STATE OF NEW HAMPSHIRE

BEFORE THE

PUBLIC UTILITIES COMMISSION

Pennichuck Water Works, Inc.

Docket No. DW 08-073

PRE-FILED DIRECT TESTIMONY OF BONALYN J. HARTLEY

June 2008

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1 **I. <u>Background and Qualifications</u>**

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

3 A. Bonalyn J. Hartley. My business address is 25 Manchester Street, Merrimack, New Hampshire.

4 **Q. Please state your position with Pennichuck Water Works, Inc. ("Company") and**

5 **summarize your professional and educational background.**

6 A. I serve as Vice President of Administration for the Company and of Pennichuck Corporation

7 ("the Parent"), which holds all the Company's common stock. I was appointed to this position in

8 April 2001. Prior to that, I served in various capacities including Vice President-Controller,

9 Manager of Systems and Administration and Office Manager. I have been with the Company for

10 over 29 years, in total. In 1989, I attended the Annual Utility Rate Seminar sponsored by the

11 National Association of Regulatory Commissioners and the University of Utah. I am a graduate

12 of Rivier College with a B. S. in Business Management. In addition, I am a Director of the New

13 England Chapter of the National Association of Water Companies.

14 **Q. Ms. Hartley, what are your duties as Vice President of Administration for the Company?**

15 A. As Vice President of Administration, I am primarily responsible for the management of

16 administrative services for the Company including regulatory affairs, information technology,

17 human resource functions and customer service. I also serve as a liaison to the accounting

18 department particularly in the area of government and regulatory matters, system acquisitions and

19 information technology.

20 **Q. Have you testified before the New Hampshire Public Utilities Commission on any previous**

21 **occasions?**

1 A. Yes. I have testified before the Commission in a number of cases, including the following rate
2 cases: DR 91-055, DR 92-220, DR 97-058, DW 01-081, DW 04-056, DW 07-32, DW 05-072
3 and DW 06-073.

4 **II. <u>Overview of Rate Case Schedules</u>**

5 **Q. Are you familiar with the pending rate application of Pennichuck Water Works, Inc. and**
6 **with the various schedules?**

7 A. Yes, I am. These schedules and exhibits are found under Sections 12, 13 and 14 in the binder
8 marked Pennichuck Water Works, Inc, DW 08-073, Rules 1601.04 and 1601.08 filed by the
9 Company. I either prepared the schedules and exhibits or they were prepared under my
10 supervision (excluding the schedules filed pursuant to Section 1604.08 which were directed by
11 Mr. Patterson and the related attachments prepared by Mr. Walker).

12 **Q. Please provide an overview of how these schedules and exhibits are organized for this rate**
13 **filing.**

14 A. Contained in the rate case binder are the following schedules as required by PUC 1604.06:
15 **Section #12: Schedule A, Combined Computation of Revenue Deficiency**
16 **Section #13: Supporting Schedules & Exhibits**
17 **Schedule A, Computation of Revenue Deficiency**
18 **Schedule 1, Operating Income Statement**
19 **Schedule 1, Attachments A – H, Pro Forma Adjustments to Income/ Expense**
20 **Schedule 1A, Property Taxes**
21 **Schedule 1B, Payroll Summary**
22 **Schedule 1C, 2007 Management Fee Pro Forma Adjustment/Allocation**
23 **Schedule 2, Assets and Deferred Charges**

1 **Schedule 2A, Stockholders Equity and Liabilities**

2 **Schedule 2, Attachment A, Accumulated Depreciation**

3 **Schedule 2, Attachment B, Materials and Supplies**

4 **Schedule 2, Attachment C, Other Deferred Charges and Other Assets**

5 **Schedule 2, Attachment D, Analysis of Deferred Charges**

6 **Schedule 2B, Contributions in Aid of Construction**

7 **Schedule 3, Computation of Rate Base**

8 **Schedule 3, Attachments A through E, Pro Forma Adjustments to Rate Base**

9 **Schedule 3A, Computation of Working Capital**

10 **Schedule 3B, Computation of Thirteen Month Average Balance**

11 **Schedule 3C, Computation of 13 Month Avg Unfunded FAS 106 & 158 CostsSection #14:**

12 **Step Increase, Supporting Schedules & Exhibit**

13 **Step Increase, Schedule A, Computation of Revenue Deficiency**

14 **Step Increase, Schedule 1,**

15 **Step Increase, Schedule 1, Attachments A – D, Adjustments to Income/Expenses**

16 **Step Increase, Schedule 3, Computation of Rate Base**

17 **Step Increase Schedule 3, Attachments A – C, Adjustments to Rate Base**

18 Additional schedules and exhibits are attached to the above schedules that support figures

19 appearing on the written testimony and/or in accompanying exhibits.

20 **Q. Ms. Hartley would you please summarize Section #12, Schedule A, entitled "Pennichuck**

21 **Water Works, Inc., Computation of Revenue Deficiency, For the Twelve Months Ended**

22 **December 31, 2007"?**

1 A. Yes, this exhibit shows the pro forma revenue deficiency as of December 31, 2007. The thirteen
2 month average rate base of $72,945,003 is increased by $3,974,060 on a pro forma basis for plant
3 in service, resulting in a total rate base of $76,919,063. The overall rate of return of 7.81%
4 (discussed in Mr. Patterson's and Mr. Walker's testimony and shown in Section 15, Schedule 1)
5 is then multiplied by the total pro forma rate base of $76,919,063, resulting in a required net
6 operating income of $6,008,497. As shown in Schedule 1, the pro forma net operating income
7 for the twelve months ended December 31, 2007 is $4,079,767, resulting in a net operating
8 income deficiency of $1,928,730. Utilizing a tax factor of 60.39%, which accounts for the
9 impact of both the New Hampshire Business Profits Tax at 8.5% and Federal Income Taxes at
10 34%, the resulting revenue deficiency is $3,193,791, or a required revenue increase of 14.72%.
11 This increase will permit the Company to provide adequate and reliable service for all of our
12 customers while still maintaining the ability to attract new debt and equity capital.
13 **Q. Ms. Hartley, is the Company seeking an additional increase over the 14.72%?**
14 A. Yes. As explained later in my testimony, the Company is requesting an overall increase of
15 25.27% increase. This increase, as explained later in my testimony, would be phased in through
16 an initial increase of 14.72% and two step increases of 5.05% and 5.51%.
17 **Q. Ms. Hartley, would you please summarize Schedule 1 entitled, "Pennichuck Water Works,**
18 **Inc., Operating Income Statement for the Twelve Months Ended December 31, 2007"?**
19 A. Yes, this exhibit shows the actual operating results of the Company for the twelve months ended
20 December 31, 2007, which is the period the Company is using for the test year in this case.
21 **Q. Would you please explain the term "test year"?**
22 A. The test year (which in this case is the calendar year 2007) is the period for which the Company's
23 costs are examined to determine if they are reasonable and establish a level of rates that will

enable the Company to earn a reasonable return on its investment. Consistent with Commission practice, certain of the Company's financial documents have been adjusted or pro formed, to reflect annualization or normalization of known changes in conditions occurring during the test year and the twelve months after.

III. Pro-Forma Adjustments

Q. Does Schedule 1 show such adjustments?

A. Yes, Column 2 also reflects pro forma adjustments to recognize a $390,072 increase in total revenues and $487,530 in net increases in operating expenses that have occurred or will occur within the twelve months after the end of the test year. Each adjustment will be explained later in full detail. Column 1 is the actual operating income statement for the test year and shows that operating revenues were $21,547,912, total operating expenses were $9,757,849 and the resultant net operating income was $4,680,242. Column 3 presents the actual figures as adjusted by the pro forma adjustments. Columns 4 and 5 present comparative data for the twelve months ended December 31, 2006 and 2005 respectively.

Q. Please explain each of the pro forma adjustments made to the operating revenues and expenses as shown in Schedule 1, Column 2.

A. Operating revenues have been increased by $390,072 as a result of; (i) a 20.36% step increase which was authorized in DW 06-073 and effective January 5, 2007. A pro forma adjustment of $26,205 is made to recognize the period from January 1st to January 4th; (ii) a 3.07% subsequent step increase authorized in DW 06-073 effective June 1, 2007 for a pro forma adjustment of $206,644 to recognize the period from January through May 2007; and (iii) a 11.07% permanent increase authorized in DW 06-073 effective July 18, 2006 resulting in a credit of $187,034 to customers for the difference between the temporary rate increase awarded in 2006

1 and permanent rates. A final pro forma adjustment is made to decrease revenues by $(29,812) to
2 reflect the impact of the elimination of significant metered leakage from the Coburn Woods
3 Association distribution system during 2007. The Company worked with the Association to
4 install 224 individual meters. After installation, the Company compared the total of these meters
5 against a master 6" meter in order to accurately assess the amount of unaccounted for water. It
6 then worked with the Association throughout 2007 to locate and repair leaks which resulted in
7 the overall system leakage dropping from 74% or 57 gallons per minute at the beginning of 2007
8 to less than 3% or under 1gallon per minute at the end April of 2008 with the result being a
9 projected decrease in revenues from the Coburn Woods Association of $29,812.

10 **Q. Ms. Hartley please continue.**

11 A. The operating expenses have been increased by $487,530 to reflect known changes that occurred
12 during the test year or have occurred or will occur within the twelve months following the test
13 year. Schedule 1, Attachments A through H provide in detail the nature and specific computation
14 for each pro forma adjustment to each operating account.

15 **Q. Please explain the pro forma adjustment for union employees.**

16 A. On February 16, 2007, the Company negotiated a three year contract with the United
17 Steelworkers of America for employees hired in the Company's Production and Distribution
18 Departments. Schedule 1, Attachments B, pages 1 and 2 reflect pro forma adjustments for the
19 4% union wage increase effective February 16, 2007 and the 4% union wage increase effective
20 February 16, 2008. Additionally, adjustments are made to reflect three replacements in the
21 Production Department that were the result of one termination, one retirement, and one death in
22 December of 2006 and one replacement in the Distribution Department that was the result of one
23 termination.

1 **Q. Please explain the pro forma adjustments to payroll for the salaried employees of the**
2 **Company.**
3 A. Payroll adjustments are reflected for average annual increases of 4.0% that occurred on April 1,
4 2007 and 4.1% on April 1, 2008 for all salaried employees including executives. Adjustments
5 are also included to recognize those employees leaving the Company or transferring within the
6 Company as well as new hires. In 2007, the Company replaced 4 accounting administrators that
7 were the result of 3 terminations in 2007 and one termination in December of 2006. One
8 software support employee was terminated and one cad technician was terminated, neither of
9 which was replaced.. In February 2008, a Lead Electrician was hired to support the upgrades to
10 the Water Treatment Plant. In 2007, the Company replaced 2 Customer Service Representatives
11 for 2 terminated employees and, in 2008 hired one Customer Service Representative to replace a
12 temporary employee in 2007. The Company hired a Customer Service Representative on
13 February 11, 2008 and anticipates hiring two additional Customer Service Representatives on
14 June 1 and October 1, 2008. The Company will be hiring an additional Utility Technician on
15 October 1, 2008. The additional Customer Service personnel are necessary to support the
16 additional billing and collection efforts associated with PWW's conversion of customers from
17 quarterly to monthly billing during 2008. The Company is requesting that the additional
18 positions be annualized for the full year to reflect the impact of increased billings from 124,000
19 to 300,000 billings by February of 2009. The impact of these changes on salaries and wages are
20 detailed on Schedule 1, Attachment H.
21 **Q. Ms. Hartley please explain the pro forma salary adjustments for executives of the**
22 **Company.**

1 A. Effective April 1, 2007, there is a total pro forma salary adjustment of $5,812 for five executives
2 of the Company, reflecting an average annual salary increase of 3.2%. For April 1, 2008, there is
3 a total pro forma adjustment of $22,500 for seven executives reflecting an average annual salary
4 increase of 3.5%.

5 **Q. What portion of the pro forma adjustments represents salary and wages**
6 **for the test year?**

7 A. The total salary and wage adjustments before any income tax benefit are $466,867 as compared
8 to the actual payroll of $6,712,770 for the twelve months ended December 31, 2007. This is
9 shown in detail on Schedule 1B entitled "Pennichuck Water Works, Inc., Payroll Summary".

10 **Q. Ms. Hartley would you please summarize Schedule 1B for the Commission?**

11 A. Yes. Schedule 1B itemizes the various classifications of labor by Operations and Maintenance,
12 Construction and Jobbing. Column 1 details a total payroll expense of $6,712,770 that was
13 actually incurred during the twelve months ended December 31, 2007. As previously stated, the
14 total payroll adjustments in Column 7 are $466,867, of which $424,457 is for operating labor and
15 $4,139 is for capitalized labor in construction. As shown in Columns 2-6, adjustments include
16 payroll increases effective February 16, 2007 and February 16, 2008 for union employees, salary
17 increases that were effective April 1, 2007 and April 1, 2008 for salaried employees, and
18 adjustments for new hires and terminations for 2007 and 2008.

19 Q. **What other types of expenses are included in the pro forma adjustments to the Operating**
20 **Income Statement?**

21 A. Other operating expenses for which pro forma adjustments have been made are related to
22 increases in operating and maintenance expenses for the Production Account resulting in a total
23 pro forma adjustment of $152,770, which includes the following items: (i) in 2008, the Company

1 incurred increases in costs of all chemicals utilized at the Treatment Plant which represents an
2 annual expense of $20,515; and (ii) purchased water costs for the Company increased over the
3 2007 test year expenses as the result of a July 1, 2007 increase in rates charged to the Company
4 by the Merrimack Village District and a January 1, 2008 increase in rates charged to the
5 Company by the Town of Milford. These increase charges result in a total pro forma adjustment
6 of $9,504 as detailed in Schedule 1, Attachment B, Page 1.

7 Q. **Ms. Hartley please explain the adjustments made to the Distribution Account.**

8 A. The cost of fuel has increased significantly from 2007 to May 2008 and continues
9 to increase. The majority of the Company's fuel costs is related to this department as most of our
10 labor personnel are utilizing trucks and other vehicles to service our customers and the system.
11 Therefore, the Company is making a pro forma adjustment to reflect an increase from $204,385
12 to $282,347 for 2007 and 2008 respectively. This was calculated utilizing $3.698 per gallon for
13 gasoline and $4.19 for diesel (the average price for a gallon of gas/diesel in the Nashua area on
14 May 1, 2008). Based on the Company's Work Order percentage of 63.30%, the total fuel
15 increase of $77,962 results in an allocation of $49,350.

16 **Q. Please explain Schedule 1, Attachment B, Page 3.**

17 A. The schedule reflects pro forma adjustments for engineering salaries of $4,670 and
18 $15,229 representing salary increases and adjustments of 5.3% on April 1, 2007 and adjustments
19 of 4.2% on April 1, 2008 respectively. An adjustment of $(8,875) is made to reflect the impact
20 of the personnel hirings and terminations during the test year and in 2008. Total pro forma
21 adjustments for engineering salaries is $11,023.

22 **Q. Does this complete the adjustments that have been made to the operating expenses in the**
23 **Distribution Account?**

1 A. Yes.

2 **Q. Ms. Hartley would you please explain other adjustments made for administrative expenses**

3 **found on Schedule 1, Attachment C, Page 1?**

4 A. Yes, there are adjustments to recognize salary adjustments, increases in wages, and personnel

5 hirings and terminations during the test year and in 2008. The schedule reflects pro forma

6 adjustments for accounting salaries of $5,347 and $17,710 representing salary increases and

7 adjustments of 3.9% on April 1, 2007 and salary increases and adjustments of 4.6% on April 1,

8 2008 respectively. An adjustment of $257 is made to reflect the impact of the personnel hirings

9 and terminations during the test year and in 2008. Total pro forma adjustments for accounting

10 salaries are $23,314. The schedule reflects pro forma adjustments for customer service are

11 $3,751 and $13,013 representing salary increases and adjustments of 4.8% on April 1, 2007 and

12 salary increases and adjustments of 4.3% on April 1, 2008 respectively. An adjustment of

13 $165,175 is made to reflect the impact of the personnel hirings and terminations during the test

14 year and in 2008. Total pro forma adjustments for customer service salaries are $181,939. In

15 June 2008, the Company began converting its quarterly customers to monthly accounts and as

16 previously stated is planning to hire two additional customer service employees to support this

17 major initiative. The new hire planned for June 1, 2008 will be trained in billing and receivables

18 and the utility technician is a union position that will be required to meet the increased collection

19 activity. The billing, receivables, collections and customer calls will increase by approximately 3

20 times for bills and receipts annually. The Company is proposing that the new positions be

21 recognized for a full 12 months. The schedule also reflects pro forma adjustments for

22 Information Technology salaries of $1,706 and $7,095 representing salary increases and

23 adjustments of 3.2% on April 1, 2007 and salary increases and adjustments of 4% on April 1,

1 2008 respectively. An adjustment of ($3,527) is made to reflect the impact of the personnel
2 hirings and terminations during the test year and in 2008. Total pro forma adjustments for
3 Information Technology are $5,273. Finally, there are pro forma adjustments of $10,110 and
4 $28,312 for other administrative salaries and executive salaries for salary increases on April 1,
5 2007 and April 1, 2008 that when included with other adjustments result in a total pro forma
6 administrative salary adjustment of $248,947.

7 **Q. Would you please continue?**

8 A. Yes. On Schedule 1, Attachment C, Page 2, for purpose of calculating an adjustment for
9 benefits, total operating expense payroll dollars of $424,457 (Schedule 1B) is multiplied by
10 38.6% benefit percentage, resulting in a pro forma adjustment of $163,841. An adjustment is
11 included for a reduction of $29,629 for charitable contributions as reflected in the documents
12 submitted in Rule 1604.01, Section 5. Other adjustments are made to the test year to recognize an
13 increase of $6,080 in regulatory commission expense, an $8,941 adjustment for computer
14 maintenance expense, and an adjustment of $12,051 for membership fees of $1,460 and $10,591
15 for NAWC and the AWWA Research Foundation. The Company eliminated or negotiated for
16 one year "only" reduced membership fees in NAWC and AWWARF for 2007 until the
17 Company's earnings and cash flow improved as a result of the temporary and permanent rates
18 requested in the pending PWW rate case (DR 08-073). Note: I would include a sentence or two
19 about why membership in these organizations is important.
20 Customer billing expenses have been adjusted to recognize the transition from quarterly to
21 monthly billing. The amount of billing materials and postage will increase by $133,420 and, the
22 Company is proposing that this expense be recognized for twelve months as the conversion will
23 be completed by January 2009. In 2008, the Company purchased a scanner to assist in the

1 processing of customer remittances and an adjustment of $2,887 has been made to reflect the
2 increase in maintenance cost for this equipment. Additionally, during the test year, there were
3 expenses that were non-recurring in nature and pro forma adjustments are made to eliminate the
4 following from the test year: commission expense for auction bonds of $(4,550), obsolete
5 inventory for obsolete customer education supplies of $(3,937) and for obsolete customer
6 conservation materials of $(4,806), and for book to CPR true-ups of $10,329.

7 **Q. Ms. Hartley are there any other adjustments for the Administrative and General**
8 **Accounts?**

9 A. Yes, there are pro forma adjustments to reflect expenses allocated through the Management Fee
10 to other Pennichuck Corporation subsidiaries. The allocation from Pennichuck Water Works to
11 all affiliates which is reflected in Rule 1604.01, Section 26. The allocable percentage rate is
12 based on certain criteria including revenues, employees, square footage utilized, number of
13 customers, and assets. Therefore, the pro forma payroll of $424,457 and the pro forma benefits
14 at 38.6% of $163,841 totaling $588,298 have been multiplied by 28.1% resulting in a deduction
15 to the Administrative and General Accounts of $(165,312).

16 During the test year there were expenses that were non-recurring in nature and adjustments have
17 been made as a reduction to the Management Fee to recognize these items as follows: an
18 adjustment of $(286) associated with Great American Insurance Claim, an adjustment of
19 $(25,312) associated with 2007 retention bonuses, and an adjustment of $(58,071) for 2007
20 bonuses paid above plan levels due to achievement of specified goals. Other adjustments for
21 items not included in the test year are reductions to the Management Fee and include: an
22 adjustment of $(36,363) to allocate water treatment plant office salaries to affiliates through the
23 work order allocation, an adjustment of $(54,949) to allocate depreciation for leasehold

1 improvement related to the HECOP III fit-up allowance, and an adjustment of $(45,191) to adjust
2 depreciation of leasehold improvements over 10 years versus the 5 years on the Company's
3 books. Additional adjustments for items not included in the test year to increase the
4 Management Fee include: an adjustment of $35,112 to annualize the board costs associated with
5 the search for President and CEO in 2006 and an adjustment of $39,451 for allocation of work
6 order overhead to eliminate contractor invoices (Schedule 1C). The total pro forma adjustment
7 for all Administrative and General Accounts is a net increase of $232,651 including the
8 adjustment for the total management fee allocation or $(310,922).

9 **IV. <u>Cost-Containment Efforts</u>**

10 **Q. Ms. Hartley, what actions has the Company taken to contain costs?**

11 A. The Company consistently reviews and analyzes its costs to determine their necessity, whether
12 there are alternative options or whether they can be eliminated. For example, in the area of
13 Customer Accounting and Collections, the Company upgraded its utility billing program in 2006
14 to provide cost effective and convenient payment options for customers, and in early 2008 the
15 Company began offering online payment via its web site at www.pennichuck.com. Processes
16 have been initiated for electronic check deposits to the Company's bank account with software
17 entitled "payment concentrator" for customers that make online payments through their own
18 banks and with remote deposit equipment for customers paying in person at the Company's
19 headquarters. In 2008, the Company purchased new remittance equipment that assists in the
20 processing of customer payments by mail and that scans customer check for electronic deposits
21 in the Company's bank account. In the future, the Company also plans to provide electronic bill
22 presentation.

23 **Q. Has the Company implemented other efficiency measures?**

1 A. Yes. Our centralized and automated customer appointment schedule for back flows, pressure
2 complaints, and meter appointments improves efficiency and responsive customer service. This
3 program calculates travel time and automatically reschedules and determines the most efficient
4 travel route. It also provides for automatic scheduling for routine appointments such as backflow
5 testing. Managers can now view "real time' employee work schedules for easy rescheduling and
6 efficiency. Automation has improved Company response and efficiency in all areas. For
7 example, the SCADA system at the Treatment Plant allows operators to monitor remote facilities
8 by computer and the OPS 32 program allows operators to record data in the field on Palm Pilots.
9 In 2005, we implemented a new Laboratory Information System (LIMS) which provides for
10 automatic tracking of water testing and sampling. This new system will eliminate redundancy,
11 improve laboratory reporting, and monitoring of water quality. Sample results from outside
12 laboratories are now imported electronically thereby increasing accuracy and efficiency. In
13 2007, the Company developed software interfaces between its BNA fixed asset program and
14 MUNIS utility billing program to its MACOLA accounting program, and in 2008, the Company
15 developed a software interface from its Synergen work order program to MACOLA creating
16 added efficiencies. The Company has standardized its desk top computers and software suites
17 allowing for easier maintenance and training while increasing processing power and productivity.
18 To better service customers, the Company has installed and implemented a Voice Over Internet
19 Protocol (VOIP) telephone system which provides automated messaging for property transfers,
20 payment information, and sales of property to facilitate customer service. In addition, customers
21 are able to easily access off-duty emergency number for quick response. The system provides
22 emergency messaging for special circumstances that may affect a large group of customers. The

1 system also has a call feature that provides for automated phone messages to be delivered to
2 customers for emergency and collections and can deliver over 1,200 messages in one hour.
3 **Q. Are there other improvements that the Company has made to enhance service to**
4 **customers?**
5 A. Yes. In 2008, the Company launched its new web site that is designed to be very friendly and
6 easy for customers to access, send messages and make payments online. The web site provides
7 customer's with rate information by system, consumer confidence reports by supply,
8 conservation tips, restrictions for lawn irrigation by supply, payment locations and options,
9 environmental and engineering services, investor information and general information about the
10 Company. The Company is in the process of conducting a pilot study to begin developing
11 automatic entry of work order information in the field. In the future, this new program will
12 create efficiency, accuracy and eliminate redundancy.
13 **Q. What other initiatives has the Company undertaken to save costs?**
14 A. All employee benefits are reviewed annually and savings negotiated where possible. The
15 Company recognizes that the escalating cost of rising health care benefits poses challenges. In
16 2007, the Company negotiated a more favorable contract with Harvard Pilgrim Health Insurance
17 that helped to mitigate premium increases proposed by Anthem Blue Cross and Blue Shield.
18 Health benefits for union employees are now prescribed in the Company's 2007 contract with the
19 United Steelworkers Union. In 2008, union employees make a weekly contribution of $25.18 to
20 their health care premium and non-union employees are required to contribute 10% of their total
21 premium through payroll deduction. This helped to mitigate the impact of the 8% increase in
22 health care costs from Harvard Pilgrim in 2008. In reviewing the historic medical usage by our

1 employee group, it was determined that further savings could be accomplished by having the
2 Company self-insure for certain medical deductibles along with increasing employee co-pays.
3 **Q. Please explain the conversion to monthly billing and its impact on customers and the**
4 **Company.**
5 A. In 2008, as described in Mr. Ware's testimony, the Company began a program to install Neptune
6 Radio Read Units for all meters in PWW which will be completed by year end. This major
7 project is necessary to convert customers from quarterly to monthly billing and has many
8 advantages for both the customer and the Company. For customers; the frequency of water bills
9 has increased which will make it easier for customers to budget monthly for this expense. It will
10 also allow for early leak detection which will prevent undo water usage, meter repairs will be
11 accelerated thereby eliminating the time between actual meter reads, and conservation signals to
12 customers during peak summer usage. From the Company's perspective, monthly reading will
13 provide more accurate unaccounted for water reports, improved cash flows, improved budgeting
14 and forecasting of unbilled water, encouragement for timely water conservation, timely meter
15 repairs, and improved accuracy and efficiency in meter reading time.
16 **Q. Will the installations of the radio read program provide some efficiencies?**
17 A. Yes. As detailed in Mr. Ware's testimony, the meter department labor is primarily dedicated to
18 reading meters. The radio read program will provide an opportunity to redeploy this labor for
19 periodic testing of small meters and repairs. The Company's meter testing program has lagged
20 in the area of small meter testing and needs to be accelerated to meet the NHPUC prescribed
21 testing frequency. Absent the labor savings achieved by reading meters with radio read units, the
22 Company would have to hire more union labor to complete the required testing. As described
23 earlier in my testimony, there will be additional costs for Customer Service and Collections due

1 to the conversion from quarterly to monthly billing. The Company believes that the benefits far
2 out weigh this additional cost to service our customers.
3
4 V. **Increases in Property Tax and Depreciation**
5 Q. **Are there any expense adjustments included in the pro forma adjustments to the operating**
6 **income statement that are not related to any changes from the Company's operations?**
7 A. Yes, one of the major expenses included in the pro forma adjustments to the operating income
8 statement is a $599,805 increase for property taxes shown on Schedule 1, Attachment D, Page 1.
9 This adjustment is due to the difference in the actual liability for real estate taxes and the amount
10 actually accrued during the test year as well as the increase in taxable property owned by the
11 Company. Schedule 1A, Pages 1-5 reflects the pro forma adjustment of $26,980 for the net
12 increase in property taxes for some of the communities served by the Company and for the State
13 of New Hampshire property tax. An additional adjustment reflects the increase of taxable utility
14 property of $668,813 in some of the communities served by the Company which is shown on
15 Schedule 1A, Attachment A, Pages 1-7. These taxable additions were placed in service in 2007
16 at a total cost of $27,890,506; the related property taxes are not reflected in the test year. Finally,
17 there is an adjustment for the decrease in taxable utility property of $(95,988) related to
18 retirements of plant items in various communities. These taxable dispositions were retired
19 during 2007 at a total cost of $3,999,668 and related property taxes as found on Schedule 1A,
20 Attachment B, Pages 1-4.
21 Q. **Are there any other pro forma adjustments that you have made to the operating income**
22 **statement?**

1 A. Yes. There is also a pro forma adjustment for the increase in net depreciation expense of
2 $290,681 as shown on Schedule 1, Attachment E entitled "Pennichuck Water Works, Inc.,
3 Depreciation Expense". This adjustment is primarily attributable to the additional one-half year
4 depreciation expense of $459,806 for depreciable assets placed in service during 2007 and a
5 reduction of $(95,281) in depreciation expense to reflect the disposal of assets in the test year.
6 An adjustment of $(69,701) is made to reflect depreciation expense related to treatment of cost of
7 removal (COR) as agreed by the settling parties in Order 24,751 (DW 06-073) . An adjustment
8 of $(4,143) is made to adjust the estimated useful life of filter media. In addition, there is a net
9 increase in amortization expense of $6,385 as shown in Schedule 1, Attachment F entitled
10 "Pennichuck Water Works, Amortization of Deferred Charges" which is primarily due to a one-
11 half year amortization expense pro forma of $75,746 for certain projects and studies completed
12 during 2007 and a reduction of $(77,765) for the completed amortization of certain deferred
13 assets during the test year. In 2008, the Company engaged consultants to perform compensation
14 studies for non union employees and executives. The Company is proposing to amortize the
15 studies over 3 years and has made an adjustment of $12,667. An adjustment of $(4,263) is made
16 to eliminate the non-recurring final amortization of the 1998 Theoretical Depreciation Reserve
17 taken in 2007. The explanations and calculations for these amortization expenses are shown on
18 the Schedule noted above.

19 **VI. <u>Effect of Taxes</u>**

20 **Q. Please explain Schedule 1, Attachment G entitled, "Pennichuck Water Works, Inc., Income**
21 **Taxes".**

1 A. This schedule calculates the New Hampshire Business Profits Tax and the Federal Income Tax
2 benefits derived from the pro forma adjustments to operating expenses for a total tax benefit of
3 $(84,518) and $(309,336) respectively.

4 **VII. PWW Balance Sheet**

5 **Q. Please explain Schedule 2 entitled "Pennichuck Water Works, Inc., Balance Sheet"?**

6 A. This schedule shows the comparative balance sheets for Pennichuck Water Works as of
7 December 31, 2007, 2006, and 2005. On Schedule 2, it should be noted that plant in service
8 increased to $134.4 million reflecting $30.6 million of net plant additions since 2005. Other
9 assets and deferred charges of $5.9 million reflect expenses for abandoned property,
10 implementation of the Sarbanes-Oxley Act, water tank inspections, the Supplemental Employee
11 Retirement Plan (SERP) for the former President of the Company, the long term investment for
12 funding the water line study for Berkley Street, relocation expenses, employee recruiter fees,
13 2006 rate case expenses, VEBA Trusts, the Manchester Source Development Charge for
14 additional capacity and the Bedford interconnect, and costs for the Filtration Media Study for the
15 Treatment Plant (Schedule 2, Attachment C, Pages 1-2). On Schedule 2A, Stockholder's Equity
16 has increased from $36.9 million in 2005 to $40.3 million in 2007 while Long Term Debt and
17 Liabilities have increased from $58.3 million in 2005 to $85.3 million in 2007.

18 **Q. Would you now explain Schedule 2, Attachment A?**

19 A. This schedule provides the breakout of the 'Accumulated Depreciation" item
20 as shown on the Company's balance sheet, by account classification, for the years ending
21 December 31, 2007 and December 31, 2006.

22 **Q. Would you please explain Schedule 2, Attachment B?**

1 A. This schedule details all of the materials and supplies on the Company's balance sheet at
2 December 31, 2007, the 13 month average for the same, and the comparative balances as of
3 December 31, 2006 and 2005.
4 **Q. Would you please explain Schedule 2B?**
5 A. This schedule details the customer advances and contribution in aid of construction on the
6 Company's balance sheet for the five years from 2003 through 2007.
7 **Q. Would you please explain Schedule 2, Attachment C, Pages 1-2?**
8 A. Yes. This schedule explains the "Other Deferred Debits and Other Assets" included in the
9 Company's balance sheet and shows the comparative balances for these deferred charges and
10 other assets as of December 31, 2007 and 2006. Included in the December 31, 2007 balance are
11 $23,352 for abandoned property for wells primarily located in the Cabot Preserve and Dunlap
12 Woods systems, $2,932 for inspection of the Fifield Tank, $10,162 for the study of the mast road
13 crossing, $673,797 for costs associated with accounting requirements for compliance with the
14 Sarbanes-Oxley Act of 2002, $102,993 for Bond Defeasance premium, $2,512 for a study related
15 to Berkley Street; and additional expenses of $96,085 for recruiter fees, $53,072 for Union
16 Contract negotiations, $470,919 for the SERP plan for the former President of the Company,
17 $194,665 related to demolition of the Merrimack Dam, $179,868 for the Pennichuck Brook
18 watershed study, $6,875 for catch basin marking, $588,318 for VEBA Trusts, $18,972 for web
19 site upgrade, $31,667 for the 2004 compensation study, $378,974 for MSDC charges and
20 $28,261 for the Filtration Media Study for the Treatment Plant. It should be noted that costs of
21 $6,851,229 as of December 31, 2007 for defense of the eminent domain action by the City of
22 Nashua are included in this account. These costs and no other eminent domain costs are included

in this case and are reduced by the same amount of $6,851,229 as reflected on Schedule 2, Attachment C, Page 1.

VIII. Computation of Rate Base

Q. Please explain Schedule 3, entitled "Pennichuck Water Works, Computation of Rate Base, For the Twelve Months ended December 31, 2007"?

A. The overall purpose of this schedule is to calculate a pro forma rate base for the Company in order to determine the basis on which to compute its allowed rate of return. Column 1 of this exhibit shows the test year rate base account calculated on an actual "13 month average" rate base for the twelve months ended December 31, 2007 for a total of $128,961,502 for Plant in Service. Schedule 3B details how the average was calculated. Column 2 of Schedule 3 represents a "year end" rate base for the twelve months ended December 31, 2007. This information is also detailed on Schedule 3B. Column 3 details the pro forma adjustments to the "test year average" rate base. The computation detail for each adjustment is shown on Schedule 3, Attachment A through E inclusive. The net pro forma adjustment to the rate base for plant in service is $5,102,807 to annualize those non-revenue producing capital additions that were included in the "13 month average" for plant in service for the twelve months ended December 31, 2007. Schedule 3, Attachment A, Exhibit 2, Pages 1-5 details these non-revenue producing items and shows that the total cost for these assets placed in service during 2007 is $27,232,123 and that by utilizing "the 13 month average" only $20,672,916 is currently reflected in the test year resulting in an adjustment of $6,559,207. Schedule 3, Attachment A, Exhibit 4, Pages 1-4 details retirements in service which were calculated as part of the thirteen month average of plant in service for the test year ending 2007 is $4,253,147 and that by utilizing "the 13 month

1 average" only $2,796,747 is currently reflected in the test year for a reduction of $(1,456,400). It
2 should be noted that all of these projects are non-revenue producing items that are critical
3 infrastructure improvements, upgrades to the system or mandated to maintain compliance with
4 the SDWA. These asset additions do not provide additional revenue opportunities for the
5 Company.

6 **Q. Please continue to explain adjustments to rate base shown on Schedule 3.**

7 A. The reduction of $(94,292) for Deferred Debits is detailed on Schedule 3, Attachment B includes
8 a reduction of $(75,746) to reflect the one-half year amortization expense pro forma for the
9 deferred charges placed in service during 2007. Schedule 2, Attachment D, Pages 1-2 reflects
10 those items that are included. There is a pro forma adjustment to remove the deferred expense of
11 $(43,879) for rate case expenses related to DW 06-073. The Company is recovering these
12 expenses from customers over a twelve month period. An adjustment of $25,333 is proposed to
13 recognize the unamortized balance of a compensation study to be performed in 2008. Schedule
14 3, Attachment C shows an adjustment of $360,382 for Accumulated Depreciation that includes
15 the amount of $459,806 for the additional one-half year pro forma depreciation expense for the
16 capital assets added to the core system in 2007 and a one-half year depreciation expense of
17 $(95,281) for capital assets retired in the test year as shown on Schedule 3, Attachment A,
18 Exhibit 1, Pages 1-12 and Schedule, Attachment A, Exhibit 3, Pages 1-7. There is also an
19 adjustment of $(4,143) for the estimated useful life of filter media noted in Schedule 1,
20 Attachment E. Additionally, a working capital pro forma adjustment is made to rate base to
21 reflect the pro formed operations and maintenance expenses of $487,530 on Schedule 1 for the
22 twelve months ended December 31, 2007. This is calculated at 63.5 days divided by 365 days

1 resulting in 17.40% which is then multiplied by $487,530 resulting in pro forma working capital
2 of $84,830.

3 **Q. Are there any further adjustments to rate base?**

4 A. Yes, an adjustment of $758,902 is made to reduce rate base for unfunded FAS 106 and 158 costs.
5 Schedule 3, Attachment E shows a pro forma adjustment of $206,567 to comply with
6 Commission Order No. 20,806 in DA 92-199 by calculating unfunded FAS 106 costs of
7 $342,055 by the tax factor of 60.39%. And, an additional pro forma adjustment of $552,335 to
8 account for FAS 158 that required recognition of the over funded or under funded status for
9 defined benefit and other post retirement plans by calculating the unfunded FAS 158 costs of
10 $914,614 by the tax factor of 60.39%. The total rate base for the test year 13 month average is
11 $72,945,003 and accounting for the pro forma adjustments of $3,974,060 results in a pro forma
12 rate base of $76,919,063.

13 **Q. Please summarize what the rate base exhibits show.**

14 A. The most striking conclusion from these exhibits is the fact that the Company continues to make
15 substantial capital investments in order to maintain the reliability of its systems and to comply
16 with various governmental requirements. It should be noted that regulated public utilities often
17 do not have the advantage enjoyed by other companies of deciding when, on the basis of
18 financial considerations, to make these investments. Pennichuck has a commitment to the
19 communities it serves to provide a safe and reliable product at all times regardless of capital
20 limitations or other considerations. The costs associated with these projects when combined
21 with increased expenses places the Company in a position where financial relief through a rate
22 increase is critical in order for the Company to maintain its credit worthiness and still preserve
23 adequate earnings that will attract capital (as described in Mr. Patterson's testimony).

1 **Q. Are all of the pro forma capital additions included in the pro forma adjusted rate base**
2 **presented by you used and useful?**
3 A. Yes.
4 **Q. Were the expenses incurred by the Company in making these rate base additions prudently**
5 **invested?**
6 A. Yes, as discussed in Mr. Ware's testimony, all of these investments are prudently incurred.
7 **IX. <u>Impact of Rate Increase</u>**
8 **Q. How is the Company proposing to adjust its current rate levels to achieve the 14.72%**
9 **revenue increase being sought in this case?**
10 A. The Company is recommending that it collect revenues from each customer class in accordance
11 with the recommendations for each Customer Class as detailed on Schedule 9, page 1 of the Cost
12 of Service study. This will result in the Company collecting 86.2% of its required revenues from
13 Water Service Revenues (both general water service (GWS) and contract water service), 3.68%
14 from Private Fire Revenue and 10.12% from Municipal Fire Revenues. This revenue collection
15 allocation would result in the Company collecting $19,725,694 or an increase of 14.52% from its
16 GWS customers, $1,734,267 or an increase of 14.34%. from Contract revenues, $915,696 or an
17 increase of 85.29% from Private Fire revenues and $2,520,792 or an increase of 2.20 % from
18 Municipal Fire revenues resulting in an overall revenue increase of 14.72%. The above
19 allocation will result in an average annual residential water bill for a single family home of
20 approximately $517.37 based on average usage per 9.53 one hundred cu.ft. This will represent
21 an increase of $4.88 per month for residential customers over current rates.
22 **Q. What efforts does the Company make to assist customers who are having difficulty paying**
23 **their water bills?**

1 A. The Company follows the Commission's regulations prior to disconnecting any customer's
2 service. In addition to the fourteen day notice of disconnection that a regulated utility must
3 provide to its customers, the Company makes courtesy calls to customers two to three days prior
4 to any scheduled disconnection (for non-payment) in an effort to help customers avoid
5 termination of service. These calls are highly effective in assisting customers to avoid
6 disconnections. These courtesy calls have significantly reduced the number of disconnections,
7 which saves customers money and disruption to their lives. Once a disconnection occurs, the
8 Company works closely with the customer to restore service. For example, the Company will
9 reconnect a customer's service as late as 8:00 p.m. on weekdays, and customers may submit
10 overdue payments to the Company representative at the time of reconnection. The Company also
11 works with its customers on establishing reasonable payment plans to avoid disconnection of
12 service.

13 **Q. Does the Company provide any assistance to customers experiencing**
14 **financial hardship?**

15 A. Yes. The Company maintains a hardship fund for customers who are unable to pay their bills
16 due to tragic experiences. The Customer Service Department may allocate money to pay a
17 customer's bill in such circumstance.

18 **X. <u>Water Conservation</u>**

19 **Q. Ms. Hartley did you include a 'step-up' rate to encourage water conservation at this time?**

20 A. No, I did not. As stated previously, the Company is in the process of converting its customers
21 from quarterly to monthly billing. Currently the majority of customers in the Pennichuck
22 systems will not receive their quarterly water bill for the summer months of June through August
23 until later in September or October of that year. Therefore, a conservation 'step-up' rate would

1 have little or no impact on water usage since the water bill would arrive long after the usage,
2 providing no time to conserve water. The Company recommends that conservation rates be
3 studied at some future date when the radio read program is completed and how such measures
4 would impact actual usage.

5 **Q. Does the Company undertake any efforts to encourage conservation?**

6 A. Yes. The Company provides educational materials to customers about ways to conserve water.
7 This information is included in our customer handbook, web site and newsletters. In addition,
8 we mail water conservation pamphlets to all of our customers at the start of the summer season.
9 The Company has lawn irrigation policies for some of its community systems that require
10 'odd/even' lawn irrigation policies or in complete water bans when it is necessary. During peak
11 summer usage, customers can access the web site for current updated status of lawn irrigation
12 programs for their system. The Company also polices these systems for compliance when water
13 supplies are critical.

14 **XI. <u>Request for Step Increase</u>**

15 **Q. Ms. Hartley would you please explain why the Company is seeking an initial increase of**
16 **14.72% and subsequent step increases of 5.05% and 5.51%?**

17 A. Yes. The Company is seeking an initial increase of 14.72% based on a test year ending
18 December 31, 2007. As explained in Mr. Ware's testimony, the Company has embarked on a
19 significant capital project (upgrade of the water treatment plant) to meet federal drinking water
20 regulations. While there are significant capital expenditures in the test year associated with this
21 project, the expenses with this project will continue into 2008 and 2009. As explained in both
22 Mr. Ware's and Mr. Patterson's testimony, the Company is requesting a step increase to
23 recognize the major upgrades to the Treatment Plant and other additions totaling $14.9 million

1 during 2008 becoming used and useful by December 31, 2008. The Company is respectfully
2 requesting the Commission approve step increases totaling 10.56% once these additional
3 improvements are used and useful (in May and November 2008, respectively).
4 **Q. Ms. Hartley would you please summarize Section #14, Step Increase, Schedule A, entitled**
5 **Pennichuck Water Works, Inc, for the Twelve Months Ended December 31, 2007?**
6 A. Yes, this exhibit shows the pro forma revenue deficiency for two step increases as of December
7 31, 2007. The '13 month average' rate base pro forma test year of $76,919,063 is increased by
8 $7,179,944 on a pro forma basis as of May 2008 and by $8,151,558 on a pro forma basis for
9 plant in service as of November 2008, resulting in a total pro forma rate base of $84,099,007 and
10 $92,250,566 respectively for the two step increases. The overall rate of return of 7.81%
11 (discussed in Mr. Patterson's and Mr. Walker's testimony and shown in Section 15, Schedule 1)
12 is then multiplied by the total pro forma rate base for the first step increase of $84,099,007 and
13 the second step increase of $92,250,566, resulting in a cumulative required operating income of
14 $6,569,355 and $7,206,110 respectively. As shown in Step Increase, Schedule A, the pro forma
15 net operating income for the twelve months ended December 31, 2007 is $3,979,196 for the first
16 step increase and $3,893,596 for the second step increase resulting in a cumulative net operating
17 income deficiency of $2,590,159 and $3,312,514 respectively. Utilizing a tax factor of 60.39%,
18 which accounts for the impact of both the New Hampshire Business Profits Tax at 8.5% and
19 Federal Income Taxes at 34%, the resulting cumulative revenue deficiency is calculated to be
20 $4,289,054 for the first step increase, or a required cumulative revenue increase of 19.76% and
21 $5,485,203 for the second step increase, or a required cumulative revenue increase of 25.27%.
22 As also indicated, the resulting incremental revenue deficiency is calculated to be $1,095,263 for
23 the first step increase, or a required incremental revenue increase of 5.05% and $1,196,149 for

1 the second step increase, or a required incremental revenue increase of 5.51%. This increase will
2 permit the Company to provide adequate and reliable service at affordable rates for all of its
3 customers while still maintaining its ability to attract new debt and equity capital.

4 Q. **Ms. Hartley, would you please summarize Step Increase, Schedule 1 entitled, "Pennichuck**
5 **Water Works, Inc., Operating Income Statement for the Twelve Months Ended December**
6 **31, 2005"?**

7 A. Yes, this exhibit shows in column 1 the actual operating results of the Company for the twelve
8 months ended December 31, 2007, column 2 the pro forma adjustments to the test year, column 3
9 the pro forma 12 months ending at December 31, 2007, column 4 the resulting net operating
10 income for the first step increase, column 5 the pro forma test year with proposed adjustments for
11 the first step increase, column 6 pro forma adjustments for the resulting net operating income for
12 the second step increase and column 7 for the second step increase pro forma for the test year.

13 Q. **Please explain each of the pro forma adjustments made to the operating revenues and**
14 **expenses as shown in both Step Increases, Schedule 1, Columns 4and 6.**

15 A. Depreciation expense has been increased by $166,535 for the first step increase and $141,743 for
16 the second step increase accounting to reflect the capital improvements and retirements for the
17 Treatment Plant and adjustments of $65,964 and $56,144 to reflect the tax benefit for step
18 increases one and two respectively. Step Increase, Schedule 1, Attachments A through C provide
19 in detail the nature and specific computation for each pro forma adjustment to these accounts.

20 Q. **Please explain each of the adjustments to the Income Statement for the pro forma step**
21 **increase.**

22 A. The adjustment for depreciation expense is calculated on Step Increase, Schedule 3, Attachment
23 A, Exhibit 1 at one half year depreciation expense of $154,764 for the $6,970,119 of capital

1 additions to the Treatment Plant for the first step increase and one half year depreciation expense
2 of $142,785 for the $7,976,601 of capital additions to the Treatment Plant for the second step
3 increase. A deduction of one half year depreciation expense of $(10,324) and $(12,089) for the
4 retirement of assets related to the upgrades at the treatment plant and other assets for the first step
5 increase and second step increase respectively, Schedule 3, Attachment A, Exhibit 3.
6 Additionally, there is a pro forma adjustment of $33,143 for filter media and its estimated useful
7 life. The net pro forma adjustment for the depreciation expense for the first step increase is
8 $166,535 and $141,743 for the second step increase.

9 **Q. Please explain Step Increase, Schedule 1, Attachment D entitled, "Pennichuck Water**
10 **Works, Inc., Income Taxes".**

11 A. This schedule calculates the New Hampshire Business Profits Tax and Federal Income Tax
12 benefits derived from the pro forma adjustments to operating expenses for a total tax benefit of
13 $(14,155) and $(51,809) respectively for the first step increase for a total adjustment of
14 $(65,964); and for a total tax benefit of $(12,048) and $(44,096) respectively for the second step
15 increase for a total adjustment of $(56,144).

16 **Q. Please explain Step Increase, Schedule 3, entitled "Pennichuck Water Works, Computation**
17 **of Rate Base, For the Twelve Months ended December 31, 2007"?**

18 A. The overall purpose of this schedule is to calculate a pro forma rate base for the Company in
19 order to determine the basis on which to compute the allowed rate of return for the step increase.
20 Column 1 of this exhibit shows the test year rate base account calculated on an actual "13 month
21 average" rate base for the twelve months ended December 31, 2007, column 2 represents a "year
22 end" rate base for the twelve months ended December 31, 2007, column 3 details the pro forma
23 adjustments to the "test year average" rate base, column 4 reflects the pro forma test year, column

5 reflects the pro forma adjustments to the pro forma test year for the first step increase, column 6 represents the first step increase pro forma test year for rate base, column 7 reflects the pro forma adjustments to the pro forma test year for the second step increase, and column 8 represents the second step increase pro forma test year for rate base. The computation detail for each adjustment is shown on Step Increase, Schedule 3, Attachment A through C inclusive. The pro forma adjustment to the rate base for plant in service is $6,356,346 for the first step increase and $7,197,398 for the second step increase, the pro forma adjustment for accumulated depreciation $(84,517) and $(390,088) respectively, the pro forma adjustment for accumulated depreciation loss of $352,397 and $235,283 respectively and a pro forma adjustment for accumulated depreciation for cost of removal of $386,684 and $328,790 respectively. The total pro forma adjustment to rate base for the first step increase is $7,179,944 resulting in a total first step increase pro forma test year of $84,099,007 and a total pro forma adjustment to rate base for the second step increase is $8,151,558 resulting in a total second step increase pro forma test year of $92,250,566. Step Increase, Schedule 3, Attachment A, Exhibit 1 details additions to plant in service totaling $6,970,119 and $7,976,601 that are expected to be completed by May 2008 and November 2008 respectively. The plant for the first step was constructed in 2007 and 2008 and became operational by May 31, 2008. The plant for the second step will be constructed beginning June 1, 2008 and become operational by November 30, 2008. All of the improvements included in the step increases are necessary to remain in compliance with SDWA, maintain or improve customer service or replace aging infrastructure and all of these plant additions are non-revenue producing in nature. Step Increase, Schedule 3, Attachment A, Exhibit 3, details all the retirements of plant in service related to the new construction at the Treatment Plant for the constructed plant in 2008. A reduction of $(613,773) and $(779,203) has been

1 made to plant in service for retirements that will occur as a result of the construction completed
2 in the 2008 for the first and second step increase respectively. The total net pro forma plant in
3 service for the step increase is $6,356,346 and $7,197,398 for the first and second step increase
4 respectively. Step Increase, Schedule 3, Attachment B, reflects a pro forma adjustment for
5 accumulated depreciation for the one half year depreciation expense of $154,764 and $142,785
6 for the first and second step increase respectively related to the Treatment Plant upgrades and
7 other assets. Also, an additional pro forma adjustment to accumulated depreciation of
8 $(261,376) and $(543,920) for the first and second step increase respectively is made to
9 recognize the retirements at the Treatment Plant related to the 2008 capital additions. Finally, a
10 pro form adjustment of $33,143 is made to recognize a shorter useful life for filter media. The
11 net pro forma adjustment for accumulated depreciation is $(84,517) and $(390,088) for the first
12 and second step increases respectively. Step Increase, Schedule 3, Attachment C, reflects the
13 accumulated depreciation loss and cost of removal for the expected retirements of plant in
14 service, including the cost of removal related to the Merrimack Dam.
15 **Q. Ms. Hartley will all of the pro forma capital additions included in the pro forma adjusted**
16 **rate base for the step increase be used and useful on May 31,2008 and November 30, 2008?**
17 A. Yes.
18
19 **Q. Will the expenses incurred by the Company in making these rate base additions for the**
20 **step increases be prudent?**
21 A. Yes, as discussed in Mr. Ware's testimony, all of these investments are prudent and necessary.
22 **Q. Ms. Hartley, please explain the impact of the 5.05% for the first step increase and 5.51%**
23 **for the second step on the rate request of 14.72% previously described?**

1 A. Section 12, Step Increase, Schedule A, reflects the impact of both the 14.72% rate increase and
2 the 5.05% and 5.51% step increases resulting in combined increase of 25.27%. Column 7,
3 entitled Step Increase #1 & #2 Pro Forma Test year shows the combined effect of these increases.
4 The total pro forma rate is multiplied by the overall rate of return of 7.81% resulting in required
5 operating income of $7,206,110. Accounting for the adjustments to net operating income for the
6 $600,475, $100,571 and $85,599 pro forma operating expenses for the proposed increases of
7 14.72%, 5.05% and 5.51% respectively will result in a net operating income deficiency of
8 $3,312,514. The deficiency is then divided by the 60.39% tax factor resulting in a total revenue
9 deficiency of $5,485,203 which divided by water revenues of $21,703,068 results in a rate
10 increase of 25.27%.
11 **Q. How is the Company proposing to adjust its current rate levels to achieve the total revenue**
12 **increase of 25.27% in this case?**
13 A. The Company proposes to adjust its current rate levels in accordance with its Cost of Service
14 Study. As stated previously the Company proposes to collect 86.2% of its required revenues
15 from Water Service Revenues (both general water service (GWS) and contract water service),
16 3.68% from Private Fire Revenue and 10.12% from Municipal Fire Revenues. This revenue
17 collection allocation would result in the Company collecting $21,552.590 or an increase of
18 25.12% from its GWS customers, $1,884,116 or an increase of 24.20% from Contract revenues,
19 $1,000,533 or an increase of 102.46% from Private Fire revenues and $2,751,616 or an increase
20 of 11.56% from Municipal Fire revenues resulting in an overall revenue increase of 25.28%.
21 (The difference between the overall revenue increase in the rate filing of 25.27% noted above vs.
22 25.28% in the cost of service study is due a slight difference in the cost study allocation as noted
23 in Schedule 13 Step 2, page 5 of 5 of the cost of service study.) The above allocation will result

1 in an average annual residential water bill for a single family home of approximately $565.30
2 based on average usage per 9.53 one hundred cu.ft. This will represent an increase of $8.88 per
3 month for residential customers over current rates.

4 **Q. Ms. Hartley, is there any other information you would like to discuss at this time?**

5 A. Yes, the binder labeled Pennichuck Water Works, DW 08-073, Rule 1601.04 and 1604.08 has
6 been organized to facilitate the three elements of the Company's proposed rate increase: the
7 request for temporary rates, the request for the 14.72% rate increase, and the request for the two
8 step increases of 5.01% and 5.51%. Section #3 includes revised tariff pages and Sections #5, #6,
9 and #7 include the Report of Proposed Rate Changes for the initial and step increase. Section #2
10 includes related schedules and reports for the petition for temporary rates.

11 **Q. Ms. Hartley does this conclude your testimony at this time?**

12 A. Yes.

Witness: H. Walker, III
Exhibit No. HW-2
DW 08-073 - 48 Pages

PENNICHUCK WATER WORKS, INC.

RATE OF RETURN

EXHIBIT

SCHEDULES 1 to 20

TO ACCOMPANY THE

DIRECT TESTIMONY
OF HAROLD WALKER, III

JUNE 2008

Prepared by:
GANNETT FLEMING, INC.
VALUATION AND RATE DIVISION

Valley Forge, Pennsylvania

Pennichuck Water Works, Inc.
Cost of Capital and Fair Rate of Return
Pro Forma at 12/31/07

Type of Capital	Ratios	Cost Rate	Weighted Cost Rate
Debt	57.8 %	5.30 %	3.06 %
Common Equity	42.2	11.25	4.75
Overall Cost of Capital	100.0 %		7.81 %

Before Income Tax Interest Coverage (Based on effective income tax rate of 39.61%.)	3.6 x
Debt / Total Capital	57.8 %
Gross Cash Flow Interest Coverage (From page 2 of this Schedule)	3.7 x
Gross Cash Flow / Total Debt (From page 2 of this Schedule)	14.2 %
Net Cash Flow / Capital Expenditures (From page 2 of this Schedule)	55.0 %

Pennichuck Water Works, Inc.
Funds Flow Ratio Test of Recommended
Cost of Capital and Fair Rate of Return
Pro Forma at 12/31/07

Line No.		($ 000's)	Cash Flow ($ 000's)	Funds Flow Ratios
1 .	Rate Base Value	$100,673		
2 .	Weighted Traditional Debt Component	3.06 %		
3 .	Weighted Traditional Equity Components	4.75 %		
4 .	Net Income (ln 1 x ln 3)		$4,782	
	Expenses Not Requiring Cash Outlays:			
5 .	Depreciation		2,632	
6 .	Amortization		49	
7 .	Deferred Income Taxes + ITC		827	
8 .	Loss on Property		0	
9 .	Gross Cash Flow		8,290	
10 .	Less:			
	Preferred Stock Dividends		0	
	Common Dividends(1)		2,869	
11 .	Net Cash Flow		$5,421	
12 .	Interest Charges (ln 1 x ln 2)		$3,081	
13 .	Gross Construction(2)		$9,865	
14 .	Rate Base Related Debt(3)		$58,189	
15 .	Funds From Operations Interest Coverage			
16 .	((ln 9 + ln 12) / ln 12)			3.7 x
17 .	Funds From Operations / Total Debt			
18 .	(ln 9 / ln 14)			14.2 %
19 .	Net Cash Flow / Capital Expenditures			
20 .	(ln 11 / ln 13)			55.0 %

Notes: (1) The Company had a dividend payout of about 60% in 2006 and 2007.
(2) Average estimated construction for 2008 - 2010.
(3) The debt ratio (from page 1) times the rate base claim (ln 1).

Pennichuck Water Works, Inc.
Common Equity Cost Rate Summary

	Water Group Followed by Analysts		
	DCF(1)	CAPM(2)	RP(3)
Common Equity Cost Rate Range	11.6 %	14.4 %	11.2 %
Investment Risk Adjustment (4)	0.05	0.05	0.05
Adjusted Common Equity Cost Rate Range Applicable to Pennichuck Water Works, Inc.	11.65	14.45	11.25
Recommended Common Equity Cost Rate for Pennichuck Water Works, Inc. (5)		11.25 %	
Check of Reasonableness of Common Equity Cost Rate (6)	11.5 % to 11.9 %		

Notes: (1) From Schedule 14 and explained in the Direct Testimony.
(2) From Schedule 19 and explained in the Direct Testimony.
(3) From Schedule 20 and explained in the Direct Testimony.
(4) As explained in the Direct Testimony.
(5) As explained in the Direct Testimony, the recommendation is only applicable to a conventional common equity ratio of 42.2%.
(6) See page 2 of Schedule 16.

Pennichuck Water Works, Inc.
Capitalization and Capitalization Ratios
At December 31, 2007 and Pro Forma at December 31, 2007

	Actual at 12/31/07		
	Capital	Ratios Excluding Short-term Debt	Ratios Including Short-term Debt
Long-Term Debt	$58,164,687	59.1 %	59.1 %
Common Equity:			
Common Stock	30,000		
Additional Paid In Capital	27,056,141		
Retained Earnings	13,172,313		
Total Common Equity	40,258,454	40.9	40.9
Total Permanent Capital	98,423,141		
Short-Term Debt	0		0.0
Total Capital	$98,423,141		100.0 %

	Pro Forma at 12/31/07		
	Capital	Ratios Excluding Short-term Debt	Ratios Including Short-term Debt
Long-Term Debt	58,164,687	57.8 %	57.8 %
Common Equity:			
Common Stock	30,000		
Additional Paid In Capital	29,306,141		
Retained Earnings	13,172,313		
Total Common Equity	42,508,454	42.2	42.2
Total Permanent Capital	100,673,141	100.0 %	
Short-Term Debt	0		0.0
Total Capital	$100,673,141		100.0 %

Capital Structure Ratios for the
The Water Group Followed by Analysts
For 2007 and Esimated for 2012

	12/31/2007	Est.(1) 2012
Water Group Followed by Analysts		
Long-term Debt	48.4 %	47.3 %
Preferred Stock	0.1	0.1
Common Equity	51.5	52.6
Total	100.0 %	100.0 %

Notes: (1) Project by Value Line for the period 2011 to 2013.

Source of Information: Value Line Investment Survey, 4/25/08
S&P and Quarterly Reports

Pennichuck Water Works, Inc.
Calculation of Embedded Cost of Long-term Debt
Actual At December 31, 2007 and Pro Foma at December 31, 2007

Holder	Term	Maturity	Rate	Outstanding Balance	Annual Interest	Annual Amortization	All In Annual Cost	Effective Rate
Actual At December 31, 2007:								
American United Life	25	3/1/21	7.40%	7,600,000	562,400	6,600	569,000	7.49%
American United Life	5	3/4/10	5.00%	5,000,000	250,000	16,348	266,348	5.33%
BFA of NH (2005 series A)	30	10/1/35	4.70%	11,788,531	569,875	24,114	593,989	5.04%
BFA of NH (2005 series B)	29	10/1/35	3.85%	6,000,000	231,000	6,651	237,651	3.96%
BFA of NH (2005 series BC-1)	28	10/1/35	4.45%	15,000,000	667,500	31,656	699,156	4.66%
BFA of NH (series A)	30	1/1/35	4.70%	1,830,000	86,010	8,679	94,689	5.17%
BFA of NH (series B)	25	1/1/30	4.60%	2,345,000	107,870	11,161	119,031	5.08%
BFA of NH (series C)	20	1/1/25	4.50%	1,205,000	54,225	5,570	59,795	4.96%
BFA of NH	25	5/1/22	6.30%	4,000,000	252,000	8,819	260,819	6.52%
State of NH	20	4/1/22	3.80%	317,062	12,048	282	12,330	3.89%
WTP - SRF	20	7/1/29	1.00%	3,000,000	30,000	-	30,000	1.00%
Twin Ridge SRF	10	4/1/13	2.315%	79,094	1,831	593	2,424	3.06%
Totals - Actual At December 31, 2007:				58,164,687	2,824,759	120,472	2,945,232	5.06%
Pro Foma Adjustments at December 31, 2007:								
BFA of NH (2005 series BC-1)	28	10/1/35	4.45%	(15,000,000)	(667,500)	-	(667,500)	4.45%
BC - 3 Note	10	3/4/10	5.00%	7,500,000	375,000	11,200	386,200	5.15%
BC - 4 Note	27	10/1/35	5.375%	7,500,000	403,125	14,778	417,903	5.57%
Totals - Pro Foma at December 31, 2007				58,164,687	2,935,384	146,450	3,081,835	5.30%

Pennichuck Water Works, Inc.
Five Year Analysis
2003 - 2007 (1)

Ln #		2007	2006	2005	2004	2003	Average Ann. Chg(%)	
		(Millions of $)						
	Investor Provided Capital($)							
1	Permanent Capital	98.423	81.545	72.386	40.861	39.984	28.2	
2	Short-Term Debt	0.000	0.000	0.000	0.000	0.000		
3	Total Capital	98.423	81.545	72.386	40.861	39.984	28.2	
4	Total Revenue($)	21.548	17.099	16.952	15.685	15.050	9.8	
5	Construction($)	10.503	16.867	8.652	5.002	4.771	33.8	
							Five Year Average	Average Central Values(9)
6	Effective Income Tax Rate(%)	35.1	38.5	43.1	38.2	37.9	38.6	38.2
	Capitalization Ratios(%)							
7	Long-Term Debt	59.1	51.0	49.0	50.1	52.1	52.3	51.1
8	Preferred Stock	0.0	0.0	0.0	0.0	0.0	0.0	0.0
9	Common Equity	40.9	49.0	51.0	49.9	47.9	47.7	48.9
	Total	100.0	100.0	100.0	100.0	100.0		
10	Total Debt	59.1	51.0	49.0	50.1	52.1	52.3	51.1
11	Preferred Stock	0.0	0.0	0.0	0.0	0.0	0.0	0.0
12	Common Equity	40.9	49.0	51.0	49.9	47.9	47.7	48.9
	Total	100.0	100.0	100.0	100.0	100.0		
	Rates on Average Capital(2)(%)							
13	Total Debt	4.0	4.3	6.2	7.9	7.8	6.0	6.1
14	Long-Term Debt	4.0	4.3	6.2	7.9	7.8	6.0	6.1
15	Preferred Stock	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Coverage - Including AFC(3)(x)							
16	PreTax Interest	4.1	2.7	2.5	2.4	2.1	2.8	2.5
17	PreTax Interest + Pref. Div	4.1	2.7	2.5	2.4	2.1	2.8	2.5
18	PostTax Interest + Pref. Div	3.0	2.0	1.8	1.9	1.7	2.1	1.9
	Coverage - Excluding AFC(3)(x)							
19	PreTax Interest	3.9	2.1	2.3	2.4	2.1	2.6	2.3
20	PreTax Interest + Pref. Div	3.9	2.1	2.3	2.4	2.1	2.6	2.3
21	PostTax Interest + Pref. Div	2.8	1.4	1.7	1.8	1.7	1.9	1.7
22	GCF / Interest Coverage(4)(x)	5.2	3.1	4.3	3.6	3.3	3.9	3.7
23	Coverage of Common Dividends(5)(x)	4.5	2.6	0.0	0.0	4.1	2.2	2.2
24	Construction / Avg. Tot. Capital(%)	11.7	21.9	15.3	12.4	12.0	14.7	13.2
25	NCF / Construction(6)(%)	62.2	12.8	66.6	86.0	60.6	57.6	63.1
26	AFC / Income for Common Stock	11.0	57.2	19.2	4.6	0.0	18.4	11.6
27	GCF / Avg. Tot. Debt(7)(%)	16.9	9.2	20.6	20.8	18.2	17.1	18.6
28	GCF / Permanent Capital(8)(%)	8.6	4.3	8.0	10.5	9.6	8.2	8.7

See page 6 of this Schedule for notes.

Pennichuck Water Works, Inc.
Five Year Analysis
2003-2007

Notes:

(1) Based upon the financials as originally reported.

(2) Computed by relating total debt interest, long-term debt interest and preferred dividend expense to average of beginning and ending balance of the respective capital outstanding.

(3) The coverage calculations, both including and excluding AFC, represent the number of times available earnings cover the various fixed charges. It should be noted that the pretax coverage including preferred dividends has been grossed up for the income tax paid on the preferred dividends.

(4) GCF or gross cash flow (sum of net income, depreciation, amortization, net deferred income taxes and investment tax credits, less AFC), plus interest charges, divided by interest charges.

(5) GCF (see note 4) less all preferred dividends which cover common dividends.

(6) The percent of GCF (see note 4) less all cash dividends which cover gross construction expenditures.

(7) GCF (see note 4) as a percentage of Permanent Capital (long-term debt, current maturities and preferred, preference and common equity).

(8) GCF (see note 4) as a percentage of average total debt.

(9) Average of the second, third and fourth quintile values.

Source of Information: Annual Reports

Water Group Followed by Analysts
Five Year Analysis
2003 - 2007 (1)

Ln #		2007	2006	2005	2004	2003	Average Ann. Chg(%)	
				(Millions of $)				
	Investor Provided Capital($)							
1	Permanent Capital	643.076	581.085	520.074	483.137	425.738	10.9	
2	Short-Term Debt	20.977	30.506	32.082	30.626	32.403		
3	Total Capital	664.053	611.591	552.156	513.763	458.141	9.8	
4	Total Revenue($)	254.122	232.311	215.583	200.366	176.703	9.6	
5	Construction($)	85.293	88.510	75.375	67.282	58.734	10.1	
							Five Year Average	Average Central Values(9)
6	Effective Income Tax Rate(%)	31.2	38.4	39.9	39.3	37.8	37.3	38.4
	Book Capitalization Ratios(%)							
7	Long-Term Debt	48.4	48.0	49.0	48.9	50.4	49.0	48.9
8	Preferred Stock	0.1	0.1	0.1	0.1	0.1	0.1	0.1
9	Common Equity	51.5	51.9	50.9	50.9	49.5	50.9	50.9
	Total	100.0	100.0	100.0	100.0	100.0		
10	Total Debt	50.2	49.8	51.8	52.1	53.6	51.5	51.8
11	Preferred Stock	0.1	0.1	0.1	0.1	0.1	0.1	0.1
12	Common Equity	49.7	50.1	48.1	47.8	46.3	48.4	48.1
	Total	100.0	100.0	100.0	100.0	100.0		
	Rates on Average Capital(2)(%)							
13	Total Debt	6.5	6.7	6.5	6.5	6.4	6.5	6.5
14	Long-Term Debt	6.9	7.0	7.9	8.1	7.6	7.5	7.6
15	Preferred Stock	4.8	4.8	4.8	4.7	40.8	12.0	4.8
	Coverage - Including AFC(3)(x)							
16	PreTax Interest	3.3	3.5	3.4	3.1	3.1	3.3	3.3
17	PreTax Interest + Pref. Div	3.3	3.5	3.4	3.1	3.1	3.3	3.3
18	PostTax Interest + Pref. Div	2.4	2.5	2.4	2.3	2.3	2.4	2.4
	Coverage - Excluding AFC(3)(x)							
19	PreTax Interest	3.2	3.4	3.3	3.1	3.0	3.2	3.2
20	PreTax Interest + Pref. Div	3.2	3.4	3.3	3.0	3.0	3.2	3.2
21	PostTax Interest + Pref. Div	2.3	2.5	2.4	2.2	2.2	2.3	2.3
22	GCF / Interest Coverage(4)(x)	3.7	4.1	4.0	4.0	3.8	3.9	4.0
23	Coverage of Common Dividends(5)(x)	2.9	3.8	3.7	3.7	3.6	3.5	3.7
24	Construction / Avg. Tot. Capital(%)	15.0	16.5	14.4	16.5	14.8	15.4	15.0
25	NCF / Construction(6)(%)	43.9	44.8	49.5	49.5	45.6	46.7	45.6
26	AFC / Income for Common Stock	3.8	4.9	6.3	6.5	4.9	5.3	4.9
27	GCF / Avg. Tot. Debt(7)(%)	17.3	20.8	19.7	19.6	18.0	19.1	19.6
28	GCF / Permanent Capital(8)(%)	9.1	10.6	10.6	10.7	10.1	10.2	10.6

See page 2 of this Schedule for notes.

Water Group Followed by Analysts
Five Year Analysis
2003-2007

Notes:

(1) Average of the achieved results for each individual company based upon the financials as originally reported.

(2) Computed by relating total debt interest, long-term debt interest and preferred dividend expense to average of beginning and ending balance of the respective capital outstanding.

(3) The coverage calculations, both including and excluding AFC, represent the number of times available earnings cover the various fixed charges. It should be noted that the pretax coverage including preferred dividends has been grossed up for the income tax paid on the preferred dividends.

(4) GCF or gross cash flow (sum of net income, depreciation, amortization, net deferred income taxes and investment tax credits, less AFC), plus interest charges, divided by interest charges.

(5) GCF (see note 4) less all preferred dividends which cover common dividends.

(6) The percent of GCF (see note 4) less all cash dividends which cover gross construction expenditures.

(7) GCF (see note 4) as a percentage of Permanent Capital (long-term debt, current maturities and preferred, preference and common equity).

(8) GCF (see note 4) as a percentage of average total debt.

(9) Average of the second, third and fourth quintile values.

Source of Information: Standard & Poor's and Annual Reports

S&P Utilities
Five Year Analysis
2003 - 2007 (1)

Ln #		2007	2006	2005	2004	2003	Average Ann. Chg(%)	
				(Millions of $)				
	Investor Provided Capital($)							
1	Permanent Capital	17,587.874	19,603.808	17,129.450	17,550.801	17,219.866	0.9	
2	Short-Term Debt	1,491.453	1,539.579	1,530.319	1,200.958	1,314.051		
3	Total Capital	19,079.327	21,143.387	18,659.769	18,751.759	18,533.917	1.1	
4	Total Revenue($)	12,405.320	12,058.688	11,815.914	11,237.167	10,749.282	3.7	
5	Construction($)	2,157.606	2,039.561	1,623.931	1,398.993	1,462.919	10.8	
							Five Year Average	Average Central Values(9)
6	Effective Income Tax Rate(%)	34.1	33.5	32.1	29.2	30.6	31.9	32.1
	Book Capitalization Ratios(%)							
7	Long-Term Debt	51.3	51.5	54.2	55.0	58.0	54.0	54.2
8	Preferred Stock	0.9	0.9	1.0	0.9	1.0	0.9	1.0
9	Common Equity	47.9	47.7	44.9	44.1	41.0	45.1	44.9
	Total	100.0	100.0	100.0	100.0	100.0		
10	Total Debt	55.0	55.0	57.9	58.0	61.0	57.4	57.9
11	Preferred Stock	0.8	0.8	0.9	0.9	0.9	0.9	0.9
12	Common Equity	44.2	44.2	41.2	41.1	38.1	41.8	41.2
	Total	100.0	100.0	100.0	100.0	100.0		
	Rates on Average Capital(2)(%)							
13	Total Debt	6.7	6.8	6.4	6.6	6.5	6.6	6.6
14	Long-Term Debt	5.8	6.0	6.2	6.4	6.4	6.2	6.2
15	Preferred Stock	4.4	4.4	6.6	4.9	6.0	5.3	4.9
	Coverage - Including AFC(3)(x)							
16	PreTax Interest	3.9	3.3	3.2	3.1	2.4	3.2	3.2
17	PreTax Interest + Pref. Div	3.8	3.3	3.1	3.1	2.3	3.1	3.1
18	PostTax Interest + Pref. Div	2.9	2.5	2.4	2.4	1.9	2.4	2.4
	Coverage - Excluding AFC(3)(x)							
19	PreTax Interest	3.8	3.3	3.1	3.1	2.3	3.1	3.1
20	PreTax Interest + Pref. Div	3.8	3.2	3.1	3.1	2.3	3.1	3.1
21	PostTax Interest + Pref. Div	2.8	2.4	2.4	2.4	1.9	2.4	2.4
22	GCF / Interest Coverage(4)(x)	4.7	4.3	4.2	4.5	3.7	4.3	4.3
23	Coverage of Common Dividends(5)(x)	4.3	3.9	4.1	4.3	4.7	4.3	4.3
24	Construction / Avg. Tot. Capital(%)	11.8	10.5	9.0	7.8	8.1	9.4	9.0
25	NCF / Construction(6)(%)	87.4	86.7	100.2	138.2	88.8	100.2	88.8
26	AFC / Income for Common Stock	1.1	3.8	2.3	2.8	1.6	2.3	2.3
27	GCF / Avg. Tot. Debt(7)(%)	23.8	21.6	20.0	23.7	16.2	21.1	21.6
28	GCF / Permanent Capital(8)(%)	13.7	12.6	12.0	14.4	10.9	12.7	12.6

See page 2 of this Schedule for notes.

S&P Public Utilities
Five Year Analysis
2003-2007

Notes:

(1) Market value weighted achieved results for each individual company based upon the financials as originally reported.

(2) Computed by relating total debt interest, long-term debt interest and preferred dividend expense to average of beginning and ending balance of the respective capital outstanding.

(3) The coverage calculations, both including and excluding AFC, represent the number of times available earnings cover the various fixed charges. It should be noted that the pretax coverage including preferred dividends has been grossed up for the income tax paid on the preferred dividends.

(4) GCF or gross cash flow (sum of net income, depreciation, amortization, net deferred income taxes and investment tax credits, less AFC), plus interest charges, divided by interest charges.

(5) GCF (see note 4) less all preferred dividends which cover common dividends.

(6) The percent of GCF (see note 4) less all cash dividends which cover gross construction expenditures.

(7) GCF (see note 4) as a percentage of Permanent Capital (long-term debt, current maturities and preferred, preference and common equity).

(8) GCF (see note 4) as a percentage of average total debt.

(9) Average of the second, third and fourth quintile values.

Source of Information: Standard & Poor's, Moody's and Annual Reports

Risk Measures for the Common Stock of the
The Water Group Followed by Analysts and the S&P Utilities

	Recent S&P Issuer Credit Rating	Stock Exchange for Company	Recent S&P Common Stock Ranking	Value Line Beta	Recent Market Value (Mill $)	Recent S&P Market Size Index	Market Quartile	Market Quartile Name
Water Group Followed by Analysts								
American States Water Co	A	New York Stock Exchange	Average (B+)	1.00	603.850	S&P SmallCap 600	4	Mico-Cap
Aqua America Inc	A+	New York Stock Exchange	High (A)	0.95	2,462.709	S&P MidCap 400	2	Mid-Cap
Artesian Resources	-	NASDAQ/ NMS/ OTC Bul Brd	Above Average (A-)	-	137.935	NOT in a S&P Index	4	Mico-Cap
California Water Service Gp	A+	New York Stock Exchange	Average (B+)	1.10	801.709	NOT in a S&P Index	3	Low-Cap
SJW Corp	-	New York Stock Exchange	Above Average (A-)	-	552.747	NOT in a S&P Index	4	Mico-Cap
Southwest Water Co	-	NASDAQ/ NMS/ OTC Bul Brd	Average (B+)	1.00	272.206	NOT in a S&P Index	4	Mico-Cap
York Water Co	A-	NASDAQ/ NMS/ OTC Bul Brd	-	-	178.888	NOT in a S&P Index	4	Mico-Cap
Average	A		Above Average (A-)	1.01	552.747	NOT in a S&P Index	4	Mico-Cap
S&P Public Utilities								
AES Corp	BB-	New York Stock Exchange	Below Average (B)	1.20	11,653.369	S&P 500	1	Large-Cap
Allegheny Energy Inc	BBB-	New York Stock Exchange	Below Average (B)	1.15	9,016.449	S&P 500	2	Mid-Cap
Ameren Corp	BBB-	New York Stock Exchange	Above Average (A-)	0.80	9,467.947	S&P 500	1	Large-Cap
American Electric Power	BBB	New York Stock Exchange	Below Average (B)	0.85	17,898.951	S&P 500	1	Large-Cap
CenterPoint Energy Inc	BBB	New York Stock Exchange	Below Average (B)	0.95	4,988.614	S&P 500	2	Mid-Cap
CMS Energy Corp	BBB-	New York Stock Exchange	Lowest (C)	1.05	3,284.174	S&P 500	2	Mid-Cap
Consolidated Edison Inc	A-	New York Stock Exchange	Average (B+)	0.75	11,340.784	S&P 500	1	Large-Cap
Constellation Energy Grp Inc	BBB+	New York Stock Exchange	Average (B+)	0.90	15,061.267	S&P 500	1	Large-Cap
Dominion Resources Inc	A-	New York Stock Exchange	Average (B+)	0.80	25,045.836	S&P 500	1	Large-Cap
DTE Energy Co	BBB	New York Stock Exchange	Below Average (B)	0.80	6,576.536	S&P 500	2	Mid-Cap
Duke Energy Corp	A-	New York Stock Exchange	Below Average (B)	-	23,134.777	S&P 500	1	Large-Cap
Dynegy Inc	B	New York Stock Exchange	Lowest (C)	1.25	4,314.146	S&P 500	2	Mid-Cap
Edison International	BBB-	New York Stock Exchange	Below Average (B)	0.90	16,996.830	S&P 500	1	Large-Cap
Entergy Corp	BBB	New York Stock Exchange	Above Average (A-)	0.85	22,092.861	S&P 500	1	Large-Cap
Exelon Corp	BBB+	New York Stock Exchange	Average (B+)	0.85	56,075.137	S&P 500	1	Large-Cap
FirstEnergy Corp	BBB	New York Stock Exchange	Above Average (A-)	0.80	23,057.719	S&P 500	1	Large-Cap
FPL Group Inc	A	New York Stock Exchange	Above Average (A-)	0.80	27,054.275	S&P 500	1	Large-Cap
Integrys Energy Group Inc	A-	New York Stock Exchange	Above Average (A-)	0.85	3,659.945	S&P 500	2	Mid-Cap
NICOR Inc	AA	New York Stock Exchange	Below Average (B)	1.30	1,774.435	S&P 500	3	Low-Cap
NiSource Inc	BBB-	New York Stock Exchange	Below Average (B)	0.90	4,907.768	S&P 500	2	Mid-Cap
PG&E Corp	BBB	New York Stock Exchange	Below Average (B)	0.90	5,009.949	S&P 500	2	Mid-Cap
PG&E Corp	BBB	New York Stock Exchange	Below Average (B)	0.90	5,009.949	S&P 500	2	Mid-Cap
Pinnacle West Capital	BBB-	New York Stock Exchange	Average (B+)	0.80	3,415.043	S&P 500	2	Mid-Cap
PPL Corp	BBB	New York Stock Exchange	Average (B+)	0.90	17,895.949	S&P 500	1	Large-Cap
Progress Energy Inc	BBB+	New York Stock Exchange	Below Average (B)	0.80	10,925.084	S&P 500	1	Large-Cap
Public Service Entrp	BBB	New York Stock Exchange	Average (B+)	0.90	22,326.303	S&P 500	1	Large-Cap
Questar Corp	-	New York Stock Exchange	High (A)	1.05	10,742.728	S&P 500	1	Large-Cap
Sempra Energy	BBB+	New York Stock Exchange	Average (B+)	0.95	14,894.689	S&P 500	1	Large-Cap
Southern Co	A	New York Stock Exchange	Above Average (A-)	0.70	28,578.641	S&P 500	1	Large-Cap
TECO Energy Inc	BBB-	New York Stock Exchange	Below Average (B)	0.95	3,376.749	S&P 500	2	Mid-Cap
Xcel Energy Inc	BBB+	New York Stock Exchange	Below Average (B)	0.80	8,954.546	S&P 500	2	Mid-Cap
Average	BBB		Average (B+)	0.91	13,823.595	S&P 500	1	Large-Cap

Comparative Ratios
For Pennichuck Water Works, Inc.,
The Water Group Followed by Analysts
S&P Utilities, and S&P 500
For the Years 2003-2007(1)

	2007	2006	2005	2004	2003	Five Year Average
Return on Common Equity(2)						
Pennichuck Water Works, Inc.	10.1	4.5	5.1	7.1	6.0	6.6
Water Group Followed by Analysts	9.0	10.2	9.9	9.3	9.6	9.6
S&P Utilities	15.3	12.5	12.8	14.3	14.0	13.8
S&P 500	14.0	17.2	16.4	15.0	14.2	15.4
Market/Book Multiple(3)						
Water Group Followed by Analysts	2.5	2.7	2.5	2.2	2.2	2.4
S&P Utilities	2.6	2.3	2.3	1.9	2.1	2.2
S&P 500	2.8	2.8	2.8	2.9	2.8	2.8
Earnings/Price Ratio(4)						
Water Group Followed by Analysts	3.7	3.9	4.1	4.3	4.6	4.1
S&P Utilities	6.1	5.7	5.8	7.7	6.2	6.3
S&P 500	5.0	6.3	5.9	5.1	5.2	5.5
Dividend Payout Ratio(5)						
Pennichuck Water Works, Inc.	46.4	80.0	0.0	0.0	81.9	41.7
Water Group Followed by Analysts	69.2	62.7	62.0	69.0	71.9	67.0
S&P Utilities	47.6	59.1	61.3	58.0	33.3	51.9
S&P 500	37.3	29.9	31.1	33.2	35.3	33.4
Dividend Yield(6)						
Water Group Followed by Analysts	2.4	2.3	2.5	2.9	3.1	2.6
S&P Utilities	2.9	3.3	3.5	3.8	4.3	3.6
S&P 500	1.9	1.9	1.8	1.7	1.8	1.8

See next page for Notes.

Comparative Ratios For
Pennichuck Water Works, Inc., Water Group Followed by Analysts,
The S&P Utilities, and S&P 500
for the Years 2003-2007 (1)

Notes:

(1) The average of achieved results for the companies in each group. The information for the S&P Public Utilities is market weighted. The information for the S&P 500 is based upon per share information adjusted to price index level.

(2) Rate of Return on Average Book Common Equity - income available for common equity divided by average beginning and ending year's balance of book common equity.

(3) Market/Book Ratio - average of yearly high-low market price divided by the average of beginning and ending year's book value per share.

(4) Earnings/Price Ratio - reported earnings per share yearly divided by the average of yearly high-low market price.

(5) Dividend Payout Ratio is computed by dividing the yearly reported dividends paid by the yearly income available for common equity.

(6) Dividend Yield - yearly dividend per share divided by the average yearly high-low market price.

Source of Information: Standard & Poor's and Annual Reports

Capital Intensity and Capital Recovery
For Pennichuck Water Works, Inc.,
The Water Group Followed by Analysts, and S&P Utilities
For the Year 2007

	Capital Intensity	Rate of Capital Recovery	Capital Recovery Years
Pennichuck Water Works, Inc.	$6.59	2.34%	42.7
Water Group Followed by Analysts	$4.79	2.22%	47.7
S&P Utilities	$2.36	3.71%	28.5

Relative Size of
Pennichuck Water Works, Inc.,
Versus the Water Group Followed by Analysts
For the Year 2007

	Pennichuck Water Works, Inc.	Water Group Followed by Analysts	Water Group Followed by Analysts Vs. Pennichuck Water Works, Inc.
Total Capitalization (000's)	$98,423	$664,053	6.7 x
Total Operating Revenues (000's)	$21,548	$254,122	11.8 x
Number of Customers	25,923	315,257	12.2 x

Institutional Holdings, Insider Holdings and Percentage of Shares Traded Annually for the
The Water Group Followed by Analysts and the S&P Utilities

	Water Group Followed by Analysts	S&P Public Utilities
Percentage of common shares held by insiders (1)	11.0%	2.4%
Percentage of common shares held by institutions (2)	40.4%	66.7%
Percentage Of Common Shares Traded In 2006	84%	132%
Percentage Of Common Shares Traded In 2007	133%	176%
Average Number Of Months For All Common Shares To Turnover (3)	16.8	8.9

Notes: (1) 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. An insider may be either an individual or a corporation. Insiders are required to disclose their purchase/sale transactions to the SEC in which a change in beneficial ownership has occurred. The filings must be submitted before the end of the second business day following the day on which the transaction had been executed.

(2) 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.

(3) Based on average turnover (shares traded) over the past five years.

Bond and Credit Ratings for
Pennichuck Water Works, Inc. and
The Water Group Followed by Analysts

	S&P Credit Rating	S&P Business Position	
Pennichuck Water Works, Inc.	Baa3 *	NA	NA
Pennichuck Water Works, Inc. - (Insured Rating for the $50 Million Water Revenue Bonds, 2005 Series)	Aaa **	NA	NA
Water Group Followed by Analysts			
American States Water Co	A-	3 - Above Average	3
Aqua America Inc ***	A+	2 - Well-above-average	2
Artesian Resources	-	-	-
California Water Service Gp	A+	3 - Above Average	3
SJW Corp	-	-	-
Southwest Water Co	-	-	-
York Water Co	A-	2 - Well-above-average	2
Average	A	2 - Well-above-average	2.5

* - Baa3 rating shown is a Moody's rating. Equivalent to a S&P rating of BBB-.

** - An insured Aaa rating shown is a Moody's rating. Equivalent to an insured rating of AAA by S&P.

*** - The A+ bond rating and the "Business Position" is that for Aqua Pennsylvania, Inc.

Comparison of Standard & Poor's Measures of Financial Risk
For Pennichuck Water Works, Inc., and
The Water Group Followed by Analysts(1)

Trend in Standard & Poor's Measures of
Financial Risk (Five-Year Average 2003-07)

	Pennichuck Water Works, Inc.	Water Group Followed by Analysts
PreTax Interest Coverage(2)(x)	2.6 x	3.2 x
Total Debt/Total Capital(%)	52.3 %	51.5 %
GCF / Interest Coverage(3)(x)	3.9 x	3.9 x
GCF / Average Total Debt(4)(%)	17.1 %	19.1 %
NCF / Construction(5)(%)	57.6 %	46.7 %

Spot in Standard & Poor's Measures of
Financial Risk (For the Year 2007)

	Pennichuck Water Works, Inc.	Water Group Followed by Analysts
PreTax Interest Coverage(2)(x)	3.9 x	3.2 x
Total Debt/Total Capital(%)	59.1 %	50.2 %
GCF / Interest Coverage(3)(x)	5.2 x	3.7 x
GCF / Average Total Debt(4)(%)	16.9 %	17.3 %
NCF / Construction(5)(%)	62.2 %	43.9 %

See the next page for notes.

Comparison of Standard & Poor's Measures of Financial Risk
Pennichuck Water Works, Inc. and
The Water Group Followed by Analysts

Notes:

(1) Average of the achieved results for each individual company based upon the financials as originally reported.

(2) Represents the number of times available earnings, excluding AFC, cover all interest charges.

(3) GCF or gross cash flow (sum of net income, depreciation, amortization, net deferred income taxes and investment tax credits, less AFC), plus interest charges, divided by interest charges.

(4) GCF (see note 3) as a percentage of average total debt.

(5) The percent of GCF (see note 3) less all cash dividends which cover gross construction expenditures.

Source of Information: Standard & Poor's and Annual Reports

Distribution of Bond and Credit Ratings for
All Companies Contained in S&P's *Compustat* Database (1)

	Number of Companies In Each Grouping	S&P Bond and Credit Ratings				Range of Reported Permanent Capital By Groupings (Million $)		
		Average	Median	Maximum	Minimum	Smallest	Median	Largest
	100	B	B	A	Default	-25,767.000	144.145	238.252
	100	B+	B+	A	Default	238.408	314.620	389.913
	100	BB-	B+	AA-	CCC+	391.292	491.081	572.836
	100	BB	BB-	AA	CCC-	574.640	662.030	737.548
	100	BB	BB-	A+	Default	738.500	806.418	889.198
	100	BB	BB	AA-	CCC	889.654	1,030.922	1,131.888
	100	BB+	BB+	AA	B-	1,134.954	1,253.162	1,375.000
	100	BBB-	BBB-	AA-	CCC	1,375.268	1,513.956	1,650.138
	100	BB+	BBB-	A+	B-	1,650.600	1,796.650	1,975.909
	100	BBB-	BBB	AA+	CCC	1,977.029	2,205.570	2,449.933
	100	BBB-	BBB-	AA	B-	2,454.209	2,793.254	3,098.000
	100	BBB-	BBB-	AA	B-	3,103.788	3,439.692	3,859.822
	100	BBB	BBB	AA	B-	3,875.768	4,304.522	4,944.000
	100	BBB	BBB	AAA	CCC+	4,957.412	5,667.446	6,565.171
	100	BBB	BBB	AA	B	6,589.707	7,327.000	8,629.033
	100	BBB+	BBB+	AAA	B+	8,664.300	9,936.627	11,958.765
	100	BBB+	A-	AA+	CCC+	11,961.330	14,838.400	18,986.775
	100	A	A-	AAA	B	19,207.000	24,096.250	39,888.000
	80	A+	A+	AAA	B	39,975.699	86,015.500	488,400.000
Total	1,880							

Number of Companies In Each Grouping	Range of Reported Permanent Capital By Groupings (Million $)			Distribution of S&P Bond and Credit Ratings By Size Grouping								
	Smallest	Median	Largest	AAA	AA	A	BBB	BB	B	CCC	CC	Default
100	-25,767.000	144.145	238.252	0%	0%	6%	2%	9%	57%	18%	1%	7%
100	238.408	314.620	389.913	0%	0%	1%	7%	24%	61%	6%	0%	1%
100	391.292	491.081	572.836	0%	2%	7%	8%	29%	52%	2%	0%	0%
100	574.640	662.030	737.548	0%	1%	6%	16%	35%	39%	3%	0%	0%
100	738.500	806.418	889.198	0%	0%	7%	22%	45%	24%	1%	0%	1%
100	889.654	1,030.922	1,131.888	0%	1%	5%	29%	39%	23%	3%	0%	0%
100	1,134.954	1,253.162	1,375.000	0%	3%	10%	29%	42%	16%	0%	0%	0%
100	1,375.268	1,513.956	1,650.138	0%	2%	14%	40%	28%	13%	3%	0%	0%
100	1,650.600	1,796.650	1,975.909	0%	0%	10%	47%	29%	14%	0%	0%	0%
100	1,977.029	2,205.570	2,449.933	0%	2%	15%	51%	21%	10%	1%	0%	0%
100	2,454.209	2,793.254	3,098.000	0%	1%	18%	49%	24%	8%	0%	0%	0%
100	3,103.788	3,439.692	3,859.822	0%	2%	20%	40%	27%	11%	0%	0%	0%
100	3,875.768	4,304.522	4,944.000	0%	3%	22%	45%	20%	10%	0%	0%	0%
100	4,957.412	5,667.446	6,565.171	2%	1%	23%	41%	23%	9%	1%	0%	0%
100	6,589.707	7,327.000	8,629.033	0%	4%	28%	47%	14%	7%	0%	0%	0%
100	8,664.300	9,936.627	11,958.765	1%	5%	27%	49%	16%	2%	0%	0%	0%
100	11,961.330	14,838.400	18,986.775	0%	8%	43%	38%	9%	1%	1%	0%	0%
100	19,207.000	24,096.250	39,888.000	5%	13%	51%	26%	3%	2%	0%	0%	0%
80	39,975.699	86,015.500	488,400.000	10%	35%	40%	10%	1%	4%	0%	0%	0%
1,880												

Note: (1) Includes all companies contained in S&P's *Compustat* North American Database that have a S&P bond or credit ratings and reported permanent capital for the year 2005. Companies were sorted based on amount of reported permanent capital and then separated into groups of 100 companies from smallest to largest.

Interest Rate Trends for
Investor-Owned Public Utility Bonds
Yearly for 2002-2006, Monthly for the Years 2007 and 2008

	Years	Aaa Rated	Aa Rated	A Rated	Baa Rated
	2002	NA	7.19	7.37	8.02
	2003	NA	6.40	6.58	6.84
	2004	NA	6.04	6.16	6.40
	2005	NA	5.44	5.65	5.93
	2006	NA	5.83	6.07	6.32
	Average	NA	6.18	6.37	6.70
Jan	2007	NA	5.78	5.98	6.16
Feb	2007	NA	5.73	5.90	6.10
Mar	2007	NA	5.66	5.85	6.10
Apr	2007	NA	5.83	5.97	6.24
May	2007	NA	5.86	5.99	6.23
Jun	2007	NA	6.18	6.30	6.54
Jul	2007	NA	6.10	6.25	6.49
Aug	2007	NA	6.11	6.24	6.51
Sep	2007	NA	6.10	6.18	6.45
Oct	2007	NA	6.04	6.11	6.36
Nov	2007	NA	5.87	5.97	6.27
Dec	2007	NA	6.03	6.16	6.51
Avg	2007	NA	5.94	6.08	6.33
Jan	2008	NA	5.87	6.02	6.35
Feb	2008	NA	6.04	6.21	6.60
Mar	2008	NA	5.99	6.21	6.68
Apr	2008	NA	5.99	6.29	6.82
May	2008 *E*	NA	6.01	6.27	6.77

Source of Information: MERGENT BOND RECORD

Credit Risk Spreads of
Investor-Owned Public Utility Bonds
Yearly for 2002-2006, Monthly for the Years 2007 and 2008

	Years	Aa Over Aaa	A Over Aa	Baa Over A	Baa Over Aaa
	2002	NA	0.18	0.65	NA
	2003	NA	0.19	0.26	NA
	2004	NA	0.12	0.23	NA
	2005	NA	0.21	0.28	NA
	2006	NA	0.24	0.25	NA
Average		NA	0.18	0.33	NA
Jan	2007	NA	0.20	0.18	NA
Feb	2007	NA	0.17	0.20	NA
Mar	2007	NA	0.19	0.25	NA
Apr	2007	NA	0.14	0.27	NA
May	2007	NA	0.13	0.24	NA
Jun	2007	NA	0.12	0.24	NA
Jul	2007	NA	0.15	0.24	NA
Aug	2007	NA	0.13	0.27	NA
Sep	2007	NA	0.08	0.27	NA
Oct	2007	NA	0.07	0.25	NA
Nov	2007	NA	0.10	0.30	NA
Dec	2007	NA	0.13	0.35	NA
Avg	2007	NA	0.13	0.26	NA
Jan	2008	NA	0.15	0.33	NA
Feb	2008	NA	0.17	0.39	NA
Mar	2008	NA	0.22	0.47	NA
Apr	2008	NA	0.30	0.53	NA
May	2008 *E*	NA	0.26	0.50	NA

Source of Information: MERGENT BOND RECORD

Interest Rate Trends
Of Long-Term Treasury Constant
Yearly for 2002-2006, Monthly for the Years 2007 and 2008

	Years	10-Year T-Bond	20-Year T-Bond	30-Year T-Bond	Long-term T-Bond Yield
	2002	4.61	5.43	5.45	5.16
	2003	4.02	4.96	NA	4.49
	2004	4.27	5.05	NA	4.66
	2005	4.20	4.69	NA	4.45
	2006	4.79	4.99	NA	4.99
	Average	4.38	5.02	5.45	4.75
Jan	2007	4.76	4.95	4.85	4.90
Feb	2007	4.72	4.93	4.82	4.88
Mar	2007	4.56	4.81	4.72	4.77
Apr	2007	4.69	4.95	4.87	4.91
May	2007	4.75	4.98	4.90	4.94
Jun	2007	5.10	5.29	5.20	5.25
Jul	2007	5.00	5.19	5.11	5.15
Aug	2007	4.67	5.00	4.93	4.97
Sep	2007	4.52	4.84	4.79	4.82
Oct	2007	4.53	4.83	4.77	4.80
Nov	2007	4.15	4.56	4.52	4.54
Dec	2007	4.10	4.57	4.53	4.55
Avg	2007	4.63	4.91	4.83	4.87
Jan	2008	3.74	4.35	4.33	4.34
Feb	2008	3.74	4.49	4.52	4.51
Mar	2008	3.51	4.36	4.39	4.38
Apr	2008	3.68	4.44	4.44	4.44
May	2008 *E*	3.88	4.60	4.60	4.60

Source of Information: Federal Reserve Bulletin

Spread in Average Long-Term Bond Yields
Versus Public Utility Bond Yields
Yearly for 2002-2006, Monthly for the Years 2007 and 2008

Spread in Average Long-Term T-Bond Yields Versus Public Utility Bonds:

	Years	Aaa Rated	Aa Rated	A Rated	Baa Rated
	2002	NA	2.03	2.21	2.86
	2003	NA	1.91	2.09	2.35
	2004	NA	1.38	1.50	1.74
	2005	NA	1.00	1.20	1.48
	2006	NA	0.84	1.08	1.33
Average		NA	1.43	1.62	1.95
Jan	2007	NA	0.88	1.08	1.26
Feb	2007	NA	0.86	1.03	1.23
Mar	2007	NA	0.90	1.09	1.34
Apr	2007	NA	0.92	1.06	1.33
May	2007	NA	0.92	1.05	1.29
Jun	2007	NA	0.94	1.06	1.30
Jul	2007	NA	0.95	1.10	1.34
Aug	2007	NA	1.15	1.28	1.55
Sep	2007	NA	1.29	1.37	1.64
Oct	2007	NA	1.24	1.31	1.56
Nov	2007	NA	1.33	1.43	1.73
Dec	2007	NA	1.48	1.61	1.96
Avg	2007	NA	1.07	1.21	1.46
Jan	2008	NA	1.53	1.68	2.01
Feb	2008	NA	1.54	1.71	2.10
Mar	2008	NA	1.62	1.84	2.31
Apr	2008	NA	1.55	1.85	2.38
May	2008 *E*	NA	1.41	1.67	2.17

Comment: Derived from the information on pages 1 and 3 of this Schedule.

Interest Rate Trends for
Federal Funds Rate and Prime Rate
Yearly for 2002-2006, Monthly for the Years 2007 and 2008

	Years	Fed Funds Rate	Prime Rate
	2002	1.67	4.68
	2003	1.13	4.12
	2004	1.35	4.34
	2005	2.39	5.37
	2006	4.96	7.96
Average		2.30	5.29
Jan	2007	5.25	8.25
Feb	2007	5.26	8.25
Mar	2007	5.26	8.25
Apr	2007	5.25	8.25
May	2007	5.25	8.25
Jun	2007	5.25	8.25
Jul	2007	5.26	8.25
Aug	2007	5.02	8.25
Sep	2007	4.94	8.03
Oct	2007	4.76	7.74
Nov	2007	4.49	7.50
Dec	2007	4.24	7.33
Avg	2007	5.02	8.05
Jan	2008	3.94	6.98
Feb	2008	2.98	6.00
Mar	2008	2.61	5.66
Apr	2008	2.28	5.24
May	2008 *E*	1.98	5.00

Source of Information: Federal Reserve Bulletin

Blue Chip Financial Forecasts - June 1, 2008

	Second Quarter 2008	Third Quarter 2008	Fourth Quarter 2008	First Quarter 2009	Second Quarter 2009	Five Quarter Average
Prime Rate						
Top Ten Average	5.1 %	5.0 %	5.1 %	5.5 %	6.0 %	5.3 %
Group Average	5.1	5.0	5.0	5.1	5.3	5.1
Bottom Ten Average	5.0	4.9	4.8	4.7	4.8	4.8
Three-Month Treasury Bills						
Top Ten Average	1.8	2.0	2.1	2.4	2.9	2.2
Group Average	1.6	1.7	1.7	1.9	2.2	1.8
Bottom Ten Average	1.4	1.3	1.3	1.4	1.5	1.4
Ten Year Treasury Notes						
Top Ten Average	3.9	4.1	4.4	4.6	4.7	4.3
Group Average	3.8	3.9	3.9	4.1	4.2	4.0
Bottom Ten Average	3.6	3.6	3.5	3.6	3.7	3.6
Thirty Year Treasury Bonds						
Top Ten Average	4.6	4.8	4.9	5.1	5.2	4.9
Group Average	4.5	4.5	4.6	4.7	4.8	4.6
Bottom Ten Average	4.3	4.2	4.1	4.2	4.3	4.2
Aaa-Rated Corporate Bonds						
Top Ten Average	5.7	5.9	6.0	6.1	6.3	6.0
Group Average	5.5	5.6	5.6	5.6	5.8	5.6
Bottom Ten Average	5.3	5.2	5.1	5.2	5.2	5.2
Baa-Rated Corporate Bonds						
Top Ten Average	7.0	7.2	7.3	7.5	7.6	7.3
Group Average	6.9	6.9	6.9	6.9	7.0	6.9
Bottom Ten Average	6.6	6.6	6.4	6.3	6.3	6.4

Derived Public Utility Bond Yield Forecasts Based on Aaa and Baa Corporate Yields

Aa-Rated Public Utility Bonds						
Top Ten Average	6.2	6.4	6.5	6.7	6.8	6.5
Group Average	6.1	6.1	6.1	6.1	6.3	6.1
Bottom Ten Average	5.8	5.8	5.6	5.6	5.6	5.7
A-Rated Public Utility Bonds						
Top Ten Average	6.4	6.6	6.7	6.8	7.0	6.7
Group Average	6.2	6.3	6.3	6.3	6.4	6.3
Bottom Ten Average	6.0	5.9	5.8	5.8	5.8	5.9
Baa-Rated Public Utility Bonds						
Top Ten Average	6.7	6.9	7.0	7.2	7.3	7.0
Group Average	6.6	6.6	6.6	6.6	6.8	6.6
Bottom Ten Average	6.3	6.3	6.1	6.1	6.1	6.2

Settled Yields on Treasury Bond
Future Contracts
Traded on the Chicago Board of Trade
at the Close of June 02, 2008

Delivery Date	Treasury Bonds (CBOT)
Jun-08	4.819 %
Sep-08	4.886
Dec-08	4.958
Mar-09	5.049
Jun-09	5.117
Average	4.853 %

Source of Information: Chicago Board of Trade

Market Value Discounted Cash Flow for
The Water Group Followed by Analysts

	Water Group Followed by Analysts
Dividend Yield(1)	2.7 %
Growth in Dividends(2)	0.1
Adjusted Dividend Yield	2.8
Stock Appreciation(3)	8.2
Market Value DCF Cost Rate	11.0 %

Notes: (1) Developed on page 2 of this Schedule.
(2) Equal to one-half the assumed growth in value.
(3) As explained in the direct testimony, the growth in value is supported by the information shown on Schedules 15 and 16.

Market Value Dividend Yield for
the Water Group Followed by Analysts
for the Twelve Months Ended April 2008

	Recent Dividend Yields(1)	Longer Term Dividend Yields(2)	Average Yields
Water Group Followed by Analysts			
American States Water Co	2.7 %	2.6 %	
Aqua America Inc	2.7	2.3	
Artesian Resources	3.8	3.6	
California Water Service Gp	3.0	3.0	
SJW Corp	2.2	1.9	
Southwest Water Co	2.1	1.9	
York Water Co	3.1	2.9	
Average	2.8 %	2.6 %	2.7 %

Notes: (1) Computed by annualizing the current quarterly dividend per share and relating it to the monthly high-low average price per share of common stock for April 2008.
(2) Computed by annualizing the current quarterly dividend per share and relating it to the monthly high-low average price per share of common stock for the twelve months ended April 2008.

Source of Information: Standard & Poor's

Development of Long Term Projected Growth in Value
Based Upon Growth Over The Next Five Years
For the Water Group Followed by Analysts

	A	B	C	D	E	F	G
	Analyts' Projected Growth in EPS			Other Projected Growth			
	First Call EPS Growth	ZACK's EPS Growth	Value Line EPS Growth	Value Line DPS Growth	Value Line Cash Flow Growth	Average EPS Growth	Average All Growth
Water Group Followed by Analysts							
American States Water Co	7.6 %	10.0 %	10.0 %	5.0 %	8.0 %	9.2 %	8.1 %
Aqua America Inc	9.2	9.8	7.5	9.5	7.0	8.8	8.6
Artesian Resources	5.0	5.0	-	-	-	5.0	5.0
California Water Service Gp	8.6	8.0	9.5	1.0	6.0	8.7	6.6
SJW Corp	10.0	10.0	-	-	-	10.0	10.0
Southwest Water Co	6.0	8.5	14.0	7.5	11.0	9.5	9.4
York Water Co	8.0	11.5	-	-	-	9.8	9.8
Average	7.8 %	9.0 %	10.3 %	5.8 %	8.0 %	8.7 %	8.2 %

Source of Information: Value Line Investment Survey, 4/25/08
FirstCall 6/02/08; and
Zacks Investment Research 6/02/08

Recent Payout Ratios,
ROEs, P-E Multiples, Market/Book Multiples, and Market Value
For the Water Group Followed by Analysts

	Current Dividend Payout	Current Return on Equity	PE Mult	Market to Book Mult	Current Market Value (Mill $)
Pennichuck Corp	78	13.0	16.5	2.15	97.909
Water Group Followed by Analysts					
American States Water Co	59	9.6	22.9	2.05	603.850
Aqua America Inc	67	9.6	26.3	2.57	2,462.709
Artesian Resources	71	7.5	21.3	1.61	137.935
California Water Service Gp	77	7.8	26.9	2.04	801.709
SJW Corp	57	8.5	27.3	2.22	552.747
Southwest Water Co	-112	-3.0	@NM	1.70	272.206
York Water Co	83	9.7	27.9	2.51	178.888
Average	43	7.1	25.4	2.10	715.720
Avg VL Cos.	23	6.0			
Average Exclud. Southwest Water	69	8.8			
Avg VL Cos. Exclud. Southwest Water	68	9.0			

Source of Information: Quarterly Reports, Standard & Poor's and Value Line

Value Line Projected ROE Based on Year-End and Average,
Dividend Payout Ratio, and Common Equity Ratio for
The Water Group Followed by Analysts for 2011-2013

	Value Line Projected ROE	Projected Average ROE (1)	Value Line Projected Dividend Payout	Value Line Projected Common Equity Ratio
Water Group Followed by Analysts				
American States Water Co	13.5 %	13.8 %	49.0 %	50.0 %
Aqua America Inc	11.5	11.8	66.4	49.0
Artesian Resources	--	--	--	--
California Water Service Gp	11.5	11.8	49.4	51.5
SJW Corp	--	--	--	--
Southwest Water Co	9.5	10.3	42.9	60.0
York Water Co	--	--	--	--
Average	11.5 %	11.9 %	51.9 %	52.6 %

Notes: (1) Value Line ROE, which is a year-end ROE, is converted to average ROE by the factor derived from the following formula: 2((1+g)/(2+g)), where "g" is the rate of growth in common equity.

Source of Information: Value Line Investment Survey, 4/25/08

Illustration of the
Effect of Market-To-Book Ratio on Market Return

Ln #		Situation 1	Situation 2	Situation 3
1	M/B Ratio	50%	100%	200%
2	Market Purchase Price	$25.00	$50.00	$100.00
3	Book Value	$50.00	$50.00	$50.00
4	DCF Return	10.0%	10.0%	10.0%
5	DCF Dollar Return	$5.00	$5.00	$5.00
6	Dividend Yield	5.0%	5.0%	5.0%
7	DPS	$1.25	$2.50	$5.00
8	Dollar Growth in Value	$3.75	$2.50	$0.00
9	Market Sale Price	$28.75	$52.50	$100.00
10	Total Market Return	20.0%	10.0%	5.0%

"The simple numerical illustration....demonstrates the impact of market-to-book ratios on the DCF market return....The DCF cost rate of 10%, made up of a 5% dividend yield and a 5% growth rate, is applied to the book value rate base of $50 to produce $5.00 of earnings. Of the $5.00 of earnings, the full $5.00 are required for dividends to produce a dividend yield of 5.0% on a stock price of $100.00, and no dollars are available for growth. The investor's return is therefore only 5% versus his required return of 10%. A DCF cost rate of 10%, which implies $10.00 of earnings, translates to only $5.00 of earnings on book value, or a 5% return.....Therefore, the DCF cost rate understates the investor's required return when stock prices are well above book, as is the case presently."

The above illustration is taken from Roger A Morin, Regulatory Finance - Utilities' Cost of Capital, Public Utility Reports, Inc., 1994, pp. 236-237.

Differnces in Book Value and Market Values for the
Water Group Followed by Analysts

	Recent Book Value Capitalization Ratios (12/31/07)	Recent Maket Value Capitalization Ratios	Average Book Value of Common Equity (Millions)	Average Market Value of Common Equity (Millions)	Differnce in Market Value and Book Value Common Equity
Water Group Followed by Analysts:					
Long Term Debt	48.4 %	31.1 %			
Preferred Stock	0.1	0.0			
Common Equity	51.5	68.9	$316.030	$715.720	$399.691
Total	100.0 %	100.0 %			

Financial Risk Adjustment Using the "Hamada Model"

Water Group Followed by Analysts

Market Value @ (12/31/07)

Line No.	DEBT (D)	PREF (P)	CE (E)	TAX (t)	BETA (Bl)
1 .					
2 .	31.1%	0.0%	68.9%	39.600%	1.01

3 . Bl = Bu (1+(1-t)D/E+P/E)

4 .	1-t =	0.6040	
5 .	D/E =	0.4514	
6 .	P/E =	0.0000	
7 .	Bl =	Bu *	1.2726
8 .	Bu =	0.79	

Water Group Followed by Analysts

Book Value @ (12/31/07)

	DEBT (D)	PREF (P)	CE (E)	TAX (t)
9 .				
10 .				
11 .	48.40%	0.10%	51.50%	39.600%

12 . Bl = Bu (1+(1-t)D/E+P/E)

13 .	1-t =	0.6040	
14 .	D/E =	0.9398	
15 .	P/E =	0.0019	
16 .	Bl =	Bu *	1.5696
17 .	Bl =	1.25	

Cost Adjustment Based on Risk Premium

18 .	Barometer Group's Beta		1.01
19 .	Beta difference	=	0.24
20 .	Risk premium	=	4.2
21 .	Risk adjustment	=	1.0

Market Value CAPM for
The Water Group Followed by Analysts

	Water Group Followed by Analysts
Estimation Based Upon Historical Information	
Market Premium(1)	7.1 %
x Beta(2)	1.01
Risk Adjusted Market Premium	7.2
Size Adjustment Premium(2)	1.9
Plus Risk Free Rate(1)	4.7
Market Value CAPM Cost Rate	13.8 %
Estimation Based Upon Projected Information	
Market Premium(1)	8.7 %
x Beta(2)	1.01
Risk Adjusted Market Premium	8.8
Size Adjustment Premium(2)	1.9
Plus Risk Free Rate(1)	4.7
Market Value CAPM Cost Rate	15.4 %

Notes: (1) Developed on page 2 of this Schedule.
(2) Developed on page 4 of this Schedule.

Development of Market Premiums for Use in a CAPM Model

A	B	C	D	E	F	G	H
Value Line Summary & Index Month End Edition	Forecasted Market Dividend Yield	Stock Price Appreciation Next 3-5 Years	Annual Price Appreciation(1)	Annual Total Return(1)	Midpoint Market Return(2)	Average Market Return(3)	CAPM Projected Market Return(6)
June-07	1.6 %	35 %	7.8 %	9.4 %			
July-07	1.6	35	7.8	9.4			
August-07	1.8	45	9.7	11.5			
September-07	1.7	45	9.7	11.4			
October-07	1.8	40	8.8	10.6			
November-07	1.9	55	11.6	13.5			
December-07	2.0	55	11.6	13.6			
January-08	2.2	70	14.2	16.4			
February-08	2.1	70	14.2	16.3			
March-08	2.1	75	15.0	17.1			
April-08	2.1	75	15.0	17.1			
May-08	2.1	65	13.3	15.4			
					13.3 %	13.5 %	13.4 %
					Less Risk Free Rate(4)		4.7
		Estimated Market Premium Based Upon Projected Information (1)					8.7 %
		Estimated Market Premium Based Upon Historical Information (5)					7.1 %

See next page of this Schedule for Notes.

CAPM
The Water Group Followed by Analysts

Notes: (1) A projected market premium is based upon the projected market return rate derived from the Value Line Summary and Index for the various dates shown. For example, Value Line projects (May-08) that the market will appreciate in price 65% over the next three to five years. Using a four-year midpoint estimate, Value Line's appreciation potential equates to 13.3% annually ([1.65]^.25). Additionally, Value Line estimates the market will have a dividend yield of 2.1%. Combining the market dividend yield of 2.1% with the market appreciation results in a projected market return rate of 15.4% (13.3% + 2.1%).

(2) Mid point of the month-end total market returns in Column E.

(3) Average 12-month total market return in Column E.

(4) As discussed in the direct testimony, the risk-free rate is 4.7%.

(5) The historical market premium is based upon studies conducted by Ibbotson Associates concerning asset returns. Ibbotson Associates' asset return studies are the most noted asset return rate studies available today. The results are widely disseminated throughout the investment public. Ibbotson Associates' long-term common stock total market return is 12.3% which, when reduced by the long-term historic risk-free rate of 5.2% results in a market premium of 7.1% (12.3% - 5.2%).

Recent Market Values and
Beta Adjusted Ibbotson Associtess Size Premiums
For the Water Group Followed by Analysts

	1	2	3	4	5	6	7	8
	Recent Market Value (Mill $)	Market Quartile Name	Market Quartile	Quartile Size Premium	Quartile Beta	Value Line Beta	Beta Ratio	Beta Adjusted Quartile Size Premium
Water Group Followed by Analysts								
American States Water Co	$603.850	Mico-Cap	4	3.65	1.36	1.00	74%	2.7
Aqua America Inc	2,462.709	Mid-Cap	2	0.92	1.12	0.95	85%	0.8
Artesian Resources	137.935	Mico-Cap	4	3.65	1.36	NA	NA	-
California Water Service Gp	801.709	Low-Cap	3	1.65	1.22	1.10	90%	1.5
SJW Corp	552.747	Mico-Cap	4	3.65	1.36	NA	NA	-
Southwest Water Co	272.206	Mico-Cap	4	3.65	1.36	1.00	74%	2.7
York Water Co	178.888	Mico-Cap	4	3.65	1.36	NA	NA	-
Average		Mico-Cap	4	3.65	1.41	1.01	81%	1.9

Source of Information: Stocks, Bonds, Bills, and Inflation, 2008 Yearbook and Value Line

Market Value Risk Premium
For the Water Group Followed by Analysts

	Water Group Followed by Analysts	
Prospective Public Utility Bond Yields(1)	6.1	%
Estimated Risk Premium(2)	4.5	
Market Value Risk Premium Indicated Cost Rate	10.6	%

Notes: (1) Based upon the current and prospective long-term debt cost rates, it is reasonable to expect that if the comparable group (i.e., Water Group) issued new long-term bonds, it would both be priced to yield about 6.2% based upon a credit profiles of A for the Water Group.

(2) A 4.5% risk premium is concluded for the Group after reviewing the tabulation of risk spreads shown on pages 2, 3 and 4 of this Schedule.

Development of the Project Risk Premium

A	B	C	D	E	F	G	H	I
Value Line Summary & Index Month End Edition	Forecasted Market Dividend Yield	Stock Price Appreciation Next 3-5 Years	Annual Price Appreciation	Forecasted Annual Total Return	Less: Yield of Moody's A Rated Industrial Bonds	Forecasted Equity Premium	Estimated Risk Adjustment	Forecasted Risk Premium
June-07	1.6 %	35 %	7.8 %	9.4 %	6.36 %	3.0 %	90 %	2.7 %
July-07	1.6	35	7.8	9.4	6.34	3.1	90	2.8
August-07	1.8	45	9.7	11.5	6.35	5.2	90	4.6
September-07	1.7	45	9.7	11.4	6.28	5.1	90	4.6
October-07	1.8	40	8.8	10.6	6.14	4.5	90	4.0
November-07	1.9	55	11.6	13.5	5.97	7.5	90	6.8
December-07	2.0	55	11.6	13.6	6.22	7.4	90	6.6
January-08	2.2	70	14.2	16.4	6.10	10.3	90	9.3
February-08	2.1	70	14.2	16.3	6.30	10.0	90	9.0
March-08	2.1	75	15.0	17.1	6.27	10.8	90	9.7
April-08	2.1	75	15.0	17.1	6.31	10.8	90	9.7
May-08	2.1	65	13.3	15.4	6.37	9.0	90	8.1
		Midpoint of data		13.3		6.9		6.2 %
		Twelve Month Average		13.5		7.2		6.5 %

Annual Total Returns and Risk Premiums of
S&P Public Utility Stocks and Bonds
for the Years 1988-2007, 1978-2007, 1968-2007, 1958-2007,1948-2007, 1938-2007 and 1928-2007

Periods	Public Utility Stock	L-Term T-Bonds	Public Utility Bonds AAA	AAA & AA	AA	A	BBB
Average Annual Rates of Return							
1988 to 2007	0.1345	0.0989	0.1104	0.1052	0.1057	0.1030	0.1166
1978 to 2007	0.1461	0.1023	0.1079	0.1065	0.1078	0.1069	0.1176
1968 to 2007	0.1273	0.0877	0.0930	0.0944	0.0955	0.0962	0.1056
1958 to 2007	0.1265	0.0720	0.0747	0.0781	0.0790	0.0802	0.0886
1948 to 2007	0.1274	0.0616	0.0633	0.0673	0.0682	0.0689	0.0761
1938 to 2007	0.1233	0.0573	0.0584	0.0626	0.0637	0.0661	0.0754
1928 to 2007	0.1113	0.0553	0.0594	0.0632	0.0644	0.0667	0.0754
Average Risk Premiums							
1988 to 2007		0.0356	0.0241	0.0293	0.0288	0.0315	0.0179
1978 to 2007		0.0438	0.0382	0.0396	0.0383	0.0392	0.0285
1968 to 2007		0.0396	0.0344	0.0330	0.0318	0.0312	0.0218
1958 to 2007		0.0545	0.0518	0.0484	0.0475	0.0463	0.0379
1948 to 2007		0.0658	0.0642	0.0601	0.0592	0.0585	0.0513
1938 to 2007		0.0660	0.0649	0.0607	0.0596	0.0573	0.0479
1928 to 2007		0.0561	0.0519	0.0481	0.0469	0.0447	0.0360

Annual Total Returns, Annual Income Returns and Risk Premiums of
S&P Public Utility Stocks and Bonds
for the Years 1988-2007, 1978-2007, 1968-2007, 1958-2007,1948-2007, 1938-2007 and 1928-2007

		Annual Income Returns					
			Public Utility Bonds				
Periods	Annual Total Returns Public Utility Stock	L-Term T-Bonds	AAA	AAA & AA	AA	A	BBB
		Average Rates of Return					
1988 to 2007	0.1345	0.0649	0.0810	0.0762	0.0765	0.0780	0.0809
1978 to 2007	0.1461	0.0787	0.0950	0.0895	0.0902	0.0924	0.0962
1968 to 2007	0.1273	0.0764	0.0901	0.0870	0.0878	0.0901	0.0940
1958 to 2007	0.1265	0.0695	0.0800	0.0787	0.0794	0.0815	0.0851
1948 to 2007	0.1274	0.0624	0.0708	0.0707	0.0714	0.0734	0.0768
1938 to 2007	0.1233	0.0568	0.0640	0.0646	0.0652	0.0674	0.0711
1928 to 2007	0.1113	0.0536	0.0609	0.0619	0.0627	0.0653	0.0699
		Average Risk Premiums					
1988 to 2007		0.0696	0.0535	0.0583	0.0580	0.0565	0.0536
1978 to 2007		0.0674	0.0511	0.0566	0.0560	0.0537	0.0499
1968 to 2007		0.0509	0.0372	0.0404	0.0396	0.0372	0.0333
1958 to 2007		0.0570	0.0465	0.0478	0.0471	0.0449	0.0414
1948 to 2007		0.0650	0.0566	0.0567	0.0560	0.0540	0.0506
1938 to 2007		0.0665	0.0593	0.0587	0.0581	0.0560	0.0522
1928 to 2007		0.0577	0.0505	0.0494	0.0486	0.0460	0.0414

Annual Total Returns of
S&P Public Utility Stocks and Bonds
for the Years 1928-2007

	Annual Total Returns						
			Public Utility Bonds				
Years	Public Utility Stocks	L-Term T-Bonds	AAA	AAA & AA	AA	A	BBB
1928	0.5431	-0.0030	0.0370	0.0388	0.0406	0.0372	0.0392
1929	0.1376	0.0410	0.0209	0.0193	0.0178	0.0163	-0.0076
1930	-0.2149	0.0509	0.0917	0.0892	0.0869	0.0820	0.0378
1931	-0.3193	-0.0782	0.0058	-0.0059	-0.0171	-0.0608	-0.1089
1932	-0.0724	0.1736	0.1073	0.1037	0.1003	0.0685	0.0570
1933	-0.2170	0.0090	0.0142	-0.0145	-0.0401	-0.0686	-0.0601
1934	-0.1743	0.0962	0.1712	0.2000	0.2272	0.3264	0.4593
1935	0.6914	0.0610	0.1053	0.1243	0.1427	0.1760	0.2885
1936	0.2357	0.0691	0.0783	0.0916	0.1046	0.1079	0.1078
1937	-0.3337	-0.0091	0.0290	0.0323	0.0357	0.0272	-0.0626
1938	0.1020	0.0662	0.0720	0.0773	0.0825	0.0884	0.1505
1939	0.1538	0.0692	0.0435	0.0473	0.0510	0.0851	0.0923
1940	-0.1643	0.0910	0.0480	0.0506	0.0532	0.0949	0.1359
1941	-0.3050	0.0234	0.0255	0.0291	0.0327	0.0428	0.0681
1942	0.1079	-0.0735	0.0261	0.0287	0.0313	0.0314	0.0590
1943	0.4750	0.0228	0.0312	0.0346	0.0380	0.0405	0.0564
1944	0.1879	0.0268	0.0343	0.0353	0.0362	0.0303	0.0459
1945	0.5665	0.1075	0.0298	0.0349	0.0383	0.0683	0.0805
1946	-0.0130	-0.0006	0.0233	0.0238	0.0242	0.0267	0.0377
1947	-0.1236	-0.0165	-0.0139	-0.0187	-0.0234	-0.0213	-0.0105
1948	0.0451	0.0202	0.0287	0.0317	0.0347	0.0225	0.0073
1949	0.3074	0.0760	0.0718	0.0746	0.0773	0.0892	0.0757
1950	0.0152	-0.0034	0.0126	0.0131	0.0135	0.0107	0.0233
1951	0.2075	-0.0541	-0.0393	-0.0393	-0.0393	-0.0468	-0.0268
1952	0.1947	0.0101	0.0373	0.0390	0.0407	0.0442	0.0399
1953	0.0918	0.0062	0.0078	0.0063	0.0048	0.0107	0.0037
1954	0.2269	0.0676	0.0668	0.0701	0.0733	0.0745	0.0909
1955	0.1357	-0.0264	-0.0107	-0.0127	-0.0147	-0.0100	0.0146
1956	0.0416	-0.0484	-0.0703	-0.0703	-0.0703	-0.0714	-0.0816
1957	0.0541	0.0472	0.0246	0.0229	0.0213	0.0054	-0.0131
1958	0.3827	-0.0439	-0.0081	-0.0032	0.0017	0.0123	0.0339
1959	0.0958	-0.0320	-0.0231	-0.0234	-0.0237	-0.0120	-0.0102
1960	0.1680	0.1106	0.0764	0.0735	0.0705	0.0791	0.0994
1961	0.3646	0.0135	0.0432	0.0448	0.0464	0.0502	0.0442
1962	-0.0519	0.0650	0.0831	0.0829	0.0828	0.0852	0.0891
1963	0.1261	-0.0022	0.0171	0.0202	0.0232	0.0294	0.0329
1964	0.1685	0.0439	0.0394	0.0391	0.0387	0.0409	0.0396
1965	0.0489	-0.0064	-0.0010	-0.0014	-0.0018	-0.0044	0.0050
1966	-0.0504	0.0085	-0.0501	-0.0509	-0.0518	-0.0602	-0.0990
1967	-0.0216	-0.0650	-0.0525	-0.0539	-0.0553	-0.0592	-0.0271
1968	0.1419	0.0149	0.0268	0.0224	0.0181	0.0286	0.0243
1969	-0.1769	-0.0640	-0.0792	-0.0839	-0.0885	-0.0960	-0.0892
1970	0.1494	0.1537	0.0970	0.0978	0.0987	0.0952	0.0761
1971	0.0050	0.0999	0.1168	0.1241	0.1313	0.1510	0.1681
1972	0.1464	0.0661	0.0912	0.0980	0.1047	0.1103	0.1387
1973	-0.2106	-0.0893	0.0158	0.0138	0.0118	0.0156	0.0150
1974	-0.2135	0.0092	-0.0315	-0.0360	-0.0405	-0.0683	-0.1033
1975	0.4364	0.0465	0.0915	0.0863	0.0813	0.0872	0.0940
1976	0.3245	0.1955	0.1976	0.2017	0.2058	0.2475	0.2806
1977	0.1076	0.0074	0.0459	0.0545	0.0629	0.0683	0.0903
1978	-0.0174	-0.0189	-0.0083	-0.0055	-0.0027	-0.0026	0.0000
1979	0.1221	-0.0289	-0.0424	-0.0509	-0.0590	-0.0655	-0.0823
1980	0.1275	-0.0804	-0.0782	-0.0778	-0.0773	-0.0702	-0.0649
1981	0.1464	0.0472	0.0616	0.0674	0.0730	0.0416	0.0674
1982	0.2292	0.4323	0.3294	0.3750	0.3942	0.3708	0.3808
1983	0.2372	-0.0049	0.0721	0.0691	0.0763	0.1406	0.1347
1984	0.2219	0.1611	0.1770	0.1796	0.1768	0.1783	0.2075
1985	0.3232	0.3143	0.3473	0.3276	0.3259	0.3143	0.3098
1986	0.3575	0.3692	0.2994	0.2720	0.2698	0.2835	0.2933
1987	-0.0544	-0.1013	-0.1132	-0.0637	-0.0566	-0.0435	-0.0505
1988	0.1849	0.1026	0.2027	0.1615	0.1594	0.1643	0.1919
1989	0.4351	0.2176	0.1770	0.1743	0.1715	0.1692	0.1781
1990	0.0069	0.0482	0.0685	0.0689	0.0722	0.0738	0.0728
1991	0.0931	0.1472	0.1813	0.1647	0.1624	0.1715	0.1878
1992	0.1183	0.1093	0.1264	0.1312	0.1324	0.1355	0.1315
1993	0.1661	0.2162	0.1926	0.2126	0.2190	0.1429	0.1590
1994	-0.0825	-0.1075	-0.0802	-0.0656	-0.0657	0.0065	-0.0351
1995	0.3772	0.3268	0.2860	0.3074	0.3089	0.2164	0.2442
1996	0.0550	0.0020	0.0279	0.0211	0.0214	0.0279	0.0415
1997	0.1959	0.1454	0.1181	0.1157	0.1169	0.1238	0.1496
1998	0.1896	0.1786	0.1431	0.0365	0.0289	0.1074	0.0981
1999	-0.0998	-0.1062	-0.0792	-0.0275	-0.0237	-0.0921	0.0489
2000	0.5475	0.1922	0.1076	0.1150	0.1146	0.1101	0.1771
2001	-0.2877	0.0596	0.0734	0.0788	0.0873	0.0780	0.2497
2002	-0.2934	0.1362		0.1851	0.1851	0.2461	0.1113
2003	0.2509	0.0488		0.1678	0.1678	0.1529	0.0694
2004	0.2763	0.0861		0.1162	0.1162	0.0782	0.0660
2005	0.2151	0.0520		0.0869	0.0869	0.0732	0.0609
2006	0.2323	0.0421		0.0486	0.0486	0.0596	0.0651
2007	0.1096	0.0814		0.0043	0.0043	0.0143	0.0648

Annual Total Returns of S&P Public Utility Stocks
And Annual Income Returns of Bonds
for the Years 1928-2007

	Annual Total Returns	Income Returns					
			Public Utility Bonds				
Years	Public Utility Stocks	L-Term T-Bonds	AAA	AAA & AA	AA	A	BBB
1928	0.5431	0.0329	0.0451	0.0460	0.0470	0.0499	0.0541
1929	0.1376	0.0361	0.0468	0.0479	0.0490	0.0522	0.0578
1930	-0.2149	0.0332	0.0458	0.0470	0.0482	0.0514	0.0591
1931	-0.3193	0.0338	0.0434	0.0449	0.0463	0.0511	0.0635
1932	-0.0724	0.0350	0.0474	0.0504	0.0535	0.0640	0.0815
1933	-0.2170	0.0315	0.0436	0.0468	0.0499	0.0604	0.0833
1934	-0.1743	0.0306	0.0402	0.0436	0.0471	0.0559	0.0713
1935	0.6914	0.0278	0.0351	0.0376	0.0402	0.0466	0.0544
1936	0.2357	0.0273	0.0324	0.0343	0.0362	0.0415	0.0465
1937	-0.3337	0.0275	0.0320	0.0334	0.0347	0.0395	0.0486
1938	0.1020	0.0263	0.0303	0.0316	0.0329	0.0392	0.0510
1939	0.1538	0.0239	0.0286	0.0296	0.0305	0.0360	0.0448
1940	-0.1643	0.0224	0.0277	0.0285	0.0293	0.0331	0.0410
1941	-0.3050	0.0197	0.0269	0.0276	0.0283	0.0304	0.0366
1942	0.1079	0.0239	0.0272	0.0279	0.0287	0.0305	0.0358
1943	0.4750	0.0246	0.0264	0.0269	0.0273	0.0296	0.0338
1944	0.1879	0.0248	0.0265	0.0268	0.0272	0.0294	0.0333
1945	0.5665	0.0229	0.0256	0.0261	0.0266	0.0285	0.0318
1946	-0.0130	0.0208	0.0250	0.0254	0.0257	0.0268	0.0293
1947	-0.1236	0.0215	0.0257	0.0261	0.0264	0.0273	0.0297
1948	0.0451	0.0240	0.0282	0.0287	0.0292	0.0301	0.0327
1949	0.3074	0.0223	0.0270	0.0274	0.0277	0.0291	0.0324
1950	0.0152	0.0216	0.0262	0.0264	0.0267	0.0276	0.0312
1951	0.2075	0.0244	0.0285	0.0288	0.0291	0.0307	0.0334
1952	0.1947	0.0265	0.0300	0.0303	0.0305	0.0324	0.0351
1953	0.0918	0.0300	0.0325	0.0328	0.0331	0.0347	0.0371
1954	0.2269	0.0266	0.0296	0.0298	0.0301	0.0317	0.0348
1955	0.1357	0.0287	0.0307	0.0309	0.0311	0.0324	0.0341
1956	0.0416	0.0310	0.0335	0.0337	0.0340	0.0357	0.0374
1957	0.0541	0.0355	0.0397	0.0400	0.0403	0.0428	0.0452
1958	0.3827	0.0344	0.0384	0.0386	0.0389	0.0414	0.0447
1959	0.0958	0.0409	0.0445	0.0448	0.0451	0.0470	0.0494
1960	0.1680	0.0409	0.0450	0.0453	0.0455	0.0473	0.0489
1961	0.3646	0.0391	0.0442	0.0445	0.0449	0.0462	0.0476
1962	-0.0519	0.0401	0.0434	0.0437	0.0439	0.0450	0.0466
1963	0.1261	0.0403	0.0427	0.0429	0.0431	0.0437	0.0456
1964	0.1685	0.0419	0.0441	0.0442	0.0443	0.0450	0.0466
1965	0.0489	0.0424	0.0448	0.0450	0.0451	0.0458	0.0475
1966	-0.0504	0.0475	0.0513	0.0515	0.0518	0.0531	0.0552
1967	-0.0216	0.0494	0.0553	0.0556	0.0559	0.0576	0.0605
1968	0.1419	0.0543	0.0621	0.0627	0.0633	0.0651	0.0684
1969	-0.1769	0.0624	0.0706	0.0716	0.0725	0.0743	0.0778
1970	0.1494	0.0692	0.0822	0.0833	0.0844	0.0870	0.0913
1971	0.0050	0.0614	0.0766	0.0777	0.0789	0.0825	0.0868
1972	0.1464	0.0601	0.0744	0.0751	0.0758	0.0778	0.0815
1973	-0.2106	0.0701	0.0762	0.0767	0.0773	0.0789	0.0812
1974	-0.2135	0.0800	0.0849	0.0861	0.0873	0.0899	0.0929
1975	0.4364	0.0817	0.0894	0.0912	0.0929	0.0978	0.1057
1976	0.3245	0.0794	0.0864	0.0880	0.0895	0.0928	0.0987
1977	0.1076	0.0765	0.0814	0.0829	0.0845	0.0859	0.0896
1978	-0.0174	0.0840	0.0877	0.0888	0.0900	0.0917	0.0947
1979	0.1221	0.0921	0.0962	0.0978	0.0995	0.1017	0.1064
1980	0.1275	0.1115	0.1182	0.1211	0.1241	0.1271	0.1352
1981	0.1464	0.1349	0.1427	0.1458	0.1489	0.1529	0.1616
1982	0.2292	0.1309	0.1439	0.1448	0.1464	0.1532	0.1610
1983	0.2372	0.1115	0.1247	0.1229	0.1237	0.1298	0.1350
1984	0.2219	0.1247	0.1297	0.1339	0.1341	0.1374	0.1434
1985	0.3232	0.1104	0.1187	0.1179	0.1189	0.1228	0.1270
1986	0.3575	0.0802	0.0908	0.0930	0.0940	0.0973	0.1015
1987	-0.0544	0.0843	0.0934	0.0946	0.0953	0.0985	0.1027
1988	0.1849	0.0897	0.1013	0.1009	0.1014	0.1040	0.1083
1989	0.4351	0.0854	0.0938	0.0949	0.0955	0.0980	0.1001
1990	0.0069	0.0858	0.0943	0.0959	0.0964	0.0985	0.1009
1991	0.0931	0.0818	0.0891	0.0915	0.0921	0.0943	0.0961
1992	0.1183	0.0769	0.0822	0.0860	0.0869	0.0887	0.0897
1993	0.1661	0.0671	0.0737	0.0776	0.0780	0.0805	0.0816
1994	-0.0825	0.0730	0.0794	0.0799	0.0802	0.0826	0.0868
1995	0.3772	0.0708	0.0781	0.0774	0.0776	0.0813	0.0857
1996	0.0550	0.0672	0.0745	0.0742	0.0745	0.0762	0.0805
1997	0.1959	0.0670	0.0746	0.0743	0.0746	0.0747	0.0782
1998	0.1896	0.0572	0.0682	0.0674	0.0677	0.0687	0.0710
1999	-0.0998	0.0592	0.0710	0.0740	0.0748	0.0743	0.0766
2000	0.5475	0.0607	0.0790	0.0817	0.0821	0.0830	0.0839
2001	-0.2877	0.0557	0.0747	0.0777	0.0780	0.0787	0.0810
2002	-0.2934	0.0542		0.0730	0.0730	0.0754	0.0818
2003	0.2509	0.0496		0.0646	0.0646	0.0623	0.0673
2004	0.2763	0.0505		0.0608	0.0608	0.0617	0.0641
2005	0.2151	0.0465		0.0546	0.0546	0.0566	0.0592
2006	0.2323	0.0499		0.0583	0.0583	0.0607	0.0632
2007	0.1096	0.0493		0.0591	0.0591	0.0605	0.0629