common equity ratio  
10

11 Applying the unlevered beta of .79 along with the Water Group's book value capitalization  
12 ratios of 48.4% long-term debt, 0.1 preferred stock and 51.5% common equity and combined  
13 tax rate of 39.6% results in a levered beta of 1.25 applicable to the group's book value  
14 capitalization. Based upon a long term risk premium of 4.2% and the difference between  
15 Water Group's market value levered beta their book value levered beta of .24 (1.25 - .1.01)  
16 indicates that the Water Group's common equity cost rate must be increased by 1.0% (.24  
17 x 4.2% = 1.0%) in recognition of their book value's exposure to more financial risk.  
18

19 **Q. IS THERE ANOTHER WAY TO REFLECT THE FINANCIAL RISK DIFFERENCE**  
20 **BETWEEN MARKET CAPITALIZATION RATIOS AND BOOK VALUE**  
21 **CAPITALIZATION RATIOS?**

22 A. Yes, generally speaking. Although it is possible to know the direction of a financial risk  
23 adjustment on common equity cost rate, a specific quantification of financial risk differences  
24 is very difficult. Although the end result of a financial risk adjustment is very subjective and

specific quantification very difficult, the direction of the adjustment is clearly known. However, if the Comparable Group's debt were rated based on market value debt ratios they would command an AAA rating. The Comparison Group currently have bonds rated A based upon their book value debt ratios. The yield spread on a bond rated AAA verses A rated bonds averages 20 to 30 basis points or 0.25%.

The end result of the application of the Hamada Model and the bond yield spread indicates that the Water Group market value common equity cost rate equity cost rate should be adjusted upward by at least 0.60% ( $1.0\% \text{ hamada est.} + 0.25\% \text{ yield spread} = 1.2\% \div 2 = 0.60\%$ ) since it is going to be applied to a book value.

Accounting for the increased amount of leverage between market value derived DCF cost rates and book value cost rates indicates a book value DCF cost rate of 11.6% for the Water Group ( $11.0\% + 0.60\% = 11.6\%$ ).

## **CAPITAL ASSET PRICING MODEL**

**Q. PLEASE BRIEFLY DESCRIBE THE THEORY OF THE CAPITAL ASSET PRICING MODEL.**

A. The CAPM is based upon the assumption that investors hold diversified portfolios and that the market only recognizes or rewards non-diversifiable (or systematic) risk when determining the price of a security because company-specific risk (or non-systematic) is removed through diversification. Further, investors are assumed to require additional or

1 higher returns for assuming additional or higher risk. This assumption is captured by using  
2 a beta that provides an incremental cost of additional risk above the base risk-free rate  
3 available to investors. The beta of a security reflects the market risk or systematic risk of the  
4 security relative to the market. The beta for the market is always equal to 1.00 and therefore,  
5 a company whose stock has a beta greater than 1.00 is considered riskier than the market and  
6 a company with a beta less than 1.00 is considered less risky than the market. The base risk-  
7 free rate is assumed to be a U.S. Government treasury security because they are assumed to  
8 be free of default risk.

9  
10 **Q. WHAT RISK-FREE RATE AND BETA HAVE YOU USED IN YOUR CAPM**  
11 **CALCULATION?**

12 A. The risk-free rate used in CAPM should have approximately the same maturity as the life  
13 of the asset for which the cost rate is being determined. Because utility assets are long-lived,  
14 a long-term Treasury Bond yield serves as an appropriate proxy. Previously, I estimated an  
15 appropriate risk-free rate of 4.7% based upon the recent and forward long-term Treasury  
16 yields. I used the average beta of 1.10 for the Water Group as shown on page 1 of Schedule  
17 19. However, as stated previously, the Comparable Group's betas may be understated due  
18 to their small size affecting their stock price changes.

19  
20 **Q. AFTER DEVELOPING AN APPROPRIATE BETA AND RISK-FREE RATE, WHAT**  
21 **ELSE IS NECESSARY TO CALCULATE A CAPM DERIVED COST RATE?**

22 A. A market premium is necessary to determine a traditional CAPM derived cost rate. The  
23 market return rate is the return expected for the entire market. The market premium is then

1 multiplied by the company specific beta to capture the incremental cost of additional risk  
2 (market premium) above the base risk-free rate (long-term treasury securities) to develop a  
3 risk adjusted market premium. For example, if you conclude the expected return on the  
4 market as a whole is 15% and further assume that the risk-free rate is 8%, then the market  
5 premium is shown to be 7% ( $15\% - 8\% = 7\%$ ).

6  
7 Further, if you assume there are two companies, one of which is considered less risky than  
8 the market and therefore has a beta of less than 1.00 or 0.80. The second company, which  
9 is considered riskier than the market and therefore has a beta that is greater than 1.00 or 1.20.  
10 By multiplying the hypothetical 7.0% market premium by the respective betas of 0.80 and  
11 1.20, risk adjusted market premiums of 5.6% ( $7.0\% \times 0.80$ ) and 8.4% ( $7.0\% \times 1.20$ ) are  
12 shown for the company considered less risky than the market and for the company  
13 considered more risky than the market, respectively.

14  
15 Adding the assumed risk-free rate of 8% to the risk adjusted market premiums results in the  
16 CAPM derived cost rates of 13.6% ( $5.6\% + 8.0\%$ ) for the less risky company and 16.4%  
17 ( $8.4\% + 8.0\%$ ) for the company considered of greater risk than the market. In fact, the result  
18 of this hypothetical CAPM calculation shows that the least risky company, with the beta of  
19 0.80, has a cost rate of 13.6%, the market, with the beta of 1.00, has a cost rate of 15.0% and  
20 that the higher risk company, with a beta of 1.20, has a cost rate of 16.4%.

1       **Q. HOW DID YOU DEVELOP A MARKET PREMIUM FOR YOUR CAPM?**

2       A. The average projected market premium of 8.7% is developed on page 2 of Schedule 19. It  
3       is based upon Value Line's average projected total market return for the next three to five  
4       years of 13.4% less the risk free rate of 4.7%. I also reviewed market premiums derived  
5       from Ibbotson Associates' most recent publication concerning asset returns that show a  
6       market premium of 7.1%. The comparison shows that the Value Line market premium has  
7       been on the low side.

8  
9       **Q. HOW DID YOU ADJUST FOR THE IMPACT THAT SIZE HAS ON THE**  
10      **COMPARABLE GROUP'S BETA?**

11      A. The adjustment is reflected in the CAPM size premium. The CAPM size premium is  
12      developed on page 4 of Schedule 19. The size premium reflects the risks associated with the  
13      Comparable Group's small size and its impact on the determination of their beta. This  
14      adjustment is necessary because beta (systematic risk) does not capture or reflect the  
15      Comparable Group's small size. I reduced the size premium by the ratio of the Comparison  
16      Group's beta to their respective market quartile's beta.

17  
18      **Q. WHAT IS THE COMPARISON GROUP'S MARKET COST OF EQUITY BASED**  
19      **UPON YOUR CAPM CALCULATION?**

20      A. The CAPM based on historical market returns shows a market cost rate of 13.8% for the  
21      Water Group. The CAPM based on projected market returns shows a 15.4% for the Water  
22      Group, as shown on page 1 of Schedule 19. The projected market returns has been impacted  
23      by unusual high projected market return for the past four months as show on page 2 of

Schedule 19 Accordingly, the Comparable Group's average market value CAPM 13.8% is based primarily on the results of the historical market returns. Adjusting the market value CAPM to account for the difference in leverage between market value capitalization ratios indicates a cost rate of 14.2% for the Water Group applicable to book value ( $13.8\% + 0.6\% = 14.2\%$ ).

## **RISK PREMIUM**

### **Q. WHAT IS A RISK PREMIUM?**

A. A risk premium is the common equity investors' required premium over the long-term debt cost rate for the same company, in recognition of the added risk to which the common stockholder is exposed versus long-term debtholders. Long-term debtholders have a stated contract concerning the receipt of dividend and principal repayment whereas common stock investors do not. Further, long-term debtholders have first claim on assets in case of bankruptcy. A risk premium recognizes the higher risk to which a common stock investor is exposed. The risk premium-derived cost rate for common equity is the simplest form of deriving the cost rate for common equity because it is nothing more than a premium above the prospective level of long-term corporate debt.

### **Q. WHAT IS THE APPROPRIATE ESTIMATED FUTURE LONG-TERM BORROWING RATE FOR THE COMPARABLE COMPANIES?**

A. The estimated future long-term borrowing rate for the Comparable Companies is 6.1% based upon their credit profile that supports an "A" bond rating.

1     **Q. WHAT IS THE APPROPRIATE RISK PREMIUM TO BE ADDED TO THE**  
2     **FUTURE LONG-TERM BORROWING RATE?**

3     A. To determine a common equity cost rate, it is necessary to estimate a risk premium to be  
4     added to the comparable group's prospective long-term debt rate. Investors may rely upon  
5     published projected premiums and they also rely upon their experiences of investing in  
6     ultimately determining a probabilistic forecasted risk premium.

7  
8     Projections of total market returns are shown on page 2 of Schedule 20. A projected risk  
9     premium for the market can be derived by subtracting the debt cost rate from the projected  
10    market return as shown on page 2 of Schedule 20. However, the derived risk premium for  
11    the market is not directly applicable to the Comparable Companies because they are less  
12    risky than the market. The use of 90% of the market's risk is a conservative estimation of  
13    their level of risk as compared to the market.

14  
15    The midpoint of the risk premium range is 6.2% and the average for the past twelve months  
16    are 6.5% as shown on page 2 of Schedule 20. Based on this, a reasonable estimate of a  
17    longer term projected risk premiums is 6.3%.

18  
19    **Q. HOW DO INVESTORS' EXPERIENCES AFFECT THEIR DETERMINATION OF**  
20    **A RISK PREMIUM?**

21    A. Returns on various assets are studied to determine a probabilistic risk premium. The most  
22    noted asset return studies and resultant risk premium studies are those performed by Ibbotson  
23    Associates. However, Ibbotson Associates has not performed asset return studies concerning



1 public utility common stocks. Based upon Ibbotson Associates' methodology of computing  
2 asset returns, I calculated annual returns for the S&P utilities and bonds for the period 1928-  
3 07. The resultant annual returns were then compared to determine a recent risk premium  
4 from a recent 20-year period, 1978-07 and subsequent periods that were each increased by  
5 ten years until the entire study period was reviewed (pages 3 and 4 of Schedule 20).

6  
7 A long-term analysis of rates of return is necessary because it assumes that investors'  
8 expectations are, on average, equal to realized long-run rates of return and resultant risk  
9 premium. Observing a single year's risk premium, either high or low, may not be consistent  
10 with investors' requirements. Studies show a mean reversion in risk premiums. In other  
11 words, over time, risk premiums revert to a longer-term average premium. The expected rate  
12 of return is defined as "the rate of return expected to be realized from an investment; the  
13 mean value of the probability distribution of possible results."<sup>24</sup>

14  
15 **Q. WHAT DO YOU CONCLUDE FROM THE INFORMATION SHOWN ON PAGES**  
16 **3 AND 4 OF SCHEDULE 20?**

17 A. The average of the absolute range of the S&P Utilities' appropriate average risk premium  
18 was 4.5% during the seven periods studied, as shown on page 3 of Schedule 19. The credit  
19 adjusted average longer term risk premiums, 1928-07, and averages 4.5%. The appropriate  
20 average longer term risk premiums, 1928-07, have an absolute range of 4.5% to 5.2%, and  
21 averages 4.8%.

---

<sup>24</sup>Eugene F. Brigham, Fundamentals of Financial Management, Fifth Edition, The Dryden Press, 1989, p. 106.

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1 The aforementioned premiums are based on total returns for bonds and hence, reflect their  
2 price risk. A bond's price risk is not related to their credit quality and is eliminated when  
3 a bond is held to maturity from time of purchase. Using the income returns for bonds  
4 eliminates price risk and better measures an investor's required return based on credit  
5 quality. The appropriate average risk premium based on income returns was 5.1% during  
6 the seven periods studied. The credit adjusted average longer term risk premiums, 1928-07,  
7 and averages 4.6%. The appropriate average longer term risk premiums, 1928-07, have an  
8 absolute range of 4.6% to 5.0%, and averages 4.9%. .

9  
10 Risk premiums are mean reverting. They constantly move toward a long-term average. That  
11 is, an above average risk premium will decrease toward a long-term average while a below  
12 average risk premium will increase toward a long-term average. In any single year, of  
13 course, investor-required rates of return may not be realized and in certain instances, a single  
14 years' risk premiums may be negative. Negative risk premiums are not indicative of  
15 investors' expectations and violate the basic premise of finance concerning risk and return.  
16 Negative risk premiums usually occur only in the stock market's down years, i.e., the years  
17 in which the stock markets' return was negative.

18  
19 Therefore, based upon a reasonable probability distribution of risk premiums, its reasonable  
20 to conclude that investors would give the longer term year results, more weight than those  
21 from the most recent years. Based upon the published projected risk premium and the  
22 probabilistic forecasted risk premium, a reasonable estimate of investors risk premium is

1 4.5%<sup>25</sup>. Adding the risk premium of 4.5 for the Comparable Group to the prospective cost  
2 of newly-issued long-term debt of 6.1% results in a market value risk premium derived cost  
3 rate for common equity of 10.6% as is shown on page 1 of Schedule 20. Adjusting the  
4 market value risk premium to account for the difference in leverage between market value  
5 capitalization ratios indicates a cost rate of 11.2% applicable to book value.

## 7 SUMMARY OF COMMON EQUITY COST RATE

### 9 Q. WHAT IS YOUR COMPARABLE GROUP' COMMON EQUITY COST RATE?

10 A. Based upon the results of the models employed, the Water Group's common equity cost rate  
11 is in the range of 11.2% to 14.4% as shown on Schedule 2. Based upon the range of these  
12 data, the common equity cost rate for the Water Group is 11.4%. My recommendation is  
13 based upon the Water Group's 11.4% common equity cost rate.

### 15 Q. DO YOU RECOMMEND A COST OF COMMON EQUITY OF 11.4% FOR PWW?

16 A. No, PWW's cost rate must be adjusted to reflect the risk differences of PWW versus the  
17 Comparable Group. Based upon the financial analysis and risk analysis I conclude that  
18 PWW is exposed to greater investment risk than the Water Group. This is evidenced by  
19 PWW's small size, lower cash generation and interest coverage, high capital expenditures,  
20 lower bond rating and the ongoing eminent domain proceeding. PWW's investment risk is

---

<sup>25</sup>The published projected risk premiums have been impacted by unusual high projected market return for the past four months as show on page 2 of Schedule 20. Accordingly, the estimate of investors risk premium is based primarily on the results of the historical market returns.

---

1           tempered by its relatively good financial metrics in 2007 that resulted from its most recent  
2           rate relief.

3  
4       **Q. HOW DO YOU REFLECT THE INVESTMENT RISK DIFFERENCE BETWEEN**  
5       **PWW AND THE COMPARABLE GROUP?**

6       A. The direction of the investment risk adjustment on common equity cost rates is clearly  
7       known. A specific quantification of risk differences is based on PWW's implicit BBB- (i.e.,  
8       Moody's Baa3) bond rating. This implicit bond rating of BBB- is more than a full bond  
9       rating below the bond rating of the comparable companies. The difference in bond rating  
10      between PWW and the comparable companies suggests a minimum 20-basis point difference  
11      in long-term debt cost rates based upon the yield spread of A and BBB- rated debt.

12  
13      However, because of PWW's 2007 improved financial metrics, and the expectation that the  
14      Company's equity ratio will increase closer to the Comparable Group's, it is reasonable to  
15      adjust the Water Group common equity cost rate by only 5-basis points to reflect the bond  
16      rating difference. A 5-basis point spread between PWW and the Water Group is very  
17      conservative. Adding the 0.05% risk adjustment to the various results of the three models  
18      employed for the Water Group shows a current range of common equity cost applicable to  
19      book value for PWW of 11.65% (DCF), 14.45% (CAPM), and 11.25% (RP) as shown in  
20      Table 6.

TABLE 6

Summary of PWW's Equity Cost

Rates

DCF	11.65
CAPM	14.45
RP	11.25

**Q. WHAT IS YOUR COMMON EQUITY COST RATE RECOMMENDATION FOR PWW?**

A. As shown on Schedule 2, I recommend a 11.25% common equity cost rate for PWW. My analysis supports a 11.5% common equity cost rate for PWW. However, PWW's management has indicated the desire to limit the rate increase on customers. One way of doing so is to lower the requested common equity cost rate request to 11.25%. Accordingly, I recommend a 11.25% common equity cost rate for PWW.

**Q. HAVE YOU CHECKED THE REASONABLENESS OF YOUR RECOMMENDED COMMON EQUITY RATE FOR PWW?**

A. Yes. On page 2 of Schedule 16 the average projected return on average book common equity for the companies in comparable group for the period 2011-2013 is shown to range from 11.5% to 11.9%.

1 **OVERALL RATE OF RETURN RECOMMENDATION**

2  
3 **Q. WHAT IS YOUR OVERALL FAIR RATE OF RETURN RECOMMENDATION**  
4 **FOR PWW?**

5 A. Based upon my recommended capital structure and my estimates of PWW's capital cost  
6 rates, I recommend that an overall fair rate of return of 7.81%. The details of my  
7 recommendation are shown on Schedule 1.

8  
9 **Q. HAVE YOU TESTED THE REASONABLENESS OF YOUR OVERALL FAIR**  
10 **RATE OF RETURN RECOMMENDATION?**

11 A. Yes. A comparison of the results of my recommend overall rate of return to S&P's financial  
12 benchmarks is shown on page 1 of Schedule 1. If my recommendation is actually earned,  
13 it will give the Company ratios that will allow PWW to present a financial profile that will  
14 enable it to attract the large amount of capital necessary to provide safe and reliable water  
15 service, at reasonable terms.

16  
17 **Q. DO YOU BELIEVE THAT PWW CAN ACHIEVE THE BENCHMARK RATIOS**  
18 **THAT YOU HAVE CALCULATED?**

19 A. No. As previously stated, PWW requires about \$29.595 million of additional or new capital  
20 over the next several years, 2008-2010. This represents a 29% increase and/or turnover of  
21 ratemaking related capital. Additionally, PWW will have increases in highly volatile raw  
22 material expenses for purchased water, power and chemicals, and the additional cost of the  
23 ongoing eminent domain proceeding. Accordingly, prospectively, PWW will most likely

1           experience attrition and therefore will not earn its cost of capital.

2

3       **Q. DOES THAT CONCLUDE YOUR DIRECT TESTIMONY?**

4       A. Yes, it does.

5

## **APPENDIX A**

### **Professional Qualifications of Harold Walker, III Manager, Financial Studies Gannett Fleming, Inc.**

#### **EDUCATION**

Mr. Walker graduated from Pennsylvania State University in 1984 with a Bachelor of Science Degree in Finance. His studies concentrated on securities analysis and portfolio management with an emphasis on economics and quantitative business analysis. He has also completed the regulation and the rate-making process courses presented by the College of Business Administration and Economics Center for Public Utilities at New Mexico State University. Additionally, he has attended programs presented by The Institute of Chartered Financial Analysts (CFA).

Mr. Walker was awarded the professional designation "Certified Rate of Return Analyst" (CRRA) by the Society of Utility and Regulatory Financial Analysts. This designation is based upon education, experience and the successful completion of a comprehensive examination. He is also a member of the Society of Utility and Regulatory Financial Analysts (SURFA) and has attended numerous financial forums sponsored by the Society. The SURFA forums are recognized by the Association for Investment Management and Research (AIMR) and the National Association of State Boards of Accountancy for continuing education credits.

#### **BUSINESS EXPERIENCE**

Prior to joining Gannett Fleming, Inc., Mr. Walker was employed by AUS Consultants - Utility Services. He held various positions during his eleven years with AUS, concluding his employment there as a Vice President. His duties included providing and supervising financial and economic studies on behalf of investor owned and municipally owned water, waste water, electric, natural gas distribution and transmission, oil pipeline and telephone utilities as well as resource recovery companies.

In 1996, Mr. Walker joined the Valuation and Rate division of Gannett Fleming, Inc. In his capacity as Manager, Financial Studies and for the past twenty three years, he has continuously studied rates of return requirements for regulated firms. In this regard, he supervised the preparation of rate of return studies in connection with his testimony and in the past, for other individuals. He also assisted and/or developed dividend policy studies, nuclear prudence studies, calculated fixed charge rates for avoided costs involving cogeneration projects, financial decision studies for capital budgeting purposes and developed financial models for determining future capital requirements and the effect of those requirements on investors and ratepayers, valued utility property and common stock for



acquisition and divestiture, and assisted in the private placement of fixed capital securities for public utilities.

Mr. Walker was also the Publisher of C.A. Turner Utility Reports from 1988 to 1996. C.A. Turner Utility Reports is a financial publication which provides financial data and related ratios and forecasts covering the utility industry. From 1993 to 1994, he became a contributing author for the Fortnightly, a utility trade journal. His column was the Financial News column and focused mainly on the natural gas industry.

In 2004, Mr. Walker was elected to serve on the Board of Directors of SURFA. Previously, he served as an ex-officio directors as an advisor to SURFA's existing President. In 2000, Mr. Walker was elected President of SURFA for the 2001-2002 term. Prior to that, he was elected to serve on the Board of Directors of SURFA during the period 1997-1998 and 1999-2000. Currently, he also serves on the Pennsylvania Municipal Authorities Association, Electric Deregulation Committee.

## **EXPERT TESTIMONY**

Arizona, Colorado, Connecticut, Delaware, Illinois, Indiana, Kentucky, Michigan, Missouri, New Hampshire, New Jersey, New York, Oklahoma, Pennsylvania, Vermont and West Virginia. His testimonies covered various subjects including: appropriate capital structure and fixed capital cost rates, depreciation, fair rate of return, synchronization of interest charges for income tax purposes, valuation, cash working capital, financial analyses of investment alternatives and fair value. The following tabulation provides a listing of the electric power, natural gas distribution, telephone, wastewater, and water service utility cases in which he has been involved as a witness. Additionally, he has been involved in a number of rate proceedings involving small public utilities which were resolved by Option Orders and therefore, are not listed below.

<u>Client</u>	<u>Docket No.</u>
Alpena Power Company	U-10020
Armstrong Telephone Company - Northern Division	92-0884-T-42T
Armstrong Telephone Company - Northern Division	95-0571-T-42T
Artesian Water Company, Inc.	90-10
Artesian Water Company, Inc.	06-158
Aqua Illinois - Hawthorn Woods Wastewater Division	07-0620/07-0621/08-0067
Aqua Illinois - Hawthorn Woods Water Division	07-0620/07-0621/08-0067
Aqua Illinois - Vermilion Division	07-0620/07-0621/08-0067
Aqua Illinois - Willowbrook Wastewater Division	07-0620/07-0621/08-0067
Aqua Illinois - Willowbrook Water Division Docket	07-0620/07-0621/08-0067
Chaparral City Water Company	W-02113a-04-0616

Continued:

<u>Client</u>	<u>Docket No.</u>
California-American Water Company	CIVCV156413
Connecticut-American Water Company	99-08-32
Connecticut Water Company	06-07-08
Citizens Utilities Company	
Colorado Gas Division	-
Citizens Utilities Company	
Vermont Electric Division	5426
Citizens Utilities Home Water Company	R-901664
Citizens Utilities Water Company	
of Pennsylvania	R-901663
City of Bethlehem - Bureau of Water	R-00984375
City of Bethlehem - Bureau of Water	R-00072492
City of Lancaster Sewer Fund	R-00005109
City of Lancaster Sewer Fund	R-00049862
City of Lancaster Water Fund	R-00984567
City of Lancaster Water Fund	R-00016114
City of Lancaster Water Fund	R-00051167
Consumers Pennsylvania Water Company	
Roaring Creek Division	R-00973869
Consumers Pennsylvania Water Company	
Shenango Valley Division	R-00973972
Country Knolls Water Works, Inc.	90-W-0458
East Resources, Inc. - West Virginia Utility	06-0445-G-42T
Elizabethtown Water Company	WR06030257
Hampton Water Works Company	DW 99-057
Indian Rock Water Company	R-911971
Indiana Natural Gas Corporation	38891
Jamaica Water Supply Company	-
Kentucky-American Water Company, Inc.	2007-00134
Middlesex Water Company	WR-89030266J
Missouri-American Water Company	WR-2000-281
Missouri-American Water Company	SR-2000-282
Mount Holly Water Company	WR06030257
New Jersey-American Water Company	WR-89080702J
New Jersey-American Water Company	WR-90090950J
New Jersey-American Water Company	WR-03070511
New Jersey-American Water Company	WR-06030257
New Jersey-American Water Company	WR08010020
Newtown Artesian Water Company	R-911977
Newtown Artesian Water Company	R-00943157
Northern Indiana Fuel & Light Company	38770

Continued:

<u>Client</u>	<u>Docket No.</u>
Oklahoma Natural Gas Company	PUD-940000477
Pennichuck Water Works, Inc.	DW 04-048
Pennichuck Water Works, Inc.	DW 06-073
Pennsylvania Gas & Water Company (Gas)	R-891261
Pennsylvania Gas & Water Co. (Water)	R-901726
Pennsylvania Gas & Water Co. (Water)	R-911966
Pennsylvania Gas & Water Co. (Water)	R-22404
Pennsylvania Gas & Water Co. (Water)	R-00922482
Pennsylvania Gas & Water Co. (Water)	R-00932667
Presque Isle Harbor Water Company	U-9702
St. Louis County Water Company	WR-2000-844
United Water New Rochelle	W-95-W-1168
United Water Toms River	WR-95050219
Valley Water Systems, Inc.	06-10-07
Wilmington Suburban Water Corporation	94-149
York Water Company	R-901813
York Water Company	R-922168
York Water Company	R-943053
York Water Company	R-963619
York Water Company	R-994605
York Water Company	R-00016236