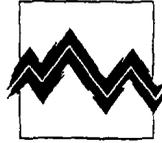

Robert F. Reilly
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**VALUATION OF THE
PENNICHUCK WATER WORKS, INC.
OPERATING ASSETS
AS OF DECEMBER 31, 2004**





Willamette Management Associates

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January 11, 2006

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Thomas J. Donovan, Esq.
McLane, Graf, Raulerson & Middleton, PA
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Dear Messrs. Conner and Donovan:

We understand that you represent Pennichuck Water Works, Inc. ("Pennichuck") and its parent Pennichuck Corporation in a condemnation proceeding ("the dispute") with the City of Nashua, New Hampshire ("Nashua" or "the City"). We understand that the City has filed a petition to condemn the Pennichuck subsidiary of Pennichuck Corporation.

We understand that the dispute is pending before the New Hampshire Public Utilities Commission ("the PUC").

We understand that the dispute involves the valuation of all of the Pennichuck business operations, including all of the tangible property and intangible property of the operating business, as of December 31, 2004.

At your request, we have estimated the fair market value of the Pennichuck operating assets as of December 31, 2004.

PURPOSE AND OBJECTIVE OF THE ANALYSIS

The objective of this analysis is to estimate the fair market value of the Pennichuck operating assets as of December 31, 2004. The Pennichuck operating assets consist of the Pennichuck water source, storage, treatment, and distribution property, both tangible and intangible.

The purpose of this analysis is to provide an independent valuation opinion to assist you in your representation of Pennichuck in the dispute. No other purpose is intended or inferred.

DEFINITION OF VALUE AND PREMISE OF VALUE

For the purpose of this analysis, we define fair market value as the price at which an asset would change hands between a willing buyer and a willing seller, when the former is not under any compulsion to buy and the latter is not under any compulsion to sell, and both parties have reasonable knowledge of the relevant facts.

We analyzed the Pennichuck operating assets based on the premise of value in continued use, as a going concern. Based on our analysis, and in our opinion, this premise of value represents the highest and best use of the subject operating assets.

HYPOTHETICAL WILLING BUYERS

Estimating the fair market value of the Pennichuck operating assets requires the consideration of the most likely population of hypothetical willing buyers. Based on the characteristics of (1) Pennichuck and (2) the population of buyers who are likely to invest in a water system, the most likely population of hypothetical willing buyers of Pennichuck includes public entities. This conclusion with regard to the population of hypothetical willing buyers is based, in part, on the following facts:

1. The vast majority (approximately 80 percent) of water systems in the U.S. are owned by public entities;¹
2. Pennichuck is located in a geographic territory where Pennichuck Corporation is the principal investor-owned water supplier. Therefore, few investor-owned utility ("IOU") buyers are likely to pursue an acquisition of Pennichuck; and
3. There are numerous public entities that may acquire Pennichuck. The first group of potential publicly owned buyers includes any incorporated New Hampshire city or town. In addition, Nashua is a potential buyer. Finally, any existing or yet to be formed district is also a legitimate potential acquirer. Each of these jurisdictions, as well as other jurisdictions in the surrounding area, represents a potential public entity buyer of Pennichuck.

These considerations suggest that the likely population of hypothetical willing buyers of Pennichuck includes not-for-profit public entities.

In the acquisition of a going concern business, the population of buyers with the greatest expected synergies will set the range of market prices. The expected acquisition synergies of a population of willing buyers can be strategic, operational, and/or financial. By considering the acquisition synergies of various populations (or categories) of buyers, the analyst can identify the most likely population of buyers for the subject operating business assets.

¹ From the American Water Works Association web site at <http://www.awwa.org/Advocacy/pressroom/waterfax.cfm>

In an actual acquisition offering, many types of buyers may bid for the target company. However, the category of buyers with the greatest expected synergies will set the price range that all serious potential bidders will have to match.

In the case of Pennichuck, a not-for-profit public entity buyer (1) will not have to pay income taxes and some other types of taxes, (2) will have access to low-cost municipal financing, and (3) will not be subject to the same regulatory environment as an IOU buyer. Therefore, public entity buyers will set the range of market prices in which all potential buyers (both public entity and IOU) will have to bid.

VALUATION ANALYSIS

Our analysis was conducted in accordance with the Uniform Standards of Professional Appraisal Practice (USPAP), as promulgated by The Appraisal Foundation. This appraisal is a limited appraisal, as that term is defined by USPAP.² This report is an appraisal report, as that term is defined by USPAP Standards Rule 10-2.³

As part of our analysis, we considered the three generally accepted approaches to the valuation of the operating assets of a going concern business: (1) the asset-based approach, (2) the income approach, and (3) the sales comparison approach. In conducting our analysis, we relied on (1) the asset-based approach and (2) the income approach.

Asset-Based Approach

The asset-based approach is based on the premise that the value of assets operating as a business enterprise is equal to (1) the current value of all of the subject operating assets (both tangible property and intangible property) less (2) the current value of the subject liabilities (both recorded and contingent).

In our asset-based approach analysis, we used the asset accumulation method.

In this analysis, we added the indicated values of the Pennichuck (1) tangible personal property, (2) operating real estate and real property interests, and (3) intangible personal property in order to estimate the fair market value of the Pennichuck total operating assets.

Based on the asset-based approach/asset accumulation method (and after considering the impact of economic obsolescence), the indicated fair market value of the Pennichuck operating assets, as of December 31, 2004, is \$253,800,000, rounded.

Income Approach

The income approach is based on the premise that the value of the operating assets of a going concern business is the present value of the economic income expected to be derived from the assets.

² *Uniform Standards of Appraisal Practice*, 2005 Edition, The Appraisal Foundation, Washington, DC; page 1.

³ *Ibid*; page 77.

In our income approach analysis, we used the discounted cash flow method.

Based on the income approach/discounted cash flow method, the indicated fair market value of the Pennichuck operating assets, as of December 31, 2004, is \$240,200,000, rounded.

VALUATION SYNTHESIS

In our valuation synthesis, we assigned the greatest weight to the asset-based approach value indication for several reasons.

First, the asset-based approach discretely identifies and individually values all of the tangible property and intangible property subject to the dispute. Second, unlike the other valuation approaches, which indirectly estimate the value of the subject operating assets, the asset-based approach directly values the Pennichuck operating assets. Third, since the Pennichuck operating assets exist for the special purpose of supplying potable water and fire protection to the residents of Nashua and ten surrounding New Hampshire municipalities west of the Merrimack River, the Pennichuck operating assets represent "special-purpose" property. In the appraisal of special-purpose property, the cost approach is commonly used, and the asset-based approach relies principally on the cost approach to value individual tangible property and intangible property.

We also assigned a significant weight to the income approach value indication. This valuation approach is the approach typically relied on by corporate acquirers to price M&A transactions. This is because the income approach enables the acquirer to evaluate (1) whether or not the acquirer can finance the potential acquisition and (2) whether or not the acquirer can earn a fair rate of return on the acquisition price.

Business Operations

For these reasons, we weighted the value indications as follows: (1) asset-based approach/asset accumulation method, 60 percent, and (2) income approach/discounted cash flow method, 40 percent.

Based on our analysis and in our opinion, the fair market value of the Pennichuck operating assets, as of December 31, 2004, is (rounded):

\$248,400,000.

A valuation report, which describes in greater detail the analytical procedures performed and the value conclusions reached in this analysis, accompanies this opinion.

SUMMARY AND CONCLUSION

During this assignment, we were provided with unaudited financial and operational data with respect to Pennichuck. We accepted these data without independent verification or confirmation.

We are independent of Pennichuck and all other parties associated with the dispute. We have no current or prospective financial interest in the subject assets. Our fee for this analysis was in no way influenced by the results of our valuation.

The attached certification, statement of contingent and limiting conditions, and professional qualifications of the principal analyst are integral parts of this valuation opinion.

Very truly yours,

WILLAMETTE MANAGEMENT ASSOCIATES

Robert Reilly

Robert F. Reilly

**VALUATION OF THE
PENNICHUCK WATER WORKS, INC.
OPERATING ASSETS
AS OF DECEMBER 31, 2004**

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I. INTRODUCTION

PURPOSE AND OBJECTIVE OF THE ANALYSIS

We understand that Pennichuck Water Works, Inc. ("Pennichuck") and its parent Pennichuck Corporation are involved in a condemnation proceeding ("the dispute") with the City of Nashua, New Hampshire ("Nashua" or "the City"). We understand that the City has filed a petition to condemn the Pennichuck subsidiary of Pennichuck Corporation.

We understand that the dispute is pending before the New Hampshire Public Utilities Commission ("the PUC").

We understand that the dispute involves the valuation of all of the Pennichuck business operations, including all of the tangible property and intangible property of the operating business, as of December 31, 2004.

The objective of this analysis is to estimate the fair market value of the Pennichuck operating assets as of December 31, 2004. The Pennichuck operating assets consist of the Pennichuck water source, storage, treatment, and distribution property, both tangible and intangible.

The purpose of this analysis is to provide an independent valuation opinion to assist legal counsel in its representation of Pennichuck in the dispute. No other purpose is intended or inferred.

DEFINITION OF VALUE AND PREMISE OF VALUE

For the purpose of this analysis, we define fair market value as the price at which an asset would change hands between a willing buyer and a willing seller, when the former is not under any compulsion to buy and the latter is not under any compulsion to sell, and both parties have reasonable knowledge of the relevant facts.

We analyzed the Pennichuck operating assets based on the premise of value in continued use, as a going concern. Based on our analysis, and in our opinion, this premise of value represents the highest and best use of the subject operating assets.

It is important to note the significant difference between (1) the fair market value standard of value and (2) the historical cost (or "book value") data that are used for state regulatory ratemaking purposes. The rates that regulated water utilities are permitted to charge customers must be approved by state regulatory commissions. The state regulatory commissions typically allow water utilities to earn a specified allowed rate of return on the original cost of their "rate base." The principal component of rate base is usually the utility's net plant in service.

Calculating the rate base cost, however, does not involve an actual appraisal of fair market value at all. Rather, rate base is a statement of the historical cost of certain specified utility plant in service assets less accounting (or "book") depreciation. That is, rate base is a statement of a utility's historical cost investment as defined by specific rules and regulations. Accordingly, this statement of the historical cost of a utility's operating assets is completely unrelated to the current fair market value of the utility's operating assets.

SOURCES OF INFORMATION

During the course of this valuation, we received and analyzed a collection of documents, including (but not limited to) the following:

1. Pennichuck financial statements for the fiscal years ended December 31, 2000 through December 31, 2004;
2. Pennichuck budgeted financial statements for the fiscal years ending December 31, 2005 through December 31, 2009;
3. Pennichuck annual reports to the PUC for the fiscal years ended December 31, 2000 through December 31, 2004;
4. Pennichuck SEC Forms 10-K for the fiscal years ended December 31, 2000 through December 31, 2004;
5. Responses to an information request from the management and employees of Pennichuck with regard to the Pennichuck tangible personal property and Pennichuck intangible personal property;
6. The valuation analysis of the tangible personal property of Pennichuck as of December 31, 2004, performed by Mr. Richard Riethmiller and Gannett Fleming, Inc.; and
7. The appraisal of the operating real estate and real property interests of Pennichuck as of December 31, 2004, performed by Applied Economic Research.

As part of our analysis, we also considered information related to (1) the national economy, (2) the Nashua regional area economy, and (3) the water utility industry.

Additionally, we interviewed various members of Pennichuck management, and we physically inspected the Pennichuck operating assets.

II. FUNDAMENTAL POSITION OF PENNICHUCK

CORPORATE ORGANIZATION

Pennichuck, which employs 85 full-time employees and officers, is the principal subsidiary of Pennichuck Corporation. Pennichuck Corporation has five subsidiaries and is headquartered in Merrimack, New Hampshire.

Three Pennichuck Corporation subsidiaries are water utilities regulated by the PUC, including (1) Pennichuck, (2) Pittsfield Aqueduct Company, and (3) Pennichuck East Utility, Inc. These three regulated water utilities are engaged in the collection, storage, treatment, distribution, and sale of potable water in southern and central New Hampshire.

One Pennichuck Corporation subsidiary is a non-regulated water management services company, Pennichuck Water Service Corporation.

One Pennichuck Corporation subsidiary is a real estate development and investment company, The Southwood Corporation.

DESCRIPTION OF PENNICHUCK

Service Area

Established in 1852, Pennichuck services nearly 25,000 customers in Nashua and limited areas of ten surrounding New Hampshire municipalities west of the Merrimack River. This service area has a total population of more than 250,000.

Location and demographic data regarding the Pennichuck system service area are summarized in Table 1.

Table 1
Pennichuck Water Works, Inc.
System Service Area
as of December 31, 2004

Municipality	Population	Customers
Nashua	87,907	21,383
Amherst	11,342	890
Bedford	20,181	722
Derry	34,678	779
Epping	5,879	78
Hollis	7,454	49
Merrimack	26,398	203
Milford	14,418	119
Newmarket	8,823	87
Plaistow	7,906	194

Salem	29,027	72
TOTAL	254,013	24,576

Through the PUC, Pennichuck is franchised to distribute water in Nashua and in portions of Amherst, Bedford, Derry, Epping, Hollis, Merrimack, Milford, Newmarket, Plaistow, and Salem, New Hampshire. The only competition in the Pennichuck core franchise area is the utilization of wells.

Potable Water Sources

The core system of Pennichuck is supplied by the following five water sources:

- Holt Pond;
- Bowers Pond;
- Harris Pond;
- Supply Pond; and
- Merrimack River.

The Holt, Bowers, Harris, and Supply Ponds are the primary water sources. The Merrimack River is considered a secondary water source. This is because the primary water sources are supplemented during the summer by pumping water from the Merrimack River. The water is pumped by the pumping facility that Pennichuck owns on the Merrimack River in Merrimack, New Hampshire.

A permit from the Army Corps of Engineers, which was extended through December 21, 2009, allows the pumping of water from the Merrimack River. The permit dictates that (1) if the river level is above 91.2 feet, then Pennichuck may pump up to 30.0 million gallons per day and (2) if the river level is below 91.2 feet, then Pennichuck may pump (a) up to 20.0 million gallons per day if the specified minimum flow is maintained and (b) up to 12.0 million gallons per day if the specified minimum flow is not maintained.

The pumping facility that Pennichuck owns on the Merrimack River is capable of pumping up to 16.2 million gallons per day from the Merrimack River.

Water Treatment Plant

The Pennichuck water treatment plant (the "water treatment plant"), which was constructed in 1979 in Nashua, physically and chemically removes suspended solids and sand. It also utilizes chemical filtration to treat the water that Pennichuck supplies to its customers. The rated capacity of the water treatment plant is 35 million gallons per day. Total production of the water treatment plant in 2004 was approximately 1.6 billion gallons.

Wells, Booster Stations, and Tanks

There are (1) 57 Pennichuck wells, including those at booster stations, (2) 38 Pennichuck booster stations, two of which are out of service, and (3) ten Pennichuck tanks, of which six are located in Nashua, two in Amherst, one in Bedford, and one in Derry.

Mains, Services, Meters, and Hydrants

The Pennichuck water system consists of, among other assets, approximately 425 miles of transmission and distribution mains, 23,001 services, 24,562 meters, and 2,464 hydrants.⁴

Real Estate and Real Property

The Pennichuck real estate and real property ownership rights consist of approximately 704 acres of real estate owned in fee and approximately 34 acres of real property easements in Amherst, Bedford, Derry, Hollis, Merrimack, and Nashua, New Hampshire.⁵

FINANCIAL STATEMENT ANALYSIS

An important part of the valuation of the operating assets of any going concern business is an assessment of financial performance over time. Past revenue and earnings growth typically provides an indication of future growth potential and can put the current performance of the operating assets in a historical context.

The important elements of the financial statements can be analyzed not only by looking at aggregate figures, but also by looking at common-size statements. Common-size statements are constructed by (1) dividing each item on the income statement by total revenue, (2) dividing each item on the balance sheet by total assets or total liabilities and owners' equity, and (3) dividing each component of rate base by total rate base. These calculations illustrate the percentage of the total amount represented by each line item.

The following sections examine the Pennichuck historical income statements, balance sheets, rate base, and financial ratios.

Income Statements

Exhibit 2 presents the Pennichuck historical income statements and common-size analysis for the fiscal years ended December 31, 2000 through December 31, 2004.

- Pennichuck operating revenue was \$15.7 million in 2004, a 4.2 percent increase from operating revenue in 2003. Between 2000 and 2004, operating revenue increased at an average rate of 5.7

⁴ Detailed descriptions of the Pennichuck potable water sources, water treatment plant, wells, booster stations, tanks, mains, services, meters, and hydrants are provided in the testimony of Mr. Richard Riethmiller and Mr. Harold Walker of Gannett Fleming, Inc.

⁵ Detailed descriptions of the Pennichuck real estate and real property are provided in the testimony of Mr. Russ Thibeault of Applied Economic Research.

percent compounded annually. Growth in operating revenue is generally driven by (1) growth in the population of the service area, (2) an increase in residential, commercial, and industrial demand, and (3) periodic rate increases.

- Operating and maintenance expenses were \$7.8 million in 2004, or 49.5 percent of operating revenue, compared with \$7.5 million, or 49.8 percent of operating revenue, in 2003. Since 2000, operating and maintenance expenses increased from 45.6 percent of operating revenue to 49.5 percent of operating revenue. Much of this increase is attributable to increased security costs related to the September 11, 2001 terrorist attacks, as well as escalating pension and insurance costs.
- Pennichuck operating profit increased 9.2 percent between 2003 and 2004, from \$3.2 million to \$3.5 million. Between 2000 and 2004, operating profits increased at an annualized rate of 1.8 percent, as increasing operating revenue slightly outpaced (1) increasing operating and maintenance expenses and (2) increasing depreciation and amortization expenses.

Balance Sheets

Exhibit 3 presents the Pennichuck historical balance sheets and common-size analysis for the fiscal years ended December 31, 2000 through December 31, 2004.

- Pennichuck net utility plant was \$71.1 million in 2004, a 6.2 percent increase from net utility plant in 2003. Between 2000 and 2004, net utility plant increased at an average rate of 6.0 percent compounded annually. Total assets increased from \$60.5 million in 2000 to \$77.6 million in 2004, primarily due to the increase in net utility plant over the five-year period reviewed.
- Over the five-year period reviewed, current and accrued liabilities and long-term liabilities increased from \$2.2 to \$3.6 million and from \$21.2 million to \$25.9 million, respectively. Contributions in aid of construction increased from \$12.8 million in 2000 to \$18.2 million in 2004, representing an annualized rate increase of 9.2 percent.
- Pennichuck owners' equity increased 6.5 percent between 2003 and 2004, from \$19.1 million to \$20.4 million. Between 2000 and 2004, the Pennichuck owners' equity increased at an annualized rate of 3.4 percent.

Rate Base

The PUC allows water utilities in the State of New Hampshire the opportunity to earn a specified rate of return on the original cost of their "rate base." The principal component of rate base is usually the utility plant in service less accounting (or "book") depreciation.

Calculating the rate base does not involve an actual appraisal of the fair market value of a water utility. Rather, rate base is a statement of the historical cost of certain specified utility assets. That is, rate base is a statement of a utility's historical cost investment as defined by specific rules and regulations. This statement of historical cost is completely unrelated to the current fair market value of the utility's operating assets.

Exhibit 4 presents the Pennichuck historical rate base and common-size analysis as of December 31, 2004. The Pennichuck rate base was approximately \$47.6 million at December 31, 2004.

Financial Ratios

Exhibit 5 summarizes a financial ratio analysis of Pennichuck for the fiscal years ended December 31, 2000 through December 31, 2004.

The Pennichuck financial ratios generally mirror fluctuations in operating profits over the five-year period reviewed. Ratios of operating profit to assets, net utility plant, and revenue all exhibited an increase in 2001 and 2002, followed by a decrease in 2003, and then a slight increase in 2004.

Adjustments to the Pennichuck Historical Financial Results

Exhibit 6 presents the calculation of the following Pennichuck historical financial fundamentals: (1) earnings before interest and taxes ("EBIT") and (2) earnings before interest, taxes, depreciation, and amortization ("EBITDA").

We adjusted the Pennichuck historical financial fundamentals to reflect the operations and the expense structure of the likely population of willing buyers. As discussed later in this report, the likely population of willing buyers for Pennichuck includes not-for-profit public entities. Public entities are not subject to many kinds of taxes and other regulatory compliance expenses.

Accordingly, we made the following adjustments to the Pennichuck historical financial results:

1. We added regulatory expense to the Pennichuck historical financial results; and
2. We added (1) income taxes and (2) certain other taxes to the Pennichuck historical financial results.

III. ECONOMIC AND INDUSTRY CONSIDERATIONS

As part of our valuation analysis, we considered (1) the outlook for the national economy, (2) the outlook for the Nashua regional area economy, and (3) the outlook for the water utility industry. Each of these analyses is presented as of December 31, 2004.

ECONOMIC OUTLOOK SUMMARY

The general economic climate is an important consideration in the valuation of any business interest. This is because the economic outlook influences how investors perceive alternative investment opportunities at any given time.

As of December 31, 2004, the U.S. economy continued its expansion at a slower pace than expected in the final quarter of 2004. The national economic growth was the slowest since the beginning of 2003, with exports down and inflation and imports up. Gross domestic product ("GDP") increased at a 3.1 percent annual rate in the last quarter of 2004, down from a 4.0 percent increase in the third quarter. For the entire 2004 year, however, GDP increased 4.4 percent.

In 2004, while the annual national unemployment rate averaged 5.5 percent, the Nashua regional area unemployment rate averaged 4.3 percent. However, the Nashua regional area unemployment rate is higher than the state unemployment rate. The Nashua regional area is rebounding from job losses that occurred in 2000 and 2001, and the largest employers in the Nashua regional area operate in the retail, manufacturing, and healthcare industries.

On both state and Nashua regional area levels, there is a risk of stagnant industrial growth but a positive outlook for the real estate, retail, and tourism sectors. The City of Nashua was advised by Mt. Auburn Associates to continue to invest in and support the public schools, the commuter-rail and transit-oriented services, and the downtown area. The citizens of Nashua have expressed their desire to improve the central business district area, both for their own benefit and to attract tourists to the Nashua regional area.

On a national level, economists expect that the U.S. economy will continue its expansion in 2005. The GDP increase for 2005 is expected to be about 3.5 percent, which is considered to be the economy's long-term growth potential. Many economists also believe there are challenges ahead, given the nation's low savings rate and high budget and trade deficits.

The slowly improving economy is giving producers a chance to pass on higher prices to consumers as excess inventories decline and commodity prices remain high. The recovery in corporate profits should continue through 2005 at a slower pace. Future economic growth depends on business spending in the United States and export demand from foreign countries.

WATER SUPPLY INDUSTRY SUMMARY

Overview

Approximately 5,000 commercial water and sewer utilities operate in the United States, with combined annual revenue of \$7 billion.⁶ The commercial segment of the industry, however, is small compared with the \$55 billion spent annually on water and sewer services by regional and local governments that operate their own systems.⁷ The water supply segment of the water and sewer utilities industry includes establishments primarily engaged in distributing water for sale for domestic, commercial, and industrial use.

A water supply system consists of (1) water sources, (2) storage reservoirs, (3) water treatment facilities, and (4) a pipe distribution system. The water sources can be lakes, rivers, springs, or wells. There are approximately 54,000 community water systems in the United States.⁸

Water supply system operators generally conduct business as local monopolies due to the large infrastructure requirements of reservoirs, treatment facilities, and the distribution network (i.e., system of pipes). Competition within the industry exists primarily to determine which entity operates the water system in a particular region.

In 2004, employment growth in the water and wastewater utility industry decreased by 0.9 percent. Average hourly earnings in the water and wastewater industry increased from \$16.43 in 2000 to \$18.30 in 2004.

Regulation

Investor-owned water supply companies operate as regulated entities, and these companies are required to comply with restrictions on customer rates and overall profitability. These restrictions are imposed on a state-by-state basis. Accordingly, water supply companies must apply to their respective state or local regulatory commission when they intend to raise rates to cover either increased operating costs or capital expenditures.

The state regulatory commissions allow investor-owned water utilities to earn a fair rate of return on their rate base. The largest component of rate base is the historical cost of the utility's plant in service.

Public entity-owned water supply systems, on the other hand, are not typically subject to state regulation. These public entity systems can raise rates at their discretion without state regulatory approval. The vast majority (approximately 80 percent) of water systems in the United States are owned by public entities.⁹

The water supply and wastewater industries are regulated at the federal level by the Safe Drinking Water Act and the Clean Water Act. These Acts legislate quality standards for drinking water. Water supply companies are required to provide drinking water that meets or exceeds the standards set pursuant to these two pieces of legislation.

⁶ *Water & Sewer Utilities* (First Research Industry Profiles), June 27, 2005.

⁷ *Ibid.*

⁸ From the American Water Works Association web site at <http://www.awwa.org/Advocacy/pressroom/waterfax.cfm>

⁹ *Ibid.*

Financial Profile

In general, the revenues of water utility systems are typically derived from (1) user charges, (2) connection fees, and (3) the provision of services to other utilities. Typical expense categories for water utility systems include (1) operation and maintenance, (2) debt service, (3) depreciation, and (4) income tax (in the case of investor-owned utilities).

HYPOTHETICAL WILLING BUYERS

Estimating the fair market value of the Pennichuck operating assets requires the consideration of the most likely population of hypothetical willing buyers. Based on the characteristics of (1) Pennichuck and (2) the population of buyers who are likely to invest in a water system, the most likely population of hypothetical willing buyers of Pennichuck includes public entities. This conclusion with regard to the likelihood of a public entity buyer is based, in part, on the following facts:

1. The vast majority (approximately 80 percent) of water systems in the U.S. are owned by public entities;¹⁰
2. Pennichuck is located in a geographic territory where Pennichuck Corporation is the principal investor-owned water supplier. Therefore, few IOU buyers are likely to pursue an acquisition of Pennichuck; and
3. There are numerous public entities that may acquire Pennichuck. The first group of potential publicly owned buyers includes any incorporated New Hampshire city or town. In addition, Nashua is a potential buyer. Finally, any existing or yet to be formed district is also a legitimate potential acquirer. Each of these jurisdictions, as well as other jurisdictions in the surrounding area, represents a potential public entity buyer of Pennichuck.

These considerations suggest that the likely population of hypothetical willing buyers of Pennichuck includes not-for-profit public entities.

In the acquisition of a going concern business, the population of buyers with the greatest expected synergies will set the range of market prices. The expected acquisition synergies of a population of willing buyers can be strategic, operational, and/or financial. By considering the acquisition synergies of various populations (or categories) of buyers, the analyst can identify the most likely population of buyers for the subject operating business assets.

In an actual acquisition offering, many types of buyers may bid for the target company. However, the category of buyers with the greatest expected synergies will set the price range that all serious potential bidders will have to match.

In the case of Pennichuck, a not-for-profit public entity buyer (1) will not have to pay income taxes, (2) will have access to low-cost municipal financing, and (3) will not be subject to the same regulatory environment as an IOU buyer. Therefore, public entity buyers will set the range of market prices in which all potential buyers (both public entity and IOU) will have to bid.

¹⁰ From the American Water Works Association web site at <http://www.awwa.org/Advocacy/pressroom/waterfax.cfm>

IV. OPERATING BUSINESS ASSET VALUATION APPROACHES AND METHODS

There are many different methods and procedures for estimating the value of the operating assets of a going concern business enterprise. All methods and procedures for valuing businesses and operating business assets can be categorized into three distinct approaches. Valuation analysts use one or more of these three approaches to estimate the value of businesses and business interests. Of course, the objective of using more than one approach is to develop mutually supporting evidence as to the value conclusion.

While the specific titles of these three approaches vary, the generic names for these valuation approaches are:

1. the asset-based approach;
2. the income approach; and
3. the sales comparison approach.

The asset-based, income, and sales comparison approaches represent general valuation approaches. The specific methods and procedures that are associated with these approaches may or may not be applicable to the valuation of the Pennichuck operating assets.

Each of these three valuation approaches is discussed briefly in the following sections.

ASSET-BASED APPROACH

The asset-based approach is based on the premise that the value of assets operating as a business enterprise is equal to (1) the current value of all of the subject operating assets (both tangible property and intangible property) less (2) the current value of the subject liabilities (both recorded and contingent).

A common asset-based approach method is the asset accumulation method. The asset accumulation method involves the discrete valuation of the individual operating assets. This method requires a discrete appraisal of the following types of assets:

- Current assets (including cash, accounts and notes receivable, materials and supplies, prepayments, etc.);
- Tangible personal property (including office furniture and fixtures, machinery and equipment, etc.);
- Real estate and real property interests (including land, buildings, leasehold improvements, easements, etc.); and
- Intangible personal property (including water system records and reports, work orders, trained and assembled workforce, etc.).

Using this method, the value of each of these asset categories is individually estimated, using the most appropriate valuation procedures for each asset category. The values of the asset categories are summed (or "accumulated") in order to estimate the total value of the operating business assets.

INCOME APPROACH

The income approach is based on the premise that the value of the operating business assets is equal to the present value of the expected economic income to be derived by the owners of the subject assets.

The two most common income approach valuation methods are (1) the yield capitalization method and (2) the direct capitalization method. The yield capitalization method involves the calculation of the present value of the discrete projection of economic income. The direct capitalization method estimates the value of the company by capitalizing (i.e., dividing) a single period estimate of economic income by a direct capitalization rate.

The discounted cash flow method is the most common yield capitalization method. The discounted cash flow method requires the following types of financial analyses: (1) a revenue analysis, (2) an expense analysis, (3) an investment analysis, (4) a capital structure analysis, and (5) a residual or terminal value analysis. We will discuss each of these financial analyses briefly.

The revenue analysis requires a projection of expected revenue. This analysis includes consideration of the following marketing factors: number of customers served, average revenue per customer, market dynamics, competitive pressures, regulatory changes, technological changes, and so forth.

The expense analysis includes consideration of the following aspects: fixed versus variable costs, cash versus non-cash costs, direct versus indirect costs, cost/efficiency relationships, cost/volume/profit relationships, and so on.

The investment analysis includes consideration of the following aspects: required minimum cash balances, days sales outstanding in accounts receivable, inventory and supply turnover, equipment utilization, capital expenditure budgets, and so forth.

The capital structure analysis includes consideration of the following aspects: current capital structure, optimal capital structure, cost of various capital components, weighted average cost of capital, systematic and nonsystematic risk factors, marginal cost of capital, and so on.

The residual value or terminal value analysis requires the estimation of the value of the prospective cash flow generated by the operating assets after the conclusion of a discrete projection period. This residual value can be estimated using various procedures: price/earnings multiple, annuity in perpetuity procedure, constant-growth model, and so forth.

Based on the results of these analyses, the cash flow from the subject operating assets is projected for a reasonable discrete projection period. The cash flow projection is discounted at an appropriate present value discount rate to determine the present value. The residual value or terminal value of the operating assets is estimated at the end of the discrete projection period. This residual value or terminal value is also discounted to a present value.

The present value of the discrete cash flow projection is added to the present value of the residual value in order to estimate the value of the subject operating assets.

SALES COMPARISON APPROACH

The two most common sales comparison approach methods are (1) the guideline merged and acquired company method and (2) the guideline publicly traded company method.

The guideline merged and acquired company method estimates the value of the operating business assets by comparing the subject company to comparative (or "guideline") companies that have been bought or sold during a recent time period. The first procedure in this method is to identify a sample of comparative companies that have been bought or sold in the recent past. The correct selection of the guideline company sample is an important procedure in this method, and the criteria for selecting guideline companies will vary in each valuation analysis. However, the following comparability factors should be considered: customer characteristics, size, condition of the property, the processes used, source of supply, regulatory environment, type of sale transaction, and so forth.

For each company in the sample of guideline merged and acquired companies, several valuation pricing multiples may be calculated. These valuation pricing multiples may include the following: price/earnings multiple, price/dividends multiple, price/assets multiple, price/equity multiple, price/cash flow multiple, among others. After these pricing multiples are calculated for each company in the sample, the mean and median pricing multiple is typically calculated for the overall sample. A subject-specific pricing multiple, derived from the selected transactional data, is then applied to the appropriate financial data of the subject operating assets. The product of multiplying the selected pricing multiple by the subject company financial data indicates the value indication of the subject operating business assets.

The guideline publicly traded company method is based on what astute and rational capital market investors would pay to own the stock in the target company. Using this method, the first procedure is to select a sample of publicly traded companies that are comparative to the subject company. In this method, the guideline publicly traded companies are all companies that are publicly traded on organized capital market exchanges, such as the New York Stock Exchange, American Stock Exchange, over-the-counter market, or other exchanges. As in the guideline merged and acquired company method, an important procedure of the guideline publicly traded company method is the selection of the appropriate sample of guideline companies, to the extent that such companies are available, based on reasonable comparability criteria.

For each company in the sample of guideline publicly traded companies, several valuation pricing multiples may be calculated. After these valuation pricing multiples are calculated for each selected guideline company, the mean and median of each pricing multiple is calculated for the overall sample. After making any appropriate adjustments for comparability to the subject company, a subject-specific pricing multiple is selected. The selected pricing multiple is then applied to the appropriate financial data of the subject company. The product of multiplying the selected pricing multiple by the subject company financial data indicates the value of the subject business enterprise.

This preliminary estimate may be adjusted for any lack of comparability of the subject company to the selected guideline publicly traded companies. These adjustments may include the following: noncontrolling ownership interest discount, controlling ownership interest premium, lack of

marketability discount, and so forth. This adjusted estimate indicates the value of the subject business enterprise.

SELECTION OF VALUATION APPROACHES AND METHODS

Although there are many methods and procedures available for the valuation of operating business assets, they are all categorized into three approaches: asset-based approach, sales comparison approach, and income approach.

The methods selected in a valuation analysis depend upon (1) the valuation analyst's judgment and experience with similar valuations and (2) the quantity and quality of available financial, operational, and industry data.

Based on the quantity and quality of available data, and based on the purpose and objective of this appraisal, we relied on the following valuation approaches and methods to estimate the fair market value of the Pennichuck operating assets:

1. asset-based approach, using the asset accumulation method;
2. income approach, using the discounted cash flow ("DCF") method; and
3. sales comparison approach, using the guideline merged and acquired company method.

V. VALUATION ANALYSIS

ASSET-BASED APPROACH – ASSET ACCUMULATION METHOD

We used the asset-based approach and the asset accumulation method to estimate the fair market value of the Pennichuck operating assets. Using the asset accumulation method, the value of each type/category of the subject property (both tangible and intangible) is individually estimated using the most appropriate valuation method. The values of all of the asset categories are accumulated in order to estimate the fair market value of the subject operating assets.

To value the Pennichuck individual tangible personal property, real estate and real property interests, and intangible personal property, we relied primarily on the cost approach.

Cost Approach Methods

The various cost approach methods are based on these fundamental economic principles:

1. Substitution—no prudent buyer would pay more for an item of fungible tangible property or intangible property than the total cost to “construct” one of equal desirability and utility.
2. Supply and Demand—shifts in supply and demand cause costs to increase and decrease and cause changes in the need for supply of different types of assets.
3. Externalities—gains or losses from external factors may accrue to tangible property or intangible property. External conditions may cause a newly constructed asset to be worth more or less than its cost.

Types of Cost

Within the cost approach, there are several valuation methods. Each of these methods uses a similar definition—or type—of cost. The most common types of cost are:

1. Reproduction cost new; and
2. Replacement cost new.

There are subtle, but important, differences in the definitions of these two types of cost.

The reproduction cost new of an asset is the total cost, at current price, to construct an exact duplicate or replica of the subject asset. This duplicate would be created using the same materials, standards, design, layout, and quality of workmanship used to create the original asset.

The replacement cost new of an asset is the total cost to create, at current prices, an asset having equal functionality or utility of the subject asset.¹¹ However, the replacement asset would be created with modern methods and constructed according to current standards, state-of-the-art design and layout, and the highest available quality of workmanship. Accordingly, the replacement asset may have greater utility than the subject asset. If this is the case, analysts should be careful to adjust for this factor in the obsolescence analysis of the replacement cost method.

We based our cost approach analysis on (1) the reproduction cost new less depreciation (“RCNLD”) of the intangible personal property and (2) the replacement cost new less depreciation of the tangible personal property, based on the valuation analysis performed by Mr. Richard Riethmiller and Gannett Fleming, Inc.

The cost (whether measured as replacement or reproduction) of an asset includes: (1) all hard costs (e.g., materials), (2) soft costs (e.g., construction interest, engineering and design labor), (3) developer’s profit (on hard and soft cost investment), and (4) entrepreneurial incentive related to the development of an asset.

Once the subject asset’s replacement cost new or reproduction cost new is estimated, the cost measurement should be adjusted for losses in economic value due to all forms of depreciation.

Depreciation and Obsolescence

Physical deterioration is the decrease in the value of an asset due to physical wear and tear resulting from continued use.

Functional obsolescence is the decrease in the value of an asset due to its inability to perform the function (or yield the periodic utility) for which it was originally designed.

Technological obsolescence is a decrease in the value of an asset due to improvements in technology that make an asset less than the ideal replacement for itself. Technological obsolescence occurs when, due to improvements in design or engineering technology, a new replacement asset produces a greater standardized measure of utility production than the subject asset. Technological obsolescence is often considered a specific form of functional obsolescence.

When estimating “observed” depreciation in a cost approach analysis, the total observed depreciation is typically equal to the sum of any physical deterioration and functional obsolescence (including technological obsolescence).

In estimating the amounts (if any) of observed depreciation, the consideration of the subject asset’s actual existing condition—and of its expected remaining useful life—are important procedures of the cost approach.

In addition to observed depreciation, economic obsolescence (one component of external obsolescence), to the extent that it exists, is a reduction in the value of the subject asset due to the effects, events, or conditions that are external to—and not controlled by—the current use or condition of the asset. The

¹¹ Functionality is an engineering concept that means the ability of the subject asset to perform the task for which it was designed. Utility is an economics concept that means the ability of the subject asset to provide an equivalent amount of satisfaction.

impact of economic obsolescence is typically beyond the control of the asset's owner. For that reason, economic obsolescence is typically considered incurable.

An asset's deficiencies are considered curable when the prospective economic benefit of enhancing or modifying the asset exceeds the current cost (in terms of material, labor, and time) to change it. An asset's deficiencies are considered incurable when the current cost of enhancing or modifying the asset (in terms of material, labor, and time) exceeds the expected future economic benefits of improving it.

VALUATION OF THE PENNICHUCK OPERATING ASSETS

The following sections discuss our valuation of each of the individual Pennichuck operating asset categories as of December 31, 2004.

Net Working Capital

As of December 31, 2004, the book value of the Pennichuck net working capital was equal to approximately \$300,000, rounded. We estimated that the fair market value of the net working capital as of December 31, 2004 was approximately equal to the accounting book value for these accounts, or \$300,000.

Net working capital accounts include (1) current (or short-term) assets less (2) current (or short-term) liabilities.

The Pennichuck current assets include customer account receivables, materials and supplies, and prepaid expenses. The Pennichuck current liabilities include accounts payable, customer deposits, and accrued liabilities.

Tangible Personal Property

The valuation analysis of the Pennichuck tangible personal property was performed by Mr. Richard Riethmiller and Gannett Fleming, Inc.

Mr. Riethmiller and Gannett Fleming, Inc. estimated the value of the Pennichuck tangible personal property using the replacement cost new less depreciation method. Using this method, the value of the Pennichuck system is equal to its replacement cost less appropriate allowances for observed depreciation. As mentioned previously, replacement cost new of an asset is the total cost to create, at current prices, an asset having equal functionality or utility of the subject asset.

Based on the valuation analysis, the fair market value of the Pennichuck tangible personal property, as of December 31, 2004, is \$412,000,000, rounded. The valuation analysis is provided in the testimony of Mr. Riethmiller and Mr. Harold Walker of Gannett Fleming, Inc.

We relied on this estimate of tangible personal property value in our asset accumulation method valuation analysis of the total Pennichuck operating assets.

In addition, we determined that the tangible personal property included in the analysis is subject to economic obsolescence. We describe the calculation of economic obsolescence later in the report.

Operating Real Estate and Real Property

The appraisal of the Pennichuck operating real estate and real property interests was performed by Applied Economic Research.

Based on the Applied Economic Research analysis, the indicated fair market value of the Pennichuck operating real estate owned in fee, as of December 31, 2004, is \$12,000,000, rounded.

Based on the Applied Economic Research analysis, the indicated fair market value of the Pennichuck operating real property easements, as of December 31, 2004, is \$900,000, rounded.

The Applied Economic Research real estate/real property appraisal is provided in the testimony of Mr. Russ Thibeault of Applied Economic Research.

We relied on these fair market value estimates of operating real estate and real property interests in our asset accumulation method valuation analysis of the total Pennichuck operating assets.

Intangible Personal Property

During our due diligence investigation (including interviews with various members of Pennichuck management), we identified a number of categories of intangible personal property. Based on the quantity and quality of the available data, we identified and valued the following categories of intangible personal property:

1. Distribution maps and as-built engineering drawings;
2. Water pumping rights;
3. Water system records and reports;
4. Synergen work order database;
5. Water treatment laboratory reports and test data;
6. Supervisory Control and Data Acquisition ("SCADA") computer software system; and
7. Trained and assembled workforce.

With regard to a reproduction cost new less depreciation method valuation analysis, intangible personal property typically does not experience physical deterioration. For each category of Pennichuck intangible personal property, we reduced our reproduction cost new estimate (either implicitly or explicitly) to account for functional obsolescence. With regard to intangible personal property, functional obsolescence is associated with property items that are outdated or are infrequently used. Accordingly,

our estimate of RCNLD for the subject intangible personal property relates to (1) the property's reproduction cost new less (2) an allowance for functional obsolescence (if any).

In addition, we determined that the intangible personal property categories identified in our analysis are subject to economic obsolescence. We will describe the adjustment for economic obsolescence to our RCNLD indications later in this report.

Illustrative samples of the Pennichuck intangible personal property items are included in Appendix C.

The following sections discuss our valuation of each category of Pennichuck intangible personal property as of December 31, 2004.

Distribution Maps and As-Built Engineering Drawings

The contemporaneous Pennichuck distribution maps and as-built engineering drawings intangible personal property (the "maps and drawings") describe the physical Pennichuck distribution system.

The maps and drawings show the actual locations of, among other things, transmission and distribution mains, gates, hydrants, and pump stations. The maps and drawings also reference the size and material of the mains. Main easements are another feature presented on the maps and drawings.

The primary function of the maps and drawings is to provide main, gate, and hydrant locations for the daily maintenance and expansion of the Pennichuck distribution system.

We used the RCNLD method to estimate the value of the maps and drawings. Using this cost approach method, the value of the Pennichuck maps and drawings is estimated as (1) reproduction cost new less (2) functional obsolescence.

According to Pennichuck management, the contemporaneous distribution system consists of 2,244,076 linear feet of transmission and distribution mains.

Pennichuck management provided us with the current as-built fee (per linear foot) that Pennichuck actually charges to contractors for the engineering, inspection, and preparation of maps and drawings of transmission and distribution mains, in accordance with the rates approved by the PUC.

Exhibit 7 summarizes the calculation of the reproduction cost new of the subject maps and drawings based on (1) the total transmission and distribution main inventory in linear feet multiplied by (2) the current total as-built fee per linear foot.

The reproduction cost new of the subject maps and drawings considered reflects only the cost to reproduce the maps and drawings that are required for the current operations of Pennichuck. The reproduction cost new does not include the costs necessary to reproduce historical maps and drawings that are no longer in active use.

Accordingly, our reproduction cost new estimate is implicitly reduced for the amount of curable functional obsolescence (i.e., excess maps and drawings) associated with this category of intangible personal property. Therefore, we did not adjust the maps and drawings reproduction cost new estimate for any additional amount of functional obsolescence.

Based on our analysis, the indicated RCNLD of the Pennichuck maps and drawings intangible personal property, as of December 31, 2004, is \$6,700,000, rounded.

Water Pumping Rights

The core system of Pennichuck is supplied by the following five water sources (the "water sources"):

- Holt Pond;
- Bowers Pond;
- Harris Pond;
- Supply Pond; and
- Merrimack River.

The Holt, Bowers, Harris, and Supply Ponds are the primary water sources. The Merrimack River is considered a secondary water source. This is because the primary water sources are supplemented during the summer by pumping water from the Merrimack River. The water is pumped by the pumping facility that Pennichuck owns on the Merrimack River in Merrimack, New Hampshire.

A permit from the Army Corps of Engineers, which was extended through December 21, 2009, allows the pumping of water from the Merrimack River. The permit dictates that (1) if the river level is above 91.2 feet, then Pennichuck may pump up to 30.0 million gallons per day and (2) if the river level is below 91.2 feet, then Pennichuck may pump (a) up to 20.0 million gallons per day if the specified minimum flow is maintained and (b) up to 12.0 million gallons per day if the specified minimum flow is not maintained.

The pumping facility that Pennichuck owns on the Merrimack River is capable of pumping up to 16.2 million gallons per day from the Merrimack River.

We used the direct capitalization method of the income approach to estimate the value of the water pumping rights.

Pennichuck management provided the average annual pumpage from the water sources from January 1, 1998 through December 31, 2004 of 4,934,210 gallons, which is 659,608 cubic feet.

According to (1) information provided by Pennichuck management and (2) an internal water purchase pro forma, the average volumetric charge that Pennichuck Bedford pays to Manchester Water Works and Merrimack Village District for the water sources is \$1.11 per cubic foot.

Exhibit 8 summarizes the calculation of the fair market value of the water pumping rights based on (1) the average annual pumpage from the water sources in cubic feet multiplied by (2) the average volumetric charge per cubic foot divided by (3) the direct capitalization rate. We will describe the calculation of the direct capitalization rate later in this report.

Based on our analysis, the indicated fair market value of the Pennichuck water pumping rights intangible personal property, as of December 31, 2004, is \$24,500,000, rounded.

Water System Records and Reports

The Pennichuck water system records and reports intangible personal property (the "records and reports") include (1) meter cards, (2) gate valve records, (3) hydrant records, (4) service records, and (5) station check sheets.

Meter cards contain data related to the Pennichuck meters, including (1) historical test data, (2) historical repair data, (3) size, (4) manufacturer, (5) number, (6) location, and (7) installation date. Types of meter cards include (1) new meter in service, (2) meter in service, and (3) meter out of service.

Pennichuck employees refer to meter cards frequently in the normal course of business operations. For example, meter cards are used each time meters are installed, repaired, exchanged, or retired, and they are used to resolve customer disputes regarding meter accuracy.

Gate valve records contain data related to the gate valves of Pennichuck, including (1) opening direction, (2) manufacturer, (3) inspection history, (4) size, (5) installation date, (6) purpose, and (7) tie information.

Hydrant records contain data related to the Pennichuck hydrants, including (1) location, (2) type (public or private), (3) age, (4) opening direction, (5) manufacturer, (6) model, and (7) inspection history.

Service records contain data related to each Pennichuck service connection, including (1) maintenance history, (2) measurements, (3) installation date, and (4) material type.

Station check sheets contain data related to station inspections by water treatment plant operators. The water treatment plant operators (1) perform a visual inspection, (2) fill chemical crocks, (3) clean, and (4) electronically record inspection data. This inspection data is then downloaded into the Ops32 database, which issues a station check sheet that shows the inspection data and points out any data that are outside of the established parameters.

We used the RCNLD method to estimate the value of the records and reports intangible personal property. Using the RCNLD method, the value of the records and reports is based on reproduction cost new less functional obsolescence.

The reproduction of the different types of records and reports requires physical verification of the information that each record and report contains. For example, to reproduce a gate valve record, a Pennichuck employee would have to physically locate the gate valve, operate the gate valve to make sure it works, take certain measurements, and document the findings.

Based on information provided by Pennichuck management, we estimated the number of person-hours required to reproduce the subject records and reports.

Pennichuck management provided the fully loaded hourly cost of employees responsible for reproducing the records and reports. The fully loaded cost includes each employee's hourly salary plus additional costs incurred by the employer related to health insurance, pension, training, and other employment-

related benefits. According to Pennichuck management, the fully loaded cost of a Pennichuck employee is approximately 150 percent of the employee's base salary.

Exhibit 9 summarizes the calculation of the reproduction cost new of the records and reports based on (1) the number of person-hours required to reproduce the records and reports and (2) the fully loaded cost per person-hour of the employees involved.

All of the records and reports considered in our analysis were in use and contributing to the overall value of Pennichuck as of the valuation date. Our reproduction cost new estimate of the records and reports reflects only the cost to reproduce the most recent data available. Our reproduction cost new estimate does not include costs necessary to reproduce historical records and reports that are no longer in active use for reference purposes. Therefore, we did not reduce the reproduction cost new estimate for any additional amount of functional obsolescence.

Based on our analysis, the indicated RCNLD of the Pennichuck records and reports intangible personal property, as of December 31, 2004, is \$400,000, rounded.

Synergen Work Order Database

The Pennichuck Synergen work order database intangible personal property (the "work orders") contains a compendium of historical work orders. The work orders are continuously used to assist in the operation and maintenance of the Pennichuck operating assets. The work order database tracks costs associated with the maintenance of the production, transmission, and distribution system, office and equipment maintenance, and customer accounting.

Moreover, the work order database tracks costs associated with special project work that continues for an unspecified period of time, such as a few months or a few years, for example. In addition, each work order provides information regarding, among other things, vehicle usage, inventory, and subcontractor costs.

Customer and contractor invoices are generated once each week from the work orders, and completed work orders are closed at the end of each month.

We used the RCNLD method to estimate the value of the work orders intangible personal property. Using the RCNLD method, the value of the work orders is based on reproduction cost new less functional obsolescence.

The cost to reproduce the work orders is equal to (1) the total number of person-hours required to reproduce the work orders multiplied by (2) the fully loaded hourly cost of the employees who would be involved in reproducing the work orders.

Based on information provided by Pennichuck management, we estimated the number of person-hours necessary to perform the tasks required to reproduce the work orders.

Pennichuck management provided the fully loaded hourly cost of employees who would be responsible for reproducing the work orders. The fully loaded cost includes each employee's hourly salary plus additional costs incurred by the employer related to health insurance, pension, training, and other

employment-related benefits. According to Pennichuck management, the fully loaded cost of a Pennichuck employee is approximately 150 percent of the employee's base salary.

Exhibit 10 summarizes the calculation of the reproduction cost new of the work orders.

The reproduction cost new of the work orders considered in our analysis reflects only the cost to reproduce the work orders related to the operating assets in current use as of December 31, 2004. The reproduction cost new does not include the costs necessary to reproduce work orders for retired assets.

Accordingly, this reproduction cost new estimate is implicitly reduced for the amount of curable functional obsolescence (i.e., excess work orders) associated with this intangible personal property. Therefore, we did not adjust the reproduction cost new estimate for any additional amount of functional obsolescence.

Based on our analysis, the indicated RCNLD of the Pennichuck work orders intangible personal property, as of December 31, 2004, is \$8,100,000, rounded.

Water Treatment Laboratory Reports and Test Data

The Pennichuck water treatment laboratory reports and test data intangible personal property (the "lab reports and test data") consist of the following types of information:

- New Hampshire Department of Environmental Services ("NHDES") monthly operating reports;
- NHDES water use reports;
- City monthly sludge reports;
- NHDES annual reports for sludge lagoon activity;
- New Hampshire Water Supply Engineering Bureau ("NHWSEB") Disinfection/Disinfection Byproducts ("DDBP") samples and chlorine residuals;
- NHWSEB water shed bacteria counts;
- City sludge analyses;
- NHWSEB emergency action plans;
- NHDES performance evaluation samples; and
- NHWSEB sampling waivers.

The NHDES monthly operating reports list (1) gallons treated, (2) hours of operation, (3) maximum turbidity, (4) minimum disinfection residual, (5) fluoride weight, and (6) measured daily fluoride. The water treatment process is based on these requirements.

The NHDES water use reports contain the monthly well flow totals.

The City monthly sludge reports determine the daily sludge pumpage from the water treatment plant. The water treatment plant operators record daily sludge pumpage, and total monthly sludge pumpage is entered in the monthly sludge reports, which are filed with the City.

The NHDES annual reports for sludge lagoon activity report the amount and consistency of the sludge that is pumped to the Pennichuck drying lagoons.

The NHWSEB DDBP samples and chlorine residuals are collected by water treatment plant operators if chlorine is added to the water. This testing is required by the NHWSEB in order to comply with drinking water regulations.

The NHWSEB water shed bacteria counts from Merrimack River water are required by the NHWSEB as a condition of Pennichuck ceasing the chlorination of the water from the Merrimack River. When Merrimack River water is used as a secondary water source, a weekly sample is analyzed for *E. coli* bacteria.

The City sludge analyses are performed twice per year on samples from the sludge holding tank, as required by the City in order to comply with regulations.

The NHWSEB emergency action plans are written plans, including contact information and pictures, which are used to provide instruction in case of an emergency. These plans are updated annually and filed with the NHWSEB.

The NHDES performance evaluation samples, which are analyzed for total coliform and *E. coli*, are taken twice per year. The results of these analyses are sent to the State Certification Officer of the NHDES for evaluation. Successful completion of this evaluation is the basis for laboratory certification.

The NHWSEB sampling waivers are granted in order to avoid yearly sampling of volatile organic compounds ("VOC") and semi-volatile organic compounds ("SOC"). The waiver process is not mandatory, and waivers are granted on the basis of past chemical monitoring data and the distribution of educational materials to property owners in predetermined zones. Once granted, these waivers may be renewed every three to six years.

We used the RCNLD method to estimate the value of the lab reports and test data intangible personal property. Using this method, the value of the lab reports and test data is based on reproduction cost net less functional obsolescence.

The cost to reproduce the lab reports and test data is equal to (1) the total number of person-hours required to reproduce the lab reports and test data multiplied by (2) the fully loaded hourly cost of the employees who would be involved in reproducing the work orders.

Based on information provided by Pennichuck management, we estimated the number of person-hours necessary to perform the tasks required to reproduce the lab reports and test data.

Pennichuck management provided the fully loaded hourly cost of employees who would be responsible for reproducing the lab reports and test data. The fully loaded cost includes each employee's hourly salary plus additional costs incurred by the employer related to health insurance, pension, training, and

other benefits. According to Pennichuck management, the fully loaded cost of a Pennichuck employee is approximately 150 percent of the employee's base salary.

Exhibit 11 summarizes the calculation of the reproduction cost new of the lab reports and test data.

Pennichuck may retain lab reports and test data beyond the minimum of one to ten years required by the NHDES, NHWSEB, or City. However, the lab reports and test data that are not required to be retained are nearly obsolete.

Accordingly, we did not include in our analysis those lab reports and test data that are not required to be maintained by the NHDES, NHWSEB, or City. Therefore, we did not reduce the reproduction cost new estimate of the lab reports and test data for functional obsolescence.

Based on our analysis, the indicated RCNLD of the Pennichuck lab reports and test data intangible personal property, as of December 31, 2004, is \$100,000, rounded.

SCADA Computer Software System

The Pennichuck SCADA computer software system intangible personal property (the "SCADA system") monitors and controls the operations of the water treatment plant as well as almost all of the booster and well stations. The SCADA system functional design components include engineering drawings, database points (i.e., blocks), water treatment plant PLC programs, screens, remote sites, and communications.

Water treatment plant operators and other employees continuously utilize the SCADA system to monitor alarm conditions, check current parameters, and track historical trends. Moreover, the SCADA system interfaces with the Ops32 database, which provides information for statistical analyses and various reports.

Both the SCADA control technician (a Pennichuck employee) and an outside contracted firm maintain the SCADA system. The outside contracted firm specializes in SCADA integration.

We used the RCNLD method to estimate the value of the SCADA system. Using the RCNLD method, the value of the SCADA system is based on reproduction cost new less functional obsolescence.

The cost to reproduce the SCADA system is equal to (1) the total number of person-hours required to reproduce the SCADA system multiplied by (2) the fully loaded hourly cost of the employees who would be involved in reproducing the SCADA system.

Based on information provided by Pennichuck management, we estimated the number of person-hours necessary to perform the tasks required to reproduce the SCADA system.

Pennichuck management provided the fully loaded hourly cost of employees who would be responsible for reproducing the SCADA system. The fully loaded cost includes each employee's hourly salary plus additional costs incurred by the employer related to health insurance, pension, training, and other employment-related benefits. According to Pennichuck management, the fully loaded cost of a Pennichuck employee is approximately 150 percent of the employee's base salary.

Our analysis is applied to every functional design component of the SCADA system. The sum of the values of all of the components of the SCADA system equals the overall value of the SCADA system intangible asset.

Exhibit 12 summarizes the calculation of the reproduction cost new of the SCADA system.

The SCADA system completely satisfies the requirements of the users, in that it is fully functional and actively used, as of the valuation date. It is continually updated, maintained, improved, and enhanced. Therefore, we determined that there is no functional obsolescence related to the SCADA system.

Based on our analysis, the indicated RCNLD of the SCADA system intangible personal property, as of December 31, 2004, is \$1,000,000, rounded.

Trained and Assembled Workforce

The success of a business enterprise often depends on the training and experience of its assembled workforce. The Pennichuck assembled workforce represents an essential and productive asset of the business and a valuable intangible asset to a willing buyer. There is significant value associated with the cost avoidance of not having to recruit, hire, and train an already assembled workforce.

The prospective cost avoided by having a trained and assembled workforce already in place represents the intangible value of an assembled workforce. Since the Pennichuck workforce is already assembled and trained, a buyer of Pennichuck would not have to incur the time, effort, or expense of hiring and training these employees.

We used the RCNLD method to estimate the fair market value of the Pennichuck trained and assembled workforce. To estimate the reproduction cost of the workforce, we estimated the prospective cost savings or cost avoidance arising from not having to recruit, hire, and train the Pennichuck employees.

Cost savings represent the costs of recruiting, hiring, or training a member of the workforce to attain the potential and efficiency necessary to function as a competent member of the Pennichuck assembled workforce. The sum of the various costs (recruiting, hiring, training, and other related costs) for each employee represents the value of replacing that member of the Pennichuck workforce.

This analysis is applied to every member of the Pennichuck workforce. The sum of the values of all of the members of the workforce equals the value of the overall trained and assembled workforce intangible asset.

The reproduction cost of the Pennichuck trained and assembled workforce is made up of the following components:

1. Recruiting and Advertising Cost: Recruiting and advertising cost, through advertisements in two local newspapers, the Pennichuck website, and industry journals, represents 10 percent of annual base salary, per discussion with Pennichuck management.
2. Interview Cost: Interview cost represents the labor cost of the interview process. Specifically, it is (1) the fully loaded hourly labor cost of the employees involved in the interviewing process

multiplied by (2) the number of hours those employees must spend in interviews before eventually hiring the selected candidate.

3. Background Check and Physical Exam Cost: For each new employee, Pennichuck (1) performs a background check and (2) pays for a physical exam. Background and physical exam cost is (1) the fully loaded hourly labor cost of the employees involved in the background check process multiplied by (2) the number of hours those employees must spend on the background check process plus (3) the cost of the physical exam.
4. NHDES Certification: Utility technicians and water treatment plant operators must be certified by the NHDES, and the cost of NHDES certifications is \$50.
5. New Hire Training Cost: New hire training cost represents 10 percent of average annual cost per employee, per discussion with Pennichuck management.

We estimated the reproduction cost new of the Pennichuck trained and assembled workforce based on information provided by Pennichuck management. Exhibit 13 summarizes our calculation of the value of the Pennichuck trained and assembled workforce.

The Pennichuck trained and assembled workforce was fully contributing to the overall value of Pennichuck as of the valuation date. Therefore, we did not reduce the reproduction cost new of the Pennichuck trained and assembled workforce for any additional amount of functional obsolescence.

Based on our analysis, the indicated RCNLD of the Pennichuck trained and assembled workforce intangible personal property, as of December 31, 2004, is \$1,000,000, rounded.

Intangible Value in the Nature of Goodwill

Any asset-based approach analysis of the fair market value of a company's operating assets should include an estimation of the intangible asset value in the nature of goodwill. To estimate intangible value in the nature of goodwill to Pennichuck, we used the capitalized excess earnings method.

The first procedure in the capitalized excess earnings method is to estimate a prospective normalized level of economic income associated with the subject company. The second procedure is to estimate the fair rate of return on the assets that are used in the production of the subject company's economic income. The third procedure is to estimate an indication of the subject company's goodwill by capitalizing the excess earnings (i.e., the amount of actual economic income minus the fair rate of return on the tangible personal property, real property, and other intangible personal property).

A summary of our capitalized excess earnings analysis with respect to the Pennichuck intangible value in the nature of goodwill is presented in Exhibit 14.

We estimated that a rate of return of 5 percent was appropriate for the Pennichuck tangible personal property, real property, and other intangible personal property (collectively, the "associated assets"). This rate of return is equal to the Pennichuck weighted average cost of capital. We describe the calculation of the weighted average cost of capital later in this report.

We multiplied the required rate of return by the values of the associated assets in order to estimate the required return on the company's assets.

We estimated the required return on the Pennichuck tangible personal property, real estate and real property interests, and other intangible personal property to be \$23,350,000, as presented in Exhibit 14.

We concluded that the present value of the average projected EBIT for fiscal years 2005 through 2009 is the appropriate measure of economic income to capitalize. For the purpose of our analysis, projected EBIT for fiscal years 2005 through 2009, as presented in Exhibit 19, was calculated as \$9,508,000. Applying the required rate of return, the present value of the average projected EBIT for fiscal years 2005 through 2009 is \$8,416,000.

From the Pennichuck present value of the average projected EBIT for fiscal years 2005 through 2009, we subtracted the required return on the Pennichuck operating assets. The present value of the average projected EBIT for fiscal years 2005 through 2009 was less than the required economic income, indicating there was an economic income shortfall of approximately \$14,934,000.

This economic income shortfall indicates that the total economic income of Pennichuck is insufficient to provide an adequate rate of return to its operating assets. In other words, there is economic obsolescence associated with the Pennichuck operating assets.

Economic Obsolescence

Economic obsolescence represents a decrease in the value of an asset due to events or conditions that are external to, and not controlled by, the current use or condition of the asset. For instance, economic obsolescence can result from a reduced demand for the product/service, increased competition, the imposition of environmental or other regulations, inflation, or high interest rates.

To estimate economic obsolescence, we first divided the economic shortfall of \$14,934,000 (determined in our capitalized excess earnings analysis) by a direct capitalization rate of 7 percent. This direct capitalization rate is equal to (1) the present value discount rate of 5 percent plus (2) the expected long-term growth rate of 2 percent. The direct capitalization rate is calculated in this manner for the following reason: since the Pennichuck EBIT is expected to increase at a long-term growth rate of 2 percent, the economic shortfall indicated by the capitalized economic excess earnings analysis is expected to decrease at a long-term growth rate of 2 percent.

This calculation of the capitalized income shortfall of \$213,300,000, rounded, is summarized in Exhibit 14.

The next procedure in estimating economic obsolescence is to divide (1) the indicated capitalized income shortfall by (2) the indicated values of the Pennichuck operating assets (excluding working capital, real estate, and real property interests). This calculation, which is summarized in Exhibit 15, results in an economic obsolescence allocation factor of 47 percent, rounded.

The final procedure is to apply the economic obsolescence allocation factor of 47 percent to the Pennichuck operating assets (excluding working capital, real estate, and real property interests). That is, the indicated value of each Pennichuck operating asset is reduced by 47 percent to account for economic obsolescence.

This valuation adjustment procedure is summarized in Exhibit 16.

Estimated Value of Operating Assets

We added the indicated value of the Pennichuck (1) tangible personal property, (2) operating real estate and real property interests, and (3) intangible personal property in order to estimate the indicated fair market value of the Pennichuck total operating assets.

A summary of our asset accumulation method valuation analysis is presented in Exhibit 17.

Based on the asset accumulation method (and after consideration of economic obsolescence), the fair market value of the Pennichuck operating assets, as of December 31, 2004, is (rounded):

\$253,800,000.

INCOME APPROACH - DISCOUNTED CASH FLOW METHOD

The discounted cash flow ("DCF") method uses a company's financial projections to estimate the present value of the future cash flow that the owner of the subject operating assets will expect to receive.

The Pennichuck budgeted financial statements for the fiscal years ending December 31, 2005 through December 31, 2009 are presented in Exhibit 18.

We prepared the Pennichuck financial projections to reflect the expected financial performance of the likely population of willing buyers. As discussed above, the likely population of willing buyers for Pennichuck includes not-for-profit public entities.

Public entities are not subject to many kinds of taxes, including income taxes. Accordingly, we made the following adjustment to the Pennichuck projected financial results:

1. We did not provide for income tax expense in the Pennichuck projected results of operations.
2. We added certain other taxes to the Pennichuck projected results of operations.

Both (1) the adjustment to the Pennichuck financial projections and (2) the calculation of the projected Pennichuck financial fundamentals are presented in Exhibit 19.

Calculation of Net Cash Flow

The measure of economic income that we used in our discounted cash flow analysis was net cash flow.

Net cash flow represents the cash flow available to holders of a company's invested capital (i.e., total operating assets) after necessary expenditures are made to sustain ongoing operations. For purposes of this analysis, we calculated net cash flow as follows:

Earnings Before Interest and Taxes
 Plus: Depreciation and Amortization Expense
 Less: Capital Expenditures
Less: Required Increase in Working Capital
 Equals: Net Cash Flow

Weighted Average Cost of Capital

We used the band of investment method (on an after-tax basis) to estimate the appropriate present value discount rate. Exhibit 20 summarizes the calculation of the Pennichuck weighted average cost of capital ("WACC"). The WACC is the appropriate present value discount rate to apply in the DCF method.

Investors have alternative opportunities for investment of current funds that will provide future returns to compensate them for (1) the time funds are not available at the investor's disposal, (2) the expected rate of inflation, and (3) the relative uncertainty of future returns. The required rate of return on investment is a function of investment risk. Business risk is reflected in the calculation of the cost of equity capital, while financial risk is considered in the debt capital to equity capital analysis.

The cost of capital is the return an investment should yield in order to provide an adequate rate of return to both sources of capital: (1) equity and (2) long-term debt.

Capital components stated on the right-hand (i.e. liabilities plus owners' equity) side of the balance sheet include various types of long-term debt, preferred stock, and common equity. An increase in current liabilities or in one (or more) of the capital components must finance any net increase in assets. Capital is a factor of production; and, like any other factor, it has a cost.

The cost of capital is defined as the component cost of that particular type of capital. For example, if the company can borrow money at 8 percent, then the pretax component cost of debt capital is defined as 8 percent.

For consistency purposes, we identified the component costs of capital by the following symbols throughout this discussion:

k_d = after-tax component cost of debt capital
 k_e = after-tax component cost of equity capital
 k_a = weighted average cost of capital

In a fair market value analysis, the WACC should reflect the cost of capital of the likely population of willing buyers. For Pennichuck, the likely population of willing buyers includes not-for-profit public entities.

To estimate the component cost of debt capital, we analyzed municipal bond yields as of December 31, 2004. Specifically, we reviewed municipal bond yield averages as of December 31, 2004 published by *Mergent Bond Record*.

Based on these data, we selected a cost of debt capital of 4.6 percent for Pennichuck. This cost of debt capital is approximately equal to the average municipal bond yield for bonds rated Aaa, Aa, A, and Baa by Moody's bond rating service as of December 31, 2004.

A company's cost of equity capital, k_e , is the expected (or required) rate of return on the company's common stock. Investors expect a company to earn k_e on the equity portion of its investments in order to keep the price of its stock from declining.

As presented in Exhibit 20, we calculated a cost of equity capital for Pennichuck of 18.7 percent.

To calculate the Pennichuck WACC, we weighted the costs of (1) debt capital and (2) equity capital based on the appropriate capital structure.

To estimate the appropriate capital structure for Pennichuck, we considered the capital structure of the most likely population of willing buyers (including public entities).

Public entities typically have a capital structure that is made up of nearly 100 percent debt capital. This is evidenced by the following:

1. It is not possible to own an equity ownership interest in a public entity. Public entities do not have equity owners.
2. Public entities do not raise equity capital. They issue debt securities, but they never issue equity securities.
3. Based on our independent research, in nearly all transactions involving the purchase of a water system by a public entity (including the transactions discussed in the guideline merged and acquired company method), the acquisitions were financed using 100 percent debt capital.

While most transactions involving the purchase of a water utility system by a public entity are financed using nearly 100 percent debt capital, public entities can and do use cash to pay for a small part of the total transaction consideration (e.g., cash deposits, payments of professional advisor fees).

Therefore, to calculate the Pennichuck WACC, we used a capital structure of 95 percent debt capital and 5 percent equity capital.

This results in a WACC for Pennichuck of 5 percent, as presented in Exhibit 20.

Estimated Value of Operating Assets

Exhibit 21 summarizes the calculation of the Pennichuck discrete cash flow for the fiscal years ended December 31, 2005 through 2009, as well as the estimated terminal value of the Pennichuck invested capital.

To estimate a terminal value, we used the Gordon constant growth model. The Gordon constant growth model estimates the value of the expected cash flow beyond the discrete projection period. As presented in Exhibit 21, the Gordon constant growth model calculation results in an indicated terminal value for Pennichuck of \$242,546,000, as of December 31, 2009.

The normalized cash flow for fiscal year 2010 is estimated based on the average projected EBIT, as well as the average required increase in working capital, for fiscal years 2005 through 2009. This indicated

terminal value is calculated by capitalizing, or dividing, the estimated normalized cash flow for fiscal year 2010 of \$9,063,000 by the direct capitalization rate of 3 percent.

The direct capitalization rate of 3 percent is computed by subtracting the Pennichuck estimated long-term growth rate of 2 percent, which approximates a long-term inflationary growth rate, from the discount rate of 5 percent.

The terminal value is then adjusted to reflect the value in "today's dollars" by discounting the future terminal value using an appropriate rate of return. The terminal value as of December 31, 2009 is equal to a present value of \$242,546,000, as of December 31, 2004.

As summarized in Exhibit 21, adding the estimated present value of the Pennichuck discrete net cash flow of \$(2,386,000) to the estimated Pennichuck terminal value of \$242,546,000 results in an indicated fair market value of the Pennichuck operating assets, as of December 31, 2004, of (rounded):

\$240,200,000.

SALES COMPARISON APPROACH - GUIDELINE MERGED AND ACQUIRED COMPANY METHOD

The "willing buyer/willing seller" concept underlying the fair market value standard of value is based on several assumptions. The first assumption is that the buyer is seeking investment participation in a particular industry. The second assumption is that "value" to the buyer is a function of the strength and quality of earnings, assets, dividend yield, and/or some other relevant variables.

When valuing privately owned operating business assets, therefore, it is often helpful to seek guidance from the prices investors are willing to pay for companies in the same or similar lines of business. To the extent that such information is available, it is possible to estimate the fair market value of closely held companies without an active market.

The Search for Guideline Transactions

The first step of our guideline merged and acquired company analysis was to identify recent acquisitions of guideline water systems. We used the following transactional data sources in our search: *Merger Yearbook*, *The Merger & Acquisition Sourcebook*, *The Weekly Corporate Growth Report*, *Mergerstat*, *SDC Platinum*, *Done Deals*, the *M&A Sourcebook*, *LexisNexis*, and *Factiva*.

The search process yielded 12 companies that were acquired within four years prior to the valuation date. We grouped the identified transactions into two categories: (1) acquisitions by investor-owned entities; and (2) acquisitions by public entities.

We were able to identify 12 water companies and/or systems that were acquired in recent years. We examined the available data for each of the 12 transactions to determine whether the transactions were similar enough to the subject system to be considered comparable. In making that comparability analysis, we looked at several different recognized comparability factors, including the date of the transaction, the price, the number of customers, the population of the service area, the number of systems involved, the geographic location and regulatory environment, the source of supply, the age of the system, and whether the transaction was an asset or stock purchase.

The results of this comparability analysis are detailed in Appendix B.

In our opinion, the results of the comparability analysis are such that the 12 transactions can only be considered "guideline" transactions, and not "comparable" transactions. In other words, in our opinion, none of these 12 transactions are sufficiently similar to the subject system to be considered "comparable" to Pennichuck.

Nonetheless, these 12 transactions do provide us with valuation guidance with regard to the subject system. We could not obtain (1) transaction pricing data and (2) historical financial fundamental data regarding acquired companies that we considered sufficiently comparable to Pennichuck.

There are numerous important operational and transactional differences between Pennichuck and the guideline companies and transactions which render the transactions of little use as indicators of the fair market value of Pennichuck. These differences include (among others):

1. the acquired companies operate in different geographic areas, where supply and demand factors can be very different than in the Pennichuck service area;
2. the acquired companies operate in different regulatory environments than Pennichuck; and
3. many of the acquired companies are either significantly larger or smaller than Pennichuck.

Descriptions of the selected guideline merged and acquired transactions, with highlights of the most material differences between Pennichuck and these transactions, are presented below.

Acquisitions by Investor-Owned Entities

Citizens Communications ("Citizens") - This was a very large transaction involving 284,000 customers, both water and wastewater, spread across 6 states. Citizens was the seventh largest local exchange company in the United States, serving approximately 2.5 million access lines in 24 states.

In January 2002, Citizens completed the sale of its water operations to American Water Works ("AWW"). The aggregate purchase price was \$859.1 million in cash plus \$120.4 million in assumed debt. The transaction was part of a plan of divestiture for its public utilities services businesses. The transaction brought approximately 284,000 new water customers to AWW in Arizona, California, Illinois, Indiana, Ohio, and Pennsylvania.

Since Citizens served approximately 284,000 customers in six states, it was subject to the regulations of multiple state agencies at the time its water and wastewater treatment assets were acquired by AWW. In contrast, Pennichuck is not engaged in wastewater treatment and serves approximately 25,000 customers in Nashua and limited areas of New Hampshire.

Citizens water and wastewater operations generated approximately \$126.3 million in revenue for fiscal year 2001, before it was acquired by AWW. In comparison, the Pennichuck operating revenue from the collection, storage, treatment, distribution, and sale of potable water (in addition to other services) was approximately \$15.7 million for fiscal year 2004.

AWW retained all of the 300 Citizens employees who worked in water and wastewater operations. In comparison, Pennichuck employs 85 full-time employees and officers.

Eastern Connecticut Regional Water ("ECRW") - This was a very small transaction involving a 2100 customer Connecticut system with approximately \$1.0 million in revenue. ECRW consisted of 30 regulated water systems located in eastern Connecticut, as well as a non-regulated contract operations business that monitored and serviced another 51 water systems in eastern Connecticut.

In October 2003, Birmingham Utilities, a subsidiary of BIW Limited, purchased ECRW from Philadelphia Suburban Corporation for an aggregate purchase price of \$4.0 million. For the fiscal year ended December 31, 2002, before it was acquired by Birmingham Utilities, ECRW generated approximately \$1.0 million in revenue. In contrast, the Pennichuck operating revenue was approximately \$15.7 million for fiscal year 2004.

While ECRW served approximately 2,100 customers primarily from 63 wells, Pennichuck serves approximately 25,000 customers from multiple water sources including four ponds, one river, and 44 wells.

Heater Utilities ("Heater") - This transaction involved the sale of a 50,000 customer combined water/wastewater system serving several suburban areas in North Carolina. Heater served approximately 50,000 water and wastewater customers in central and western North Carolina. Heater was acquired from the ALLETE Water Services subsidiary of ALLETE. ALLETE is a Duluth, Minnesota-based conglomerate with operations primarily in energy and automotive services.

In June 2004, Aqua America, formerly Philadelphia Suburban Corporation, purchased Heater water and wastewater systems located in suburban areas of Raleigh, Durham, and Greensboro, North Carolina. The transaction consideration was \$48.0 million plus approximately \$27.5 million of assumed debt. For the fiscal year ended December 31, 2003, Heater generated approximately \$17.0 million in revenue, including \$3.4 million from wastewater operations.

The acquisition added approximately 50,000 new customers, including 5,500 wastewater customers, to Aqua America. In contrast, Pennichuck serves approximately 25,000 customers in Nashua and limited areas of New Hampshire and does not conduct wastewater operations.

National Utility Company ("National") - This was a very small transaction involving the sale of a 1,662 customer groundwater system plus certain separately owned real estate and associated water rights in and around Albuquerque, New Mexico. National served 1,662 water customers in surrounding areas of Albuquerque, New Mexico with water sources including wells and springs.

New Mexico Water Service Company, a wholly owned subsidiary of California Water Service Group, acquired National in May 2004 for approximately \$630,000, in addition to certain real property and improvements for approximately \$400,000 separately owned by the seller. National had approximately \$1.1 million in utility plant assets. With the purchase, New Mexico Water Service Company also gained the right to purchase up to 2,000 acre-feet of water per year as needed.

National served 1,662 water customers in surrounding areas of Albuquerque with water sources including wells and springs, and operating revenue for fiscal year 2003 was approximately \$541,000.

In contrast, Pennichuck serves approximately 25,000 customers using multiple types of water sources including ponds and a river. Pennichuck generated operating revenue of approximately \$15.7 million for fiscal year 2004.

Tecon Water Companies ("Tecon") - This transaction involved the sale of a combined water and wastewater system serving Texas and Oklahoma. Tecon was an eastern Texas utility with 86 water systems and 11 wastewater systems, serving 21,000 and 4,000 customers, respectively, in Texas and Oklahoma.

Since Tecon served customers in both states, it was subject to the regulations of both state agencies at the time it was acquired by Southwest Water Company in July 2004 for a purchase price of \$63.0 million. Tecon revenue for the fiscal year ended December 31, 2003 was approximately \$13.3 million, of which \$1.6 million was wastewater revenue. Pennichuck, which is subject to the regulation of one state agency, does not conduct wastewater operations.

Acquisitions by Public Entities

Tilton-Northfield Aqueduct Company ("Tilton-Northfield") - This was a very small transaction involving a 921 customer New Hampshire system serving two towns with a total population of 7,000. Tilton-Northfield was a water system serving 921 residents in the Towns of Tilton and Northfield, New Hampshire.

In April 2005, the residents of Tilton and Northfield acquired the water system from private owners, Kenneth and Barbara Money, for a purchase price of \$9.1 million and approximately \$3.1 million of assumed debt. This acquisition was approved by the PUC on December 9, 2005.

While Tilton-Northfield served 921 customers in two New Hampshire towns with a total population of 7,000, Pennichuck serves approximately 25,000 customers in a population area of approximately 254,000. Moreover, for fiscal year 2004, Pennichuck earned operating revenue of approximately \$15.7 million, while Tilton-Northfield earned operating revenue of approximately \$1.1 million.

Sierra Pacific Resources ("Sierra Pacific") - This transaction involved the sale by a gas, electric and water utility holding company of a 68,000 customer water system located in a desert area, plus associated surface and ground water rights and storage rights. Sierra Pacific supplied electric power, natural gas, and potable water to customers in Nevada and California.

In January 2001, the Truckee Meadows Water Authority (which consists of representatives from Washoe County and the Cities of Reno and Sparks, Nevada) purchased the Sierra Pacific water division for an aggregate purchase price of \$350 million. For the fiscal year ended December 31, 1999, the Sierra Pacific water division recorded approximately \$54.3 million of revenue and served 68,795 water customers.

Sierra Pacific supplied water to the Reno-Sparks region of Nevada, which is located in a desert. The desert climate poses unique operating and regulatory constraints on a water company.

Sierra Pacific assets include state-of-the-art treatment facilities and distribution infrastructure, hydroelectric facilities located on the Truckee River, surface and ground water rights, and storage rights. Sierra Pacific was a holding company. The principal Sierra Pacific subsidiaries at the time of the transaction were an electric utility and a natural gas distributor, in addition to the water supply and distribution business.

Sierra Pacific served 68,795 customers and recorded approximately \$54.3 million of revenue for fiscal year 1999, before its acquisition by the Truckee Meadows Water Authority. In comparison, Pennichuck serves approximately 25,000 customers and recorded approximately \$15.7 million of revenue for fiscal year 2004.

Indianapolis Water Company ("IWC") - This transaction was a forced sale ordered by the U.S. Securities and Exchange Commission of a 273,000 customer system serving the City of Indianapolis. The sale price was the result of a settlement of two years of litigation regarding whether the purchaser, the City of Indianapolis, had the right to condemn the system, and if so, at what price. IWC, formerly a wholly owned subsidiary of NiSource, supplied potable water to 273,034 customers in the City of Indianapolis, Indiana and surrounding areas.

In April 2002, the City of Indianapolis completed the purchase of IWC and other water assets of NiSource for an aggregate purchase price of approximately \$540 million, which included approximately \$227.2 million of debt.

NiSource was compelled to sell its five water systems in the Indianapolis area due to a planned merger with Columbia Energy Group. As a part of the order by the U.S. Securities and Exchange Commission approving the merger, NiSource was allowed three years to sell its water assets.

At the time of the transaction, NiSource was a holding company with core operations that included natural gas and electric businesses. Its operating companies provided service to 3.7 million customers located within the high-demand energy corridor, stretching from the Gulf of Mexico through the Midwest to New England.

IWC employed approximately 800 people and serviced 273,034 customers. In comparison, Pennichuck employs 85 people and services approximately 25,000 customers. Furthermore, the IWC operating revenue for fiscal year 2001 was approximately \$95.5 million, before it was acquired by the City of Indianapolis. In contrast, the Pennichuck operating revenue for fiscal year 2004 was approximately \$15.7 million.

Duke Energy Corporation ("Duke") - This transaction was a combined sale of the last remaining municipal water system owned by the multinational energy conglomerate, together with separate commercial and industrial operations owned by Duke in the area. Duke, an integrated provider of electric and other energy services in North Carolina and South Carolina, sold its water supply operations in Anderson, South Carolina in April 2002 for an aggregate purchase price of \$63.5 million.

The Duke residential water supply operations in Anderson were purchased by the City of Anderson for approximately \$15.6 million. In addition, the Duke commercial and industrial operations were sold to a joint municipal authority representing several surrounding counties for approximately \$47.9 million.

The Anderson water system served 16,598 customers in a South Carolina service area with a total population of 121,340, and it was the last municipal water system owned by Duke. Duke, a diversified multinational energy company with revenue of \$59 billion at the time of the transaction, had stated that the water business was not an area it planned to expand.

In comparison, Pennichuck water utilities have a service area with a population of 254,013, and regulated water utilities, in addition to water management services, are a core business of the Pennichuck Corporation

The Anderson water system assets included a \$16 million retail water system and lines and a \$47 million lake treatment plant and wholesale water lines. The water system has one source of supply, which was a lake. Operating revenue for the Anderson water system was approximately \$6.9 million for fiscal year 2001, prior to the acquisition. The operating revenue for Pennichuck was approximately \$15.7 million for fiscal year 2004.

United Water Florida ("UWF") – This transaction involved the sale of three UWF systems which derived the majority of their revenue from sewer operations. The sale was also coupled with a public-private partnership that allowed UWF to continue operating some of the facilities. UWF, , formerly a wholly owned subsidiary of United Water Resources, provided water supply and wastewater services to communities in the Counties of Duval, St. John's, and Nassau, Florida.

In 2001, JEA, a public entity, purchased UWF for an aggregate purchase price of \$225.7 million. For the fiscal year ended December 31, 2000, UWF had 32,256 water customers and 25,096 sewer customers. The UWF consolidated revenue in 2000 was approximately \$30.8 million.

The transaction involved three UWF systems, which were constructed in 1966 and also included sewer operations. United Water, the parent company of UWF, was one of the largest water services companies in the United States, providing water and wastewater service to more than 7.5 million people at the time of the transaction.

Furthermore, JEA and United Water Resources formed a 20-year public-private partnership for United Water Resources to continue to operate some of the facilities involved in this purchase of UWF regulated water and wastewater assets. According to the agreement, JEA will consolidate facilities and assume all responsibilities for the water and sewer systems. UWF will continue to provide operation and maintenance service at the water and sewer facilities.

During 2000, approximately 38 percent of UWF revenue was derived from water supply and 62 percent from sewer services. Pennichuck does not conduct wastewater operations.

Salisbury Water Supply Company ("Salisbury Water") – This was a small transaction involving the sale of a 3,000 customer groundwater system in Massachusetts that shared offices with a separate water company. Salisbury Water, formerly a wholly owned subsidiary of American Water, provided water supply services to the Town of Salisbury, Massachusetts and surrounding communities.

In October 2001, American Water completed its sale of Salisbury Water to the Town of Salisbury, Massachusetts for an aggregate consideration of approximately \$11.6 million, including \$3.8 million in debt.

Salisbury Water served 3,034 water customers in Salisbury for the fiscal year ended December 31, 2000. In comparison, Pennichuck serves approximately 25,000 customers. Salisbury Water consolidated revenue in 2000 was approximately \$1.9 million. In contrast, Pennichuck operating revenue was approximately \$15.7 million for fiscal year 2004.

Salisbury Water shared personnel out of a common office with Hampton Water Works Company in New Hampshire, although the two companies have separate water sources and distribution facilities. The Salisbury Water water supply source is predominantly ground water pumped through a network of wells. Pennichuck uses multiple types of water sources including ponds, a river, and wells.

Florida Public Utilities Company ("FPUC") – This transaction involved the sell-off of a small 7,000 customer water system by FPUC, an electric and natural gas utility. FPUC incorporated on March 6, 1924, provided natural gas, propane gas, electricity, and water supply services to communities throughout Florida.

In March 2003, FPUC sold its water operations to the City of Fernandina Beach, Florida for an aggregate price of \$25.1 million, with the purpose of expanding its core electric and natural gas businesses. The assets of the FPUC water segment amounted to less than 10 percent of its total assets at the time of the transaction. For the fiscal year ended December 31, 2001, FPUC had 6,966 water customers and operating revenue of approximately \$3.0 million.

In contrast, Pennichuck serves approximately 25,000 customers and had operating revenue of \$15.7 for fiscal year 2004. Moreover, regulated water utilities, in addition to water management services, are a core business of the Pennichuck Corporation.

Differences Between Pennichuck and the Guideline Merged and Acquired Companies

The above-described differences were reported in publicly available information. Additional differences may exist between the guideline acquired companies and Pennichuck that could only be discerned from a detailed examination of the acquired systems, such as the condition of the acquired assets and historical maintenance of and enhancements to the assets. Such differences may have a material impact on the value of the underlying assets.

Because of (1) the differences identified above and (2) the uncertainty regarding the condition of the guideline acquired assets, it is our opinion that the identified transactions do not qualify as comparable acquisition transactions. Therefore, we assigned no weight to the sales comparison approach value indication in our overall valuation synthesis and conclusion.

VI. VALUATION SYNTHESIS AND CONCLUSION

OPERATING ASSETS

Exhibit 1 presents the fair market value of the Pennichuck operating assets indicated by each valuation method as of December 31, 2004.

In our valuation synthesis, we assigned the greatest weight to the asset-based approach value indication for several reasons.

First, the asset-based approach discretely identifies and individually values all of the tangible property and intangible property subject to the dispute. Second, unlike the other approaches, which indirectly estimate the value of the subject operating assets, the asset-based approach directly values the operating assets of Pennichuck. Third, since Pennichuck was built for the unique purpose of supplying potable water and fire protection to the residents of Nashua and ten surrounding New Hampshire municipalities west of the Merrimack River, the operating assets of Pennichuck represent "special-purpose" property. In the appraisal of special-purpose property, the cost approach is commonly used, and the asset-based approach relies heavily on the cost approach to value individual tangible property and intangible property.

We also assigned a significant weight to the income approach value indication. This valuation approach is heavily relied on by corporate acquirers since it enables the acquirer to evaluate (1) whether or not the acquirer can finance the potential acquisition and (2) whether or not the acquirer can earn a fair rate of return on the acquisition price.

For these reasons, we weighted the value indications as follows: (1) asset accumulation method, 60 percent, and (2) discounted cash flow method, 40 percent.

FAIR MARKET VALUE CONCLUSION

Based on the various value indications, and in our opinion, the fair market value of the Pennichuck operating assets, as of December 31, 2004, is (rounded):

\$248,400,000.

APPENDIX A

EXHIBITS

EXHIBIT 1
PENNICHUCK WATER WORKS, INC.
FAIR MARKET VALUE OF OPERATING ASSETS
VALUATION SYNTHESIS AND CONCLUSION
AS OF DECEMBER 31, 2004
(IN \$000s)

<u>VALUATION APPROACH AND METHOD</u>	<u>Indicated Value</u>	<u>Exhibit Reference</u>
<u>ASSET-BASED APPROACH</u>		
Asset Accumulation Method [a]	253,800	17
<u>INCOME APPROACH</u>		
Discounted Cash Flow Method	<u>240,200</u>	21
Indicated Fair Market Value of Operating Assets [b]	<u>248,360</u>	
Fair Market Value of Total Operating Assets, Rounded	<u>248,400</u>	

Footnotes:

- a. Using the cost approach and the reproduction cost new less depreciation (RCNLD) method to value the individual intangible property and the replacement cost new less depreciation method to value the individual tangible property.
- b. In our valuation synthesis and conclusion, we weighted the value indications from each valuation method as follows: (1) asset accumulation method, 60%; (2) discounted cash flow method, 40%.

EXHIBIT 2
PENNICHUCK WATER WORKS, INC.
HISTORICAL AND COMMON-SIZE INCOME STATEMENTS

	Fiscal Years Ended December 31,					Common-Size			
	2004	2003	2002	2001	2000	2003	2002	2001	2000
Operating Revenue	15,685	15,050	15,071	13,919	12,554	100.0%	100.0%	100.0%	100.0%
Operating & Maintenance Expenses									
Labor	772	807	657	649	585	4.9%	4.4%	4.7%	4.7%
Fuel, Power, & Chemicals	930	884	1,122	1,216	1,021	5.9%	7.4%	8.7%	8.1%
Regulatory Expense	39	35	23	24	25	0.2%	0.1%	0.2%	0.2%
Supervision and Engineering	880	850	850	755	737	5.6%	5.6%	5.4%	5.9%
Administrative and General Salaries	1,852	1,836	1,658	1,619	1,319	11.8%	11.0%	11.6%	10.5%
Insurance	422	354	270	196	145	2.7%	1.8%	1.4%	1.2%
Pensions	1,804	2,094	1,571	1,340	1,205	11.5%	10.4%	9.6%	9.6%
Rents	-	-	-	-	-	0.0%	0.0%	0.0%	0.0%
General Office/Customer Accounting	(269)	(594)	(706)	(369)	(40)	-1.7%	-4.7%	-2.7%	-0.3%
Maintenance & Miscellaneous	1,339	1,225	879	894	731	8.5%	5.8%	6.4%	5.8%
Total Operating & Maintenance Expenses	7,769	7,490	6,324	6,324	5,727	49.5%	42.0%	45.4%	45.6%
Depreciation and Amortization Expenses	2,619	2,446	2,290	2,068	1,837	16.7%	15.2%	14.9%	14.6%
Non-Income Taxes									
Property Taxes	1,414	1,533	1,350	1,421	1,453	9.0%	9.0%	10.2%	11.6%
Payroll Taxes	365	358	326	290	264	2.3%	2.2%	2.1%	2.1%
General Taxes	-	0	(1)	2	1	0.0%	0.0%	0.0%	0.0%
Total Non-Income Taxes	1,779	1,891	1,676	1,713	1,718	11.3%	11.1%	12.3%	13.7%
Operating Income before Income Taxes	3,518	3,223	4,780	3,814	3,272	22.4%	31.7%	27.4%	26.1%

Sources: Historical financial statements provided by Pennichuck management.

**EXHIBIT 3
PENNICHUK WATER WORKS, INC.
HISTORICAL AND COMMON-SIZE BALANCE SHEET**

	Fiscal Years Ended December 31,					(in \$000s)				
	2000	2001	2002	2003	2004	2000	2001	2002	2003	2004
	Common-Size (as a % of Total Assets)									
ASSETS										
Current and Accrued Assets	12	12	12	12	12	0.0%	0.0%	0.0%	0.0%	0.0%
Cash and Cash Equivalents	63	87	87	88	88	0.7%	0.8%	0.8%	0.9%	0.9%
Accounts and Notes Receivable - Net	861	861	861	861	861	9.5%	9.5%	9.5%	9.5%	9.5%
Materials and Supplies	719	719	719	719	719	8.1%	8.1%	8.1%	8.1%	8.1%
Prepayments	69	69	69	69	69	0.8%	0.8%	0.8%	0.8%	0.8%
Prepaid Taxes	495	495	495	495	495	5.6%	5.6%	5.6%	5.6%	5.6%
Accrued (Utility Revenue)	1,389	1,256	1,256	1,256	1,256	15.1%	14.5%	14.5%	14.5%	14.5%
Total Current and Accrued Assets	3,931	3,734	3,057	2,633	2,633	45.4%	44.4%	40.0%	33.0%	33.0%
Utility Plant	100,664	94,439	89,401	83,157	77,956	1,200.0%	1,188.0%	1,188.0%	1,188.0%	1,188.0%
Overseas Utility Plant in Service	(28,819)	(26,363)	(24,872)	(22,711)	(20,719)	(28.8%)	(27.9%)	(27.2%)	(26.2%)	(24.3%)
Less: Accum. Depreciation and Amort.	(705)	(701)	(736)	(731)	(720)	(0.7%)	(0.7%)	(0.8%)	(0.8%)	(0.7%)
Total Net Utility Plant	71,140	66,975	63,803	59,695	56,447	84.5%	81.7%	81.2%	81.0%	78.0%
Deferred Debits	2,502	2,290	1,924	1,950	1,427	3.1%	2.9%	2.4%	2.3%	1.7%
TOTAL ASSETS	77,573	72,640	68,784	64,278	60,497	100.0%	100.0%	100.0%	100.0%	100.0%
LIABILITIES AND OWNERS' EQUITY										
Current and Accrued Liabilities	469	660	376	947	664	0.6%	0.9%	0.5%	1.5%	1.1%
Accounts Payable	179	151	125	194	110	0.2%	0.2%	0.2%	0.2%	0.2%
Customer Deposits	342	343	350	348	352	0.4%	0.5%	0.5%	0.5%	0.6%
Other Current Liabilities	2,638	1,971	1,523	1,304	1,060	3.4%	2.7%	2.2%	1.7%	1.8%
Total Current and Accrued Liabilities	3,629	3,126	2,804	2,752	2,226	4.7%	4.3%	3.8%	4.3%	3.7%
Long-term Liabilities	25,920	25,388	22,262	22,211	21,237	33.4%	34.7%	32.1%	34.5%	35.1%
Long-term Debt	8,890	8,243	8,112	7,466	6,801	11.5%	11.3%	11.5%	11.8%	11.2%
Operating Reserves	533	78	615	(438)	(383)	0.7%	0.1%	0.9%	(0.7%)	(0.6%)
Contributions in Aid of Construction	20,412	18,553	12,710	14,796	13,969	26.3%	25.5%	23.5%	26.3%	23.1%
Less: Accum. Amortization of CIAC	(2,180)	(1,883)	(1,612)	(1,270)	(1,155)	(2.8%)	(2.6%)	(2.2%)	(2.8%)	(1.9%)
Total Net CIAC	18,232	16,670	15,098	13,525	12,814	23.5%	22.9%	21.3%	23.5%	21.2%
Owners' Equity	30	30	30	30	30	0.0%	0.0%	0.0%	0.0%	0.0%
Common Stock	12,056	12,056	12,056	12,056	12,056	15.5%	16.6%	17.5%	18.7%	17.8%
Additional Paid-in Capital	(600)	(260)	(603)	-	-	(0.8%)	(0.4%)	(0.9%)	0.0%	0.0%
Other Comprehensive Income	8,890	7,313	7,108	6,822	7,014	11.5%	10.1%	10.3%	10.3%	11.6%
Retained Earnings	20,370	19,135	18,993	18,862	17,802	26.3%	26.3%	26.3%	26.3%	29.4%
Total Owners' Equity	77,573	72,640	68,784	64,278	60,497	100.0%	100.0%	100.0%	100.0%	100.0%

Sources: Historical financial statements provided by Pennichuk management.

EXHIBIT 4
PENNICHUCK WATER WORKS, INC.
HISTORICAL AND COMMON-SIZE RATE BASE
AS OF DECEMBER 31, 2004
(IN \$000S)

Rate Base Components	At Historical Cost	Common-Size Analysis [a]
Plant in Service		
Gross Utility Plant in Service	100,664	211.4%
Less: Accum. Depreciation and Amort.	<u>(29,524)</u>	<u>-62.0%</u>
Net Plant in Service	71,140	149.4%
Additions to Rate Base		
Operating Working Capital	958	2.0%
Materials & Supplies	788	1.7%
Prepayments	167	0.3%
Unamortized Deferred Charges	1,870	3.9%
Amortization of Contributions	<u>2,180</u>	<u>4.6%</u>
Total Additions to Rate Base	5,962	12.5%
Deductions from Rate Base		
Contributions in Aid of Construction	20,412	42.9%
Customer Advances for Construction	137	0.3%
Customer Deposits	179	0.4%
Investment Tax Credit	933	2.0%
Deferred Income Taxes	6,694	14.1%
Regulatory Liability	<u>1,119</u>	<u>2.3%</u>
Total Deductions from Rate Base	29,475	61.9%
Rate Base	<u>47,628</u>	<u>100.0%</u>

Footnotes:

a. Expressed as a percentage of rate base.

Sources: Historical cost rate base data provided by Pennichuck management.

EXHIBIT 5
PENNICHUCK WATER WORKS, INC.
FINANCIAL RATIO ANALYSIS

FINANCIAL RATIOS	Fiscal Years Ended December 31,				
	2004	2003	2002	2001	2000
SIZE					
Total Assets (\$000s)	77,573	72,640	68,784	64,278	60,497
Net Utility Plant (\$000s)	71,140	66,975	63,803	59,695	56,447
Revenue (\$000s)	15,685	15,050	15,071	13,919	12,554
Operating Income before Taxes (\$000s)	3,518	3,223	4,780	3,814	3,272
ACTIVITY/TURNOVER					
Asset Turnover	0.2	0.2	0.2	0.2	0.2
Net Utility Plant Turnover	0.2	0.2	0.2	0.2	0.2
Working Capital Turnover	51.8	60.6	33.3	-116.2	31.6
PROFITABILITY					
Return on Assets	4.5%	4.4%	6.9%	5.9%	5.4%
Return on Net Utility Plant	4.9%	4.8%	7.5%	6.4%	5.8%
Return on Revenue	22.4%	21.4%	31.7%	27.4%	26.1%

Sources: Exhibits 2 and 3 and Willamette Management Associates calculations.

EXHIBIT 6
PENNICHUCK WATER WORKS, INC.
FINANCIAL FUNDAMENTALS & ADJUSTMENTS
(IN \$000s)

ADJUSTMENTS TO FINANCIAL FUNDAMENTALS	Fiscal Years Ended December 31:				
	2004	2003	2002	2001	2000
Revenue	15,685	15,050	15,071	13,919	12,554
Operating Income before Income Taxes	3,518	3,223	4,780	3,814	3,272
Adjustments:					
Regulatory Expense	39	35	23	24	25
Property Taxes [a]	1,276	1,383	1,218	1,282	1,312
General Taxes	-	0	(1)	2	1
Total Adjustments	1,315	1,419	1,240	1,308	1,337
Adjusted Operating Income before Income Taxes	4,833	4,641	6,020	5,123	4,610
Depreciation & Amortization Expense	2,619	2,446	2,290	2,068	1,837
ADJUSTED FINANCIAL FUNDAMENTALS					
EBIT [b]	4,833	4,641	6,020	5,123	4,610
EBITDA [c]	7,451	7,087	8,311	7,190	6,446

Footnotes:

- a. Excluding taxes assessed on land.
 - b. Earnings Before Interest and Taxes.
 - c. Earnings Before Interest, Taxes, Depreciation, and Amortization.
- Sources: Exhibit 2 and Willamette Management Associates calculations.

EXHIBIT 7
PENNICHUCK WATER WORKS, INC.
DISTRIBUTION MAPS & AS-BUILT ENGINEERING DRAWINGS
COST APPROACH
REPRODUCTION COST NEW LESS DEPRECIATION METHOD

<u>Main Inventory (in Linear Feet)</u>	<u>As-Built Fee [b]</u>	<u>Indicated Value</u>
2,244,076	\$3.00	6,732,228
Total Reproduction Cost New		6,732,228
Less: Depreciation and Obsolescence [a]		0
Indicated Reproduction Cost New Less Depreciation, Rounded		<u>6,700,000</u>

Footnotes:

a. The reproduction cost new of the maps and drawings considered in our analysis reflects only the cost to reproduce the maps and drawings that are required for the current operations of Pennichuck. The reproduction cost new does not include the costs necessary to reproduce historical maps and drawings that are no longer in active use for reference purposes. Accordingly, this reproduction cost new estimate is implicitly reduced for the amount of curable functional obsolescence (i.e., excess maps and drawings) associated with this intangible personal property. Therefore, we did not adjust the reproduction cost new estimate for any additional amount of functional obsolescence.

b. Pennichuck management provided the as-built fee per linear foot, which Pennichuck charges contractors for the engineering, inspection, and preparation of maps and drawings of transmission and distribution mains, in accordance with the rates approved by the PUC.

Sources: Information provided by Pennichuck management and Willamette Management Associates calculations.

**EXHIBIT 8
 PENNICHUCK WATER WORKS, INC.
 WATER PUMPING RIGHTS
 INCOME APPROACH
 DIRECT CAPITALIZATION METHOD**

<u>Average Annual Pumpage (in Gallons) [a]</u>	<u>Cubic Feet Per Gallon</u>	<u>Average Annual Pumpage (in Cubic Feet)</u>	<u>Average Volumetric Charge (per Cubic Foot) [b]</u>	<u>Indicated Value (\$)</u>
4,934,210	0.133680556	659,608	1.11	734,144
		Direct Capitalization Rate [c]		3%
		Indicated Fair Market Value		24,471,457
		Indicated Fair Market Value, Rounded		<u>24,500,000</u>

Footnotes:

- a. Pennichuck management provided the average annual pumpage from the water sources from January 1, 1998 through December 31, 2004.
 - b. According to (1) information provided by Pennichuck management and (2) an internal water purchase pro forma, the average volumetric charge that Pennichuck Bedford pays to Manchester Water Works and Merrimack Village District for the water sources is \$1.11 per cubic foot.
 - c. Estimated as the Pennichuck weighted average cost of capital of 5% minus the Pennichuck expected long-term growth rate of 2%.
- Sources: Information provided by Pennichuck management and Willamette Management Associates calculations.

**EXHIBIT 9
PENNICHUCK WATER WORKS, INC.
WATER SYSTEM RECORDS AND REPORTS
COST APPROACH
REPRODUCTION COST NEW LESS DEPRECIATION METHOD**

<u>Type of Record</u>	<u>Responsible Personnel</u>	<u>Number of Person-Hours to Reproduce</u>	<u>Average Base Cost per Person-Hour (\$)</u>	<u>Employee Benefits Cost Allocation Factor</u>	<u>Total Cost per Person-Hour (\$)</u>	<u>Number of Records in P.W.W. System</u>	<u>Indicated Value (\$)</u>
Meter Cards	Utility Technician	0.1	23	1.50	34	24,274	83,204
Gate Valve Records	Engineering Technician	0.5	27	1.50	40	8,450	168,140
Hydrant Records	Engineering Technician	1.0	27	1.50	40	2,445	97,302
Service Records	Utility Technician	0.1	23	1.50	34	24,274	83,204
Station Check Sheets	Water Treatment Plant Operator, Circuit Rider, Administrative	4.0	18	1.50	27	36	<u>3,845</u>
Total Reproduction Cost New							435,696
Less: Depreciation and Obsolescence (a)							0
Indicated Reproduction Cost New Less Depreciation, Rounded							<u>400,000</u>

Footnotes:

a. All of the records and reports considered in our analysis were in active use and contributing to the total value of Pennichuck as of the valuation date. The reproduction cost new of the records and reports reflects only the cost to reproduce the most recent data available. The reproduction cost new does not include costs necessary to reproduce historical records and reports that are no longer in active use for reference purposes. Therefore, we did not reduce the reproduction cost new estimate for any additional amount of functional obsolescence.

Sources: Information provided by Pennichuck management and Willamette Management Associates calculations.

**EXHIBIT 10
PENNICHUCK WATER WORKS, INC.
SYNERGEN WORK ORDER DATABASE
COST APPROACH**

REPRODUCTION COST NEW LESS DEPRECIATION METHOD

Number of Work Orders [a]	Reproduction Time per Work Order (Person-Hours)	Total Reproduction Time (Person-Hours)	Responsible Personnel	Average Base Cost per Person-Hour (\$)	Employee Benefits Cost Allocation Factor	Total Cost per Person-Hour (\$)	Indicated Value (\$)
67,800	4.5	305,100	Engineering, Administrative, Accounting	18	1.50	27	<u>8,149,690</u>
Total Reproduction Cost New							8,149,690
Less: Depreciation and Obsolescence [b]							<u>0</u>
Indicated Reproduction Cost New Less Depreciation, Rounded							<u>8,100,000</u>

Footnotes:

- a. The work order database tracks costs associated with the maintenance of the production, transmission, and distribution system, office and equipment maintenance, and customer accounting.
- b. The reproduction cost new of the work orders considered in our analysis reflects only the cost to reproduce the work orders related to the operating assets in current use as of December 31, 2004. The reproduction cost new does not include the costs necessary to reproduce work orders for retired assets. Accordingly, this reproduction cost new estimate is implicitly reduced for the amount of curable functional obsolescence (i.e., excess work orders) associated with this intangible personal property. Therefore, we did not adjust the reproduction cost new estimate for any additional amount of functional obsolescence.
- Sources: Information provided by Pennichuck management and Willamette Management Associates calculations.

**EXHIBIT 11
 PENNICHUCK WATER WORKS, INC.
 WATER TREATMENT LABORATORY REPORTS AND TEST DATA
 COST APPROACH
 REPRODUCTION COST NEW LESS DEPRECIATION METHOD**

Type of Laboratory Report and Data	Annual Person-Hours to Perform	Average Base Cost per Person-Hour (\$)	Employee Benefits Cost Allocation Factor	Total Cost per Person-Hour (\$)	Number of Reports Prepared per Year	Total Annual Cost (\$)	Required Years of Records Retained	Indicated Value (\$)
NHDES Monthly Operating Reports	4	17	1.5	25	12	1,212	7	8,481
NHDES Water Use Reports	1	17	1.5	25	64	1,615	7	11,308
City Monthly Sludge Reports	1	17	1.5	25	12	303	5	1,514
NHDES Annual Reports for Sludge Lagoon Activity	2	17	1.5	25	1	50	7	353
NHWSEB DDBP Samples and Chlorine Residuals	2	15	1.5	23	20	923	10	9,231
NHWSEB Water Shed Bacteria Counts	1	23	1.5	35	16	554	1	554
City Sludge Analyses	2	23	1.5	35	2	138	10	1,385
NHWSEB Emergency Action Plans	10	23	1.5	34	21	7,118	1	7,118
NHDES Performance Evaluation Samples	4	23	1.5	35	2	277	10	2,769
NHWSEB Sampling Waivers	5	22	1.5	33	21	3,438	3	10,313
Total Reproduction Cost New								53,026
Less: Depreciation and Obsolescence [a]								0
Indicated Reproduction Cost New Less Depreciation, Rounded								100,000

Footnotes:

a. Pennichuck may retain lab reports and test data beyond the minimum of one to ten years required by the NHDES, NHWSEB, or City. However, the lab reports and test data that are not required to be retained are nearly obsolete. Accordingly, we did not include in our analysis those lab reports and test data that are not required to be maintained by the NHDES, NHWSEB, or City. Therefore, we did not reduce the reproduction cost new estimate of the lab reports and test data for functional obsolescence.

Sources: Information provided by Pennichuck management and Willamette Management Associates calculations.

EXHIBIT 12
PENNICHUCK WATER WORKS, INC.
SCADA COMPUTER SOFTWARE SYSTEM
COST APPROACH
REPRODUCTION COST NEW LESS DEPRECIATION METHOD

Functional Design Components	Number of Person-Hours to Reproduce	Cost per Person-Hour (a)	Cost per Component (\$)	Total Number of Components	Indicated Value (\$)
Engineering Drawings	8	\$70	\$560	601	336,560
Database Points (i.e., Blocks)	0.5	\$100	\$50	2,452	122,600
Water Treatment Plant PLC Programs	1400	\$85	\$119,000	1	119,000
Screens	8	\$100	\$800	307	245,600
Remote Sites	60	\$85	\$5,100	20	102,000
Communications	1000	\$100	\$100,000	1	100,000
					1,025,760
					0
					1,000,000

Footnotes:

- a. The SCADA system completely satisfies the requirements of the users, in that it is fully functional and actively used as of the valuation date. It is continually updated, maintained, improved, and enhanced. Therefore, we determined that there is no functional obsolescence related to the SCADA system.
- b. There is no employee benefit cost allocation factor since outside contractors contribute to the SCADA system maintenance. Sources: Information provided by Pennichuck management and Willamette Management Associates calculations.

**EXHIBIT 13
PENNICHUCK WATER WORKS, INC.
TRAINED AND ASSEMBLED WORKFORCE
COST APPROACH
REPRODUCTION COST NEW LESS DEPRECIATION METHOD**

Employee Position	Union Designation	Number of Employees	Average Hourly Base Wage Rate (\$)	Employee Benefits Cost Allocation Factor	Total Hourly Rate	Average Annual Cost per Employee (\$)	Recruiting and Advertising Cost (\$) [b]	Interview Cost (\$)	Background Check and Physical Exam Cost (\$)	NHDES Certification	New Hire Training Cost (\$) [c]	Indicated Value (\$)
Water Supply Engineer	Non-Union	1	39.60	1.50	59.40	123,552	8,237	622	261	0	12,355	21,475
Manager	Non-Union	7	34.58	1.50	51.87	107,896	7,193	622	261	0	10,790	132,061
Forman	Union	6	28.39	1.50	42.58	88,572	5,905	622	261	0	8,857	93,871
Backhoe Operator	Union	2	28.30	1.50	42.44	88,282	5,885	622	261	0	8,828	31,194
Analyst	Non-Union	3	27.15	1.50	40.73	84,717	5,648	622	261	0	8,472	45,008
Community System Operator	Union	1	27.00	1.50	40.50	84,233	5,616	622	261	0	8,423	14,922
Engineering Technician	Non-Union	3	26.53	1.50	39.80	82,777	5,518	622	261	0	8,278	44,038
SCADA Control Technician	Non-Union	1	25.86	1.50	38.79	80,680	5,379	622	261	0	8,068	14,330
Construction Technician	Union	4	24.60	1.50	36.91	76,765	5,118	622	261	0	7,677	54,709
Mechanic	Union	1	23.08	1.50	34.62	72,005	4,800	622	261	0	7,200	12,884
Utility Technician	Union	9	22.85	1.50	34.28	71,296	4,753	622	261	50	7,130	115,342
Water Treatment Plant Operator	Union	10	21.72	1.50	32.58	67,765	4,518	622	261	50	6,776	122,272
Supervisor	Union	3	21.44	1.50	32.15	66,879	4,459	622	261	0	6,688	36,089
Meter Technician	Union	3	21.27	1.50	31.90	66,351	4,423	622	261	0	6,635	35,825
Accountant	Non-Union	3	21.08	1.50	31.62	65,761	4,384	622	261	0	6,576	35,530
Administrator	Non-Union	8	17.03	1.50	25.55	53,141	3,543	622	261	0	5,314	77,920
Circuit Rider	Union	1	15.43	1.50	23.14	48,131	3,209	622	261	0	4,813	8,905
CAD Technician	Non-Union	2	15.04	1.50	22.56	46,935	3,129	622	261	0	4,693	17,411
Meter Reader	Union	3	12.94	1.50	19.41	40,371	2,691	622	261	0	4,037	22,835
Lab Assistant	Non-Union	1	12.13	1.50	18.20	37,851	2,523	622	261	0	3,785	7,192
Customer Service Representative	Union	6	11.70	1.50	17.56	36,516	2,434	622	261	0	3,652	41,815
Maintenance	Non-Union	1	5.50	1.50	8.25	17,163	1,144	622	261	0	1,716	3,744
Total Reproduction Cost New												989,368
Less: Depreciation and Obsolescence [a]												0
Indicated Reproduction Cost New Less Depreciation, Rounded												1,000,000

Footnotes:

- a. The Pennichuck trained and assembled workforce was fully contributing to the total value of Pennichuck as of the valuation date. Therefore, we did not reduce the reproduction cost new of the Pennichuck trained and assembled workforce for any additional amount of functional obsolescence.
- b. Recruiting and advertising cost, through advertisements in two local newspapers, the Pennichuck website, and industry journals, represents 10 percent of annual base salary, per discussion with Pennichuck management.
- c. New hire training cost represents 10 percent of average annual cost per employee, per discussion with Pennichuck management.
- Sources: Information provided by Pennichuck management and Willamette Management Associates calculations.

EXHIBIT 14
PENNICHUCK WATER WORKS, INC.
INTANGIBLE VALUE IN THE NATURE OF GOODWILL
INCOME APPROACH
CAPITALIZED EXCESS EARNINGS METHOD (IN \$000s)

Valuation Variables	Value as of 12/31/04	Required Rate of Return	Required Economic Income	Indicated Value of Goodwill
Net Working Capital, Rounded [a]	300	5.0% [b]	15	
Tangible Personal Property, Rounded [c]	412,000	5.0% [b]	20,600	
Operating Real Estate and Real Property, Rounded [d]	12,900	5.0% [b]	645	
Intangible Personal Property [e]:				
Distribution Maps & As-Built Engineering Drawings	6,700			
Water Pumping Rights	24,500			
Water System Records and Reports	400			
Synergen Work Order Database	8,100			
Water Treatment Laboratory Reports and Test Data	100			
SCADA Computer Software System	1,000			
Trained and Assembled Workforce	<u>1,000</u>			
Total Intangible Personal Property, Rounded	41,800	5.0% [b]	<u>2,090</u>	
Total Required Return on Tangible Property and Intangible Property			<u>23,350</u>	
Average Projected EBIT for Fiscal Years 2005 through 2009 [f]				9,508
Present Value Factor @ 5%				<u>0.885</u>
Present Value of Average Projected EBIT for Fiscal Years 2005 through 2009				8,416
Less: Required Return on Total Assets				<u>23,350</u>
Equals: Excess Economic Income (Income Shortfall)				(14,934)
Divided by: Direct Capitalization Rate [g]				<u>7.0%</u>
Intangible Value in the Nature of Goodwill (Capitalized Income Shortfall)				<u>\$ (213,339)</u>
Intangible Value in the Nature of Goodwill (Capitalized Income Shortfall)				<u>\$ (213,300)</u>

Footnotes:

- a. Source: Exhibit 3.
- b. Equal to the estimated Pennichuck weighted average cost of capital.
- c. Based on the appraisal of the tangible personal property of Pennichuck as of December 31, 2004, performed by Gannett Fleming, Inc.
- d. Based on the appraisal of the operating real estate and real property interests of Pennichuck as of December 31, 2004, performed by Applied Economic Research.
- e. Source: Exhibits 7 through 13.
- f. Source: Exhibit 19.
- g. Equal to the Pennichuck weighted average cost of capital of 5% plus the expected long-term growth rate of 2%.

EXHIBIT 15
PENNICHUCK WATER WORKS, INC.
INTANGIBLE VALUE IN THE NATURE OF GOODWILL
COST APPROACH
INCOME SHORTFALL / ECONOMIC OBSOLESCENCE ANALYSIS

Valuation Variables	Indicated Value (\$000s)
Capitalized Income Shortfall [a]	(213,300)
Operating Assets:	
Tangible Personal Property [b]	412,000
Intangible Personal Property [c]:	41,800
Total Operating Assets subject to Economic Obsolescence [d]	453,800
 Economic Obsolescence Percent [e]	 <u>-47.0%</u>
Economic Obsolescence Percent, Rounded	<u>-47%</u>

Footnotes:

- a. Source: Exhibit 14.
- b. Source: Exhibit 14.
- c. Source: Exhibit 14.
- d. Excludes working capital, real estate, and real property interests.
- e. Equals capitalized income shortfall divided by the value of the operating assets subject to economic obsolescence.

EXHIBIT 16
PENNICHUCK WATER WORKS, INC.
COST APPROACH
REPRODUCTION COST NEW LESS DEPRECIATION METHOD
ALLOCATION OF ECONOMIC OBSOLESCENCE

	Indicated RCNLD [a] (\$000s)	Less: Economic Obsolescence Percent [b]	Indicated Fair Market Value, adjusted for Economic Obsolescence, Rounded (\$000s)
Tangible Personal Property [c]	412,000	-47%	218,400
Intangible Personal Property [d]:			
Distribution Maps & As-Built Engineering Drawings	6,700	-47%	3,600
Water Pumping Rights [e]	24,500	-47%	13,000
Water System Records and Reports	400	-47%	200
Synergen Work Order Database	8,100	-47%	4,300
Water Treatment Laboratory Reports and Test Data	100	-47%	100
SCADA Computer Software System	1,000	-47%	500
Trained and Assembled Workforce	<u>1,000</u>	-47%	500
Total Indicated Value of Operating Assets, before Economic Obsolescence [f]	<u>\$ 453,800</u>		

Footnotes:

- a. Reproduction cost new less depreciation.
- b. Source: Exhibit 15.
- c. Based on the appraisal of the tangible personal property of Pennichuck as of December 31, 2004, performed by Gannett Fleming, Inc., using the replacement cost new less depreciation method.
- d. Source: Exhibits 7 through 13.
- e. Valued using an income approach method.
- f. Excludes working capital, real estate, and real property interests.

EXHIBIT 17
PENNICHUCK WATER WORKS, INC.
ASSET-BASED APPROACH
ASSET ACCUMULATION METHOD
VALUE SUMMARY
AS OF DECEMBER 31, 2004
(IN \$000s)

<u>Asset Category</u>	<u>Indicated Value</u>	<u>Exhibit Reference</u>
Net Working Capital	300	3
Tangible Personal Property	218,400	16
Operating Real Estate and Real Property Interests:		
Real Estate Owned in Fee	12,000	
Real Property Easements	<u>900</u>	
Total of Real Estate and Real Property	12,900	14
Intangible Personal Property:		
Distribution Maps & As-Built Engineering Drawings	3,600	16
Water Pumping Rights	13,000	16
Water System Records and Reports	200	16
Synergen Work Order Database	4,300	16
Water Treatment Laboratory Reports and Test Data	100	16
SCADA Computer Software System	500	16
Trained and Assembled Workforce	<u>500</u>	16
Total Intangible Personal Property	22,200	
Indicated Fair Market Value of Operating Assets	253,800	
Indicated Fair Market Value of Total Operating Assets, Rounded	<u>253,800</u>	

EXHIBIT 18
PENNICHUCK WATER WORKS, INC.
PROJECTED INCOME STATEMENTS
(IN \$000s)

FINANCIAL PROJECTIONS	Projected Fiscal Years Ending December 31,				
	2005	2006	2007	2008	2009

REDACTED

REDACTED

EXHIBIT 19
PENNICHUCK WATER WORKS, INC.
ADJUSTMENTS TO FINANCIAL PROJECTIONS
(IN \$000s)

ADJUSTMENTS TO FINANCIAL FUNDAMENTALS	Projected Fiscal Years Ending December 31,				
	2005	2006	2007	2008	2009

REDACTED

REDACTED

EXHIBIT 20
PENNICHUCK WATER WORKS, INC.
PRESENT VALUE DISCOUNT RATE
WEIGHTED AVERAGE COST OF CAPITAL
AS OF DECEMBER 31, 2004

<u>Cost of Equity Capital:</u>		<u>Source</u>
Risk-Free Rate of Return	4.9%	<i>Federal Reserve Statistical Release</i> , December 31, 2004 [a]
Long-term Equity Risk Premium	7.2%	<i>SBBi 2004</i> , Ibbotson Associates
Small Company Equity Risk Premium	6.6%	<i>SBBi 2004</i> , Ibbotson Associates [b]
Total Cost of Equity Capital	<u>18.7%</u>	
<u>Cost of Debt Capital:</u>		
Average Cost of Debt	4.6%	Moody's Municipal Bond Yield Average, from
Total Cost of Debt Capital	<u>4.6%</u>	<i>Mergent Bond Record</i> , December 2004 [c]
<u>Capital Structure:</u>		
Market Value of Equity Capital	5%	Willamette Management Associates estimate [d]
Market Value of Debt Capital	95%	Willamette Management Associates estimate [d]
Total Invested Capital	<u>100%</u>	
WACC (Rounded)	5%	

Footnotes:

- a. Yield on 20-Year U.S. Treasury Bond as of December 31, 2004.
 - b. Based on rates of return on stocks in the smallest decile in terms of market capitalization.
 - c. Based on average yields of Aaa, Aa, A, and Baa rated municipal bonds as of December 31, 2004.
 - d. Based on typical capital structure of a public entity acquirer. Acquisitions of water utilities by public entities are typically financed using nearly 100 percent debt capital.
- Sources: As indicated above.

EXHIBIT 21
PENNICHUCK WATER WORKS, INC.
INCOME APPROACH
DISCOUNTED CASH FLOW METHOD
VALUE SUMMARY
AS OF DECEMBER 31, 2004
(IN \$000S)

Discrete Period Net Cash Flow:	Projected Fiscal Years Ending December 31,				Normalized
	2005	2006	2007	2008	2010 [b]

REDACTED

REDACTED

APPENDIX B
SUMMARY OF GUIDELINE MERGED AND ACQUIRED COMPANY TRANSACTIONS

PENNICHUCK WATER WORKS, INC.
SUMMARY OF GUIDELINE MERGED & ACQUIRED COMPANY TRANSACTIONS

Seller / Buyer	Acquisition Date	Size of Transaction (\$000's)	Number of Customers	Population of Service Area	Geographic Location	Geographic Size (Square Miles)	Type of Deal (Asset or Stock)	Date of Inception	Number of Systems	Source of Supply	Miscellaneous
<i>Acquisitions by Investor-Owned Entities</i>											
Citizens Communications / American Water Works	1/02	979,500	284,000	1,000,000	AZ, CA, IL, IN, OH, and PA	NA	Asset	NA	Multiple	Reservoir, wells	Assets included wastewater systems; divested water utility assets as part of strategy to exit public utilities services businesses; seventh largest local exchange company in the United States.
Eastern Connecticut Regional Water / Birmingham Utilities	10/03	4,000	2,100	400,000	Eastern CT	1,200	Stock	NA	30	Wells	Assets included a non-regulated contract operations business that monitored and serviced 51 water systems in eastern Connecticut.
Heater Utilities / Aqua America	6/04	75,470	50,000	2,000,000	Raleigh, Durham, and Greensboro, NC	335	Stock	1966	63	Wells, reservoir	Assets included wastewater systems; acquired from the ALLETE Water Services subsidiary of ALLETE, a Duluth, Minnesota-based conglomerate whose operations are primarily in energy and automotive services.
National Utility Company / New Mexico Water Service Company	5/04	1,030	1,662	500,000	Surrounding areas of Albuquerque, NM	181	Stock	NA	NA	Wells, reservoir	Acquirer gained the right to purchase up to 2,000 acre-feet of water per year as needed.
Tecum Water Companies / Southwest Water Company	7/04	63,000	25,000	26,000,000	TX and OK	331,000	Stock	NA	86	Wells and springs	Assets included 11 wastewater systems.
<i>Acquisitions by Public Entities</i>											
Tilton-Northfield Aqueduct Company / Towns of Tilton and Northfield, New Hampshire	4/05	12,199	921	7,000	Tilton and Northfield, NH	40	Stock	1887	1	Wells	Acquired from private owners, Kenneth and Barbara Money.
Sierra Pacific Resources / Truckee Meadows Water Authority	1/01	350,000	68,795	340,000	Reno and Sparks, NV	6,300	Asset	1899	1	Truckee River, 29 wells	Supplied water to a region of Nevada located in a desert; also supplied electric power and natural gas.
NISource (Indianapolis Water Company) / City of Indianapolis, Indiana	4/02	540,000	273,034	1,000,000	Indianapolis, IN and surrounding areas	3,500	Asset	1871	5	White River, streams, reservoir, wells	Required to divest water utility assets due to a planned merger with Columbia Energy Group; core operations included natural gas and electric businesses.
Duke Energy Corporation / Anderson, South Carolina (City and Counties)	4/02	63,500	16,598	121,430	Anderson, SC	700	Asset	1963	12	Lake Hartwell	Multinational energy company; divested water utility assets as part of strategy to exit the water business.
United Water Florida / JEA	2/01	325,700	57,352	900,000	Duval, St. John's, and Nassau, FL	2,000	Asset	1966	3	Wells, surface	Single largest buyout of a water utility in Florida history; formed a 20-year public-private partnership for United Water to operate some of the facilities JEA acquired through this purchase; assets included wastewater systems.
Salisbury Water Supply Company / Town of Salisbury, Massachusetts	10/01	15,439	3,034	8,000	Salisbury, MA	16	Asset	1915	1	3 wells, watershed	Assets included 3 wells, 3 storage tanks, 53 miles of water pipes, 188 hydrants, and about 60 acres of land.
Florida Public Utilities Company / City of Fernandina Beach, Florida	3/03	25,100	6,966	11,000	Fernandina Beach, FL	11	Asset	1938	1	Wells	Assets included 3 water plants, water tower, and other water equipment.

APPENDIX C
ILLUSTRATIVE SAMPLE INTANGIBLE PERSONAL PROPERTY

METER OUT OF SERVICE

<input type="checkbox"/> To Stock <input type="checkbox"/> Out Until Wanted <input type="checkbox"/> Retired <input type="checkbox"/> Repair			
Meter #		Size & Make	
Name		Reading Before	After
Address		Reg. ID #	
Date	Service #	Test Before %	Test After %
Route #		Max.	
Replaced By		Inter.	
Remarks		Min.	
		Avg.	
Out By	Tested By	Repaired By	Reset By

NEW METER IN SERVICE

<input type="checkbox"/> New Service <input type="checkbox"/> Exchange Meter #	
Meter #	Size & Make
Factory Test	
Name	Max. %
Address	Inter.
Date Set	Min.
Reading	Service #
Route #	Register I.D. #
Remarks	Receptacle Location
Set By	

METER IN SERVICE

<input type="checkbox"/> Exchange From Stock <input type="checkbox"/> Reset <input type="checkbox"/> Repairs <input type="checkbox"/> Test		
Meter #	Size & Make	
Name	Reg. ID #	
Address	Service #	
Date	Reading Before	After
Route #	Max.	Test %
Replaces #	Inter.	
Remarks	Min.	
	Avg.	
BY		

Gate Inspection Report by Section

DESCRIPTION:

ROUTE/GATE #:	N-05-011000	LOCATION:	FRENCH ST
SIZE:	6"	TIES:	
PURPOSE:	Main Valve		2' E OF W LINE OF ABBOTT ST
NO. OF TURNS:	20 1/2 - Right		11' FROM SOUTH LINE
DEPTH:			51'2" FROM HYDRANT
TYPE:	Gate		19'10" NE COR OF #18
DATE INSTALLED	1/1/1888		60' 8" SE COR OF #20
MAKE:	UNKNOWN		
REPAIR:			
NOTES:			

INSPECTIONS:

<u>Date</u>	<u>Insp</u>	<u>Box</u>	<u>Nut</u>	<u>Pack</u>	<u>Turns</u>
9/10/2004	DA	OK	OK	OK	0.00
3/26/2002	MS	OK	OK	OK	0.00
11/30/1993	JG	OK	OK	OK	20.00
8/27/1980	SD	OK	OK	OK	18.00

NOTES:

DATE:

INSPECTOR:

COMMENTS:

NEW HYDRANT DATA SHEET: Enter an ID number if you have one: _____

City or Town: _____

Type (is it Public or Private?): _____

Street01: (The main street this hydrant is on) _____

System: (Drew Woods, Greenfield Farms) _____

Owner: (Is it PWW, Hudson or a private company?) _____

Street02: (If close to an intersection): _____

ColorBody: _____

Size: (Size of internal hydrant valve) _____

Street03: (If at a 3-way): _____

ColorCaps: _____

Make: (Mueller, US Pipe, Clow, etc): _____

ReadOrder: (If you have one): _____

Date: (Date set): _____

Model: (MET 150, CEN 200, etc): _____

Description: (General description.
ex: West side of street. 200' from intersection)

Hydrant Year: (Casted on hydrant body): _____

Open: (L or R): _____

OutletPrimary: (Steamer Size): _____

OutletSecondary: (Size and number of side nozzles
ex. (2) 2.5", (2) 2.0", (2) 2"):

Sketch: (Draw a sketch of where this hydrant is in relation to other features): _____

121

Meters		Last Read	Reading or Flow Gal/day	Min	Max	Violation
2101	Well #1 Flow Meter Reading	04/25/05	1960830 CF			
2102	Compressor Flow Meter Reading	04/18/05	25 CF			
2103	Well #3 Flow Meter Reading	04/25/05	3454100 CF			
2104	Well #4 Flow Meter Reading	04/25/05	8386280 CF			
2105	Well #5 Flow Meter Reading	04/25/05	6369090 CF			
2106	Well #6 Flow Meter Reading	04/25/05	174530 CF			
2107	Well #7 Flow Meter Reading	04/25/05	1917690 CF			
2109	Master Meter Reading	04/25/05	13335400 CF			
8758	Master Meter #1 Flow	04/25/05	89118.8571428571 Gal/day	20,000.0	300,000	
Clock Readings		Last Read	Reading or Flow Gal/day	Min	Max	Violation
2111	Air Compressor #1 Clock Reading Total	04/25/05	8359 Hours			
2112	Air Compressor #2 Clock Reading Total	04/25/05	7921 Hours			
2118	Air Compressor #1 Clock Reading Loaded	04/25/05	8314 Hours			
2120	Air Compressor #2 Clock Reading Loaded	04/25/05	7836 Hours			
2176	Gen Set Hrs Run	04/25/05	68.1 Hours			
2177	Check Gen Set Battery	04/25/05	Yes Done			
Chemical Pumps & Crocks		Last Read	Reading or Flow Gal/day	Min	Max	Violation
2164	Chlorine Pump Speed	04/25/05	E %			
2165	Chlorine Pump Stroke	04/25/05	55 %			
2168	PolyPhosphate Pump Speed	04/25/05	E %			
2169	Poly Phosphate Pump Stroke	04/25/05	30 %			
8763	Chlorine Used	04/25/05	20 Gallons			
8767	Poly Phosphate Used	04/25/05	9 Gallons			
Chemistries		Last Read	Reading or Flow Gal/day	Min	Max	Violation
51	Finished Water Chlorine Residual	04/25/05	.30 mg/l	0.3		1
Station		Last Read	Reading or Flow Gal/day	Min	Max	Violation
2121	Suction Pressure	04/25/05	8.8 lbs			
2122	Discharge Pressure	04/25/05	92 PSI	85.0	105	
2135	Chlorine Tank Level arrive	04/25/05	23 Gallons			
2137	Poly Phosphate Tank Level arrive	04/25/05	41 Gallons			
2174	Propane Tank % Full	04/25/05	90 %	30.0	100	
2175	Building Temp	04/25/05	60 Deg F			
2186	Check Heaters	04/25/05	Yes Done			
2187	Propane Tank #2 % Full	04/25/05	90 %	30.0	100	
2194	Chlorine Tank Level depart	04/25/05	53 Gallons			
2196	Poly Phosphate Tank Level depart	04/25/05	51 Gallons			

2149	Phosphate residual reading	04/25/05		1.5 mg/l		
2188	Pressure and Vertical Air Tanks	04/25/05		100 Done		
	Day Meter on Valve Counter	04/25/05				
51	Well #1 Flow	04/25/05	12555.7142857143	Gal/day	1,000.0	30,000
8753	Well #3 Flow	04/25/05	36117.7142857143	Gal/day	0.0	30,000 ✓
8754	Well #4 Flow	04/25/05	34803.3714285714	Gal/day	10,000.0	90,000
51	Well #1 Flow	04/25/05	0.0	Gal/day	0.0	30,000
51	Well #1 Flow	04/25/05	0.0	Gal/day	0.0	30,000
51	Well #1 Flow	04/25/05	0.0	Gal/day	0.0	30,000
51	Chlorine Dioxide Flow	04/25/05	0.0	lbs/day		
51	Chlorine Dioxide	04/25/05	0.0	lbs/day		
51	Well #1 Phosphate Reading	04/25/05	0.0	mg/l		
51	Well #1 Phosphate	04/25/05	0.0	mg/l		
20085	Drew Woods Stn Flow Total	04/25/05	83476.8	Gal/day		



NH DEPARTMENT OF ENVIRONMENTAL SERVICES

*Monthly Operating Report
for Filtered Surface Water Systems
Effective 1/1/05*

Name of system: Pennichuck Water Works
Municipality: Nashua
EPA ID #: 1621010

Month, year: April, 2005
Filtration mode: Conventional
Turbidity limit: 0.3 NTU's

Date	Gallons Treated	Hours of Operation	Max. Turbidity (1)	Min. Disinfectant Res. (2)	Weight/Vol. Fluoride (3)	Measured Fluoride (4)
1	8.1840	24	0.04	0.68	0	n/a
2	8.6647	24	0.04	0.81	0	n/a
3	9.6284	24	0.04	0.87	0	n/a
4	9.8661	24	0.05	0.68	0	n/a
5	9.9727	24	0.05	0.68	0	n/a
6	10.1771	24	0.06	1.00	0	n/a
7	9.9944	24	0.05	0.66	0	n/a
8	9.8230	24	0.05	0.84	0	n/a
9	10.7238	24	0.05	0.75	0	n/a
10	10.1030	24	0.05	0.97	0	n/a
11	10.1257	24	0.05	0.99	0	n/a
12	10.2563	24	0.15	0.90	0	n/a
13	9.0805	24	0.20	0.77	0	n/a
14	9.8719	24	0.12	0.75	0	n/a
15	11.0585	24	0.09	0.91	0	n/a
16	10.4243	24	0.07	0.83	0	n/a
17	12.2091	24	0.07	0.75	0	n/a
18	13.1764	24	0.06	0.64	0	n/a
19	13.0119	24	0.11	0.90	0	n/a
20	12.0472	24	0.14	0.69	0	n/a
21	12.3203	24	0.12	0.58	0	n/a
22	9.7961	24	0.13	0.83	0	n/a
23	10.5552	24	0.12	0.72	0	n/a
24	8.9903	24	0.12	0.73	0	n/a
25	10.4915	24	0.14	0.67	0	n/a
26	10.2595	24	0.14	0.82	0	n/a
27	10.8506	24	0.16	0.83	0	n/a
28	10.6242	24	0.11	0.83	0	n/a
29	9.0737	24	0.12	0.95	0	n/a
30	9.7012	24	0.11	0.79	0	n/a
31						

- Notes: 1) Combined filtered water turbidity, in NTUs
 2) Disinfectant residual at entry point to distribution, in mg/l
 3) Fluoride chemical used: _____ Fluoride chemical strength (%): _____
 4) Monthly certified lab fluoride concentration: _____ mg/l Lab: _____ Date: _____

- A. Total gallons filtered this month 311.0616 MG
- B. Total hours (in decimals) plant was in operation this month 720
- C. Total hours filtered water turbidity was consistently less than or equal to the applicable turbidity limit 720
- D. Line C divided by line B multiplied by 100 (% of turbidity measurements meeting the turbidity limit) 100%
- E. Has all individual filter monitoring as required in Rule Env-Ws 380.28* been conducted this month? Yes X No
- F. Record the date and value for any combined filtered water turbidity measurements exceeding 1 NTU (if none, enter "none")

Date: None Turbidity value: Date reported to DES:

Date: Turbidity value: Date reported to DES:

- G. If disinfectant of water entering distribution was less than 0.2 mg/l on any day, record the date, duration of the low level (in hours), and the date reported to the NHDES.

Date: Duration: hours Date reported to NHDES:

Date: Duration: hours Date reported to NHDES:

- G. Distribution system disinfectant residual

V for previous month = 0

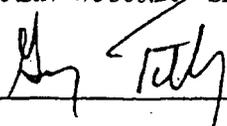
V for this month = 0

$V = [(c+d+e) / (a+b)] \times 100$ (V shall not exceed 5 for the month for any 2 consecutive months)

- a = 80 # of events where disinfectant residual measurements were taken
 b = 0 # of events where residual was not measured but HPC was measured
 c = 0 # of events where no residual was detected and no HPC was measured
 d = 0 # of events where no residual was detected and HPC was GT 500/ml
 e = 0 # of events where no residual was measured and HPC was GT 500/ml

Notes: GT = greater than
 HPC = heterotrophic plate count

* A Supplemental Monthly Operating Report (SMOR) shall be submitted with this report for any month in which individual filter turbidity measurements exceed the conditions in Rules Env-Ws 380.28. SMORs are available on request from NHDES, 271-3139.

Prepared by (primary operator signature): 

Date: 5-3-05

This report (and any required supplemental operating reports) shall be forwarded within 10 days of the end of the month to:

NH Department of Environmental Services
 Water Supply Engineering Bureau
 6 Hazen Drive
 PO Box 95
 Concord, NH 03302-0095

WATER USE REPORT

Please return to: DES - NH GEOLOGICAL SURVEY
PO Box 95
Concord, NH 03302-0095
PHONE: (603) 271-4086 FAX: (603) 271-3305

IDENTIFICATION NUMBER: 20345
FACILITY: WILLIAMSBURG COMM WS

**MELISSA TOLAND WATER SUPPLY MANAGER
PENNICHUCK WATER WORKS
PO BOX 1947 25 MANCHESTER ST
MERRIMACK NH 03054-1947**

ARE CORRECTIONS NEEDED?

CONTACT PERSON:
TITLE:
COMPANY NAME:
MAILING ADDRESS:

882-5191

TELEPHONE NUMBER:

WATER USE IN THOUSANDS OF GALLONS PER DAY

Average: 32.63
Maximum:

TYPE OF USE: WATER SUPPLIER
SIC CODES: 4941

PERMITS HELD

PUBLIC WATER SUPPLY#: 1852030
OTHER:

1 cubic foot = 7.48 gallons

35

PLEASE FILL IN THE WATER USE AMOUNT AT THE END OF EACH MONTH FOR EACH SOURCE OR DESTINATION LISTED BELOW

IDENTIFICATION NUMBER: 20345
FACILITY: WILLIAMSBURG COMM WS

SOURCE: WILLIAMSBURG COMM WELLS
ID#: 20345-S01

TOTAL WATER USE FOR THE MONTH

JANUARY	2005	1,836,032	GALLONS
FEBRUARY	2005	1,707,641	GALLONS
MARCH	2005	1,748,444	GALLONS

METHOD OF MEASUREMENT:

Meter _____

Other (Describe) _____

PENNICHUCK WATER WORKS, INC.
 WATER TREATMENT PLANT
 SLUDGE PRODUCTION/COST
 2005

<u>MONTH</u>	<u>DAYS/MONTH</u>	<u>SLUDGE PUMPAGE GALLONS</u>	<u>100 CUBIC FT. UNITS</u>	<u>\$ FEE \$3.91 PER UNIT</u>	<u>SLUDGE METER READING GALLONS</u>
JANUARY	31	2,199,330	2940.3	\$ 11,496.50	1-Jan 598801900
FEBRUARY	28	2,020,920	2701.8	\$ 10,563.90	1-Feb 601001230
MARCH	31	2,303,360	3079.4	\$ 12,040.29	1-Mar 603022150
APRIL	30	2,079,970	2780.7	\$ 10,872.57	1-Apr 605325510
MAY	31	2,863,360	3828.0	\$ 14,967.56	1-May 607405480
JUNE	30			\$ -	1-Jun 610268840
JULY	31		0.0	\$ -	1-Jul
AUGUST	31		0.0	\$ -	1-Aug
SEPTEMBER	30		0.0	\$ -	1-Sep
OCTOBER	31		0.0	\$ -	1-Oct
NOVEMBER	30		0.0	\$ -	1-Nov
DECEMBER	31		0.0	\$ -	1-Dec 1-Jan
TOTAL SLUDGE:		11,466,940	15,330.1	\$ 59,940.82	

On the first of each month please FAX this report to Denise (City of Nashua) at 589-3229. Her phone number is 589-3195.



D/DBP QUARTERLY REPORT

For Surface Water Systems Serving > 10,000 People

Quarter (circle) 1 2 3 4

Year 20 05

System Asheua-Pennichuck Water Works

EPA No. 1621010

A. TTHM/HAA5:

Site numbers must correspond with numbers in the system's D/DBP monitoring plan (301, 302, 303...etc.)

Site Number	Date	TTHM (mg/l)	HAA5 (mg/l)
301	2/16/05	0.0130	0.0073
302	↓	0.0117	0.0063
303		0.0063	0.0033
304		0.0127	0.0078
305		0.024	0.0121
306		0.0116	0.0054
307		0.0014	0.0000
Average all samples this quarter		0.0115	0.0056
Annual average last four quarters		0.0215	0.0073

Was either MCL (0.080 mg/l for TTHM or 0.060 mg/l for HAA5, annual average) violated? (circle one)

Yes No

B. CHLORINE OR CHLORAMINE RESIDUAL

Number of samples taken each of the last 3 months: 80 80 100⁰80

Monthly average chlorine residual last 12 months:

Month	Monthly ave. residual (mg/l)	Month	Monthly ave. residual (mg/l)		
Month 1	April 2004	0.30	Month 7	October 2004	0.47
Month 2	May 2004	0.28	Month 8	November 2004	0.68
Month 3	June 2004	0.24	Month 9	December 2004	0.67
Month 4	July 2004	0.23	Month 10	January 2005	0.74
Month 5	August 2004	0.31	Month 11	February 2005	0.89
Month 6	September 2004	0.38	Month 12	March 2005	0.90
Ave. of last 12 months				0.51	

Was the MRDL (4.0 mg/l) violated? (circle one) Yes No

C. DISINFECTION BYPRODUCT PRECURSORS (systems with conventional treatment only)

1. Which of the alternate compliance criteria does the system comply with this quarter, if any (check one)? Supply information in the blanks for the selected criterion and complete columns (1) through (5) in 2. below. If no alternate compliance criterion is selected, go to 2. and complete all columns.

- The system's source water TOC level is less than 2.0 mg/L, calculated quarterly as a running annual average (RAA). Source water RAA TOC: _____
- The system's treated water TOC level is less than 2.0 mg/L, calculated quarterly as RAA. Treated water RAA TOC: 1.1
- The system's source water TOC level is less than 4.0 mg/L, calculated quarterly as RAA; the source water alkalinity is greater than 60 mg/L (as CaCO₃), calculated quarterly as RAA; and the TTHM and HAA5 RAAs are no greater than 0.040 mg/L and 0.030 mg/L, respectively. Source water RAA TOC: _____ RAA source water alkalinity _____ RAA TTHM _____ RAA HAA5 _____
- The TTHM and HAA5 RAAs are no greater than 0.040 mg/L and 0.030 mg/L, respectively, and the system uses only chlorine for primary disinfection and maintenance of a residual in the distribution system. RAA TTHM _____ RAA HAA5 _____
- The system's source water SUVA prior to any treatment is less than or equal to 2.0 L/mg-m, calculated quarterly as RAA. Source water RAA SUVA: _____
- The system's finished water SUVA is less than or equal to 2.0 L/mg-m, calculated quarterly as a running annual average. Finished water RAA SUVA: _____

Is the system in compliance with the selected alternate compliance criterion?

(circle one) Yes No

2. Number of paired samples this quarter 3

	Date (1)	Raw Alk. (mg/l) (2)	Raw TOC (mg/l) (3)	Filtered TOC (mg/l) (4)	TOC Removal ^a (%) (5)	Requ. TOC Removal ^b (%) (6)	Ratio ^c (5/6) (7)
Month 1	1/6/05	12.5	4.4	1.3	70	45	1.75
Month 2	2/10/05	16.5	2.7	0.9	66	35	1.77
Month 3	3/17/05	20	2.4	1.80	68	35	1.80

Notes to above table:

- a. Monthly TOC removal = $[1 - (\text{filtered TOC} / \text{raw TOC})] \times 100$
- b. From Step 1 TOC Removal Table or from step 2 determination
- c. If this number is less than 1.00, the system is not in compliance with the TOC removal requirement.

3. (Complete only if alternate criterion in 1 is not selected as means of compliance.) Has the system been in compliance with the % removal requirement over the last 4 quarters? (circle one) Yes No

Prepared by (primary operator signature):

M. P. Dy

Willamette Management Associates

WATER SUPPLY ENGINEERING BUREAU
Analysis Request Form
BACTERIA

System Name: **PENNICHUCK WATER WORKS**

EPA ID: 1621010

Collected By: LESLIE MORGAN
(Print Name)

Site Town: NASHUA

Signature: [Signature]
I certify that all samples taken are from state required sites.

Phone Number: **(603) 913-2378**

Results for the Month of: April Year: 2005

Sample Category: Routine Repeat NonCompliance

Site ID	Sample Location	Date & Time Sample Taken	Lab Sample ID	Date & Time Sample Was Processed	Total Coliform Count P or A	Fecal Coliform Count P or A	Free Chlorine Residual (mg/L)	pH
047	MARVELL PLATE GLASS / C	4/19/05 9:00am	05-1395	4-19-05 15:05	A	A	.45	-
048	CHARLOTTE AVENUE SCHOOL / C	8:17am	1396	↓	A	A	.13	-
049	100 CONCORD ST. / C	7:42am	1397		A	A	.91	6.1
050	T&D LAUNDRY / BRIDGE ST. / C	9:05am	1398		A	A	.40	-
051	15 CONCORD ST. / C	7:55am	1399		A	A	.39	-
052	AMHERST ST. FIRE STATION / C	8:05am	1400		A	A	.55	-
053	ARLINGTON ST. FIRE STATION / C	9:30am	1401		A	A	.58	-
054	RIVIER COLLEGE / C	9:51am	1402		A	A	.50	6.5
055	590 SO. MAIN ST. / C	10:00am	1403		A	A	.50	-
056	FOOD COURT/PHEASANT LN MALL / C	10:20am	1404		A	A	.39	6.4

Laboratory Name Responsible for Analysis: **Pennichuck Water Works Laboratory**

Laboratory Cert. ID: **1030**

Laboratory Phone Number: **(603) 913-2378**

Received in Laboratory BY: [Signature]

System Name: **PENNICHUCK WATER WORKS**

EPA ID: 1621010

Collected By: LESLIE MORGAN
(Print Name)

Site Town: NASHUA

Signature: [Signature]
I certify that all samples taken are from state required sites.

Phone Number: **(603) 913-2378**

Results for the Month of: April Year: 2005

Sample Category: Routine Repeat NonCompliance

Site ID	Sample Location	Date & Time Sample Taken	Lab Sample ID	Date & Time Sample Was Processed	Total Coliform Count P or A	Fecal Coliform Count P or A	Free Chlorine Residual (mg/L)	pH
057	BRIGHT SPOT CONVEN. STORE / C	4/19/05 10:35am	05-1405	4-19-05 15:05	A	A	.52	-
058	BICENTENNIAL SCHOOL / C	10:46am	1406		A	A	.39	-
059	CONANT RD. FIRE STATION / C	11:35am	1407		A	A	.37	-
060	MAIN DUNSTABLE SCHOOL / C	11:46am	1408		A	A	.41	-
061	HITCHCOCK CLINIC / C	12:30pm	1409		A	A	.52	-
062	PWW SERVICE DEPT. / C	12:50pm	1410		A	A	.53	6.6
063	SAMPLE STATION/BROAD ST. / C	1:32pm	1411		A	A	.62	6.4
064	PINE HILL RD.. FIRE STATION / C	1:50pm	1412		A	A	.57	-
065	RICKDALE CONVENIENCE STORE / C	8:30am	1413		A	A	.55	6.5
066	2 SKYMEADOW DR. / C	11:20am	1414		A	A	.26	6.6

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Laboratory Name Responsible for Analysis: **Pennichuck Water Works Laboratory**

Laboratory Cert. ID: **1030**

Laboratory Phone Number: **(603) 913-2378**

Received in Laboratory BY: [Signature]

WATER SUPPLY ENGINEERING BUREAU
Analysis Request Form
BACTERIA

System Name: **PENNICHUCK WATER WORKS**

EPA ID: **1621010**

Collected By: Leslie Murphy
(Print Name)

Site Town: **NASHUA**

Signature: [Signature]
I certify that all samples taken are from state required sites.

Phone Number: **(603) 913-2378**

Results for the Month of: April Year: 2005

Sample Category: Routine Repeat NonCompliance

Site ID	Sample Location	Date & Time Sample Taken	Lab Sample ID	Date & Time Sample Was Processed	Total Coliform Count P or A	Fecal Coliform Count P or A	Free Chlorine Residual (mg/L)	pH
067	34 CELLU DR. - TWIN MT. WATER/C	4/14/05 8:42am	05-1415	4-14-05 15:25	A	A	.38	-
068	DENNY'S - NASHUA MALL/C	↓ 1:10pm	↓ 1416	↓	A	A	.58	6.5
069	727 MANHATTAN - CAPT. CORNER/C	↓ 12:00pm	↓ 1417	↓	A	A	.29	-

Laboratory Name Responsible for Analysis: **Pennichuck Water Works Laboratory**

Laboratory Cert. ID: **1030**

Laboratory Phone Number: **(603) 913-2378**

Received in Laboratory BY: [Signature]

133

**PENNICHUCK WATER WORKS
WAIVER SCHEDULE**

<u>CWS Name</u>	<u>EPA #</u>	<u>Town</u>	<u>MGT</u>	<u>SOC Waiver</u>	<u>VOC Waiver</u>
Amherst Village District	0071010	Amherst	O	DECLINED	DECLINED
Ashley Commons	1562020	Milford	O	11/9/2006	11/9/2006
Autumn Woods	2052070	Salem	O	11/9/2006	11/9/2006
Avery Estates	1392250	Londonderry	O	7/2/2005	DENIED
Badger Hill	1562030	Milford	O	3/6/2005	3/6/2005
Beaver Hollow	2082010	Sandown	O	6/26/2005	DENIED
Bedford Water Corp.	0192010	Bedford	O	11/8/2006	DENIED
Bon Terrain	0071020	Amherst	O	DECLINED	DECLINED
Brook Park	1392060	Londonderry	O	NONE	NONE
Cabot Preserve	0192070	Bedford	O	NONE	NONE
Castle Reach	2542140	Windham	O	3/16/2005	DENIED
Drew Woods	0612150	Derry	O	10/30/2006	DENIED
English Woods	0192060	Bedford	O	6/19/2006	DENIED
Farmstead Acres	0612110	Derry	O	7/2/2005	7/2/2005
Gage Hill	1852020	Pelham	O	9/26/2005	DENIED
Glen Ridge Development	0612070	Derry	O	10/30/2006	10/30/2006
Goldenbrook	2542010	Windham	O	6/26/2006	DENIED
Great Bay	1732030	New Market	O	2/20/2005	2/20/2005
Green Hills	1973030	Raymond	O	NONE	NONE
Hardwood Heights	2542060	Windham	O	7/22/2005	DENIED
Harvest Village	1392290	Londonderry	O	12/2/2005	12/2/2005
Hi & Lo Estates	0612140	Derry	O	10/30/2006	DENIED
Hubbard Hill	0612090	Derry	O	10/30/2006	10/30/2006
Lamplighter Village	2542170	Windham	O	NONE	NONE
Liberty Tree	1972010	Raymond	O	7/2/2005	7/2/2005
Litchfield	1371010	Litchfield	O	HUDSON	HUDSON
Londonderry	1391010	Londonderry	O	NONE	NONE
Maple Haven	0612170	Derry	O	10/30/2006	10/30/2006
Maple Hill Acres	0612020	Derry	O	12/2/2005	DENIED
Ministerial	1392310	Londonderry	O	12/2/2005	12/2/2005
Nashua	1621010	Nashua	O	DECLINED	DECLINED
Nesenkeag	1392240	Londonderry	O	6/26/2005	6/26/2005
Oakwood Terrace	0612010	Derry	O	NONE	NONE
Pinehaven Water Trust	1392040	Londonderry	O	12/2/2005	12/2/2005
Pioneer Comm. Pk.	0116010	Atkinson	O	6/26/2005	DENIED
Pittsfield Aqueduct Co.	1911010	Pittsfield	O	5/26/2007	5/26/2007
Powder Hill	0192050	Bedford	O	NONE	NONE
Redfield Estates	0612080	Derry	O	10/30/2006	10/30/2006
Richardson Estates	0612130	Derry	O	10/27/2006	10/27/2006
Smyth Woods	1182040	Hooksett	O	NONE	NONE
Souhegan Woods	0072070	Amherst	O	2/26/2006	2/26/2006
Springwood Hills	1392260	Londonderry	O	NONE	NONE
Sweet Hill	1932200	Plaistow	O	11/27/2005	11/27/2005

**PENNICHUCK WATER WORKS
WAIVER SCHEDULE**

<u>CWS Name</u>	<u>EPA #</u>	<u>Town</u>	<u>MGT</u>	<u>SOC Waiver</u>	<u>VOC Waiver</u>
Thurston Woods	1332050	Lee	O	NONE	NONE
Twin Ridge	1932050	Plaistow	O	11/9/2006	DENIED
Valley Field Apts Northland	1932070	Plaistow	O	10/15/2007	DENIED
W & E	2542030	Windham	O	2/26/2005	DENIED
WESCO	1182050	Hooksett	O	NONE	NONE
White Rock Senior Living	0262050	Bow	O	NONE	NONE
Williamsburg	1851010	Pelham	O	2/26/2006	DENIED
Woodlands	0762120	Epping	O	2/20/2005	DENIED

Database Manager [SCADA 21: 12:34] Database: Est View Modes: Diagnostics Tools Help

Tag	Unit	Description	Value	Unit	Value	Unit	Value
TOTEFFCA	CA	TOTAL PLANT EFFLUENT FLOW	---	---	---	---	5.004
EFFCA	CA	TOTAL PLANT EFFLUENT FLOW	---	---	---	---	18.36
AVGTURB	CA		---	---	---	---	28.18
FILT4VLTR	ETR		---	---	---	---	58.33
FILT8HDLTR	ETR		---	---	---	---	2.09
FILT8LWTR			---	---	---	---	2.88
FILT8VLTR			---	---	---	---	58.24
FILT2VLTR			---	---	---	---	58.33
PULSTRITUT			---	---	---	---	8.25
FILT3HDLTR			---	---	---	---	1.78
FILT3LWTR			---	---	---	---	2.98
PULSTR2TUT			---	---	---	---	8.25
FILT4HDLTR			---	---	---	---	2.98
FILT8LWTR			---	---	---	---	3.12
FILT2FLWTR			---	---	---	---	2.64
FILT2FLWTR			---	---	---	---	58.33
FILT1VLTR			---	---	---	---	1.11
RAWWTRTRBD			---	---	---	---	58.25
FILT8VLTR			---	---	---	---	1.98
FILT1HDLTR			---	---	---	---	5.14
FILT2HDLTR			---	---	---	---	2.74
FILT4LWTR			---	---	---	---	2.24
FILT8HDLTR			---	---	---	---	58.25
FILT3VLTR			---	---	---	---	18.36
A1331ETR			---	---	---	---	3.16
FILT8LWTR			---	---	---	---	0.0796
FMWTRTRUB	ETR		---	---	---	---	18.48
A1308TRNO	ETR		---	---	---	---	OPEN
BWASH_MOV5B_IN_TRAVEL	MDI	Backwash Valve 5B in Travel	1	---	---	---	OPEN
BWASH_MOV4B_IN_TRAVEL	MDI	Backwash Valve 4B in Travel	1	---	---	---	OPEN
BWASH_MOV3B_IN_TRAVEL	MDI	Backwash Valve 3B in Travel	1	---	---	---	OPEN
BWASH_MOV4A_IN_TRAVEL	MDI	Backwash Valve 4A in Travel	1	---	---	---	OPEN
BWASH_MOV5A_IN_TRAVEL	MDI	Backwash Valve 5A in Travel	1	---	---	---	OPEN
BWASH_MOV2A_IN_TRAVEL	MDI	Backwash Valve 2A in Travel	1	---	---	---	OPEN

Database: DATABASE S#: 600945564
 Size: 2872176 I/O Count: 3194

Type	Used	Allocated
AA - Analog Alarm	1	10
AI - Analog Input	375	380
AO - Analog Output	9	10
AR - Analog Register	1151	1160
BB - On/Off Control	0	0
BL - Boolean	3	10
CA - Calculation	658	660
DA - Digital Alarm	0	0
DC - Device Control	86	80
DI - Digital Input	5	10
DO - Digital Output	687	690
DR - Digital Register	0	0
DT - Dead Time	0	0
ETR - Extended Trend Block	24	30
EV - Event Action	0	0
FN - Funct.	0	0

OK Help

OFF EDIT default default default

The screenshot shows a file explorer window with a list of files and folders. A 'Properties' dialog box is open for a selected file. The dialog box displays the following information:

- Type:** File Folder
- Location:** C:\Programs
- Size:** 761 KB (81,978,831 bytes)
- Size on disk:** 801 KB (822,440 bytes)
- Content:** 1,013 Files, 1 Folder
- Created:** Thursday, May 22, 2003, 8:17:16 AM
- Attributes:** Read-only, Hidden

The file explorer window shows a list of files and folders with columns for Name, Type, and Date Modified. The files listed include:

- 12/9/2004 3:29 PM Picture 67 KB
- 12/9/2004 3:29 PM Picture 75 KB
- 12/9/2004 3:29 PM Picture 114 KB
- 12/9/2004 3:29 PM Picture 114 KB
- 12/9/2004 3:29 PM Picture 114 KB
- 12/9/2004 3:29 PM Picture 156 KB
- 12/9/2004 3:29 PM Picture 49 KB
- 12/9/2004 3:29 PM Picture 145 KB
- 12/9/2004 3:29 PM Picture 117 KB
- 12/9/2004 3:29 PM Picture 80 KB
- 12/9/2004 3:29 PM Picture 116 KB
- 12/9/2004 3:29 PM Picture 137 KB
- 12/9/2004 3:29 PM Picture 69 KB
- 12/9/2004 3:29 PM Picture 37 KB
- 12/9/2004 3:29 PM Picture 37 KB
- 12/9/2004 3:29 PM Picture 36 KB
- 12/9/2004 3:29 PM Picture 37 KB
- 12/9/2004 3:29 PM Picture 173 KB
- 12/9/2004 3:29 PM Picture 174 KB
- 12/9/2004 3:29 PM Picture 179 KB
- 12/9/2004 3:29 PM Picture 25 KB
- 12/9/2004 3:29 PM Picture 19 KB
- 12/9/2004 3:29 PM Picture 75 KB
- 12/9/2004 3:29 PM Picture 127 KB
- 12/9/2004 3:29 PM Picture 80 KB
- 12/9/2004 3:29 PM Picture 24 KB
- 12/9/2004 3:29 PM Picture 204 KB
- 12/9/2004 3:29 PM Picture 111 KB
- 12/9/2004 3:29 PM Picture 79 KB
- 12/9/2004 3:29 PM Picture 304 KB
- 12/9/2004 3:29 PM Picture 63 KB
- 12/9/2004 3:29 PM Picture 216 KB
- 12/9/2004 3:29 PM Picture 78 KB
- 12/9/2004 3:29 PM Picture 16 KB
- 12/9/2004 3:29 PM Picture 7 KB
- 12/9/2004 3:29 PM Picture 61 KB
- 12/9/2004 3:29 PM Picture 58 KB
- 12/9/2004 3:29 PM Picture 22 KB

APPENDIX D
CERTIFICATION

CERTIFICATION

We certify the following statements regarding this analysis:

1. We inspected the subject assets encompassed by this appraisal.
2. We have no present or prospective future interest in the subject assets.
3. We have no personal interest or bias with respect to the subject matter of this report or the parties involved.
4. Our compensation for making the analysis is in no way contingent upon the value reported or upon any predetermined value.
5. To the best of our knowledge and belief, the statements of facts contained in this report, upon which the analyses, conclusions, and opinions expressed herein are based, are true and correct.
6. Our analyses, opinions, and conclusions were developed, and this report has been prepared, in conformity with the Uniform Standards of Professional Appraisal Practice (USPAP) as promulgated by The Appraisal Foundation. This analysis is a "limited appraisal" as defined by USPAP, and this report is considered an "appraisal report" as defined by USPAP Standards Rule 10-2.
7. No persons other than the individual whose qualifications are included in Appendix F have provided professional assistance regarding the analysis, opinions, and conclusions set forth in this report.
8. The reported analyses, opinions, and conclusions are limited only by the reported contingent and limiting conditions, and they represent our unbiased professional analyses, opinions, and conclusions.
9. The signature of the principal analyst, Robert F. Reilly, appears on the opinion letter to this appraisal report and is included here by reference.

APPENDIX E
STATEMENT OF CONTINGENT AND LIMITING CONDITIONS

STATEMENT OF CONTINGENT AND LIMITING CONDITIONS

This analysis is made subject to the following general contingent and limiting conditions:

1. We assume no responsibility for the legal description or matters including legal or title considerations. Title to the subject assets is assumed to be good and marketable unless otherwise stated.
2. The subject assets are appraised free and clear of any or all liens or encumbrances unless otherwise stated.
3. We assume responsible ownership and competent management with respect to the subject assets.
4. The information furnished by others is believed to be reliable. However, we issue no warranty or other form of assurance regarding its accuracy.
5. We assume no hidden or unapparent conditions regarding the subject assets.
6. We assume that there is full compliance with all applicable federal, state, and local regulations and laws unless the lack of compliance is stated, defined, and considered in the appraisal report.
7. We assume that all required licenses, certificates of occupancy, consents, or legislative or administrative authority from any local, state, or national government, or private entity or organization have been or can be obtained or reviewed for any use on which the opinion contained in this report is based.
8. Unless otherwise stated in this report, we did not observe, and we have no knowledge of, the existence of hazardous materials with regard to the subject assets. However, we are not qualified to detect such substances. We assume no responsibility for such conditions or for any expertise required to discover them.
9. Possession of this report does not carry with it the right of publication. It may not be used for any purpose by any person other than the client to whom it is addressed without our written consent, and, in any event, only with proper written qualifications and only in its entirety.
10. We, by reason of this opinion, are not required to give testimony or to be in attendance in court with reference to the subject assets unless arrangements have been previously made.
11. Neither all nor any part of the contents of this report shall be disseminated to the public through advertising, public relations, news, sales, or other media without our prior written consent and approval.
12. The analyses, opinions, and conclusions presented in this report apply to this engagement only and may not be used out of the context presented herein. This report is valid only for the effective date(s) specified herein and only for the purpose(s) specified herein.

APPENDIX F
PROFESSIONAL QUALIFICATIONS OF THE PRINCIPAL ANALYST

ROBERT F. REILLY

Robert Reilly is a managing director of Willamette Management Associates. His practice includes valuation consulting, economic analysis, transfer pricing, and financial advisory services.

Mr. Reilly has performed the following types of valuation and economic analyses: event analyses, merger and acquisition valuations, divestiture and spin-off valuations, solvency analyses, fairness opinions, ESOP feasibility and formation analyses, post-acquisition purchase price allocation valuations, business and stock valuations, real estate valuations and evaluations, tangible personal property appraisals, real estate feasibility and investment analyses, ad valorem property tax appraisals, construction cost segregation appraisals, insurance appraisals, restructuring and workout valuations, litigation support analyses, tangible/intangible asset transfer pricing studies, and lost profit/economic damages analyses.

Mr. Reilly has valued the following types of business entities and securities: close corporations—entity value, close corporations—fractional ownership interests, public corporations—restricted stock, public corporation subsidiaries/divisions portfolios of marketable and nonmarketable securities, complex capital structures (various classes of common/preferred stock; options, warrants, grants, rights), general and limited partnership interests, joint ventures, proprietorships, professional service corporations, professional practices, LLPs and LLCs, license agreements, franchises, and intercompany transfer pricing agreements.

He has performed economic analyses, valuation analyses, remaining useful life analyses, and/or transfer price analyses on numerous types of intangible assets and intellectual properties. He has performed pre and post-acquisition business/asset valuations in numerous industries. He has performed feasibility/development/investment analyses of various types of real estate. And, he has appraised various types of tangible personal property.

He has prepared the following types of financial advisory/economic analyses for merger and acquisition purposes: identification of merger and acquisition targets, valuation of target company synergistic and strategic benefits, identification and assessment of divestiture and spin-off opportunities, economic analysis of alternative deal structures, negotiation and consummation of deals, assessment of the fairness of proposed transactions, analysis of initial public offering (IPO) alternative pricing strategies, and design and valuation of alternative equity and debt instruments within a multiple-investor environment.

PREVIOUS EXPERIENCE

Prior to Willamette Management Associates, Robert Reilly was a partner and national director of the Deloitte & Touche (Big Four accounting firm) valuation practice. Prior to Deloitte & Touche, he was vice president of Arthur D. Little Valuation, Inc., a national appraisal firm. Prior to that, he was associated with Huffy Corporation, a diversified manufacturing firm. As director of corporate development, he was responsible for strategic planning and acquisition/divestiture valuation analyses. Prior to that, he was a senior consultant for Booz, Allen & Hamilton, an international management consulting firm. He consulted in the areas of financial analysis, planning, and control for clients in the transportation industry.

EDUCATION

Master of Business Administration, Finance, Columbia University Graduate School of Business

Bachelor of Arts, Economics, Columbia University

PROFESSIONAL AFFILIATIONS

Certified Public Accountant (CPA)—Ohio and Illinois

Certified Management Accountant (CMA)—National Association of Certified Management Accountants

Enrolled Agent (EA)—licensed to practice before the Internal Revenue Service

Accredited Tax Advisor (ATA)—Accreditation Council for Accountancy & Taxation

Accredited Senior Appraiser (ASA)—American Society of Appraisers, in business valuation

Accredited in Business Valuation (ABV)—American Institute of Certified Public Accountants

Certified Business Appraiser (CBA)—Institute of Business Appraisers

Certified Real Estate Appraiser (CREA)—National Association of Real Estate Appraisers

Certified Review Appraiser (CRA)—National Association of Review Appraisers and Mortgage Underwriters

Chartered Financial Analyst (CFA)—Association of Investment Management and Research

Mr. Reilly is a state certified general appraiser in the states of California, Georgia, Idaho, Illinois, Kentucky, Michigan, New Hampshire, New Mexico, New York, Oregon, Utah, and Virginia. He is a state certified affiliate member of the Appraisal Institute.