NEW APPLICATION

0000138998

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BEFORE THE ARIZONA CORPORATION COMMISSION

IN THE MATTER OF THE APPLICATION OF ARIZONA WATER COMPANY, AN ARIZONA CORPORATION, FOR A DETERMINATION OF THE FAIR VALUE OF ITS UTILITY PLANT AND PROPERTY, AND FOR ADJUSTMENTS TO ITS RATES AND CHARGES FOR UTILITY SERVICE FURNISHED BY ITS NORTHERN GROUP AND FOR CERTAIN RELATED APPROVALS.	DOCKET N W-01445A-12-0348 **APPLICATION**

Arizona Corporation Commission
DOCKETED
AUG - 1 2012
DOCKETED BY nr

Arizona Water Company, an Arizona corporation (the "Company") hereby files this Application ("Application") for an order approving certain adjustments to its rates and charges for utility service provided by the Company's Northern Group water systems in Arizona. In support thereof, the Company states as follows:

1. The Company is an Arizona corporation engaged in providing water for public purposes in portions of Cochise, Coconino, Gila, Maricopa, Navajo, Pima, Pinal, and Yavapai Counties, Arizona, pursuant to certificates of public convenience and necessity granted by the Arizona Corporation Commission (the "Commission"). At the present time, the Company operates three groups of water systems, the Northern, Eastern and Western Groups, that serve approximately 84,800 customers.

2. The Company's central business office is located at 3805 North Black Canyon Highway, Phoenix, Arizona 85015-5351. Its mailing address is Post Office Box 29006, Phoenix, Arizona 85038-9006, and its telephone number is (602) 240-6860. The Company's President and primary management contact is William M. Garfield, who is responsible for supervising the day-to-day operations of the Company.

APPLICATION
W-01445A-12-0348

PART 1 OF 7
BARCODE # 0000138998

To review Part 2 please see:
BARCODE #0000139000

To review Part 3 please see:
BARCODE # 0000139001

To review Part 4 please see:
BARCODE # 0000139002

To review Part 5 please see:
BARCODE # 0000139003

To review Part 6 please see:
BARCODE #0000139004

To review Part 7 please see:
BARCODE #0000139005

3. The person responsible for overseeing and directing the conduct of this application is Joel M. Reiker, the Company's Vice President of Rates and Revenues. Mr. Reiker's office and mailing addresses are the same as those set forth in the previous paragraph. Mr. Reiker's telephone number is (602) 240-6860, Ext. 108; his facsimile number is (602) 240-6878; his e-mail address is jreiker@azwater.com. All discovery, data requests, and similar requests for information concerning this Application should be directed to Mr. Reiker.

4. In this Application, the Company seeks adjustments to its rates and charges for utility service for the Company's Northern Group systems, which includes the Navajo (Lakeside and Overgaard) and Verde Valley (Sedona, Pinewood and Rimrock) water systems. Together, the Company's Northern Group of water systems served approximately 19,700 customers at the end of the test year (December 31, 2011) used in this application. The Commission authorized the Company to implement and utilize a "group concept" for filing rate applications in order to, among other things, simplify processing of rate applications and increase administrative efficiency. See Decision No. 58120 at 33-34 and 39. See also Procedural Order (August 1, 1995) issued in Docket No. U-1445-91-227.

5. The last Company rate case for which the Commission entered a final decision and order involving the Company's Northern Group of water systems was filed in 2008 as part of a total Company rate case and decided in Decision No. 71845 (August 25, 2010). The test year used in that proceeding was the 12-month period ending December 31, 2007.

6. Revenues from the Company's Northern Group utility operations are presently inadequate to allow the Company to recover its operating costs and provide a just and reasonable rate of return on the fair value of its utility plant and property used to provide service to customers in its Northern Group. Since 2007, the test year used to set rates for the Company's Northern Group of water systems, the Company has designed, constructed, and placed into service significant additions to utility plant in order to assure safe and reliable water service to its customers and, in particular, to comply with the federally mandated arsenic Safe Drinking Water Act standard and the Commission's directive to reduce water losses by July 1, 2011. As a result, the Company's rate base has increased substantially. Accordingly, the Company requests that

certain adjustments to its rates and charges for utility service rendered by its Northern Group water systems be approved by the Commission so that the Company can recover the costs of providing water service to its customers and earn a just and reasonable rate of return on the fair value of its utility plant and property.

7. Filed herewith as a separately-bound exhibit are the schedules required pursuant to A.A.C. R14-2-103 for rate applications by Class A water utilities. The test year utilized by the Company in connection with the preparation of such schedules is the 12-month period that ended December 31, 2011. It is also the most recent 12-month period for which audited financial statements are available. The Company requests that the Commission utilize such test year in connection with this Application, with appropriate adjustments for utility plant additions that have been completed and placed in service in the Northern Group water systems as detailed in said schedules, and appropriate adjustments for known and measurable changes in the Company's operating expenses since December 31, 2011 to obtain a normal or more realistic relationship between revenues, expenses and rate base during the period rates will be in effect. The Company stipulates that the Commission may use its original cost rate base as its fair value rate base for the limited purpose of setting rates in this proceeding.[1]

8. During the test year, the Company's Northern Group water systems had adjusted gross revenues of $10,124,656, adjusted operating income of $1,565,051 and adjusted net income of $360,879. The Company's adjusted original cost rate base for the Northern Group water systems was $36,045,843. Thus, the rate of return on original cost rate base for the Northern Group water systems for the adjusted test year was only 4.34%. The Company submits that this rate of return is inadequate to allow the Company to service its debt, maintain a sound credit rating, and enable the Company to attract additional capital on reasonable and acceptable terms in order to continue necessary investment in utility plant to adequately serve its customers.

9. The Company is requesting an increase in revenues for the Northern Group water systems of $2,829,974, which constitutes an increase of 27.95%. The proposed adjustment to the

[1] In so stipulating, the Company does not intend to imply that the value of its utility plant, property and other rights is equal to its original cost rate case in other contexts or for other purposes; this stipulation applies to this proceeding only.

Company's rates and charges is designed to produce a rate of return on the original cost rate base equal to 9.11%.

10. In Decision No. 66400 (October 16, 2003), the Commission approved an Arsenic Cost Recovery Mechanism ("ACRM") for the Company's Sedona and Rimrock water systems in the Northern Group. For reasons described in the Direct Testimony of Fredrick K. Schneider, the Company must construct additional arsenic removal facilities in the Verde Valley and Navajo water systems. Planning and design for those facilities are underway. In addition, the Company is requesting that the authorization granted in Decision No. 66400 be extended to the Navajo water systems in this proceeding.

11. In Decision No. 71845, the Commission also approved full rate consolidation of the Pinewood and Rimrock water system into a single water system known as Verde Valley which was partially consolidated with the Sedona water system. The Company's proposal in this application is to complete the full consolidation contemplated by the Commission in Decision No. 71845 by consolidating Sedona's rates with those of Verde Valley.

12. In addition, in order to maintain its financial ability to provide an adequate level of water service to its Northern Group water system customers, the Company is requesting authorization to implement a Distribution System Improvement Charge ("DSIC") for its Northern Group water systems. The DSIC is a ratemaking tool that allows utilities to recover the fixed costs (depreciation and rate of return) of non-revenue producing distribution system improvement projects completed between rate cases. In Decision No. 71845, the Commission stated that an infrastructure funding mechanism, or DSIC, may be a reasonable way to proceed with orderly replacement of the Company's aging infrastructure. The Commission also stated its belief that it was appropriate for the Company to further develop this issue for future consideration by preparing and filing a DSIC study, and to utilize the information from that study to inform the Commission of further proposals in its future rate cases. The initial form of the DSIC study was filed as part of the Company's application in the Western Group case (Docket No. W-01445A-10-0517) as an exhibit to the Direct Testimony of Joseph D. Harris, and an updated form of the DSIC study was filed in that docket on July 22, 2011 and is attached as an exhibit to Mr. Harris' direct

testimony in this case. The updated DSIC Study and Mr. Harris' testimony provide the specific details of the Company's DSIC proposal.

13. In addition to its ACRM continuation and expansion to the Company's Navajo water system and the DSIC proposal, the Company is requesting authorization to implement an Off-Site Facilities Fee. An Off-Site Facilities Fee was approved for the Company's Pinal Valley system in Decision No. 73144 (May 1, 2012), and the Company is currently seeking to implement an Off-Site Facilities Fee for its Superstition system in Docket No. W-01445A-11-0310.

The purpose of the Off-Site Facilities Fee is to equitably apportion the costs of constructing additional off-site facilities to provide water production, treatment, delivery, storage and pressure facilities among all new customers whose water supply requirements make these facilities necessary. A $1,100 fee would be established for each new service connection with a 5/8 x 3/4-inch meter, and the fee would be graduated in amount for larger meter sizes. The fee would be applicable to all new service connections in the service area, as further detailed in the Direct Testimony of Mr. Harris.

14. Filed concurrently in support of this Application is the Direct Testimony of the following persons: William M. Garfield, Joseph D. Harris, Fredrick K. Schneider, Joel M. Reiker and Pauline M. Ahern. This direct testimony is contained in a separately-bound volume filed concurrently with this Application. In addition, to assist the Utilities Division in evaluating this Application and to minimize discovery, the Company has provided the Utilities Division with copies of the Company's water bill analysis.

WHEREFORE, the Company requests the following relief:

A. That the Commission, upon proper notice and at the earliest possible time, approve permanent adjustments to the rates and charges for water service provided by the Company's Northern Group water systems, as proposed by the Company herein, or approve such other rates and charges as will produce a just and reasonable rate of return on the fair value of the Company's utility plant and property;

B. That the Commission authorize continuation of the MAP Surcharge and to extend the ACRM authorization for the Company's Navajo water system, as previously approved for the Company's Verde Valley water systems;

C. That the Commission authorize the Company to implement a DSIC for the Northern Group water systems.

D. That the Commission authorize the Company to implement an Off-Site Facilities Fee for the Company's Sedona water system in the Northern Group's Verde Valley system.

E. That the Commission authorize such other and further relief as may be appropriate to ensure that the Company has an opportunity to earn a just and reasonable return on the fair value of its utility plant and property and as may otherwise be required under Arizona law.

RESPECTFULLY SUBMITTED this 1st day of August, 2012.

ARIZONA WATER COMPANY

By: Robert Geake

Robert W. Geake
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An original and fifteen (15) copies of the foregoing, together with the separately bound schedules and direct testimony supporting this Application, were delivered this 1st day of August, 2012 to:

Docketing Supervisor
Docket Control Division
Arizona Corporation Commission
1200 West Washington Street
Phoenix, Arizona 85007

A copy of the foregoing together with the separately bound schedules and direct testimony supporting this Application, were delivered this 1st day of August, 2012 to:

Ms. Lyn Farmer
Chief Administrative Law Judge
Hearing Division
Arizona Corporation Commission
1200 West Washington Street
Phoenix, Arizona 85007

Mr. Steven M. Olea, Director
Utilities Division
Arizona Corporation Commission
1200 West Washington Street
Phoenix, Arizona 85007

Ms. Janice Alward, Chief Counsel
Legal Division
Arizona Corporation Commission
1200 West Washington Street
Phoenix, Arizona 85007

By: Robert Geake

Pauline M. Ahern

ARIZONA WATER COMPANY

Docket No. W-01445A-12-

2012 RATE HEARING

(For Test Year Ending 12/31/11

PREPARED

DIRECT TESTIMONY & EXHIBITS

OF

Pauline M. Ahern, CRRA

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EXECUTIVE SUMMARY

The direct testimony of Pauline M. Ahern addresses the following issues:

Arizona Water Company's Cost of Common Equity and Overall Required Rate of Return – Ms. Ahern concludes that Arizona Water Company's ("AWC" or "Company") cost of equity is 11.30% and its overall required rate of return is 9.11%. The overall required rate of return is based upon AWC's actual capital structure consisting of 48.95% long-term debt and 51.05% common equity.

Ms. Ahern's cost of equity recommendation is based on the results of her discounted cash flow ("DCF"), risk premium ("RPM") and capital asset pricing model ("CAPM") analyses applied to a proxy group of nine publicly traded water companies. Ms. Ahern concludes that the average cost of common equity to the proxy group is 10.34%, before any adjustment to reflect AWC's relative credit and business risks. In her opinion, if rated, AWC's bonds would likely be rated Baa2 by Moody's, compared with the average Moody's bond rating of A3 for the proxy group, thus requiring a 0.50% credit risk premium. Further, based on empirical evidence, AWC's smaller size relative to the proxy group warrants a business risk premium of 0.45%. Adding the required credit risk adjustment of 0.50%, coupled with the required business risk adjustment of 0.45%, to the 10.34% indicated cost of common equity to the proxy group, results in a cost of common equity of 11.29%. When rounded, Ms. Ahern's recommended cost of common equity for AWC is 11.30%

Distribution System Improvement Charge – Ms. Ahern testifies that the magnitude of the Company's need to replace aging infrastructure is extraordinary and similar to the Company's need to construct arsenic removal facilities, and concludes that absent approval of the Company's requested distribution system improvement charge ("DSIC"), the Company's ability to finance and construct infrastructure necessary to provide safe

and reliable service will be impaired. DSIC mechanisms are widely accepted and adopted throughout the United States, are considered credit supportive and are conducive to the maintenance of financial integrity, as they enable utilities to attract capital on reasonable terms. DSIC mechanisms significantly reduce regulatory lag and enhance the reliability and quality of water service through more timely improvements to infrastructure, which directly benefits customers. In view of the foregoing, Ms. Ahern recommends that the Company's proposed DSIC mechanism be adopted.

ARIZONA WATER COMPANY

Direct Testimony of

Pauline M. Ahern

I. Introduction

Q. PLEASE STATE YOUR NAME, OCCUPATION AND BUSINESS ADDRESS.

A. My name is Pauline M. Ahern. I am a Principal of AUS Consultants. My business address is 155 Gaither Drive, Suite A, Mt. Laurel, New Jersey 08054.

Q. PLEASE SUMMARIZE YOUR PROFESSIONAL EXPERIENCE AND EDUCATIONAL BACKGROUND.

A. I have offered expert testimony on behalf of investor-owned utilities before twenty-seven state regulatory commissions on rate of return issues, including but not limited to common equity cost rate, fair rate of return, capital structure issues, credit quality issues and the like. I am a graduate of Clark University, Worcester, MA, where I received a Bachelor of Arts degree with honors in Economics. I have also received a Master of Business Administration with high honors and a concentration in finance from Rutgers University. The details of these appearances, my educational background, presentations I have given and articles I have co-authored are shown in Appendix A supplementing this testimony.

On behalf of the American Gas Association ("A.G.A."), I calculate the A.G.A. Gas Index, which serves as the benchmark against which the performance of the American Gas Index Fund ("AGIF") is measured monthly. The A.G.A. Gas Index and AGIF are a market capitalization weighted index and fund, respectively, comprised of the common stocks of the publicly traded corporate members of the A.G.A.

I am also the Publisher of AUS Utility Reports, responsible for supervising the production, publication, distribution and marketing of its various reports.

I am a member of the Society of Utility and Regulatory Financial Analysts ("SURFA") where I serve on its Board of Directors, having served two terms as President, from 2006 – 2008 and 2008 – 2010. Previously, I held the position of Secretary/Treasurer from 2004 – 2006. In 1992, I was awarded the professional designation "Certified Rate of Return Analyst" ("CRRA") by SURFA, which is based upon education, experience and the successful completion of a comprehensive written examination.

I am also an associate member of the National Association of Water Companies, serving on its Finance/Accounting/Taxation Committee; a member of the Energy Association of Pennsylvania, formerly the Pennsylvania Gas Association; and a member of the American Finance and Financial Management Associations.

Q. WHAT IS THE PURPOSE OF YOUR TESTIMONY?

A. My testimony addresses the overall fair rate of return, including the appropriate investor-required return on common equity, which Arizona Water Company ("AWC" or "Company") should be afforded the opportunity to earn on the rate base of its Northern Group. In addition, I will address the benefits to AWC and its ratepayers which will result from the adoption of the Company's requested Distribution System Improvement Charge ("DSIC").

Q. WHAT IS YOUR RECOMMENDED COMMON EQUITY COST RATE?

A. I recommend that the Arizona Corporation Commission ("ACC" or "the Commission") authorize the Company the opportunity to earn an overall rate of return of 9.11%, including a common equity cost rate of 11.30%, on its Northern Group rate base. A common equity cost rate of 11.30% results in an overall rate of return of 9.11% when applied to a common equity ratio of 51.05%, shown on Schedule D-1 of the Company's application, as summarized in Table 1 below:

Table 1

Type of Capital	Ratios	Cost Rate	Weighted Cost Rate
Long-Term Debt	48.95%	6.82%	3.34%
Common Equity	51.05%	11.30%	5.77%
Total	100.00%		9.11%

Q. HAVE YOU PREPARED EXHIBITS WHICH SUPPORT YOUR RECOMMENDED COMMON EQUITY COST RATE?

A. Yes. They are Exhibits PMA-1 through PMA-17.

II. Summary

Q. PLEASE SUMMARIZE YOUR RECOMMENDED COMMON EQUITY COST RATE.

A. My recommended common equity cost rate of 11.30% is summarized on Exhibit PMA-1, page 2. AWC's common stock is not publicly traded, hence a market-based common equity cost rate cannot be determined directly for AWC. Therefore, in arriving at my recommended common equity cost rate of 11.30%, I have assessed the market-based common equity cost rates of companies of relatively similar, but not necessarily identical risk, i.e., a proxy group, for insight into a recommended common equity cost rate applicable to AWC. Using companies of relatively comparable similar risk as proxies is consistent with the principles of fair rate of return established in the *Hope*[1] and *Bluefield*[2] cases, adding reliability to the informed expert judgment necessary to arrive at a recommended common equity cost rate. However, no proxy group can be selected to be identical in risk to AWC. Therefore, the proxy group's results must

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[1] Federal Power Commission v. Hope Natural Gas Co., 320 U.S. 591 (1944).

[2] Bluefield Waterworks & Improvement Co. v. Public Serv. Comm'n, 262 U.S. 679 (1922).

be adjusted to reflect the unique relative financial and/or business risks of the Company, as will subsequently be discussed in detail.

Consistent with the Efficient Market Hypothesis ("EMH"), which will be discussed in more detail below, my recommendation is based on the application of market-based cost of common equity models, the Discounted Cash Flow ("DCF") approach, the Risk Premium Model ("RPM") and the Capital Asset Pricing Model ("CAPM") for the proxy group of nine water companies whose selection will subsequently be discussed. While I normally include a cost of common equity cost rate analysis based upon a group of domestic, non-price regulated companies comparable in total risk to the nine water companies, I have not done so in this proceeding in deference to the ACC's implicit rejection of cost of common equity analyses for non-water utilities in Decision No. 66849 at page 21 and Decision No. 67093 at page 27.

The results derived from each method are as follows:

Table 2

	Proxy Group of Nine Water Companies
Discounted Cash Flow Model	9.13%
Risk Premium Model	10.47%
Capital Asset Pricing Model	11.01%
Indicated Common Equity Cost Rate Before Adjustment for Business Risks	10.34%
Credit Risk Adjustment	0.50%
Business Risk Adjustment	0.45%
Indicated Common Equity Cost Rate	11.29%
Recommended Common Equity Cost Rate	11.30%

After reviewing the cost rates based upon these models, I conclude that a common equity cost rate of 10.34% is indicated before any adjustment for credit and business risks arising from AWC's likely Moody's bond rating in the Baa rating category and greater unique business risks relative to the proxy group of nine water companies, which will be discussed subsequently. The indicated common equity cost rate based upon the nine water companies needs to be adjusted upward by 0.50% for credit risk and by 0.45% to reflect AWC's increased unique business risk, as noted above. These adjustments are discussed below. After adjustment, the credit and business risk-adjusted common equity cost rate is 11.29%, which, when rounded to 11.30%, is my recommended common equity cost rate for AWC.

III. General Principles

Q. WHAT GENERAL PRINCIPLES HAVE YOU CONSIDERED IN ARRIVING AT YOUR RECOMMENDED COMMON EQUITY COST RATE OF 11.30%?

A. In unregulated industries, the competition of the marketplace is the principal determinant of the price of products or services. For regulated public utilities, regulation acts as a substitute for marketplace competition. Assuring that a utility can fulfill its obligations to the public to provide safe and reliable service requires a level of earnings sufficient to both maintain the integrity of presently invested capital and permit the attraction of needed new capital at a reasonable cost in competition with other firms of comparable risk. Consequently, marketplace data must be relied upon in assessing a common equity cost rate appropriate for ratemaking purposes. My recommended common equity cost rate is based upon marketplace data for a proxy group of utilities that are as similar in risk as possible to AWC, based upon selection criteria which will be discussed subsequently. Just as the use of the market data for the proxy group adds reliability to the informed expert judgment used in arriving at a recommended common equity cost rate, the use of multiple common equity cost rate models also adds reliability when arriving at a company-specific common equity cost rate.

IV. Business Risk

Q. PLEASE DEFINE BUSINESS RISK AND EXPLAIN WHY IT IS IMPORTANT TO THE DETERMINATION OF A FAIR RATE OF RETURN.

A. Business risk is the riskiness of a company's common stock without the use of debt and/or preferred capital. Examples of general business risks applicable to all utilities, i.e., water, electric and natural gas distribution, include the quality of management, the regulatory environment, customer mix and concentration of

customers, service territory growth, capital intensity, size, and the like, all of which have a direct bearing on earnings.

Business risk is important to the determination of a fair rate of return because the greater the level of risk, the greater the rate of return investors demand, consistent with the basic financial principle of risk and return.

Q. WHAT BUSINESS RISKS FACE THE WATER UTILITY INDUSTRY IN GENERAL?

A. Water is essential to life and unlike electricity or natural gas, water is the only utility product which is intended for customers to ingest. Consequently, water quality is of paramount importance to the health and well-being of customers and is, therefore, subject to significant health and safety regulations. Also, unlike many electric and natural gas utilities, water utilities serve a production function in addition to the delivery functions provided by electric and gas utilities.

Water utilities obtain supply from wells, aquifers, surface water reservoirs, or streams and rivers. Throughout the years, well supplies and aquifers have been environmentally threatened, with historically minor purification treatment giving way to major well rehabilitation, treatment or replacement. Simultaneously, safe drinking water quality standards have tightened considerably, requiring multiple treatments. Supply availability is also limited by drought, water source overuse, runoff, threatened species/habitat protection and other operational, political, and environmental factors. In the course of procuring water supplies and treating water so that it complies with Safe Drinking Water Act ("SDWA") standards, water utilities have an ever-increasing responsibility to be stewards of the environment from which supplies are drawn, in order to preserve and protect their essential water sources.

Electric and natural gas companies, where transmission and distribution is separate from generation, generally do not produce the electricity or natural gas which they transmit and distribute. In contrast, water utilities are typically

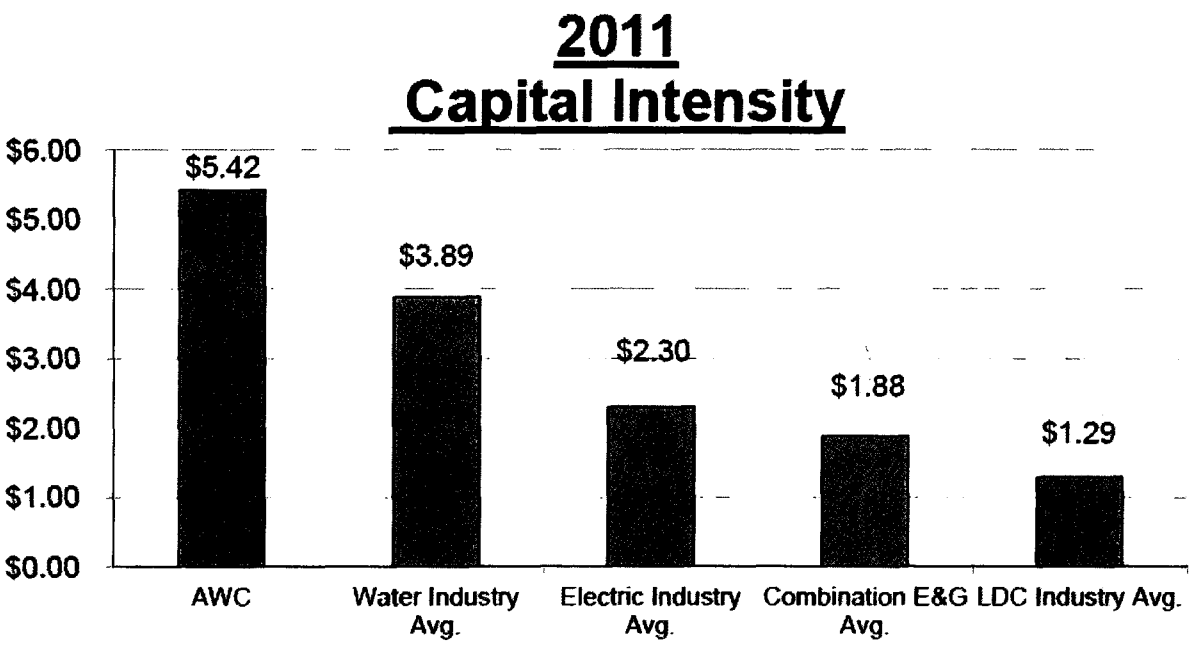
vertically engaged in the entire process of acquiring supply, production, treatment and distribution of water. Hence, water utilities require significant capital investment in not only sources of supply and production (wells and treatment facilities), but also in storage facilities and transmission and distribution systems, both to serve additional customers and to replace aging systems, creating a major risk facing the water and wastewater utility industry.

Value Line Investment Survey[3] ("*Value Line*") observes the following about the water utility industry:

> Still, nearly all of those in this space continue to deal with increasing infrastructure needs. Many water systems in the United States are well-aged, and are decaying, thus requiring greater attention. Most utilities do not have the finances to meet these needs, though, and are having to seek out help from outsiders.

Because the water industry is so much more capital-intensive than the electric, combination electric and gas or natural gas utilities, the investment required to produce a dollar of revenue is greater. For example, as shown on page 1 of Exhibit PMA-2, it took $3.89 of net utility plant on average to produce $1.00 in operating revenues in 2011 for the water utility industry as a whole. For AWC, specifically, it took $5.42 of net utility plant to produce $1.00 in operating revenues in 2011. In contrast, for the electric, combination electric and gas and natural gas utility industries, on average it took only $2.30, $1.88 and $1.29, respectively, to produce $1.00 in operating revenues in 2011, as shown in the following graph from Exhibit PMA-2:

[3] *Value Line Investment Survey*, April 20, 2012.



The greater capital intensity of water utilities is not a new phenomenon, as water utilities have exhibited a consistently and significantly greater capital intensity relative to electric, combination electric and gas and natural gas utilities during the ten years ended 2011, as shown on page 2 of Exhibit PMA-2. As financing needs have increased over the last decade, the competition for capital from traditional sources has also increased, making the maintenance of financial integrity and the ability to attract needed new capital increasingly important. Because investor-owned water utilities typically do not receive federal funds for infrastructure replacement, their access to financing is restricted, increasing risk.

The National Association of Regulatory Commissioners ("NARUC") also highlighted the challenges facing the water and wastewater industry stemming

from its capital intensity. NARUC's Board of Directors adopted the following resolution in July 2005:[4]

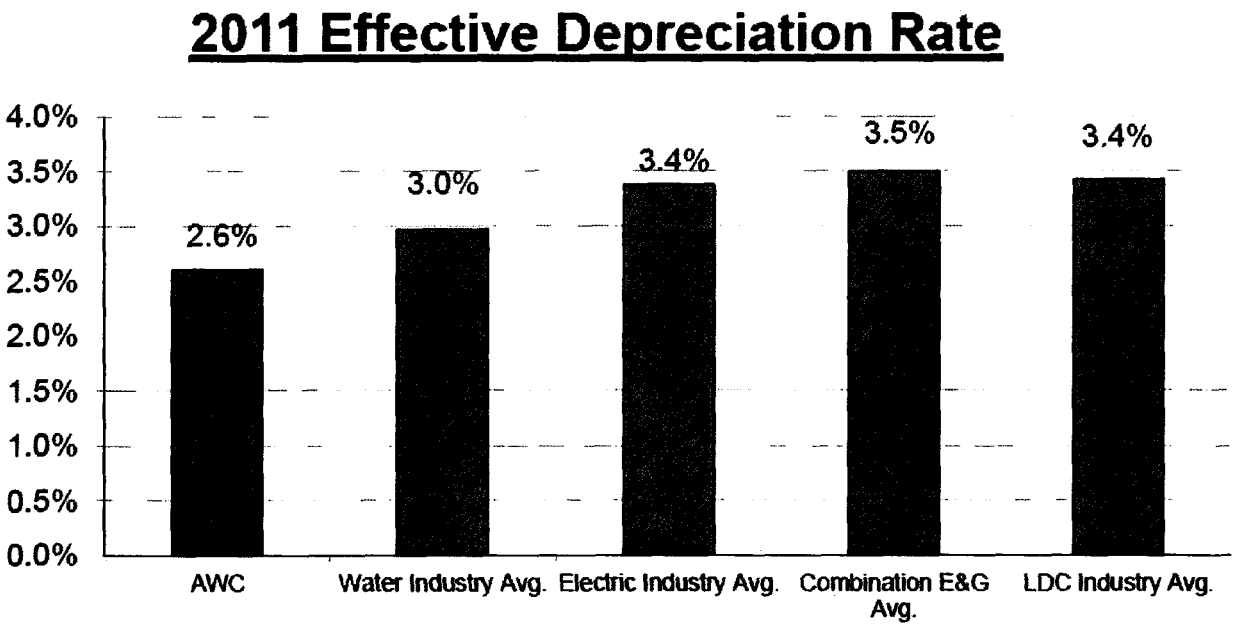
> WHEREAS, To meet the challenges of the water and wastewater industry which may face a combined capital investment requirement nearing one trillion dollars over a 20-year period, the following policies and mechanisms were identified to help ensure sustainable practices in promoting needed capital investment and cost-effective rates: a) the use of prospectively relevant test years; b) the distribution system improvement charge; c) construction work in progress; d) pass-through adjustments; e) staff-assisted rate cases; f) consolidation to achieve economies of scale; g) acquisition adjustment policies to promote consolidation and elimination of non-viable systems; h) a streamlined rate case process; i) mediation and settlement procedures; j) defined timeframes for rate cases; k) integrated water resource management; l) a fair return on capital investment; *and* m) improved communications with ratepayers and stakeholders; *and*
>
> WHEREAS, Due to the massive capital investment required to meet current and future water quality and infrastructure requirements, adequately adjusting allowed equity returns to recognize industry risk in order to provide a fair return on invested capital was recognized as crucial...
>
> RESOLVED, That the National Association of Regulatory Utility Commissions (NARUC), convened in its July 2006 Summer Meetings in Austin, Texas, conceptually supports review and consideration of the innovative regulatory policies and practices identified herein as "best practices;" *and be it further*
>
> RESOLVED, That NARUC recommends that economic regulators consider and adopt as many as appropriate of the regulatory mechanisms identified herein as best practices...

AWC itself is facing expected significant capital investment, as it projects company-wide capital expenditures of $34,202,550 for the years 2012 through

[4] "Resolution Supporting Consideration of Regulatory Policies Deemed as 'Best Practices'", Sponsored by the Committee on Water. Adopted by the NARUC Board of Directors, July 27, 2005.

2014, representing an increase of approximately 11% over 2011 net utility plant of $304,561,000. AWC projects capital expenditures of $10,571,734 through 2014 for the Northern Group, representing an increase of approximately 17.5% over 2011 net utility plant of $60,839,512.

The water utility industry also experiences lower relative depreciation rates. Lower depreciation rates, as one of the principal sources of internal cash flows for all utilities, mean that water utility depreciation as a source of internally-generated cash is far less than for electric, combination electric and gas or natural gas utilities. Water utilities' assets have longer lives and, hence, longer capital recovery periods. As such, water utilities face greater risk due to inflation which results in a higher replacement cost per dollar of net plant than do other types of utilities. As shown on page 3 of Exhibit PMA-2, water utilities experienced an average depreciation rate of 3.0% for 2011, with AWC experiencing a lower rate of 2.6%. In contrast, in 2011, the electric, combination electric and gas and natural gas utilities experienced average depreciation rates of 3.4%, 3.5% and 3.4%, respectively, as shown in the following table from Exhibit PMA-2:



As with capital intensity, the lower relative depreciation rates of water utilities is not a new phenomenon. As shown on page 4 of Exhibit PMA-2, water utility depreciation rates have been consistently and significantly lower than those of the electric, combination electric and gas and natural gas utilities. Such low depreciation rates signify that the pressure on cash flows remains significantly greater for water utilities than for other types of utilities.

Not only is the water utility industry historically capital intensive, it is expected to incur significant capital expenditures over the next 20 years. Prior to the recent economic and capital market turmoil, Standard & Poor's ("S&P") noted[5]:

> Standard & Poor's expects the already capital-intensive water utility industry to become even more so over the next several years. Due to the aging pipeline infrastructure and more stringent quality standards, the U.S. Environmental Protection Agency's [sic] (EPA) foresees a need for $277 billion to upgrade and maintain U.S. water utilities through 2022, with about $185 billion going toward infrastructure improvements. In addition, about $200 billion will be needed for wastewater applications, which suggests increased capital spending to be a long-term trend in this industry.
>
> In line with these trends, many companies have announced aggressive capital spending programs. Forecast capital spending primarily focuses on infrastructure replacements and growth initiatives. Over the past five years, capital spending has been equivalent to about three times its depreciation expense. However, companies are now forecasting spending to be at or above four times depreciation expense over the intermediate term. For companies in regulatory jurisdictions that provide timely cost recovery for capital expenditures, the increased spending is likely to have a minimal effect on financial metrics and ratings. ***However, companies in areas without these mechanisms, earnings, and cash flow could be negatively affected by the increased spending levels, which over the longer term could harm a company's overall credit profile.*** (emphasis added)

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5 Standard & Poor's, Credit Outlook For U.S. Investor-Owned Water Utilities Should Remain Stable in 2008 (January 31, 2008) 2, 4.

As noted by S&P, the EPA has stated[6]:

> The survey found that the total nationwide infrastructure need is $334.8 billion for the 20-year period from January 2007 through December 2026. With $200.8 billion in needs over the next 20 years, transmission and distribution projects represent the largest category of need. This result is consistent with the fact that transmission and distribution mains account for most of the nation's water infrastructure. The other categories, in descending order of need are: treatment, storage, source and a miscellaneous category of needs called "other". The large magnitude of the national need reflects the challenges confronting water systems as they deal with an infrastructure network that has aged considerably since these systems were constructed, in many cases, 50 to 100 years ago.

The 2009 Report Card for America's Infrastructure[7] published by the American Society of Civil Engineers ("ASCE") states:

> The nation's drinking-water systems face staggering public investment needs over the next 20 years. Although America spends billions on infrastructure each year, drinking water systems face an annual shortfall of at least $11 billion in funding needed to replace aging facilities that are near the end of their useful life and to comply with existing and future federal water regulations. The shortfall does not account for any growth in the demand for water over the next 20 years. (footnote omitted)

Water utility capital expenditures as large as those projected by the EPA and ASCE will require significant financing. The three sources typically used for financing are debt, equity (common and preferred) and cash flow. All three are intricately linked to the opportunity to earn a sufficient rate of return as well as the

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6 "Fact Sheet: "EPA's 2007 Drinking Water Infrastructure Needs Survey and Assessment", United States Environmental Protection Agency, Office of Water, February 2009, 1 (the most recently available).

7 2009 American Society of Civil Engineers, Report Card for America's Infrastructure 2009 (the most recently available).

ability to achieve that return. Consistent with the *Hope* and *Bluefield* decisions cited above, the return must be sufficient to maintain credit quality as well as enable the attraction of necessary new capital, whether debt or equity. If unable to raise debt or equity capital, the utility must turn to retained earnings or free cash flow, both of which are directly linked to earning a sufficient rate of return. If either is inadequate, it will be nearly impossible for the utility to invest in needed infrastructure replacement. Since all utilities typically experience negative free cash flows, it is clear that an insufficient rate of return can be financially devastating for utilities and for their customers, the ratepayers. Page 5 of Exhibit PMA-2 demonstrates that the free cash flows (funds from operations minus capital expenditures) of water utilities as a percent of total operating revenues has been consistently more negative than that of the electric, combination electric and gas and natural gas utilities for the ten years ended 2011, only showing slight improvement in 2011. Magnifying the impact of water utilities' negative free cash flow position is a continued inability to achieve what may already be an insufficient authorized rate of return on common equity, as discussed below.

Consequently, as with the previously discussed capital intensity, low depreciation rates and significant capital expenditures relative to net plant, the consistently and more significantly negative free cash flows relative to operating revenues of water utilities indicates greater investment risk for water utilities relative to electric, combination electric and gas and natural gas utilities.

In view of the foregoing, it is clear that the water utility industry's high degree of capital intensity, low depreciation rates and consistently low free cash flow, coupled with the need for substantial infrastructure capital spending, requires regulatory support in the form of adequate and timely rate relief, including sufficient authorized returns on common equity as recognized by

NARUC, so water utilities will be able to successfully meet the challenges they face.

Q. ARE THERE OTHER INDICATIONS THAT THE WATER UTILITY INDUSTRY EXHIBITS MORE INVESTMENT RISK THAN THE ELECTRIC, COMBINATION ELECTRIC AND GAS AND NATURAL GAS UTILITY INDUSTRIES?

A. Yes. Exhibit PMA-3 presents several such indications: total debt / earnings before interest, taxes, depreciation and amortization ("EBITDA"); funds from operations ("FFO") / total debt; funds from operations / interest coverage; before-income tax / interest coverage; market capitalization; earned returns on common equity ("ROEs") and earned v. authorized ROEs for each utility industry for the ten years ended 2011. The increasing proportion of total debt to EBITDA for the water utilities shows significantly increasing and greater financial risk for water utilities, which began the most recent ten years with a ratio below that of electric, combination electric and gas and natural gas utilities, but now are higher.

As noted below, S&P evaluates total debt as a percentage of EBITDA and FFO as a percentage of debt in the bond / credit rating process. Page 1 of Exhibit PMA-3 shows that total debt / EBITDA rose steadily for water utilities for the ten years ended 2011, dropping only in 2010 and 2011. Notwithstanding the decline in 2010 and 2011, total debt / EBITDA is now approximately the same as that for electric utilities, but higher than that for combination electric and gas and natural gas utilities. Page 2 shows that FFO / total debt steadily declined for water utilities over the decade ending 2011, rising only slightly in 2011. However, FFO / total debt for combination electric and gas as well as natural gas utilities rose during the same ten year period, exceeding that of water utilities significantly in 2009 and dropping back somewhat in 2010 before rising again in 2011. The consistently low level of FFO / total debt for water utilities confirms the pressures upon water utility cash flows and the increased relative investment risk which the water utility industry faces.

Pages 3 and 4 of Exhibit PMA-3 confirm the pressures upon both cash flows and income faced by water utilities. Page 3 shows that FFO / interest coverage for AWC and the water, electric, combination electric and gas and natural gas utilities followed a similar pattern to FFO / interest coverage for the ten years ended 2011. FFO / interest coverage remained relatively consistent for water utilities, rising and falling between approximately 2.0 and 3.0 times during the period. A similar pattern was exhibited by electric utilities. Page 4 shows that before-income tax interest coverage for water utilities also remained relatively stable, generally in line with that of the electric and combination electric and gas utility groups, but lower than that of the natural gas utility group for the entire ten years. In 2009, in all likelihood due to the "Great Recession" and the economy's currently nascent, fragile recovery from it, before-income tax interest coverage for water, electric and combination electric and gas utilities all fell below 3.0 times, rising slightly in 2011, while natural gas utilities continue to enjoy a significantly higher before-income tax interest coverage. Once again, the consistently low level of interest coverage ratios for water utilities are further confirmation of the pressures upon cash flow which water utilities face, confirming greater investment risk for water utilities relative to electric, combination electric and gas and natural gas utilities.

The market capitalization of the four groups shown on page 5 clearly shows that the water utility group has the lowest market capitalization, and therefore, the most risk based on size relative to the other utility groups as discussed below.

A final indication of the relative investment risk of water utilities compared with electric, combination electric and gas and natural gas utilities, are trends in earned ROEs. As shown on page 6 of Exhibit PMA-3, water utilities' average earned returns were generally below those of electric, combination electric and gas and natural gas utilities during the ten years ended 2011. Page 6 also

shows that AWC's ROE is lower than water utilities and all other utility groups for the entire period except 2002.

In view of the foregoing, it is clear that the investment risk of water utilities increased over the most recent ten years, that water utilities currently face greater investment risk relative to electric, combination electric and gas and natural gas utilities, and that AWC faces even greater investment risk relative to both other water utilities and electric, combination electric and gas and natural gas utilities.

Q. DOES AWC FACE ADDITIONAL BUSINESS RISK?

A. Yes. AWC faces additional unique business risks due to its segmented and geographically isolated operations, its small size relative to the proxy group, and regulatory lag resulting from the use of a historical test year. As discussed above, the greater the level of risk, the greater the rate of return required by investors, consistent with the basic financial precept of risk and return. Therefore an upward adjustment to the indicated common equity cost rate is necessary to reflect AWC's unique risks, and will be discussed below.

Q. PLEASE EXPLAIN HOW AWC'S SEGMENTED AND GEOGRAPHICALLY ISOLATED OPERATIONS INCREASE ITS BUSINESS RISK.

A. As explained in Company witness William Garfield's pre-filed direct testimony, even though AWC provides water utility service to 84,400 customers throughout Arizona, the individual systems are small and geographically isolated. As a result, the Company cannot enjoy the same economies of scale as a company that serves 84,400 customers with connected infrastructure. A segmented system also requires multi-disciplined employees, who can perform a variety of tasks generally, but are not as efficient as the specialized workers often found in large contiguous systems.

Q. PLEASE EXPLAIN HOW AWC'S SMALLER SIZE INCREASES ITS BUSINESS RISK RELATIVE TO THE PROXY GROUP.

A. As will be discussed subsequently, AWC's smaller size, $153.221 million in total capitalization relative to the average capitalization of $1.818 billion for the nine water companies, shown on Exhibit PMA-5, page 1 of Exhibit PMA-6, respectively, indicates greater relative business risk because all else being equal, size has a bearing on risk. As Mr. Garfield explains in his pre-filed direct testimony, small water systems typically have greater capital investment per customer than larger systems. They also do not have the benefit of the redundancy of larger systems. For example, a small water system with only one or two sources of supply faces a greater risk to supply in the event of the loss of one source of supply than a large water system with multiple sources of supply.

Q. PLEASE EXPLAIN WHY SIZE HAS A BEARING ON BUSINESS RISK.

A. It is conventional wisdom, supported by actual returns over time, that smaller companies tend to be more risky, causing investors to expect greater returns as compensation for that risk. Smaller companies are simply less able to cope with significant events which affect sales, revenues and earnings. For example, the loss of revenues from a few larger customers would have a greater effect on a small company than on a much larger company with a larger, more diverse, customer base. Moreover, smaller companies are generally less diverse in their operations and have less financial flexibility. In addition, extreme weather conditions, i.e., prolonged droughts or extremely wet weather, will have a greater effect upon a small operating water utility than upon the much larger, more geographically diverse companies.

Further evidence of the risk effects of size include the fact that investors demand greater returns to compensate for the lack of marketability and liquidity of the securities of smaller firms. That it is the use of funds invested and not the

source of those funds which gives rise to the risk of any investment is a basic financial principle.[8]

Brigham,[9] a well known authority, states:

> A number of researchers have observed that portfolios of small-firms have earned consistently higher average returns than those of large-firms stocks; this is called "small-firm effect." On the surface, it would seem to be advantageous to the small firms to provide average returns in a stock market that are higher than those of larger firms. In reality, it is bad news for the small firm; what *the small-firm effect means is that the capital market demands higher returns on stocks of small firms than on otherwise similar stocks of the large firms.* (italics added)

Consistent with the financial principle of risk and return discussed above, such increased risk due to small size must be taken into account in the allowed rate of return on common equity. Therefore, the Commission should authorize a cost of equity in this proceeding that reflects AWC's relevant risk, including the impact of its small size.

Q. WHY IS IT PARTICULARLY CRITICAL THAT THE COMPANY BE AUTHORIZED A SUFFICIENT RATE OF RETURN ON COMMON EQUITY IN THIS PROCEEDING?

A. As mentioned above, the judicial standards that a fair rate of return be sufficient to maintain credit quality as well as enable the utility to attract new capital were established in the *Hope* and *Bluefield* cases. Meeting these standards is directly related to the Company's ability to undertake the level of capital expenditures it anticipates. This means that the Company's requested DSIC mechanism, which will be discussed subsequently, is only part of the picture, as its benefits are

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[8] Brealey, Richard A. and Myers, Stewart C., Principles of Corporate Finance (McGraw-Hill Book Company, 1996) 204-205, 229.

[9] Brigham, Eugene F., Fundamentals of Financial Management, Fifth Edition (The Dryden Press, 1989) 623.

meaningful only to the extent a sufficient cost of equity is reflected in AWC's rates. It is therefore necessary and appropriate to authorize a DSIC in *conjunction* with a sufficient rate of return on common equity to enable the Company to raise the capital required to undertake necessary capital expenditures while still maintaining its financial integrity.

Q. WHAT ARE THE BENEFITS TO THE COMPANY OF BEING ALLOWED THE OPPORTUNITY TO EARN A SUFFICIENT ROE?

A. The benefit to the Company of being allowed the opportunity to earn a sufficient ROE is that it provides the Company with improved cash flow, thus improving its creditworthiness and providing the ability to improve its retained earnings balance which, in turn, will allow AWC to issue less long-term debt than would otherwise be necessary. If the Company is required to increase borrowing because the allowed ROE is insufficient, its financial risk will increase, along with its cost of debt and its cost of common equity. This is consistent with the basic financial principle of risk and return, i.e., that the greater the perceived risk, the greater the investor required return.

As explained by Mr. Harris in Section V of his pre-filed direct testimony, to the extent the Company's ability to earn its authorized ROE is impaired, as it has been, its financial integrity and ability to fund infrastructure replacements will be further compromised. It is therefore essential that AWC be allowed the opportunity to earn a sufficient ROE. Mr. Harris further notes in Section V of his pre-filed direct testimony, that erosion of the Company's equity balance will result in unsatisfactory financial ratios, the inability to issue short or long-term debt and ultimately lead to higher costs for customers. In my opinion, the Company cannot undertake the infrastructure replacement program described by Mr. Harris and Mr. Schneider unless it is allowed the opportunity to earn a sufficient ROE and the requested DSIC is adopted.

Q. HAS AWC BEEN ABLE TO EARN ITS AUTHORIZED RATE OF RETURN?

A. No. As demonstrated on page 11 of Exhibit PMA-3, for the fifteen (15) years ending with 2011, AWC has never earned its authorized rate of return on common equity. At the same time its financial risk has increased as its debt ratio rose from approximately 30% in 1997 to nearly 50% in 2011. As Mr. Harris explains in Section II of his pre-filed direct testimony, despite the significant benefits afforded by the arsenic cost recovery mechanism ("ACRM"), various cost-cutting measures, and a total Company rate case, the Company has yet to earn its authorized rate of return on common equity.

V. Financial Risk

Q. PLEASE DEFINE FINANCIAL RISK AND EXPLAIN WHY IT IS IMPORTANT TO THE DETERMINATION OF A FAIR RATE OF RETURN.

A. Financial risk is the additional risk created by the introduction of senior capital, i.e., debt and preferred stock, into the capital structure. The higher the proportion of senior capital in the capital structure, the greater the financial risk which must be factored into the common equity cost rate, consistent with the previously mentioned basic financial principle of risk and return, i.e., investors demand a higher common equity return as compensation for bearing higher investment risk.

In May 2009, S&P expanded its Business Risk / Financial Risk Matrix in an effort to augment its independence, strengthen the rating process and increase S&P's transparency to better serve its markets (see page 4 of Exhibit PMA-4). In November 2007, S&P initially published its electric, gas, and water utility ratings rankings in a framework consistent with the manner in which it presents its rating conclusions across all other corporate sectors. S&P then stated[10]:

[10] Standard & Poor's – Ratings Direct – "U.S. Utilities Ratings Analysis Now Portrayed In The S&P Corporate Ratings Matrix" (November, 30, 2007) 2.

> Incorporating utility ratings into a shared framework to communicate the fundamental credit analysis of a company furthers the goals of transparency and comparability in the ratings process.
>
> * * *
>
> The utilities rating methodology remains unchanged, and the use of the corporate risk matrix has not resulted in any changes to ratings or outlooks. The same five factors that we analyzed to produce a business risk score in the familiar 10-point scale are used in determining whether a utility possesses an "Excellent," "Strong," "Satisfactory," "Weak," or "Vulnerable" business risk profile.

In May 2009, S&P revised its Business Risk / Financial Risk Matrix with the new business risk/financial risk matrix shown in Table 1 on page 2 of Exhibit PMA-4 and financial risk indicative ratios for utilities shown in Table 2 on page 4. Notwithstanding the metrics published in Table 2, S&P stated:

> The rating matrix indicative outcomes are what we typically observe – but are not meant to be precise indications or guarantees of future rating opinions. Positive and negative nuances in our analysis may lead to a notch higher or lower than the outcomes indicated in the various cells of the matrix.

As shown on Exhibit PMA-9, page 2, the average S&P bond rating (issuer credit rating), business risk profile and financial risk profile of the nine water companies are split A+ (A), Excellent and Intermediate.

Q. NEVERTHELESS, CAN THE COMBINED BUSINESS RISKS, I.E., INVESTMENT RISK OF AN ENTERPRISE, BE PROXIED BY BOND AND CREDIT RATINGS?

A. Yes. Similar bond ratings/issuer credit (bond/credit) ratings reflect and are representative of similar combined business and financial risks, i.e., total risk faced by bond investors. Although specific business or financial risks may differ

between companies, the same bond/credit rating indicates that the combined risks are similar, albeit not necessarily equal, as the purpose of the bond/credit rating process is to assess credit quality or credit risk and not common equity risk. Risk distinctions within S&P's bond rating categories are recognized by a plus or minus, i.e., within the A category, an S&P rating can be at A+, A, or A-. Similarly, risk distinctions for Moody's ratings are distinguished by numerical rating gradations, i.e., within the A category, a Moody's rating can be A1, A2 and A3. For S&P, additional risk distinctions are reflected in the assignment of one of the six business risk profiles and six financial risk profiles, shown in Tables 1 and 2 on pages 2 and 4 of Exhibit PMA-4.

In summary, S&P's bond/credit rating process encompasses a qualitative analysis of business and financial risks (see page 3 of Exhibit PMA-4). While these ratings do not specifically quantify the differential in common equity risk between companies, bond/credit ratings provide a useful means with which to compare/differentiate investment risk between companies, because they are the result of a thorough and comprehensive analysis of all diversifiable business risks, i.e., investment risk.

VI. <u>Arizona Water Company's Northern Group</u>

Q. HAVE YOU REVIEWED FINANCIAL DATA FOR AWC?

A. Yes. AWC's Northern Group, operating through eight public water systems, provided water services to 19,738 retail customers as of December 31, 2011. The eight public water systems include: the Pinewood system with 2,856 customers; the Rimrock system with 1,217 customers; the Overgaard system with 4,153 customers; the Pinetop Lakes system with 1,001 customers; the Valley Vista System with 766 customers; the Forest Towne system with 5 customers; the Lakeside system with 4,012 customers; and, the Sedona system with 5,728 customers.

The total Company serves approximately 84,400 customers in Cochise, Coconino, Gila, Maricopa, Navajo, Pima, Pinal and Yavapai counties. As shown on Exhibit PMA-5, during the five year period ending 2011, the achieved average earnings rate on book common equity for AWC (total company) was 5.05%. The five-year ending 2011 average common equity ratio, based upon total permanent capital, was 52.36%.

Total debt to EBITDA for the years 2007-2011 ranged between 2.37 and 4.72 times and averaged 4.18 times, while funds from operations relative to total debt ranged from 20.87% to 31.61%, averaging 26.12%. Both of these metrics indicate greater credit risk for AWC relative to the proxy group of nine water companies as will be discussed below relative to AWC's likely bond rating.

VII. Proxy Group

Q. PLEASE EXPLAIN HOW YOU CHOSE THE PROXY GROUP OF NINE WATER COMPANIES.

A. The basis of selection for the proxy group was to select those companies which meet the following criteria: 1) they are included in the Water Company Group of AUS Utility Reports (July 2012); 2) they have *Value Line*, Reuters, Zacks or Yahoo! Finance, consensus five-year earnings per share ("EPS") growth rate projections; 3) they have a positive *Value Line* five-year dividends per share ("DPS") growth rate projection: 4) they have a *Value Line* adjusted beta; 5) they have not cut or omitted their common dividends during the five years ending 2011 or through the time of the preparation of this testimony; 6) they have 70% or greater of 2011 total operating income derived from and 70% or greater of 2011 total assets devoted to regulated water operations; and 7) at the time of the preparation of this testimony, they had not publicly announced that they were involved in any major merger or acquisition activity, i.e., one publicly-traded utility merging with or acquiring another.

The following nine companies met these criteria: American States Water Co., American Water Works Co., Inc., Aqua America, Inc., Artesian Resources Corp., California Water Service Corp., Connecticut Water Service, Inc., Middlesex Water Company, SJW Corporation and York Water Company.

Q. PLEASE DESCRIBE EXHIBIT PMA-6.

A. Exhibit PMA-6 contains comparative capitalization and financial statistics for the nine water companies for the years 2007-2011.

During the five-year period ending 2011, the historically achieved average earnings rate on book common equity for the group averaged 7.69%. The average common equity ratio based upon permanent capital (excluding short-term debt) was 49.32%, and the average dividend payout ratio was 64.54%.

Total debt to EBITDA for the years 2007-2011 ranged between 4.34 and 9.07 times, averaging 5.86 times, while funds from operations relative to total debt ranged from 15.04% to 18.82%, averaging 16.70%.

VIII. Common Equity Cost Rate Models

IX. A. The Efficient Market Hypothesis ("EMH")

Q. PLEASE DESCRIBE THE CONCEPTUAL BASIS OF THE EMH.

A. The EMH, which is the foundation of modern investment theory, was pioneered by Eugene F. Fama[11] in 1970. An efficient market is one in which security prices reflect all relevant information all the time, with the implication that prices adjust instantaneously to new information, thus reflecting the intrinsic fundamental economic value of a security.[12]

The generally-accepted "semistrong" form of the EMH asserts that all publicly available information is fully reflected in securities prices, i.e., that

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[11] Fama, Eugene F., "Efficient Capital Markets: A Review of Theory and Empirical Work" (Journal of Finance, May 1970) 383-417.

[12] Morin, Roger A., New Regulatory Finance (Public Utility Reports, Inc., 2006) 279-281.

fundamental analysis cannot enable an investor to "out-perform the market" in the long-run, as noted by Brealey and Myers[13]. The "semistrong" form of the EMH is generally held to be true because the use of insider information often enables investors to earn excessive returns by "outperforming the market" in the short-run. This means that all perceived risks and publicly-available information are taken into account by investors in the prices they pay for securities, such as bond/credit ratings, discussions about companies by bond/credit rating agencies and investment analysts as well as the discussions of the various common equity cost rate methodologies (models) in the financial literature. In an attempt to emulate investor behavior, a limited number of common equity cost rate models, such as one or two, should not be relied upon exclusively in determining a cost rate of common equity and the results of multiple cost of common equity models should be taken into account. In addition, the academic literature provides substantial support for the need to rely upon multiple cost of common equity models in arriving at a recommended common equity cost rate.[14]

Q. ARE THE COST OF COMMON EQUITY MODELS YOU USE MARKET-BASED MODELS, AND HENCE BASED UPON THE EMH?

A. Yes. The DCF model is market-based in that market prices are utilized in developing the dividend yield component of the model. The RPM is market-based in that the bond ratings and expected bond yields used in the application of the RPM reflect the market's assessment of bond/credit risk. In addition, the use of betas to determine the equity risk premium also reflects the market's assessment of market/systematic risk as betas are derived from regression

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[13] Brealey, Richard A. and Myers, Stewart C., Principles of Corporate Finance First Edition, (McGraw-Hill, 1996) 329.

[14] Morin 428-431.
Brigham, Eugene F. and Gapenski, Louis C., Financial Management – Theory and Practice Fourth Edition, (The Dryden Press, 1985) 256.
Brigham, Eugene F. and Daves, Phillip R., Intermediate Financial Management, (Thomson-Southwestern, 2007) 332-333.

analyses of market prices. The CAPM is market-based for many of the same reasons that the RPM is market-based i.e., the use of expected bond (Treasury bond) yields and betas.

B. Discounted Cash Flow Model ("DCF")

Q. WHAT IS THE THEORETICAL BASIS OF THE DCF MODEL?

A. The theory underlying the DCF model is that the present value of an expected future stream of net cash flows during the investment holding period can be determined by discounting those cash flows at the cost of capital, or the investors' capitalization rate. DCF theory indicates that an investor buys a stock for an expected total return rate which is derived from cash flows received in the form of dividends plus appreciation in market price (the expected growth rate). Mathematically, the dividend yield on market price plus a growth rate equals the capitalization rate, i.e., the total common equity return rate expected by investors.

Q. WHICH VERSION OF THE DCF MODEL DO YOU USE?

A. I utilize the single-stage constant growth DCF model because, in my experience, it is the most widely utilized version of the DCF used in public utility rate regulation. Because utilities, especially water utilities, are generally in the mature stage of their lifecycles and not transitioning from one growth stage to another, this version of the DCF model is appropriate.

All companies, including utilities, go through typical life cycles in their development, initially progressing through a growth stage, moving onto a transition stage and finally assuming a steady-state or constant growth state. However, the U.S. public utility industry is a long-standing industry, dating back to approximately 1882. The standards of rate of return regulation of public utilities date back to the previously discussed principles of fair rate of return established in the *Hope* and *Bluefield* decisions of 1944 and 1923, respectively. Hence, the public utility industry in the U.S. is a stable and mature industry characterized by the steady-state, or the constant-growth stage, of a multi-stage

DCF model. The regulated economics of the utility industry further reflect the features of this relative stability and demand maturity. Their returns on capital investment, i.e., rate base, are set through a ratemaking process and not determined in the competitive markets. This characteristic, taken together with the longevity of the public utility industry at large, all contribute to the stability and maturity of the industry.

Since there is no basis for applying multi-stage growth versions of the DCF model to determine the common equity cost rates of mature public utility companies, the single stage constant growth model is most appropriate.

Q. PLEASE DESCRIBE THE DIVIDEND YIELD YOU USED IN YOUR APPLICATION OF THE DCF MODEL.

A. The unadjusted dividend yields are based upon a recent (July 6, 2012) indicated dividend divided by the average of closing market prices for the 60 days ending July 6, 2012 as shown in Column 1 on page 1 of Exhibit PMA-7.

Q. PLEASE EXPLAIN THE ADJUSTED DIVIDEND YIELD SHOWN ON PAGE 1 OF EXHIBIT PMA-7, COLUMN 7.

A. Because dividends are paid quarterly, or periodically, as opposed to continuously (daily), an adjustment must be made to the dividend yield. This is often referred to as the discrete, or the Gordon Periodic, version of the DCF model.

DCF theory calls for the use of the full growth rate, or D_1, in calculating the dividend yield component of the model. However, since the various companies in the proxy group increase their quarterly dividend at various times during the year, a reasonable assumption is to reflect one-half the annual dividend growth rate in the dividend yield component, or $D_{1/2}$. This is a conservative approach which does not overstate the dividend yield which should be representative of the next twelve-month period. Therefore, the actual average dividend yields in Column 1 on page 1 of Exhibit PMA-7 have been adjusted upward to reflect one-half the average projected growth rate shown in Column 6.

Q. PLEASE EXPLAIN THE BASIS OF THE GROWTH RATES OF THE PROXY GROUP WHICH YOU USE IN YOUR APPLICATION OF THE DCF MODEL.

A. Exhibit PMA-8 shows that approximately 53% of the common shares of the nine water companies are held by individuals as opposed to institutional investors. Institutional investors tend to have more extensive informational resources than most individual investors. Individual investors, with more limited resources, are therefore likely to place great significance on the opinions expressed by financial information services, such as *Value Line*, Reuters, Zacks and Yahoo! Finance, which are easily accessible and/or available on the Internet and through public libraries. Investors realize that analysts have significant insight into the dynamics of the industries and individual companies they analyze, as well as company's abilities to effectively manage the effects of changing laws and regulations and ever changing economic and market conditions.

Over the long run, there can be no growth in DPS without growth in EPS. Security analysts' earnings expectations have a more significant, but not sole, influence on market prices than dividend expectations. Thus, the use of earnings growth rates in a DCF analysis provides a better matching between investors' market price appreciation expectations and the growth rate component of the DCF. Earnings expectations have a significant influence on market prices and their appreciation or "growth" experienced by investors.[15] This should be evident even to relatively unsophisticated investors just by listening to financial news reports on radio, TV or reading the newspapers.

In addition, Myron Gordon, the "father" of the standard regulatory version of the DCF model widely utilized throughout the United States in rate base/rate of return regulation has recognized the significance of analysts' forecasts of growth

[15] Morin 298 - 303.

in EPS. In a speech he gave in March 1990 before the Institute for Quantitative Research and Finance, he said:

> We have seen that earnings and growth estimates by security analysts were found by Malkiel and Cragg to be superior to data obtained from financial statements for the explanation of variation in price among common stocks. . . estimates by security analysts available from sources such as IBES are far superior to the data available to Malkiel and Cragg. Eq (7) is not as elegant as Eq (4), but it has a good deal more intuitive appeal. It says that investors buy earnings, but what they will pay for a dollar of earnings increases with the extent to which the earnings are reflected in the dividend or in appreciation through growth.

Professor Gordon recognized that total return is largely affected by the terminal price which is mostly affected by earnings (hence price / earnings multiples). However, while EPS is the most significant factor influencing market prices, it is by no means the only factor that affects market prices, as recognized by Bonbright[16]:

> In the first place, commissions cannot forecast, except within wide limits, the effect their rate orders will have on the market prices of the stocks of the companies they regulate. In the second place, *whatever the initial market prices may be, they are sure to change not only with the changing prospects for earnings, but with the changing outlook of an inherently volatile stock* market. In short, market prices are beyond the control, though not beyond the influence of rate regulation. Moreover, even if a commission did possess the power of control, any attempt to exercise it ... would result in harmful, uneconomic shifts in public utility rate levels. (italics added)

Studies performed by Cragg and Malkiel[17] demonstrate that analysts' forecasts are superior to historical growth rate extrapolations. Some question the

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[16] Bonbright, James C., Danielsen, Albert L., Kamerschen, David R., Principles of Public Utility Rates (Public Utilities Reports, Inc., 1988) 334.

[17] Cragg, John G. and Malkiel, Burton G., Expectations and the Structure of Share Prices (University of Chicago Press, 1982) Chapter 4.

accuracy of analysts' forecasts of EPS growth. However, it does not really matter what the level of accuracy of those analysts' forecasts is after the fact. What is important is that they reflect widely held expectations influencing investors at the time they make their pricing decisions and, hence, the market prices they pay.

As stated above, the "semistrong" form of the EMH, which is generally accepted, indicates investors are aware of all publicly-available information, including the many security analysts' earnings growth rate forecasts available. Investors are also aware of the accuracy of past forecasts, whether for EPS or DPS growth or for interest rates levels. Investors have no prior knowledge of the accuracy of any forecasts available at the time they make their investment decisions, as that accuracy only becomes known after some future period of time has elapsed. Therefore, given the overwhelming academic/empirical support regarding the superiority of security analysts' EPS growth rate forecasts, such EPS growth rate projections should be relied upon in a cost of common equity analysis. Consequently, I have reviewed security analysts' projected growth rates in EPS, as well as *Value Line*'s projected five-year compound growth rates in EPS for each company in the proxy group as shown in Columns 2 through 5, on page 1 of Exhibit PMA-7.

Q. PLEASE SUMMARIZE THE DCF MODEL RESULTS.

A. As shown on page 1 of Exhibit PMA-7, the median result of the application of the single-stage DCF model is 9.13% for the nine water companies. In arriving at a conclusion of a DCF-indicated common equity cost rate for the proxy group, I have relied upon the median of the results of the DCF, due to the wide range of DCF results, as well as, the continuing volatile capital market conditions and to not give undue weight to outliers on either the high or the low side. In my

opinion, the median is a more accurate and reliable measure of central tendency, and provides recognition of all the DCF results.

C. The Risk Premium Model ("RPM")

Q. PLEASE DESCRIBE THE THEORETICAL BASIS OF THE RPM.

A. The RPM is based upon the basic financial principle of risk and return; namely, that investors require greater returns for bearing greater risk. The RPM recognizes that common equity capital has greater investment risk than debt capital, as common equity shareholders are last in line in any claim on a company's assets and earnings, with debt holders being first in line. Therefore, investors require higher returns from common stocks than from investment in bonds, to compensate them for bearing the additional risk.

While the investors' required common equity return cannot be directly determined or observed, it is possible to directly observe bond returns and yields. According to RPM theory, one can assess a common equity risk premium over bonds, either historically or prospectively, and then use that premium to derive a cost rate of common equity.

In summary, according to RPM theory, the cost of common equity equals the expected cost rate for long-term debt capital plus a risk premium over that cost rate to compensate common shareholders for the added risk of being unsecured and last-in-line for any claim on the corporation's assets and earnings.

Q. SOME ANALYSTS STATE THAT THE RPM IS ANOTHER FORM OF THE CAPM. DO YOU AGREE?

A. While there are some similarities, there is a very significant distinction between the two models. The RPM and CAPM both add a "risk premium" to an interest rate. However, the beta approach to the determination of an equity risk premium in the RPM should not be confused with the CAPM. Beta is a measure of systematic, or market, risk, a relatively small percentage of total risk (the sum of

both non-diversifiable systematic and diversifiable unsystematic risk). Unsystematic risk is fully captured in the RPM through the use of the long-term public utility bond yield as can be shown by reference to page 3 of Exhibit PMA-4, which confirms that the bond/credit rating process involves a comprehensive assessment of both business and financial risks. In contrast, the use of a risk-free rate of return in the CAPM does not, and by definition cannot, reflect a company's specific, i.e., unsystematic, risk. Consequently, a much larger portion of the total common equity cost rate is reflected in the company- or proxy group-specific bond yield (a product of the bond rating) than is reflected in the risk-free rate in the CAPM, or even by the dividend yield employed in the DCF model. Moreover, the financial literature recognizes the RPM and CAPM as two separate and distinct cost of common equity models.

Q. PLEASE EXPLAIN HOW YOU DERIVED YOUR INDICATED COST OF COMMON EQUITY BASED UPON THE RPM.

A. I averaged the results from the application of two risk premium methods. The first method is the Predictive Risk Premium Model™ ("PRPM™"), while the second method is a risk premium model using a total market approach.

D. <u>Predictive Risk Premium Model™</u>

Q. PLEASE EXPLAIN THE PRPM™.

A. The PRPM™, which has been recently published in the *<u>Journal of Regulatory Economics ("JRE")</u>*[18] was developed from the work of Robert F. Engle who shared the Nobel Prize in Economics in 2003 "for methods of analyzing economic time series with time-varying volatility (ARCH)[19]," with "ARCH" standing for autoregressive conditional heteroskedasticity. In other words, volatility changes over time and is related from one period to the next, especially

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[18] "A New Approach for Estimating the Equity Risk Premium for Public Utilities", Pauline M. Ahern, Frank J. Hanley and Richard A. Michelfelder, Ph.D. <u>The Journal of Regulatory Economics</u> (December 2011), 40:261-278.

[19] www.nobelprize.org

in financial markets. Engle discovered that the volatility in prices and returns cluster over time. Therefore, high and low volatility periods can be used to predict equity risk premiums. The PRPM™ estimates the risk / return relationship directly, as the predicted equity risk premium is generated by the prediction of volatility, i.e., risk.

The inputs to the model are the historical returns on the common shares of each water company in my water utility group minus the historical monthly yield on long-term U.S. Treasury securities through June 2012. Using a generalized form of ARCH, known as GARCH, each water company's projected equity risk premium was determined using Eviews© statistical software. The forecasted 30-year U.S. Treasury Bond ("Note") yield based upon the consensus forecast derived from the July 1, 2012 *Blue Chip Financial Forecasts ("Blue Chip")*, or 3.20%, was averaged with the historical income return on long-term government bonds of 5.32% to derive a risk-free rate of 4.26%, which was then added to each company's PRPM™ derived equity risk premium to arrive at a PRPM™ derived common equity cost rate. Page 2 of Exhibit PMA-9 presents the results for each proxy company as well as the average and median results. As shown on page 2, the average PRPM™ indicated common equity cost rate is 13.01% and the median is 11.03% for my water utility group. Consistent with my reliance upon the median DCF results discussed above, I rely upon the median results of the PRPM™, 11.03%.

E. Total Market Approach RPM

Q. PLEASE EXPLAIN THE TOTAL MARKET APPROACH RPM.

A. The total market approach RPM adds a prospective public utility bond yield to an equity risk premium which is derived from a beta-adjusted total market equity risk premium and an equity risk premium based upon the S&P Utilities Index.

Q. PLEASE EXPLAIN THE BASIS OF THE EXPECTED BOND YIELD OF 4.72% APPLICABLE TO THE PROXY GROUP OF NINE WATER COMPANIES SHOWN ON PAGE 3 OF EXHIBIT PMA-9.

A. The first step in the total market approach RPM analysis is to determine the expected bond yield. Because both ratemaking and the cost of capital, including common equity cost rate, are prospective in nature, a prospective yield on similarly-rated long-term debt is essential. Hence, I rely upon a consensus forecast of about 50 economists of the expected yield on Aaa rated corporate bonds for the six calendar quarters ending with the fourth calendar quarter of 2013, as derived from the July 1, 2012 *Blue Chip* (shown on page 9 of Exhibit PMA-9). As shown on Line No. 1 of page 3 of Exhibit PMA-9, the average expected yield on Moody's Aaa rated corporate bonds is 4.03%. An adjustment of 0.43% is necessary to adjust that average Aaa corporate bond yield to be equivalent to a Moody's A2 rated public utility bond, as shown on Line No. 2 and explained in Note 2, resulting in an expected bond yield applicable to a Moody's A rated public utility bond of 4.46%, as shown on Line No. 3.

Since the nine water companies' average Moody's bond rating is A3, an adjustment of 0.26% is necessary to make the prospective bond yield applicable to an A3 public utility bond, as detailed in Note 3 on page 3 of Exhibit PMA-9. Therefore, the expected specific bond yield is 4.72% for the nine water companies as shown on Line No. 5.

Q. PLEASE EXPLAIN THE METHOD UTILIZED TO ESTIMATE THE EQUITY RISK PREMIUM.

A. I evaluated the results of two different market equity risk premium studies based upon Ibbotson Associates' data and *Value Line's* forecasted total annual market return in excess of the prospective yield on Moody's Aaa corporate bonds. I also evaluated two different studies of the equity risk premium for public utilities with Moody's A rated bonds as detailed on pages 7, 8 and 10 of Exhibit PMA-9. As

shown on Line No. 3, page 7, the mean equity risk premium applicable to the nine water companies is 5.17%. This estimate is the result of an average of a beta-derived equity risk premium and the average public utility equity risk premium relative to bonds rated A by Moody's, based upon holding period returns.

Q. PLEASE EXPLAIN THE BASIS OF THE BETA-DERIVED EQUITY RISK PREMIUM.

A. The basis of the beta-derived equity risk premium applicable to the proxy group is shown on page 8 of Exhibit PMA-9. The beta-determined equity risk premium should receive substantial weight because betas are derived from the market prices of common stocks over a recent five-year period. Beta is a meaningful measure of prospective relative risk to the market as a whole and a logical means by which to allocate a company's/proxy group's share of the market's total equity risk premium relative to corporate bond yields.

The total market equity risk premium utilized is 9.12%, based upon an average of the long-term arithmetic mean historical market equity risk premium, a predicted market equity risk premium based upon the PRPM™ and a forecasted market risk premium based upon *Value Line's* projected market appreciation and dividend yield. To derive the historical (expectational) market equity risk premium, I used the most recent Morningstar data on holding period returns for the large company common stocks from the Ibbotson® SBBI® – 2012 Valuation Yearbook – Market Results for Stocks, Bonds, Bills and Inflation – 1926-2011 ("SBBI – 2012") and the average historical yield on Moody's Aaa and Aa rated corporate bonds for the period 1926-2011. The use of holding period returns over a very long period of time is consistent with the long-term investment horizon presumed by the DCF model.[20]

[20] Ibbotson® SBBI® – 2012 Valuation Yearbook – Market Results for Stocks, Bonds, Bills and Inflation – 1926 – 2011 (SBBI 2012) (Morningstar, Inc., 2011) 59.

As explained in note 1 on page 8 of Exhibit PMA-9, the long-term arithmetic mean monthly total return rate on large company common stocks of 11.77% and the long-term arithmetic mean monthly yield on Moody's Aaa and Aa rated corporate bonds of 6.26% were used. As shown on Line No. 1, the resulting long-term historical equity risk premium on the market as a whole is 5.51%.

I used arithmetic mean monthly return rates and yields (income returns) because they are appropriate for cost of capital purposes as noted in the SBBI – 2012. Arithmetic mean return rates and yields are appropriate because ex-post (historical) total returns and equity risk premiums differ in size and direction over time, providing insight into the variance and standard deviation of returns. Because the arithmetic mean captures the prospect for variance in returns and equity risk premiums, it provides the valuable insight needed by investors in estimating future risk when making a current investment. Absent such valuable insight into the potential variance of returns, investors cannot meaningfully evaluate prospective risk. If investors alternatively relied upon the geometric mean of ex-post equity risk premiums, they would have no insight into the potential variance of future returns because the geometric mean relates the change over many periods to a constant rate of change, thereby obviating the year-to-year fluctuations, or variance, *critical to risk analysis.*

The financial literature is quite clear on this point, that risk is measured by the variability of expected returns, i.e., the probability distribution of returns.[21] In addition, Weston and Brigham[22] provide the standard financial textbook definition of the riskiness of an asset when they state:

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[21] Brigham (1989) 639.

[22] Weston, J. Fred and Brigham, Eugene F., Essentials of Managerial Finance Third Edition (The Dryden Press, 1974) 272.

The riskiness of an asset is defined in terms of the *likely variability of future returns from the asset.* (emphasis added)

And Morin states:[23]

The geometric mean answers the question of *what constant return* you would have to achieve in each year to have your investment growth match the return achieved by the stock market. The arithmetic mean answers the question of what growth rate is the best estimate of the future amount of money that will be produced by continually reinvesting in the stock market. It is the rate of return which, compounded over multiple periods, gives the mean of the probability distribution of ending wealth. (emphasis added)

In addition, Brealey and Myers[24] note:

The proper uses of arithmetic and compound rates of return from past investments are often misunderstood. . . Thus the arithmetic average of the returns correctly measures the opportunity cost of capital for investments. . . *Moral*: If the cost of capital is estimated from historical returns or risk premiums, use arithmetic averages, not compound annual rates of return. (italics in original)

Also, Giaacchino and Lesser[25] state:

The appropriateness of using either a geometric or arithmetic mean depends on the context.[12] (footnote omitted) If you are evaluating the past performance of a stock, the geometric mean is appropriate: it represents the compound average return over time.

* * *

If, instead, you wish to estimate future growth, you need to use an arithmetic mean. . . compounding the stock at the arithmetic mean. . . gives us the expected (average) stock price. . .

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[23] Morin 133.

[24] Brealey and Myers 146-147.

[25] Giaacchino, Leonardo R. and Lesser, Jonathan A., Principles of Utility Corporate Finance (Public Utilities Reports, Inc., 2011) 38-41 and 233-234.

compounding at the geometric mean leads to the median stock price.

As previously discussed, investors gain insight into relative riskiness by analyzing expected future variability. This is accomplished by the use of the arithmetic mean of a distribution of returns / premiums. Only the arithmetic mean takes into account all of the returns / premiums, hence, providing meaningful insight into the variance and standard deviation of those returns / premiums.

Q. PLEASE EXPLAIN THE INPUTS TO THE PRPM™ DERIVED MARKET EQUITY RISK PREMIUM.

A. The inputs to the model are the historical monthly returns on large company common stocks from 1928-2012 minus the monthly yields on Aaa corporate bonds during the period from January 1928 through May 2012 (the latest available at the time of the preparation of this testimony). Using the previously discussed generalized form of ARCH, known as GARCH, the market's projected equity risk premium was determined using Eviews© statistical software. The resulting predicted market equity risk premium based upon the PRPM™ of 8.97% is shown on Line No. 2 on page 8 of Exhibit PMA-9.

Q. PLEASE EXPLAIN HOW YOU INCORPORATED *VALUE LINE'S* FORECASTED TOTAL ANNUAL MARKET RETURN MINUS THE PROSPECTIVE YIELD ON AAA RATED CORPORATE BONDS IN YOUR DEVELOPMENT OF AN EQUITY RISK PREMIUM FOR YOUR RPM ANALYSIS?

A. because both ratemaking and the cost of capital, including the cost rate of common equity are prospective, a prospective market equity risk premium is essential. The derivation of the forecasted or prospective market equity risk premium can be found in note 3 on page 8 of Exhibit PMA-9. Consistent with the development of the dividend yield component of my DCF analysis, it is derived

from an average of the most recent thirteen weeks ending July 13, 2012 3-5 year median market price appreciation potential by *Value Line* plus an average of the median estimated dividend yield for the common stocks of the 1,700 firms covered in *Value Line*'s Standard Edition as explained in detail in Note 1 on page 2 of Exhibit PMA-10.

The average median expected price appreciation is 72% which translates to a 14.57% annual appreciation and, when added to the average (similarly calculated) median dividend yield of 2.35% equates to a forecasted annual total return rate on the market as a whole of 16.92%. The forecasted total market equity risk premium of 12.89% is derived by deducting the July 1, 2012 *Blue Chip* consensus estimate of about 50 economists of the expected yield on Moody's Aaa rated corporate bonds for the six calendar quarters ending with the fourth calendar quarter 2013 of 4.03%, shown on Exhibit PMA-9, page 8, Line No. 6 (12.89% = 16.92% - 4.03%).

In arriving at my conclusion of equity risk premium of 9.12% on Line No. 4 on page 8, I have given equal weight to the historical market equity risk premium of 5.51%, the PRPM™ based market equity risk premium of 8.97% and the forecasted market equity risk premium of 12.89% shown on Line Nos. 2 and 3, respectively (9.12% = 5.51% + 8.97% + 12.89%)/3).

Q. WHAT IS YOUR CONCLUSION OF A BETA-DERIVED EQUITY RISK PREMIUM FOR USE IN YOUR RPM ANALYSIS?

A. On page 1 of Exhibit PMA-10, the most current *Value Line* betas for the companies in the proxy group are shown. Applying the median beta of the proxy group of 0.65 (consistent with my reliance upon the median DCF results as previously discussed), to the market equity risk premium of 9.12% results in a beta adjusted equity risk premium of 5.93% for the proxy group of nine water companies.

Q. HOW DID YOU DERIVE THE 4.42% EQUITY RISK PREMIUM BASED UPON THE S&P UTILITY INDEX AND MOODY'S A RATED PUBLIC UTILITY BONDS?

A. First, I derived the long-term monthly arithmetic mean equity risk premium between the S&P Utility Index total returns of 10.45% and monthly A rated public utility bond yields of 6.77% from 1928-2010 (the latest available), to arrive at an equity risk premium of 3.68%, as shown on Line No. 3 on page 10 of Exhibit PMA-9. I then performed the PRPM™ using the same historical monthly equity risk premiums to arrive at the PRPM™ derived equity risk premium of 5.15% for the S&P Utility Index, shown on Line No. 4, on page 10. The average of these equity risk premiums is 4.42%, shown on Line No. 5 (4.42% = (3.68% + 5.15%)/2).

Q. WHAT IS YOUR CONCLUSION OF AN EQUITY RISK PREMIUM FOR USE IN YOUR TOTAL MARKET APPROACH RPM ANALYSIS?

A. The equity risk premium applicable to the proxy group of nine water companies is the average of the beta-derived premium, 5.93%, and that based upon the holding period returns of public utilities with A rated bonds, 4.42%, as summarized on Line No. 3 on Exhibit PMA-9, page 7, i.e., 5.18% (5.18% = (5.93% + 4.42%)/2).

Q. WHAT IS THE INDICATED RPM COMMON EQUITY COST RATE BASED ON THE TOTAL MARKET APPROACH?

A. It is 9.90% for the nine water companies as shown on Line No. 7 on Exhibit PMA-9, page 3.

Q. IS THE PRESUMPTION OF A CONSTANT EQUITY RISK PREMIUM IN THE RPM MODEL A WEAKNESS IN THE MODEL?

A. No. The equity risk premium varies inversely with interest rate changes, although not in tandem with those changes. However, the presumption of a constant equity risk premium is no different than the presumption of a constant

"g", or growth component, in the DCF model. If one calculates a DCF cost rate today, the absolute result "k", as well as the growth component "g", would invariably differ from a calculation made just one or several months earlier or later. This implies that "g" does change, although in the application of the standard DCF model, "g" is presumed to be constant. Hence, there is no difference between the RPM and DCF models in that both models assume a constant component, but in reality, these components, "g" and the equity risk premium both change.

As Morin[26] states with respect to the DCF model:

> It is not necessary that *g* be constant year after year to make the model valid. *The growth rate may vary randomly around some average expected value. Random variations around trend are perfectly acceptable, as long as the mean expected growth is constant.* The growth rate must be 'expectationally constant' to use formal statistical jargon. (italics added)

The foregoing confirms that the RPM is similar to the DCF model. Both assume an "expectationally constant" risk premium and growth rate, respectively, but in reality both vary (change) randomly around an arithmetic mean. Consequently, the use of the arithmetic mean, and not the geometric mean is confirmed as appropriate in the determination of an equity risk premium, as discussed above.

Q. WHAT ARE THE RESULTS OF YOUR APPLICATION OF THE PRPM™ AND THE TOTAL MARKET APPROACH RPM?

A. As shown on page 1 of Exhibit PMA-9, the average result from the PRPM™ and the total market RPM is 10.47% (10.47% = (11.03% + 9.90%)/2).

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[26] Morin 256.

F. The Capital Asset Pricing Model ("CAPM")

Q. PLEASE EXPLAIN THE THEORETICAL BASIS OF THE CAPM.

A. CAPM theory defines risk as the covariability of a security's returns with the market's returns as measured by beta (β). A beta less than 1.0 indicates lower variability, while a beta greater than 1.0 indicates greater variability than the market.

The CAPM assumes that all other risk, i.e., all non-market or unsystematic risk, can be eliminated through diversification. The risk that cannot be eliminated through diversification is called market, or systematic, risk. In addition, the CAPM presumes that investors require compensation only for these systematic risks which are the result of macroeconomic and other events that affect the returns on all assets. The model is applied by adding a risk-free rate of return to a market risk premium, which is adjusted proportionately to reflect the systematic risk of the individual security relative to the total market as measured by beta. The traditional CAPM model is expressed as:

$$R_s = R_f + \beta(R_m - R_f)$$

Where:

R_s	=	Return rate on the common stock
R_f	=	Risk-free rate of return
R_m	=	Return rate on the market as a whole
β	=	Adjusted beta (volatility of the security relative to the market as a whole)

Numerous tests of the CAPM have measured the extent to which security returns and betas are related as predicted by the CAPM, confirming its validity. The empirical CAPM ("ECAPM") reflects the reality that while the results of these tests support the notion that beta is related to security returns, the empirical

Security Market Line ("SML") described by the CAPM formula is not as steeply sloped as the predicted SML. Morin[27] states:

> With few exceptions, the empirical studies agree that ... low-beta securities earn returns somewhat higher than the CAPM would predict, and high-beta securities earn less than predicted.
>
> * * *
>
> Therefore, the empirical evidence suggests that the expected return on a security is related to its risk by the following approximation:
>
> $$K = R_F + x\,\beta(R_M - R_F) + (1-x)\ \beta(R_M - R_F)$$
>
> where x is a fraction to be determined empirically. The value of x that best explains the observed relationship Return = 0.0829 + 0.0520 β is between 0.25 and 0.30. If x = 0.25, the equation becomes:
>
> $$K = R_F + 0.25(R_M - R_F) + 0.75\ \beta(R_M - R_F)$$ [28]

In view of theory and practical research, I have applied both the traditional CAPM and the ECAPM to the companies in the proxy group and averaged the results.

Q. PLEASE DESCRIBE YOUR SELECTION OF A RISK-FREE RATE OF RETURN.

A. As shown in column 3 on page 1 of Exhibit PMA-10, the risk-free rate adopted for both applications of the CAPM is 4.26%. The risk-free rate for my CAPM analysis is based upon the average of the consensus forecast of the reporting economists in the July 1, 2012, *Blue Chip* of the expected yields on 30-year U.S. Treasury bonds for the six quarters ending with the fourth calendar quarter of

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[27] Morin 175.

[28] Morin 190.

2013, averaged with the arithmetic mean income as shown in note 2, page 2 of Exhibit PMA-10.

Q. WHY HAVE YOU AVERAGED THE PROSPECTIVE AND HISTORICAL YIELDS ON U.S. TREASURY SECURITIES?

A. Typically, I would rely exclusively upon the consensus forecast of the yield on 30-year U.S. Treasury Securities, as ratemaking and the cost of capital are both prospective in nature. However, these are not typical times for the U.S. Treasury securities market as the Federal Reserve Bank is artificially keeping interest rates low through the end of 2014, amid concerns over the struggling U.S. economy. As a result, both 30-year U.S. Treasury Bond yields and the consensus forecasted yields are at historical lows.

Q. WHY IS THE YIELD ON LONG-TERM U.S. TREASURY BONDS APPROPRIATE FOR USE AS THE RISK-FREE RATE?

A. The yield on long-term U.S. Treasury T-Bonds is almost risk-free and its term is consistent with the long-term cost of capital to public utilities measured by the yields on A rated public utility bonds, the long-term investment horizon inherent in utilities' common stocks, the long-term investment horizon presumed in the standard DCF model employed in regulatory ratemaking, and the long-term life of the jurisdictional rate base to which the allowed fair rate of return, i.e., cost of capital, will be applied. In contrast, short-term U.S. Treasury yields are more volatile and largely a function of Federal Reserve monetary policy.

In addition, as noted in the SBBI - 2012[29]:

> Although the equity risk premia of several horizons are available, the long-horizon equity risk premium is preferable for use in most business-valuation settings, even if an investor has a

[29] SBBI 2011 55.

shorter time horizon. Companies are entities that generally have no defined life span; when determining a company's value, it is important to use a long-term discount rate because the life of the company is assumed to be infinite. For this reason, it is appropriate in most cases to use the long-horizon equity risk premium for business valuation.

Q. PLEASE EXPLAIN THE ESTIMATION OF THE EXPECTED EQUITY RISK PREMIUM FOR THE MARKET.

A. The basis of the market equity risk premium is explained in detail in Note 1 on page 2 of Exhibit PMA-10. It is derived from an average of the most recent thirteen weeks ending July 13, 2012, 3 to 5 year median total market price appreciation projection from *Value Line*, resulting in a total annual return of 16.92%, as discussed above, the PRPM™ predicted market equity risk premium using monthly equity risk premiums for large company common stocks relative to long-term U.S. Treasury securities from January 1926 through May 2012 and the arithmetic mean monthly equity risk premiums of large company common stocks relative to long-term U.S. Treasury bond income yields, per SBBI-2012, from 1926-2011.

For example, the forecasted total market equity risk premium is derived by deducting the 4.26% average of the July 1, 2012, *Blue Chip* consensus estimate of the expected yield on U.S. Treasury Notes of 3.20% and the arithmetic mean income return on long-term government bonds of 5.32%[30] from the *Value Line* projected total annual market return of 16.92%, resulting in a forecasted total market equity risk premium of 12.66%. The PRPM™ market equity risk premium is 10.08% derived using the PRPM™, discussed above, relative to the yields on long-term U.S. Treasury securities from January 1926 through May 2012. The long-term income return on U.S. Government Securities of 5.32% was deducted

[30] 4.26% = ((3.20% + 5.32%)/2).

from the SBBI-2012 monthly historical total market return of 11.77%, resulting in an historical market equity risk premium of 6.45%.

These three market equity risk premiums, when averaged, result in an average total market equity risk premium of 9.73% (9.73% = (12.66% + 10.08% + 6.45%)/3).

Q. WHAT ARE THE RESULTS OF YOUR APPLICATION OF THE TRADITIONAL AND EMPIRICAL CAPM TO THE PROXY GROUP?

A. As shown on Exhibit PMA-10, page 1, the median traditional CAPM cost rate is 10.58% for the nine water companies and the median ECAPM cost rate is 11.44%. Consistent with my reliance upon the median DCF results discussed above, I rely upon the median results of the traditional CAPM and ECAPM for the proxy group. Thus, as shown on column 6 on page 1, the CAPM cost rate applicable to the proxy group of nine water companies is 11.01% based upon an average of the traditional CAPM and ECAPM results for the proxy group.

Q. DOES THE USE OF ADJUSTED BETAS IN A TRADITIONAL CAPM MODEL RENDER THAT MODEL THE EQUIVALENT OF THE ECAPM MODEL?

A. No. Using adjusted betas in a CAPM analysis is not equivalent to the ECAPM. Betas are adjusted because of the general regression tendency of betas to converge toward 1.0 over time, i.e., over successive calculations of beta. As noted above, numerous studies have determined that the SML described by the CAPM formula at any given moment in time is not as steeply sloped as the predicted SML.[31]

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[31] Morin 191.

Regulatory support for the ECAPM can be found in the New York Public Service Commission's Generic Financing Docket, Case 91-M-0509. Also, the Regulatory Commission of Alaska has stated[32]:

> Although we primarily rely upon Tesoro's recommendation, we are concerned, however, about Tesoro's CAPM analysis. Tesoro averaged the results it obtained from CAPM and ECAPM while at the same time providing empirical testimony[604] that the ECAPM results are more accurate then [sic] traditional CAPM results. The reasonable investor would be aware of these empirical results. Therefore, we adjust Tesoro's recommendation to reflect only the ECAPM result. (footnote omitted)

Thus, using adjusted betas in an ECAPM analysis is neither incorrect nor inconsistent with either their financial literature or regulatory precedent. Notwithstanding empirical and regulatory support for the use of <u>only</u> the ECAPM, my CAPM analysis, which includes <u>both</u> the traditional CAPM and the ECAPM, is a conservative approach resulting in a reasonable estimate of the cost of common equity.

X. <u>Conclusion of Common Equity Cost Rate</u>

Q. WHAT IS YOUR RECOMMENDED COMMON EQUITY COST RATE?

A. It is 11.30%, based upon the common equity cost rates resulting from the application of cost of common equity models to the nine water companies, as adjusted for AWC's credit and unique business risks.

As discussed above, reliance upon multiple models is consistent with the EMH, upon which all of the models are premised. I employ multiple cost of common equity models as primary tools in arriving at my recommended common equity cost rate because; 1) no single model is so inherently precise that it can

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[32] In the Matter of the Correct Calculation and Use of Acceptable Input Data to Calculate the 1997, 1998, 1999, 2000, 2001 and 2002 Tariff Rates for the Intrastate Transportation of Petroleum over the TransAlaska Pipeline System, Docket No P-97-4, Order No. 151, p. 146 (Reg. Comm'n AK 11/27/02).

be relied upon solely to the exclusion of other theoretically sound models; 2) all of the models are based upon the EMH; and 3) as demonstrated above, the prudence of using multiple cost of common equity models is supported in both the financial literature and regulatory precedent. Therefore, no single model should be relied upon exclusively to estimate investors' required rate of return on common equity.

The results of my cost of common equity models applied to the nine water companies are shown on Exhibit PMA-1, page 2 and summarized below:

Table 3

	Proxy Group of Nine Water Companies
Discounted Cash Flow Model	9.13%
Risk Premium Model	10.47%
Capital Asset Pricing Model	11.01%
Indicated Common Equity Cost Rate Before Adjustment for Business Risks	10.34%
Credit Risk Adjustment	0.50%
Business Risk Adjustment	0.45%
Indicated Common Equity Cost Rate	11.29%
Recommended Common Equity Cost Rate	11.30%

Based upon these common equity cost rate results, I conclude that a common equity cost rate of 10.34% is indicated for the nine water companies before applying the credit and unique business risk adjustments to determine

AWC's common equity cost rate, as previously discussed. These results are shown on Line Nos. 6 and 7 on page 2 of Exhibit PMA-1.

A. <u>Credit Risk Adjustment</u>

Q. PLEASE DISCUSS AWC'S CREDIT RISK.

A. In my opinion, AWC's bonds, if rated by Moody's and/or S&P, would likely be rated in the Baa/BBB bond rating category for several reasons. First, the cost rate on AWC's General Mortgage Bonds ("GMBs") includes a premium over the cost rate on the First Mortgage Bonds ("FMBs") of its utility affiliate, San Gabriel Valley Water Company (SGVWC), which in turn is based upon the spread between Baa corporate bonds over 30-year U.S. Treasury Bonds. Albeit a corporate, not public utility[33], profile, it is reasonable to assume that were SGVWC's bonds rated by either Moody's or S&P, they would be rated Baa/BBB. And because AWC's debt cost rate is similar to, albeit slightly higher than, SGVWC's, it is also reasonable to assume that AWC's bonds, if rated, would also be rated Baa/BBB.

In addition, although S&P states that its metrics are not intended to be precise indications or guarantees of ratings opinions, they can be used to provide insight into the likely bond rating of AWC. To that end, AWC's financial metrics are consistent with S&P's financial metrics for a public utility assigned an "Intermediate" to "Significant" financial risk profile. As shown on Exhibit PMA-5, AWC's FFO relative to total debt averaged 26.12% for the five years ended 2011, which is consistent with a "Significant" S&P financial risk profile of 20% - 30%, as shown in Table 2 on page 4 of Exhibit PMA-4. Both AWC's total debt / EBITDA of 4.18 times and total debt / total capital ratio of 51.35% for the five years ended 2011 are consistent with "Significant" and "Aggressive" S&P financial risk profiles, for which S&P indicates ranges of total debt / EBITDA of 3 – 5 times and

[33] Given that public utility bond yields are generally higher than corporate bond yields, the Company is actually being reasonably conservative.

total debt / total capital of 45% - 65%, for both financial risk profiles also shown in Table 2 on page 4 of Exhibit PMA-4. Table 1 on page 2, presents S&P's Business and Financial Risk Profile Matrix, which provides insight into a likely bond rating for a public utility, given its financial risk profile. In my opinion, given the unique business risks of AWC, discussed above, its business profile is "Satisfactory", at best. Table 1 indicates that the likely bond rating for a public utility with a "Satisfactory" business profile and "Significant/Aggressive" financial risk profile is in the BB category, the equivalent of Moody's Ba2. Given that a premium of 10 basis points over SGVWC's debt cost rate was required by Prudential, which ultimately purchased AWC's most recent bond issue, it is nonetheless reasonable to assume that AWC's bonds, if rated, would likely be rated no better than Baa/BBB by Moody's and S&P. Hence, an upward credit risk adjustment is necessary to reflect the lower credit risk, i.e., Baa2, of AWC relative to the A3 average Moody's bond rating of the proxy group of nine water companies, as shown on page 2 of Exhibit PMA-9.

An indication of the magnitude of the necessary upward credit risk adjustment to reflect the greater credit risk inherent in a Baa2 bond rating is two-thirds of a recent three-month average spread between Moody's A and Baa2 rated public utility bond yields of 0.77%, or 0.51% (0.51% = 0.77% * (2/3)), rounded to 0.50%.

B. <u>Business Risk Adjustment</u>

Q. IS THERE A WAY TO QUANTIFY AN ADJUSTMENT DUE TO AWC'S GREATER BUSINESS RISK RELATIVE TO THE PROXY GROUP OF NINE WATER COMPANIES?

A. Yes, AWC's segmented and geographically isolated water systems, discussed in Section IV of Mr. Garfield's direct testimony, its inability to earn its authorized return, and its small size relative to the proxy group provide the basis for such an

adjustment, and the available empirical evidence provides insight into the magnitude of such an adjustment.

Q. PLEASE EXPLAIN.

A. As discussed above, the Company has greater business risk than the average company in the proxy group because of its smaller size relative to the group, as measured by book capitalization. *SBBI-2012* discusses the nature of the small size phenomenon, providing an indication of the magnitude of the size premium for the deciles of the NYSE/AMEX/NASDAQ-listed securities. In discussing "Aspects of the Firm Size Effect," *SBBI-2012* states[34]:

> The firm size phenomenon is remarkable in several ways. First, the greater risk of small stocks does not, in the context of the capital asset pricing model (CAPM), fully account for their higher returns over the long term. In the CAPM, only systematic, or beta risk, is rewarded; small company stocks have had returns in excess of those implied by their betas.

Furthermore, in "The Capital Asset Pricing Model: Theory and Evidence,"[35] Fama and French note that size is indeed a risk factor which must be reflected when estimating the cost of common equity. On page 14, they note:

> . . . the higher average returns on small stocks and high book-to-market stocks reflect unidentified state variables that produce undiversifiable risks (covariance's) in returns not captured in the market return and are priced separately from market betas.

Based upon this evidence, Fama and French proposed their three-factor model which includes a size variable in recognition of the effect of size on the cost of common equity.

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[34] *SBBI-2012* 88.

[35] "The Capital Asset Pricing Model: Theory and Evidence", Eugene F. Fama and Kenneth R. French, *Journal of Economic Perspectives*, Volume 18, Number 3, Summer 2004, 25-46.

In view of the foregoing, an upward adjustment of 0.45% to reflect AWC's greater relative business risk due to its unique risks and smaller relative size is warranted. A business risk adjustment of 0.45%, coupled with the previously discussed credit risk adjustment of 0.50%, when added to the 10.34% indicated common equity cost rate based upon the nine water companies before adjustment, results in a credit and business risk-adjusted common equity cost rate of 11.29%[36] which, when rounded to 11.30%, is my recommended common equity cost rate based upon current capital market conditions.

A common equity cost rate of 11.30%, when applied to AWC's proposed common equity ratio, results in an overall rate of return of 9.11%. In my opinion, this overall rate of return is both reasonable and conservative, providing AWC with sufficient earnings to enable it to attract necessary new capital.

XI. Distribution System Improvement Charge ("DSIC")

Q. PLEASE SUMMARIZE YOUR POSITION ON THE COMPANY'S REQUESTED DSIC MECHANISM.

A. Without the Company's requested DSIC, the Company's ability to finance and construct infrastructure needed to provide safe and reliable service to the public will be impaired. Moreover, the magnitude of the Company's need to replace aging infrastructure is extraordinary and very similar to the Company's ACRM, especially given the fact that AWC has been directed by the ACC to reduce water losses below 10%. DSIC and DSIC-like mechanisms, are widely accepted and adopted throughout the U.S. and are considered credit supportive by two of the major bond/credit rating agencies, Standard & Poor's ("S&P") and Moody's. Such mechanisms, being credit supportive, are conducive to the maintenance of the integrity of invested capital and enable utilities to attract needed new capital on reasonable terms consistent with the judicial standards for a fair rate of return

[36] 11.79% = 10.84% + 0.50% + 0.45%.

established in the *Hope* and *Bluefield* decisions. The Company's proposed DSIC mechanism would also enable AWC to ensure safe and reliable water service, as noted by Chairman Robert Powelson of the Pennsylvania Public Utility Commission ("PPUC"), who testified before the Pennsylvania House of Representatives that such cost-recovery mechanisms are necessary to "ensure sustainable practices in promoting needed capital investment and cost-effective rates."

Q. PLEASE COMMENT UPON THE EFFECT OF DSIC AND DSIC-LIKE MECHANISMS ON REGULATORY LAG.

A. Regulatory lag occurs during the time between the incurrence of a utility capital expenditure or expense and the time when the utility can begin to earn a return on and of the capital investment or recover the expense. Such a lag can result in the permanent impairment of the utility's ability to earn its authorized return on its invested capital. Partial mitigation of regulatory lag, through the adoption of a DSIC mechanism, will improve the capital attractiveness of AWC, improve its service quality and reliability, and provide for more moderate, gradual rate increases, as the Company will be able to limit rate increases to its customers to smaller, more regularly timed increases as opposed to larger ones spread out over longer periods of time, as noted by Company witness Mr. Harris in Section V of his pre-filed direct testimony.

Improved service quality and reliability is critical to the water utility industry in general, and to AWC specifically. Although the American Society of Civil Engineers' ("ASCE") concern is primarily focused on municipal infrastructure, its comments relative to water utility infrastructure apply equally to investor-owned water infrastructure. The ASCE has given a grade of D- to the U.S. water infrastructure systems, and it is widely recognized that America's water infrastructure is in dire need of repair and replacement. In its 2009 Report Card

for America's Infrastructure[37], excerpted in Exhibit PMA-14, the ASCE states the following (*See* Exhibit PMA-14, Pg. 12):

> Drinking water systems provide a critical public health function and are essential to life, economic development, and growth. Disruptions in service can hinder disaster response and recovery efforts, expose the public to water-borne contaminants, and cause damage to roadways, structures, and other infrastructure, endangering lives and resulting in billions of dollars in losses.

In addition, in its press release announcing the proposal to draft rules for public comment on the implementation of a DSIC, the New Jersey Board of Public Utilities ("BPU") stated:

> Critical water distribution components form the basis of a functional and modern water infrastructure system, and ***enhance the safety, reliability, system flows, and quality of water while also improving its pressure and conservation.***

Unless the Company's proposed DSIC mechanism is adopted, the traditional approach of recognizing investments in infrastructure in a general rate case will perpetuate the negative effects of regulatory lag, as discussed in Section V of Mr. Harris' pre-filed direct testimony. Regulatory lag is of particular concern for water utilities, including AWC, as water utilities are the most capital intensive utility industry relative to the electric, combination electric and gas and the natural gas utility industries, as discussed in Section IV above. Moreover, the capital intensity of the water utility industry is exacerbated by the magnitude of the capital expenditure needs anticipated over the next 20 years, also discussed in Section IV, above.

The Company is estimating a cost of over $84 million for infrastructure replacements over the next ten years in its Northern Group for the purpose of

[37] The most recently available Report Card.

reducing water loss, which represents an increase of more than 118% over the Northern Group's 2011 balance of net plant, as discussed in Section V of Mr. Harris' pre-filed direct testimony. In addition, the Company estimated a cost of $41 million for its Western Group and $67 million for its Eastern Group in Docket Nos. 10-0517 and 11-0310, respectively.

Q. IS THE COMPANY'S NEED TO REPLACE AGING AND FAILING INFRASTRUCTURE CONSISTENT WITH THAT OF THE WATER UTILITY INDUSTRY IN GENERAL?

A. Yes. As discussed in Section IV above, Both Value Line and NARUC recognize the urgent need to replace aging water infrastructure at costs that have soared into the hundreds of millions of dollars. Accordingly, NARUC, in highlighting the challenges facing the water and wastewater industry, specifically cited the DSIC as a best regulatory practice in its July 2005 Resolution.

Q. ARE THE TYPES OF REPLACEMENTS AND IMPROVEMENTS THAT WOULD BE SUBJECT TO RECOVERY UNDER THE COMPANY'S PROPOSED DSIC ROUTINE?

A. No, they are extraordinary. While it is true that these improvements may be considered a part of doing business, the magnitude of the improvements, the Company's distressed financial condition and need to attract capital on reasonable terms in competition with other firms in the capital markets, as well as the fact that the magnitude of the improvements is in response to the ACC's water loss reduction directive, are all evidence that the improvements covered by the DSIC are anything but "routine."

The fact that such mechanisms are in place in eleven states (CA, CT, DE, IL, IN, MO, NH, NJ, NY, OH and PA) as shown on Exhibit PMA-15, are declared a best practice by NARUC, as previously noted and are considered by both Moody's and S&P, two of the major bond / credit rating agencies in the U.S., to

be credit supportive are all independent indications that these improvements are anything but "routine."

Q. WHAT DO THE MAJOR RATING AGENCIES SAY ABOUT DSIC AND DSIC-LIKE MECHANISMS?

A. In Exhibit PMA-16, Moody's Global Infrastructure Finance December 2009 "Global Regulated Water Utilities" states the following on pages 11 and 26:

> In the U.S., Moody's views each state individually and considers the various factors that affect the utilities' profitability, including the type of fixed- versus variable-rate design allowed, historically authorized ROEs, and *the existence of riders or other mechanisms that permit recovery of operating and capital costs outside of a general rate case.* (emphasis added) (p. 11)
>
> In the U.S., there are federal guidelines related to water quality but utilities are also subject to regulation at the state level for quality, service, and, importantly, rate-setting. Moody's views each state individually and considers the various factors that affect the utilities profitability including, the type of fixed- versus variable-rate design allowed, historically authorized ROEs, and *the existence of riders or other mechanism's that permit recovery of operating and capital costs outside of a general rate case.* (emphasis added) (p. 26)

And on page 21, Moody's states the following:

> . . .we view positively the financial flexibility enjoyed by a utility with limited capex requirements easily funded by internally generated cash flows.

In addition, S&P indicates that cost-recovery mechanisms, such as AWC's proposed DSIC mechanism, are supportive of credit quality which enhances a utility's ability to attract necessary new capital. S&P notes on page 3 of its "Industry Report Card: U.S. Investor-Owned Water Utilities Successfully Navigate Turbulent Financial Markets" (July 10, 2009), found in Exhibit PMA-17:

> We also expect commissions to grant infrastructure cost recovery mechanisms, under which companies recover capital investments outside of traditional rate cases. Such mechanisms currently exist in California, Connecticut, Delaware, Illinois, Indiana,

Missouri, New York, Ohio and Pennsylvania. In addition, utilities in other states have included infrastructure cost recovery mechanisms in pending rate cases. ***Standard & Poor's views these measures as positive for credit quality because they bring additional stability to cash flows.*** (emphasis added)

S&P has also stated the following on page 5 of its "Industry Report Card: U.S. Regulated Gas And Water Utilities' Credit Quality Should Remain Steady in 2012" (April 12, 2012), found in Exhibit PMA-18:

Solid industry fundamentals support the stable outlooks

Regulation smoothes cash flows and supports cost recovery. State regulation will continue to influence gas and water utility credit ratings in 2012. Many recent regulatory developments have been positive for credit quality. Commissions are increasingly putting into place rate mechanisms that insulate utilities from economic trends whereby the economy's overall health is less of a factor for credit quality. In the water industry, for instance, the New Jersey Board of Public Utilities approved the implementation of a distribution system investment charge (DSIC) mechanism. While average returns on equity have gone down slightly, several jurisdictions have granted enhanced rate-making mechanisms that help ensure greater cash flow stability. Most important are rate "decoupling" and straight-fixed-variable rate designs and the aforementioned DSIC. Rate decoupling protects a utility's financing performance when conservation leads to lower consumption because it essentially makes the utility whole by increasing customer charges to compensate for lower usage. The DSIC program, prevalent in the water sector, allows for rate increases for nonrevenue-producing investments to replace aging infrastructure outside of general rate proceedings. **We expect capital spending in the water sector to continue to go up due to a generally aging infrastructure and stringent water treatment and quality standards. The DSIC program mitigates the risk of cash flow lag, meaning that any revenue increases associated with today's capital spending would not need to wait until the next rate case**. (emphasis added)

S&P is very clear that DSIC mechanisms are positive and credit enhancing. Although Moody's appears less clear on the subject, in my opinion,

Moody's agrees that the existence of mechanisms such as the Company's proposed DSIC are supportive of improved credit quality, as such mechanisms allow utilities, including water utilities, to enjoy the financial flexibility to fund infrastructure replacements and improvements with a significant amount of internally generated cash. In addition, the judicial standards for a fair rate of return established in the *Hope* and *Bluefield* decisions, cited previously, require that the fair rate of return; 1) be comparable to the returns earned by other firms of similar risk, 2) assure confidence in the maintenance of financial integrity; 3) maintain and support credit quality, and 4) enable the utility to attract needed capital on reasonable terms in competition with firms of similar risk. Part of the fair rate of return, in my opinion, is the establishment of cost-recovery regulatory mechanisms, such as the Company's proposed DSIC mechanism, which will enhance AWC's financial integrity and enable it to attract needed new capital on reasonable terms.

Q. WHAT DO THE RATING AGENCIES SAY ABOUT SPECIFIC UTILITIES REGARDING SUCH MECHANISMS?

A. In Exhibit PMA-19 contains several S&P ratings reports for water utilities. A sampling of their comments are as follows:

S&P – Middlesex Water Co.:

> The New Jersey Board of Public Utilities (NJBPU), Pennsylvania Public Utilities Commission, and Delaware Public Service Commission regulate Middlesex Water's subsidiaries. ***We view these regulators' policies as supportive, particularly in Delaware and Pennsylvania, due to their infrastructure surcharge mechanisms. New Jersey recently approved the Distribution System Improvement Charge (DSIC), which will begin to benefit the company in 2013.*** (p. 2 of Exhibit PMA-8)

S&P - Connecticut Water Service Inc.:

> We view the DPUC's policies as ***supportive of credit quality, including the surcharge mechanisms, which allow the***

company to recover capital spending costs outside of traditional rate proceedings. The utility benefits from a surcharge mechanism that allows recovery of costs associated with the replacement of aging infrastructure. (emphasis added) (p. 7 of Exhibit PMA-19)

S&P - California Water Service Co.:

The California Public Utilities Commission (CPUC), which regulates Cal Water, has allowed a number of cost-recovery mechanisms, which we view as credit supportive. These recovery mechanisms include recovery of purchased water, purchased power, and pension costs. Cal Water is also permitted memorandum accounts that track expenses due to unforeseen events or catastrophic events for future recovery. The CPUC allows Cal Water to file rate cases using a forward-looking test year and to true-up lost revenue from conservation efforts through its water revenue adjustment mechanism (WRAM). In April 2012, CPUC approved an order that shortened the amortization period for WRAM to a time frame of 12-18 months for 2011-2013. The order also removed a 2.5% trigger on under collected balances. As on [sic] March 31, 2012, the under collected balances were about $50 million. ***This change will benefit the company's credit quality by reducing the regulatory lag***. (emphasis added) (p. 15 of Exhibit PMA-19)

S&P – Pennsylvania-American Water Co.:

. . . the Pennsylvania Public Utility Commission, allows the addition of capital spending to rate base outside of traditional rate proceedings. . . A favorable competitive position, a diverse and supportive regulatory environment, and a stable, above-average service territory support AWW's [American Water Works] excellent business risk profile. AWW's regulatory framework includes reasonable allowed returns on equity and various cost-recovery mechanisms, ***including incentives for infrastructure improvements***. (emphasis added) (p. 20 of Exhibit PMA-19)

S&P – New Jersey-American Water Co.:

. . . In addition, the company has proposed the addition of infrastructure capital spending to rate base outside of traditional rate proceedings in its current rate filing. . . A favorable

competitive position, a diverse and supportive regulatory environment, and a stable, above-average service territory support AWW's [American Water Works] excellent business risk profile. AWW's regulatory framework includes reasonable allowed returns on equity and various cost-recovery mechanisms, ***including incentives for infrastructure improvements.*** (emphasis added) (p. 25 of Exhibit PMA-19)

S&P - Golden State Water Co. ("GSWC"):

The California Public Utilities Commission (CPUC) regulates GSWC. We view California as having a constructive regulatory environment for water companies. The CPUC ***has granted a number of supportive cost-recovery mechanisms that allow water utilities to generate stable cash flows and recover costs with minimal regulatory lag. . . the CPUC allows the utility to recover its capital investment between rate cases . .*** (emphasis added) (p. 30 of Exhibit PMA-19)

S&P – Aqua Pennsylvania Inc.:

Aqua Pennsylvania's business risk profile is excellent, in our assessment, reflecting a low-risk monopoly water distribution business; a supportive regulatory environment with favorable cost-recovery mechanisms that enhance cash flow predictability ... The Pennsylvania Public Utility Commission (PPUC) provides Aqua Pennsylvania with favorable cost-recovery mechanisms, including the addition of capital spending to rates outside the traditional rate proceedings. (p. 34 of Exhibit PMA-19)

S&P – United Waterworks, Inc.:

State commissions oversee UWR's [United Water Resources] regulated operations, and ***supporting revenue and cash flow stability. . . Many of the company's operations benefit from cost-recovery mechanisms to recover capital spending outside of traditional rate proceedings.*** . (emphasis added) (p. 39 of Exhibit PMA-19)

S&P – San Jose Water Co.:

> The CPUC, which regulates SJWC, has allowed SJWC to use ***a number of credit-supportive cost-recovery mechanisms*** (balancing accounts) for purchased water, purchased power, ground water extraction charges, and pension. SJWC is also permitted memorandum accounts which track expenses due to unforeseen events or catastrophic events for future recovery. Both the balancing and memorandum accounts are generally trued up at either a rate case or if the deferred balance exceeds 2%. ***These regulatory mechanisms potentially allow SJWC to recover higher costs between rate cases, which reduces the regulatory lag and stabilizes cash flows.*** The CPUC also allows SJWC to file rate cases using a forward-looking test year and to track lost revenue and incurred expenses from conservation efforts through its water-revenue adjustment mechanism. (emphasis added) (p. 43 of Exhibit PMA-19)

S&P – The Baton Rouge Water Works Co.:

> The LPSC recently approved a $1.44 million rate increase for BRWW's subsidiary, representing 100% of the company's rate case request. We view this order as supportive of credit quality. In addition, BRWW's business risk profile gets support from regulatory mechanisms such as a pass-through of power costs to customers and a weather-normalization adjustment that the LPSC has approved. ***We view these regulatory mechanisms as credit supportive and expect that they will enhance cash flow predictability.*** (emphasis added) (p. 48 of Exhibit PMA-19)

It is abundantly clear that S&P views DSIC mechanisms as credit supportive and enhancing, promoting cash flow stability. Moreover, S&P views cash flow stability as the key to superior business risk profiles and enhanced bond / credit ratings, all of which enhance a utility's ability to attract needed new capital on reasonable terms in competition with companies of similar risk.

Q. WILL CUSTOMERS BENEFIT FROM THE ADOPTION OF THE COMPANY'S PROPOSED DSIC?

A. Yes. As discussed previously, mechanisms such as the Company's proposed DSIC enhance the reliability and quality of water service through more timely improvements to infrastructure, which directly benefits customers. Such

mechanisms also help to lower operating costs in the long-term, as the amount of lost water is reduced by replacing antiquated infrastructure. Also, these mechanisms help alleviate rate shock through more gradual, smaller, regularly timed increases rather than large increases occurring at longer intervals. As Chairman Robert Powelson stated in his testimony before the Pennsylvania House of Representatives' Consumer Affairs Committee on April 28, 2011 (Exhibit PMA-20) relative to new ratemaking methods being considered in Pennsylvania:

> By reducing regulatory lag and incenting investment in infrastructure, this ***legislation will ensure that the utility infrastructure in the Commonwealth will be updated in an expeditious manner, resulting in a safer and more reliable utility system***. (emphasis added) (p. 3 of Exhibit PMA-20)

Relative to a DSIC mechanism, Chairman Powelson stated:

> Another alternative ratemaking method that House Bill 1294 would allow the PUC to consider is an automatic adjustment charge that enables utilities to recover certain infrastructure improvement costs between base rate cases through a surcharge on customers' bills. This surcharge is often called a Distribution System Improvement Charge (DSIC) by the water and natural gas industry, and a Collection System Infrastructure Charge (CSIC) by the wastewater industry. ***These surcharges ensure the least possible rate impact on customers by spreading out over time the cost of replacing and enhancing Pennsylvania's utility infrastructure***. (emphasis added) (p. 4 of Exhibit PMA-20)

Chairman Powelson also made a point of stating, on page 5 of his testimony, that the council of State Governments has included DSIC in its model legislation.

Most importantly, Chairman Powelson testified on the benefits to ratepayers (customers) of a DSIC mechanism when he stated:

> In addition, the DSIC and CSIC will provide ratepayers with improved service quality and greater rate stability. By replacing aging infrastructure at an accelerated pace, there will be fewer main breaks, less frequent service interruptions, increased safety, and lower levels of unaccounted for natural gas and wastewater. The DSIC saves costs, not only in reducing frequency of rate cases, but by incenting capital investment to replace aging infrastructure. The infrastructure replacement encouraged by the DSIC would also help create hundreds of jobs – utility positions and pipeline contractors – needed to support the infrastructure replacement program. In light of today's difficult financial markets, ***DSIC and CSIC are the type of innovative regulatory policies expected as rating agencies tighten their ratings benchmarks and are a key element in maintaining access to capital markets on reasonable terms.*** (emphasis added) (pp. 6-7 of Exhibit PMA-20)

Finally, in its November 9, 2011 press release announcing the proposal to draft rules for public comment upon a DSIC mechanism, the New Jersey Board of Public Utilities said:

> Planned and accelerated investment in the aged water infrastructure will improve reliability of the distribution system, and create well paying jobs. By reducing the likelihood for emergency repairs due to failures, costs will also be reduced.

Board President Lee A. Solomon further stated:

> We need to begin to rebuild the system now to take advantage of capital costs being at historic lows, to create well paying jobs for New Jerseyans and to ensure customers have safe and reliable water for generations to come.

Q. IS THERE A MANDATE FOR THE TYPES OF INFRASTRUCTURE REPLACEMENT PROJECTS THAT WOULD BE SUBJECT TO RECOVERY UNDER THE COMPANY'S PROPOSED DSIC?

A. Yes. The ACC has directed AWC to reduce its water losses to less than 10% throughout its systems, as noted by Company witness Mr. Schneider in Sections IX and X of his direct testimony. Such a reduction cannot be accomplished without replacing aging and failing infrastructure. In this way, the requested DSIC is no different than the ACRM. The reduction of arsenic was mandated by a governmental authority, the Environmental Protection Agency, under the Safe Drinking Water Act and the request for a DSIC is, in part, in response to the ACC's directive to take action to reduce water losses.

Q. WHAT ARE YOUR CONCLUSIONS REGARDING THE COMPANY'S REQUEST FOR APPROVAL OF A DSIC IN THIS PROCEEDING?

A. In view of all the foregoing, including the evidence presented by the Company's other witnesses regarding DSIC, it is my opinion that the DSIC mechanism should be adopted by the ACC as it will enhance the ability of AWC to provide safe and reliable water service, help reduce the Company's water losses, promote gradualism in rate increases and, finally, enhance the Company's financial position thus enhancing its financial integrity and its ability to attract needed new capital at reasonable costs.

Q. DOES THAT CONCLUDE YOUR DIRECT TESTIMONY?

A. Yes.

Appendix A

APPENDIX A

PROFESSIONAL QUALIFICATIONS

OF

PAULINE M. AHERN, CRRA
PRINCIPAL

AUS CONSULTANTS

PROFESSIONAL QUALIFICATIONS
OF
PAULINE M. AHERN, CRRA
PRINCIPAL
AUS CONSULTANTS

PROFESSIONAL EXPERIENCE

1994-Present

In 1996, I became a Principal of AUS Consultants, continuing to offer testimony as an expert witness on the subjects of fair rate of return, cost of capital and related issues before state public utility commissions. I provide assistance and support to clients throughout the entire ratemaking litigation process. In addition, I supervise the financial analyst and administrative staff in the preparation of fair rate of return and cost of capital exhibits which are filed along with expert testimony before various state and federal public utility regulatory bodies. The team also assists in the preparation of interrogatory responses, as well as rebuttal exhibits.

As the Publisher of AUS Utility Reports (formerly C. A. Turner Utility Reports), I am responsible for the production, publishing, and distribution of the reports. AUS Utility Reports provides financial data and related ratios for about 120 public utilities, i.e., electric, combination gas and electric, natural gas distribution, natural gas transmission, telephone, and water utilities, on a monthly, quarterly and annual basis. Among the subscribers of AUS Utility Reports are utilities, many state regulatory commissions, federal agencies, individuals, brokerage firms, attorneys, as well as public and academic libraries. The publication has continuously provided financial statistics on the utility industry since 1930.

As the Publisher of AUS Utility Reports, I also supervise the production, publishing, and distribution of the AGA Rate Service publications under license from the American Gas Association. I am also responsible for maintaining and calculating the performance of the AGA Index, a market capitalization weighted index of the common stocks of the approximately 70 corporate members of the AGA, which serves as the benchmark for the AGA Gas Utility Index Fund.

As an Assistant Vice President from 1994 - 1996, I prepared fair rate of return and cost of capital exhibits which were filed along with expert testimony before various state and federal public utility regulatory bodies. These supporting exhibits include the determination of an appropriate ratemaking capital structure and the development of embedded cost rates of senior capital. The exhibits also support the determination of a recommended return on common equity through the use of various market models, such as, but not limited to, Discounted Cash Flow analysis, Capital Asset Pricing Model and Risk Premium Methodology, as well as an assessment of the risk characteristics of the client utility. I also assisted in the preparation of responses to any interrogatories received regarding such testimonies filed on behalf of client utilities. Following the filing of fair rate of return testimonies, I assisted in the evaluation of opposition testimony in order to prepare interrogatory questions, areas of cross-examination, and rebuttal testimony. I also evaluated and assisted in the preparation of briefs and exceptions following the hearing process. I also submitted testimony before state public utility commissions regarding appropriate capital structure ratios and fixed capital cost rates.

1990-1994

As a Senior Financial Analyst, I supervised two analysts and assisted in the preparation of fair rate of return and cost of capital exhibits which are filed along with expert testimony before various state and federal public utility regulatory bodies. The team also assisted in the preparation of interrogatory responses.

I evaluated the final orders and decisions of various commissions to determine whether further actions were warranted and to gain insight which assisted in the preparation of future rate of return studies.

I assisted in the preparation of an article authored by Frank J. Hanley and A. Gerald Harris entitled "Does Diversification Increase the Cost of Equity Capital?" published in the July 15, 1991 issue of Public Utilities Fortnightly.

In 1992, I was awarded the professional designation "Certified Rate of Return Analyst" (CRRA) by the National Society of Rate of Return Analysts (now the Society of Utility and Regulatory Financial Analysts (SURFA)). This designation is based upon education, experience and the successful completion of a comprehensive examination.

As Administrator of Financial Analysis for AUS Utility Reports, which then reported financial data for over 200 utility companies with approximately 1,000 subscribers, I oversaw the preparation of this monthly publication, as well as the accompanying annual publication, Financial Statistics - Public Utilities.

1988-1990

As a Financial Analyst, I assisted in the preparation of fair rate of return studies including capital structure determination, development of senior capital cost rates, as well as the determination of an appropriate rate of return on equity. I also assisted in the preparation of interrogatory responses, interrogatory questions of the opposition, areas of cross-examination and rebuttal testimony. I also assisted in the preparation of the annual publication C. A. Turner Utility Reports - Financial Statistics - Public Utilities.

1973-1975

As a Research Assistant in the Research Department of the Regional Economics Division of the Federal Reserve Bank of Boston, I was involved in the development and maintenance of econometric models to simulate regional economic conditions in New England in order to study the effects of, among other things, the energy crisis of the early 1970's and property tax revaluations on the economy of New England. I was also involved in the statistical analysis and preparation of articles for the New England Economic Review. Also, I was Assistant Editor of New England Business Indicators.

1972

As a Research Assistant in the Office of the Assistant Secretary for International Affairs, U.S. Treasury Department, Washington, D.C., I developed and maintained econometric models which simulated the economy of the United States in order to study the results of various alternate foreign trade policies so that national trade policy could be formulated and recommended.

Clients Served

I have offered expert testimony before the following commissions:

Arkansas
Arizona
California
Connecticut
Delaware
Florida
Hawaii
Idaho
Illinois
Indiana
Iowa
Kentucky
Louisiana
Maine
Maryland
Michigan
Missouri
Nevada
New Jersey
New York
North Carolina
Ohio
Pennsylvania
Rhode Island
South Carolina
Virginia
Washington

I have sponsored testimony on fair rate of return and related issues for:

Alpena Power Company
Apple Canyon Utility Company
Applied Wastewater Management, Inc.
Aqua Illinois, Inc.
Aqua New Jersey, Inc.
Aqua North Carolina, Inc.
Aqua Ohio, Inc.
Aqua Virginia, Inc.
Aquarion Water Company
Arizona Water Company
Artesian Water Company
Bermuda Water Company
The Atlantic City Sewerage Company
Audubon Water Company
The Borough of Hanover, PA
Carolina Pines Utilities, Inc.
Carolina Water Service, Inc. of NC
Carolina Water Service, Inc. of SC
The Columbia Water Company
The Connecticut Water Company
Consumers Illinois Water Company
Consumers Maine Water Company
Consumers New Jersey Water Company
City of DuBois, Pennsylvania
Elizabethtown Water Company
Emporium Water Company
GTE Hawaiian Telephone Inc.
Greenridge Utilities, Inc.
Illinois American Water Company
Iowa American Water Company
Water Services Corp. of Kentucky
Lake Wildwood Utilities Corp.
Land'Or Utility Company
Long Island American Water Company
Long Neck Water Company
Louisiana Water Service, Inc.
Massanutten Public Service Company
Middlesex Water Company
Missouri-American Water Company
Mt. Holly Water Company
Nero Utility Services, Inc.
New Jersey Utilities Association
The Newtown Artesian Water Company
NRG Energy Center Pittsburgh LLC
NRG Energy Center Harrisburg LLC
Ohio-American Water Company
Penn Estates Utilities
Pinelands Water Company
Pinelands Waste Water Company
Pittsburgh Thermal
San Gabriel Valley Water Company
San Jose Water Company
Southland Utilities, Inc.
Spring Creek Utilities, Inc.
Sussex Shores Water Company
Tega Cay Water Service, Inc.
Total Environmental Services, Inc. – Treasure Lake Water & Sewer Divisions
Thames Water Americas
Tidewater Utilities, Inc.
Transylvania Utilities, Inc.
Trigen – Philadelphia Energy Corporation
Twin Lakes Utilities, Inc.
United Utility Companies
United Water Arkansas, Inc.
United Water Arlington Hills Sewerage, Inc.
United Water Connecticut, Inc.
United Water Delaware, Inc.
United Water Great Gorge Inc. / United Water Vernon Transmission, Inc.
United Water Idaho, Inc.
United Water Indiana, Inc.
United Water New Jersey, Inc.
United Water New Rochelle, Inc.
United Water New York, Inc.
United Water Owego / Nichols, Inc.
United Water Pennsylvania, Inc.
United Water Rhode Island, Inc.
United Water South County, Inc.
United Water Toms River, Inc.
United Water Vernon Sewage Inc.
United Water Virginia, Inc.
United Water Westchester, Inc.
United Water West Lafayette, Inc.
United Water West Milford, Inc.
Utilities, Inc.
Utilities Inc. of Central Nevada
Utilities, Inc. of Florida
Utilities, Inc. of Louisiana
Utilities, Inc. of Nevada
Utilities, Inc. of Pennsylvania
Utilities, Inc. - Westgate
Utilities Services of South Carolina
Utility Center, Inc.
Valley Energy, Inc.
Wellsboro Electric Company
Western Utilities, Inc.

I have sponsored testimony on generic/uniform methodologies for determining the return on common equity for:

Aquarion Water Company
The Connecticut Water Company
United Water Connecticut, Inc.
Utilities, Inc.

I have sponsored testimony on the rate of return and capital structure effects of merger and acquisition issues for:

California-American Water Company
New Jersey-American Water Company

I have sponsored testimony on capital structure and senior capital cost rates for the following clients:

Alpena Power Company
Arkansas-Western Gas Company
Associated Natural Gas Company
PG Energy Inc.
United Water Delaware, Inc.
Washington Natural Gas Company

I have sponsored testimony on Distribution System Improvement Charges (DSIC):

Arizona Water Company

I have assisted in the preparation of rate of return studies on behalf of the following clients:

Algonquin Gas Transmission Company
Anadarko Petroleum Corporation
Arizona Water Company
Arkansas-Louisiana Gas Company
Arkansas Western Gas Company
Artesian Water Company
Associated Natural Gas Company
Atlantic City Electric Company
Bridgeport-Hydraulic Company
Cambridge Electric Light Company
Carolina Power & Light Company
Citizens Gas and Coke Utility
City of Vernon, CA
Columbia Gas/Gulf Transmission Cos.
Commonwealth Electric Company
Commonwealth Telephone Company
Conestoga Telephone & Telegraph Co.
Connecticut Natural Gas Corporation
Consolidated Gas Transmission Company
Consumers Power Company
CWS Systems, Inc.
Delmarva Power & Light Company
East Honolulu Community Services, Inc.
Equitable Gas Company
Equitrans, Inc.
Florida Power & Light Company
Gary Hobart Water Company
Gasco, Inc.
GTE Arkansas, Inc.
GTE California, Inc.
GTE Florida, Inc.
GTE Hawaiian Telephone
GTE North, Inc.
GTE Northwest, Inc.
GTE Southwest, Inc.
Great Lakes Gas Transmission L.P.
Hawaiian Electric Company
Hawaiian Electric Light Company
IES Utilities Inc.
Illinois Power Company
Interstate Power Company
Interstate Power & Light Co.
Iowa Electric Light and Power Company
Iowa Southern Utilities Company
Kentucky-West Virginia Gas Company
Lockhart Power Company
Middlesex Water Company
Milwaukee Metropolitan Sewer District
Mountaineer Gas Company
National Fuel Gas Distribution Corp.
National Fuel Gas Supply Corp.
Newco Waste Systems of NJ, Inc.
New Jersey Natural Gas Company
New Jersey-American Water Company
New York-American Water Company
North Carolina Natural Gas Corp.
Northumbrian Water Company
Ohio-American Water Company
Oklahoma Natural Gas Company
Orange and Rockland Utilities
Paiute Pipeline Company
PECO Energy Company
Penn Estates Utilities, Inc.
Penn-York Energy Corporation
Pennsylvania-American Water Co.
PG Energy Inc.
Philadelphia Electric Company
Providence Gas Company
South Carolina Pipeline Company
Southwest Gas Corporation
Stamford Water Company
Tesoro Alaska Petroleum Company
Tesoro Refining & Marketing Co.
United Telephone of New Jersey
United Utility Companies
United Water Arkansas, Inc.
United Water Delaware, Inc.
United Water Idaho, Inc.
United Water Indiana, Inc.
United Water New Jersey, Inc.
United Water New York, Inc.
United Water Pennsylvania, Inc.
United Water Virginia, Inc.
United Water West Lafayette, Inc.

(Rate of Return Study Clients Continued)

Utilities, Inc. of Pennsylvania
Utilities, Inc. - Westgate
Vista-United Telecommunications Corp.
Washington Gas Light Company
Washington Natural Gas Company
Washington Water Power Corporation
Waste Management of New Jersey – Transfer Station A
Wellsboro Electric Company
Western Reserve Telephone Company
Western Utilities, Inc.
Wisconsin Power and Light Company

EDUCATION:

1973 – Clark University – B.A. – Honors in Economics (Concentration: Econometrics and Regional/International Economics)
1991 – Rutgers University – M.B.A. – High Honors (Concentration: Corporate Finance)

PROFESSIONAL AFFILIATIONS:

American Finance Association
Financial Management Association
Society of Utility and Regulatory Financial Analysts
Member, Board of Directors – 2010-2012
President – 2006-2008 and 2008-2010
Secretary/Treasurer – 2004-2006
Energy Association of Pennsylvania
National Association of Water Companies – Member of the Finance/Accounting/Taxation Committee

SPEAKING ENGAGEMENTS:

"Advanced Regulatory Training in Financing Planning, Strategies and Accounting Issues for Publicly and Privately Owned Water and Wastewater Utilities", New Mexico State University Center for Public Utilities, May 13-17, 2012, Instructor (Cost of Financial Capital).

"A New Approach for Estimating the Equity Risk Premium Applied to Public Utilities", before the Finance and Regulatory Committees of the National Association of Water Companies, March 29, 2012, Telephonic Conference.

"A New Approach for Estimating the Equity Risk Premium Applied to Public Utilities", (co-presenter with Frank J. Hanley, Principal and Director, AUS Consultants) before the Water Committee of the National Association of Regulatory Utility Commissioners' Winter Committee Meetings, February 7, 2012, Washington, DC.

"A New Approach for Estimating the Equity Risk Premium Applied to Public Utilities", (co-presenter with Richard A. Michelfelder, Ph.D., Rutgers University and Frank J. Hanley, Principal and Director, AUS Consultants) before the Wall Street Utility Group, December 19, 2011, New York City, NY.

"Advanced Cost and Finance Issues for Water", (co-presenter with Gary D. Shambaugh, Principal & Director, AUS Consultants), 2011 Advanced Regulatory Studies Program – Ratemaking, Accounting and Economics, September 29, 2011, Kellogg Center at Michigan State University – Institute for Public Utilities, East Lansing, MI.

"Public Utility Betas and the Cost of Capital", (co-presenter with Richard A. Michelfelder, Ph.D., Rutgers University) – Advanced Workshop in Regulation and Competition, 30th Annual Eastern Conference of the Center for Research in Regulated Industries (CRRI), May 20, 2011, Rutgers University, Skytop, PA.

Moderator: Society of Utility and Regulatory Financial Analysts: 43rd Financial Forum – "Impact of Cost Recovery Mechanisms on the Perception of Public Utility Risk", April 14-15, 2011, Washington, DC.

"A New Approach for Estimating the Equity Risk Premium for Public Utilities", (co-presenter with Richard A. Michelfelder, Ph.D., Rutgers University) – Hot Topic Hotline Webinar, December 3, 2010, Financial Research Institute of the University of Missouri.

"A New Approach for Estimating the Equity Risk Premium for Public Utilities", (co-presenter with Richard A. Michelfelder, Ph.D., Rutgers University) before the Indiana Utility Regulatory Commission Cost of Capital Task Force, September 28, 2010, Indianapolis, IN

Tomorrow's Cost of Capital: Cost of Capital Issues 2010, Deloitte Center for Energy Solutions, 2010 Deloitte Energy Conference, "Changing the Great Game: Climate, Customers and Capital", June 7-8, 2010, Washington, DC.

"Cost of Capital Issues – 2010" – Deloitte Center for Energy Solutions 2010 Energy Conference: Changing the Great Game: Climate, Consumers and Capital, June 7-8, 2010, Washington, DC

"A New Approach for Estimating the Equity Risk Premium for Public Utilities", (co-presenter with Richard A. Michelfelder, Ph.D., Rutgers University) – Advanced Workshop in Regulation and Competition, 29th Annual Eastern Conference of the Center for Research in Regulated Industries (CRRI), May 20, 2010, Rutgers University, Skytop, PA

Moderator: Society of Utility and Regulatory Financial Analysts: 42nd Financial Forum – "The Changing Economic and Capital Market Environment and the Utility Industry", April 29-30, 2010, Washington, DC

"A New Model for Estimating the Equity Risk Premium for Public Utilities" (co-presenter with Richard A. Michelfelder, Ph.D., Rutgers University) – Spring 2010 Meeting of the Staff Subcommittee on Accounting and Finance of the National Association of Regulatory Utility Commissioners, March 17, 2010, Charleston, SC

"New Approach to Estimating the Cost of Common Equity Capital for Public Utilities" (co-presenter with Richard A. Michelfelder, Ph.D., Rutgers University) - Advanced Workshop in Regulation and Competition, 28th Annual Eastern Conference of the Center for Research in Regulated Industries (CRRI), May 14, 2009, Rutgers University, Skytop, PA

Moderator: Society of Utility and Regulatory Financial Analysts: 41st Financial Forum – "Estimating the Cost of Capital in Today's Economic and Capital Market Environment", April 16-17, 2009, Washington, DC

"Water Utility Financing: Where Does All That Cash Come From?", AWWA Pre-Conference Workshop: Water Utility Ratemaking, March 25, 2008, Atlantic City, NJ

PAPERS:

"A New Approach for Estimating the Equity Risk Premium for Public Utilities", co-authored with Frank J. Hanley and Richard A. Michelfelder, Ph.D., Rutgers University, The Journal of Regulatory Economics (December 2011), 40:261-278.

"Comparable Earnings: New Life for an Old Precept" co-authored with Frank J. Hanley, Financial Quarterly Review, (American Gas Association), Summer 1994.

PMA-1

Arizona Water Company - Northern Group
Summary of Cost of Capital and Fair Rate of Return
Based upon the Capital Structure at December 31, 2011

Type of Capital	Ratios (1)	Cost Rate	Weighted Cost Rate
Long-Term Debt	48.95%	6.82% (1)	3.34%
Common Equity	51.05%	11.30% (2)	5.77%
Total	100.00%		9.11%

Notes:

(1) From Schedule D-1, Page 1.

(2) Based upon informed judgment from the entire study, the principal results of which are summarized on page 2.

Arizona Water Company - Northern Group
Brief Summary of Common Equity Cost Rate

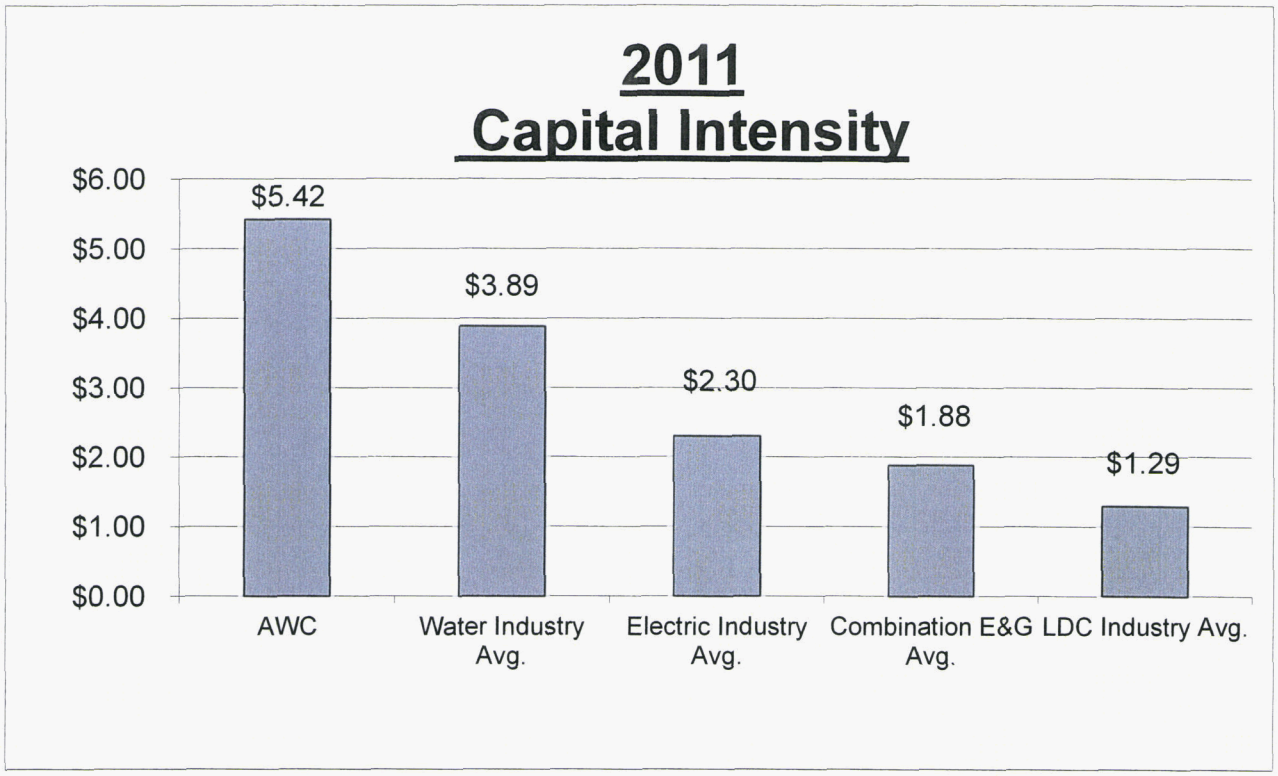
No.	Principal Methods	Proxy Group of Nine Water Companies
1.	Discounted Cash Flow Model (DCF) (1)	9.13 %
2.	Risk Premium Model (RPM) (2)	10.47
3.	Capital Asset Pricing Model (CAPM) (3)	11.01
4.	Indicated Common Equity Cost Rate before Adjustment for Business Risks	10.34
5.	Credit Risk Adjustment (4)	0.50 %
6.	Business Risk Adjustment (5)	0.45
7.	Indicated Common Equity Cost Rate	11.29 %
8.	Recommended Common Equity Cost Rate	11.30 %

Notes:
(1) From Exhibit PMA-7.
(2) From page 1 of Exhibit PMA-9.
(3) From page 1 of Exhibit PMA-10.
(4) Credit risk adjustment to reflect Arizona Water Company's likely Moody's bond rating of Baa relative to the proxy group's average Moody's Bond rateing of A3 as detailed in Ms. Ahern's accompanying direct testimony.
(5) Business risk adjustment to reflect Arizona Water Company - Northern Group's greater business risk due to its unique business risk relative to the proxy group as detailed in Ms. Ahern's accompanying direct testimony.

PMA-2

Arizona Water Company - Northern Group
2011 Capital Intensity of Arizona Water Company and
AUS Utility Reports Utility Companies Industry Averages

	Average Net Plant ($ mill)	Average Operating Revenue ($ mill)	Capital Intensity ($)	Capital Intensity AWC v. Other Industries (times)
Arizona Water Company	$ 302.88	$ 55.87	$ 5.42	- -
Water Industry Average	$ 2,083.68	$ 535.05	$ 3.89	139.33%
Electric Industry Average	$ 13,547.31	$ 5,886.29	$ 2.30	235.65%
Combination Elec. & Gas Industry Average	$ 11,649.44	$ 6,195.25	$ 1.88	288.30%
Gas Distribution Average	$ 3,062.57	$ 2,382.29	$ 1.29	420.16%



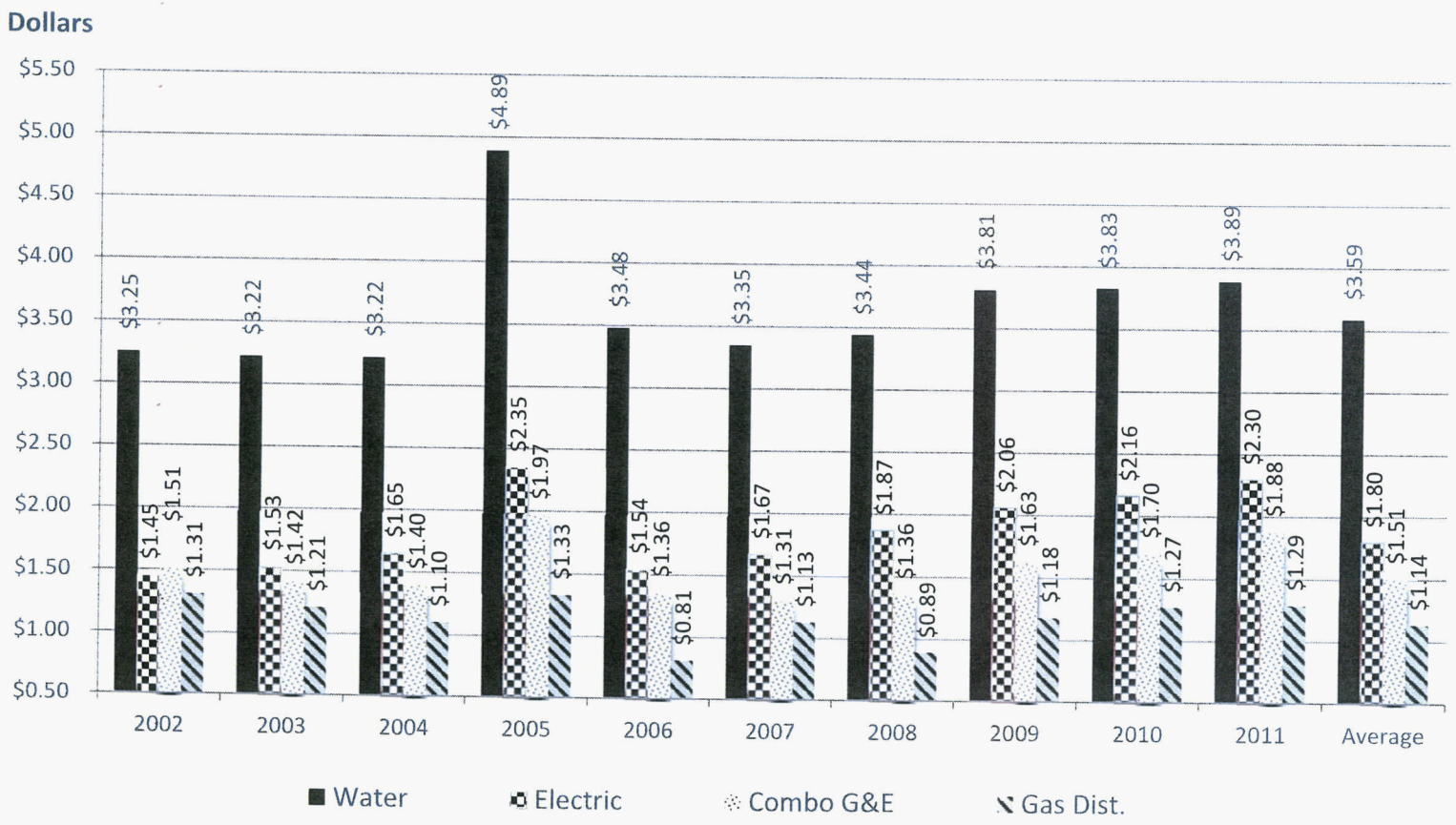
Notes:
Capital Intensity is equal to Net Plant divided by Total Operating Revenue.

Source of Information:
EDGAR Online's I-Metrix Database
Company Annual Forms 10-K

AUS Utility Reports - May 2011
Published By AUS Consultants

Company Provided Information

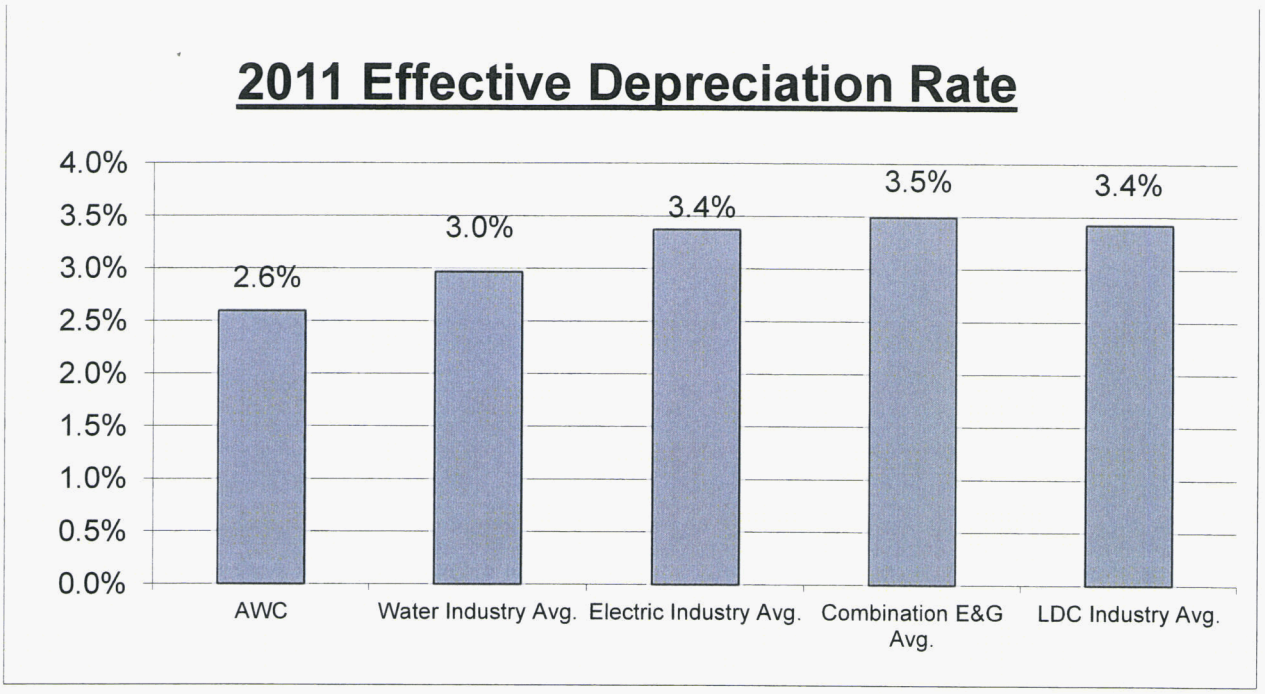
Capital Intensity of the AUS Utility Reports Companies
2002 - 2011



Source of Information: SEC Edgar I-Metrix Online Database

Arizona Water Company - Northern Group
2011 Depreciation Rate of Arizona Water Company and
AUS Utility Reports Utility Companies Industry Averages

	Depreciation Depletion & Amort. Expense ($ mill)	Average Total Gross Plant Less CWIP ($ mill)	Depreciation Rate (%)	Depreciation Rate AWC v. Other Industries (times)
Arizona Water Company	$ 8.91	$ 343.45	2.6%	- -
Water Industry Average	$ 68.22	$ 2,300.11	3.0%	86.67%
Electric Industry Average	$ 602.23	$ 17,875.91	3.4%	76.47%
Combination Elec. & Gas Industry Average	$ 560.74	$ 16,057.10	3.5%	74.29%
LDC Gas Distribution Industry Average	$ 139.95	$ 4,089.98	3.4%	76.47%



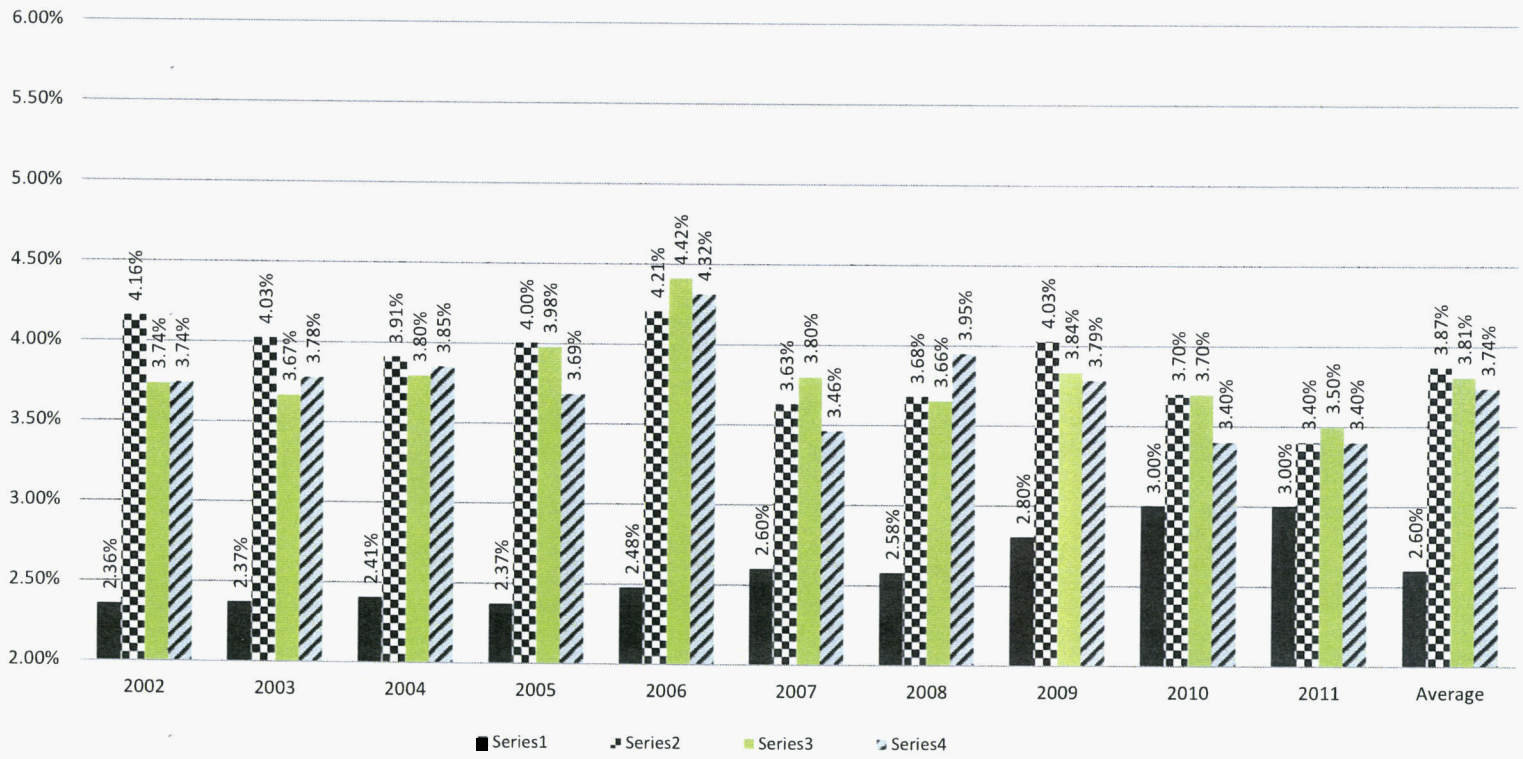
Notes:
Effective Depreciation Rate is equal to Depreciation, Depletion and Amortization Expense divided by average beginning and ending year's Gross Plant minus Construction Work in Progress.

Source of Information:
EDGAR Online's I-Metrix Database
Company Annual Forms 10-K

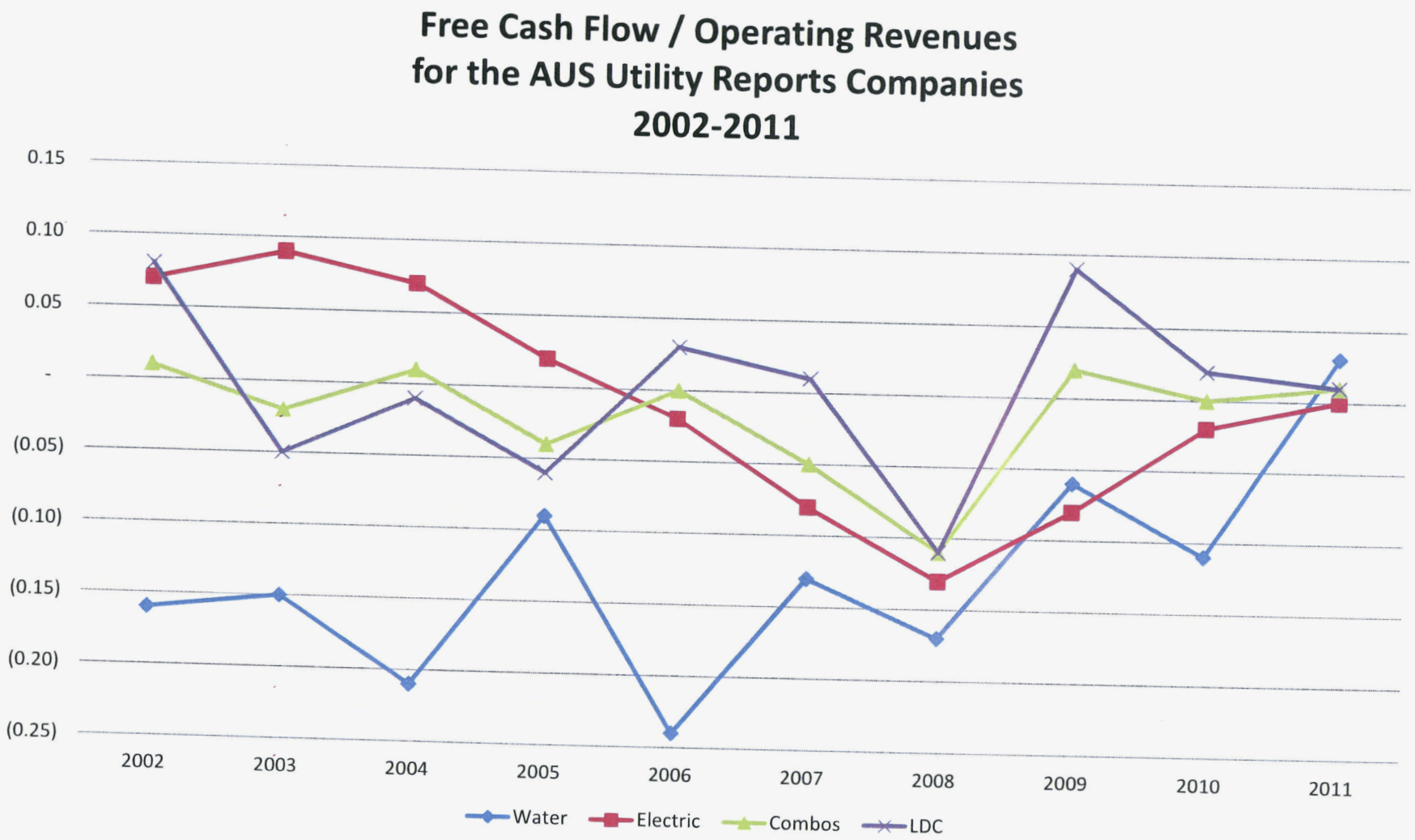
AUS Utility Report - May 2011
Published by AUS Consultants

Company Provided Information

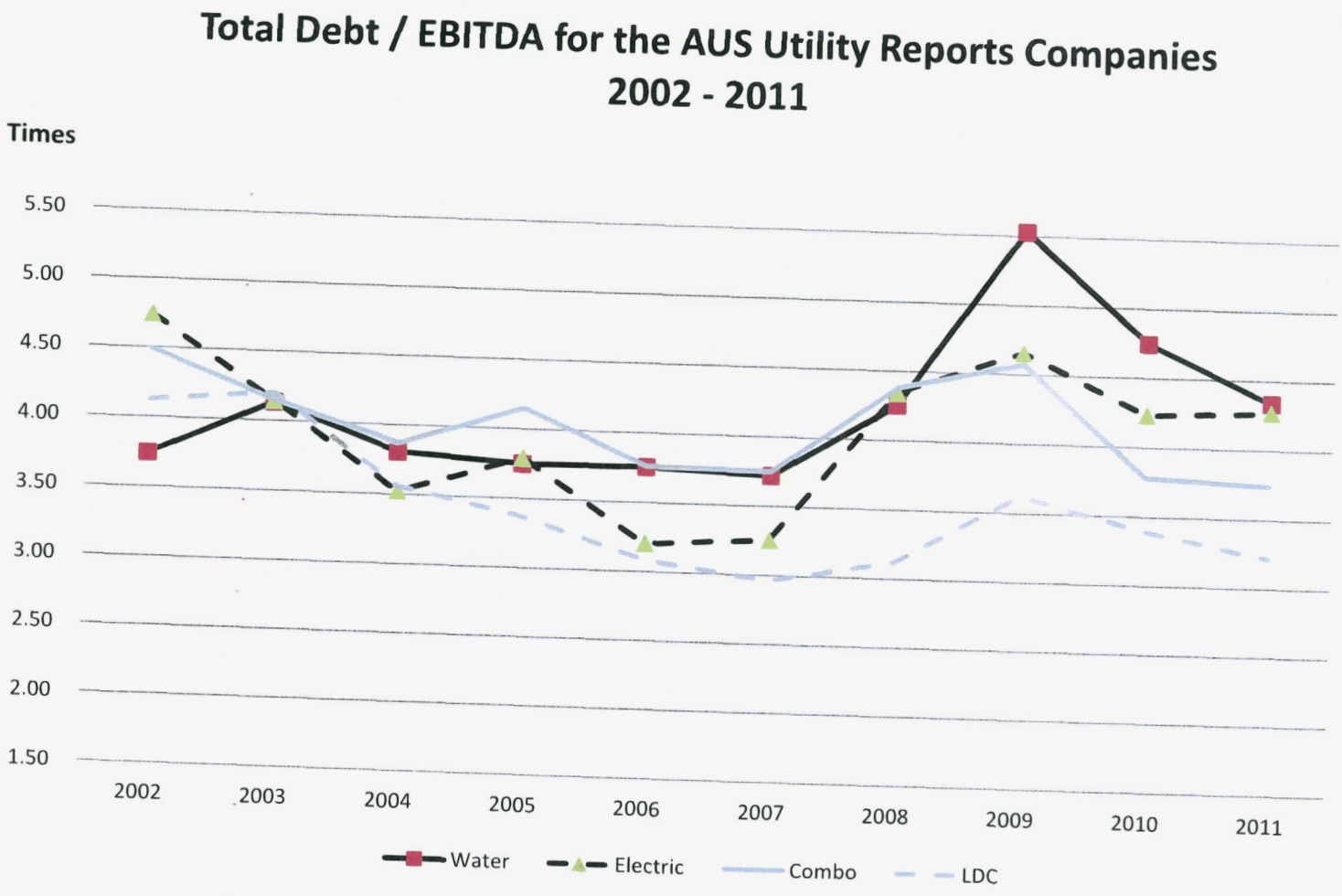
Depreciation Rates for the AUS Utility Reports Companies 2001-2010



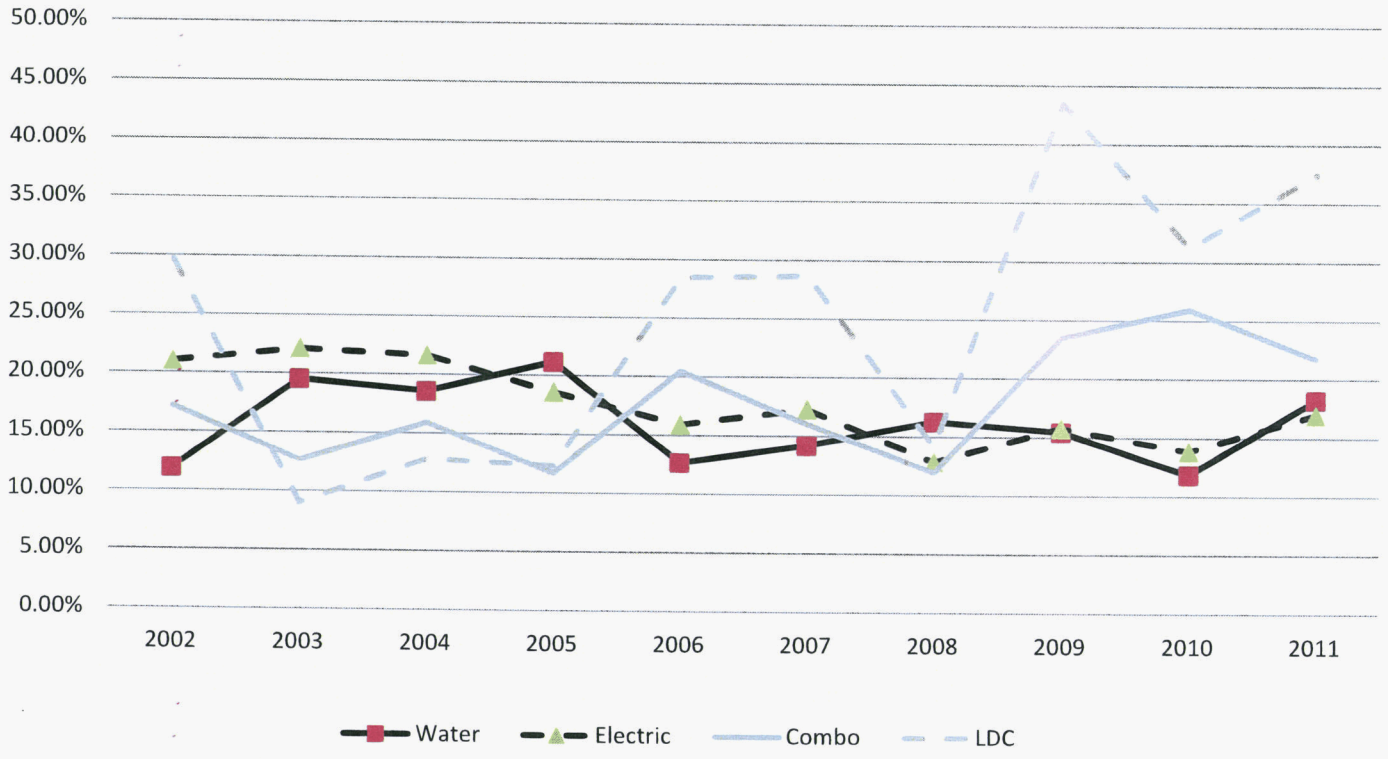
Source of Information: SEC Edgar I-Metrix Online Database

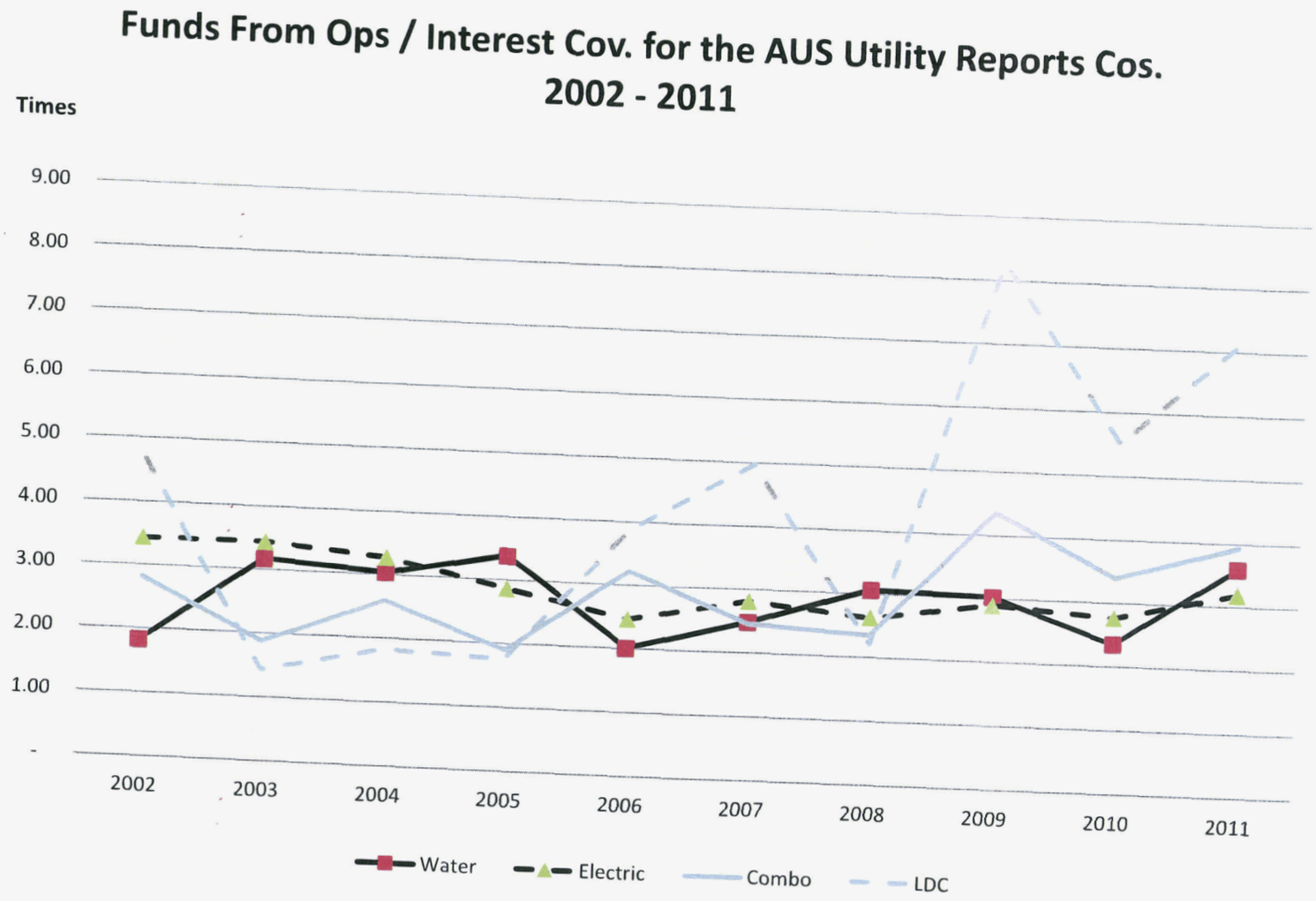

Free Cash Flow / Operating Revenues
for the AUS Utility Reports Companies
2002-2011
0.15
0.10
0.05
-
(0.05)
(0.10)
(0.15)
(0.20)
(0.25)
2002
2003
2004
2005
2006
2007
2008
2009
2010
2011
Water
Electric
Combos
LDC

PMA-3

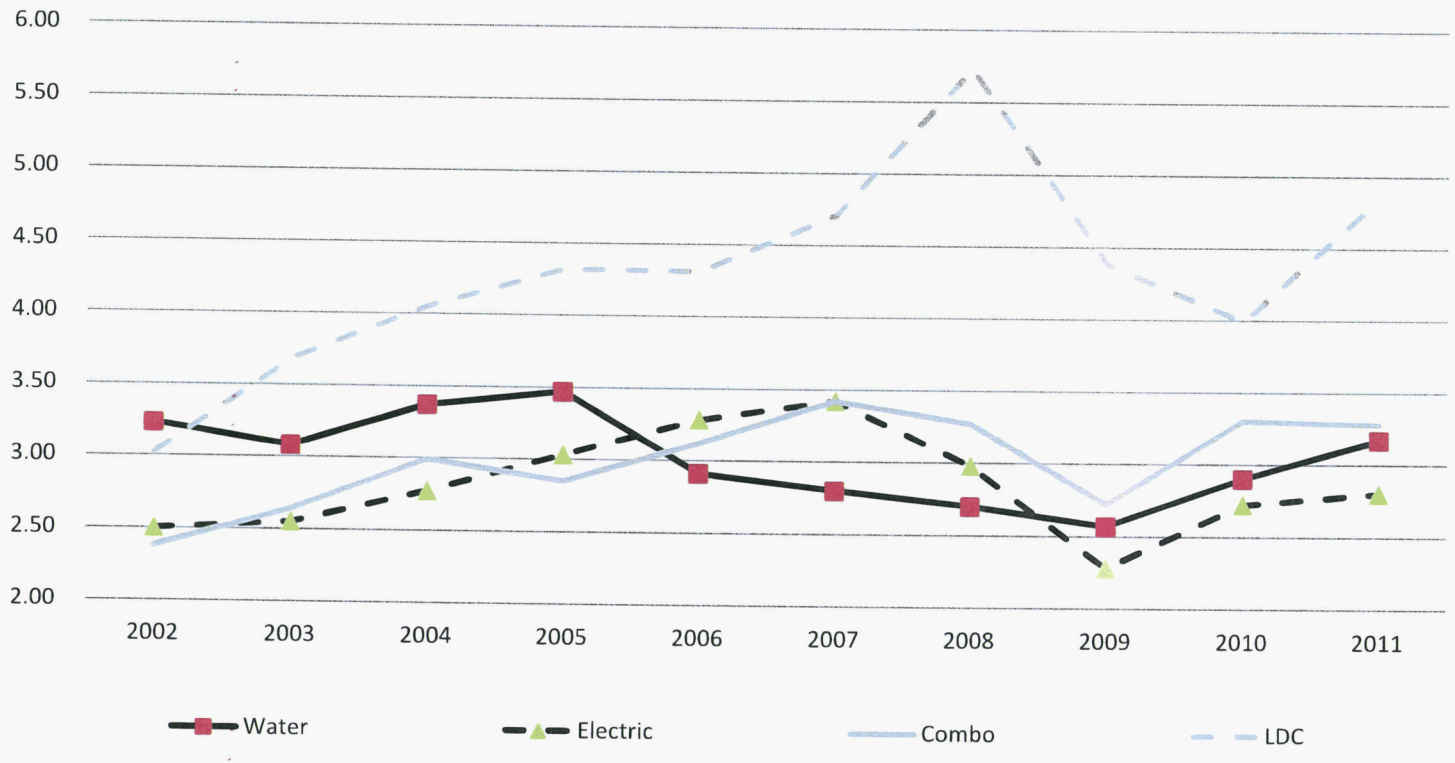

Total Debt / EBITDA for the AUS Utility Reports Companies
2002 - 2011
Times
5.50
5.00
4.50
4.00
3.50
3.00
2.50
2.00
1.50
2002
2003
2004
2005
2006
2007
2008
2009
2010
2011
Water
Electric
Combo
LDC

Funds From Ops / Total Debt for the AUS Utility Reports Cos.
2002 - 2011

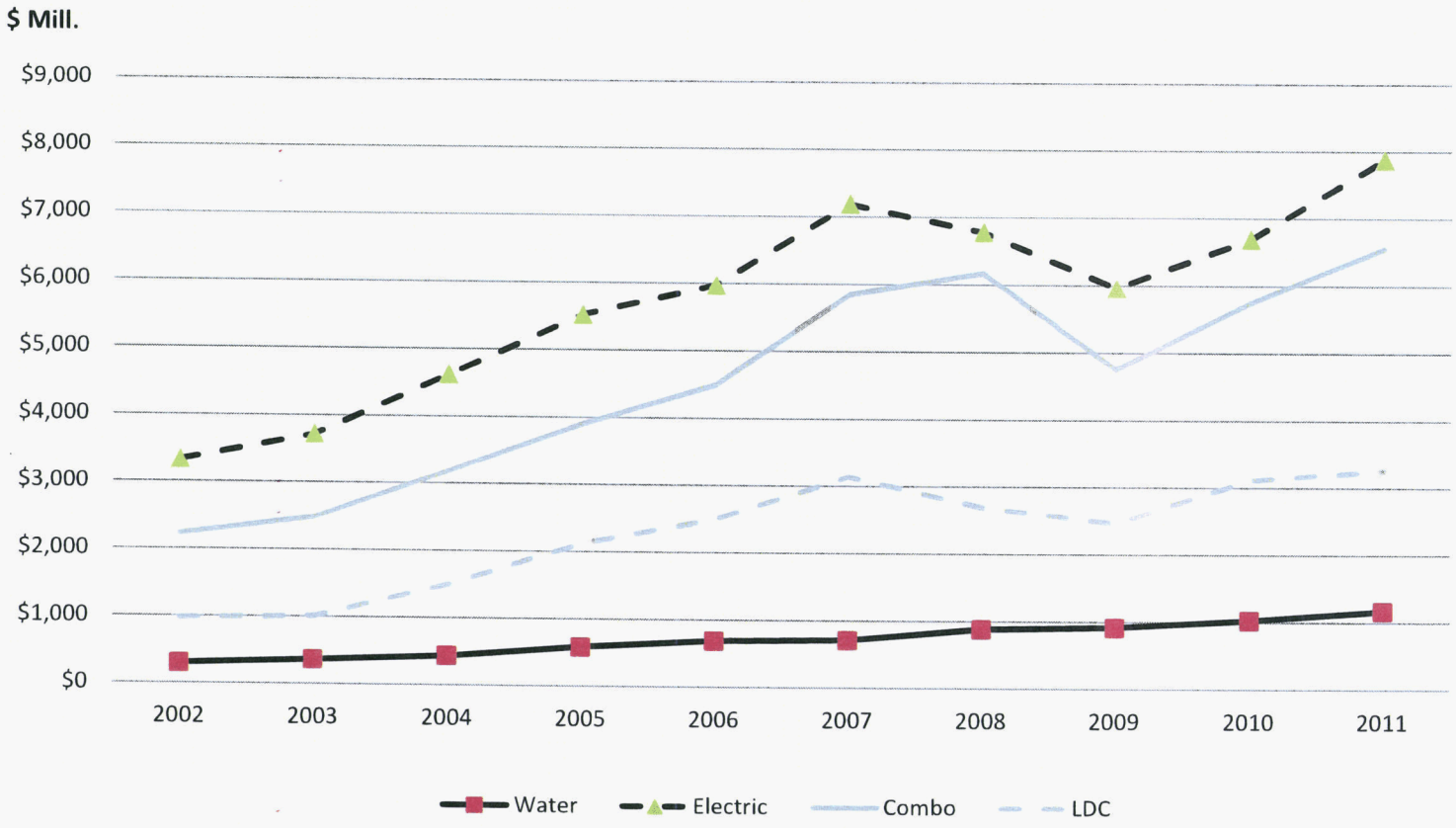



Funds From Ops / Interest Cov. for the AUS Utility Reports Cos.
2002 - 2011
Times
9.00
8.00
7.00
6.00
5.00
4.00
3.00
2.00
1.00
-
2002
2003
2004
2005
2006
2007
2008
2009
2010
2011
Water
Electric
Combo
LDC

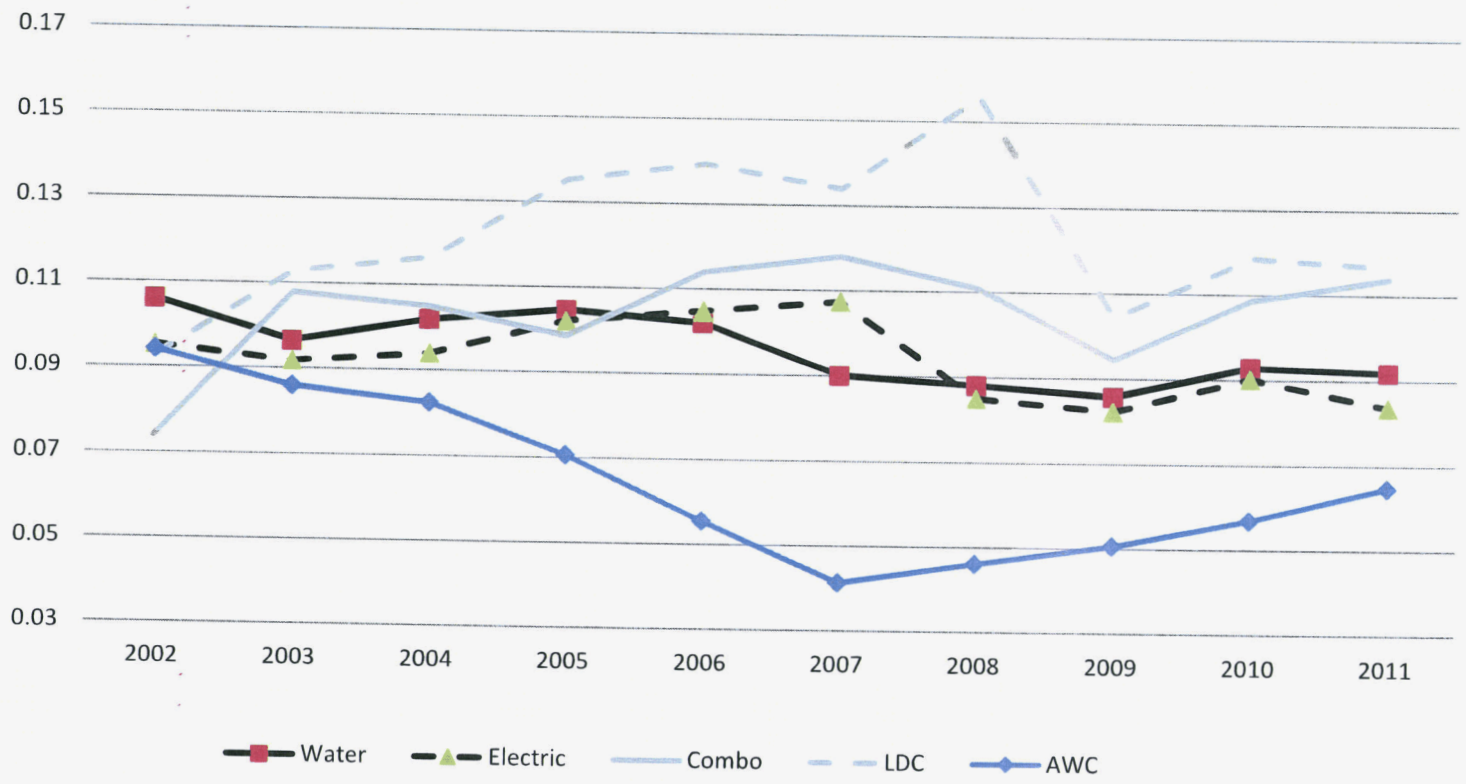
Before-Inc. Tax / Interest Cov. for the AUS Utility Reports Cos. 2002 - 2011



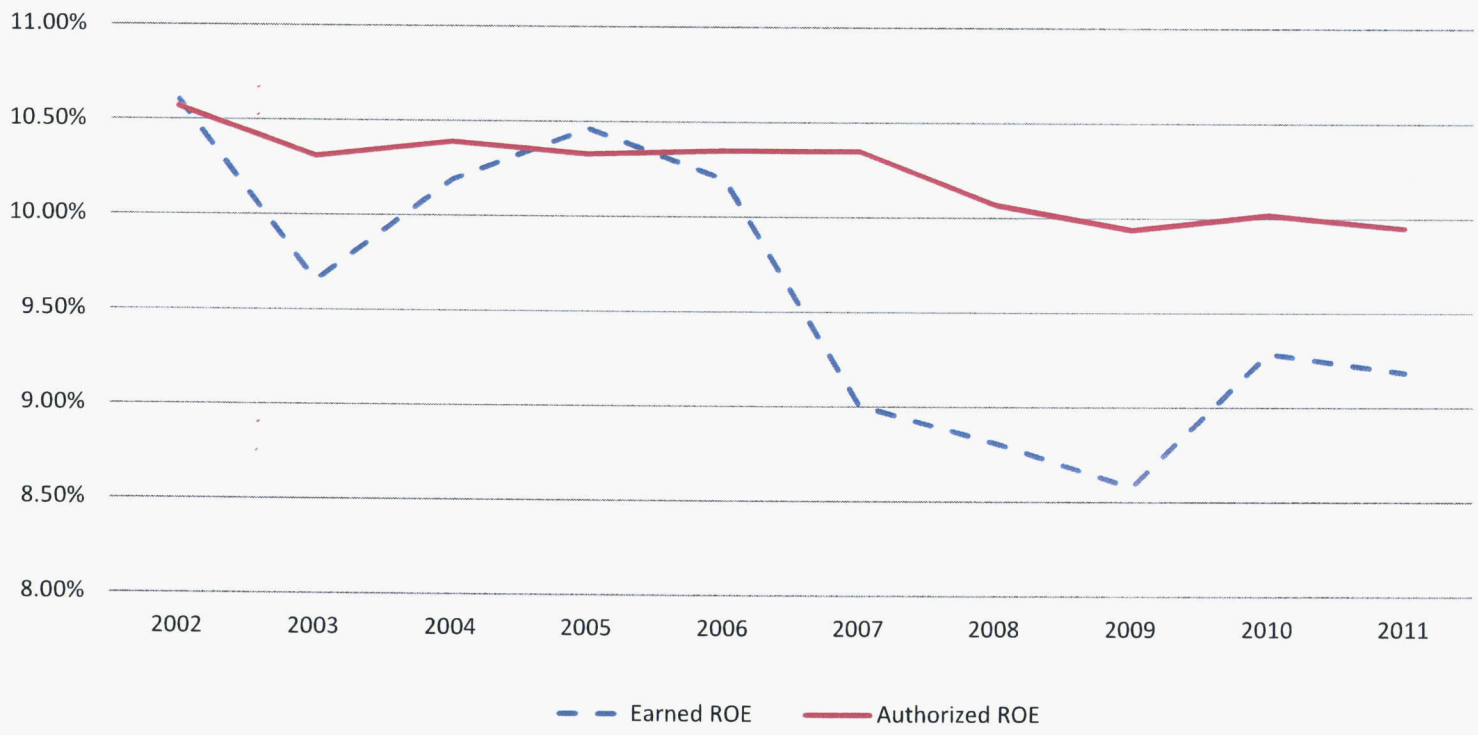
Market Capitalization for the AUS Utility Reports Companies
2002 - 2011



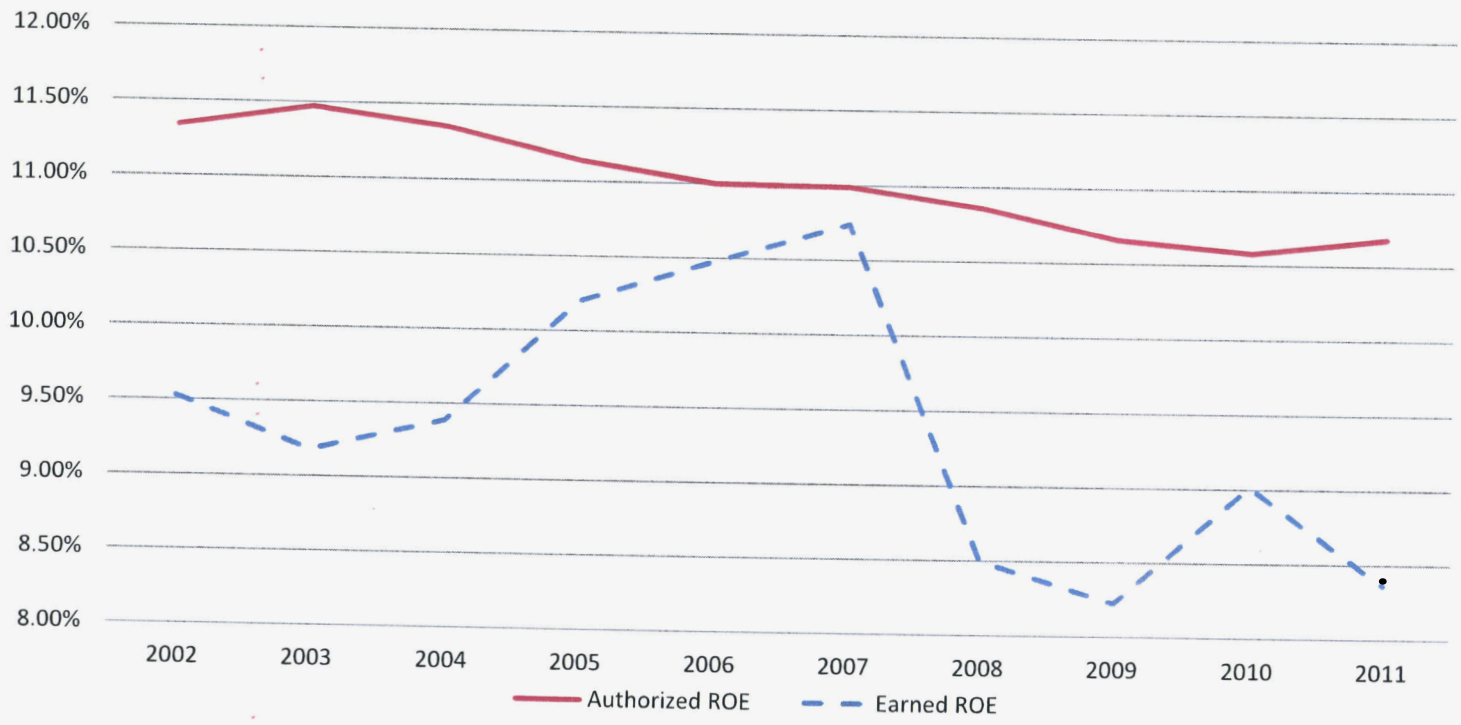
Earned Returns on Common Equity for the AUS Utility Reports Cos. and Arizona Water Company
2002 - 2011



Earned ROE v Authorized ROE for the AUS Utility Reports Water Companies
2002 - 2011

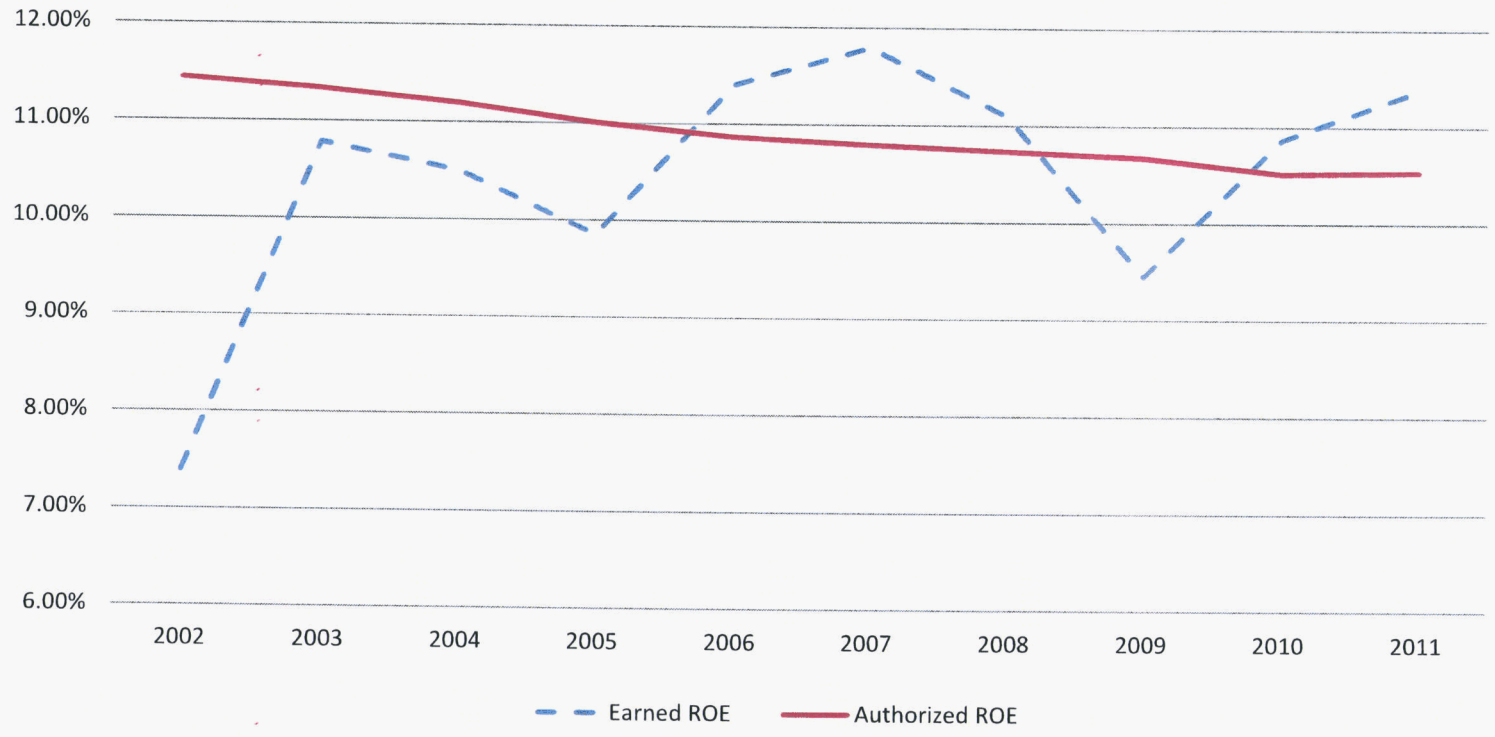


Earned ROE v Authorized ROE for the AUS Utility Reports Electric Companies
2002 - 2011



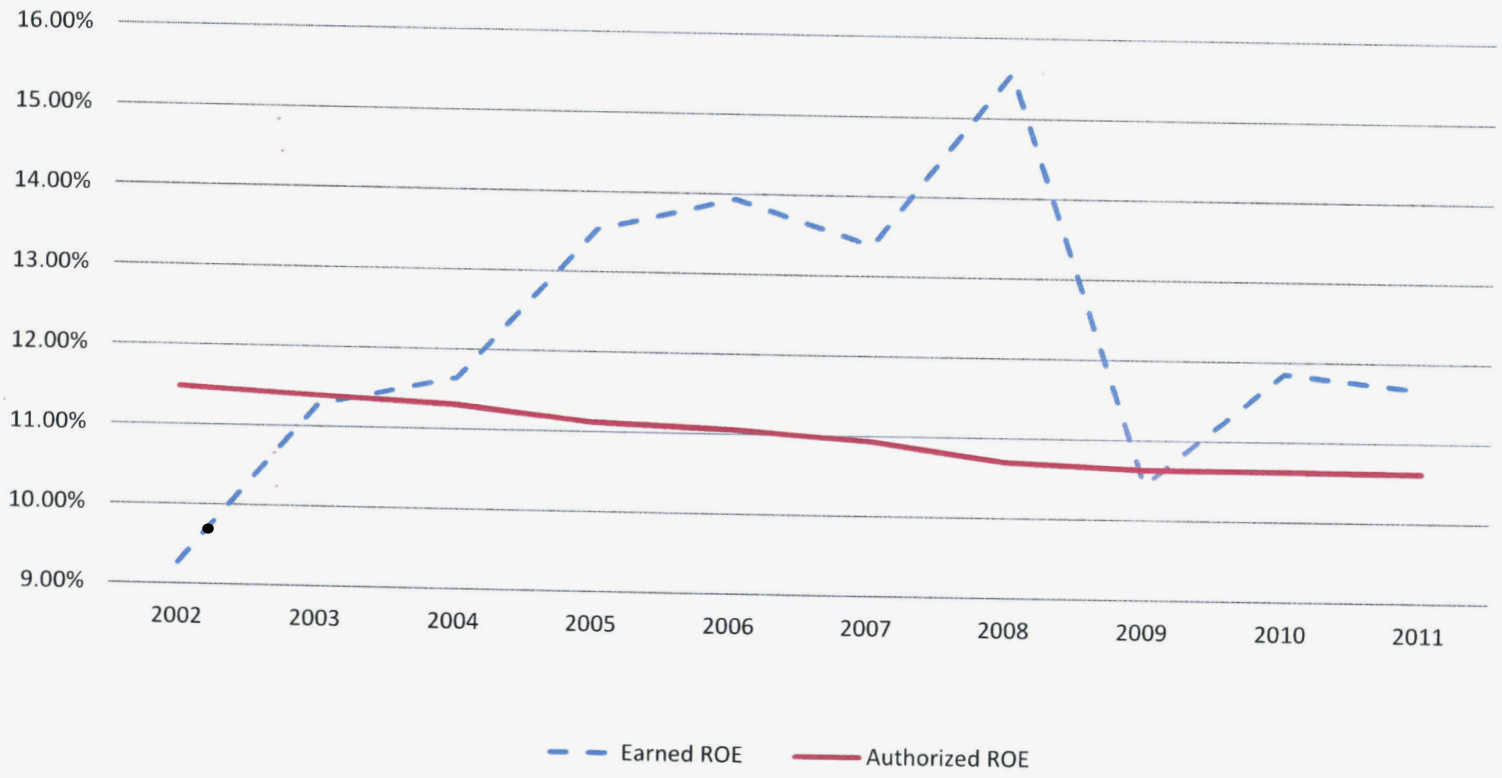
Source of Information: SEC Edgar I-Metrix Online Dtabase & AUS Utility Reports

Earned ROE v Authorized ROE for the AUS Utility Reports Combination Companies
2002 - 2011



Source of Information: SEC Edgar I-Metrix Online Dtabase & AUS Utility Reports

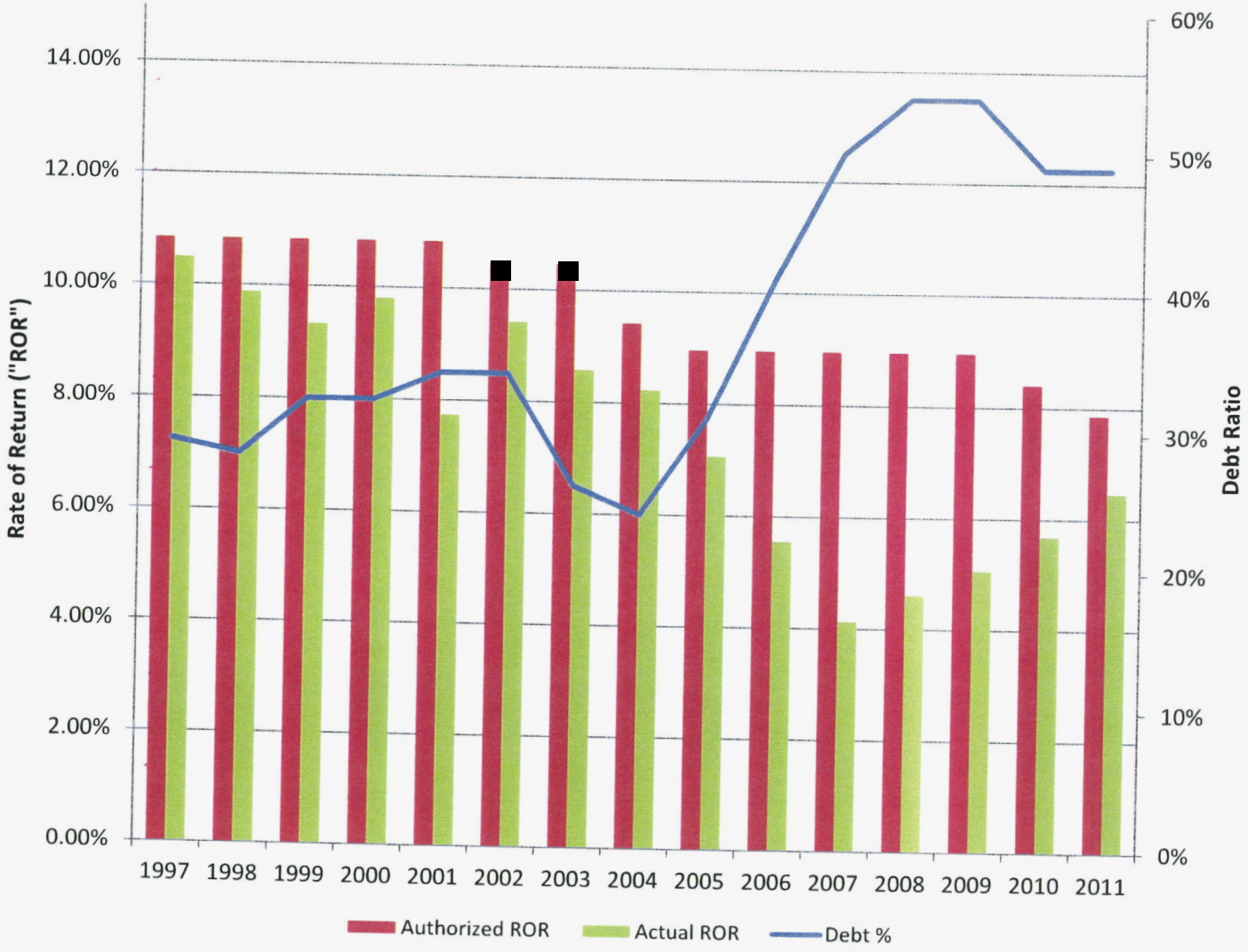
Earned ROE v Authorized ROE for the AUS Utility Reports LDC Companies
2002 - 2011



Source of Information: SEC Edgar I-Metrix Online Dtabase & AUS Utility Reports

Arizona Water Company

Actual vs. Authorized Rate of Return on Common Equity & Total Debt Ratio



PMA-4

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May 27, 2009

Criteria | Corporates | General:

Criteria Methodology: Business Risk/Financial Risk Matrix Expanded

Primary Credit Analysts:
Solomon B Samson, New York (1) 212-438-7653; sol_samson@standardandpoors.com
Emmanuel Dubois-Pelerin, Paris (33) 1-4420-6673; emmanuel_dubois-pelerin@standardandpoors.com

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Business Risk/Financial Risk Framework

Updated Matrix

Financial Benchmarks

How To Use The Matrix--And Its Limitations

Related Articles

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Criteria | Corporates | General:

Criteria Methodology: Business Risk/Financial Risk Matrix Expanded

(Editor's Note: In the previous version of this article published on May 26, certain of the rating outcomes in the table 1 matrix were missated. A corrected version follows.)

Standard & Poor's Ratings Services is refining its methodology for corporate ratings related to its business risk/financial risk matrix, which we published as part of 2008 Corporate Ratings Criteria on April 15, 2008, on RatingsDirect at www.ratingsdirect.com and Standard & Poor's Web site at www.standardandpoors.com.

This article amends and supersedes the criteria as published in Corporate Ratings Criteria, page 21, and the articles listed in the "Related Articles" section at the end of this report.

This article is part of a broad series of measures announced last year to enhance our governance, analytics, dissemination of information, and investor education initiatives. These initiatives are aimed at augmenting our independence, strengthening the rating process, and increasing our transparency to better serve the global markets.

We introduced the business risk/financial risk matrix four years ago. The relationships depicted in the matrix represent an essential element of our corporate analytical methodology.

We are now expanding the matrix, by adding one category to both business and financial risks (see table 1). As a result, the matrix allows for greater differentiation regarding companies rated lower than investment grade (i.e., 'BB' and below).

Table 1

Business And Financial Risk Profile Matrix

Business Risk Profile	Financial Risk Profile					
	Minimal	Modest	Intermediate	Significant	Aggressive	Highly Leveraged
Excellent	AAA	AA	A	A-	BBB	--
Strong	AA	A	A-	BBB	BB	BB-
Satisfactory	A-	BBB+	BBB	BB+	BB-	B+
Fair	--	BBB-	BB+	BB	BB-	B
Weak	--	--	BB	BB-	B+	B-
Vulnerable	--	--	--	B+	B	CCC+

These rating outcomes are shown for guidance purposes only. Actual rating should be within one notch of indicated rating outcomes.

The rating outcomes refer to issuer credit ratings. The ratings indicated in each cell of the matrix are the midpoints of a range of likely rating possibilities. This range would ordinarily span one notch above and below the indicated rating.

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Business Risk/Financial Risk Framework

Our corporate analytical methodology organizes the analytical process according to a common framework, and it divides the task into several categories so that all salient issues are considered. The first categories involve fundamental business analysis; the financial analysis categories follow.

Our ratings analysis starts with the assessment of the business and competitive profile of the company. Two companies with identical financial metrics can be rated very differently, to the extent that their business challenges and prospects differ. The categories underlying our business and financial risk assessments are:

Business risk

- Country risk
- Industry risk
- Competitive position
- Profitability/Peer group comparisons

Financial risk

- Accounting
- Financial governance and policies/risk tolerance
- Cash flow adequacy
- Capital structure/asset protection
- Liquidity/short-term factors

We do not have any predetermined weights for these categories. The significance of specific factors varies from situation to situation.

Updated Matrix

We developed the matrix to make explicit the rating outcomes that are typical for various business risk/financial risk combinations. It illustrates the relationship of business and financial risk profiles to the issuer credit rating.

We tend to weight business risk slightly more than financial risk when differentiating among investment-grade ratings. Conversely, we place slightly more weight on financial risk for speculative-grade issuers (see table 1, again). There also is a subtle compounding effect when both business risk and financial risk are aligned at extremes (i.e., excellent/minimal and vulnerable/highly leveraged.)

The new, more granular version of the matrix represents a refinement--not any change in rating criteria or standards--and, consequently, holds no implications for any changes to existing ratings. However, the expanded matrix should enhance the transparency of the analytical process.

Financial Benchmarks

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Table 2

Financial Risk Indicative Ratios (Corporates)

	FFO/Debt (%)	Debt/EBITDA (x)	Debt/Capital (%)
Minimal	greater than 60	less than 1.5	less than 25
Modest	45-60	1.5-2	25-35
Intermediate	30-45	2-3	35-45
Significant	20-30	3-4	45-50
Aggressive	12-20	4-5	50-60
Highly Leveraged	less than 12	greater than 5	greater than 60

How To Use The Matrix--And Its Limitations

The rating matrix indicative outcomes are what we typically observe--but are not meant to be precise indications or guarantees of future rating opinions. Positive and negative nuances in our analysis may lead to a notch higher or lower than the outcomes indicated in the various cells of the matrix.

In certain situations there may be specific, overarching risks that are outside the standard framework, e.g., a liquidity crisis, major litigation, or large acquisition. This often is the case regarding credits at the lowest end of the credit spectrum--i.e., the 'CCC' category and lower. These ratings, by definition, reflect some impending crisis or acute vulnerability, and the balanced approach that underlies the matrix framework just does not lend itself to such situations.

Similarly, some matrix cells are blank because the underlying combinations are highly unusual--and presumably would involve complicated factors and analysis.

The following hypothetical example illustrates how the tables can be used to better understand our rating process (see tables 1 and 2).

We believe that Company ABC has a satisfactory business risk profile, typical of a low investment-grade industrial issuer. If we believed its financial risk were intermediate, the expected rating outcome should be within one notch of 'BBB'. ABC's ratios of cash flow to debt (35%) and debt leverage (total debt to EBITDA of 2.5x) are indeed characteristic of intermediate financial risk.

It might be possible for Company ABC to be upgraded to the 'A' category by, for example, reducing its debt burden to the point that financial risk is viewed as minimal. Funds from operations (FFO) to debt of more than 60% and debt to EBITDA of only 1.5x would, in most cases, indicate minimal.

Conversely, ABC may choose to become more financially aggressive--perhaps it decides to reward shareholders by borrowing to repurchase its stock. It is possible that the company may fall into the 'BB' category if we view its financial risk as significant. FFO to debt of 20% and debt to EBITDA 4x would, in our view, typify the significant financial risk category.

Still, it is essential to realize that the financial benchmarks are guidelines, neither gospel nor guarantees. They can vary in nonstandard cases: For example, if a company's financial measures exhibit very little volatility, benchmarks may be somewhat more relaxed.

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Moreover, our assessment of financial risk is not as simplistic as looking at a few ratios. It encompasses:

- a view of accounting and disclosure practices;
- a view of corporate governance, financial policies, and risk tolerance;
- the degree of capital intensity, flexibility regarding capital expenditures and other cash needs, including acquisitions and shareholder distributions; and
- various aspects of liquidity--including the risk of refinancing near-term maturities.

The matrix addresses a company's standalone credit profile, and does not take account of external influences, which would pertain in the case of government-related entities or subsidiaries that in our view may benefit or suffer from affiliation with a stronger or weaker group. The matrix refers only to local-currency ratings, rather than foreign-currency ratings, which incorporate additional transfer and convertibility risks. Finally, the matrix does not apply to project finance or corporate securitizations.

Related Articles

Industrials' Business Risk/Financial Risk Matrix--A Fundamental Perspective On Corporate Ratings, published April 7, 2005, on RatingsDirect.

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The McGraw-Hill Companies

PMA-5

Arizona Water Company - Northern Group
Capitalization and Financial Statistics (1)
2007 - 2011, Inclusive

	2011	2010	2009	2008	2007	
			(MILLIONS OF DOLLARS)			
CAPITALIZATION STATISTICS						
AMOUNT OF CAPITAL EMPLOYED						
TOTAL PERMANENT CAPITAL	$153.221	$152.975	$143.285	$144.672	$111.016	
SHORT-TERM DEBT	$0.000	$0.000	$6.000	$7.300	$32.000	
TOTAL CAPITAL EMPLOYED	$153.221	$152.975	$149.285	$151.972	$143.016	
INDICATED AVERAGE CAPITAL COST RATES (2)						
TOTAL DEBT	6.33 %	6.30 %	6.10 %	5.46 %	3.92 %	
CAPITAL STRUCTURE RATIOS						5 YEAR AVERAGE
BASED ON TOTAL PERMANENT CAPITAL:						
LONG-TERM DEBT	48.95 %	49.03 %	52.34 %	51.84 %	36.03 %	47.64 %
PREFERRED STOCK	0.00	0.00	0.00	0.00	0.00	0.00
COMMON EQUITY	51.05	50.97	47.66	48.16	63.97	52.36
TOTAL	100.00 %	100.00 %	100.00 %	100.00 %	100.00 %	100.00 %
BASED ON TOTAL CAPITAL:						
TOTAL DEBT, INCLUDING SHORT-TERM	48.95 %	49.03 %	54.26 %	54.15 %	50.34 %	51.35 %
PREFERRED STOCK	0.00	0.00	0.00	0.00	0.00	0.00
COMMON EQUITY	51.05	50.97	45.74	45.85	49.66	48.65
TOTAL	100.00 %	100.00 %	100.00 %	100.00 %	100.00 %	100.00 %
FINANCIAL STATISTICS						
DIVIDEND PAYOUT RATIO	94.99 %	114.16 %	147.79 %	145.66 %	109.60 %	122.44 %
RATE OF RETURN ON AVERAGE BOOK COMMON EQUITY	6.29 %	5.14 %	4.21 %	4.18 %	5.45 %	5.05 %
TOTAL DEBT / EBITDA (3)	3.37 x	3.83 x	4.38 x	4.72 x	4.58 x	4.18 x
FUNDS FROM OPERATIONS / TOTAL DEBT (4)	31.61 %	27.77 %	25.01 %	20.87 %	25.36 %	26.12 %
TOTAL DEBT / TOTAL CAPITAL	48.95 %	49.03 %	54.26 %	54.15 %	50.34 %	51.35 %

Notes:

(1) All capitalization and financial statistics for the group are the arithmetic average of the achieved results for each individual company in the group, and are based upon financial statements as originally reported in each year.

(2) Computed by relating actual total debt interest or preferred stock dividends booked to average of beginning and ending total debt or preferred stock reported to be outstanding.

(3) Total debt as a percentage of EBITDA (Earnings before Interest, Income Taxes, Depreciation and Amortization).

(4) Funds from operations (sum of net income, depreciation, amortization, net deferred income tax and investment tax credits, less total AFUDC) plus interest charges as a percentage of total debt.

Source of Information: Arizona Water Company - Northern Division Audited Financial Statements

PMA-6

Proxy Group of Nine Water Companies
CAPITALIZATION AND FINANCIAL STATISTICS (1)
2007 - 2011, Inclusive

	2011	2010	2009	2008	2007	
			(MILLIONS OF DOLLARS)			
CAPITALIZATION STATISTICS						
AMOUNT OF CAPITAL EMPLOYED						
TOTAL PERMANENT CAPITAL	$1,736.912	$1,712.951	$1,641.561	$1,537.371	$1,561.064	
SHORT-TERM DEBT	$81.076	$53.463	$31.243	$84.104	$37.360	
TOTAL CAPITAL EMPLOYED	$1,817.988	$1,766.414	$1,672.804	$1,621.475	$1,598.424	
INDICATED AVERAGE CAPITAL COST RATES (2)						
TOTAL DEBT	5.36 %	5.37 %	5.31 %	5.58 %	6.08 %	
PREFERRED STOCK	2.77	2.77	2.77	2.88	2.18	
CAPITAL STRUCTURE RATIOS						5 YEAR AVERAGE
BASED ON TOTAL PERMANENT CAPITAL:						
LONG-TERM DEBT	50.69 %	50.97 %	50.80 %	50.35 %	49.46 %	50.46 %
PREFERRED STOCK	0.18	0.19	0.21	0.22	0.31	0.22
COMMON EQUITY	49.13	48.84	48.99	49.43	50.23	49.32
TOTAL	100.00 %	100.00 %	100.00 %	100.00 %	100.00 %	100.00 %
BASED ON TOTAL CAPITAL:						
TOTAL DEBT, INCLUDING SHORT-TERM	52.55 %	53.49 %	53.33 %	53.43 %	50.59 %	52.68 %
PREFERRED STOCK	0.17	0.18	0.19	0.21	0.31	0.21
COMMON EQUITY	47.28	46.33	46.48	46.36	49.10	47.11
TOTAL	100.00 %	100.00 %	100.00 %	100.00 %	100.00 %	100.00 %
FINANCIAL STATISTICS						
FINANCIAL RATIOS - MARKET BASED						
EARNINGS / PRICE RATIO	5.28 %	5.55 %	3.87 %	2.36 %	4.56 %	4.32 %
MARKET / AVERAGE BOOK RATIO	171.16	165.39	153.18	172.70	203.93	173.27
DIVIDEND YIELD	3.56	3.75	4.17	3.98	3.42	3.78
DIVIDEND PAYOUT RATIO	67.87	66.67	60.06	64.23	63.89	64.54
RATE OF RETURN ON AVERAGE BOOK COMMON EQUITY	8.99 %	8.98 %	6.99 %	6.39 %	7.09 %	7.69 %
TOTAL DEBT / EBITDA (3)	4.34 X	4.75 X	5.53 X	9.07 X	5.59 X	5.86 X
FUNDS FROM OPERATIONS / TOTAL DEBT (4)	18.82 %	17.10 %	16.41 %	16.14 %	15.04 %	16.70 %
TOTAL DEBT / TOTAL CAPITAL	52.55 %	53.49 %	53.33 %	53.43 %	50.59 %	52.68 %

Notes:

(1) All capitalization and financial statistics for the group are the arithmetic average of the achieved results for each individual company in the group, and are based upon financial statements as originally reported in each year.

(2) Computed by relating actual total debt interest or preferred stock dividends booked to average of beginning and ending total debt or preferred stock reported to be outstanding.

(3) Total debt relative to EBITDA (Earnings before Interest, Income Taxes, Depreciation and Amortization).

(4) Funds from operations (sum of net income, depreciation, amortization, net deferred income tax and investment tax credits, less total AFUDC) plus interest charges as a percentage of total debt.

Source of Information: I-Metrix Database
Company SEC Form 10-K

Capital Structure Based upon Total Permanent Capital for the
Proxy Group of Nine Water Companies
2007 - 2011, Inclusive

	2011	2010	2009	2008	2007	5 YEAR AVERAGE
American States Water Co.						
Long-Term Debt	45.46 %	44.30 %	46.95 %	46.25 %	46.99 %	45.99 %
Preferred Stock	0.00	0.00	0.00	0.00	0.00	0.00
Common Equity	54.54	55.70	53.05	53.75	53.01	54.01
Total Capital	100.00 %	100.00 %	100.00 %	100.00 %	100.00 %	100.00 %
American Water Works Co., Inc.						
Long-Term Debt	55.72 %	56.73 %	56.98 %	53.75 %	51.05 %	54.84 %
Preferred Stock	0.27	0.29	0.30	0.32	0.31	0.30
Common Equity	44.01	42.98	42.72	45.93	48.64	44.86
Total Capital	100.00 %	100.00 %	100.00 %	100.00 %	100.00 %	100.00 %
Aqua America, Inc.						
Long-Term Debt	54.11 %	57.05 %	56.59 %	54.21 %	55.88 %	55.57 %
Preferred Stock	0.02	0.02	0.02	0.09	0.09	0.05
Common Equity	45.87	42.93	43.39	45.70	44.03	44.38
Total Capital	100.00 %	100.00 %	100.00 %	100.00 %	100.00 %	100.00 %
Artesian Resources Corp.						
Long-Term Debt	48.93 %	52.84 %	54.12 %	59.57 %	52.20 %	53.53 %
Preferred Stock	0.00	0.00	0.00	0.00	0.00	0.00
Common Equity	51.07	47.16	45.88	40.43	47.80	46.47
Total Capital	100.00 %	100.00 %	100.00 %	100.00 %	100.00 %	100.00 %
California Water Service Group						
Long-Term Debt	52.04 %	52.51 %	47.93 %	41.88 %	42.86 %	47.44 %
Preferred Stock	0.00	0.00	0.00	0.00	0.51	0.10
Common Equity	47.96	47.49	52.07	58.12	56.63	52.46
Total Capital	100.00 %	100.00 %	100.00 %	100.00 %	100.00 %	100.00 %
Connecticut Water Service, Inc.						
Long-Term Debt	53.05 %	49.32 %	50.59 %	46.94 %	47.76 %	49.53 %
Preferred Stock	0.30	0.34	0.35	0.39	0.44	0.36
Common Equity	46.65	50.34	49.06	52.67	51.80	50.11
Total Capital	100.00 %	100.00 %	100.00 %	100.00 %	100.00 %	100.00 %
Middlesex Water Company						
Long-Term Debt	43.12 %	43.91 %	47.35 %	49.10 %	49.48 %	46.59 %
Preferred Stock	1.06	1.07	1.24	1.22	1.46	1.21
Common Equity	55.82	55.02	51.41	49.68	49.06	52.20
Total Capital	100.00 %	100.00 %	100.00 %	100.00 %	100.00 %	100.00 %
SJW Corporation						
Long-Term Debt	56.63 %	53.79 %	49.52 %	46.08 %	47.79 %	50.76 %
Preferred Stock	0.00	0.00	0.00	0.00	0.01	0.00
Common Equity	43.37	46.21	50.48	53.92	52.20	49.24
Total Capital	100.00 %	100.00 %	100.00 %	100.00 %	100.00 %	100.00 %
York Water Company						
Long-Term Debt	47.16 %	48.28 %	47.16 %	55.31 %	51.17 %	49.82 %
Preferred Stock	0.00	0.00	0.00	0.00	0.00	0.00
Common Equity	52.84	51.72	52.84	44.69	48.83	50.18
Total Capital	100.00 %	100.00 %	100.00 %	100.00 %	100.00 %	100.00 %
Proxy Group of Nine Water Companies						
Long-Term Debt	50.69 %	50.97 %	50.80 %	50.35 %	49.46 %	50.46 %
Preferred Stock	0.18	0.19	0.21	0.22	0.31	0.22
Common Equity	49.13	48.84	48.99	49.43	50.23	49.32
Total Capital	100.00 %	100.00 %	100.00 %	100.00 %	100.00 %	100.00 %

Source of Information
EDGAR Online's I-Metrix Database
Annual Forms 10-K

PMA-7

Arizona Water Company - Northern Group
Indicated Common Equity Cost Rate Using the Discounted Cash Flow Model for
the Proxy Group of Nine Water Companies

Proxy Group of Nine Water Companies	1 Average Dividend Yield (1)	2 Value Line Projected Five Year Growth in EPS (2)	3 Reuters Mean Consensus Projected Five Year Growth Rate in EPS	4 Zack's Five Year Projected Growth Rate in EPS	5 Yahoo! Finance Projected Five Year Growth in EPS	6 Average Projected Five Year Growth in EPS (3)	7 Adjusted Dividend Yield (4)	8 Indicated Common Equity Cost Rate (5)
American States Water Co.	3.01 %	6.50 %	7.60 %	NA %	4.00 %	6.03 %	3.10 %	9.13 %
American Water Works Co., Inc.	2.73	8.00	9.70	7.70	8.37	8.44	2.85	11.29
Aqua America, Inc.	2.84	8.50	7.10	6.40	5.93	6.98	2.94	9.92
Artesian Resources Corp.	3.95	NA	5.00	NA	4.00	4.50	4.04	8.54
California Water Service Group	3.55	6.00	5.00	NA	5.00	5.33	3.64	8.97
Connecticut Water Service, Inc.	3.39	NA	8.00	NA	6.10	7.05	3.51	10.56
Middlesex Water Company	4.03	5.50	(5.00)	NA	2.70	4.10	4.11	8.21
SJW Corporation	3.03	7.00	14.00	NA	14.00	11.67	3.21	14.88
York Water Company	3.11	NA	6.00	NA	4.90	5.45	3.19	8.64
Average								10.02 %
Median								9.13 %

NA= Not Available
NMF = Not Meaningful Figure

Notes:

(1) Indicated dividend at 7/6/2012 divided by the average closing price of the last 60 trading days ending 7/6/2012 for each company.
(2) From pages 2 through 10 of this Exhibit.
(3) Average of columns 2 through 5 excluding negative growth rates.
(4) This reflects a growth rate component equal to one-half the conclusion of growth rate (from column 6) x column 1 to reflect the periodic payment of dividends (Gordon Model) as opposed to the continuous payment. Thus, for American States Water Co. , 3.01% x (1+(1/2 x 6.03%)) = 3.10%.
(5) Column 6 + column 7.

Source of Information:

Value Line Investment Survey: April 20, 2012
www.reuters.com Downloaded on 07/09/2012
www.zacks.com Downloaded on 07/09/2012
www.yahoo.com Downloaded on 07/09/2012

AMER. STATES WATER NYSE-AWR

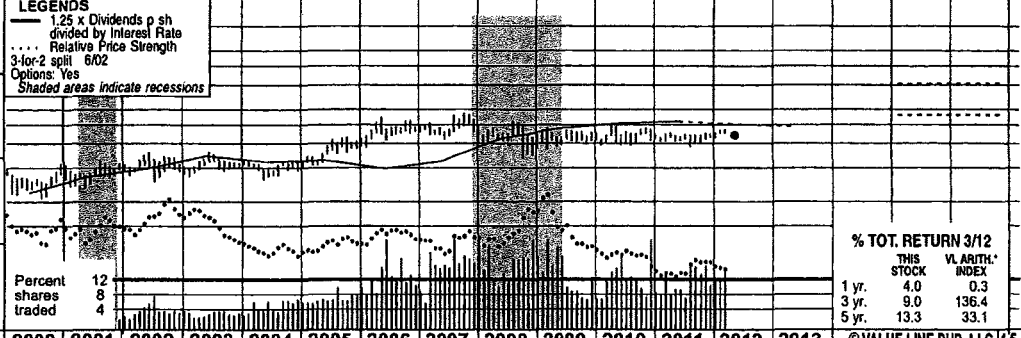
RECENT PRICE 35.11 | P/E RATIO 16.3 (Trailing: 16.0 Median: 22.0) | RELATIVE P/E RATIO 1.09 | DIV'D YLD 3.2% | VALUE LINE

TIMELINESS 2 Lowered 3/23/12
SAFETY 3 New 2/4/00
TECHNICAL 4 Lowered 4/6/12
BETA .70 (1.00 = Market)

	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
High:	26.4	29.0	29.0	26.8	34.6	43.8	46.1	42.0	38.8	39.6	36.4	38.0
Low:	19.0	20.3	21.6	20.8	24.3	30.3	33.6	27.0	29.8	31.2	30.5	34.1

Target Price Range 2015 | 2016 | 2017

LEGENDS
— 1.25 x Dividends p sh divided by Interest Rate
.... Relative Price Strength
3-for-2 split 6/02
Options: Yes
Shaded areas indicate recessions



2015-17 PROJECTIONS

	Price	Gain	Ann'l Total Return
High	65	(+85%)	19%
Low	45	(+30%)	6%

Insider Decisions

	M	J	J	A	S	O	N	D	J
to Buy	0	0	0	0	0	0	0	0	0
Options	0	0	0	3	2	0	5	2	0
to Sell	0	0	0	4	1	0	5	2	0

Institutional Decisions

	2Q2011	3Q2011	4Q2011
to Buy	48	58	86
to Sell	55	54	40
Hld's(000)	11377	11349	11493

% TOT. RETURN 3/12

	THIS STOCK	VL ARITH.* INDEX
1 yr.	4.0	0.3
3 yr.	9.0	136.4
5 yr.	13.3	33.1

1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	© VALUE LINE PUB. LLC	15-17
11.37	11.44	11.02	12.91	12.17	13.06	13.78	13.98	13.61	14.06	15.76	17.49	18.42	19.48	21.41	22.24	22.65	23.95	Revenues per sh	27.80
1.75	1.85	2.04	2.26	2.20	2.53	2.54	2.08	2.23	2.64	2.89	3.31	3.37	3.40	4.23	4.26	4.30	4.60	"Cash Flow" per sh	5.15
1.13	1.04	1.08	1.19	1.28	1.35	1.34	.78	1.05	1.32	1.33	1.62	1.55	1.62	2.22	2.23	2.20	2.40	Earnings per sh A	2.80
.82	.83	.84	.85	.86	.87	.87	.88	.89	.90	.91	.96	1.00	1.01	1.04	1.10	1.16	1.22	Div'd Decl'd per sh B■	1.34
2.40	2.58	3.11	4.30	3.03	3.18	2.68	3.76	5.03	4.24	3.91	2.89	4.45	4.18	4.24	4.26	4.45	4.70	Cap'l Spending per sh	5.10
11.01	11.24	11.48	11.82	12.74	13.22	14.05	13.97	15.01	15.72	16.64	17.53	17.95	19.39	20.26	21.68	22.50	23.45	Book Value per sh	25.70
13.33	13.44	13.44	13.44	15.12	15.12	15.18	15.21	16.75	16.80	17.05	17.23	17.30	18.53	18.63	18.85	19.00	19.20	Common Shs Outst'g C	19.60
12.6	14.5	15.5	17.1	15.9	16.7	18.3	31.9	23.2	21.9	27.7	24.0	22.6	21.2	15.7	15.7	Bold figures are		Avg Ann'l P/E Ratio	19.0
.79	.84	.81	.97	1.03	.86	1.00	1.82	1.23	1.17	1.50	1.27	1.36	1.41	1.00	1.01	Value Line		Relative P/E Ratio	1.25
5.8%	5.5%	5.0%	4.2%	4.2%	3.9%	3.6%	3.5%	3.6%	3.1%	2.5%	2.5%	2.9%	2.9%	3.0%	3.0%	estimates		Avg Ann'l Div'd Yield	2.6%

CAPITAL STRUCTURE as of 12/31/11
Total Debt $341.0 mill. Due in 5 Yrs $281.0 mill.
LT Debt $340.7 mill. LT Interest $24.0 mill.
(LT interest earned: 5.5x: total interest coverage: 5.2x) (45% of Cap'l)

Leases, Uncapitalized: Annual rentals $3.3 mill.

Pension Assets-12/11 $92.9 mill. Oblig. $146.1 mill.

Pfd Stock None.

Common Stock 18,848,158 shs. as of 3/08/12

MARKET CAP: $650 million (Small Cap)

2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013		15-17
209.2	212.7	228.0	236.2	268.6	301.4	318.7	361.0	398.9	419.3	430	460	Revenues ($mill)	545
20.3	11.9	16.5	22.5	23.1	28.0	26.8	29.5	41.4	42.0	42.0	46.0	Net Profit ($mill)	55.0
38.9%	43.5%	37.4%	47.0%	40.5%	42.6%	37.8%	38.9%	43.2%	41.7%	42.5%	42.0%	Income Tax Rate	40.0%
--	--	--	--	12.2%	8.5%	6.9%	3.2%	5.8%	5.8%	5.0%	5.0%	AFUDC % to Net Profit	5.0%
52.0%	52.0%	47.7%	50.4%	48.6%	46.9%	46.2%	45.9%	44.3%	45.4%	44.0%	42.0%	Long-Term Debt Ratio	37.0%
48.0%	48.0%	52.3%	49.6%	51.4%	53.1%	53.8%	54.1%	55.7%	54.6%	56.0%	58.0%	Common Equity Ratio	63.0%
444.4	442.3	480.4	532.5	551.6	569.4	577.0	665.0	677.4	749.1	755	770	Total Capital ($mill)	805
563.3	602.3	664.2	713.2	750.6	776.4	825.3	866.4	855.0	896.5	940	985	Net Plant ($mill)	1080
6.5%	4.6%	5.2%	5.4%	6.0%	6.7%	6.4%	5.9%	7.6%	6.0%	7.0%	7.5%	Return on Total Cap'l	8.0%
9.5%	5.6%	6.6%	8.5%	8.1%	9.3%	8.6%	8.2%	11.0%	10.3%	9.5%	10.0%	Return on Shr. Equity	11.0%
9.5%	5.6%	6.6%	8.5%	8.1%	9.3%	8.6%	8.2%	11.0%	10.3%	9.5%	10.0%	Return on Com Equity	11.0%
3.3%	NMF	1.0%	2.8%	2.7%	3.9%	3.1%	3.2%	5.8%	5.2%	4.5%	5.0%	Retained to Com Eq	5.5%
65%	113%	84%	67%	67%	58%	64%	61%	47%	49%	53%	51%	All Div'ds to Net Prof	48%

CURRENT POSITION ($MILL.)	2009	2010	12/31/11
Cash Assets	1.7	4.2	1.3
Other	94.3	200.8	164.3
Current Assets	96.0	205.0	165.6
Accts Payable	33.9	36.2	37.9
Debt Due	18.1	61.3	.3
Other	47.7	81.3	66.2
Current Liab.	99.7	178.8	104.4
Fix. Chg. Cov.	312%	428%	401%

ANNUAL RATES of change (per sh)	Past 10 Yrs.	Past 5 Yrs.	Est'd '09-'11 to '15-'17
Revenues	5.0%	7.5%	5.0%
"Cash Flow"	5.5%	9.5%	5.0%
Earnings	4.5%	11.5%	6.5%
Dividends	2.0%	2.5%	4.0%
Book Value	5.0%	5.0%	4.5%

Cal-endar	QUARTERLY REVENUES ($ mill.) Mar.31	Jun. 30	Sep. 30	Dec. 31	Full Year
2009	79.6	93.6	101.5	86.3	361.0
2010	88.4	95.5	111.3	103.7	398.9
2011	94.4	109.8	119.9	95.2	419.3
2012	95.0	110	120	105	430
2013	105	120	130	105	460

Cal-endar	EARNINGS PER SHARE A Mar.31	Jun. 30	Sep. 30	Dec. 31	Full Year
2009	.28	.64	.52	.18	1.62
2010	.45	.47	.62	.71	2.22
2011	.37	.68	.83	.35	2.23
2012	.40	.65	.75	.40	2.20
2013	.45	.70	.80	.45	2.40

Cal-endar	QUARTERLY DIVIDENDS PAID B■ Mar.31	Jun.30	Sep.30	Dec.31	Full Year
2008	.250	.250	.250	.250	1.00
2009	.250	.250	.250	.260	1.01
2010	.260	.260	.260	.260	1.04
2011	.260	.280	.280	.280	1.10
2012	.280				

BUSINESS: American States Water Co. operates as a holding company. Through its principal subsidiary, Golden State Water Company, it supplies water to more than 250,000 customers in 75 communities in 10 counties. Service areas include the greater metropolitan areas of Los Angeles and Orange Counties. The company also provides electric utility services to nearly 23,250 customers in the city of Big Bear Lake and in areas of San Bernardino County. Sold Chaparral City Water of Arizona (6/11). Has 703 employees. Officers & directors own 2.9% of common stock (4/11 Proxy). Chairman: Lloyd Ross. President & CEO: Robert J. Sprowls. Inc: CA. Addr: 630 East Foothill Boulevard, San Dimas, CA 91773. Tel: 909-394-3600. Internet: www.aswater.com.

American States Water's bottom line advanced marginally in 2011, to $2.23 a share, a less than 1% increase from the previous year. As the company is wrapping up its last year with its current rate cycle, we anticipate earnings slipping a bit in 2012, before bouncing back in 2013, a result of rate increases and a more favorable regulatory environment.

The Golden State Water's 2013-2015 general rate case continues, with the Division of Ratepayer Advocate filing testimony in early February. The DRA recommended authorization of 34%, 54%, and 58% of all revenue requests for 2013, 2014, and 2015. Investors should note that this case is the company's first to cover all three water districts, as well as the corporate office. The subsidiary filed a request in June, 2011, for revenue increases of $31.3 million, $8.9 million, and $10.8 million for 2013, 2014, and 2015, respectively. Management has mentioned an increased rate base, as well as declining water sales (which leads to a gap in actual collections and those needed to cover costs) as the primary reasons for the filing. The ruling is anticipated by the end of October, and a favorable settlement would considerably boost the top and bottom lines until mid-decade.

The California cost of capital proceeding remains the company's main focus. It is likely that the utilities will receive a 9.99% allowed ROE, with Golden State Water's equity layer increasing to 55% (from 51%). The final decision is expected to come by the end of April, and, if unfavorable, American States Water and its peers will quite likely push for a fully litigated proceeding, extending the case to the end of 2012.

The company is expanding into several nonregulated areas, with military bases being the main focus. The 2012 National Defense Authorization Act (signed into law December, 2011) partially removes the complicated regulations surrounding the bidding process, which were the company's biggest obstacles. As a result, expansion into this area should begin by yearend.

There are better options in the industry, as the equity's appreciation potential and dividend yield are inferior to its peers.

Sahana Zutshi *April 20, 2012*

(A) Primary earnings. Excludes nonrecurring gains/(losses): '04, 14¢; '05, 25¢; '06, 6¢; '08, (27¢); '10, (45¢) '11, 20¢. Next earnings report due early June. Quarterly egs. may not add due to rounding.
(B) Dividends historically paid in early March, June, September, and December. ■ Div'd reinvestment plan available.
(C) In millions, adjusted for split.

Company's Financial Strength	B++
Stock's Price Stability	90
Price Growth Persistence	60
Earnings Predictability	85

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AMERICAN WATER NYSE-AWK

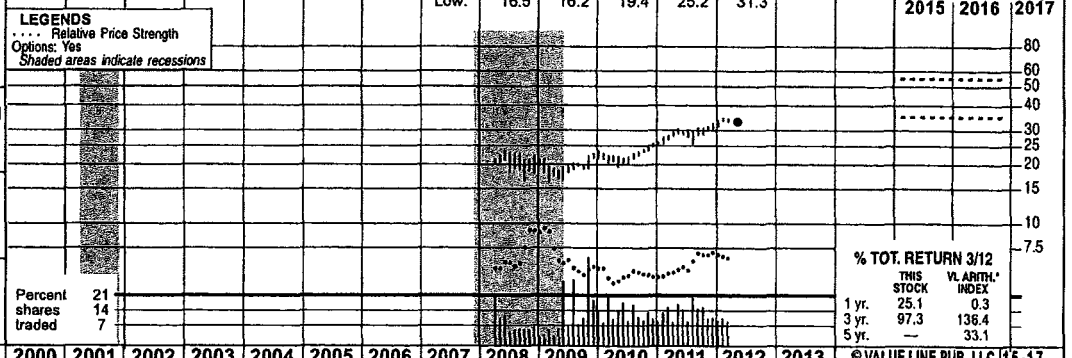
RECENT PRICE 33.07 | P/E RATIO 17.3 (Trailing: 19.2 Median: NMF) | RELATIVE P/E RATIO 1.15 | DIV'D YLD 2.8% | VALUE LINE

TIMELINESS 1 Raised 10/7/11
SAFETY 3 New 7/25/08
TECHNICAL 5 Lowered 4/13/12
BETA .65 (1.00 = Market)

High:												23.7	23.0	25.8	32.8	34.7		
Low:												16.5	16.2	19.4	25.2	31.3		

Target Price Range 2015 | 2016 | 2017

LEGENDS
.... Relative Price Strength
Options: Yes
Shaded areas indicate recessions



2015-17 PROJECTIONS

	Price	Gain	Ann'l Total Return
High	55	(+65%)	16%
Low	35	(+5%)	5%

Insider Decisions

	M	J	J	A	S	O	N	D	J
to Buy	0	0	0	0	0	0	0	0	0
Options	0	0	0	0	0	0	2	0	0
to Sell	0	0	0	0	0	0	2	0	0

Institutional Decisions

	2Q2011	3Q2011	4Q2011
to Buy	138	153	181
to Sell	145	134	136
Hld's(000)	145042	142703	138169

Percent shares traded 21 14 7

% TOT. RETURN 3/12

	THIS STOCK	VL ARITH.* INDEX
1 yr.	25.1	0.3
3 yr.	97.3	136.4
5 yr.	—	33.1

1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	© VALUE LINE PUB. LLC	15-17
--	--	--	--	--	--	--	--	--	--	13.08	13.84	14.61	13.98	15.49	15.18	*15.85*	*15.10*	Revenues per sh	*17.95*
--	--	--	--	--	--	--	--	--	--	.65	d.47	2.87	2.89	3.56	3.74	*3.95*	*4.05*	"Cash Flow" per sh	*4.75*
--	--	--	--	--	--	--	--	--	--	d.97	d2.14	1.10	1.25	1.53	1.72	*1.95*	*2.05*	Earnings per sh A	*2.40*
--	--	--	--	--	--	--	--	--	--	--	--	.40	.82	.86	.91	*.98*	*1.04*	Div'd Decl'd per sh B■	*1.25*
--	--	--	--	--	--	--	--	--	--	4.31	4.74	6.31	4.50	4.38	5.27	*5.25*	*5.25*	Cap'l Spending per sh	*4.85*
--	--	--	--	--	--	--	--	--	--	23.86	28.39	25.64	22.91	23.59	24.14	*24.45*	*24.85*	Book Value per sh D	*26.05*
--	--	--	--	--	--	--	--	--	--	160.00	160.00	160.00	174.63	175.00	175.66	*180.00*	*185.00*	Common Shs Outst'g C	*195.00*
--	--	--	--	--	--	--	--	--	--	--	--	18.9	15.6	14.6	16.7	*Bold figures are*		Avg Ann'l P/E Ratio	*19.0*
--	--	--	--	--	--	--	--	--	--	--	--	1.14	1.04	.93	1.05	*Value Line*		Relative P/E Ratio	*1.25*
--	--	--	--	--	--	--	--	--	--	--	--	1.9%	4.2%	3.8%	3.1%	*estimates*		Avg Ann'l Div'd Yield	*2.8%*
						--	--	--	--	2093.1	2214.2	2336.9	2440.7	2710.7	2666.2	*2850*	*2975*	Revenues ($mill)	*3500*
						--	--	--	--	d155.8	d342.3	187.2	209.9	267.8	304.9	*340*	*370*	Net Profit ($mill)	*475*
						--	--	--	--	--	--	37.4%	37.9%	40.4%	39.5%	*39.0%*	*38.5%*	Income Tax Rate	*38.0%*
						--	--	--	--	--	--	--	--	12.5%	10.0%	*10.0%*	*10.0%*	AFUDC % to Net Profit	*15.0%*
						--	--	--	--	56.1%	50.9%	53.1%	56.9%	56.8%	55.6%	*56.0%*	*55.5%*	Long-Term Debt Ratio	*56.0%*
						--	--	--	--	43.9%	49.1%	46.9%	43.1%	43.2%	44.2%	*43.5%*	*45.0%*	Common Equity Ratio	*44.0%*
						--	--	--	--	8692.8	9245.7	8750.2	9289.0	9561.3	9601.5	*10025*	*10800*	Total Capital ($mill)	*11550*
						--	--	--	--	8720.6	9318.0	9991.8	10524	11059	11021	*11550*	*12150*	Net Plant ($mill)	*13525*
						--	--	--	--	NMF	NMF	3.7%	3.8%	4.4%	4.7%	*5.0%*	*5.0%*	Return on Total Cap'l	*5.5%*
						--	--	--	--	NMF	NMF	4.6%	5.2%	6.5%	7.2%	*8.0%*	*8.0%*	Return on Shr. Equity	*9.5%*
						--	--	--	--	NMF	NMF	4.6%	5.2%	6.5%	7.2%	*8.0%*	*8.0%*	Return on Com Equity	*9.5%*
						--	--	--	--	NMF	NMF	3.0%	1.8%	2.8%	3.5%	*4.0%*	*4.0%*	Retained to Com Eq	*4.5%*
						--	--	--	--	--	--	34%	65%	56%	52%	*51%*	*52%*	All Div'ds to Net Prof	*51%*

CAPITAL STRUCTURE as of 12/31/11
Total Debt $5883.8 mill. Due in 5 Yrs $247.6 mill.
LT Debt $5339.9 mill. LT Interest $312.4 mill.
(Total interest coverage: 2.6x) (56% of Cap'l)

Leases, Uncapitalized: Annual rentals $21.5 mill.
Pension Assets-12/11 $981.1 mill
Oblig. $1402.0 mill.
Pfd Stock $22.1 mill. Pfd Div'd $.7 mill

Common Stock 175,717,124 shs.
as of 2/21/12

MARKET CAP: $5.8 billion (Large Cap)

CURRENT POSITION ($MILL.)	2009	2010	12/31/11
Cash Assets	22.3	13.1	14.2
Other	476.8	521.2	1383.5
Current Assets	499.1	534.3	1397.7
Accts Payable	138.6	199.2	243.7
Debt Due	173.6	44.8	543.9
Other	295.2	530.5	701.5
Current Liab.	607.4	774.5	1489.1
Fix. Chg. Cov.	210%	237%	*275%*

ANNUAL RATES of change (per sh)	Past 10 Yrs.	Past 5 Yrs.	Est'd '09-'11 to '15-'17
Revenues	--	--	*3.0%*
"Cash Flow"	--	--	*6.0%*
Earnings	--	--	*8.0%*
Dividends	--	--	*6.5%*
Book Value	--	--	*1.5%*

Cal-endar	QUARTERLY REVENUES ($ mill.) Mar.31	Jun. 30	Sep. 30	Dec. 31	Full Year
2009	550.2	612.7	680.0	597.8	2440.7
2010	588.1	671.2	786.9	664.5	2710.7
2011	596.7	668.8	760.9	639.8	2666.2
2012	630	*715*	*820*	*685*	*2850*
2013	*660*	*750*	*855*	*710*	*2975*

Cal-endar	EARNINGS PER SHARE A Mar.31	Jun. 30	Sep. 30	Dec. 31	Full Year
2009	.19	.32	.52	.21	1.25
2010	.18	.42	.71	.23	1.53
2011	.23	.42	.73	.34	1.72
2012	.27	*.50*	*.80*	*.38*	*1.95*
2013	*.29*	*.53*	*.83*	*.40*	*2.05*

Cal-endar	QUARTERLY DIVIDENDS PAID B■ Mar.31	Jun.30	Sep.30	Dec.31	Full Year
2008	--	--	.20	.20	.40
2009	.20	.20	.21	.21	.82
2010	.21	.21	.22	.22	.86
2011	.22	.23	.23	.23	.91
2012	.23				

BUSINESS: American Water Works Company, Inc. is the largest investor-owned water and wastewater utility in the U.S., providing services to over 15 million people in over 30 states and Canada. Its nonregulated business assists municipalities and military bases with the maintenance and upkeep as well. Regulated operations made up 88.9% of 2011 revenues. New Jersey is its biggest market accounting for 20.9% of revenues. Has roughly 7,000 employees. Depreciation rate, 2.5% in '11. BlackRock, Inc., owns 7.4% of the common stock outstanding. Off. & dir. own less than 1% (3/12 Proxy). President & CEO; Jeffry Sterba. Chairman; George Mackenzie. Address: 1025 Laurel Oak Road, Voorhees, NJ 08043. Telephone: 856-346-8200. Internet: www.amwater.com.

American Water Works appears to be set to enjoy solid growth this year. Management confirmed full-year share-net guidance of $1.90-$2.00, after the nation's largest water utility posted a 48% advance in the fourth quarter. Rate awards are expected to remain the primary driver with annual rate increases having topped $147 million last year, with $60 million-plus coming in the December period. The company currently has eight pending rate cases, totaling over $250 million in possible annualized revenue.

Looking forward, a bigger onus will probably fall on the shoulders of capital spending. Planned rate case filings are expected to tail off significantly in 2012. The company completed more than $900 million in capital projects in 2011, however, and has similar funds earmarked for capital spending again this year. The greater spending ought to support favorable future rate case decisions and help produce double-digit earnings growth over this year.

Changes to the portfolio ought to be a boon also. Management has made a number of alterations lately, essentially swapping underperforming operations for businesses with exposure to far more business-friendly regulation. In doing so, it also appears to have managed to garner roughly $500 million in proceeds (the transactions are slated to close by mid-year), which will not only help fund the aforementioned capital projects, but will make the necessity of outside financing highly unlikely this year.

These shares are ranked 1 (Highest) for Timeliness, based on the relative earnings power we envision persisting over the next six to 12 months.

However, they lose some of their luster looking further out. Safe and timely water distribution is a capital-intensive undertaking. Debt and stock offerings will likely be required again in 2013 and thereafter, thereby cutting into shareholder gains. Although management is banking on lowering the cost base, we think it may be a little bullish given our expectation of growing maintenance costs. And, while AWK's dividend is healthy on an absolute basis, it trails that of most others operating in this space.

Andre J. Costanza *April 20, 2012*

(A) Diluted earnings. Excludes nonrecurring losses: '08, $4.62; '09, $2.63; '11, $0.07. Discontinued operations: '06, (4¢); '11, 3¢. Next earnings report due early May. Quarterly earnings may not sum due to rounding.
(B) Dividends to be paid in February, May, August, and November. ■ Div. reinvestment available.
(C) In millions.
(D) Includes intangibles. In 2011: $1.195 billion, $9.80/share.

Company's Financial Strength	B
Stock's Price Stability	90
Price Growth Persistence	NMF
Earnings Predictability	15

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AQUA AMERICA NYSE-WTR

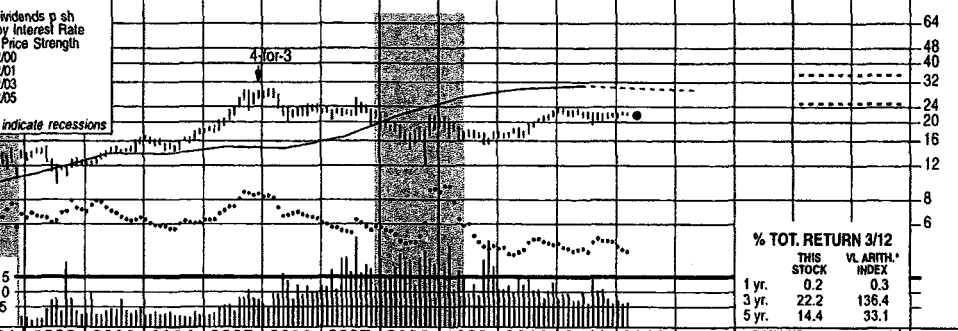
RECENT PRICE 21.72 | P/E RATIO 20.5 (Trailing: 21.5 Median: 25.0) | RELATIVE P/E RATIO 1.37 | DIV'D YLD 3.0% | VALUE LINE

TIMELINESS 3 Lowered 1/21/11
SAFETY 2 Raised 4/12/12
TECHNICAL 4 Lowered 3/30/12
BETA .65 (1.00 = Market)

High:	14.8	15.0	16.8	18.5	29.2	29.8	26.6	22.0	21.5	23.0	23.8	22.8
Low:	9.4	9.6	11.8	14.2	17.5	20.1	18.9	12.2	15.4	16.5	19.3	21.1

Target Price Range 2015 | 2016 | 2017

LEGENDS
— 1.60 x Dividends p sh divided by Interest Rate
.... Relative Price Strength
5-for-4 split 12/00
5-for-4 split 12/01
5-for-4 split 12/03
4-for-3 split 12/05
Options: Yes
Shaded areas indicate recessions



2015-17 PROJECTIONS

	Price	Gain	Ann'l Total Return
High	35	(+60%)	15%
Low	25	(+15%)	6%

Insider Decisions

	M	J	J	A	S	O	N	D	J
to Buy	0	0	0	0	0	0	0	0	0
Options	0	0	0	0	0	0	1	0	0
to Sell	0	0	0	0	0	0	0	0	0

Institutional Decisions

	2Q2011	3Q2011	4Q2011
to Buy	106	95	119
to Sell	104	113	92
Hld's(000)	55457	55356	55535

% TOT. RETURN 3/12

	THIS STOCK	VL ARITH.* INDEX
1 yr.	0.2	0.3
3 yr.	22.2	136.4
5 yr.	14.4	33.1

1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	© VALUE LINE PUB. LLC	15-17
1.86	2.02	2.09	2.41	2.46	2.70	2.85	2.97	3.48	3.85	4.03	4.52	4.63	4.91	5.26	5.13	5.70	5.95	Revenues per sh	6.65
.50	.56	.61	.72	.76	.86	.94	.96	1.09	1.21	1.26	1.37	1.42	1.61	1.78	1.84	2.00	2.10	"Cash Flow" per sh	2.40
.30	.34	.40	.42	.47	.51	.54	.57	.64	.71	.70	.71	.73	.77	.90	1.03	1.10	1.20	Earnings per sh A	1.40
.23	.24	.26	.27	.28	.30	.32	.35	.37	.40	.44	.48	.51	.55	.59	.62	.67	.71	Div'd Decl'd per sh B■	.79
.48	.58	.82	.90	1.16	1.09	1.20	1.32	1.54	1.84	2.05	1.79	1.98	2.08	2.37	2.38	2.45	2.50	Cap'l Spending per sh	2.60
2.69	2.84	3.21	3.42	3.85	4.15	4.36	5.34	5.89	6.30	6.96	7.32	7.82	8.12	8.51	9.01	9.45	9.95	Book Value per sh	11.05
65.75	67.47	72.20	106.80	111.82	113.97	113.19	123.45	127.18	128.97	132.33	133.40	135.37	136.49	137.97	138.87	139.90	140.90	Common Shs Outst'g C	142.90
15.6	17.8	22.5	21.2	18.2	23.6	23.6	24.5	25.1	31.8	34.7	32.0	24.9	23.1	21.1	21.1	Bold figures are		Avg Ann'l P/E Ratio	21.0
.98	1.03	1.17	1.21	1.18	1.21	1.29	1.40	1.33	1.69	1.87	1.70	1.50	1.54	1.34	1.36	Value Line		Relative P/E Ratio	1.40
4.9%	3.9%	2.9%	3.0%	3.3%	2.5%	2.5%	2.5%	2.3%	1.8%	1.8%	2.1%	2.8%	3.1%	3.1%	3.1%	estimates		Avg Ann'l Div'd Yield	2.7%

CAPITAL STRUCTURE as of 12/31/11
Total Debt $1475.9 mill. Due in 5 Yrs $300 mill.
LT Debt $1395.5 mill. LT Interest $65.0 mill.
(LT interest earned: 4.5x; total interest coverage: 4.5x) (53% of Cap'l)

Pension Assets-12/11 $148.9 mill. Oblig. $237.1 mill.

Pfd Stock None
Common Stock 138,876,626 shares as of 2/10/12
MARKET CAP: $3.0 billion (Mid Cap)

2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013		15-17
322.0	367.2	442.0	496.8	533.5	602.5	627.0	670.5	726.1	711.9	795	840	Revenues ($mill)	950
62.7	67.3	80.0	91.2	92.0	95.0	97.9	104.4	124.0	143.1	155	170	Net Profit ($mill)	200
38.5%	39.3%	39.4%	38.4%	39.6%	38.9%	39.7%	39.4%	39.2%	32.9%	40.0%	40.0%	Income Tax Rate	40.0%
--	--	--	--	--	--	--	--	2.9%	3.1%	3.0%	3.0%	AFUDC % to Net Profit	2.0%
54.2%	51.4%	50.0%	52.0%	51.6%	55.4%	54.1%	55.6%	56.6%	53.0%	51.0%	49.0%	Long-Term Debt Ratio	45.0%
45.8%	48.6%	50.0%	48.0%	48.4%	44.6%	45.9%	44.4%	43.4%	47.0%	49.0%	51.0%	Common Equity Ratio	55.0%
1076.2	1355.7	1497.3	1690.4	1904.4	2191.4	2306.6	2495.5	2706.2	2647.3	2695	2750	Total Capital ($mill)	2880
1490.8	1824.3	2069.8	2280.0	2506.0	2792.8	2997.4	3227.3	3469.3	3612.9	3780	3955	Net Plant ($mill)	4320
7.6%	6.4%	6.7%	6.9%	6.4%	5.9%	5.7%	5.6%	5.9%	6.8%	7.0%	7.5%	Return on Total Cap'l	8.0%
12.7%	10.2%	10.7%	11.2%	10.0%	9.7%	9.3%	9.4%	10.6%	11.4%	11.5%	12.0%	Return on Shr. Equity	12.5%
12.7%	10.2%	10.7%	11.2%	10.0%	9.7%	9.3%	9.4%	10.6%	11.4%	11.5%	12.0%	Return on Com Equity	12.5%
5.2%	4.2%	4.6%	4.9%	3.7%	3.2%	2.8%	2.7%	3.7%	4.6%	4.5%	5.0%	Retained to Com Eq	5.5%
59%	59%	57%	56%	63%	67%	70%	72%	65%	60%	61%	59%	All Div'ds to Net Prof	57%

CURRENT POSITION ($MILL.)	2009	2010	12/31/11
Cash Assets	21.9	5.9	8.2
Receivables	78.7	85.9	81.1
Inventory (AvgCst)	9.5	9.2	11.2
Other	11.5	44.4	220.0
Current Assets	121.6	145.4	320.5
Accts Payable	57.9	45.3	68.3
Debt Due	87.0	28.5	80.4
Other	56.1	149.9	277.0
Current Liab.	201.0	223.7	425.7
Fix. Chg. Cov.	346%	290%	367%

ANNUAL RATES of change (per sh)	Past 10 Yrs.	Past 5 Yrs.	Est'd '09-'11 to '15-'17
Revenues	8.0%	7.5%	4.5%
"Cash Flow"	8.5%	8.0%	6.0%
Earnings	6.5%	4.5%	8.5%
Dividends	7.5%	8.0%	5.5%
Book Value	9.0%	7.0%	4.5%

Cal-endar	QUARTERLY REVENUES ($ mill.) Mar.31	Jun.30	Sep.30	Dec.31	Full Year
2009	154.5	167.3	180.8	167.9	670.5
2010	160.5	178.5	207.8	179.3	726.1
2011	163.6	178.3	197.3	172.7	711.9
2012	179	198	219	199	795
2013	185	215	220	220	840

Cal-endar	EARNINGS PER SHARE A Mar.31	Jun.30	Sep.30	Dec.31	Full Year
2009	.14	.19	.25	.19	.77
2010	.16	.22	.32	.20	.90
2011	.22	.27	.30	.24	1.03
2012	.20	.25	.37	.28	1.10
2013	.25	.30	.40	.25	1.20

Cal-endar	QUARTERLY DIVIDENDS PAID B■ Mar.31	Jun.30	Sep.30	Dec.31	Full Year
2008	.125	.125	.125	.135	.51
2009	.135	.135	.135	.145	.55
2010	.145	.145	.145	.155	.59
2011	.155	.155	.155	.165	.63
2012	.165				

BUSINESS: Aqua America, Inc. is the holding company for water and wastewater utilities that serve approximately three million residents in Pennsylvania, Ohio, North Carolina, Illinois, Texas, New Jersey, Florida, Indiana, and five other states. Divested three of four non-water businesses in '91; telemarketing group in '93; and others. Acquired AquaSource, 7/03; Consumers Water, 4/99; and others. Water supply revenues '10: residential, 59.5%; commercial, 14.5%; industrial & other, 26.0%. Officers and directors own 2.0% of the common stock (4/11 Proxy). Chairman & Chief Executive Officer: Nicholas DeBenedictis. Incorporated: Pennsylvania. Address: 762 West Lancaster Avenue, Bryn Mawr, Pennsylvania 19010. Telephone: 610-525-1400. Internet: www.aquaamerica.com.

Aqua America's share earnings jumped more than 14% in 2011. An expanding consumer base along with increased existing customer demand were cited as the main factors behind the advance. Given the improving economy, we expect earnings growth to remain on an upward trend, albeit at a slower pace.

There are several rate cases in the mix for the company. Currently, Aqua America has 12 general rate requests in seven states, for over $65 million. Given the company's history with rate rulings, favorable outcomes are anticipated across the board. In addition to the rate cases mentioned, Aqua America is planning on filing seven more cases throughout 2012, for base rate relief as well as infrastructure surcharge filings. All in all, in the best-case scenario, these rulings are set to boost the top and bottom lines considerably from 2013 onward.

Aqua America remains on the prowl for mergers and acquisitions. The company has completed more than 250 deals over the last 15 years, and does not plan on slowing down its momentum in the near future. In fact, management has plans to expand Aqua America's presence in Pennsylvania, Ohio, and Texas. This should be aided via growing demand for environmentally responsible water (especially in the shale regions). Thus far, the company has three minor acquisitions in the Keystone state under its belt, and we expect the figure to be much higher by the end of the year, given the company's strong balance sheet and solid position in the industry.

The long term looks bright for now. In addition to the growing customer base, management is diversifying via its Marcellus Shale project (a joint venture with Penn Virginia Resource to construct and operate a $24 million private pipeline to supply fresh water to drilling operators), which is proceeding on schedule and within budget. The first segment was anticipated to be operational by the start of the second quarter.

The equity has limited long-term gains potential though, as it is currently trading close to our Target Price Range. However, income investors might be interested in the above average dividend yield.

Sahana Zutshi *April 20, 2012*

(A) Diluted egs. Excl. nonrec. gains (losses): '99, (11¢); '00, 2¢; '01, 2¢; '02, 5¢; '03, 4¢. Excl. gain from disc. operations: '96, 2¢. Next earnings report due late April.

(B) Dividends historically paid in early March, June, Sept. & Dec. ■ Div'd. reinvestment plan available (5% discount).
(C) In millions, adjusted for stock splits.

Company's Financial Strength	B++
Stock's Price Stability	100
Price Growth Persistence	70
Earnings Predictability	100

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ARTESIAN RES. CORP. NDQ--ARTNA

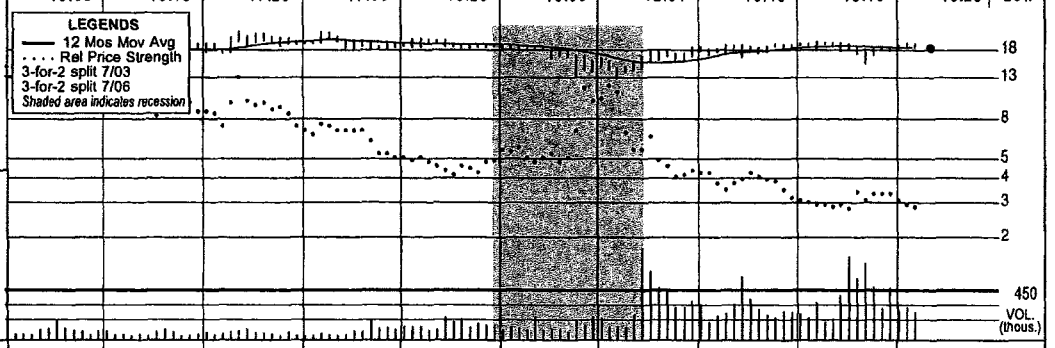
RECENT PRICE	TRAILING P/E RATIO	RELATIVE P/E RATIO	DIV'D YLD	
18.49	22.3	1.37	4.2%	VALUE LINE

RANKS

PERFORMANCE	3	Average
Technical	3	Average
SAFETY	2	Above Average
BETA .55		(1.00 = Market)

Financial Strength	B+
Price Stability	100
Price Growth Persistence	40
Earnings Predictability	90

19.83	20.04	22.62	22.33	20.67	19.31	18.73	19.59	19.99	19.72	High
13.08	15.18	17.20	17.90	18.26	13.00	12.81	16.43	15.16	18.20	Low



© VALUE LINE PUBLISHING LLC	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012/2013
SALES PER SH	6.20	6.67	7.52	7.77	7.20	7.59	8.11	8.48	7.56	
"CASH FLOW" PER SH	1.28	1.42	1.56	1.75	1.57	1.65	1.84	1.92	1.64	
EARNINGS PER SH	.64	.72	.81	.97	.90	.86	.97	1.00	.83	*1.01 A,B/1.13 C*
DIV'DS DECL'D PER SH	.53	.55	.58	.61	.66	.71	.72	.75	.76	
CAP'L SPENDING PER SH	4.20	4.82	3.35	5.08	3.66	6.09	2.32	2.57	1.83	
BOOK VALUE PER SH	9.01	9.26	9.60	10.15	11.66	11.86	12.15	12.44	13.12	
COMMON SHS OUTST'G (MILL)	5.85	5.93	6.02	6.09	7.30	7.40	7.51	7.65	8.61	
AVG ANN'L P/E RATIO	24.7	25.4	24.2	20.3	21.5	20.1	16.4	18.2	22.5	*18.3/16.4*
RELATIVE P/E RATIO	1.41	1.34	1.28	1.10	1.14	1.21	1.09	1.16	1.41	
AVG ANN'L DIV'D YIELD	3.4%	3.0%	2.9%	3.1%	3.4%	4.1%	4.5%	4.1%	4.1%	
SALES ($MILL)	36.3	39.6	45.3	47.3	52.5	56.2	60.9	64.9	65.1	*Bold figures are consensus earnings estimates and, using the recent prices, P/E ratios.*
OPERATING MARGIN	--	--	100.0%	45.6%	45.6%	45.1%	46.9%	46.5%	45.5%	
DEPRECIATION ($MILL)	3.6	4.0	4.4	4.6	5.2	5.8	6.6	7.0	7.4	
NET PROFIT ($MILL)	3.9	4.4	5.0	6.1	6.3	6.4	7.3	7.6	6.7	
INCOME TAX RATE	37.9%	39.6%	39.9%	39.0%	39.8%	40.8%	40.1%	40.0%	40.8%	
NET PROFIT MARGIN	10.8%	11.1%	11.1%	12.8%	11.9%	11.4%	11.9%	11.7%	10.4%	
WORKING CAP'L ($MILL)	d10.5	d8.7	d1.8	d8.8	2.5	d20.9	d23.3	d27.9	d11.4	
LONG-TERM DEBT ($MILL)	80.6	82.4	92.4	92.1	91.8	107.6	106.0	105.1	106.5	
SHR. EQUITY ($MILL)	52.7	54.9	57.8	61.8	85.1	87.8	91.2	95.1	113.0	
RETURN ON TOTAL CAP'L	4.5%	5.1%	5.3%	5.8%	5.3%	4.7%	5.2%	5.6%	4.6%	
RETURN ON SHR. EQUITY	7.4%	8.0%	8.7%	9.8%	7.4%	7.3%	8.0%	8.0%	6.0%	
RETAINED TO COM EQ	1.4%	2.1%	2.7%	3.8%	2.1%	1.4%	2.1%	2.0%	.5%	
ALL DIV'DS TO NET PROF	81%	74%	69%	61%	71%	81%	74%	75%	92%	

A No. of analysts changing earn. est. in last 7 days: 0 up, 0 down, consensus 5-year earnings growth not available. B Based upon 4 analysts' estimates. C Based upon 4 analysts' estimates.

ANNUAL RATES

of change (per share)	5 Yrs.	1 Yr.
Sales	2.0%	-11.0%
"Cash Flow"	2.5%	-14.0%
Earnings	2.5%	-17.0%
Dividends	5.0%	1.5%
Book Value	5.5%	5.5%

Fiscal Year	QUARTERLY SALES ($mill.) 1Q	2Q	3Q	4Q	Full Year
12/31/09	13.9	15.4	16.1	15.5	60.9
12/31/10	15.0	16.0	18.0	15.9	64.9
12/31/11	14.8	16.5	17.7	16.1	65.1
12/31/12					

Fiscal Year	EARNINGS PER SHARE 1Q	2Q	3Q	4Q	Full Year
12/31/08	.13	.21	.35	.17	.86
12/31/09	.22	.27	.28	.20	.97
12/31/10	.22	.24	.38	.16	1.00
12/31/11	.14	.23	.26	.20	.83
12/31/12	*.17*	*.28*	*.34*		

Cal-endar	QUARTERLY DIVIDENDS PAID 1Q	2Q	3Q	4Q	Full Year
2009	.178	.178	.178	.187	.72
2010	.187	.188	.188	.189	.75
2011	.189	.19	.19	.193	.76
2012	.193				

INSTITUTIONAL DECISIONS

	2Q'11	3Q'11	4Q'11
to Buy	25	27	39
to Sell	15	18	16
Hld's(000)	2347	2557	2691

ASSETS ($mill.)	2009	2010	12/31/11
Cash Assets	.5	.2	.3
Receivables	9.0	5.1	8.6
Inventory	1.2	1.2	1.5
Other	2.5	7.5	2.9
Current Assets	13.2	14.0	13.3
Property, Plant & Equip, at cost	403.0	414.6	435.0
Accum Depreciation	64.9	69.2	77.4
Net Property	338.1	345.4	357.6
Other	7.6	12.1	7.8
Total Assets	358.9	371.5	378.7
LIABILITIES ($mill.)			
Accts Payable	3.7	3.4	2.8
Debt Due	27.7	30.6	13.8
Other	5.1	7.9	8.1
Current Liab	36.5	41.9	24.7

LONG-TERM DEBT AND EQUITY as of 12/31/11

Total Debt $120.4 mill. Due in 5 Yrs. $18.5 mill.
LT Debt $106.5 mill.
Including Cap. Leases None
(49% of Cap'l)

Leases, Uncapitalized Annual rentals $.1 mill.

Pension Liability $.5 mill. in '11 vs. $.5 mill. in '10

Pfd Stock None Pfd Div'd Paid None

Common Stock 8,610,958 shares
(51% of Cap'l)

INDUSTRY: Water Utility

BUSINESS: Artesian Resources Corporation, through its subsidiaries, provides water, wastewater, and other services on the Delmarva Peninsula. The company distributes and sells water, including water for public and private fire protection, to residential, commercial, industrial, municipal, and utility customers throughout Delaware, Maryland, and Pennsylvania. It also provides wastewater services to customers in Delaware and has entered into purchase agreements to provide wastewater services in Maryland. In addition, Artesian provides contract water and wastewater operations, water and sewer service line protection plans, wastewater management services, and design, construction, and engineering services. Artesian Resources is the parent holding company of Artesian Water Company, Inc., Artesian Water Pennsylvania, Inc., Artesian Water Maryland, Inc., Artesian Wastewater Management, Inc., Artesian Wastewater Maryland, Inc. and three other entities. Has 230 employees. Chairman, C.E.O. & President: Dian C. Taylor. Address: 664 Churchmans Rd., Newark, DE 19702. Tel.: (302) 453-6900. Internet: http://www.artesianwater.com.

J.V.

April 20, 2012

TOTAL SHAREHOLDER RETURN
Dividends plus appreciation as of 3/31/2012

3 Mos.	6 Mos.	1 Yr.	3 Yrs.	5 Yrs.
0.79%	9.53%	0.44%	52.08%	11.93%

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CALIFORNIA WATER NYSE-CWT

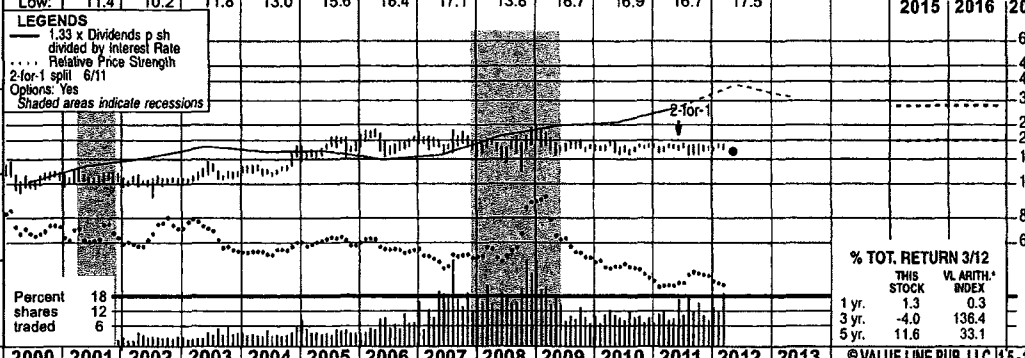
RECENT PRICE 17.55 | P/E RATIO 19.3 (Trailing: 20.4 Median: 21.0) | RELATIVE P/E RATIO 1.29 | DIV'D YLD 3.6% | VALUE LINE

TIMELINESS 4 Lowered 3/9/12
SAFETY 3 Lowered 7/27/07
TECHNICAL 4 Lowered 4/6/12
BETA .65 (1.00 = Market)

	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
High:	14.3	13.4	15.7	19.0	21.1	22.9	22.7	23.3	24.1	19.8	19.4	19.3
Low:	11.4	10.2	11.8	13.0	15.6	16.4	17.1	13.8	16.7	16.9	16.7	17.5

Target Price Range 2015 | 2016 | 2017

LEGENDS
— 1.33 x Dividends p sh divided by Interest Rate
.... Relative Price Strength
2-for-1 split 6/11
Options: Yes
Shaded areas indicate recessions



2015-17 PROJECTIONS

	Price	Gain	Ann'l Total Return
High	30	(+70%)	16%
Low	20	(+15%)	6%

Insider Decisions

	M	J	J	A	S	O	N	D	J
to Buy	0	0	0	0	0	0	0	0	0
Options	0	0	0	4	0	0	0	0	0
to Sell	0	0	0	4	0	0	1	0	0

Institutional Decisions

	2Q2011	3Q2011	4Q2011
to Buy	60	49	52
to Sell	48	58	58
Hld's(000)	21479	21742	20424

% TOT. RETURN 3/12

	THIS STOCK	VL ARITH.* INDEX
1 yr.	1.3	0.3
3 yr.	-4.0	136.4
5 yr.	11.6	33.1

1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	© VALUE LINE PUB. LLC	15-17
7.24	7.74	7.38	7.98	8.08	8.13	8.67	8.18	8.59	8.72	8.10	8.88	9.90	10.82	11.05	12.00	*12.55*	*12.95*	Revenues per sh	*14.20*
1.25	1.46	1.30	1.37	1.26	1.10	1.32	1.26	1.42	1.52	1.36	1.56	1.86	1.93	1.93	2.07	*2.20*	*2.30*	"Cash Flow" per sh	*2.65*
.75	.92	.73	.77	.66	.47	.63	.61	.73	.74	.67	.75	.95	.98	.91	.86	*1.00*	*1.10*	Earnings per sh A	*1.30*
.52	.53	.54	.54	.55	.56	.56	.56	.57	.57	.58	.58	.59	.59	.60	.62	*.64*	*.67*	Div'd Decl'd per sh B ■	*.75*
1.41	1.30	1.37	1.72	1.23	2.04	2.91	2.19	1.87	2.01	2.14	1.84	2.41	2.66	2.97	2.83	*2.80*	*2.85*	Cap'l Spending per sh	*3.05*
6.11	6.50	6.69	6.71	6.45	6.48	6.56	7.22	7.83	7.90	9.07	9.25	9.72	10.13	10.45	10.76	*11.65*	*11.80*	Book Value per sh C	*12.75*
25.24	25.24	25.24	25.87	30.29	30.36	30.36	33.86	36.73	36.78	41.31	41.33	41.45	41.53	41.67	41.82	*43.00*	*44.00*	Common Shs Outst'g D	*47.50*
11.9	12.6	17.8	17.8	19.6	27.1	19.8	22.1	20.1	24.9	29.2	26.1	19.8	19.7	20.3	21.3	*Bold figures are*		Avg Ann'l P/E Ratio	*20.0*
.75	.73	.93	1.01	1.27	1.39	1.08	1.26	1.06	1.33	1.58	1.39	1.19	1.31	1.29	1.34	*Value Line*		Relative P/E Ratio	*1.35*
5.8%	4.6%	4.2%	4.0%	4.3%	4.4%	4.5%	4.2%	3.9%	3.1%	2.9%	3.0%	3.1%	3.1%	3.2%	3.4%	*estimates*		Avg Ann'l Div'd Yield	*3.0%*

CAPITAL STRUCTURE as of 12/31/11
Total Debt $535.3 mill. Due in 5 Yrs $46.5 mill.
LT Debt $481.6 mill. LT Interest $32.5 mill.
(LT interest earned: 3.4x; total int. cov.: 2.9x)
(52% of Cap'l)
Pension Assets-12/11 $155.7 mill.
Oblig. $346.3 mill.
Pfd Stock None

Common Stock 41,817,032 shs.
as of 2/22/12

MARKET CAP: $725 million (Small Cap)

2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013		15-17
263.2	277.1	315.6	320.7	334.7	367.1	410.3	449.4	460.4	501.8	*540*	*570*	Revenues ($mill) E	*675*
19.1	19.4	26.0	27.2	25.6	31.2	39.8	40.6	37.7	36.1	*43.0*	*47.0*	Net Profit ($mill)	*62.0*
39.7%	39.9%	39.6%	42.4%	37.4%	39.9%	37.7%	40.3%	39.5%	40.5%	*40.0%*	*39.5%*	Income Tax Rate	*39.5%*
--	10.3%	3.2%	3.3%	10.6%	8.3%	8.6%	7.6%	4.2%	5.0%	*10.0%*	*10.0%*	AFUDC % to Net Profit	*10.0%*
55.3%	50.2%	48.6%	48.3%	43.5%	42.9%	41.6%	47.1%	52.4%	51.7%	*49.5%*	*50.0%*	Long-Term Debt Ratio	*50.0%*
44.0%	49.1%	50.8%	51.1%	55.9%	56.6%	58.4%	52.9%	47.6%	48.3%	*50.5%*	*50.0%*	Common Equity Ratio	*50.0%*
453.1	498.4	565.9	568.1	670.1	674.9	690.4	794.9	914.7	931.5	*985*	*1035*	Total Capital ($mill)	*1200*
697.0	759.5	800.3	862.7	941.5	1010.2	1112.4	1198.1	1294.3	1381.1	*1450*	*1515*	Net Plant ($mill)	*1725*
5.9%	5.6%	6.1%	6.3%	5.2%	5.9%	7.1%	6.5%	5.5%	5.5%	*6.0%*	*6.0%*	Return on Total Cap'l	*7.0%*
9.4%	7.8%	8.9%	9.3%	6.8%	8.1%	9.9%	9.6%	8.6%	8.0%	*8.5%*	*9.0%*	Return on Shr. Equity	*10.5%*
9.5%	7.9%	9.0%	9.3%	6.8%	8.1%	9.9%	9.6%	8.6%	8.0%	*8.5%*	*9.0%*	Return on Com Equity	*10.5%*
1.0%	.7%	2.1%	2.1%	1.0%	1.8%	3.8%	3.8%	3.0%	2.3%	*3.0%*	*3.0%*	Retained to Com Eq	*4.5%*
90%	91%	77%	78%	86%	77%	61%	60%	66%	71%	*64%*	*64%*	All Div'ds to Net Prof	*57%*

CURRENT POSITION ($MILL.)	2009	2010	12/31/11
Cash Assets	9.9	42.3	27.2
Other	82.3	83.9	86.7
Current Assets	92.2	126.2	113.9
Accts Payable	43.7	39.5	48.9
Debt Due	25.0	26.1	53.7
Other	41.7	41.7	49.3
Current Liab.	110.4	107.3	151.9
Fix. Chg. Cov.	430%	390%	*300%*

ANNUAL RATES of change (per sh)	Past 10 Yrs.	Past 5 Yrs.	Est'd '09-'11 to '15-'17
Revenues	3.5%	6.0%	*4.0%*
"Cash Flow"	4.5%	6.5%	*5.0%*
Earnings	4.0%	5.0%	*6.0%*
Dividends	1.0%	1.0%	*4.0%*
Book Value	5.0%	5.0%	*3.5%*

Cal-endar	QUARTERLY REVENUES ($ mill.)E Mar.31	Jun.30	Sep.30	Dec.31	Full Year
2009	86.6	116.7	139.2	106.9	449.4
2010	90.3	118.3	146.3	105.5	460.4
2011	98.1	131.4	169.3	103.0	501.8
2012	*105*	*140*	*178*	*117*	*540*
2013	*110*	*150*	*185*	*125*	*570*

Cal-endar	EARNINGS PER SHARE A Mar.31	Jun.30	Sep.30	Dec.31	Full Year
2009	.06	.29	.47	.16	.98
2010	.05	.25	.49	.12	.91
2011	.03	.29	.50	.04	.86
2012	*.05*	*.30*	*.52*	*.13*	*1.00*
2013	*.07*	*.32*	*.55*	*.16*	*1.10*

Cal-endar	QUARTERLY DIVIDENDS PAID B ■ Mar.31	Jun.30	Sep.30	Dec.31	Full Year
2008	.147	.147	.147	.147	.59
2009	.148	.148	.148	.148	.59
2010	.149	.149	.149	.149	.60
2011	.154	.154	.154	.154	.62
2012	.1575				

BUSINESS: California Water Service Group provides regulated and nonregulated water service to roughly 471,900 customers in 83 communities in California, Washington, New Mexico, and Hawaii. Main service areas: San Francisco Bay area, Sacramento Valley, Salinas Valley, San Joaquin Valley & parts of Los Angeles. Acquired Rio Grande Corp; West Hawaii Utilities (9/08). Revenue breakdown, '11: residential, 73%; business, 18%; public authorities, 5%; industrial, 4%. '11 reported depreciation rate: 2.7%. Has roughly 1,132 employees. Chairman: Robert W. Foy. President & CEO: Peter C. Nelson (4/11 Proxy). Inc.: Delaware. Address: 1720 North First Street, San Jose, California 95112-4598. Telephone: 408-367-8200. Internet: www.calwatergroup.com.

California Water Services Group has run into some trouble. The water utility saw its earnings cut by two-thirds in the fourth quarter. Lower usage rates caused the top line to fall more than 2%, despite the benefits of earlier rate increases awarded by the California Public Utilities Commission (CPUC). Operating costs, meanwhile, continued to soar, with expenses increasing across the board. As a result, the company posted a share gain of $0.04, less than a quarter of our estimate and a third of the year-before tally.

We look for improvements on the regulatory front to help get earnings growth back on track this year. The company recently announced that it and the California Public Utilities Commission's Division of Ratepayer Advocates have settled a cost-of-capital request for 2012-2014. It is just awaiting final approval from the CPUC. If signed off on, as we expect, CWT's authorized return on equity would be 9.99%, with the cost of debt being 6.24%.

There could be additional assistance on the horizon, too. The company is said to preparing its 2012 general rate case. A ruling would likely go into effect by 2014. The regulatory climate has been rather business-friendly in recent years, and there is no reason to suggest a change.

However, we worry that a fair share of the aforementioned gains could be erased by the rising costs of doing business. The water utility business is capital-intensive. Maintenance expenses are high, and likely to continue climbing as old waterways become antiquated and in need of repair or replacement. CWT has a dearth of cash on hand, and expected cash flow generation fails to cover the future investments that we envision. The additional financing needed to meet these demands will result in higher interest expense and greater share count.

This stock is not for most. Although its dividend yield is above that of the average issue in our *Survey*, those looking for a steady source of income have better options in the Electric Utility industry. Meanwhile, capital appreciation potential is limited based on the vast infrastructure costs likely to remain, and the company's need to tap capital markets.

Andre J. Costanza *April 20, 2012*

(A) Basic EPS. Excl. nonrecurring gain (loss): '00, (4¢); '01, 2¢; '02, 4¢; '11, 4¢. Next earnings report due early May.
(B) Dividends historically paid in late Jan., April, July, and Oct. ■ Div'd reinvestment plan available.
(C) Incl. deferred charges. In '11: $2.2 mill., $0.05/sh.
(D) In millions, adjusted for splits.
(E) Excludes non-reg. rev.

Company's Financial Strength	B+
Stock's Price Stability	90
Price Growth Persistence	60
Earnings Predictability	90

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CONN. WATER SERVICES NDQ--CTWS

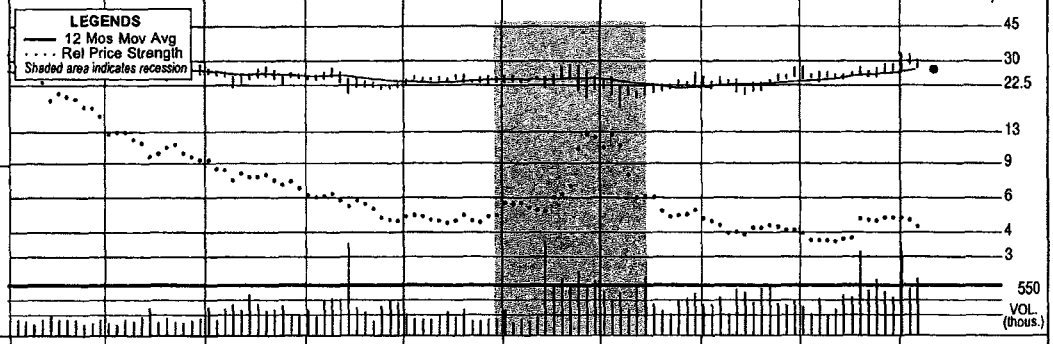
RECENT PRICE 27.14 | TRAILING P/E RATIO 24.0 | RELATIVE P/E RATIO 1.48 | DIV'D YLD 3.5% | VALUE LINE

RANKS

PERFORMANCE 3 Average
Technical 3 Average
SAFETY 2 Above Average
BETA .75 (1.00 = Market)

Financial Strength B++
Price Stability 95
Price Growth Persistence 30
Earnings Predictability 80

	30.41	29.76	28.17	27.71	25.61	28.95	26.44	27.90	29.10	32.84 High
	24.00	23.83	21.91	20.29	22.40	19.26	17.31	20.00	23.27	26.15 Low



© VALUE LINE PUBLISHING LLC	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012/2013
SALES PER SH	5.91	6.04	5.81	5.68	7.05	7.24	6.93	7.65	7.93	
"CASH FLOW" PER SH	1.89	1.91	1.62	1.52	1.90	1.95	1.93	2.04	2.11	
EARNINGS PER SH	1.15	1.16	.88	.81	1.05	1.11	1.19	1.13	1.13	**1.38**[A,B]**/1.41**[C]
DIV'DS DECL'D PER SH	.83	.84	.85	.86	.87	.88	.90	.92	.94	
CAP'L SPENDING PER SH	1.49	1.58	1.96	1.96	2.24	2.44	3.28	3.06	2.61	
BOOK VALUE PER SH	10.46	10.94	11.52	11.60	11.95	12.23	12.67	13.05	13.50	
COMMON SHS OUTST'G (MILL)	7.97	8.04	8.17	8.27	8.38	8.46	8.57	8.68	8.76	
AVG ANN'L P/E RATIO	23.5	22.9	28.6	29.0	23.0	22.2	18.4	20.7	23.0	***19.7/19.2***
RELATIVE P/E RATIO	1.34	1.21	1.51	1.57	1.22	1.34	1.22	1.32	1.44	
AVG ANN'L DIV'D YIELD	3.0%	3.1%	3.4%	3.6%	3.6%	3.6%	4.1%	3.9%	3.6%	
SALES ($MILL)	47.1	48.5	47.5	46.9	59.0	61.3	59.4	66.4	69.4	***Bold figures***
OPERATING MARGIN	52.1%	51.0%	48.3%	43.7%	40.8%	49.0%	35.8%	40.7%	54.1%	***are consensus***
DEPRECIATION ($MILL)	5.9	6.0	6.1	5.9	7.2	7.1	6.4	7.9	8.6	***earnings***
NET PROFIT ($MILL)	9.2	9.4	7.2	6.7	8.8	9.4	10.2	9.8	9.9	***estimates***
INCOME TAX RATE	17.9%	22.9%	--	23.5%	32.4%	27.2%	19.5%	35.2%	41.3%	***and, using the***
NET PROFIT MARGIN	19.5%	19.4%	15.1%	14.3%	14.9%	15.4%	17.2%	14.8%	14.2%	***recent prices,***
WORKING CAP'L ($MILL)	d3.9	d.7	13.0	1.2	8.1	d3.3	d13.1	d14.7	d11.5	***P/E ratios.***
LONG-TERM DEBT ($MILL)	64.8	66.4	77.4	77.3	92.3	92.2	112.0	111.7	135.3	
SHR. EQUITY ($MILL)	84.2	88.7	94.9	96.7	100.9	104.2	109.3	114.0	119.0	
RETURN ON TOTAL CAP'L	7.5%	7.0%	5.0%	4.9%	5.5%	5.9%	5.5%	5.4%	4.9%	
RETURN ON SHR. EQUITY	10.9%	10.6%	7.5%	6.9%	8.7%	9.0%	9.3%	8.6%	8.3%	
RETAINED TO COM EQ	3.2%	3.1%	.3%	NMF	1.6%	1.9%	2.3%	1.6%	1.4%	
ALL DIV'DS TO NET PROF	71%	71%	95%	105%	82%	79%	76%	81%	83%	

[A]No. of analysts changing earn. est. in last 7 days: 0 up, 0 down, consensus 5-year earnings growth not available. [B]Based upon 6 analysts' estimates. [C]Based upon 6 analysts' estimates.

ANNUAL RATES

of change (per share)	5 Yrs.	1 Yr.
Sales	5.0%	3.5%
"Cash Flow"	4.0%	3.5%
Earnings	4.0%	--
Dividends	1.5%	2.0%
Book Value	3.0%	3.5%

Fiscal Year	QUARTERLY SALES ($mill.) 1Q	2Q	3Q	4Q	Full Year
12/31/09	13.4	15.2	16.6	14.2	59.4
12/31/10	13.8	15.9	21.0	15.7	66.4
12/31/11	16.0	17.4	20.6	15.4	69.4
12/31/12					

Fiscal Year	EARNINGS PER SHARE 1Q	2Q	3Q	4Q	Full Year
12/31/08	.20	.35	.34	.22	1.11
12/31/09	.13	.27	.67	.12	1.19
12/31/10	.12	.27	.54	.20	1.13
12/31/11	.26	.37	.39	.11	1.13
12/31/12	***.23***	***.40***	***.53***		

Cal-endar	QUARTERLY DIVIDENDS PAID 1Q	2Q	3Q	4Q	Full Year
2009	.222	.222	.228	.228	.90
2010	.228	.228	.233	.233	.92
2011	.23	.23	.24	.24	.94
2012	.238				

INSTITUTIONAL DECISIONS

	2Q'11	3Q'11	4Q'11
to Buy	21	31	23
to Sell	27	18	29
Hld's(000)	2720	2889	2881

ASSETS ($mill.)	2009	2010	12/31/11
Cash Assets	5.4	1.0	1.0
Receivables	6.5	10.1	14.9
Inventory (Avg cost)	1.1	1.7	1.1
Other	7.0	7.6	1.9
Current Assets	20.0	20.4	18.9
Property, Plant & Equip, at cost	448.2	471.6	496.1
Accum Depreciation	123.0	127.4	133.7
Net Property	325.2	344.2	362.4
Other	70.1	60.6	83.5
Total Assets	415.3	425.2	464.8
LIABILITIES ($mill.)			
Accts Payable	6.5	6.6	7.2
Debt Due	25.0	26.3	21.4
Other	1.6	2.2	1.8
Current Liab	33.1	35.1	30.4

LONG-TERM DEBT AND EQUITY as of 12/31/11

Total Debt $156.6 mill. **Due in 5 Yrs.** $21.4 mill.
LT Debt $135.3 mill.
Including Cap. Leases $135.3 mill. (54% of Cap'l)
Leases, Uncapitalized Annual rentals $.2 mill.

Pension Liability $23.6 mill. in '11 vs. $16.7 mill. in '10

Pfd Stock $.8 mill. **Pfd Div'd Paid** NMF

Common Stock 8,755,398 shares (46% of Cap'l)

INDUSTRY: Water Utility

BUSINESS: Connecticut Water Services, Inc. primarily operates as a water utility provider. The company operates through three segments: Water Activities, Real Estate Transactions, and Services and Rentals. The Water Activities segment supplies public drinking water to its customers. Its Real Estate Transactions segment is involved in the sale of its limited excess real estate holdings. The Services and Rentals segment provides contracted services to water and wastewater utilities and other clients, as well as leases certain properties to third parties. This segment's services include contract operations of water and wastewater facilities; Linebacker, its service line protection plan for public drinking water customers; and provision of bulk deliveries of emergency drinking water to businesses and residences via tanker truck. As of March 13, 2012, the company provided drinking water to approximately 106,000 customers or 350,000 people in the states of Connecticut and Maine. Has 198 employees. Chairman, C.E.O. & President: Eric W. Thornburg. Inc.: CT. Address: 93 West Main Street, Clinton, CT 06413. Tel.: (860) 669-8636. Internet: http://www.ctwater.com. *J.V.*

April 20, 2012

TOTAL SHAREHOLDER RETURN
Dividends plus appreciation as of 3/31/2012

3 Mos.	6 Mos.	1 Yr.	3 Yrs.	5 Yrs.
5.12%	14.97%	11.14%	56.45%	41.86%

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MIDDLESEX WATER NDQ-MSEX

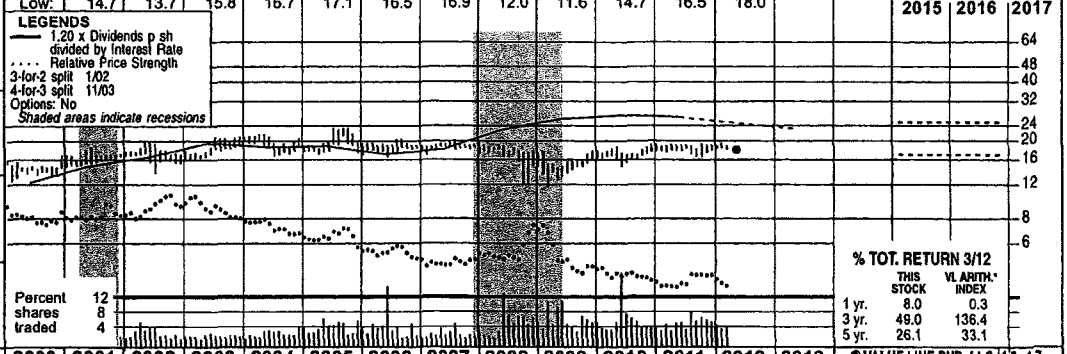
RECENT PRICE 18.03 | P/E RATIO 20.5 (Trailing: 21.5 Median: 23.0) | RELATIVE P/E RATIO 1.37 | DIV'D YLD 4.1% | VALUE LINE

TIMELINESS 4 Lowered 1/20/12
SAFETY 2 New 10/21/11
TECHNICAL 3 Raised 4/20/12
BETA .70 (1.00 = Market)

High:	18.7	20.0	21.2	21.8	23.5	20.5	20.2	19.8	17.9	19.3	19.4	19.6
Low:	14.7	13.7	15.8	16.7	17.1	16.5	16.9	12.0	11.6	14.7	16.5	18.0

Target Price Range 2015 | 2016 | 2017

LEGENDS
— 1.20 x Dividends p sh divided by Interest Rate
.... Relative Price Strength
3-for-2 split 1/02
4-for-3 split 11/03
Options: No
Shaded areas indicate recessions



2015-17 PROJECTIONS

	Price	Gain	Ann'l Total Return
High	25	(+40%)	12%
Low	17	(-5%)	3%

Insider Decisions

	M	J	J	A	S	O	N	D	J
to Buy	0	0	0	1	0	0	0	0	0
Options	0	0	0	0	0	0	0	0	0
to Sell	0	0	0	0	0	0	1	1	0

Institutional Decisions

	2Q2011	3Q2011	4Q2011
to Buy	31	36	33
to Sell	24	25	27
Hld's(000)	6377	6334	6476

Percent shares traded 12 8 4

% TOT. RETURN 3/12

	THIS STOCK	VL ARITH.* INDEX
1 yr.	8.0	0.3
3 yr.	49.0	136.4
5 yr.	26.1	33.1

1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	© VALUE LINE PUB. LLC	15-17
4.52	4.72	4.39	5.35	5.39	5.87	5.98	6.12	6.25	6.44	6.16	6.50	6.79	6.75	6.60	6.50	*6.90*	*7.10*	Revenues per sh	*8.40*
.94	1.02	1.02	1.19	.99	1.18	1.20	1.15	1.28	1.33	1.33	1.49	1.53	1.40	1.55	1.52	*1.70*	*1.90*	"Cash Flow" per sh	*2.30*
.60	.67	.71	.76	.51	.66	.73	.61	.73	.71	.82	.87	.89	.72	.96	.84	*.95*	*1.05*	Earnings per sh A	*1.25*
.55	.57	.58	.60	.61	.62	.63	.65	.66	.67	.68	.69	.70	.71	.72	.73	*.74*	*.75*	Div'd Decl'd per sh B■	*.80*
.73	1.20	2.68	2.33	1.32	1.25	1.59	1.87	2.54	2.18	2.31	1.66	2.12	1.49	1.90	1.50	*1.90*	*2.15*	Cap'l Spending per sh	*2.60*
5.85	6.00	6.80	6.95	6.98	7.11	7.39	7.60	8.02	8.26	9.52	10.05	10.03	10.33	11.13	11.27	*11.25*	*11.35*	Book Value per sh	*11.40*
8.41	8.54	9.82	10.00	10.11	10.17	10.36	10.48	11.36	11.58	13.17	13.25	13.40	13.52	15.57	15.70	*16.00*	*16.25*	Common Shs Outst'g C	*17.25*
14.4	13.4	15.2	17.6	28.7	24.6	23.5	30.0	26.4	27.4	22.7	21.6	19.8	21.0	17.8	21.9	*Bold figures are*		Avg Ann'l P/E Ratio	*17.0*
.90	.77	.79	1.00	1.87	1.26	1.28	1.71	1.39	1.46	1.23	1.15	1.19	1.40	1.13	1.32	*Value Line*		Relative P/E Ratio	*1.15*
6.4%	6.3%	5.4%	4.4%	4.2%	3.8%	3.7%	3.5%	3.4%	3.5%	3.7%	3.7%	4.0%	4.7%	4.2%	4.2%	*estimates*		Avg Ann'l Div'd Yield	*4.3%*

CAPITAL STRUCTURE as of 12/31/11
Total Debt $136.7 mill. Due in 5 Yrs $25.0 mill.
LT Debt $132.1 mill. LT interest $6.0 mill.
(LT interest coverage: 4.5x)
(43% of Cap'l)

Pension Assets-12/11 $32.2 mill.
Oblig. $56.2 mill.
Pfd Stock $3.4 mill. Pfd Div'd: $.2 mill.

Common Stock 15,703,480 shs.
as of 3/05/12

MARKET CAP: $275 million (Small Cap)

2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013		15-17
61.9	64.1	71.0	74.6	81.1	86.1	91.0	91.2	102.7	102.0	*110*	*115*	Revenues ($mill)	*145*
7.8	6.6	8.4	8.5	10.0	11.8	12.2	10.0	14.3	13.5	*15.0*	*17.0*	Net Profit ($mill)	*21.5*
33.3%	32.8%	31.1%	27.6%	33.4%	32.6%	33.2%	34.1%	32.1%	32.5%	*32.0%*	*32.0%*	Income Tax Rate	*32.0%*
--	--	--	--	--	--	--	--	6.8%	7.5%	*7.5%*	*7.5%*	AFUDC % to Net Profit	*7.0%*
52.1%	53.8%	53.8%	55.3%	49.5%	49.0%	45.6%	46.6%	43.1%	43.0%	*42.0%*	*41.0%*	Long-Term Debt Ratio	*39.0%*
45.5%	44.0%	42.5%	41.3%	47.5%	49.6%	51.8%	52.1%	55.8%	57.0%	*58.0%*	*59.0%*	Common Equity Ratio	*61.0%*
168.0	181.1	214.5	231.7	264.0	268.8	259.4	267.9	310.5	309.1	*310.0*	*312.0*	Total Capital ($mill)	*320.0*
211.4	230.9	262.9	288.0	317.1	333.9	366.3	376.5	405.9	422.2	*435*	*455*	Net Plant ($mill)	*495*
6.0%	5.0%	5.1%	5.0%	5.1%	5.6%	5.8%	5.0%	5.7%	5.3%	*6.0%*	*6.5%*	Return on Total Cap'l	*7.5%*
9.6%	7.9%	8.5%	8.2%	7.5%	8.6%	8.6%	7.0%	8.1%	7.5%	*8.5%*	*9.0%*	Return on Shr. Equity	*11.0%*
9.8%	8.0%	9.0%	8.6%	7.8%	8.7%	8.9%	7.0%	8.2%	7.6%	*8.5%*	*9.0%*	Return on Com Equity	*11.0%*
1.3%	NMF	.9%	.6%	1.3%	1.8%	2.0%	.1%	2.1%	*1.1%*	*2.0%*	*2.5%*	Retained to Com Eq	*4.0%*
87%	106%	90%	94%	84%	79%	78%	98%	75%	*85%*	*78%*	*71%*	All Div'ds to Net Prof	*64%*

CURRENT POSITION ($MILL.)	2009	2010	12/31/11
Cash Assets	4.3	2.5	3.1
Other	17.7	20.3	19.8
Current Assets	22.0	22.8	22.9
Accts Payable	4.3	6.4	5.7
Debt Due	3.7	4.4	4.6
Other	52.7	29.9	36.4
Current Liab.	60.7	40.7	46.7
Fix. Chg. Cov.	325%	400%	380%

ANNUAL RATES of change (per sh)	Past 10 Yrs.	Past 5 Yrs.	Est'd '09-'11 to '15-'17
Revenues	3.0%	1.5%	*3.5%*
"Cash Flow"	3.5%	3.5%	*6.5%*
Earnings	2.5%	4.5%	*5.5%*
Dividends	2.0%	1.5%	*1.5%*
Book Value	4.5%	5.5%	*1.0%*

Cal-endar	QUARTERLY REVENUES ($ mill.) Mar.31	Jun. 30	Sep. 30	Dec. 31	Full Year
2009	20.6	23.1	25.5	22.0	91.2
2010	21.6	26.5	29.6	25.0	102.7
2011	24.0	26.1	28.7	23.3	102.1
2012	*25.0*	*27.0*	*31.0*	*27.0*	*110*
2013	*28.0*	*28.0*	*32.0*	*27.0*	*115*

Cal-endar	EARNINGS PER SHARE A Mar.31	Jun. 30	Sep. 30	Dec. 31	Full Year
2009	.10	.21	.29	.12	.72
2010	.11	.31	.37	.17	.96
2011	.17	.23	.32	.12	.84
2012	*.17*	*.24*	*.35*	*.19*	*.95*
2013	*.20*	*.27*	*.37*	*.21*	*1.05*

Cal-endar	QUARTERLY DIVIDENDS PAID B■ Mar.31	Jun.30	Sep.30	Dec.31	Full Year
2008	.175	.175	.175	.178	.70
2009	.178	.178	.178	.180	.71
2010	.180	.180	.180	.183	.72
2011	.183	.183	.183	.185	.73
2012	.185				

BUSINESS: Middlesex Water Company engages in the ownership and operation of regulated water utility systems in New Jersey, Delaware, and Pennsylvania. It also operates water and wastewater systems under contract on behalf of municipal and private clients in NJ and DE. Its Middlesex System provides water services to 60,000 retail customers, primarily in Middlesex County, New Jersey. In 2011, the Middlesex System accounted for 64% of total revenues. At 12/31/11, the company had 289 employees. Incorporated: NJ. President, CEO, and Chairman: Dennis W. Doll. Officers/directors own 3.39% of the common stock; BlackRock, 6.2%; The Vanguard Group, 5.4% (4/12 proxy). Address: 1500 Ronson Road, Iselin, NJ 08830. Tel.: 732-634-1500. Internet: www.middlesexwater.com.

Middlesex Water's bottom line weakened in 2011, with reported earnings of $0.84 a share, a decline of 12.5% from the previous year. Lower connection fees (due to the depressed housing market) along with a decline in water consumption were the main causes for the fall. Despite the fall, the utility should bounce back in 2012, supported by an improving economy and several favorable rate rulings.

Several rate cases should help the bottom line recover in 2012. The company is at the end of its current rate cycle for its two largest utilities, and has filed for rate hikes in both New Jersey and Delaware. Thus far, an interim 10.5% rate increase has been implemented, and the filings should bear fruit by the end of 2012 (though it is quite likely that the full impact will be felt from 2013 onward).

The company is investing heavily in its plants at this time. Management plans to spend a considerable amount to upgrade Middlesex's water distribution infrastructure. To this end, it has already invested over $3 million in upgrading systems in Edison, NJ (part of its annual RENEW program). The heavy investment should give the company considerable leverage for its next New Jersey general rate case, which is scheduled for 2014. Should the ruling be favorable, the top and bottom lines are likely to receive a considerable boost from mid-decade on.

Strong cost control should work to lift earnings, as well. Middlesex has been working on making its various segments leaner and more cost efficient in order to combat the decline in water consumption. To this end, operations and maintenance expenses have been most heavily targeted, and were down 3% year over year. That said, we remain concerned that going forward these efforts might not be enough to combat the rising costs from employee healthcare and post-retirement benefit plans, which show no sign of abating in the future.

Investors will find better options elsewhere, as this equity is currecently trading within our Target Price Range. However, the stock's above-average dividend yield, combined with the strong likelihood of rising payouts, should interest income investors.

Sahana Zutshi *April 20, 2012*

(A) Diluted earnings. Next earnings report due early June.
(B) Dividends historically paid in mid-Feb., May, Aug., and November.■ Div'd reinvestment plan available.
(C) In millions, adjusted for splits.
(D) Intangible assets in 2011: $8.2 million, $0.55 a share.

Company's Financial Strength	B+
Stock's Price Stability	95
Price Growth Persistence	30
Earnings Predictability	85

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SJW CORP. NYSE-SJW

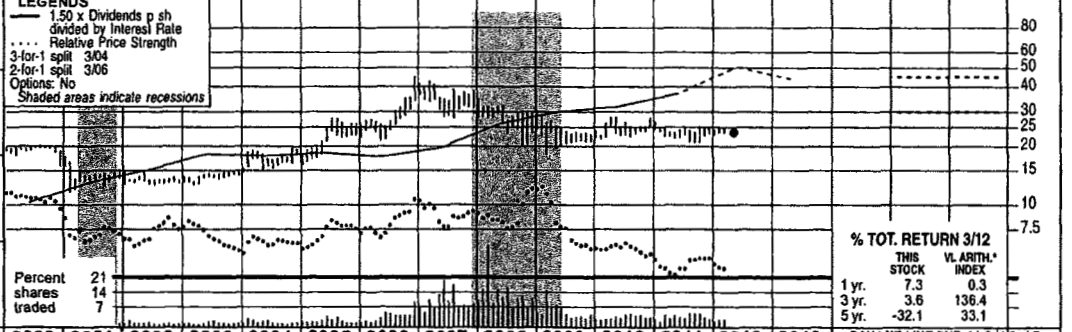
RECENT PRICE 23.52 | P/E RATIO 19.6 (Trailing: 21.2 Median: 23.0) | RELATIVE P/E RATIO 1.31 | DIV'D YLD 3.0% | VALUE LINE

TIMELINESS 3 Raised 8/12/11
SAFETY 3 New 4/22/11
TECHNICAL 4 Lowered 4/6/12
BETA .85 (1.00 = Market)

High:	17.8	15.1	15.0	19.6	27.8	45.3	43.0	35.1	30.4	28.2	26.8	25.0
Low:	11.6	12.7	12.6	14.6	16.1	21.2	27.7	20.0	18.2	21.6	20.9	22.8

Target Price Range 2015 | 2016 | 2017

LEGENDS
— 1.50 x Dividends p sh divided by Interest Rate
.... Relative Price Strength
3-for-1 split 3/04
2-for-1 split 3/06
Options: No
Shaded areas indicate recessions



2015-17 PROJECTIONS

	Price	Gain	Ann'l Total Return
High	45	(+90%)	19%
Low	30	(+30%)	9%

Insider Decisions

	M	J	J	A	S	O	N	D	J
to Buy	1	0	0	1	3	0	1	1	0
Options	0	0	0	0	0	0	0	0	0
to Sell	0	0	0	0	0	0	0	0	0

Institutional Decisions

	2Q2011	3Q2011	4Q2011
to Buy	31	30	24
to Sell	28	26	32
Hld's(000)	8839	9018	8847

Percent shares traded 21 14 7

% TOT. RETURN 3/12

	THIS STOCK	VL ARITH.* INDEX
1 yr.	7.3	0.3
3 yr.	3.6	136.4
5 yr.	-32.1	33.1

1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	© VALUE LINE PUB. LLC	15-17
5.39	5.79	5.58	6.40	6.74	7.45	7.97	8.20	9.14	9.86	10.35	11.25	12.12	11.68	11.62	12.86	*12.50*	*12.60*	Revenues per sh	*13.70*
1.43	1.27	1.26	1.43	1.23	1.49	1.55	1.75	1.89	2.21	2.38	2.30	2.44	2.21	2.38	2.80	*2.75*	*2.85*	Cash Flow" per sh	*3.10*
.96	.80	.76	.87	.58	.77	.78	.91	.87	1.12	1.19	1.04	1.08	.81	.84	1.11	*1.15*	*1.20*	Earnings per sh A	*1.40*
.37	.38	.39	.40	.41	.43	.46	.49	.51	.53	.57	.61	.65	.66	.68	.69	*.74*	*.78*	Div'd Decl'd per sh B■	*.86*
1.06	1.27	1.81	1.77	1.89	2.63	2.06	3.41	2.31	2.83	3.87	6.62	3.79	3.17	5.65	3.75	*4.00*	*4.75*	Cap'l Spending per sh	*3.70*
6.31	7.02	7.53	7.88	7.90	8.17	8.40	9.11	10.11	10.72	12.48	12.90	13.99	13.66	13.75	14.20	*15.25*	*15.70*	Book Value per sh	*17.15*
19.02	19.02	19.01	18.27	18.27	18.27	18.27	18.27	18.27	18.27	18.28	18.36	18.18	18.50	18.55	18.59	*20.00*	*21.00*	Common Shs Outst'g C	*23.00*
6.8	11.2	13.1	15.5	33.1	18.5	17.3	15.4	19.6	19.7	23.5	33.4	26.2	28.7	29.1	21.2	*Bold figures are*		Avg Ann'l P/E Ratio	*25.5*
.43	.65	.68	.88	2.15	.95	.94	.88	1.04	1.05	1.27	1.77	1.58	1.91	1.85	1.34	*Value Line*		Relative P/E Ratio	*1.70*
5.7%	4.3%	3.9%	3.0%	2.1%	3.0%	3.4%	3.5%	3.0%	2.4%	2.0%	1.7%	2.3%	2.8%	2.8%	2.9%	*estimates*		Avg Ann'l Div'd Yield	*2.3%*

CAPITAL STRUCTURE as of 12/31/11
Total Debt $344.6 mill. Due in 5 Yrs $8.8 mill.
LT Debt $343.8 mill. LT Interest $19.7 mill.
(LT interest earned: 3.0x: total interest coverage: 2.8x) (57% of Cap'l)

Leases, Uncapitalized: Annual rentals $4.5 mill.

Pension Assets-12/11 $62.8 mill. Oblig. $123.9 mill.

Pfd Stock None.

Common Stock 18,618,265 shs. as of 2/8/12

MARKET CAP: $450 million (Small Cap)

2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013		15-17
145.7	149.7	166.9	180.1	189.2	206.6	220.3	216.1	215.6	239.0	*250*	*265*	Revenues ($mill)	*315*
14.2	16.7	16.0	20.7	22.2	19.3	20.2	15.2	15.8	20.9	*23.0*	*25.0*	Net Profit ($mill)	*32.0*
40.4%	36.2%	42.1%	41.6%	40.8%	39.4%	39.5%	40.4%	38.8%	41.1%	*40.0%*	*39.0%*	Income Tax Rate	*39.0%*
4.2%	1.6%	2.1%	1.6%	2.1%	2.7%	2.3%	2.0%	2.0%	3.0%	*5.0%*	*5.0%*	AFUDC % to Net Profit	*5.0%*
41.7%	45.6%	43.7%	42.6%	41.8%	47.7%	46.0%	49.4%	53.7%	56.6%	*53.0%*	*53.0%*	Long-Term Debt Ratio	*52.0%*
58.3%	54.4%	56.3%	57.4%	58.2%	52.3%	54.0%	50.6%	46.3%	43.4%	*47.0%*	*47.0%*	Common Equity Ratio	*48.0%*
263.5	306.0	328.3	341.2	391.8	453.2	470.9	499.6	550.7	607.8	*650*	*705*	Total Capital ($mill)	*825*
390.8	428.5	456.8	484.8	541.7	645.5	684.2	718.5	785.5	756.2	*810*	*875*	Net Plant ($mill)	*1050*
6.9%	6.9%	6.5%	7.6%	7.0%	5.7%	5.8%	4.4%	4.3%	5.0%	*5.0%*	*5.0%*	Return on Total Cap'l	*5.5%*
9.3%	10.0%	8.7%	10.6%	9.7%	8.2%	8.0%	6.0%	6.2%	7.9%	*7.5%*	*7.5%*	Return on Shr. Equity	*8.0%*
9.3%	10.0%	8.7%	10.6%	9.7%	8.2%	8.0%	6.0%	6.2%	7.9%	*7.5%*	*7.5%*	Return on Com Equity	*8.0%*
3.8%	4.7%	3.6%	5.6%	5.2%	3.5%	3.3%	1.2%	1.2%	3.1%	*2.5%*	*2.5%*	Retained to Com Eq	*3.0%*
59%	53%	58%	47%	46%	57%	59%	80%	80%	61%	*64%*	*66%*	All Div'ds to Net Prof	*62%*

CURRENT POSITION ($MILL.)	2009	2010	12/31/11
Cash Assets	1.4	1.7	26.7
Other	26.6	36.3	42.2
Current Assets	28.0	38.0	68.9
Accts Payable	6.6	5.5	7.4
Debt Due	6.9	5.1	.8
Other	18.5	18.6	20.1
Current Liab.	32.0	29.2	28.3
Fix. Chg. Cov.	352%	400%	*250%*

ANNUAL RATES of change (per sh)	Past 10 Yrs.	Past 5 Yrs.	Est'd '09-'11 to '15-'17
Revenues	6.0%	4.5%	*2.0%*
"Cash Flow"	6.0%	2.5%	*4.0%*
Earnings	2.0%	-3.0%	*7.0%*
Dividends	5.0%	5.0%	*4.0%*
Book Value	5.5%	4.5%	*3.5%*

Cal-endar	QUARTERLY REVENUES ($ mill.) Mar.31	Jun. 30	Sep. 30	Dec. 31	Full Year
2009	40.0	58.2	69.3	48.6	216.1
2010	40.4	54.1	70.3	50.8	215.6
2011	43.7	59.0	73.9	62.4	239.0
2012	*46.0*	*63.0*	*78.0*	*63.0*	*250*
2013	*49.0*	*67.0*	*83.0*	*66.0*	*265*

Cal-endar	EARNINGS PER SHARE A Mar.31	Jun. 30	Sep. 30	Dec. 31	Full Year
2009	.01	.23	.43	.14	.81
2010	.05	.24	.44	.11	.84
2011	.03	.29	.44	.35	1.11
2012	*.04*	*.32*	*.49*	*.30*	*1.15*
2013	*.05*	*.33*	*.50*	*.32*	*1.20*

Cal-endar	QUARTERLY DIVIDENDS PAID B■ Mar.31	Jun.30	Sep.30	Dec.31	Full Year
2008	.16	.16	.16	.16	.64
2009	.165	.165	.165	.165	.66
2010	.17	.17	.17	.17	.68
2011	.173	.173	.173	.173	.69
2012	.1775				

BUSINESS: SJW Corporation engages in the production, purchase, storage, purification, distribution, and retail sale of water. It provides water service to approximately 226,000 connections that serve a population of approximately one million people in the San Jose area and 8,700 connections that serve approximately 36,000 residents in a service area in the region between San Antonio and Austin, Texas. The company offers nonregulated water-related services, including water system operations, cash remittances, and maintenance contract services. SJW also owns and operates commercial real estate investments. Has 375 employees. Chairman: Charles J. Toeniskoetter. Inc.: CA. Address: 110 W. Taylor Street, San Jose, CA 95110. Tel.: (408) 279-7800. Int:www.sjwater.com.

SJW Corp. closed out 2011 in swimmingly good fashion. The water utility trounced both top- and bottom-line expectations, posting 23% revenues growth, while more than tripling earnings in the fourth quarter. Rate increases, coupled with retroactive rate relief, played a big role, but the company also did a great job of keeping costs in check.

That said, we look for momentum to slow considerably this year. Although top-line growth is expected to remain healthy, we believe that the pace set in the most recent quarter is unsustainable. SJW filed its general rate case for the 2013-2015 time frame a few months back, but a decision will probably not be made until the end of the year and not be accretive to earnings until early 2012. Meanwhile, we expect operating costs to begin ticking upward as does the need for maintenance.

In our opinion, the outlook does not get much better looking further out. Management is planning on dramatically increasing capital expenditures over the next couple of years, with infrastructure replacement taking center stage. The bill will be in the hundreds of millions of dollars. However, cash flow from operations does not come close to covering the costs, and the company's finances are far from adequate enough on their own. Outside funding will almost definitely be required, but the additional shares and/or debt offerings needed to foot the bill come at a cost, and will dilute gains for the foreseeable future. As a result, we see earnings growth further remaining tough to come by in 2013 and thereafter regardless of additional regulatory wins.

This stock holds little appeal at this time. True, its dividend is impressive at first blush. However, there are far better choices on the market for the income-minded. Plus, we worry that the aforementioned financial constraints could potentially cause income growth to slow, or perhaps be reconsidered if regulatory agencies reverses course and take on a more consumer-friendly approach in the future. Although the latter is not likely, it does add some speculation to this otherwise unimpressive selection. Indeed, the stock holds limited price appreciation potential, based on the earnings constraints.

Andre J. Costanza *April 20, 2012*

(A) Diluted earnings. Excludes nonrecurring losses : '03, $1.97; '04, $3.78; '05, $1.09; '06, $16.36; '08, $1.22; '10, 46¢. Next earnings report around April 27th. Quarterly egs. may not add due to rounding.
(B) Dividends historically paid in early March, June, September, and December. ■ Div'd reinvestment plan available.
(C) In millions.

Company's Financial Strength	B+
Stock's Price Stability	75
Price Growth Persistence	75
Earnings Predictability	85

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YORK WATER CO NDQ--YORW

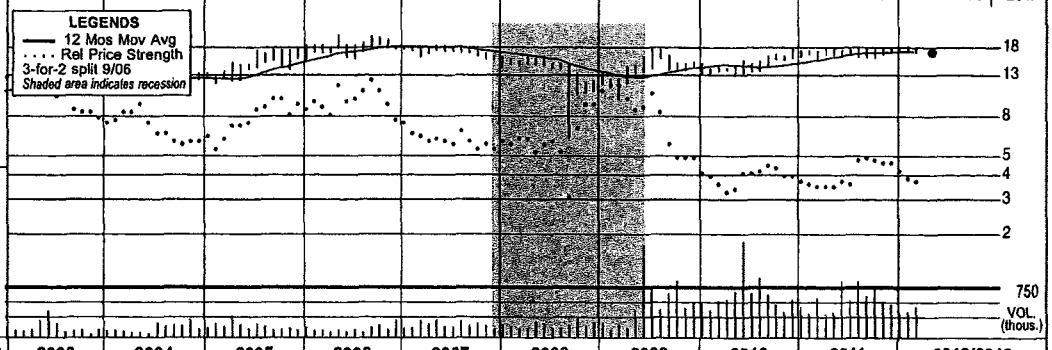
RECENT PRICE 17.02 | TRAILING P/E RATIO 24.0 | RELATIVE P/E RATIO 1.47 | DIV'D YLD 3.1% | VALUE LINE

RANKS

PERFORMANCE 3 Average
Technical 4 Below Average
SAFETY 2 Above Average
BETA .65 (1.00 = Market)

Financial Strength B++
Price Stability 95
Price Growth Persistence 65
Earnings Predictability 100

13.49	14.03	17.87	20.99	18.55	16.50	17.95	18.00	18.14	18.43	High
9.33	11.00	11.67	15.33	15.45	6.23	9.74	12.83	15.81	17.00	Low



© VALUE LINE PUBLISHING LLC	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012/2013
REVENUES PER SH	2.17	2.18	2.58	2.56	2.79	2.89	2.95	3.07	3.18	
"CASH FLOW" PER SH	.65	.65	.79	.77	.86	.88	.95	1.07	1.09	
EARNINGS PER SH	.47	.49	.56	.58	.57	.57	.64	.71	.71	*.78 A,B/.83 C*
DIV'D DECL'D PER SH	.37	.39	.42	.45	.48	.49	.51	.52	.53	
CAP'L SPENDING PER SH	1.07	2.50	1.69	1.85	1.69	2.17	1.18	.83	.74	
BOOK VALUE PER SH	4.06	4.65	4.85	5.84	5.97	6.14	6.92	7.19	7.45	
COMMON SHS OUTST'G (MILL)	9.63	10.33	10.40	11.20	11.27	11.37	12.56	12.69	12.79	
AVG ANN'L P/E RATIO	24.5	25.7	26.3	31.2	30.3	24.6	21.9	20.7	23.9	*21.8/20.5*
RELATIVE P/E RATIO	1.40	1.36	1.39	1.68	1.61	1.48	1.46	1.32	1.50	
AVG ANN'L DIV'D YIELD	3.2%	3.1%	2.9%	2.5%	2.8%	3.5%	3.6%	3.5%	3.1%	
REVENUES ($MILL)	20.9	22.5	26.8	28.7	31.4	32.8	37.0	39.0	40.6	*Bold figures are consensus earnings estimates and, using the recent prices, P/E ratios.*
NET PROFIT ($MILL)	4.4	4.8	5.8	6.1	6.4	6.4	7.5	8.9	9.1	
INCOME TAX RATE	34.8%	36.7%	36.7%	34.4%	36.5%	36.1%	37.9%	38.5%	35.3%	
AFUDC % TO NET PROFIT	--	--	--	7.2%	3.6%	10.1%	--	1.2%	1.1%	
LONG-TERM DEBT RATIO	43.4%	42.5%	44.1%	48.3%	46.5%	54.5%	45.7%	48.3%	47.1%	
COMMON EQUITY RATIO	56.6%	57.5%	55.9%	51.7%	53.5%	45.5%	54.3%	51.7%	52.9%	
TOTAL CAPITAL ($MILL)	69.0	83.6	90.3	126.5	125.7	153.4	160.1	176.4	180.2	
NET PLANT ($MILL)	116.5	140.0	155.3	174.4	191.6	211.4	222.0	228.4	233.0	
RETURN ON TOTAL CAP'L	8.5%	7.6%	8.4%	6.2%	6.7%	5.7%	6.2%	6.5%	6.4%	
RETURN ON SHR. EQUITY	11.4%	10.0%	11.6%	9.3%	9.5%	9.2%	8.6%	9.8%	9.5%	
RETURN ON COM EQUITY	11.4%	10.0%	11.6%	9.3%	9.5%	9.2%	8.6%	9.8%	9.5%	
RETAINED TO COM EQ	2.6%	2.1%	3.0%	2.2%	1.7%	1.4%	1.9%	2.7%	2.5%	
ALL DIV'DS TO NET PROF	77%	79%	74%	77%	82%	85%	78%	72%	73%	

A No. of analysts changing earn. est. in last 7 days: 0 up, 0 down, consensus 5-year earnings growth not available. B Based upon 5 analysts' estimates. C Based upon 5 analysts' estimates.

ANNUAL RATES

of change (per share)	5 Yrs.	1 Yr.
Revenues	4.5%	3.5%
"Cash Flow"	7.0%	2.5%
Earnings	5.0%	--
Dividends	4.0%	2.5%
Book Value	7.0%	3.5%

Fiscal Year	QUARTERLY SALES ($mill.) 1Q	2Q	3Q	4Q	Full Year
12/31/09	8.8	9.2	9.8	9.2	37.0
12/31/10	9.0	9.7	10.5	9.8	39.0
12/31/11	9.6	10.5	10.5	10.0	40.6
12/31/12					

Fiscal Year	EARNINGS PER SHARE 1Q	2Q	3Q	4Q	Full Year
12/31/08	.11	.13	.15	.18	.57
12/31/09	.13	.17	.18	.16	.64
12/31/10	.15	.18	.21	.17	.71
12/31/11	.17	.19	.19	.16	.71
12/31/12	*.17*	*.20*	*.22*		

Cal-endar	QUARTERLY DIVIDENDS PAID 1Q	2Q	3Q	4Q	Full Year
2009	.126	.126	.126	.126	.50
2010	.128	.128	.128	.128	.51
2011	.131	.131	.131	.131	.52
2012	.133	.134			

INSTITUTIONAL DECISIONS

	2Q'11	3Q'11	4Q'11
to Buy	27	26	30
to Sell	21	24	20
Hld's(000)	3163	3193	3211

ASSETS ($mill.)	2009	2010	12/31/11
Cash Assets	.0	1.3	4.0
Receivables	5.4	6.3	6.0
Inventory (Avg cost)	.7	.6	.7
Other	1.0	.6	.7
Current Assets	7.1	8.8	11.4
Property, Plant & Equip. at cost	260.4	270.8	279.2
Accum Depreciation	38.4	42.4	46.2
Net Property	222.0	228.4	233.0
Other	19.7	22.7	29.8
Total Assets	248.8	259.9	274.2
LIABILITIES ($mill.)			
Accts Payable	1.4	1.2	1.1
Debt Due	9.3	.0	.0
Other	3.9	4.1	4.2
Current Liab	14.6	5.3	5.3

LONG-TERM DEBT AND EQUITY as of 12/31/11

Total Debt $85.0 mill. Due in 5 Yrs. $19.5 mill.
LT Debt $85.0 mill.
Including Cap. Leases None
(47% of Cap'l)
Leases, Uncapitalized Annual rentals None

Pension Liability $14.7 mill. in '11 vs. $9.8 mill. in '10

Pfd Stock None Pfd Div'd Paid None

Common Stock 12,791,671 shares
(53% of Cap'l)

INDUSTRY: Water Utility

BUSINESS: The York Water Company engages in the impounding, purification, and distribution of water in York County and Adams County, Pennsylvania. The company supplies water for residential, commercial, industrial, and other customers. It has two reservoirs, Lake Williams, which is 700 feet long and 58 feet high, and creates a reservoir covering approximately 165 acres containing about 870 million gallons of water; and Lake Redman, which is 1,000 feet long and 52 feet high, creating a reservoir covering approximately 290 acres that holds about 1.3 billion gallons of water. In addition, it possesses a 15-mile pipeline from the Susquehanna River to Lake Redman that provides access to an additional supply of water. As of December 31, 2011, the company served approximately 187,000 residential, commercial, industrial, and other customers in 39 municipalities in York County and seven municipalities in Adams County. Has 106 employees. C.E.O. & President: Jeffrey R. Hines. Inc.: PA. Address: 130 East Market Street, York, PA 17401. Tel.: (717) 845-3601. Internet: http://www.yorkwater.com.

J.V.

April 20, 2012

TOTAL SHAREHOLDER RETURN
Dividends plus appreciation as of 3/31/2012

3 Mos.	6 Mos.	1 Yr.	3 Yrs.	5 Yrs.
-1.19%	8.56%	2.51%	54.31%	19.95%

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PMA-8

Arizona Water Company - Northern Group
Current Institutional Holdings and Individual Holdings
the Proxy Group of Nine Water Companies

	1	2
	July 06, 2012 Percentage of Institutional Holdings	July 06, 2012 Percentage of Individual Holdings (1)
Proxy Group of Nine Water Companies		
American States Water Co.	62.58 %	37.42 %
American Water Works Co., Inc.	80.24	19.76
Aqua America, Inc.	41.43	58.57
Artesian Resources Corp.	35.14	64.86
California Water Service Group	52.26	47.74
Connecticut Water Service, Inc.	35.02	64.98
Middlesex Water Company	39.19	60.81
SJW Corporation	48.35	51.65
York Water Company	25.08	74.92
Average	46.59 %	53.41 %

Notes:
(1) (1 - column 1).

Source of Information: pro.edgar-online.com, July 6, 2012

PMA-9

Arizona Water Company - Northern Group
Summary of Risk Premium Models For the
Proxy Group of Nine Water Companies

		Proxy Group of Nine Water Companies	
Predictive Risk Premium Model™ (PRPM™) (1)		11.03	%
Risk Premium Model Using an Adjusted Total Market Approach (2)		9.90	%
	Average	10.47	%

Notes:
(1) From page 2 of this Exhibit.
(2) From page 3 of this Exhibit.

Arizona Water Company - Northern Group
Derivation of Common Equity Cost Rate
Using the Predictive Risk Premium Model (PRPM™)
For the Proxy Group of Nine Water Companies

	American States Water Co.	American Water Works Co., Inc.	Aqua America, Inc.	Artesian Resources Corp.	California Water Service Group	Connecticut Water Service, Inc.	Middlesex Water Company	SJW Corporation	York Water Company
GARCH Coefficient (1)	1.407265869	3.125682038	2.115009065	1.874107733	1.697709911	1.667786792	1.890861056	1.278787648	1.788627013
Average Variance (1)	0.38%	0.37%	0.49%	0.31%	0.32%	0.29%	0.27%	0.43%	0.50%
PRPM™ Derived Risk Premium (1)	6.55%	14.71%	13.11%	7.25%	6.70%	6.02%	6.41%	6.77%	11.21%
Projected Risk-Free Rate (2)	4.26%	4.26%	4.26%	4.26%	4.26%	4.26%	4.26%	4.26%	4.26%
Indicated Cost of Common Equity	10.81%	18.97%	17.37%	11.51%	10.96%	10.28%	10.67%	11.03%	15.47%
								Average	13.01%
								Median	11.03%

Notes:
(1) Based upon data from CRSP[R] Data © 2011, Center Fro Research in Security Prices (CRSP[R]), The University of Chicago Booth School of Business.
(2) From note 3 on page 2 of Exhibit PMA-10.

Arizona Water Company - Northern Group
Indicated Common Equity Cost Rate
Through Use of a Risk Premium Model
Using an Adjusted Total Market Approach

Line No.		Proxy Group of Nine Water Companies
1.	Prospective Yield on Aaa Rated Corporate Bonds (1)	4.03 %
2.	Adjustment to Reflect Yield Spread Between Aaa Rated Corporate Bonds and A Rated Public Utility Bonds	0.43 (2)
3.	Adjusted Prospective Yield on A Rated Public Utility Bonds	4.46 %
4.	Adjustment to Reflect Bond Rating Difference of Proxy Group	0.26 (3)
5.	Adjusted Prospective Bond Yield	4.72
6.	Equity Risk Premium (4)	5.18
7.	Risk Premium Derived Common Equity Cost Rate	9.90 %

Notes:
(1) Six quarter average consensus forecast ending with Q4 of 2013 of Moody's Aaa Rated Corporate bonds from Blue Chip Financial Forecasts (see page 7 of this Exhibit).
(2) The average yield spread of A rated public utility bonds over Aaa rated corporate bonds of 0.43% from page 4 of this Exhibit.
(3) Adjustment to reflect the A3 Moody's bond rating of the proxy group of nine water companies as shown on page 2 of this Exhibit. The 26 basis point adjustment is derived by taking 1/3 of the spread between Baa2 and A2 Public Utility Bonds (1/3 * 0.77% = 0.26%).
(4) From page 5 of this Exhibit.

Arizona Water Company - Northern Group
Comparison of Bond Ratings, Business Risk and Financial Risk Profiles for the
Proxy Group of Nine Water Companies

	Moody's Bond Rating July 2012		Standard & Poor's Bond Rating July 2012							
Proxy Group of Nine Water Companies	Bond Rating	Numerical Weighting (1)	Bond Rating	Numerical Weighting (1)	Credit Rating	Numerical Weighting (1)	Business Risk Profile (2)	Numerical Weighting (1)	Financial Risk Profile (2)	Numerical Weighting (1)
American States Water Co. (3)	A2	6.0	A+	5.0	BBB+	8.0	Excellent	1.0	Aggressive	5.0
American Water Works Co., Inc. (4)	Baa1	8.0	A	6.0	A+	5.0	Excellent	1.0	Intermediate	3.0
Aqua America, Inc. (5)	NR	- -	AA-	4.0	A+	5.0	Excellent	1.0	Intermediate	3.0
Artesian Resources Corp.	NR	- -	NR	- -	NR	- -	NR	- -	NR	- -
California Water Service Group (6)	NR	- -	AA-	4.0	A+	5.0	Excellent	1.0	Intermediate	3.0
Connecticut Water Service, Inc. (7)	NR	- -	A	6.0	A	6.0	Excellent	1.0	Significant	4.0
Middlesex Water Company	NR	- -	A	6.0	A-	7.0	Excellent	1.0	Significant	4.0
SJW Corporation (8)	NR	- -	A	6.0	A	6.0	Excellent	1.0	Intermediate	3.0
York Water Company	NR	- -	A-	7.0	A-	7.0	Excellent	1.0	Significant	4.0
Average	A3	7.0	A	5.5	A	6.1	Excellent	1.0	Significant	3.6

Notes: (1) From page 5 of this Exhibit.
(2) From Standard & Poor's Issuer Ranking: U.S. Investor-Owned Water Utilities, Strongest to Weakest, April 20, 2012.
(3) Ratings, business risk and financial risk profiles are those of Golden State Water Company.
(4) Rating, business risk and financial risk profiles are those of Pennsylvania and New Jersey American Water.
(5) Ratings, business risk and financial risk profiles are those of Aqua Pennsylvania, Inc.
(6) Ratings, business risk and financial risk profiles are those of California Water Service Co.
(7) Ratings, business risk and financial risk profiles are those of Connecticut Water Company.
(8) Ratings, business risk and financial risk profiles are those of San Jose Water Co.

Moody's Investors Service
Standard & Poor's Global Utilities Rating Service

Numerical Assignment for
Moody's and Standard & Poor's Bond Ratings
and Standard & Poor's Business and Financial Risk Profiles

Moody's Bond Rating	Numerical Bond Weighting	Standard & Poor's Bond Rating
Aaa	1	AAA
Aa1	2	AA+
Aa2	3	AA
Aa3	4	AA-
A1	5	A+
A2	6	A
A3	7	A-
Baa1	8	BBB+
Baa2	9	BBB
Baa3	10	BBB-
Ba1	11	BB+
Ba2	12	BB
Ba3	13	BB-

Standard & Poor's

Business Risk Profile	Numerical Weighting	Financial Risk Profile	Numerical Weighting
Excellent	1	Minimal	1
Strong	2	Modest	2
Satisfactory	3	Intermediate	3
Fair	4	Significant	4
Weak	5	Aggressive	5
Vulnerable	6	Highly Leveraged	6

Moody's
Comparison of Interest Rate Trends
for the Three Months Ending June 2012 (1)

Months	Corporate Bonds Aaa Rated	Public Utility Bonds Aa Rated	Public Utility Bonds A Rated	Public Utility Bonds Baa Rated	Spread - Corporate v. Public Utility Bonds: Aa (Pub. Util.) over Aaa (Corp.)	Spread - Corporate v. Public Utility Bonds: A (Pub. Util.) over Aaa (Corp.)	Spread - Corporate v. Public Utility Bonds: Baa (Pub. Util.) over Aaa (Corp.)	Spread - Public Utility Bonds: A over Aa	Spread - Public Utility Bonds: Baa over A
June-12	3.64 %	3.79 %	4.08 %	4.91 %					
May-12	3.80	3.92	4.20	4.97					
April-12	3.96	4.10	4.40	5.11					
Average of Last 3 Months	3.80 %	3.94 %	4.23 %	5.00 %	0.14 %	0.43 %	1.20 %	0.29 %	0.77 %

Notes: (1) All yields are distributed yields.

Source of Information: Mergent Bond Record, July 2012, Vol. 79, No. 7.

Arizona Water Company - Northern Group
Judgment of Equity Risk Premium Using the Total Market Approach for
the Proxy Group of Nine Water Companies

Line No.		Proxy Group of Nine Water Companies
1.	Calculated equity risk premium based on the total market using the beta approach (1)	5.93 %
2.	Mean equity risk premium based on a study using the holding period returns of public utilities with A rated bonds (2)	4.42
3.	Average equity risk premium	5.18 %

Notes: (1) From page 8 of this Exhibit.
(2) From page 10 of this Exhibit.

Arizona Water Company - Northern Group
Derivation of Equity Risk Premium Based on the Total Market Approach
Using the Beta for
the Proxy Group of Nine Water Companies

Line No.		Proxy Group of Nine Water Companies
	Based on SBBI Valuation Yearbook Data:	
1.	Ibbotson Equity Risk Premium (1)	5.51 %
2.	Ibbotson Equity Risk Premium based on PRPM™ (2)	8.97
	Based on Value Line Summary and Index:	
3.	Equity Risk Premium Based on Value Line Summary and Index (3)	12.89 %
4.	Conclusion of Equity Risk Premium (4)	9.12 %
5.	Adjusted Value Line Beta (5)	0.65
6.	Beta Adjusted Equity Risk Premium	5.93 %

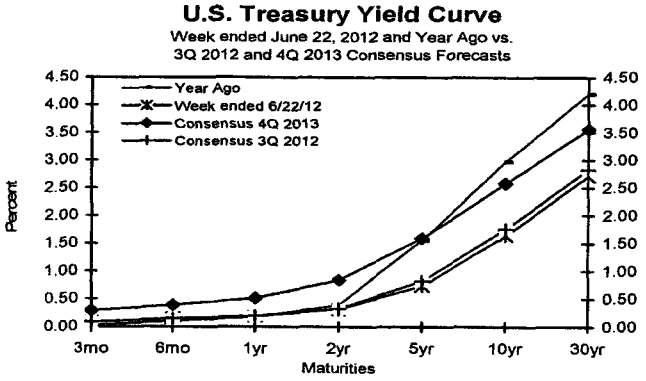
Notes:
(1) Based on the arithmetic mean historical monthly returns on large company common stocks from Ibbotson® SBBI® 2012 Valuation Yearbook - Market Results for Stocks, Bonds, Bills, and Inflation minus the arithmetic mean monthly yield of Moody's Aaa and Aa corporate bonds from 1926 - 2011. (11.77% - 6.26% = 5.51%).
(2) The Predictive Risk Premium Model (PRPM™) is discussed in Ms. Ahern's accompanying direct testimony. The Ibbotson equity risk premium based on the PRPM™ is derived by applying the PRPM™ to the monthly risk premiums between Ibbotson large company common stock monthly returns minus the average Aaa and Aa corporate monthly bond yields, from January 1928 through May 2012.
(3) The equity risk premium based on the Value Line Summary and Index is derived from taking the projected 3-5 year total annual market return of 16.92% (described fully in note 1 of page 2 of Exhibit PMA-10) and subtracting the average consensus forecast of Aaa corporate bonds of 4.03% (Shown on page 3 of this Exhibit). (16.92% - 4.03%= 12.89%).
(4) Average of Lines 1, 2, & 3.
(5) Median beta derived from page 1 of Exhibit PMA-11.

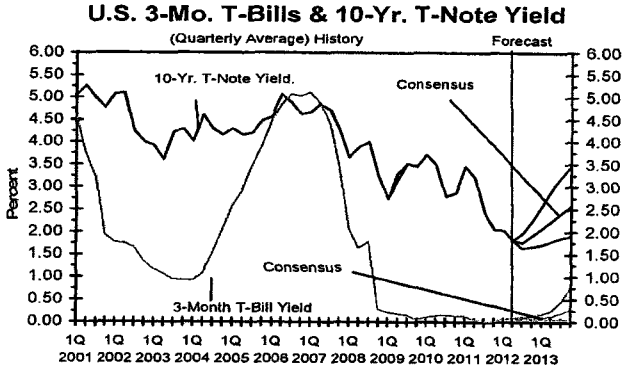
Sources of Information:
Ibbotson® SBBI® 2012 Valuation Yearbook - Market Results for Stocks, Bonds, Bills, and Inflation, Morningstar, Inc., 2012 Chicago, IL.
Industrial Manual and Mergent Bond Record Monthly Update.
Value Line Summary and Index
Blue Chip Financial Forecasts, July 1, 2012

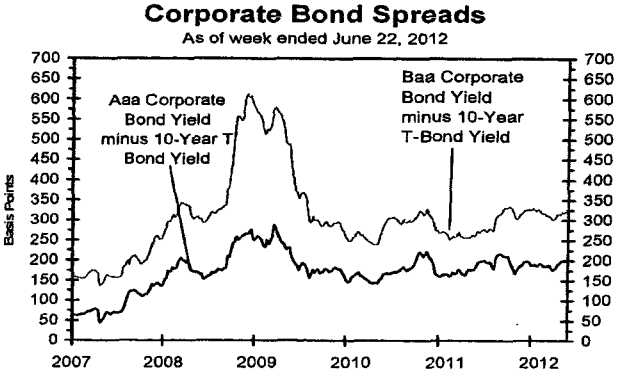
Consensus Forecasts Of U.S. Interest Rates And Key Assumptions[1]

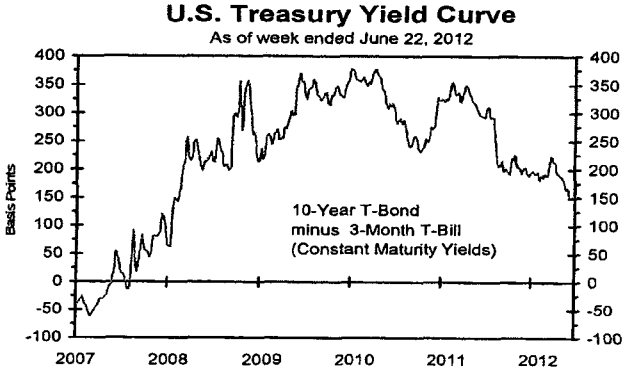
	History								Consensus Forecasts-Quarterly Avg.					
	Average For Week Ending				Average For Month			*Latest Q**	3Q	4Q	1Q	2Q	3Q	4Q
Interest Rates	June 22	June 15	June 8	June 1	May	Apr.	Mar.	*2Q 2012*	2012	2012	2013	2013	2013	2013
Federal Funds Rate	0.17	0.17	0.16	0.15	0.16	0.14	0.13	*0.16*	0.1	0.1	0.2	0.2	0.2	0.3
Prime Rate	3.25	3.25	3.25	3.25	3.25	3.25	3.25	*3.25*	3.3	3.3	3.3	3.3	3.3	3.4
LIBOR, 3-mo.	0.47	0.47	0.47	0.47	0.47	0.47	0.47	*0.47*	0.4	0.4	0.4	0.5	0.5	0.6
Commercial Paper, 1-mo.	0.13	0.15	0.13	0.13	0.13	0.13	0.13	*0.13*	0.2	0.2	0.2	0.2	0.3	0.4
Treasury bill, 3-mo.	0.09	0.10	0.09	0.08	0.09	0.08	0.08	*0.09*	0.1	0.1	0.1	0.1	0.2	0.3
Treasury bill, 6-mo.	0.15	0.15	0.14	0.13	0.15	0.14	0.14	*0.15*	0.2	0.2	0.2	0.2	0.3	0.4
Treasury bill, 1 yr.	0.19	0.18	0.18	0.19	0.19	0.18	0.19	*0.18*	0.2	0.2	0.3	0.3	0.4	0.5
Treasury note, 2 yr.	0.31	0.29	0.26	0.27	0.29	0.29	0.34	*0.29*	0.3	0.4	0.5	0.6	0.7	0.8
Treasury note, 5 yr.	0.73	0.71	0.70	0.69	0.76	0.89	1.02	*0.79*	0.8	0.9	1.1	1.2	1.4	1.6
Treasury note, 10 yr.	1.64	1.62	1.61	1.61	1.80	2.05	2.17	*1.82*	1.8	1.9	2.1	2.3	2.4	2.6
Treasury note, 30 yr.	2.71	2.72	2.69	2.69	2.93	3.18	3.28	*2.94*	2.8	3.0	3.1	3.3	3.4	3.6
Corporate Aaa bond	3.64	3.67	3.67	3.65	3.80	3.96	3.99	*3.81*	3.7	3.8	4.0	4.1	4.2	4.4
Corporate Baa bond	5.02	5.05	5.03	5.01	5.07	5.19	5.23	*5.10*	5.0	5.1	5.2	5.3	5.4	5.5
State & Local bonds	3.95	3.95	3.92	3.77	3.81	3.95	3.91	*3.90*	3.8	3.9	3.9	4.1	4.2	4.3
Home mortgage rate	3.66	3.71	3.67	3.75	3.80	3.91	3.89	*3.80*	3.8	3.9	4.0	4.1	4.3	4.4
	History								Consensus Forecasts-Quarterly					
	3Q	4Q	1Q	2Q	3Q	4Q	1Q	*2Q**	3Q	4Q	1Q	2Q	3Q	4Q
Key Assumptions	2010	2010	2011	2011	2011	2011	2012	*2012*	2012	2012	2013	2013	2013	2013
Major Currency Index	75.9	73.0	71.9	69.6	69.9	72.4	72.9	*73.9*	74.6	74.8	74.8	74.8	74.9	75.0
Real GDP	2.5	2.3	0.4	1.3	1.8	3.0	1.9	*2.0*	2.2	2.3	2.1	2.4	2.8	2.9
GDP Price Index	1.4	1.9	2.5	2.5	2.6	0.9	2.0	*1.5*	1.9	1.9	1.9	1.9	2.0	2.1
Consumer Price Index	1.4	3.0	4.5	4.4	3.1	1.3	2.5	*1.3*	1.7	1.9	2.1	2.1	2.3	2.2

Forecasts for interest rates and the Federal Reserve's Major Currency Index represent averages for the quarter. Forecasts for Real GDP, GDP Price Index and Consumer Price Index are seasonally-adjusted annual rates of change (saar). Individual panel members' forecasts are on pages 4 through 9. Historical data for interest rates except LIBOR is from Federal Reserve Release (FRSR) H.15. LIBOR quotes available from *The Wall Street Journal*. Interest rate definitions are the same as those in FRSR H.15. Treasury yields are reported on a constant maturity basis. Historical data for the Fed's Major Currency Index is from FRSR H.10 and G.5. Historical data for Real GDP and GDP Chained Price Index are from the Bureau of Economic Analysis (BEA). Consumer Price Index (CPI) history is from the Department of Labor's Bureau of Labor Statistics (BLS). ***Interest rate data for 2Q 2012 based on historical data through the week ended June 22nd. *Data for 2Q 2012 Major Currency Index also is based on data through week ended June 22nd. Figures for 2Q 2012 Real GDP, GDP Chained Price Index and Consumer Price Index are consensus forecasts based on a special question asked of the panelists this month (see page 14).***









Arizona Water Company - Northern Group
Derivation of Mean Equity Risk Premium Based on a Study
Using Holding Period Returns of Public Utilities

Line No.		Over A Rated Moody's Public Utility Bonds - AUS Consultants Study (1)
1.	Arithmetic Mean Holding Period Returns on the Standard & Poor's Utility Index 1928-2010 (2):	10.45 %
2.	Arithmetic Mean Yield on Moody's A Rated Public Utility Yields 1928-2010	(6.77)
3.	Historical Equity Risk Premium	3.68 %
4.	Forecasted Equity Risk Premium Based on PRPM™ (3)	5.15
5.	Average of Historical and PRPM™ Equity Risk Premium	4.42 %

Notes: (1) Based on S&P Public Utility Index monthly total returns and Moody's Public Utility Bond average monthly yields from 1928-2010, (AUS Consultants, 2011).

(2) Holding period returns are calculated based upon income received (dividends and interest) plus the relative change in the market value of a security over a one-year holding period.

(3) The Predictive Risk Premium Model (PRPM™) is applied to the risk premium of the monthly total returns of the S&P Utility Index and the monthly yields on Moody's A rated public utility bonds from 1928 - 2010.

PMA-10

Arizona Water Company - Northern Group
Indicated Common Equity Cost Rate Through Use
of the Traditional Capital Asset Pricing Model (CAPM) and Empirical Capital Asset Pricing Model (ECAPM)

	1	2	3	4	5	6
Proxy Group of Nine Water Companies	Value Line Adjusted Beta	Market Risk Premium (1)	Risk-Free Rate (2)	Traditional CAPM Cost Rate (3)	ECAPM Cost Rate (4)	Indicated Common Equity Cost Rate (5)
American States Water Co.	0.70	9.73 %	4.26 %	11.07 %	11.80 %	
American Water Works Co., Inc.	0.65	9.73	4.26	10.58	11.44	
Aqua America, Inc.	0.65	9.73	4.26	10.58	11.44	
Artesian Resources Corp.	0.55	9.73	4.26	9.61	10.71	
California Water Service Group	0.65	9.73	4.26	10.58	11.44	
Connecticut Water Service, Inc.	0.75	9.73	4.26	11.56	12.17	
Middlesex Water Company	0.70	9.73	4.26	11.07	11.80	
SJW Corporation	0.85	9.73	4.26	12.53	12.90	
York Water Company	0.65	9.73	4.26	10.58	11.44	
Average	0.68			10.91 %	11.68 %	11.30 %
Median	0.65			10.58 %	11.44 %	11.01 %

See page 2 for notes.

Arizona Water Company – Northern Group
Development of the Market-Required Rate of Return on Common Equity Using
the Capital Asset Pricing Model for
the Proxy Group of Nine Water Companies
Adjusted to Reflect a Forecasted Risk-Free Rate and Market Return

Notes:

(1) For reasons explained in Ms. Ahern's accompanying direct testimony, from the 13 weeks ending July 13, 2012, Value Line Summary & Index, a forecasted 3-5 year total annual market return of 16.92% can be derived by averaging the 13 weeks ending July 13, 2012 forecasted total 3-5 year total appreciation, converting it into an annual market appreciation and adding the Value Line average forecasted annual dividend yield.

The 3-5 year average total market appreciation of 72% produces a four-year average annual return of 14.57% ($(1.72^{0.25})$ - 1). When the average annual forecasted dividend yield of 2.35% is added, a total average market return of 16.92% (2.35% + 14.57%) is derived.

The 13 weeks ending July 13, 2012 forecasted total market return of 16.92% minus the risk-free rate of 4.26% (developed in Note 2) is 12.66% (16.92% - 4.26%).

The Predictive Risk Premium Model (PRPM™) market equity risk premium of 10.08% is derived by applying the PRPM™ to the monthly equity risk premium of large company common stocks over the income return on long-term U.S. Government Securities from January 1926 through May 2012.

The Morningstar, Inc. (Ibbotson Associates) calculated arithmetic mean monthly market equity risk premium of 6.45% for the period 1926-2011 results from a total market return of 11.77%% less the arithmetic mean income return on long-term U.S. Government Securities of 5.32% (11.77% - 5.32% = 6.45%).

These three expectational risk premiums are then averaged, resulting in a 9.73% market equity risk premium, which is then multiplied by the beta in column 1 of page 1 of this Schedule. ((12.66% + 10.08% + 6.45%)/3).

(2) For reasons explained in Ms. Ahern's direct testimony, the risk-free rate that Ms. Ahern relies upon for her CAPM analysis is the average of the historical income return on 30 Year Treasury Bonds which is 5.32% for 1926-2011 and the average forecast based upon six quarterly estimates of 30-year Treasury Note yields per the consensus of nearly 50 economists reported in the Blue Chip Financial Forecasts dated July 1, 2012 (see page 9 of Exhibit PMA-9).The estimates are detailed below:

Morningstar Historical Income Returns On 30 Year Treasury Bonds (1926-2011):	5.32%

	30-Year Treasury Note Yield
First Quarter 2012	2.80%
Second Quarter 2012	3.00%
Third Quarter 2012	3.10%
Fourth Quarter 2012	3.30%
First Quarter 2013	3.40%
Second Quarter 2013	3.60%
Average	3.20%

Average of Historical and Projected Returns on 30 Year Treasury Bonds:	5.32%
	3.20
	8.52%
	8.52%/2 = 4.26%

(3) The traditional Capital Asset Pricing Model (CAPM) is applied using the following formula:

$R_S = R_F + \beta (R_M - R_F)$

Where R_S = Return rate of common stock
R_F = Risk Free Rate
β = Value Line Adjusted Beta
R_M = Return on the market as a whole

(4) The empirical CAPM is applied using the following formula:

$R_S = R_F + .25 (R_M - R_F) + .75 \beta (R_M - R_F)$

Where R_S = Return rate of common stock
R_F = Risk-Free Rate
β = Value Line Adjusted Beta
R_M = Return on the market as a whole

Source of Information:
Value Line Summary & Index
Blue Chip Financial Forecasts, July 1, 2012
Value Line Investment Survey, (Standard Edition), April 20, 2012
Ibbotson® SBBI® 2012 Valuation Yearbook – Market Returns for Stocks, Bonds, Bills and Inflation, Morningstar, Inc., 2012, Chicago, IL

PMA-11

2009 REPORT CARD for ★★★★★ America's ★ INFRASTRUCTURE ★★★★★

American Society of Civil Engineers
March 25, 2009
www.asce.org/reportcard

EXECUTIVE SUMMARY

TRENDS IN THE GRADES

Grades ranged from a high of C+ for solid waste to a low of D- for drinking water, inland waterways, levees, roads, and wastewater. U.S. surface transportation and aviation systems declined over the past four years, with aviation and transit dropping from a D+ to D, and roads dropping from a D to a nearly failing D-.

Showing no significant improvement since the last report, the nation's bridges, public parks and recreation, and rail remained at a grade of C, while dams, hazardous waste, and schools remained at a grade of D, and drinking water and wastewater remained at a grade of D-. Levees, the newest category, debuted on the 2009 *Report Card* at a barely passing grade of D-.

Just one category—energy—improved since 2005, raised its grade from D to D+.

Water and Environment

DAMS: As dams age and downstream development increases, the number of deficient dams has risen to more than 4,000, including 1,819 high hazard dams. Over the past six years, for every deficient, high hazard potential dam repaired, nearly two more were declared deficient. There are more than 85,000 dams in the U.S., and the average age is just over 51 years old. Because of the lack of progress made in repairing and rehabilitating the nation's dams, this category again earned a grade of D.

DRINKING WATER: Drinking water again earned a D-. America's drinking water systems face an annual shortfall of at least $11 billion to replace aging facilities that are near the end of their useful life and to comply with existing and future federal water regulations. This does not account for growth in the demand for drinking water over the next 20 years. Leaking pipes lose an estimated seven billion gallons of clean drinking water a day. Although Americans still enjoy some of the best tap water in the world, the costs of treating and delivering that water where it is needed continue to outpace the funds available to sustain the system.

HAZARDOUS WASTE: Hundreds of thousands of contaminated sites exist across the country, representing millions of dollars of untapped economic potential. Redevelopment of brownfield sites over the past five years generated an estimated 191,338 new jobs and $408 million annually in extra revenues for localities. In 2008, however, there were 188 U.S. cities with brownfield sites awaiting cleanup and redevelopment. Additionally, federal funding for "Superfund" cleanup of the nation's worst toxic waste sites has declined steadily, dropping to $1.08 billion

TABLE A ★ 2009 *Report Card for America's Infrastructure*

Aviation	D
Bridges	C
Dams	D
Drinking Water	D-
Energy	D+
Hazardous Waste	D
Inland Waterways	D-
Levees	D-
Public Parks and Recreation	C-
Rail	C-
Roads	D-
Schools	D
Solid Waste	C+
Transit	D
Wastewater	D-

AMERICA'S INFRASTRUCTURE G.P.A. **D**

ESTIMATED 5 YEAR INVESTMENT NEED **$2.2 TRILLION**

NOTES Each category was evaluated on the basis of capacity, condition, funding, future need, operation and maintenance, public safety and resilience

A = Exceptional
B = Good
C = Mediocre
D = Poor
F = Failing

in 2008, its lowest level since 1986. Since little has been done to clean up these sites since the last *Report Card*, hazardous waste again earned a grade of D.

LEVEES: The *Report Card*'s new category, levees, earned a D-. More than 85% of the nation's estimated 100,000 miles of levees are locally owned and maintained. The reliability of many of these levees is unknown. Many are more than 50 years old and were originally built to protect crops from flooding. With an increase in development behind these levees, the risk to public health and safety from failure has increased. Rough estimates put the cost at more than $100 billion to repair and rehabilitate the nation's levees.

SOLID WASTE: The category that has consistently had the highest grade on the *Report Card for America's Infrastructure* is solid waste, again earning the highest grade of C+. In 2007, the U.S. produced 254 million tons of municipal solid waste. More than a third was recycled or recovered, representing a 7% increase since 2000. Per capita generation of waste has remained relatively constant over the last 20 years. Despite those successes, the increasing volume of electronic waste and lack of uniform regulations for its disposal creates the potential for high levels of hazardous materials and heavy metals in the nation's landfills, posing a significant threat to public safety.

WASTEWATER: Aging systems discharge billions of gallons of untreated wastewater into U.S. surface waters each

year. The U.S. Environmental Protection Agency estimates that the nation must invest $390 billion over the next 20 years to update or replace existing systems and build new ones to meet increasing demand. Wastewater continues to be among the lowest grades on the *Report Card*, again earning a D- in 2009.

Transportation

AVIATION: Despite surging oil prices, volatile credit markets, and a lagging economy, the Federal Aviation Administration projects a 3% annual growth in air travel. Travelers will be faced with increasing delays and inadequate conditions as a result of the long overdue need to modernize the outdated air traffic control system and the failure to enact a federal aviation program. The increasing delays and the lack of new authorization for federal aviation programs have caused aviation's grade to slip to a D in 2009.

BRIDGES: More than 26%—more than one in four—of the nation's bridges are either structurally deficient or functionally obsolete. While some progress has been made in recent years to reduce the number of deficient and obsolete bridges in rural areas, the number in urban areas is rising. A $17 billion annual investment is needed to substantially improve current bridge conditions. Currently, only $10.5 billion is spent annually on the construction and maintenance of bridges. There have been no substantial improvements in bridge condition since the last *Report Card*, keeping the grade at a C for 2009.

INLAND WATERWAYS: The nation's waterways offer an efficient and environmentally friendly way to move goods across the country. The average tow barge can carry the equivalent of 870 tractor trailer loads. Of the 257 locks still in use on the nation's inland waterways, 30 were built in the 1800s and another 92 are more than 60 years old. The average age of all federally owned or operated locks is nearly 60 years, well past their planned design life of 50 years. The cost to replace the present system of locks is estimated at more than $125 billion. Despite the economic savings waterways can offer, little has been done to improve their condition since 2005, leaving this category at a grade of D-.

RAIL: A freight train is three times as fuel efficient as a truck, and traveling by passenger rail uses 20% less energy per mile than traveling by car. However, growth and changes in demand create bottlenecks that constrain traffic in critical areas. Freight and passenger rail generally share the same network, and a significant potential increase in passenger rail demand will add to the freight railroad capacity challenges. More than $200 billion is needed through 2035 to accommodate anticipated growth. Similar to the nation's inland waterways, rail offers enormous economic and environmental potential, but few improvements have been made since 2005. This category again rates at a C-.

ROADS: Congestion on the nation's roads is increasing and the cost to improve is ever rising, causing the roads grade to

decrease to a D- in 2009. Americans spend 4.2 billion hours a year stuck in traffic at a cost to the economy of $78.2 billion, or $710 per motorist. Poor conditions cost motorists $67 billion a year in repairs and operating costs. One-third of America's major roads are in poor or mediocre condition and 45% of major urban highways are congested. Current spending of $70.3 billion per year for highway capital improvements is well below the estimated $186 billion needed annually to substantially improve conditions.

TRANSIT: Transit use increased 25% between 1995 and 2005, faster than any other mode of transportation. However, nearly half of American households do not have access to bus or rail transit, and only 25% have what they consider to be a good alternative. The Federal Transit Administration estimates that $15.8 billion is needed annually to maintain conditions and $21.6 billion is needed to improve to good conditions. In 2008, federal capital outlays for transit were only $9.8 billion. Since investment in transit has not kept pace with its growing needs, the 2009 grade has dropped to a D.

Public Facilities

PUBLIC PARKS AND RECREATION: Parks, beaches, and other recreational facilities contribute $730 billion per year to the U.S. economy, support nearly 6.5 million jobs, and contribute to cleaner air and water and higher property values. Despite record spending on parks at the state and local level, the acreage of parkland per resident in urban areas is declining. While significant investments are being made in the National Park Service for its 2016 centennial, the agency's facilities still face a $7-billion maintenance backlog. Even though some progress has been made since 2005 to improve the nation's parkland, lagging public investment means that public parks and recreation still earns a grade of C- in 2009.

SCHOOLS: Spending on the nation's schools grew from $17 billion in 1998 to a peak of $29 billion in 2004. However, by 2007 spending fell to $20.28 billion. No comprehensive, authoritative nationwide data on the condition of America's school buildings have been collected in a decade. The National Education Association's best estimate to bring the nation's schools into good repair is $322 billion. Without up-to-date data, the true extent of the problems facing the nation's schools cannot be known, and therefore schools once again receive a grade of D.

Energy

ENERGY: Progress has been made in grid reinforcement since 2005, and substantial investment in generation, transmission, and distribution is expected over the next two decades. Demand for electricity has grown by 25% since 1990. Public and government opposition and difficulty in the permitting processes are restricting much needed modernization. Projected electric utility investment needs could be as much as $1.5 trillion by 2030. The increase to a grade of D+ is largely due to anticipated

investments in improvements over the next two decades, which began in 2005.

RAISING THE GRADES: SOLUTIONS

The nation's infrastructure faces some very real problems that threaten our way of life if they are not addressed. These problems are solvable if we have the needed vision and leadership. Raising the grades on our infrastructure will require that we seek and adopt a wide range of structural and non-structural solutions in every category, including technical advances, funding and regulatory changes, and changes in public behavior and support.

ASCE has developed five key solutions to begin raising the grades. They are:

★ **INCREASE** federal leadership in infrastructure to address the crisis;
★ **PROMOTE** sustainability and resilience in infrastructure to protect the natural environment and withstand natural and man-made hazards;
★ **DEVELOP** national, state, and regional infrastructure plans that complement a national vision and focus on system-wide results;
★ **ADDRESS** life-cycle costs and ongoing maintenance to meet the needs of current and future users;
★ **INCREASE** and improve infrastructure investment from all stakeholders.

RAISING THE GRADES: CASE STUDIES

While the conditions listed in the *Report Card* mean low grades for all categories, there are positive examples from across the country that demonstrate some progress is being made. Throughout the report, case studies of how public and private organizations have addressed specific problems are included to demonstrate how these innovative solutions can be applied on a larger scale. The case studies for each category may not contribute to an overall improvement of the grade, but they illustrate that the problems facing the nation's infrastructure are solvable with some creativity and determination.

HISTORY

The concept for a report card to grade the nation's infrastructure originated in 1988 with a congressionally chartered commission, the National Council on Public Works Improvement. Titled *Fragile Foundations: A Report on America's Public Works*, the council's report issued recommendations on how to improve the nation's infrastructure. As a way to guide the study, the authors used the report card concept to establish a baseline evaluation of the infrastructure. This first report card included eight categories of infrastructure and assigned letter grades on the basis of performance and capacity of existing public works.

In 1988, when the report was released, the nation's infrastructure earned a "C," representing an average grade. Among the problems identified within *Fragile Foundations* were increasing congestion and

ABOVE: Crews work to rescue stranded drivers after a major water main broke in Montgomery County, Maryland on December 23, 2008. *Photo courtesy of The Gazette / Gazette.Net.*

deferred maintenance and age of the system; the authors of the report worried that fiscal investment was inadequate to meet the current operations costs and future demands on the system. Since 1998 ASCE has released four *Report Cards* and found each time that these same problems persist.

METHODOLOGY

The *Report Card* advisory council comprises 28 engineers with expertise in the disciplines represented in the report. For nearly a year the council worked to analyze current data and conditions within the 15 categories, consult with additional technical and industry experts, and assess and assign grades.

In assigning grades, the council considered several fundamental criteria. These included capacity, condition, operations and maintenance, current and future funding, public safety, and resilience. The grade determination was based on both publicly available data and the subjective judgments of the engineers serving on the advisory council.

The 2005 *Report Card* featured a category called "Security" that sought to rate the ability of infrastructure to meet man-made threats. In the four years since that report, engineers have begun to look at security in the context of infrastructure's overall resilience—or the ability to withstand and recover from both natural and man-made hazards. Since the likelihood of natural disaster is sometimes much higher than that of a man-made threat, and resilience must be determined on a system by system basis, the 2009 *Report Card* now incorporates resilience as a grading factor in each category.

THE NEED FOR INVESTMENT

In 2009, ASCE estimates that $2.2 trillion needs to be invested over five years to bring the condition of the nation's infrastructure up to a good condition—an increase of more than half a trillion dollars since the 2005 *Report Card*'s estimate of $1.6 trillion. This number, adjusted for a 3% rate of inflation, represents capital spending at all levels of government and includes what is already being spent. Current spending amounts to only about half of the needed investment, which means the U.S. must invest an additional $1.1 billion over the next five years. ★

TABLE B ★ Estimated 5-Year Investment Needs in Billions of Dollars

CATEGORY	5-YEAR NEED (BILLIONS)	ESTIMATED ACTUAL SPENDING*	AMERICAN RECOVERY AND REINVESTMENT ACT (P.L. III-005)	FIVE-YEAR INVESTMENT SHORTFALL
Aviation	87	45	1.3	(40.7)
Dams	12.5	5	0.05	(7.45)
Drinking Water and Wastewater	255	140	6.4	(108.6)
Energy	75	34.5	11	(29.5)
Hazardous Waste and Solid Waste	77	32.5	1.1	(43.4)
Inland Waterways	50	25	4.475	(20.5)
Levees	50	1.13	0	(1.13)
Public Parks and Recreation	85	36	0.835	(48.17)
Rail	63	42	9.3	(11.7)
Roads and Bridges	930	351.5	27.5	(549.5)
Discretionary grants for surface transportation			1.5	
Schools	160	125	0**	(35)
Transit	265	66.5	8.4	(190.1)
	2.122 trillion* **	**903 billion**	**71.76 billion**	**(1.176 trillion)**

Total Need** ** **$2.2 trillion**

* 5 year spending estimate based on the most recent available spending at all levels of government and not indexed for inflation
** The American Recovery and Reinvestment Act included $53.6 billion for a State Fiscal Stabilization Fund for education, as of press time, it was not known how much would be spent on school infrastructure.
*** Not adjusted for inflation
**** Assumes 3% annual inflation

SOURCES For source information see page 150.

WATER AND ENVIRONMENT

DRINKING WATER

2009 GRADE **D-**

RAISING THE GRADES

SOLUTIONS

THAT WILL WORK **NOW**

- ★ **INCREASE** funding for water infrastructure system improvements and associated operations through a comprehensive federal program;
- ★ **CREATE** a Water Infrastructure Trust Fund to finance the national shortfall in funding of infrastructure systems under the Clean Water Act and the Safe Drinking Water Act, including storm-water management and other projects designed to improve the nation's water quality;
- ★ **EMPLOY** a range of financing mechanisms, such as appropriations from general treasury funds, issuance of revenue bonds and tax exempt financing at state and local levels, public-private partnerships, state infrastructure banks, and user fees on certain consumer products as well as innovative financing mechanisms, including broad-based environmental restoration taxes to address problems associated with water pollution, wastewater management and treatment, and storm-water management.

A = Exceptional
B = Good
C = Mediocre
D = Poor
F = Failing

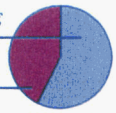
AMERICA'S INFRASTRUCTURE G.P.A. **D**

ESTIMATED 5-YEAR FUNDING REQUIREMENTS FOR **DRINKING WATER AND WASTEWATER**

Total investment needs
$255 BILLION

Estimated spending
$146.4 BILLION

Projected shortfall
$108.6 BILLION



CONDITIONS

The nation's drinking-water systems face staggering public investment needs over the next 20 years. Although America spends billions on infrastructure each year, drinking water systems face an annual shortfall of at least $11 billion in funding needed to replace aging facilities that are near the end of their useful life and to comply with existing and future federal water regulations. The shortfall does not account for any growth in the demand for drinking water over the next 20 years.[2]

Of the nearly 53,000 community water systems, approximately 83% serve 3,300 or fewer people. These systems provide water to just 9% of the total U.S. population served by all community systems. In contrast, 8% of community water systems serve more than 10,000 people and provide water to 81% of the population served. Eighty-five percent (16,348) of nontransient, noncommunity water systems and 97% (83,351) of transient noncommunity water systems serve 500 or fewer people. These smaller systems face huge financial, technological, and managerial challenges in meeting a growing number of federal drinking-water regulations.

In 2002, the U.S. Environmental Protection Agency (EPA) issued The Clean Water and Drinking Water Infrastructure Gap Analysis, which identified potential funding gaps between projected needs and spending from 2000 through 2019. This analysis estimated a potential 20-year funding gap for drinking water capital expenditures as well as operations and maintenance, ranging from $45 billion to $263 billion, depending on spending levels. Capital needs alone were pegged at $161 billion.[2]

The Congressional Budget Office (CBO) concluded in 2003 that "current funding from all levels of government and current revenues generated from ratepayers will not be sufficient to meet the nation's future demand for water infrastructure." The CBO estimated the nation's needs for drinking water investments at between $10 billion and $20 billion over the next 20 years.[3]

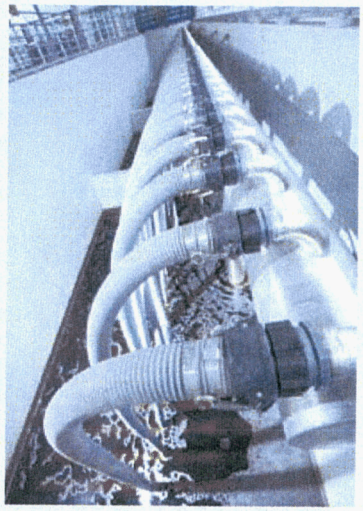
In 1996, Congress enacted the drinking-water state revolving loan fund (SRF) program. The program authorizes the EPA to award annual capitalization grants to states. States then use their grants (plus a 20% state match) to provide loans and other assistance to public water systems. Communities repay loans into the fund, thus replenishing the fund and making resources available for projects in other communities. Eligible projects include installation and replacement of treatment facilities, distribution systems, and some storage facilities. Projects to replace aging infrastructure are eligible if they are needed to maintain compliance or to further public health protection goals.

Federal assistance has not kept pace with demand, however. Between FY 1997 and FY 2008, Congress appropriated approximately $9.5 billion for the SRF. This 11-year total is only slightly more than the annual capital investment gap for each of those years as calculated by the EPA in 2002.

RAISING THE GRADES
CASE STUDIES

ORANGE COUNTY, CA ★ Groundwater Replenishment System

The California Department of Water Resources predicts that by 2020, the entire state will experience water shortages equal to the needs of 4 to 12 million families of four for one year. To meet growing demand and reduce reliance on water imported from northern California and the Colorado River, the Orange County Water District developed the Groundwater Replenishment (GWR) System that takes highly treated sewer water and purifies it to levels that meet state and federal drinking water standards. GWR System water will be between 35% to 75% cheaper than water produced by seawater desalination and the purification process will consume about half the energy. *Photos courtesy of Orange County Water District.*



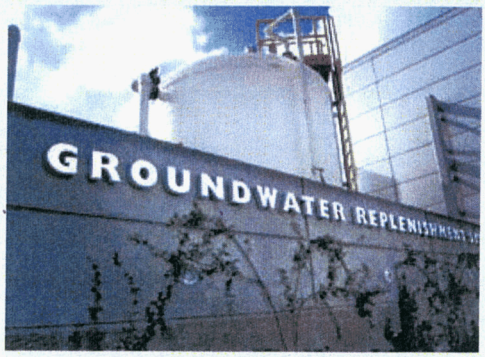


TABLE 2.1 ★ Design Life of Drinking Water Systems

COMPONENTS	YEARS OF DESIGN LIFE
Reservoirs and Dams	50–80
Treatment Plants—Concrete Structures	60–70
Treatment Plants—Mechanical and Electrical	15–25
Trunk Mains	65–95
Pumping Stations—Concrete Structures	60–70
Pumping Stations—Mechanical and Electrical	25
Distribution	60–95

SOURCE US EPA Clean Water and Drinking Water Infrastructure Gap Analysis Report, September 2002

TABLE 2.2 ★ Water Usage: 1950 and 2000

	1950	2000	PERCENT CHANGE
Population (Millions)	93.4	242	159%
Usage (Billions of Gallons per Day)	14	43	207%
Per Capita Usage (Gallons per Person per Day)	149	179	20%

SOURCE US EPA Clean Water and Drinking Water Infrastructure Gap Analysis Report, September 2002

RESILIENCE

Drinking water systems provide a critical public health function and are essential to life, economic development, and growth. Disruptions in service can hinder disaster response and recovery efforts, expose the public to water-borne contaminants, and cause damage to roadways, structures, and other infrastructure, endangering lives and resulting in billions of dollars in losses.

The nation's drinking-water systems are not highly resilient; present capabilities to prevent failure and properly maintain or reconstitute services are inadequate. Additionally, the lack of investment and the interdependence on the energy sector contribute to the lack of overall system resilience. These shortcomings are currently being addressed through the construction of dedicated emergency power generation at key drinking water utility facilities, increased connections with adjacent utilities for emergency supply, and the development of security and criticality criteria. Investment prioritization must take into consideration system vulnerabilities, interdependencies, improved efficiencies in water usage via market incentives, system robustness, redundancy, failure consequences, and ease and cost of recovery.

The question is not whether the federal government should take more responsibility for drinking water improvements but how it should take more responsibility.

RAISING THE GRADES
CASE STUDIES

LOUISVILLE, KY ★ American Recovery and Reinvestment Act Funding

The Louisville Water Company has proposed $11 million in projects that could be funded as part of the 2009 American Recovery and Reinvestment Act (P.L. 111-005). The projects would rehabilitate 75 miles of water main to extend the useful life of the system and reduce water main breaks. In addition, 9.5 miles of water main would be replaced to improve water quality, fire hydrant flow and reduce maintenance. Together, the projects would support 101 jobs.

PORT ANGELES, WA ★ Downtown Water Main Project

In 2008, the City of Port Angeles completed a project to replace the water mains and sidewalks in the downtown area. The replacement water mains bring the city's downtown area to a service level that meets current fire flow standards, reduces seismic risks and helps prevent water main failures due to age. The original water mains were installed in 1914. In conjunction with the water main replacement, many sidewalks were replaced with pavers that enhance the downtown appearance. Also, new conduit and wiring was installed for street and pedestrian lighting. *Photos courtesy of the City of Port Angeles.*

CONCLUSION

New solutions are needed for what amounts to nearly $1 trillion in critical drinking water and wastewater investments over the next two decades. Not meeting the investment needs of the next 20 years risks reversing public health, environmental, and economic gains of the past three decades.

Without a significantly enhanced federal role in providing assistance to drinking water infrastructure, critical investments will not occur. Possible solutions include grants, trust funds, loans and incentives for private investment. The question is not whether the federal government should take more responsibility for drinking water improvements but how it should take more responsibility.

The case for federal investment is compelling. Needs are large and unprecedented; in many locations, local sources cannot be expected to meet this challenge alone, and because waters are shared across local and state boundaries, the benefits of federal help will accrue to the entire nation. Clean and safe water is no less a national priority than are national defense, an adequate system of interstate highways, and a safe and efficient aviation system. These latter infrastructure programs enjoy sustainable, long-term federal grant programs; under current policy, water and wastewater infrastructure do not. ★

SOURCES

1 Congressional Research Service, *Safe Drinking Water Act: Selected Regulatory and Legislative Issues*, April 2008.

2 U.S. Environmental Protection Agency, *The Clean Water and Drinking Water Infrastructure Gap Analysis*, September 2002.

3 U.S. Congressional Budget Office, *Future Investment in Drinking Water and Wastewater Infrastructure*, May 2002.

4 G. Tracy Mehan, Testimony before the Subcommittee on Water Resources and Environment, U.S. House Transportation and Infrastructure Committee, February 2009. http://transportation.house.gov/hearings/hearing.aspx.

PMA-12

State Utility Regulation

State Regulatory Programs

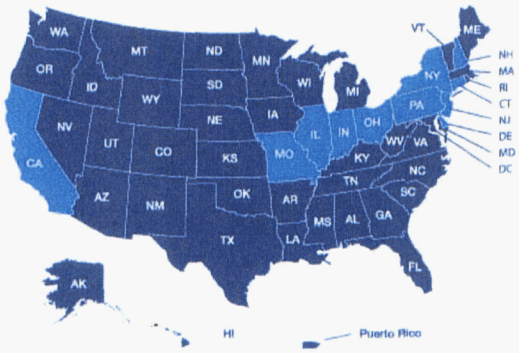
Regulatory Practices

- Distribution System Investment Charge (DSIC)
- Prospectively Relevant Test Year
- Acquisition Adjustments
- Construction Work In Progress (CWIP)
- Decoupling
- Pass-Through Adjustments
- Rate Consolidation
- Mediation & Settlement Procedures
- Defined Timeframes for Rate Cases

Distribution System Investment Charge (DSIC) for Water and Wastewater Systems

DSIC was first implemented in Pennsylvania in approximately 1996 and allows for rate increases, outside of a general rate proceeding, for non-revenue producing investments to replace aging infrastructure. In Pennsylvania, the program has operated for almost 10 years with no known customer complaints. Benefits of the program include more efficient and timely investment of capital, significant progress in replacing aging infrastructure, enhanced service quality, reduction of water lost through leaks, avoidance of rate shock, and others. As water supplies become more stressed in the future due to many factors, reducing water lost through aging infrastructure will become more important. Such programs typically include protections for customers such as limits on the amount of incremental revenues that can be collected, exclusion of capital projects that are revenue producing, and true-up mechanisms.

States with DSIC



California
Infrastructure Investment Surcharge Mechanism (IISM) — pilot basis for California American Water's Los Angeles District

Connecticut
Water Infrastructure and Conservation Adjustment (WICA)

Delaware
Distribution System Improvement Charge (DSIC)

Illinois
Qualifying Infrastructure Plant Surcharge (QIPS)

Indiana
Distribution System Improvement Charge (DSIC)

Missouri
System Infrastructure Charge (SIC)

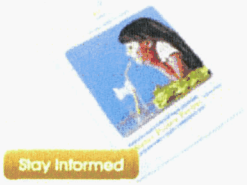
New Hampshire
Water Infrastructure and Conservation Adjustment (WICA) — pilot basis for Aquarion Water

New Jersey
Distribution System Improvement Charge (DSIC)

New York
Distribution System Improvement Charge (DSIC)

Join NAWC

State Utility Regulation



Ohio
System Infrastructure Charge (SIC)

Pennsylvania
Distribution System Improvement Charge (DSIC)

OUR INDUSTRY
Private Water Solutions
The Truth About PPPs
Quality
Sustainability
Innovation & Technology
Accountability & Transparency
Our Children's Water

GOVERNMENT AFFAIRS
Our Program
Our Positions
Policy Solutions
Federal Regulations
Water Security & Safety

STATE UTILITY REGULATION
State Regulatory Programs
Regulatory Practices

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Our Team
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Water Reuse
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PMA-13

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Rating Methodology

Moody's Global Infrastructure Finance

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December 2009

Global Regulated Water Utilities

Summary

This Rating Methodology explains Moody's approach to rating privately financed[1] regulated water utilities and provides guidance as to how the different analytical factors are combined.

Privately financed regulated water utilities are still relatively rare in the overall global water utility universe. Given the importance of water supply and the health risks related to its service provision, the sector maintains strong links to national, regional or local governments. Full privatisation of the entire value chain of water and wastewater services remains rare, with the UK being the main exception.

There are a variety of business models, with varying degrees of private sector involvement. In the rated universe, companies have also adopted a range of funding options. The most innovative financing structures have been developed in the UK, where a number of water companies have overlaid structural enhancements on typical long-dated capital market funding, incorporating features seen in other infrastructure sectors.

In this Rating Methodology, we discuss the four key rating factors that constitute Moody's analytical framework for rating regulated water utilities and additional considerations.

The key factors are:

- Regulatory Environment & Asset Ownership Model
- Operational Characteristics & Asset Risk
- Stability of Business Model & Financial Structure
- Key Credit Metrics

[1] This methodology does not apply to water utilities financed under the US public finance model or to privately financed, public infrastructure projects ("PFI" or "PPP"), for which Moody's has published separate Rating Methodologies: "Analytical Framework for Water and Sewer System Ratings", published in August 1999; "Operating Risk in Privately-Financed Public Infrastructure (PFI/PPP/P3) Projects", published in December 2007; and "Update: Privately-Financed Public Infrastructure (PFI/PPP/P3) Projects with Partial Market Revenue Risk", published in November 2008.

Each of these rating factors encompasses a number of sub-factors, which we discuss in detail in this report. We also provide a rating grid that maps each of the factors, sub-factors and financial metrics, to broad letter-rating categories.

The purpose of this methodology and grid is to provide a tool to gauge approximate credit profiles within the regulated water sector. While the factors and sub-factors within the grid are designed to capture the fundamental rating drivers for the sector, this grid does not include every rating consideration and will not fit every business model perfectly. Furthermore, most of the sub-factor mappings use historical financial results while ratings also consider forecast results. As such, the grid-indicated rating is not expected to always match the actual rating of each company; our objective is for users of this methodology to be able to estimate a company's rating (senior unsecured ratings for investment-grade issuers and corporate family ratings for speculative-grade issuers) within two alpha-numeric notches.

Furthermore, certain more generic factors (including corporate governance, management strength, financial disclosure and liquidity arrangements) remain important inputs into our ratings. Importantly, given continued government involvement and ownership in many regulated water utilities, we also apply our rating methodology for Government-Related Issuers ("GRIs"), as appropriate, to the water sector.[2] However, all these considerations apply to all rated corporate sectors; as a result, we have chosen not to cover these issues in depth within this Rating Methodology.

This publication includes the following sections:

- About the Rated Universe: An overview of the rated regulated water utilities.
- About this Rating Methodology: A description of our rating methodology, including a detailed explanation of each of the key rating factors.
- Structural Considerations and Sources of Rating Uplift from Creditor Protection: A discussion of potential additional rating uplift through credit-enhancing features and covenants in a company's financing structure.
- Assumptions & Limitations: A comment on the rating methodology's assumptions and limitations, including a discussion of other rating considerations that are not included in the grid.

Appendix I of this report provides a summary of the rating grid and key rating factors.

In the appendices, we also provide tables that illustrate the application of the methodology grid to 23 of the 26 publicly rated regulated water utilities with explanatory comments on some of the more significant differences between the grid-implied rating and our actual rating (Appendix II), a brief industry overview (Appendix III), and a discussion of key rating issues for the regulated water sector over the medium term (Appendix IV).

About the Rated Universe

For the purposes of this methodology, we define regulated water utilities as issuers whose principal line of business is the provision of water and/or wastewater[3] services along the entire value chain of the process (as explained in Appendix III). Services may be provided under contract or concession agreements or direct licensing arrangements with the relevant governmental authority, and the assets may be owned outright by the issuer or operated under the terms of a concession or licence. For clarification, the methodology intends to capture only water companies that are responsible for funding the water and/or wastewater infrastructure assets indefinitely or for the duration of the concession or operational contract. It does not capture pure service operators. Issuers that are owned by a government authority are captured by this methodology if they can be considered separate legal entities and not an integral part of the government administration.

[2] See Moody's Rating Methodology: "The Application of Joint Default Analysis to Government Related Issuers", April 2005; Special Comment: "The Incorporation of Joint-Default Analysis into Moody's Corporate, Financial and Government Rating Methodologies", February 2005; and Special Comment: "Rating Government-Related Issuers in European Corporate Finance", June 2005.

[3] Depending on the jurisdiction or the industry set-up, different terminology for the wastewater services may be used, including (but not limited to) sewerage or sanitation services. For simplicity we will refer to wastewater services throughout this report.

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This methodology encompasses different types of financing for water utilities, e.g. general corporate funding structures as well as more highly leveraged financing structures with credit enhancing features. However, privately financed, public infrastructure projects are not subject to this rating methodology, but would fall under Moody's rating methodology for PPP and PFI transactions. For further discussion of the rating implications of financing sources, please refer to "Structural Considerations and Sources of Rating Uplift from Creditor Protection" below.

This methodology does not capture larger multi-utilities, whose activities may include the provision of regulated, monopoly-based water and wastewater services, but do not represent the vast majority of overall group activities. The credit quality of the relevant business segment, however, can be scored under this methodology. For example, Sociedad General de Aguas de Barcelona, S.A. (AGBAR) and United Waterworks, Inc are both covered by the methodology whilst the parent company, Suez Environnement, is not.

Moody's currently rates 26 water utilities (including five holding companies) that we regard as separate legal corporate entities, i.e. detached from the relevant government administration. These issuers currently account for around US$44 billion of total debt instruments rated. Figure 1 provides a list of all rated regulated water utilities, showing their locations, ratings and amount of rated debt.

Figure 1

Rated Regulated Water Utilities

Issuer	Country		Current Rating *	Outlook	Amount of Rated Debt in US$ 'millions **
Europe					
Acquedotto Pugliese S.p.A.	Italy	GRI	Baa3 [12]	Negative	268
Bratislavska vodarenska spolocnost, a.s.	Slovakia	GRI	Baa2 [11]	Stable	0
Sociedad General de Aguas de Barcelona, S.A. (AGBAR)	Spain		A2	UR-D	0
Anglian Water Services Limited	UK	CFR	Baa1	Stable	7,132
Dwr Cymru Cyfyngedig	UK	CFR	A3	Stable	2,603
Northumbrian Water Limited	UK		Baa1	Stable	1,071
Severn Trent Water Limited	UK		A3	Stable	4,458
Severn Trent Plc	UK		Baa1	Stable	*** 4,598
South East Water Limited	UK		Baa2	Stable	594
South Staffordshire Water Plc	UK		Baa2	Stable	57
Southern Water Services Limited	UK	CFR	Baa1	Stable	4,196
Sutton & East Surrey Water Plc	UK		Baa1	Stable	162
Thames Water Utilities Limited	UK	CFR	Baa1	Stable	7,770
Veolia Water Central Limited (formerly Three Valleys Water Plc)	UK		A3	Negative	325
United Utilities Water Plc	UK		A3	Stable	5,664
United Utilities Plc	UK		Baa1	Stable	*** 6,695
Wessex Water Services Limited	UK		A3	Stable	1,704
Yorkshire Water Services Limited	UK	CFR	Baa1	Stable	3,883
North America					
American Water Works Company, Inc.	US		Baa2	Stable	*** 2,215
New Jersey American Water Company, Inc.	US		Baa1	Stable	200
Pennsylvania American Water Company	US		Baa1	Stable	412
Golden State Water Company	US		A2	Stable	125
Pennichuck Water Works, Inc.	US		Baa3	Stable	50
United Waterworks, Inc.	US		Baa1	Negative	88
Latin America					
Companhia de Saneamento do Parana - SANEPAR	Brazil	GRI	Ba3 [13]	Negative	94

Rated Regulated Water Utilities

Issuer	Country		Current Rating *	Outlook	Amount of Rated Debt in US$ 'millions **
Asia					
Korea Water Resources Corp.	Korea	GRI	A2	Stable	300
Total Rated Debt					43,930

*Note: * senior unsecured issuer or corporate family rating; number in brackets reflects BCA, where applicable*
*** as at 15 December 2009*
**** rated consolidated group debt*

We note that the ratings for the five holding companies, namely AGBAR, Severn Trent Plc, United Utilities Plc, American Water Works Company, Inc. and United Waterworks, Inc., may reflect notching for structural subordination and their actual ratings therefore do not necessarily match the grid-indicated outcomes, which relate to the consolidated credit quality of their groups, before taking into account any structural subordination. For this reason, two of these holding companies, Severn Trent Plc and United Utilities Plc, are excluded from the detailed mapping of the factors in Appendix II, and only the relevant operating entity is captured.

Four of the rated water utilities are considered GRIs, as they remain wholly or partly owned by national or regional governments. Therefore, their ratings reflect the application of Moody's joint default analysis under our rating methodology for GRIs. In these cases, the methodology presented in this report serves to assess the baseline credit risk of the issuer, over which our assessments of government support and default dependence are subsequently layered in accordance with our GRI methodology. We exclude Korea Water Resources Corp. from the tables in Appendix II, which provides the detailed scoring of the water companies under this rating methodology, given that – despite the relevance of the general factors addressed within this rating methodology – the company's final rating is driven primarily by its strong linkage to the A2-rated Korean government.

As shown above, the majority of rated issuers are located in Europe, principally in the UK, which accounts for around 93% of the rated debt in the universe of rated regulated water utilities. The UK (more specifically England and Wales) remains the only market in Europe where the entire value chain of water and wastewater services has been fully privatised. This fact combined with the substantial scale of operators and a well-established and transparent regulatory framework for the UK water sector resulted in significant investor interest in the sector. It also somewhat explains the high use of capital market funding compared to other regions.[4]

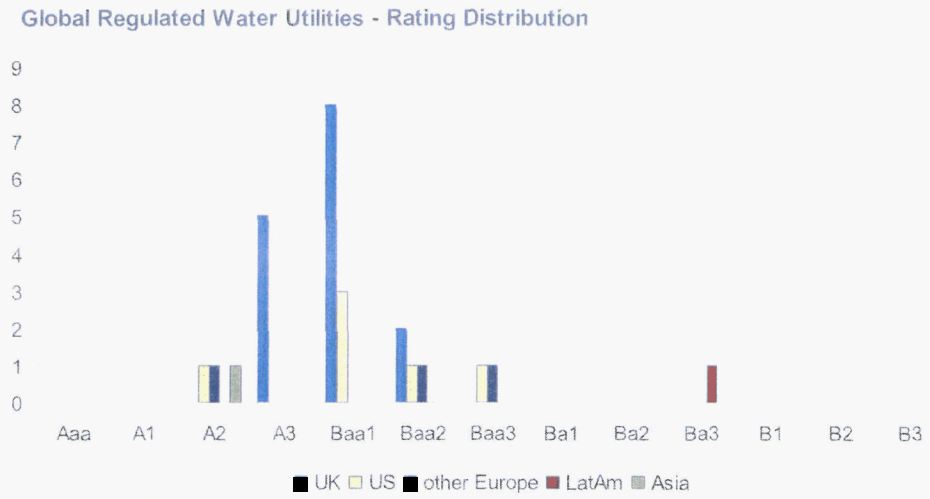
Given the prominence of the UK water sector in the debt capital markets, we have provided and will continue to provide extensive detailed research for this geographical market. Such specific regional research will remain relevant for the analysis of key rating drivers as part of the assessment of the relevant issuers' credit quality.

Within the rated universe AGBAR is the only regulated water utility that not only operates assets held under licence or long-term concessions, but is also active as an operational service provider. AGBAR's vast portfolio of concession activities includes asset ownership arrangements in relation to the water and wastewater services provided to Barcelona, its most important service area, as well as AGBAR's international operations in the UK and Chile, which altogether account for around 75% of the group's EBITDA (generated in the water segment).

Figure 2 summarises the rating distribution in the sector:

[4] We note that the above summary excludes around US$1.5 billion of debt in relation to the UK water sector, which has been issued by monoline-guaranteed funding vehicles.

Figure 2 – Rating Distribution



The rating distribution is largely driven by the UK water sector. Based on the senior unsecured issuer and corporate family ratings assigned and included in the graphic distribution shown above, the average sector rating globally is Baa1. However, the average debt rating is A3.[5]

About this Rating Methodology

Moody's rating methodology for regulated water utilities incorporates the following steps.

IDENTIFYING KEY RATING FACTORS

This rating methodology focuses on four broad rating factors:

I) Regulatory Environment & Asset Ownership Model

II) Operational Characteristics & Asset Risk

III) Stability of Business Model & Financial Structure

IV) Key Credit Metrics

The first two factors relate to the fundamental business characteristics of a water utility. The third factor aims to capture the dimension of credit risk associated with potential changes to an issuer's business or capital structure, which may result from its strategy on corporate activity, diversification and/or financial policies. The fourth rating factor comprises four key financial metrics that we most commonly employ when examining regulated water utilities.

Finally, we consider whether the final rating should be adjusted to incorporate uplift from structural enhancements that may be incorporated in the company's financial arrangements. The effectiveness of any such enhancements is graded to determine the appropriate uplift as described in the section "Structural Considerations and Sources of Rating Uplift from Creditor Protection" below.

[5] A corporate family rating is an opinion of a corporate family's ability to honour all of its financial obligations and is assigned to a corporate family as if it had a single class of debt and a single consolidated legal entity structure. A corporate family rating does not reference an obligation or class of debt and thus does not reflect priority of claim. It applies to all affiliates under the management control of the entity to which it is assigned. We note that the majority of rated highly leveraged financing transactions that have been executed in the UK achieve a corporate family rating of Baa1, which incorporates the benefit from a number of structural credit enhancements. Under these funding structures issuers typically issue two classes of debt with differing levels of seniority and priority of claim. The majority of rated debt is issued within the more senior tranche of debt, which benefits from additional credit-enhancement. Therefore, the majority of rated debt within the UK is at the A3 rating level rather than the Baa1 level.

MAPPING FACTORS TO THE RATING CATEGORIES

The four broad rating factors are broken down into 13 sub-factors (9 sub-factors underlying the first three factors plus four credit metrics). Under the methodology, an issuer's characteristics are scored for each sub-factor according to qualitative and quantitative measures defined for each broad rating category (i.e. Aaa, Aa, A, Baa, Ba, B and Caa).

With respect to the first three key factors, we have determined what we consider appropriate ranges for each broad rating category. The methodology aims to capture the characteristics of all potential corporate issuers, and thus also ranks theoretical features not actually yet encountered within the rated universe. Features that we associate with a very low degree of credit risk are classified in the Aaa or Aa categories, whilst characteristics that we believe imply a very high degree of credit risk and could cause an issuer to default are classified in the single-B or Caa categories.

The ranges of credit metrics that represent the fourth key factor have been mapped to broad rating categories for an issuer that presents moderate investment-grade characteristics in all other key factors (i.e. principally in the A-Baa range). Thus, utilities with stronger business risk characteristics than those commensurate with a rating in the A or Baa range can sustain lower credit metrics and still achieve a solid investment-grade rating.

Recognising the stability and predictability of a water utility's cash flow generation, thresholds of credit metrics required for each broad rating category are less demanding than for many corporate issuers in other industries. They are, however, similar to ratio thresholds used in rating methodologies for other infrastructure issuers, which show a similarly low risk profile, e.g. regulated electric and gas networks, operational toll roads or airports.

WEIGHTING FACTORS AND RATING SCORES

The following table shows the weightings applied to each key factor.

Key Factor	Weighting
Regulatory Environment & Asset Ownership Model	40%
Operational Characteristics & Asset Risk	10%
Stability of Business Model & Financial Structure	10%
Key Credit Metrics	40%

As credit metrics are already adjusted to reflect a generally high degree of debt capacity of a regulated water utility, they are assigned a relatively high weighting, accounting for 40% of the final score. However, this is balanced by an equivalent 40% weighting of the first factor, Regulatory Environment & Asset Ownership Model. This factor recognises the fundamental characteristics of the regulatory regime and its cost recovery provisions as well as the business model applied by the relevant utility, considering the different risk proposition of asset ownership and management contracts. These aspects are of paramount importance in determining the utility's overall business risk and thus debt capacity.

As shown below, within each key factor, individual sub-factors have received an individual weighting depending on their deemed importance for the assessment of a water utility's credit quality.

Factor	Weighting
1. Regulatory Environment & Asset Ownership Model	**40%**
1. a) Stability & Predictability of Regulatory Environment	15%
1. b) Asset Ownership Model	10%
1. c) Cost and Investment Recovery (Ability & Timeliness)	12%
1. d) Revenue Risk	3%
2. Operational Characteristics & Asset Risk	**10%**
2. a) Operational Efficiency	5%
2. b) Scale & Complexity of Capital Programme & Asset Condition Risk	5%
3. Stability of Business Model & Financial Structure	**10%**
3. a) Ability & Willingness to Pursue Opportunistic Corporate Activity	3.33%
3. b) Ability & Willingness to Increase Leverage	3.33%
3. c) Targeted Proportion of Revenues Outside Core Water and Wastewater Activities	3.33%
4. Key Credit Metrics	**40%**
4. a) Adjusted Interest Coverage OR FFO Interest Coverage	15%
4. b) Net Debt to Regulated Asset Base OR Debt/Capitalisation	15%
4. c) FFO / Net Debt	5%
4. d) RCF / Capex	5%

A further weighting is applied by rating category as shown in the table below.

Rating Category	Aaa	Aa	A	Baa	Ba	B	Caa
Weighting	1	1	1	1.15	2	3	5

We weight lower rating scores more heavily than higher scores for two reasons. In the first instance, we need to adjust for those situations where an issuer exhibits weak characteristics across the first three factors, which are not typically encountered within the rated universe and which would require more demanding thresholds for the credit metrics. Secondly, we recognise that a serious weakness in one area often cannot be completely offset by a strength in another area and that the lack of flexibility normally associated with high degrees of leverage can heighten risk.

DETERMINING THE FINAL RATING

The steps outlined above produce a final distribution of scores by rating category. The percentage score in each category is then multiplied by a value from 1 for Aaa to 18 for Caa to map to a final rating (before adjustment for creditor protection), as shown in the following table.

Rating Category	Aaa	Aa	A	Baa	Ba	B	Caa
Value	1	3	6	9	12	15	18

This weighted average score is mapped to the table below, and an overall alpha-numeric rating is assigned based on where the score falls in the range.

Indicated Rating	Overall Score
Aaa	< 1.50
Aa1	1.50 ≤ x < 2.50
Aa2	2.50 ≤ x < 3.50
Aa3	3.50 ≤ x < 4.50
A1	4.50 ≤ x < 5.50
A2	5.50 ≤ x < 6.50
A3	6.50 ≤ x < 7.50
Baa1	7.50 ≤ x < 8.50
Baa2	8.50 ≤ x < 9.50
Baa3	9.50 ≤ x < 10.50
Ba1	10.50 ≤ x < 11.50
Ba2	11.50 ≤ x < 12.50
Ba3	12.50 ≤ x < 13.50
B1	13.50 ≤ x < 14.50
B2	14.50 ≤ x < 15.50
B3	15.50 ≤ x < 16.50
Caa1	16.50 ≤ x < 17.50
Caa2	17.50 ≤ x < 18.50
Caa3	≥ 18.50

Finally, we consider whether the final rating should be adjusted to incorporate uplift from structural enhancements that may be incorporated in the company's financial arrangements. The effectiveness of any such enhancements is graded to determine the appropriate uplift, as described in the section "Structural Considerations and Sources of Rating Uplift from Creditor Protection" below. This allows us to apply the methodology to regulated water utilities that have adopted certain credit-enhancing structural features typical of highly-geared financing structures.

APPLYING THIS RATING METHODOLOGY / OUTLIER DISCUSSION

Appendix II provides a table showing how each company maps for the specific sub-factors. We also highlight issuers whose grid-indicated performance for a specific factor or sub-factor is higher or lower by two or more broad rating categories from the actual rating and discuss general reasons for such outliers within a given factor or sub-factor.

Rating Factor #1: Regulatory Environment & Asset Ownership Model

WHY IT MATTERS

Regulated water utilities typically provide monopoly-type, price-inelastic services that lend themselves to high levels of business visibility and revenue stability. As a result, regulated water utilities – in line with other infrastructure operators – are likely to have a longer-term strategic and financial horizon than most other corporate sectors. Accordingly, assessing the historical and expected stability of the regulated water utility's business and cash flow generation is a critical component of our analysis. Generally speaking, revenues and cash flows are a function of tariff levels and the tariff-setting mechanisms. Tariffs are embedded in the broader framework of the applicable regulatory environment and/or a utility's concession agreement or lease contract. As such, the characteristics and track record of the regulatory regime or concession framework are key in assessing the overall stability of a water utility's business profile.

However, while this rating factor examines the extent to which mechanisms are in place to ensure the relative stability of a regulated water utility's cash flows, the question of whether the utility makes strategic decisions that may change its business conditions to the detriment of creditors is covered later in this methodology, in Rating Factor #3.

HOW DO WE MEASURE IT?

We examine four sub-factors to assess a water utility's regulatory environment and business model, which are qualitative rank-orderings of risk based on Moody's examination of the relevant information and precedents:

a. Stability & Predictability of Regulatory Environment

b. Asset Ownership Model

c. Cost and Investment Recovery (Ability & Timeliness)

d. Revenue Risk

(a) Stability & Predictability of Regulatory Environment

This sub-factor captures the level of credit strength that derives from the regulatory and/or concession framework under which the water utility operates.

The essentiality of water and wastewater services usually means that services are provided on a monopoly or quasi-monopoly basis. Therefore the provision of water and wastewater services is commonly regulated on a national or regional basis. The stability and predictability of such regulatory regime is a key determinant in assessing a water utility's business risk profile, which is why this sub-factor has been assigned a weighting of 15%.

We assign the highest score of Aaa to the regulatory regime applied to the UK water sector (i.e. the water companies in England and Wales), which has a history of around 20 years and relies on clearly defined risk allocation principles, which have been consistently applied and transparently disclosed to the public.

Consequently, the lowest possible score will be assigned in a case where the jurisdiction of the issuer has not implemented a defined regulatory framework and/or has a track record of unilateral changes being made to the terms and conditions of the concessions in the water or similar infrastructure sectors that are relevant precedents, without suitable compensation being made to the concessionaire.

Concerns about the independence of the regulatory authorities and the risk of politically motivated intervention in the regulatory process will also result in a lower score.

For example, we assigned a single-B score to the regulatory framework applying to Bratislavska vodarenska spolocnost, a.s. (BVS) of Slovakia, reflecting a history of political interference, which affected tariff decisions.

When assessing the scores for this sub-factor Moody's also takes into account the general rule of law within the jurisdiction in which the relevant utility operates, and whether an independent judiciary exists that allows for legal rights to be enforceable in practice. For a water company that is located in a country with generally poor institutional strength, the assigned score may be lower than the theoretical regulatory framework may imply.

(b) Asset Ownership Model

This Rating Methodology is designed to cover companies that own their assets outright in perpetuity or for a defined time horizon under a concession or other contractual agreement.[6]

In those cases where the water and wastewater assets are owned outright, Moody's assesses the implication of ownership rights that are subject to a licence and the risk of licence termination. Moody's also considers whether the right to operate the assets is long term in nature or may only be granted over a short-term period. If the time horizon of asset exploitation is limited, Moody's will also take into account the recovery mechanism in relation to any residual asset value at the end of a concession or other contractual arrangement when scoring this sub-factor.

A water company that owns all its key water and wastewater assets outright in perpetuity and has ultimate control over them would score the highest rating (i.e. Aaa). On the other end of the spectrum, a utility that holds the assets under a concession, which may be relatively short term or does not provide clear principles for the recovery of the residual asset value at the termination of the concession, would score relatively low (i.e. Ba or lower).

[6] Please refer to Appendix III for further details on the water industry sector and the different business models applied.

Most of the rated regulated water utilities own their key assets under a licence regime or long-term concessions. This is reflected in the relatively high scores achieved under this sub-factor. Outright ownership in perpetuity is less common, with the exception of Spain (e.g. AGBAR's Barcelona concession) and certain jurisdictions in Central and Eastern Europe.

If the assets are held under a concession, a utility's exploitation rights may be limited to the term of the concession, which will be reflected in the scoring. For example, Acquedotto Pugliese, an Italian municipal water utility, operates its assets on the basis of a concession that expires in 2018. Although, the legal framework protects the company from losing its concession without compensation, the mechanism for compensation is untested. This degree of uncertainty is reflected in the score of Baa for this sub-factor.

Similarly, SANEPAR operates pursuant to long-term concession agreements with various municipalities in the Brazilian state of Paraná, which own the related infrastructure assets. The Baa rating for this subfactor reflects the fact that over 60% of its concession agreements expire in the long term, with the average concession life between 20 and 30 years. These concession contracts have written provisions that entitle the company to the recovery of the assets' residual value at termination; however, these provisions have not been tested as, to date, the majority of the terminated concessions have been renewed. The company could score higher, once it has established a long-term track-record of concession renewal at termination

Similar to the sub-factor above on the Regulatory Environment, also for this Asset Ownership Model sub-factor, we will consider the general rule of law, and the value and enforcement of asset property rights. For example, if there is a heightened risk of expropriation of assets for political reasons, we would score a company lower, even though it may own its assets. Moody's notes that the expropriation risk may be higher for water and wastewater assets than for other infrastructure assets, given the significance of the services provided.

In the US, this type of risk is generally seen as very limited, but could develop if the local government resorts to claiming "eminent domain" over the water system. This is currently the position Pennichuck Water Works faces in its service area. Although the long legal battle has certainly absorbed management's time and resources, Moody's has not taken any rating action because we believe any "fair value" proceeds paid for the system must be directed to debt repayment as per the terms of the outstanding obligations. However, we score the US water utilities as Aa instead of Aaa on the basis of this precedent.

(c) Cost and Investment Recovery (Ability & Timeliness)

As part of our assessment of the overall regulatory or concession regime, the ability of a regulated water utility to recover the cost of its operations and/or investment in a timely manner is another key determinant for the evaluation of the relative stability of cash flow generation. Whilst the first sub-factor under this Rating Factor #1 addresses the overall stability and predictability of the regulatory and/or concessionary framework, this sub-factor looks at the risk allocation between the water utility and its customers based on the tariff regime.

The most flexible arrangement is one where the water utility is free to adjust its tariffs as required, without any approvals or reviews by the relevant regulator or government. As a result, this type of arrangement would score Aaa for this sub-factor. This is clearly a situation unlikely to be encountered in practice. At the other end of the spectrum are mechanisms that do not adequately cover the operator's costs, potentially implying politically motivated low tariffs and hindering the viability of the utility in the absence of government support.

In general, most tariff formulas are designed to achieve a balance between reliability and quality of service standards, a degree of operational efficiency, protecting consumers from monopoly-overcharging and other social considerations, as well as allowing an adequate return for companies to satisfy their stakeholders (debt and equity capital providers).

The tariff formula applied under the UK regulatory framework, for example, allows for the recovery of operating expenditure and depreciation, which broadly resembles capital maintenance requirements, as well as a return on the regulated asset base set to cover the cost of funding through a combination of debt and equity. The return on capital thereby also reflects the funding cost of capital investments that grow the asset base. There is a moderate degree of risk allocation to the water utilities as cost recovery (both operational and financial) is based on ex-ante allowances set by the regulator at five-yearly price reviews.

We score the tariff regime in England and Wales at single-A reflecting the fact that there is strict regulatory oversight of tariff increases and that operators can be subject to challenging efficiency targets.

In the US, Moody's views each state individually and considers the various factors that affect the utilities' profitability, including the type of fixed- versus variable-rate design allowed, historically authorised ROEs, and the existence of riders or other mechanisms that permit recovery of operating and capital costs outside of a general rate case. Furthermore, we will take into account contractual obligations that restrict a water utility's ability to submit a rate case within a defined period of time. For example, in the rating of American Water Works, we previously took into consideration that following its purchase by RWE in 2001, it would agree not to seek rate increases in a number of states for a defined period of years. This led to some delay in the ability to request rate increases based on investments made in the interim period.

At the lower end of the spectrum we score the tariff formula and its application in single-B for BVS, based in Slovakia, and SANEPAR, based in Brazil.

In case of BVS, the application of a price cap formula based on an unclear efficiency factor resulted in flat water tariffs in recent years. The tariff setting is effectively largely politically driven, which depresses this score for BVS. Furthermore, the tariff formula applied for Slovakian water companies in general does not allow remuneration of maintenance expenditure for assets that had initially been funded through EU subsidies. Effectively, this keeps tariffs artificially low and inadequate to cover for the cost of asset consumption. Whilst revenues should in theory be sufficient to cover operating expenditure, which may support a Ba-score, there have been limited tariff increases in the recent past.

SANEPAR's concession contracts lack provisions for tariff adjustments, so water rates are set by the state government, leaving ample room for politically driven decisions. The company is rated at the lower end for cost and investment recovery because tariffs have been frozen since 2005.

In scoring this sub-factor we also consider whether the tariffs can actually be afforded by the users of the water and wastewater services. This could be measured for example through the level of unpaid bills. If the level of unpaid bills is very high we would score a water utility's ability to recover its costs lower than the theoretical tariff formula may imply. Acquedotto Pugliese is such an example: the tariff formula applied to the company, in theory, follows similar principles as the UK regime and allows for adequate investment recovery. However, in addition to the lack of transparency, which is captured by a lower score in the sub-factor on the Regulatory Environment, the Baa-score for Acquedotto Pugliese under this sub-factor reflects a very high level of bad debt outstanding more than 12 months, which effectively constraints its ability to fully recover its costs.

(d) Revenue Risk

Under this sub-factor we intend to assess the potential volatility of revenues generated by a regulated water utility. We assess this risk by taking into account such factors as a company's exposure to fluctuations in the volume of water used. Volume of usage may be affected by different weather patterns from year to year or a company's customer structure and reliance on a particular revenue stream. For example, if a water utility relies on one particular customer to generate a large proportion of its revenues and this customer decides to choose a different service provider or closes its operations, a significant portion of revenues could be lost. Similarly, a higher exposure to industrial customers or revenues generated from new housing developments may have a negative impact on demand patterns and therefore revenues in a recession scenario.

When scoring this sub-factor we also consider whether a regulatory regime may provide a certain element of protection, whereby companies may be allowed to adjust tariffs within a regulatory period or at the next price review to reflect the divergence of collected versus allowed revenues due to fluctuating volumes.

Issuers that are effectively immune from volume or other revenue volatility risks will score Aaa. Water companies that are not immune but subject to regulatory safeguards that allow them to adjust tariffs under a tested and transparent procedure will score Aa or single-A, depending on the degree of protection provided. Water utilities that are exposed to seasonality or weather effects and/or change in demand patterns, which result in revenue volatility in excess of high single-digit percentages would generally score lower than Baa for this sub-factor. Furthermore, water utilities with a generally higher reliance on new connections and or revenue concentration risk to particular customers or vulnerable industry sectors will generally score Baa to Caa, depending on the potential volatility of revenues.

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For pure asset owners, which may have subcontracted the operations of the water and/or wastewater assets to a different party. However, we will shade the scoring based on the estimated credit quality of the operating counterparty, given that the asset owner may rely solely on a lease payment from one single contract party.

RATING GRID MAPPING

The following table shows the full mapping of each sub-factor to a broad rating category and the weighting of each sub-factor within Rating Factor #1.

Rating Category	Aaa	Aa	A	Baa	Ba	B	Caa	Weighting
(a) Stability and Predictability of Regulatory Environment	Regulation is independent, well established (>15 years of being predictable and stable) and transparent (published methodologies clearly define risk allocation between companies and customers and are consistently applied, with public or shared financial model)	Regulation is independent, reasonably well established (>10 years of being predictable and stable) and transparent (published methodologies clearly define risk allocation between companies and customers and are generally consistently applied) Regulatory framework has been mostly predictable and stable in recent years and is supportive of utilities	Regulation is generally independent and developed (published methodologies set out principles of risk allocation between companies and customers and are based on established precedents in the same jurisdiction), and has above average predictability and reliability, although regulatory regime may be sometimes less supportive of utilities Utility regulatory body may be a state commission or national, state, provincial or independent regulator	Regulatory framework is well developed, with evidence of some inconsistency or unpredictability in the framework's application OR Regulatory framework is relatively new and untested, but methodologies are based on established precedents and jurisdiction has history of independent and transparent regulation for other utility services Regulatory Environment may sometimes be challenging or politically charged	Regulatory framework is defined but there is a high degree of inconsistency or unpredictability in its application; tariff setting is subject to negotiation and political interference; there has been a history of difficult or less supportive regulatory decisions; some precedents in the country of predictable regulation for other utility services	Regulatory framework is unclear, untested or undergoing significant change, with a history of political interference Utility regulatory body lacks a consistent track record and appears unsupportive, uncertain or highly unpredictable	Regulatory framework is not defined, unpredictable or politically driven	15.00%
(b) Asset Ownership Model	All key water and/or sewerage assets held outright in perpetuity	All key water and/or sewerage assets held outright under licence which can be terminated for underperformance, failure to meet certain financial parameters or insolvency OR held under long-term concession with clearly	All key water and/or sewerage assets held under long-term concession with clearly defined right to recover value of residual assets at termination/end of concession underpinned by highly rated entity but with undefined timeframe	All key water and/or sewerage assets held under long-term concession with entitlement to recover value of residual assets at termination/end of concession but procedures untested/undefined OR	All key water and/or sewerage assets held under concession with recovery of residual asset value at termination/end of concession subject to negotiation OR held under short-term operating leases or mgmt	All key water and/or sewerage assets held under concession with no recovery of residual asset value at termination/end of concession OR held under short-term operating leases or mgmt contract	Issuer is in default under its licence, concession or lease/contract, likely to lead to termination Expropriation highly likely, no prospect of compensation	10.00%

Global Regulated Water Utilities

Rating Category	Aaa	Aa	A	Baa	Ba	B	Caa	Weighting
		defined right to timely recovery of residual asset value at termination/end of concession underpinned by highly rated entity; clear track record of consistently applying concession termination / recovery regime	OR held under medium-/ long-term operating leases or mgmt contract with very substantial portfolio diversification, very established market position and very high renewal rate (>95%)	held under medium-/ long-term operating leases or mgmt contract with substantial portfolio diversification, established market position and high renewal rate (>90%)	contract with good degree of portfolio diversification and renewal rate (>80%) Expropriation possible, but some prospect of compensation	(limited portfolio diversification) Expropriation likely, little or no prospect of compensation		
(c) Cost and Investment Recovery (Ability & Timeliness)	No regulatory or contractual impediment to adjust tariffs (no approval or reviews required)	Tariff formula allows for timely recovery of operating expenditure including depreciation and a fair return on all investment Depreciation allowance fairly reflects asset consumption All capital expenditure is included in asset base as incurred or fully covered by specific riders/surcharges prior to the next rate case Minimal challenges by regulators to companies' cost assumptions	Tariff formula allows for recovery of operating expenditure including depreciation based on allowances set at frequent price reviews (5-yearly intervals or shorter) and a fair return on all efficient investment Depreciation allowance fairly reflects asset consumption Capital expenditure is included in asset base as incurred or partially covered by specific riders/surcharges prior to the next rate case Opex and capex can be subject to efficiency tests Limited instances of regulatory challenges; limited delays to rate or tariff increases or cost recovery	Tariff formula allows for recovery of operating expenditure including depreciation and return on investment but subject to retrospective regulatory approval or infrequent price reviews (> 5-yearly intervals) Some instances of revenue back-loading (e.g. depreciation allowance set below asset consumption or operating expenditure is capitalised) OR Rate/tariff reviews and cost recovery outcomes are usually predictable, although application of tariff formula may be unclear; potentially greater tendency for regulatory intervention and/or to disallow or delay costs	Tariff formula does not take into account all cost components and depreciation is set below asset consumption Revenues allow coverage of most operating expenditure But investment is not clearly or fairly remunerated OR Rate/tariff reviews are inconsistent, with some history of unwillingness to make timely rate changes	Tariff formula does not take into account all cost components and depreciation is set below asset consumption Revenues only cover cash operating expenditure OR Highly uncertain rate reviews and cost recovery outcomes; regulators may engage in second guessing or spending decisions or deny rate increases to fund ongoing operations	Revenues only partially cover cash operating costs	12.00%

Rating Category	Aaa	Aa	A	Baa	Ba	B	Caa	Weighting
(d) Revenue Risk	No exposure to volume or customer concentration risk	Little exposure to volume risk and/or timely recovery mechanism Little concentration of volumes and revenues to one particular customer	Some exposure to volume risk but recovery mechanism with some delay through regulatory price review; generally limited volatility expected Some concentration of volumes and revenues to one particular customer	Moderate exposure to volume risk but recovery mechanism with some delay through regulatory price review; moderate volatility expected AND/OR Moderate concentration of volumes and revenues to one particular customer and/or industry sector	Significant exposure to volume risk but recovery mechanism, which may not follow regular intervals; significant volatility expected OR Significant concentration of volumes and revenues to one particular customer and/or industry sector	High exposure to volume risk with no clear recovery mechanism OR High concentration of volumes and revenues to one particular customer and/or industry sector	Very high exposure to volume risk with no existing recovery mechanism OR Very high concentration of volumes and revenues to one particular customer and/or industry sector	3.00%

Rating Factor #2: Operational Characteristics & Asset Risk

WHY IT MATTERS

The regulatory framework and business model are important; however, a water utility's overall credit quality is also influenced by its operational performance and by the size and complexity of its capital programme. This second rating factor focuses on those factors related to the operational efficiency and asset quality of a regulated water utility that are most likely to influence its future financial position.

HOW DO WE MEASURE IT?

In assessing the operational characteristics and asset risk of a water utility, we use the following sub-factors:

a. Operational Efficiency

b. Scale & Complexity of Capital Programme & Asset Condition Risk

The first sub-factor is a qualitative assessment based on public information or discussions with management. The second sub-factor is a quantitative measure based on publicly available information (where public information may be limited, Moody's will base its assessment on our own estimates), supported by qualitative data on the absolute asset condition of a company.

(a) Operational Efficiency

This sub-factor is designed to measure the degree of efficiency in operational performance in the context of the relevant indicators assessed by the regulatory bodies in the country or area of operation. We do not intend to measure the operational performance in terms of absolute standards, as a company's cost structure and asset base may be the result of historically embedded characteristics.[7]

Examples of performance standards are water quality, water pressure, level of leakage, number and length of service interruptions, sewer flooding or the general level of customer service. Furthermore, we take into account (where such information is available) the amount of operational and/or capital expenditure in comparison with the regulatory allowances, and a company's track record in out- or underperforming such

[7] For example, at the time of their privatisation in 1989 the water utilities operating in England and Wales inherited a relatively old asset base, which could be considered of a comparatively low standard and condition due to years of underinvestment in maintenance. However, under the regulatory regime the water companies have been set clear targets to improve asset and service quality. Therefore, these companies are judged on their relative performance in achieving these goals through comparative competition with their industry peers, and not on their absolute performance.

allowances. We would expect that all water utilities are monitored in respect of specific performance measures either by regulators or other supervisory authorities, such as environmental agencies or government ministries. However, if we were to encounter a case where no such monitoring is conducted, we would score the respective company in the single-B category for this sub-factor to reflect the limited insight into the company's operational performance.

Consistent profitability with strong operating margins despite a challenging tariff model may also indicate efficient operations, although this would have to be viewed in light of the company's overall asset condition.

The grid is designed so that utilities that are performing in line with regulatory assumptions or the general national average would score Baa, whilst out- or underperforming companies would score higher or lower, respectively.

(b) Scale & Complexity of Capital Programme & Asset Condition Risk

This sub-factor considers the risk associated with a substantial capital programme, which may expose a water utility to execution risks and potential cost overruns. It is meant to capture the general operational risk of dealing with an extensive capex programme and/or very complex investment projects. The financing risk that a significant capex programme may pose, if it cannot be funded out of operating cash flows, is addressed as part of Factor #4 Key Credit Metrics.

This sub-factor is a quantitative assessment of capital expenditure in the context of the relevant asset base. This would be either a Regulated Asset Base where this concept is applied or the Fixed Assets (tangible and intangible)[8] as reported in a company's statutory accounts.

For the purpose of this sub-factor, capital expenditure is measured before any government grants, construction subsidies or developers' contributions, to assess the full scale of the investment programme and potential execution risk.

Overall, water utilities with a relatively low capital investment requirement compared to their existing asset base would be considered less risky and would likely achieve a high score for this sub-factor. On the other hand, companies facing a very large investment programme compared to their asset base and/or projects of high technical complexity would score at the lower end of the spectrum.

We note that it is not uncommon in the water sector for subsidies from governmental authorities to customers to be embedded in the economic model of water utilities, particularly if these utilities rely only on customer tariffs to cover their costs and earn a return on their invested capital.

For example, the asset value of companies that have been privatised may not reflect the actual replacement costs of such assets and companies may be required to undertake very large capital investment programmes to maintain and upgrade their infrastructure compared to a relatively small regulatory asset base. These companies would score lower under this sub-factor. The operational leverage of these water utilities is effectively higher, notwithstanding the fact that water utilities may still be compensated for the embedded replacement costs as part of the water tariffs to enable them to achieve a fair market return on their investment.

Some regulatory frameworks or concession regimes may limit a company's exposure to capex-related risks, such as cost overruns. In these instances, the score under this subfactor may be adjusted to reflect regulatory arrangements that limit the water utility's exposure to cost overrun risks.

When scoring this sub-factor we will also take into account the underlying asset condition and the related risk of potential asset failure. A functioning asset base is paramount for the water and wastewater utilities to comply with their regulatory duties and ensure stability of future cash flow generation. Therefore, if a water utility has a history of serious asset failures or exhibits a significant deterioration in asset performance, it will achieve a score of Ba or lower under this sub-factor, depending on the severity of failures. Low scores for this sub-factor would primarily be expected for water utilities in emerging markets, whilst we would expect water utilities in developed countries to have a reasonably high asset quality.

[8] We include intangible assets in the equation as companies may report their concession assets as intangibles. However, we do not include Goodwill as part of the Fixed Assets, on which the company will earn a return.

RATING GRID MAPPING

The following table shows the full mapping of each sub-factor to a broad rating category and the weighting of each sub-factor within Rating Factor #2.

Rating Category	Aaa	Aa	A	Baa	Ba	B	Caa	Weighting
(a) Operational Efficiency	Consistently achieves maximum results on all relevant performance measures (both cost efficiency and service levels)	Track record of very high performance (consistently at the efficiency frontier and in the top 10% on relevant key performance measures)	Consistent track record of outperforming regulatory opex and capex targets; above national average on relevant key performance measures	Performance in line with national average; no history of material opex and/or capex overruns	Some history of material opex and/or capex overruns; below national average on relevant key performance measures	Currently experiencing serious capex and/or opex overruns; poor track record on relevant key performance measures	Very serious cost overruns or service failures could put issuer in default under its licence, concession or lease/contract	5.00%
(b) Scale and Complexity of Capital Programme & Asset Condition Risk	Annual total capital expenditure (maintenance & enhance-ment) ≤ 4% of total fixed assets or regulated asset base AND/OR No asset condition risk (i.e. full and immediate cost pass-through)	Annual total capital expenditure (maintenance & enhance-ment) > 4% ≤ 6% of total fixed assets or regulated asset base AND/OR Well-developed asset base under tight regulatory supervision; asset performance is generally stable or improving	Annual total capital expenditure (maintenance & enhance-ement) > 6% ≤ 8% of total fixed assets or regulated asset base AND/OR Well-developed asset base and no history of serious asset failure; asset performance is generally stable or improving	Annual total capital expenditure (maintenance & enhance-ment) > 8% ≤ 12% of total fixed assets or regulated asset base AND/OR Company has a reasonably developed asset base; may have some precedents of serious asset failures but asset performance is now broadly stable	Annual total capital expenditure (maintenance & enhance-ment) > 12% ≤ 20% of total fixed assets or regulated asset base OR Small number of large and complex projects accounts for majority of capital programme AND/OR Asset base not fully developed; average asset performance is gradually deteriorating or there is some uncertainty about asset condition	Annual total capital expenditure (maintenance & enhance-ment) > 20% ≤ 30% of total fixed assets or regulated asset base OR One large and complex project accounts for majority of capital programme AND/OR Performance of most assets is materially deteriorating, with serious assets failures likely or ongoing	Annual total capital expenditure (maintenance & enhance-ment) > 30% of total fixed assets or regulated asset base OR Capital programme includes one or more large projects of extreme technical complexity AND/OR Rapidly deteriorating asset performance or condition could put issuer in default under licence, concession or lease/contract likely to lead to termination	5.00%

Rating Factor #3: Stability of Business Model and Financial Structure

WHY IT MATTERS

This rating factor is intended to identify the likelihood that event risk could add uncertainty to future cash flow levels and divert resources away from creditors. Such decisions are a function of the ability and willingness of management and shareholders to change the business focus and the financial structure of the company. The ways in which a company will choose to address the needs of its different investors (e.g. shareholders and creditors) has a material impact on its overall credit quality.

HOW DO WE MEASURE IT?

Our assessment of shareholder and company strategy hinges on three sub-factors:

a. Ability and Willingness to Pursue Opportunistic Corporate Activity (M&A, Disposals and Investments)

b. Ability and Willingness to Increase Leverage

c. Targeted Proportion of Operating Profit Outside Core Water and Wastewater Activities

(a) Ability and Willingness to Pursue Opportunistic Corporate Activity

This sub-factor allows us to score the risk that corporate activity, in the form of mergers and acquisitions, major disposals and investments, will impact future credit quality. We consider whether restrictions exist on management's discretion to pursue opportunistic investments, business combinations and other significant corporate initiatives that would alter the issuer's credit profile. Such restrictions can be regulatory, e.g. through licence conditions as is the case for the UK water sector, or contractual, e.g. through ring-fencing covenants.

In the absence of formal restrictions, we consider management's and shareholders' track record and objectives to gauge the future likelihood and potential impact of corporate activity. In essence, we assess how future cash flows are likely to be applied, and what the balance will be between cash flows applied to repay creditors and those applied to make investments to bolster shareholder returns.[9]

Based on the above considerations, the highest possible score for this sub-factor (which we deem commensurate with the Aaa category) entails a prohibition on the water utility from engaging in any form of corporate activity, either because of the specific mandate incorporated in the licence / concession agreement, the company's bylaws or other binding agreements (e.g. a contract with the state), or because of explicit covenant restrictions in financing agreements. We will score all other situation Aa through to single-B or Caa, depending on management's appetite for opportunistic corporate activity.

(b) Ability and Willingness to Increase Leverage

This sub-factor addresses the likelihood that a company may change its capital structure, based, again, on the degree of discretion available to management and shareholders, their strategy and track record.

A water utility with a conservative financial strategy that, in incurring additional indebtedness, would not compromise minimum financial parameters would score as a Baa for this sub-factor.

There is a distinction between the risk characteristics captured under this Rating Factor #3 and those considered in Rating Factor #4: Key Credit Metrics. Under Rating Factor #4, we assess an issuer's prospective financial profile based on its stated business plan and financial policies and on our views of the main variables affecting future cash flow generation (e.g. revenues, costs, capital expenditure). Any specific transaction that an issuer is committed or very likely to execute would be factored into our financial projections. Conversely, under Rating Factor #3, we assess the risk that future corporate activity, not identifiable yet, may alter an

[9] The nature of the water utility's shareholders does not have a direct impact on credit quality, except in situations where GRI or other similar considerations apply. Rather, the intentions and priorities of shareholders may affect how we score this particular sub-factor. This sub-factor can be particularly important in situations where shareholder structures are in flux. For example, a shift towards private ownership may also entail a shift towards an increasing focus on shareholder value resulting in more shareholder friendly policies. However, a government-owned water utility may also be subject to high event risk if the government is seeking to extract dividends from the utility to apply to national budget considerations (e.g. investments in other types of infrastructure).

operator's current business and financial risk profile and the risk that current financial policies will be abandoned in pursuit of higher financial leverage.

Also considered is an issuer's willingness to issue equity to maintain its credit profile and mitigate the effects of increasing leverage. As the water utility sector is very capital intensive, negative free cash flows due to construction programmes are sometimes financed with short-term debt and then refinanced with longer-term debt offerings and common equity. Issuers that delay issuing equity (or holding companies that delay the "down-streaming" of equity to an operating subsidiary) to avoid dilution or concerns over book value per share may see pressure on the rating over time, particularly if the dividend policy is viewed as aggressive.

(c) Targeted Proportion of Operating Profit Outside the Core Water and Wastewater Activities

Shareholder returns may be enhanced by investing in businesses outside the core concession, with higher return expectations (e.g. a water technology service or construction & engineering business built on the expertise of the utility in the water and wastewater sector). Such investments typically entail higher risk than the usually regulated core water and wastewater activities and we generally view substantial investments outside the core concession area as a credit negative. This sub-factor is designed to adjust for the influence that contributions from higher-risk non-regulated business may have on a utility's financial performance and credit metrics.

Within the rating grid, the lowest possible score is attributed to an operator targeting over 20% of Operating Profit originating outside its core regulated activities (when the credit analysis may require a "blended" approach of the different businesses to assess the company's consolidated credit profile).

It is important to define the "core" water and wastewater activities. Generally, we would regard all regulated activities related to the abstraction, treatment, distribution and supply of water, as well as the collection and treatment of wastewater as core. These activities could be conducted under a licence or concession regime. For the avoidance of doubt, where a utility holds a number of different licences, concessions or contracts for separate regions or service areas, we would view the aggregate activities under such arrangements as being a single core business activity for the purposes of this rating grid.

A NOTE ON APPLYING RATING FACTOR #3 TO FINANCING STRUCTURES WITH CREDIT-ENHANCING FEATURES

Where we deem that the event risk protection included in a financing structure is strong, the score for the sub-factors in Rating Factor #3 would usually be higher than for a utility that does not benefit from such protection. Therefore, the scoring would automatically add a degree of uplift to the final rating outcome. In other words, the rating uplift generated by event risk protection is achieved through the scoring of sub-factors in Rating Factor #3.

This is discussed in greater detail below in the section on Structural Considerations and Rating Uplift.

RATING GRID MAPPING

The following table shows the full mapping of each sub-factor to a broad rating category and the weighting of each sub-factor within Rating Factor #5.

Rating Category	Aaa	Aa	A	Baa	Ba	B	Caa	Weighting
(a) Ability and Willingness to Pursue Opportunistic Corporate Activity (M&A, Disposals & Investments)	Covenants prohibit all corporate activity OR Corporate activity is outside of management mandate	Covenants or licence/concession largely limit corporate activity, with exception of certain defined permitted investments	Strong track record of no material corporate activity and stated intention to refrain from M&A and major investments	Moderate, may impact credit metrics for 18-24 months only	Track record of repetitive, sizeable transactions	Highly likely to conduct frequent and very large opportunistic investments		3.33%
(b) Ability and Willingness to Increase Leverage	No additional indebtedness allowed without debt holders' consent	Additional indebtedess only allowed for capex under debt covenants and/or licence/concession terms	Financial covenants in principal debt instruments limit management ability to materially increase leverage	Conservative financial strategy, unlikely to compromise minimum financial parameters	Limited track record of consistent financial policies; likely to target high leverage	Track record of aggressive financial policies and very high leverage; likely to pay out creditors' financial cushion ahead of business pressures		3.33%
(c) Targeted Proportion of Operating Profit outside Core Water and Wastewater Activities	0% (=exclusive focus on core water and wastewater services) OR Covenants prohibit all other businesses	0-5% OR Covenants largely limit non-concession businesses, with exception of certain defined and low risk permitted businesses	5-10%	10-15%	15-20%	>20%		3.33%

Rating Factor #4: Key Credit Metrics

WHY IT MATTERS

The first three rating factors aim to capture the credit strengths and weaknesses afforded by the water utility's fundamental business and its financial policies. However, a company's ultimate credit profile must also incorporate its financial metrics. Two otherwise identical water utilities may exhibit radically different credit profiles due to different financial metrics.

When examining credit metrics, there is no single measure that invariably predicts the likelihood of default. We utilise metrics that measure both (i) the absolute capacity of the issuer to service its debt and (ii) the size of its debt burden relative to those of its peers. Leverage ratios aim to capture different measures of how easily an issuer can repay its debt; coverage ratios focus more on the ability to service the debt prior to repayment but may also take into account the necessary maintenance investments to ensure that the future cash flow generation is not impaired.

HOW DO WE MEASURE IT?

We use four key credit metrics when examining a water utility. Importantly, when examining credit metrics, our ratings also incorporate our "expected case", i.e. how we believe the metrics will evolve over the foreseeable future. The three credit metrics are:

a. Adjusted Interest Coverage OR FFO Interest Coverage

b. Net Debt to Regulated Asset Base (or Fixed Assets) OR Debt to Capitalisation

c. FFO to Net Debt

d. Retained Cash Flow (RCF) to Capex

These credit metrics will be calculated after making Moody's standard adjustments,[10] including for off-balance sheet debt and debt-like obligations and certain other re-classifications in the income statement and cash flow statement.

(a) Adjusted Interest Coverage OR FFO Interest Coverage

We use an interest coverage ratio that reflects that a proportion of the water tariffs, and therefore a water utility's cash flows, may not be available for debt service as it needs to be reinvested in the ongoing maintenance of the asset base.

As such, the Adjusted Interest Coverage ratio resembles more an EBIT Coverage or Debt Service Coverage ratio (assuming debt service consists primarily of interest payments). It aims to measure the amount of "headroom" afforded by the company's cash flows in servicing its debt burden after taking into account the cost of maintaining a stable asset base.

For water utilities whose regulatory tariff regime includes an allowance for depreciation in the revenue building block, we believe that EBITDA- or FFO-based interest coverage may limit the comparability of companies coverage, as the cash-flow generation to some extent depends on depreciation policies.[11] However, where the tariff formula is not based on consideration of Capital Charges, Moody's will use its standard FFO Interest Coverage Ratio with alternative banding.

The formula for the Adjusted Interest Coverage ratio is a variation on the FFO Interest Coverage used by Moody's for many corporate sectors. The standard FFO Interest Cover is adjusted for (i) the regulatory Capital Charges funded through revenues, and (ii) Non-Cash Interest expense where appropriate. It is also calculated on a net interest basis as follows:

$$\frac{\text{FFO} + (\text{Net Interest Expense} - \text{Non-Cash Interest}) - \text{Capital Charges}}{(\text{Net Interest Expense} - \text{Non-Cash Interest})}$$

Funds from Operations ("FFO"), which reflects Cash Flows from Operations ("CFO") excluding working capital movements, is a relevant measure of cash flows for water utilities, since working capital movements are typically not material; any unusual movements in working capital tend to be small one-off movements tied more to normal operating activities than to any strategic decisions.[12] FFO is net of the interest expense from the income statement, whether or not such interest expense translates fully into a cash payment, with adjustments made to issuers' financial statements as necessary if non-cash interest is material.

Net Interest Expense, based on the issuer's reported figures, incorporates our standard adjustments to interest expense (for example, re-classifying the interest component of operating lease rental expense). We use the amount of interest expense net of interest income, as many of the rated water companies tend to pre-fund their capital programme and hold significant amounts of cash on-balance sheet. Non-Cash Interest is deducted from Net Interest Expense only when appropriate in the context of the regulatory financial model. In the UK, for example, the regulatory regime provides a real rate of return so revenues and the regulatory asset base are adjusted for inflation and Moody's excludes the indexation element of index-linked debt in calculating the Net Interest Expense. The indexation is however captured by the leverage ratio as it increases the outstanding debt amount.

The regulatory Capital Charges represent the portion of revenues (and thus FFO) that is not available to cover a utility's debt service because it needs to be allocated to the replenishment of the asset base. The

[10] See Moody's Rating Methodology: "Moody's Approach to Global Standard Adjustments in the Analysis of Financial Statements for Non-Financial Corporations – Part II Standardized Adjustments to Enable Global Consistency for Issuers Reporting under International Financial Reporting Standards ('IFRS')", February 2006, and Rating Methodology: "Moody's Approach to Global Standard Adjustments in the Analysis of Financial Statements for Non-Financial Corporations – Part I Standardized Adjustments to Enable Global Consistency for US and Canadian GAAP Issuers", February 2006.

[11] For further details, please see Moody's Special Comment: "UK Water Sector: Key Ratios Used by Moody's in Assessing Companies' Credit Strength", March 2006.

[12] For example water companies in the UK historically had fairly negligible working capital movements due to (i) the changes in the water charges (K-factor) being small or negative resulting in limited turnover growth, and (ii) small debtor balances at the year-end as the domestic customer base was largely billed in advance on the basis of unmeasured supplies However, as customers switch from unmeasured to measured supply payment patterns may change. Measured water supplies are invoiced every six months in arrears, with the billing date being a function of the date when the meter is installed. Consequently, the effect of customers switching to measured supplies is a significant delay in the receipt of payments for the same supply (i.e. from up to 12 months in advance to up to 8-9 months in arrears). These dynamics lead to additional cash requirements and an increase in the working capital (debtors) of the water companies (i.e. negative cash movement). However, this negative effect on working capital is normally expected to reverse once measured customers start to pay their bills via direct debit.

maintenance of a stable asset base will ensure that the earned return does not fall due to a decline in the asset base. Depending on the regulatory financial model (for example, whether it is based on statutory historic cost financial statements or regulatory current cost financial statements), Capital Charges could correspond to regulatory depreciation,[13] accounting depreciation, maintenance expenditure or an equivalent concept.

(b) Net Debt to Regulated Asset Base (or Fixed Assets) OR Debt to Capitalisation

For regulated water utilities we measure leverage as Net Debt to Regulated Asset Base (or Fixed Assets, if applicable), reflecting a loan-to-value ratio. The denominator for this ratio can be the Regulated Asset Base or similar concept, if regulatory financial statements are used for the analysis, or it can be total Fixed Assets, if statutory financial statements are used. Fixed Assets would include tangible and intangible assets, but not Goodwill, given that companies would usually only earn a return on the actual water and wastewater assets. This ratio is designed to measure the leverage as a proportion to the capital invested, on which the company is allowed to earn a return. As such the Regulated Asset Base also resembles the net present value of the future cash flow earnings potential of a water utility.

We use Net Debt given the sector's propensity to pre-fund the significant capital investments which can result in substantial cash amounts held on balance sheet and also recognising the requirements under certain financing structures to maintain liquidity and debt service reserves.

Rating committees may also consider the ratio of Total Debt to Total Capitalisation, as an alternative measure of the issuer's leverage relative to is total capital base.

(c) FFO to Net Debt

This ratio is one of Moody's most commonly used measures of dynamic leverage. We note that this measure does not take into account the need of maintenance investments when comparing cash flows to future debt repayments. However, it also allows a wider comparison across industries on a global basis and can be a useful indicator of a company's ability to generate cash flows if monitored over a period of time.

The numerator for this ratio is FFO as defined above. Again, we use Net Debt for the calculation of this ratio. However, in situations where our assumptions on pre-funding may prove incorrect or the cash reported on the balance sheet is restricted for a specific purpose and unavailable to service the debt, Gross Debt may be applied. Discretion is given to the analyst and to the rating committee to consider Gross Debt instead of Net Debt. For example, for issuers that are near speculative or speculative grade, Net Debt may not be used to calculate this metrics, as the cash on the issuer's balance sheet may be used for collateral postings. Furthermore, where the debt position of a company may be overstated or understated by the debt figures as reported in the financial statements, we would also make the appropriate adjustments.[14]

(d) RCF to Capex

This ratio shows the extent to which a water utility is able to fund capital expenditure internally. Moody's does not regard capital expenditure undertaken by a utility to upgrade its network as a negative rating factor in itself, as additional investments may be remunerated through tariff increases. However, we view positively the financial flexibility enjoyed by a utility with limited capex requirements easily funded by internally generated cash flows. Such a company would not need to access the markets to raise additional finance and may have a wider range of options to react to changing economic circumstances.

However, we would also caution that a company that generates large financial surpluses that are paid out to shareholders may not actually retain a high degree of flexibility in downturns if management is unwilling to cut distributions. Thus this ratio takes into account the magnitude of dividend payments.

The formula for the RCF to Capex ratio is the following:

[13] For example, under the UK regulatory regime, the regulatory capital charges are Infrastructure Renewals Charge (IRC) and Current Cost Depreciation (CCD). Both IRC and CCD form part of the allowed revenue that the regulator determines, and are thus an integral part of companies' cash flows. The IRC represents the cost of maintaining underground assets at a constant level of functionality and as such is based on an average of infrastructure renewals expenditure calculated by the regulator Ofwat over a period of 15 years. The CCD relates to above-ground assets with a limited life and is, in principle, calculated in line with accounting depreciation criteria. However, for the majority of CCD that relates to the original assets transferred at privatisation and thus acquired with a large discount to the asset replacement value, the standard accounting approach cannot be applied and CCD is calculated with reference to the current replacement cost. Ofwat follows the principle that over the long term (approximately 28 years), for a pool of assets which is stable in terms of outputs generated, the CCD charged should be comparable to the capital expenditure required to maintain and replace the assets.

[14] The most common instances where the need for this type of debt adjustments may arise are linked to derivative transactions.

$$\frac{\text{FFO} - \text{Dividends Paid}}{\text{Capex}}$$

Capex comprises additions to both tangible and intangible fixed assets, but will be net of any government grants, subsidies or developers' contributions received for the purpose of calculating this ratio. We use Capex net of subsidies when scoring this sub-factor, as it is meant to address the financing risk related to the investment programme, which only refers to the portion that needs to be funded by the company.

Other metrics that are considered in rating committees include Debt to Capitalisation, which as mentioned above can be used as a proxy for the sub-factor ratio described in 4(b). To assess the impact of the level of dividend payments on a company's financial profile, Moody's may also consider RCF to (Net) Debt or dividend payout ratios.

ASSUMPTIONS FOR FINANCIAL RATIO CALCULATIONS

Given that the economic model of the water and wastewater industry generally offers good medium-term visibility, financial projections typically provide a useful tool to enhance credit analysis. In mapping a company's credit metrics to broad rating categories as indicated in the grid below, we could focus exclusively on historical credit metrics or exclusively on projected metrics, or use a mixture of both. In fact, we use historic credit metrics in situations where we believe that these are representative of the financial structure pursued by management (based on a track record), or where we believe that forecast improvements are uncertain. For companies that have a history of using financial headroom to make new investments or to increase distributions to shareholders, we map using historic credit metrics, without factoring in the benefit of any reduction in leverage and associated improvement in credit metrics that may be shown in the financial projections based on current operations. Conversely, in cases where we believe that there is a high probability that a company's credit metrics will improve or deteriorate, we map using the prospective ratios.

For the purpose of this report, we have generally used a three-year average of the latest historical information. However, if updated information is publicly available, e.g. in relation to potential changes in a company's capital structure as has been the case for Veolia Water Central Limited (formerly Three Valleys Water Plc), we have already reflected this in the scoring for the credit metrics. Furthermore, for water utilities funded under a highly leveraged capital structure, as is the case for a number of the UK issuers, which form the largest group of rated issuers, we have taken into account certain cash-trapping financial covenants when assessing the utilities' positioning, particularly with respect to the Adjusted Interest Coverage and the Net Debt to Regulated Asset Base.

RATING GRID MAPPING

The following table shows the full mapping of each sub-factor to a broad rating category and the weighting of each sub-factor within Rating Factor #4.

Rating Category	Aaa	Aa	A	Baa	Ba	B	Caa	Weighting
(a) Adjusted Interest Cover OR FFO Interest Cover	>8.0x OR >10.0x	4.5-8.0x OR 7.0-10.0x	2.5-4.5x OR 4.5-7.0x	1.5-2.5x OR 2.5-4.5x	1.2-1.5x OR 1.8-2.5x	1.0-1.2x OR 1.5-1.8x	<1.0x OR <1.5x	15.00%
(b) Net Debt / Regulated Asset Base (or Fixed Assets) OR Debt/Cap	<25%	25-40%	40-55%	55-70%	70-85%	85-100%	>100%	15.00%
(c) FFO / Net Debt	>40%	25-40%	15-25%	10-15%	6-10%	4-6%	<4%	5.00%
(d) RCF / Capex	>3.5x	3.5-2.5x	1.5-2.5x	1.0-1.5x	0.5-1.0x	0.25-0.5x	<0.25x	5.00%

Structural Considerations and Sources of Rating Uplift from Creditor Protection

Regulated water utilities are financed under different financing structures. In particular, large regulated water utilities are becoming more highly leveraged as a result of changes in ownership and other corporate activity and may have to agree to creditor protection arrangements. Such arrangements are most common in the UK. A transition from a publicly listed model to private ownership by infrastructure, pension and other specialist funds has led to the adoption of financing structures that incorporate structural enhancements, which are often seen in project finance transactions in various infrastructure sectors.

Moody's believes that in the water sector structural enhancements may provide valuable creditor protection and be a source of rating uplift. We have classified the sources of rating uplift from creditor protection into three categories:

- Event risk protection
- Debt structure and liquidity protection
- Control afforded to creditors

For each category, we look at specific concessions made to creditors and score their effectiveness on a scale of five grades: "none", "low, "medium", "high" and "very high".

Legal considerations are typically important to determine the value of protective arrangements in the jurisdiction(s) that are relevant to a toll road operator's specific financial arrangements.

(i) Event Risk Protection

In this category, we typically review restrictive covenants including:

- Restrictions on permitted business outside the core water and wastewater activities
- Restrictions on acquisitions/disposals
- Restrictions on investments
- Restrictions on additional indebtedness

As we have discussed above, if these and similar restrictions are effective to remove event risk, the sub-factors under Rating Factor #3: Stability of Business Model & Financial Structure for Creditors will be scored higher (between Aaa and A), thus effectively giving some rating uplift compared to a generic benchmark assumed to be in the mid-point Baa range.

Moody's notes that certain funding arrangements may incorporate structural features designed to insulate the credit quality of the water utility from that of its wider corporate family, sponsors or sub-contractors. These features may be crucial for the rating of a regulated water utility to reflect exclusively its credit quality, assessed as described in this rating methodology. However, they do not enhance the water utility's stand-alone credit quality and therefore are not listed as a source of rating uplift.

(ii) Debt Structure and Liquidity Protection

Structural enhancements in this category address financial risks associated with liquidity, interest rate and refinancing risk. Typical arrangements include:

- Dedicated cash reserves to cover all costs for at least next 12 months under base case
- Timing reserves to cover future "lumpy" payments (e.g. maintenance)
- No material refinancing risk (e.g. benefits of amortising debt or restrictions on debt concentration)
- Covenanted hedging policies

The different arrangements may have more or less bearing in our assessment of how effective creditor protection in this category is, depending on the specific circumstances of the company. If we regard the overall

effectiveness of creditor protection for risks relating to debt structure and liquidity as very high, the rating would be raised by one notch.

We highlight that a fully amortising debt structure, typical of project financings and typically associated with adequate reserving and hedging arrangements, is generally regarded as necessary to achieve a score of "very high" in this category. However, we consider it very unlikely for a utility to adopt an amortising debt structure, given the ongoing capital investment programmes, which usually require constant additional funding. Refinancing risk thus tends to be a constant feature of regulated water utilities' financing structures.

(iii) Control Afforded to Creditors

Among the most typical structural features, financial covenants and security arrangements are included in this category, as they provide creditors with a degree of control over a company's financial and business decisions in downturns, which are not enjoyed in respect of a typical corporate issuer. Specific arrangements that we classify in this category include:

- Step-in rights and remedies to delay concession termination or insolvency (e.g. direct agreements, security and intercreditor agreements, warning system).
- Restrictions on payments and distribution lock-ups (e.g. if metrics deteriorate below minimum required parameters).
- Frequent and regular reports of creditors' technical advisers to sanction base case validity and compliance with contractual and financial obligations.

Again, if the overall effectiveness of arrangements in this category is scored as very high, a one-notch rating uplift is applied. As for the previous category, the whole package of structural enhancements is assessed to gauge the overall effectiveness. For example, independent validation of compliance with financial ratio covenants may be an important consideration for the purpose of assessing the effectiveness of such covenants.[15] Creditor step-in rights should be specifically permitted under the regulatory, licence or concession frameworks as well as the finance documents.

We give value to security arrangements – typically in respect of the shares in the regulated water company – only as one element, although generally a critical element, of a wider package of concessions designed to improve creditors' ability to detect early potential problems and rectify them if possible (in the first instance by retaining cash surpluses within the company), or, if remedial action is not possible or fails, to maximise recovery prospects. As normally security is not allowed or is not enforceable on the regulated or concession assets, a rating uplift is not generally achievable simply by the granting of security.

In conclusion, Moody's believes that structural enhancements can deliver up to three notches of uplift to the rating if they are very comprehensive and effective. In the regulated water utilities universe, actual rating uplift tends to range between one and two notches.

Rating Methodology Assumptions and Limitations, and other Rating Considerations

The rating methodology grid incorporates a trade-off between simplicity that enhances transparency and greater complexity that would enable the grid to map more closely to actual ratings. The four rating factors in the grid do not constitute an exhaustive treatment of all considerations that are important for ratings of companies in the regulated water and wastewater sector. In addition, our ratings incorporate expectations for future performance, while the financial information that is used to illustrate the mapping in the grid is mainly historical. In some cases, our expectations for future performance may be informed by confidential information that we cannot publish. In other cases, we estimate future results based upon past performance, industry trends, competitor actions and other factors. In either case, predicting the future is subject to the risk of substantial inaccuracy.

[15] A test to assess the effectiveness of financial covenants, in terms of definition and threshold levels, that we often use is to run increasingly negative downside sensitivities and see (i) whether and when distribution lock-ups are activated, and (ii) whether trapped cash provides material support to the company's credit metrics at meaningful levels.

Although the rating factors described in this methodology cover the principal drivers of our rating analysis, the analytical process also includes a number of important considerations that are consistently examined for fundamental issuers in general. Such factors include liquidity, notching practices for debt subordination, management quality and corporate governance, legal and environmental matters, financial reporting and overall disclosure, as well as the extent of likely government support. These matters are dealt with by Moody's in the form of overriding rating methodologies and practices that are applied in accordance with general credit policy guidelines. In situations where a water utility's rating is materially influenced by any such factor so as to diverge from the rating resulting from the application of Moody's industry methodology, we explain the relevant rating factors in company-specific research.

Regional Differences

UK

Moody's currently rates nine of the ten water and sewerage companies (WaSCs) operating in England and Wales as well as four of the eleven water only companies (WoCs). The WoCs are generally smaller in size and provide only water services within the overall franchise area of the larger WaSCs, which also undertake sewerage services.

The average rating of the UK water sector based on the credit quality of the relevant corporate family is around A3-Baa1, with most of the debt rated at A3. This reflects regulatory constraints that may restrict the ability of companies to position themselves lower in the rating scale, but also the industry's fundamental characteristics.

Overall, Moody's regards the risk profile of the UK regulated water utilities as one of the lowest amongst all industry sectors rated. In particular, we consider the UK regulatory framework as one of the most transparent and well-established, thus determining the high predictability of cash flows for the sector.

Based on the low business risk characteristics that are inherent in the generally monopolistic water sector as a whole, but are further enhanced through the strong regulatory framework applied in England and Wales, the UK water companies can sustain a relatively high level of leverage and maintain an investment-grade profile.

The UK water sector has recently completed the regulatory review process to determine prices for the five-year period 2010-15. The final price determination, published in November 2009, includes challenging assumptions for the UK water companies. Whilst we believe that the price review is overall neutral for credit ratings in the sector, we expect that shareholder returns will decline. Dividend policies that do not reflect the realities of both the new price limits and the size of each company's capital investment programme may lead to downward rating pressure for individual companies.

Over the long term, the sector may face challenges from the possible introduction of competition to certain elements of the value chain. Several recommendations have been made, including the vertical separation of the activities of the companies and proposals for developing upstream competition. Moody's does not believe that the proposed changes will adversely affect the business risk profiles of the water companies over the medium term. Furthermore, we expect that certain segments of the industry, such as the infrastructure networks, will retain natural monopoly characteristics over the very long term.

Rest of Western Europe

Unlike in the UK, water services in the rest of Western Europe remain largely in public hands. In particular, the water and wastewater infrastructure usually remains in the ownership of local or regional governments. The assets and/or their operations could be transferred to a government-related corporate entity, as is the case for Acquedotto Pugliese S.p.A., a regional water utility that is owned by the regional government of the Italian region of Puglia where the company operates. However, very few of these entities have accessed the debt capital markets to date.

In a number of cases, local or regional governments have outsourced the operations of their water and wastewater infrastructure to the private sector, mainly through short-term management contracts, e.g. in France. However, such pure asset operators are outside of the scope of this methodology. For example, major water contractors, such as Suez Environnement or Veolia Environnement are not covered in this methodology, given that their credit profile is subject to different assumptions due to the competitive element of their operations.

On the other hand, the methodology captures AGBAR of Spain, whose activities combine the operation of assets under short-to-medium-term contracts with long-term concessions and licensed operations.

Central and Eastern Europe – Example: Slovakia

Although Moody's views favourably the historically strong balance sheet structure and strong cash flow generation of water companies in Slovakia, our rating assessment includes a forward looking assumption of increasing leverage and consequent weakening of credit metrics due to anticipated sizable investment expenditures necessary to comply with EU directives. For example, the European Water Framework Directive 2000/60/EC stipulates that all towns or villages of 2,000 or more citizens will need to have sewage system coverage by 2015. Although these EU requirements represent an obligation of the Slovak Republic, designated government support or EU funding for water companies has not yet been specifically defined. Moody's notes that fulfilling these requirements will require significant investments, thereby increasing the risk of deterioration in the companies' financial profiles. Unless the future capital investment needs are partially accommodated by state or EU funds or supported by a more benign regulatory regime, the companies (including BVS) would need to raise significant external debt. Moody's views the companies' current debt capacity as sufficient to absorb such debt, but cautions that the level of the debt capacity might be significantly constrained in case the pressure to maintain low water and sewage tariffs further escalates, preventing companies from preserving their financial profiles.

United States

In the US, there are federal guidelines related to water quality but utilities are also subject to regulation at the state level for quality, service, and, importantly, rate-setting. Moody's views each state individually and considers the various factors that affect the utilities profitability including, the type of fixed- versus variable-rate design allowed, historically authorised ROEs, and the existence of riders or other mechanism's that permit recovery of operating and capital costs outside of a general rate case. Additionally, we analyse the strength of any regulatory ring-fencing provisions that could limit the level of financial leverage the utility can operate at or restrictions on upstream dividends to parent companies or shareholders.

Latin America – Example: Brazil

Ratings for Brazilian water utilities are constrained by the lack of a consolidated regulatory framework to ensure stable and predictable levels of income and cash flows supportive of its capital-intensive activities. Water and wastewater services in Brazil are subject to several laws at federal, state and municipal levels. In general, the companies operate at the state or municipal level, pursuant to long-term concession agreements with the various municipalities, which own the underlying concession assets. Concession contracts often lack provisions for tariff adjustments, so rates are set by the state government, leaving ample room for politically driven decisions. Such political interference has been a primary factor driving deterioration in operating margins in the sector. The concession contracts often have written provision clauses that entitle the company for the recovery of the assets' residual value at termination; however, because the municipalities lack sufficient financial resources to fund investments or to reimburse past investments themselves, the terminated concessions tend to be renewed.

Conclusion: Summary of the Grid-Indicated Rating Outcomes

For the 23 regulated water companies scored in detail under the methodology (excluding Severn Trent Plc and United Utilities Plc as pure holding companies; as well as Korea Water Resources Corp.), the methodology grid-indicated ratings map to current assigned ratings (or BCAs where relevant) as follows (please see Appendix II for further details):

- 52% or 12 companies map to their assigned rating (or BCA where relevant)
- 44% or 10 companies have grid-indicated ratings that are within one alpha-numeric notches of their assigned ratings (or BCAs where relevant)
- 4% or 1 company has grid-indicated ratings that are within two alpha-numeric notches of their assigned ratings (or BCAs where relevant)

Overall, all of the grid-indicated rating outcomes are within two alpha-numeric notches of their assigned ratings (or BCAs where relevant) and 96% of the grid-indicated ratings are within one alpha-numeric notch of their assigned ratings (or BCAs where relevant). We note that some of the multi-notch differentials relate to issuers, whose ratings are notched for structural subordination, which is not reflected in the rating methodology grid.

Appendix I – Regulated Water Utilities Rating Grid

Rating Category	Aaa	Aa	A	Baa	Ba	B	Caa	Weighting
Rating Factor 1 – Regulatory Environment & Asset Ownership Model								
(a) Stability and Predictability of Regulatory Environment	Regulation is independent, well established (>15 years of being predictable and stable) and transparent (published methodologies clearly define risk allocation between companies and customers and are consistently applied, with public or shared financial model)	Regulation is independent, reasonably well established (>10 years of being predictable and stable) and transparent (published methodologies clearly define risk allocation between companies and customers and are generally consistently applied) Regulatory framework has been mostly predictable and stable in recent years and is supportive of utilities	Regulation is generally independent and developed (published methodologies set out principles of risk allocation between companies and customers and are based on established precedents in the same jurisdiction); and has above average predictability and reliability, although regulatory regime may be sometimes less supportive of utilities Utility regulatory body may be a state commission or national, state, provincial or independent regulator	Regulatory framework is well developed, with evidence of some inconsistency or unpredictability in the framework's application OR Regulatory framework is relatively new and untested, but methodologies are based on established precedents and jurisdiction has history of independent and transparent regulation for other utility services Regulatory Environment may sometimes be challenging or politically charged	Regulatory framework is defined but there is a high degree of inconsistency or unpredictability in its application; tariff setting is subject to negotiation and political interference; there has been a history of difficult or less supportive regulatory decisions; some precedents in the country of predictable regulation for other utility services	Regulatory framework is unclear, untested or undergoing significant change, with a history of political interference Utility regulatory body lacks a consistent track record and appears unsupportive, uncertain or highly unpredictable	Regulatory framework is not defined, unpredictable or politically driven	15.00%
(b) Asset Ownership Model	All key water and/or sewerage assets held outright in perpetuity	All key water and/or sewerage assets held outright under licence which can be terminated for underperformance, failure to meet certain financial parameters or insolvency OR held under long-term concession with clearly defined right to timely recovery of residual asset	All key water and/or sewerage assets held under long-term concession with clearly defined right to recover value of residual assets at termination/end of concession underpinned by highly rated entity but with undefined timeframe OR held under medium-/	All key water and/or sewerage assets held under long-term concession with entitlement to recover value of residual assets at termination/end of concession but procedures untested/undefined OR held under medium-/ long-term operating leases or mgmt	All key water and/or sewerage assets held under concession with recovery of residual asset value at termination/end of concession subject to negotiation OR held under short-term operating leases or mgmt contract with good degree of portfolio diversification and renewal	All key water and/or sewerage assets held under concession with no recovery of residual asset value at termination/end of concession OR held under short-term operating leases or mgmt contract (limited portfolio diversification) Expropriation	Issuer is in default under its licence, concession or lease/contrac, likely to lead to termination Expropriation highly likely, no prospect of compensation	10.00%

Global Regulated Water Utilities

Rating Category	Aaa	Aa	A	Baa	Ba	B	Caa	Weighting
		value at termination/end of concession underpinned by highly rated entity; clear track record of consistently applying concession termination / recovery regime	long-term operating leases or mgmt contract with very substantial portfolio diversification, very established market position and very high renewal rate (>95%)	contract with substantial portfolio diversification, established market position and high renewal rate (>90%)	rate (>80%) Expropriation possible, but some prospect of compensation	likely, little or no prospect of compensation		
(c) Cost and Investment Recovery (Ability & Timeliness)	No regulatory or contractual impediment to adjust tariffs (no approval or reviews required)	Tariff formula allows for timely recovery of operating expenditure including depreciation and a fair return on all investment Depreciation allowance fairly reflects asset consumption All capital expenditure is included in asset base as incurred or fully covered by specific riders/surcharges prior to the next rate case Minimal challenges by regulators to companies' cost assumptions	Tariff formula allows for recovery of operating expenditure including depreciation based on allowances set at frequent price reviews (5-yearly intervals or shorter) and a fair return on all efficient investment Depreciation allowance fairly reflects asset consumption Capital expenditure is included in asset base as incurred or partially covered by specific riders/surcharges prior to the next rate case Opex and capex can be subject to efficiency tests Limited instances of regulatory challenges; limited delays to rate or tariff increases or cost recovery	Tariff formula allows for recovery of operating expenditure including depreciation and return on investment but subject to retrospective regulatory approval or infrequent price reviews (> 5-yearly intervals) Some instances of revenue back-loading (e.g. depreciation allowance set below asset consumption or operating expenditure is capitalised) OR Rate/tariff reviews and cost recovery outcomes are usually predictable, although application of tariff formula may be unclear; potentially greater tendency for regulatory intervention and/or to disallow or delay costs	Tariff formula does not take into account all cost components and depreciation is set below asset consumption Revenues allow coverage of most operating expenditure But investment is not clearly or fairly remunerated OR Rate/tariff reviews are inconsistent, with some history of unwillingness to make timely rate changes	Tariff formula does not take into account all cost components and depreciation is set below asset consumption Revenues only cover cash operating expenditure OR Highly uncertain rate reviews and cost recovery outcomes; regulators may engage in second guessing or spending decisions or deny rate increases to fund ongoing operations	Revenues only partially cover cash operating costs	12.00%

Global Regulated Water Utilities

Rating Category	Aaa	Aa	A	Baa	Ba	B	Caa	Weighting
(d) Revenue Risk	No exposure to volume or customer concentration risk	Little exposure to volume risk and/or timely recovery mechanism Little concentration of volumes and revenues to one particular customer	Some exposure to volume risk but recovery mechanism with some delay through regulatory price review; generally limited volatility expected Some concentration of volumes and revenues to one particular customer	Moderate exposure to volume risk but recovery mechanism with some delay through regulatory price review; moderate volatility expected AND/OR Moderate concentration of volumes and revenues to one particular customer and/or industry sector	Significant exposure to volume risk but recovery mechanism, which may not follow regular intervals; significant volatility expected OR Significant concentration of volumes and revenues to one particular customer and/or industry sector	High exposure to volume risk with no clear recovery mechanism OR High concentration of volumes and revenues to one particular customer and/or industry sector	Very high exposure to volume risk with no existing recovery mechanism OR Very high concentration of volumes and revenues to one particular customer and/or industry sector	3.00%
Rating Factor 2 – Operational Characteristics & Asset Risk								
(a) Operational Efficiency	Consistently achieves maximum results on all relevant performance measures (both cost efficiency and service levels)	Track record of very high performance (consistently at the efficiency frontier and in the top 10% on relevant key performance measures)	Consistent track record of outperforming regulatory opex and capex targets; above national average on relevant key performance measures	Performance in line with national average; no history of material opex and/or capex overruns	Some history of material opex and/or capex overruns; below national average on relevant key performance measures	Currently experiencing serious capex and/or opex overruns; poor track record on relevant key performance measures	Very serious cost overruns or service failures could put issuer in default under its licence, concession or lease/contract	5.00%
(b) Scale and Complexity of Capital Programme & Asset Condition Risk	Annual total capital expenditure (maintenance & enhancement) ≤ 4% of total fixed assets or regulated asset base AND/OR No asset condition risk (i.e. full and immediate cost pass-through)	Annual total capital expenditure (maintenance & enhancement) > 4% ≤ 6% of total fixed assets or regulated asset base AND/OR Well-developed asset base under tight regulatory supervision; asset performance is generally stable or improving	Annual total capital expenditure (maintenance & enhancement) > 6% ≤ 8% of total fixed assets or regulated asset base AND/OR Well-developed asset base and no history of serious asset failure; asset performance is generally stable or improving	Annual total capital expenditure (maintenance & enhancement) > 8% ≤ 12% of total fixed assets or regulated asset base AND/OR Company has a reasonably developed asset base; may have some precedents of serious asset failures but asset performance is now broadly stable	Annual total capital expenditure (maintenance & enhancement) > 12% ≤ 20% of total fixed assets or regulated asset base OR Small number of large and complex projects accounts for majority of capital programme AND/OR Asset base not fully developed; average asset performance is gradually deteriorating or there is some uncertainty about asset condition	Annual total capital expenditure (maintenance & enhancement) > 20% ≤ 30% of total fixed assets or regulated asset base OR One large and complex project accounts for majority of capital programme AND/OR Performance of most assets is materially deteriorating, with serious assets failures likely or ongoing	Annual total capital expenditure (maintenance & enhancement) > 30% of total fixed assets or regulated asset base OR Capital programme includes one or more large projects of extreme technical complexity AND/OR Rapidly deteriorating asset performance or condition could put issuer in default under licence, concession or lease/contract likely to lead to termination	5.00%

Global Regulated Water Utilities

Rating Category	Aaa	Aa	A	Baa	Ba	B	Caa	Weighting
Rating Factor 3 – Stability of Business Model & Financial Structure								
(a) Ability and Willingness to Pursue Opportunistic Corporate Activity (M&A, Disposals & Investments)	Covenants prohibit all corporate activity OR Corporate activity is outside of management mandate	Covenants or licence/concession largely limit corporate activity, with exception of certain defined permitted investments	Strong track record of no material corporate activity and stated intention to refrain from M&A and major investments	Moderate, may impact credit metrics for 18-24 months only	Track record of repetitive, sizeable transactions	Highly likely to conduct frequent and very large opportunistic investments		3.33%
(b) Ability and Willingness to Increase Leverage	No additional indebtedness allowed without debt holders' consent	Additional indebtedess only allowed for capex under debt covenants and/or licence/concession terms	Financial covenants in principal debt instruments limit management ability to materially increase leverage	Conservative financial strategy, unlikely to compromise minimum financial parameters	Limited track record of consistent financial policies; likely to target high leverage	Track record of aggressive financial policies and very high leverage; likely to pay out creditors' financial cushion ahead of business pressures		3.33%
(c) Targeted Proportion of Operating Profit outside Core Water and Wastewater Activities	0% (=exclusive focus on core water and wastewater services) OR Covenants prohibit all other businesses	0-5% OR Covenants largely limit non-concession businesses, with exception of certain defined and low risk permitted businesses	5-10%	10-15%	15-20%	>20%		3.33%
Factor 4: Key Credit Metrics								
(a) Adjusted Interest Cover	>8.0x	4.5-8.0x	2.5-4.5x	1.5-2.5x	1.2-1.5x	1.0-1.2x	<1.0x	15.00%
OR	OR	OR	OR	OR	OR	OR	OR	
FFO Interest Cover	>10.0x	7.0-10.0x	4.5-7.0x	2.5-4.5x	1.8-2.5x	1.5-1.8x	<1.5x	
(b) Net Debt / Regulated Asset Base (or Fixed Assets) OR Debt/Cap	<25%	25-40%	40-55%	55-70%	70-85%	85-100%	>100%	15.00%
(c) FFO / Net Debt	>40%	25-40%	15-25%	10-15%	6-10%	4-6%	<4%	5.00%
(d) RCF / Capex	>3.5x	3.5-2.5x	1.5-2.5x	1.0-1.5x	0.5-1.0x	0.25-0.5x	<0.25x	5.00%

Appendix II – Indicated Ratings and Results of Mapping

An issuer may score higher or lower for any given factor or sub-factor than its actual or indicated rating implies. This is not in itself a concern, but rather reflects the relative strength and weaknesses of each individual issuer in relation to each of the sub-factors. Indeed, there is a propensity for privately-owned regulated water utilities to utilise their debt service capacity and leverage on their strong business fundamentals to improve shareholder returns. Therefore, it would not be uncommon to see issuers scoring high for fundamental business risk factors and relatively low on the key credit metrics, to achieve a rating comfortably in the investment-grade category, i.e. around low single-A to high-Baa.

On the other hand, issuers in less developed markets may exhibit the reverse as a strong financial profile is required to offset the relative weakness of less transparent and established regulatory regimes.

The full results of the rating mapping and indicated ratings is summarised below. Certain UK issuers, which have been funded under a more structured approach, including credit-enhancing features, receive additional rating uplift, as shown below.

After the main summary table, we discuss individual mappings and outliers for each of the key rating factors separately.

					Factor 1				Factor 2		Factor 3			Factor 4			
Sub-Factor Weights					15.0%	10.0%	12.0%	3.0%	5.0%	5.0%	3.3%	3.3%	3.3%	15.0%	15.0%	5.0%	5.0%
	Rating	Factor Indicated Rating	Uplift	Final Indicated Rating	Stability and Predictability of Regulatory Environment	Asset Ownership Model	Cost and Investment Recovery	Revenue Risk	Operational Efficiency	Scale and Complexity of Capital Programme & Asset Condition Risk	Ability and Willingness to Pursue Opportunistic Corporate Activity	Ability and Willingness to Increase Leverage	Targeted Proportion of Operating Profit Outside Core Water and Wastewater Activities	Adjusted Interest Cover (or FFO Interest Cover)	Net Debt/ RAB (or Debt/ Cap)	FFO/ Debt	RCF/ Capex
Europe																	
Acquedotto Pugliese S.p.A.	Baa3 [12]	Ba3	0	Ba3	Ba	Baa	Baa	Aa	Ba	Caa	A	A	Aa	Ba	B	Ba	Caa
Bratislavska vodarenska spolocnost, a.s.	Baa2 [11]	Baa3	0	Baa3	B	Aa	B	Ba	Ba	Ba	A	Ba	Aa	Aaa	Aaa	Aaa	Ba
Sociedad General de Aguas de Barcelona, S.A. (AGBAR)	A2	A3	0	A3	A	A	Aa	A	A	Baa	Baa	Baa	B	A	A	Aa	Ba
Anglian Water Services Limited	Baa1	Baa2	+1	Baa1	Aaa	Aa	A	A	Baa	A	Aa	A	Aa	Ba	Ba	Ba	Ba
Dwr Cymru Cyfyngedig	A3	Baa1	0	Baa1	Aaa	Aa	A	A	Baa	A	Aa	A	Aa	Baa	Ba	Baa	Ba
Northumbrian Water Limited	Baa1	Baa1	0	Baa1	Aaa	Aa	A	A	Baa	Baa	A	Baa	Aa	Baa	Ba	Baa	Ba
Severn Trent Water Limited	A3	A3	0	A3	Aaa	Aa	A	A	Baa	A	A	Baa	Aa	Baa	Baa	A	Ba
Southern Water Services Limited	Baa1	Baa2	+1	Baa1	Aaa	Aa	A	A	Baa	Baa	Aa	A	Aa	Ba	Ba	Baa	Ba
Thames Water Utilities Limited	Baa1	Baa2	+1	Baa1	Aaa	Aa	A	A	Baa	Ba	Aa	A	Aa	Ba	Ba	A	B
United Utilities Water Plc	A3	A3	0	A3	Aaa	Aa	A	A	Baa	Baa	A	Baa	Aa	Baa	Baa	A	Ba

Global Regulated Water Utilities

					Factor 1				Factor 2		Factor 3			Factor 4			
Sub-Factor Weights					15.0%	10.0%	12.0%	3.0%	5.0%	5.0%	3.3%	3.3%	3.3%	15.0%	15.0%	5.0%	5.0%
	Rating	Factor Indicated Rating	Uplift	Final Indicated Rating	Stability and Predictability of Regulatory Environment	Asset Ownership Model	Cost and Investment Recovery	Revenue Risk	Operational Efficiency	Scale and Complexity of Capital Program & Asset Condition Risk	Ability and Willingness to Pursue Opportunistic Corporate Activity	Ability and Willingness to Increase Leverage	Targeted Proportion of Operating Profit Outside Core Water and Wastewater Activities	Adjusted Interest Cover (or FFO Interest Cover)	Net Debt/ RAB (or Debt/ Cap)	FFO/ Debt	RCF/ Capex
Wessex Water Services Limited	A3	A3	0	A3	Aaa	Aa	A	A	Baa	Baa	A	Baa	Aa	Baa	Baa	Baa	Ba
Yorkshire Water Services Limited	Baa1	Baa1	+1	A3	Aaa	Aa	A	A	A	A	Aa	A	Aa	Ba	Ba	Baa	Ba
South East Water Limited	Baa2	Baa2	0	Baa2	Aaa	Aa	A	A	Baa	Baa	Aa	A	Aa	Ba	Ba	Ba	Ba
South Staffordshire Water Plc	Baa2	Baa2	0	Baa2	Aaa	Aa	A	A	A	Ba	Aa	A	Aa	Ba	Ba	A	Ba
Sutton & East Surrey Water Plc	Baa1	Baa2	+1	Baa1	Aaa	Aa	A	Baa	Baa	Ba	Aa	A	Aa	Ba	Ba	A	Ba
Veolia Water Central Ltd (formerly Three Valleys Water)	A3	Baa1	0	Baa1	Aaa	Aa	A	A	Baa	Ba	A	Baa	Aa	Ba	Baa	A	Ba
North America																	
American Waterworks Company, Inc.	Baa2	Baa2	0	Baa2	Baa	A	A	Aa	Baa	Baa	Baa	Baa	Baa	Baa	Baa	Baa	Ba
New Jersey American Water	Baa1	A3	0	A3	A	Aa	A	A	Baa	Baa	A	A	Aa	A	A	A	Ba
Pennsylvania-American Water Company	Baa1	A3	0	A3	A	Aa	Aa	A	Baa	Baa	A	A	Aa	Baa	A	A	Ba
Golden State Water Company	A2	A3	0	A3	A	Aa	A	A	Baa	Baa	A	A	Aa	Baa	A	A	Ba
Pennichuck Water Works, Inc.	Baa3	Baa1	0	Baa1	Baa	Aa	A	Baa	Baa	Baa	A	A	Aa	Baa	A	Baa	B
United Waterworks, Inc.	Baa1	Baa1	0	Baa1	Baa	A	A	A	Baa	A	Baa	Baa	Aa	Baa	A	Baa	B
Latin America																	
Companhia de Saneamento do Parana - SANEPAR	Ba3 [13]	Ba2	0	Ba2	B	Baa	B	Baa	Baa	Ba	Baa	Ba	Aa	Baa	A	A	Ba

Positive Outlier
Negative Outlier

Global Regulated Water Utilities

Rating Factor #1 – Results of Mapping

Factor 1 - Regulatory Environment and Asset Ownership Model

Sub-Factor Weights				15.00%	10.00%	12.00%	3.00%
Company	Current Rating	Outlook	Final Indicated Rating	Stability and Predict-ability of Regulatory Environ-ment	Asset Ownership Model	Cost and Investment Recovery (Ability & Timeliness)	Revenue Risk
Europe							
Acquedotto Pugliese S.p.A.	Baa3 [12]	Negative	Ba3	Ba	Baa	Baa	Aa
Bratislavska vodarenska spolocnost, a.s.	Baa2 [11]	Stable	Baa3	B	Aa	B	Ba
Sociedad General de Aguas de Barcelona, S.A. (AGBAR)	A2	UR-D	A3	A	A	Aa	A
Anglian Water Services Limited	Baa1	Stable	Baa1	Aaa	Aa	A	A
Dwr Cymru Cyfyngedig	A3	Stable	Baa1	Aaa	Aa	A	A
Northumbrian Water Limited	Baa1	Stable	Baa1	Aaa	Aa	A	A
Severn Trent Water Limited	A3	Stable	A3	Aaa	Aa	A	A
Southern Water Services Limited	Baa1	Stable	Baa1	Aaa	Aa	A	A
Thames Water Utilities Limited	Baa1	Stable	Baa1	Aaa	Aa	A	A
United Utilities Water Plc	A3	Stable	A3	Aaa	Aa	A	A
Wessex Water Services Limited	A3	Stable	A3	Aaa	Aa	A	A
Yorkshire Water Services Limited	Baa1	Stable	A3	Aaa	Aa	A	A
South East Water Limited	Baa2	Stable	Baa2	Aaa	Aa	A	A
South Staffordshire Water Plc	Baa2	Stable	Baa2	Aaa	Aa	A	A
Sutton & East Surrey Water Plc	Baa1	Stable	Baa1	Aaa	Aa	A	Baa
Veolia Water Central Ltd (formerly Three Valleys Water)	A3	Negative	Baa1	Aaa	Aa	A	A
North America							
American Waterworks Company, Inc.	Baa2	Stable	Baa2	Baa	A	A	Aa
New Jersey American Water	Baa1	Stable	A3	A	Aa	A	A
Pennsylvania-American Water Company	Baa1	Stable	A3	A	Aa	Aa	A
Golden State Water Company	A2	Stable	A3	A	Aa	A	A
Pennichuck Water Works, Inc.	Baa3	Stable	Baa1	Baa	Aa	A	Baa
United Waterworks, Inc.	Baa1	Negative	Baa1	Baa	A	A	A
Latin America							
Companhia de Saneamento do Parana - SANEPAR	Ba3 [13]	Negative	Ba2	B	Baa	B	Baa

Positive Outlier
Negative Outlier

Observations & outliers:

Given the fundamentally low business risk of the regulated water sector, it is not surprising that most issuers score strongly on this factor. Most notably are the UK water companies as positive outliers reflecting the transparent, stable and predictable nature of the regulatory framework applied, which is seen as benchmark for the global regulated water sector.

Global Regulated Water Utilities

Rating Factor #2 – Results of Mapping

Factor 2 – Operational Characteristics & Asset Risk

Sub-Factor Weights				5.00%	5.00%
Company	**Current Rating**	**Outlook**	**Final Indicated Rating**	**Opera-tional Efficiency**	**Scale & Comple-xity of Capital Programme & Asset Condition Risk**
Europe					
Acquedotto Pugliese S.p.A.	Baa3 [12]	Negative	Ba3	Ba	Caa
Bratislavska vodarenska spolocnost, a.s.	Baa2 [11]	Stable	Baa3	Ba	Ba
Sociedad General de Aguas de Barcelona, S.A. (AGBAR)	A2	UR-D	A3	A	Baa
Anglian Water Services Limited	Baa1	Stable	Baa1	Baa	A
Dwr Cymru Cyfyngedig	A3	Stable	Baa1	Baa	A
Northumbrian Water Limited	Baa1	Stable	Baa1	Baa	Baa
Severn Trent Water Limited	A3	Stable	A3	Baa	A
Southern Water Services Limited	Baa1	Stable	Baa1	Baa	Baa
Thames Water Utilities Limited	Baa1	Stable	Baa1	Baa	Ba
United Utilities Water Plc	A3	Stable	A3	Baa	Baa
Wessex Water Services Limited	A3	Stable	A3	Baa	Baa
Yorkshire Water Services Limited	Baa1	Stable	A3	A	A
South East Water Limited	Baa2	Stable	Baa2	Baa	Baa
South Staffordshire Water Plc	Baa2	Stable	Baa2	A	Ba
Sutton & East Surrey Water Plc	Baa1	Stable	Baa1	Baa	Ba
Veolia Water Central Ltd (formerly Three Valleys Water)	A3	Negative	Baa1	Baa	Ba
North America					
American Waterworks Company, Inc.	Baa2	Stable	Baa2	Baa	Baa
New Jersey American Water	Baa1	Stable	A3	Baa	Baa
Pennsylvania-American Water Company	Baa1	Stable	A3	Baa	Baa
Golden State Water Company	A2	Stable	A3	Baa	Baa
Pennichuck Water Works, Inc.	Baa3	Stable	Baa1	Baa	Baa
United Waterworks, Inc.	Baa1	Negative	Baa1	Baa	A
Latin America					
Companhia de Saneamento do Parana - SANEPAR	Ba3 [13]	Negative	Ba2	Baa	Ba

Positive Outlier
Negative Outlier

Observations & outliers:

There are a few negative outliers on the sub-factor that relates to the scale and complexity of the capital programme, reflecting comparably large investment programmes planned over the medium term.

Global Regulated Water Utilities

Rating Factor # 3 – Results of Mapping

Factor 3 – Stability of Business Model & Financial Structure

Sub-Factor Weights				3.33%	3.33%	3.33%
Company	**Current Rating**	**Outlook**	**Final Indicated Rating**	**Ability and Willingness to Pursue Opportunistic Corporate Activity (M&A, Disposals & Investments)**	**Ability and Willingness to Increase Leverage**	**Targeted Proportion of Operating Profit Outside Core Water and Waste-water Activities**
Europe						
Acquedotto Pugliese S.p.A.	Baa3 [12]	Negative	Ba3	A	A	Aa
Bratislavska vodarenska spolocnost, a.s.	Baa2 [11]	Stable	Baa3	A	Ba	Aa
Sociedad General de Aguas de Barcelona, S.A. (AGBAR)	A2	UR-D	A3	Baa	Baa	B
Anglian Water Services Limited	Baa1	Stable	Baa1	Aa	A	Aa
Dwr Cymru Cyfyngedig	A3	Stable	Baa1	Aa	A	Aa
Northumbrian Water Limited	Baa1	Stable	Baa1	A	Baa	Aa
Severn Trent Water Limited	A3	Stable	A3	A	Baa	Aa
Southern Water Services Limited	Baa1	Stable	Baa1	Aa	A	Aa
Thames Water Utilities Limited	Baa1	Stable	Baa1	Aa	A	Aa
United Utilities Water Plc	A3	Stable	A3	A	Baa	Aa
Wessex Water Services Limited	A3	Stable	A3	A	Baa	Aa
Yorkshire Water Services Limited	Baa1	Stable	A3	Aa	A	Aa
South East Water Limited	Baa2	Stable	Baa2	Aa	A	Aa
South Staffordshire Water Plc	Baa2	Stable	Baa2	Aa	A	Aa
Sutton & East Surrey Water Plc	Baa1	Stable	Baa1	Aa	A	Aa
Veolia Water Central Ltd (formerly Three Valleys Water)	A3	Negative	Baa1	A	Baa	Aa
North America						
American Waterworks Company, Inc.	Baa2	Stable	Baa2	Baa	Baa	Baa
New Jersey American Water	Baa1	Stable	A3	A	A	Aa
Pennsylvania-American Water Company	Baa1	Stable	A3	A	A	Aa
Golden State Water Company	A2	Stable	A3	A	A	Aa
Pennichuck Water Works, Inc.	Baa3	Stable	Baa1	A	A	Aa
United Waterworks, Inc.	Baa1	Negative	Baa1	Baa	Baa	Aa
Latin America						
Companhia de Saneamento do Parana - SANEPAR	Ba3 [13]	Negative	Ba2	Baa	Ba	Aa

Positive Outlier
Negative Outlier

Observations & outliers:

There are a number of positive outliers on this factor, mostly reflecting restrictive licence conditions or additional contractual arrangements that limit a regulated water utility's activity and ensure that it maintains focus on the core regulated activities.

Negative outliers usually relate to utilities that have other activities in addition to the core regulated business. AGBAR, for example, currently still operates a health insurance and hospital management business, although it is in the process of selling it. Upon completion of such sale, the company's score under the sub-factor for targeted proportion of operating profit outside of core activities would likely improve significantly, unless it embarks on activities other than the regulated water and waste water business.

Global Regulated Water Utilities

Rating Factor # 4 – Results of Mapping

Factor 4 – Key Credit Metrics

Sub-Factor Weights				15.00%	15.00%	5.00%	5.00%
Company	Current Rating	Outlook	Final Indicated Rating	Adjusted Interest Coverage (FFO Interest Coverage)	Net Debt/RAB (or Debt/Cap)	FFO/Net Debt	RCF/ Capex
Europe							
Acquedotto Pugliese S.p.A.	Baa3 [12]	Negative	Ba3	Ba	B	Ba	Caa
Bratislavska vodarenska spolocnost, a.s.	Baa2 [11]	Stable	Baa3	Aaa	Aaa	Aaa	Ba
Sociedad Geenral de Aguas de Barcelona, S.A. (AGBAR)	A2	UR-D	A3	A	A	Aa	Ba
Anglian Water Services Limited	Baa1	Stable	Baa1	Ba	Ba	Ba	Ba
Dwr Cymru Cyfyngedig	A3	Stable	Baa1	Baa	Ba	Baa	Ba
Northumbrian Water Limited	Baa1	Stable	Baa1	Baa	Ba	Baa	Ba
Severn Trent Water Limited	A3	Stable	A3	Baa	Baa	A	Ba
Southern Water Services Limited	Baa1	Stable	Baa1	Ba	Ba	Baa	Ba
Thames Water Utilities Limited	Baa1	Stable	Baa1	Ba	Ba	A	B
United Utilities Water Plc	A3	Stable	A3	Baa	Baa	A	Ba
Wessex Water Services Limited	A3	Stable	A3	Baa	Baa	Baa	Ba
Yorkshire Water Services Limited	Baa1	Stable	A3	Ba	Ba	Baa	Ba
South East Water Limited	Baa2	Stable	Baa2	Ba	Ba	Ba	Ba
South Staffordshire Water Plc	Baa2	Stable	Baa2	Ba	Ba	A	Ba
Sutton & East Surrey Water Plc	Baa1	Stable	Baa1	Ba	Ba	A	Ba
Veolia Water Central Ltd (formerly Three Valleys Water)	A3	Negative	Baa1	Ba	Baa	A	Ba
North America							
American Waterworks Company, Inc.	Baa2	Stable	Baa2	Baa	Baa	Baa	Ba
New Jersey American Water	Baa1	Stable	A3	A	A	A	Ba
Pennsylvania-American Water Company	Baa1	Stable	A3	Baa	A	A	Ba
Golden State Water Company	A2	Stable	A3	Baa	A	A	Ba
Pennichuck Water Works, Inc.	Baa3	Stable	Baa1	Baa	A	Baa	B
United Waterworks, Inc.	Baa1	Negative	Baa1	Baa	A	Baa	B
Latin America							
Companhia de Saneamento do Parana - SANEPAR	Ba3 [13]	Negative	Ba2	Baa	A	A	Ba

Positive Outlier
Negative Outlier

Observations & outliers:

There are a number of negative outliers for this factor, reflecting the generally free cash flow negative nature of the industry. Furthermore, a number of issuers have fully utilised the debt capacity provided by the fundamentally low business risk characteristics of regulated water utilities. We note that for those issuers – particularly in the UK – that have executed financing transactions with credit-enhancing features, we have scored the relevant sub-factors (Adjusted Interest Coverage and Net Debt to RAB) in accordance with the cash lock-up triggers embedded in the funding structure. These companies are likely to exhibit a financial profile close to the financial covenants – whose breach would trigger a distribution lock-up – reflecting their generally large capex funding requirements as well as their shareholder structure, particularly the presence of infrastructure and other specialist funds.

Positive outliers under this factor essentially include issuers located in developing countries or other jurisdictions with weaker business fundamentals.

Appendix III - Industry Overview

Generally, regulated water utilities exhibit significantly lower business risk than other rated corporate sectors, and are considered by Moody's as exhibiting one of the lowest business risk profile even among other infrastructure issuers.[16]

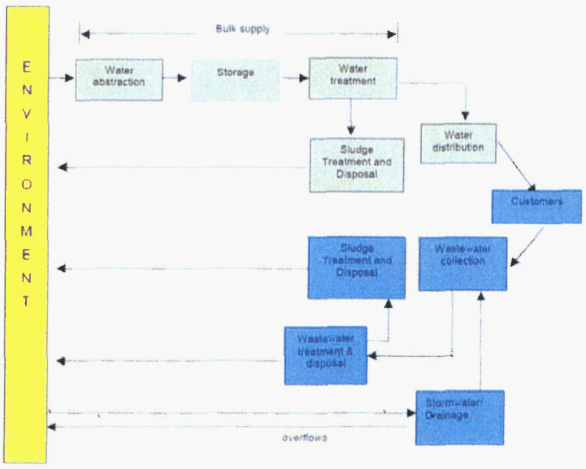
Under developed regulatory frameworks, the very low business risk primarily reflects:

- Monopoly-type activities, most commonly supported by long-term licence or concession agreements.
- Characteristically strong visibility in revenues and profit generation, due to (i) importance of water and wastewater services provided, which results in overall low demand volatility and general resilience to economic fluctuations, and (ii) clear and predictable mechanisms for tariff increases (embedded in the regulatory framework or concession regime), which will sustain revenues over the long term.
- Strong regulatory supervision due to the critical element of health and environmental implications of the water and wastewater services.

The high and sustainable levels of cash flows afforded by these characteristics can also translate into a significant capacity to sustain high debt levels over the long term. This is of particular importance as the sector as a whole has massive infrastructure funding needs to enhance the existing facilities to improve health and environmental standards. Due to the significant investment requirements issuers will need constant access to external funding as the vast amount of investments cannot be solely covered from internal cash flow generation. Although customer bills continue to rise to cover for the additional costs in financing the water and wastewater infrastructure (partly offset by efficiency savings in the operations), the industry also remains heavily subsidised.[17]

The graph below shows the main components of the water and wastewater value chain that form part of the overall services provision.

Value Chain of Water and Wastewater Services



Source: Study on the Application of the Competition Rules to the Water Sector in the European Community, Dec 2002, prepared by WRc and Economic for the European Commission

[16] Please see Moody's Special Comment: "Regulated Industries – Q&A on Lending against the Regulated Asset Value", published in November 2007.

[17] Levels and forms of subsidies differ from jurisdiction to jurisdiction. Most countries provide some form of cross subsidisation between customers through the application of average tariffs across any given water supply area compared to the actual cost of delivery to each respective customer. Furthermore, there are a number of explicit or implicit measures by which governments provide subsidies, such as reduced trade taxes for utilities, or income support and/or targeted assistance for customers in need. Subsidies can also be built directly into the tariff system. For example, when the UK water companies (in England and Wales) were privatised, the value of the regulated asset base was set at the amount achieved through privatisation. The privatisation value, however, was significantly lower than the replacement cost of the regulated assets, as it reflected the historically low charges paid by customers for the water and wastewater services. Given that the companies need to incur large amounts of maintenance capex, which has to be spent at the replacement value, the tariffs include a maintenance capex allowance to reflect such higher replacement values, but the return that companies earn is based on the lower regulated asset base. This ensured that customer prices did not rise as much as would otherwise have been the case.

The combination of water abstraction and treatment is also referred to bulk supply or wholesale activities. The vertical integration of the water supply chain can stop at this point. This is the case in a number of EU countries, where one large utility may be responsible for the water wholesale activities, whilst a number of smaller – usually municipal-owned – suppliers undertake the distribution to the end customers. Most of the water utilities rated by Moody's are integrated providers of water and/or wastewater services along the entire value chain, which in addition to the bulk supply consisting of water abstraction and treatment also includes the distribution and sale to customers. Among the Moody's rated universe, we only have one rated water wholesaler: Korea Water Resources Group, currently rated A2 with stable outlook.

This rating methodology is meant to cover not only utilities providing services along the value chain of water and wastewater treatment and disposal, but also addresses different business models adopted globally in managing the water and wastewater activities. In many countries around the world, the supply of water and treatment of wastewater are public services and the legal responsibility of municipalities. In these cases the legal ownership of the assets also lies with the municipalities. However, there exist a variety of operational models that are derived from this set-up.

First, the water and wastewater infrastructure assets can be operated under direct management by the municipality itself. In this case, the water and wastewater services would be part of the general regional or local administration. Such instances are not covered under this rating methodology.

Second, the management of the water and wastewater infrastructure can be delegated to another entity. Such entity can be – and in many instances is – partly or wholly owned by the regional or local government that retains the legal responsibility for the provision of water and wastewater services. Only a few countries worldwide have completely privatised the entire value chain of water and/or wastewater provision. The UK (more specifically England and Wales) is the most cited example of a country that has transferred the responsibility of water and wastewater services entirely to the private sector, albeit under stringent regulatory oversight.

With respect to delegated management, a variety of different forms of contracts, concessions or licence arrangements exists, which can be summarised into the following main business models:

Management Contract: This is usually a short-term (3-5 years) arrangement for the management of operational facilities. The assets remain in the public sector, usually with the relevant municipality, which also collects the user charges from the customers. The managing entity is remunerated by the municipality through payment of a management fee. Depending on the contract, it may include a number of performance targets against which the managing entity will be measured. Capital expenditure requirements and their funding remain principally the responsibility of the relevant municipality.

Lease Contract: A lease contract is similar to a management contract in that the asset ownership remains with the municipality. However, the relevant service undertaker, responsible for the operation of the assets will collect the user charges directly from the end customers, and may also be responsible for funding investments in the assets over the life of the contract. Lease contracts commonly apply over periods of 8-15 years.

Concession Contract: This is one of the most wide-ranging options in transferring responsibility for the assets to the relevant service undertaker. Concession arrangements usually cover a period of 25-30 years and transfer the economic benefits and costs of asset ownership to the service undertaker for the time of the concession. The service undertaker therefore also obtains responsibility for capital investments and funding requirements. The terms of the concession are negotiated on a bilateral basis, but may be based on a general legislative and/or regulatory framework applied throughout a jurisdiction. Given the length of the contract, a concession also generally includes tariff reviews at specified intervals. In Europe, concessions contracts are commonly used for water and wastewater operation in France, Italy and Spain. They can also be used in Latin America, e.g. in Brazil.

Licence: The licence approach is usually very similar to a long-term concession. However, the terms of the licence are usually set in law and are commonly applied to all licensed undertakers. Licences may have maturities similar to long-term concession or run in perpetuity, with an option to terminate the for severe performance failures. For example, licences apply for the UK water companies operating in England and Wales; for these companies the licences include a condition that allows licence termination subject to a 25 year notice period.

Furthermore, for single asset transactions or projects, a number of specific arrangements can be applied, such as Design, Build, Operate (DBO); Build, Own, Operate (BOO); or Build, Operate, Transfer (BOT). These contractual arrangements are generally used in cases of large investment requirements for a specific asset, which can be transferred to the private sector, for example through project finance arrangements. Such contracts are commonly restricted to one particular asset, such as the construction and operation of a treatment work, and can have similar terms as concessions. Contractors that solely operate under this kind of contract arrangement are not covered by this rating methodology.

Generally, all contracts and concessions are initially put out to competitive tender, and will usually require re-tendering at their expiry.

This rating methodology is intended to capture only issuers that for the time horizon of the licence and/or concession or contract are entitled to the exploitation rights of the relevant water and wastewater assets. In many cases, this may not apply to management contracts or lease arrangements. Pure asset operators, whose activities comprise solely of managing and servicing the assets are not captured by this rating methodology.

Asset managers or service providers are subject to different market dynamics, which are highlighted below; therefore, our credit assessment would take into account different rating factors.

- Shorter contract periods under the typical asset operator arrangement increase competitive pressures due to more frequent re-tendering, compared to monopoly or quasi-monopoly operations of an asset owner or a long-term concessionaire.
- Bilateral contracts for asset operation are often negotiated on a case-by-case basis, and may be subject to unilateral amendments. Conversely, long-term asset ownership/concession arrangements follow a more common framework that is based on legislation or jurisdiction-wide regulation that leaves less scope for individual negotiation.
- Tariff adjustments may be less frequent under the asset operator model, whereas the asset ownership arrangements usually require detailed definition of the tariff formula as well as the potential events that will allow the utility to re-set tariffs.
- Asset operation typically involves higher operational leverage and lower margins, leaving an operator's profitability more vulnerable to operational cost shocks. On the other hand, asset ownership embodies execution and funding risks in relation to generally sizeable capital investment requirements.

Appendix IV – Rating Issues Over the Next Decade

The main rating issues faced by regulated water companies are as follows:

- **Political and Regulatory Risk**: Moody's notes that given the importance of water and wastewater services, the level of political interference is generally higher than for other infrastructure sectors. This is underpinned by the fact that in most jurisdictions the provision of these services remains in public ownership and/or under government control. Tariff settings can be politically driven, creating the risk, particularly in emerging markets, that the set tariffs may be insufficient to upgrade or maintain the asset base. Affordability of tariffs is therefore more important for the assessment of a water company's credit quality than it is in other infrastructure sectors. Recent regulatory reviews were completed in the UK (for water companies in England and Wales), where the final price determination for water tariffs applicable over the five-year period 2010-15 (AMP5) were published in November 2009. Moody's notes that regular price reviews under a transparent and established framework are generally ratings neutral, but cautions that regulatory frameworks tend to undergo a continuous evolution. However, regulators in jurisdictions with high institutional strength are usually required to ensure that efficient companies remain financeable. On the other hand, regulatory risk is higher where the framework remains relatively new and untested or the rule of law and the relevant institutions in a given jurisdiction are less robust, which tends to be case primarily in emerging markets.
- **Large Capital Expenditures**: Water companies, in general, face large capital investment programmes to upgrade and expand their infrastructure and treatment works to the latest environmental standards and regulation applicable. In addition, many water utilities, for example in the UK, face significant maintenance requirements of an aging network. Despite current unsettled economic and, at times, financial market conditions, Moody's believes that it is unlikely that such investments will be delayed as, in most developed regulatory regimes, investments are driven by regulatory requirements to ensure a stable and reliable provision of quality water and wastewater services. Furthermore, regulated water companies in the developed world tend to earn a fair return – generally with limited or no linkage to demand volume – on new and replacement investments, which ensures that efficient companies can continue to finance their functions.
- **Funding**: As a result of the large capital programmes, as explained above, most regulated water utilities rated by Moody's experience negative free cash flows that are covered by additional debt funding. Whilst regulated water companies have so far demonstrated relatively good access to debt markets even in difficult market conditions, they may face a mismatch (to their detriment) between the pricing of funding and the return they earn on their asset base.
- **Increasing Leverage**: Over the last decade, leverage among the rated water utilities has increased significantly. This development (most visible in the UK) largely reflects shareholders' desire to maximise returns, as well as regulatory constraints that restrict the ability of companies to position themselves lower in the rating scale together with the nature of the industry and the way in which it is regulated. As low risk but highly capital intensive businesses, water companies have sought to optimise their capital structures by balancing the attractions of high leverage in the benign debt markets of recent years with the need to preserve solid investment-grade ratings to retain good access to the range of debt funding available to infrastructure issuers. As part of this development, regulated water companies that have been acquired in the last few years have generally been leveraged materially to re-finance acquisition debt. This trend increases event risk for lower leveraged entities to follow suit.
- **Low Inflation/Deflation**: A number of regulatory models across the world (a prime example being the UK) are designed in real terms (as opposed to nominal terms), where allowed revenues are computed in real terms and subsequently inflated by the Retail Price Index or Consumer Price Index. This is aimed at improving the allocation of the cost of the services across different generations of customers and thereby also providing some protection against cost inflation. However, Moody's notes that water utilities governed by this type of regulatory model generally need to raise a material, if not predominant portion of their debt on a conventional basis (i.e. debt instruments whose coupon is based on nominal interest rates). This may cause a timing mismatch of cash flows and debt service, as well as a potentially higher reliance on continued market access to raise debt. Furthermore, given their often aggressive dividend policy and

tendency to maintain leverage (measured in relation to the regulated asset base) at constant levels close to the guidelines supporting their rating category, lower-than-expected inflation or deflation could lead certain companies to breach such parameters. Nevertheless, Moody's would expect managements to take actions (e.g. in the form of temporary reduction in shareholder distributions) to ensure that such breaches, if any, are of a temporary nature only.[18]

[18] For further discussion on this topic, see our Special Comment: "UK Water Sector: Stable Outlook, But Sustained Deflation Could Cause Negative rating Pressure", June 2009.

Moody's Related Research

Industry Outlook

- UK Water Sector, December 2009 (119973)

Special Comment

- UK Water Sector: Key Ratios Used by Moody's in Assessing Companies' Credit Strength, March 2006 (97010)
- UK Water Sector: Q&A on Moody's Approach to New Structured Financings, October 2006 (100343)
- UK Regulated Industries: Q&A on Lending against the Regulated Asset Value, November 2007 (105954)
- UK Water Sector: Moody's Comments on Ofwat's Proposal to Introduce Menu Regulation, March 2008 (108091)
- UK Water Sector: Moody's Comments on Competition Review, December 2008 (113036)
- UK Water Sector: Stable Outlook, But Sustained Deflation Could Cause Negative Rating Pressure, May 2009 (117451)
- UK Water Sector: Moody's Comments on Companies' Final Business Plans, June 2009 (118183)
- UK Water Sector: Moody's Comments on Draft Determination, September 2009 (120015)

Rating Methodologies

- The UK Water Sector: Moody's Approach to Rating Highly-Leveraged Structures for Asset Ownership, February 2001 (64166)
- The UK Water Sector: Financial Parameters and Structural Enhancements for Leveraged Financings, July 2002 (75507)

To access any of these reports, click on the entry above. Note that these references are current as of the date of publication of this report and that more recent reports may be available. All research may not be available to all clients.

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July 10, 2009

Industry Report Card:

U.S. Investor-Owned Water Utilities Successfully Navigate Turbulent Financial Markets

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Industry Report Card:

U.S. Investor-Owned Water Utilities Successfully Navigate Turbulent Financial Markets

In terms of credit quality, investor-owned water utilities make up one of the most stable and highly rated sectors in the U.S. During the first six months of 2009, Standard & Poor's Ratings Services did not take any rating actions or change the outlook on any rated water company, despite the turbulent economy. And we expect the water utilities' credit quality to retain that general stability throughout the remainder of 2009. The key trends we anticipate for the rest of the year include reductions in capital spending in response to the recession, continued access to debt markets coupled with improved access to the equity markets, and additional regulatory filings to address increased capital spending and higher operating costs.

Reduced Capital Spending Plans Should Ease Pressure On Leverage

As we anticipated in the last report card, almost all the water utilities we rate have either slightly lowered or maintained their capital spending estimates for 2009. York Water Co. reduced its estimate for 2009 capital expenditures by almost a third of the original $20 million. One major cause is a decline in customer growth and consumption, which we believe is closely related to the housing industry collapse and general economic weakness. Housing starts in 2009 are expected to be less than 50% of the annual historical rate, with only a moderate improvement from this level in 2010. Most water utilities reported a drop in per capita water consumption of between 2% and 5% in 2008 and the first quarter of 2009, thanks mostly to falling industrial consumption.

The reduction in capital spending shouldn't affect the water sector's long-term growth prospects. On the contrary, it will likely result in reduced stresses on leverage and lower external debt financing requirements. Given the water companies' negative free cash flow positions, we believe they are taking a discerning look at nondiscretionary capital projects, and that they will postpone or cancel the less critical ones or any that could experience a lag in recovery. We also expect the utilities to increasingly approach regulators for spending approval prior to commencing essential big-ticket capital projects.

We expect the industry will keep outspending cash flow over the next several years and that capital spending will gradually increase as the economy and housing improve. A U.S. Environmental Protection Agency (EPA) report published in February 2009 ("Drinking Water Infrastructure Needs Survey and Assessment") said the industry needs to spend a total of $335 billion from 2007 through 2027, primarily to replace network infrastructure and comply with water quality standards. Of this amount, $201 billion (60%) is for replacing or refurbishing deteriorating transmission and distribution pipes; $75 billion (22%) is for building, expanding, and rehabilitating water treatment facilities; and $37 billion (11%) is for storage tanks. The balance is for building or rehabilitating surface water intake structures, drilled wells, spring collectors, and other needs. The $335 billion price tag does not include the significant water system needs for projects related primarily to population growth or collection of water in dams and reservoirs. That figure also does not include capital spending for wastewater applications, which the EPA's report, "Clean Watersheds Needs Survey 2004", released in January 2008 estimates at more than $200 billion from 2004 to 2023.

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Access To Equity Is Improving, And Liquidity Remains Above Average

Rated U.S. investor-owned water utilities continue to demonstrate above-average access to debt financing and maintain adequate liquidity. During the first half of 2009, a few companies expanded their bank line borrowing capacity, some issued long-term bonds, and two issued equity. The companies did all this despite difficult market conditions. Connecticut Water Service Group almost doubled its bank lines to $40 million in May 2009. American Water Works Co. Inc. (AWW) and its subsidiaries issued more than $450 million in 2009. And California Water Service Group issued $100 million of first mortgage bonds.

Share issuances by AWW and American States Water show that access to equity is also improving. This provides a bit of comfort because some companies, notably York Water and Middlesex Water Co., postponed equity issuances planned for late 2008. We expect York and Middlesex to complete small issuances in 2009 or 2010.

At less than $100 million per issuance, capital market activity in the water sector is relatively small. Because of the relatively small dollar amount of these issuances, some utilities have chosen to raise capital through private placements, which may be completed relatively quickly and potentially at a lower total cost compared to a public offering. Others have used municipal conduits for tax-exempt issues. Borrowings of this type and access to low-cost funds under state revolving fund programs are likely to continue, especially for the smaller water utilities.

Ongoing Regulatory Support Is Likely, As Are Requests For Higher Rates

Fair and timely regulatory support remains one of the most important rating factors for a water utility's credit quality, and we expect rate case activity to maintain the high levels of the past two years. Allowed return on equity (ROE), which is one of the key factors when we evaluate regulation as part of a rating, was positive in most rate case decisions in 2009. In our view, that reflects the current increased cost of capital. The Pennsylvania Public Utility Commission has approved an ROE of 11% for York Water and Pennsylvania–American Water Co. The New Jersey Board of Public Utilities granted an allowed ROE of 10.3% for Middlesex Water, an improvement over the 10% or lower ROE previously granted in the state.

Falling pension asset values are another problem for water utilities. We expect the water utilities to request rate increases for the expected level of pension contributions. . We also expect several companies to request enhanced rate-making mechanisms, such as decoupling. The separation of commodity throughput and financial health of the utility should support earnings and cash flow stability.

We expect states that already have decoupling measures for regulated gas and electricity distribution companies to extend these mechanisms to water utilities. We also expect commissions to grant infrastructure cost recovery mechanisms, under which companies recover capital investments outside of traditional rate cases. Such mechanisms currently exist in California, Connecticut, Delaware, Illinois, Indiana, Missouri, New York, Ohio, and Pennsylvania. In addition, utilities in other states have included infrastructure cost recovery mechanisms in pending rate cases.. Standard & Poor's views these measures as positive for credit quality because they bring additional stability to cash flows.

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Analyzing The Ratings

Currently, Standard & Poor's considers all rated U.S. investor-owned water companies to have "excellent" business risk profiles, reflecting supportive regulations, monopolistic market positions, a mostly stable residential customer base, and low operating risk compared with other utilities. Many rated water companies also have modest nonregulated segments, which primarily provide operating and consulting services to water and wastewater facilities. Despite tight margins and low cash flow generation, these nonregulated units pose limited incremental risks to the company's consolidated credit profile. In addition to the complementary nature of the utility's nonregulated segment to its regulated operations, the company mitigates the risks as the water company passes through operating and capital costs to the facility's owner, which are usually highly rated counterparties such as municipalities or the U.S. military. As a result, ratings in the U.S. investor-owned water utility sector continue to display significant stability.

Given their excellent business risk profiles, the most significant differentiating factor for these companies has been financial performance, particularly the level and stability of cash flows. While most of the rated companies have an 'intermediate' financial risk profile, we consider The Baton Rouge Water Works Co. to have a 'modest' financial risk profile, reflecting above-average cash flow and leverage metrics. However, we consider the financial risk profiles of United Water New Jersey Inc. and United Waterworks Inc. to be 'significant' given the additional risks at parent United Water Resources (not rated). The 'aggressive' financial risk profiles of American Water Works Co. and its subsidiaries reflect weak cash flow metrics, significant goodwill impairments, and the need for significant rate relief to cover rising operating costs and capital expenditures.

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Chart 1

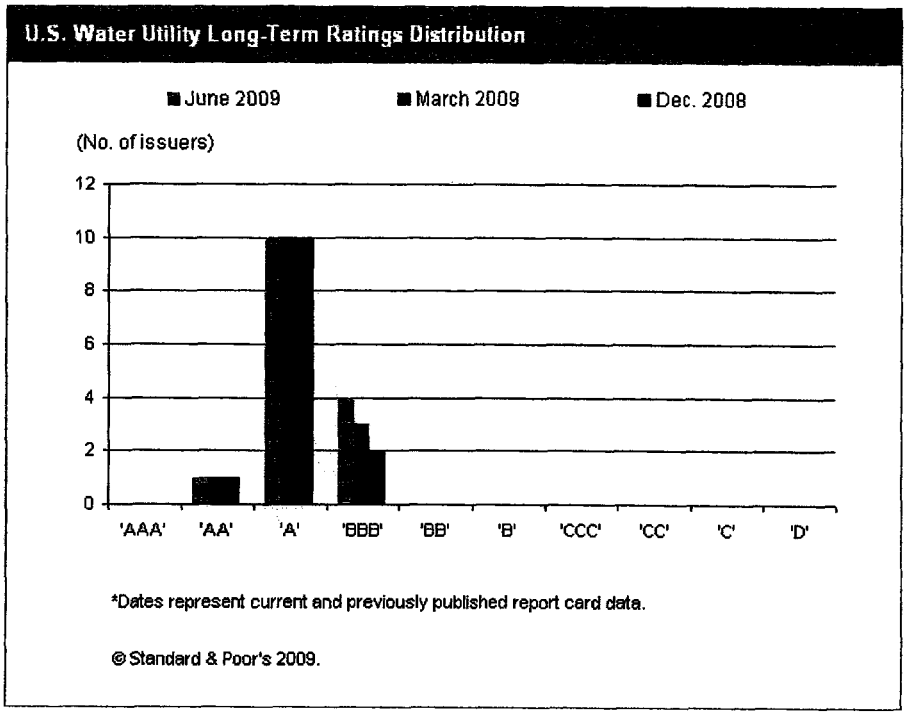

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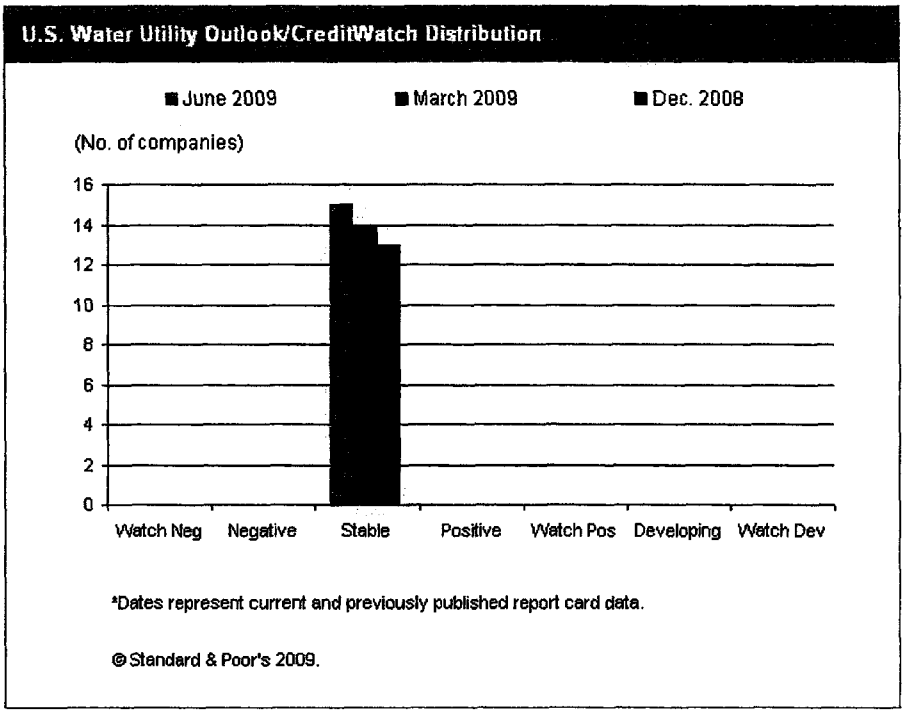
Chart 2



Issuer Review

Table 1

U.S. Investor-Owned Water Utilities

Company	Corporate credit rating*	Analyst	Comments
American States Water Co.	A/Stable/--	Kenneth L. Farer	American States Water's financial performance has improved, benefiting from rate increases received in 2009 and 2008. Financial performance is expected to remain robust and cash flows improve from the $9 million rate relief received in California through step rate increases for 2009. The decoupling measures implemented in California in 2008 have improved stability of revenues and cash flows. Cash flow coverages are strong for the rating, with adjusted FFO to total debt of 17%, and adjusted debt to capital at 57%. Leverage is expected to improve after the completion of the recent $34 million equity issuance, which we expect the company to use to reduce short term debt levels, bringing leverage closer to 53%.
American Water Capital Corp.	BBB+/Stable/A-2	Kenneth L. Farer	See American Water Works Co. Inc.

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Table 1

U.S. Investor-Owned Water Utilities (cont.)			
American Water Works Co. Inc.	BBB+/Stable/A-2	Kenneth L. Farer	American Water Works' cash flow continues to benefit from rate increases received in multiple jurisdictions. For the 12 months ended March 31, 2009, FFO to total debt was strong for the rating at 11%. However, leverage was high for the rating at 63% following the company's $450 million goodwill impairment. Pro forma for the company's $250 million equity issuance in June 2009, we expect leverage to be around 60%, which is adequate for the rating. We expect cash flows to improve further as rate increases are granted related to the company's $260 million of pending rate cases and rate increases related to additional rate filings. However, we expect the company to meet its significant cash needs, including capital spending plans ($800 million for 2009), annual dividend payments of $130 million, and manageable debt maturities, through additional capital market activity. The increased debt levels will likely result in credit metrics remaining at current levels for the next few quarters.
New Jersey-American Water Co.	BBB+/Stable/--	Kenneth L. Farer	See American Water Works Co. Inc.
Pennsylvania-American Water Co.	BBB+/Stable/--	Kenneth L. Farer	See American Water Works Co. Inc.
Aqua Pennsylvania Inc.	A+/Stable/--	Kenneth L. Farer	Parent Aqua America's stable financial performance continues, with cash flows benefiting from rate relief across various states--$60 million in 2008 and $23 million in 2009. We expect cash flows to improve further, as the company files rate cases of about $70 million in the remainder of 2009, including Pennsylvania, its largest operating territory that accounts for more than one-half its cash flows. Adjusted FFO to total debt was a strong 21% at Aqua Pennsylvania for 12 months ended March 31, 2009. Aqua America's adjusted FFO to total debt of 18% for 12 months ended March 31, 2009, was adequate for the rating. Adjusted debt to capital was 57% at Aqua Pennsylvania and 58% at Aqua America, which is adequate for the rating. We expect the financial metrics to remain at current levels, as the company funds its capital expenditure plans of about $300 million annually for the next years, through additional debt, rate case filings, and infrastructure surcharge mechanisms.
Baton Rouge Water Works Co. (The)	AA/Stable/--	Kenneth L. Farer	Baton Rouge Water's financial performance remains robust, and we expect financial metrics to remain at the current strong levels, benefiting from the rate relief of $2.5 million received in April 2009. As of March 31, 2009, FFO to total debt was 31%, FFO interest coverage was about 6x, and adjusted debt to capital was 43%. Given its minimal water treatment costs and access to good quality water sources, combined with a strong balance sheet, the company could make some small tuck-in acquisitions without putting pressure on its financial metrics.
California Water Service Co.	A+/Stable/--	Kenneth L. Farer	Parent California Water Service Group's cash flows continue to benefit from an improving regulatory environment and rate relief of $33 million received in July 2008. The company also received enhanced recovery mechanisms for revenue decoupling and recovery of purchased water costs, which we view as extremely supportive of credit quality. Under California's cost of capital proceedings, California Water Service Co. (CalWater) was granted an allowed of 10.2%. CalWater is expected to file its first consolidated rate case in July 2009, with the new rates likely to be effective in early 2011. Consolidated financial metrics were in line with the rating, with adjusted FFO to total debt at 20%, and adjusted debt to capital at 53% as of March 31, 2009. We expect the company to maintain current financial metrics, as it funds its $100 million capital spending plans in a balanced manner, through a combination of debt and equity issuances, and internal cash flows.
Connecticut Water Co. (The)	A/Stable/--	Kenneth L. Farer	See Connecticut Water Service Inc.
Connecticut Water Service Inc.	A/Stable/--	Kenneth L. Farer	Connecticut Waters' financial performance continues to be stable, benefiting from rate relief received in 2008. Adjusted FFO to debt coverage was 16% and adjusted debt to capital was 53%, as of March 31, 2009. We expect financial metrics to weaken slightly in 2009, as the company funds its increased capital spending plans, mainly through debt issuances. We anticipate cash flows will improve in 2010, due to the proposed implementation of infrastructure surcharge mechanisms in 2009, and the company's expected rate relief application in early 2010. The announced reduction in rates and the six-month delay in filing its next rate case are not expected to materially affect the company's cash flows. We anticipate adjusted FFO debt coverage of around 14%, and debt to capital of around 55% for year-end 2009, before improving slightly in 2010
Golden State Water Co.	A/Stable/--	Kenneth L. Farer	See American States Water Co.

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Table 1

U.S. Investor-Owned Water Utilities (cont.)			
Middlesex Water Co.	A-/Stable/--	Kenneth L. Farer	Middlesex Water's cash flows were stable, despite of a 6% decline in water consumption at its New Jersey subsidiary, offset by customer growth in Delaware, and increases in its contracted operation revenues. We expect cash flows to improve further, with the interim rate relief of around $2.5 million approved at its Tidewater subsidiary in March 2009. We expect the company to issue equity and debt to fund its capital spending plans in 2009. Company's' adjusted FFO debt coverage was 11.2% for the 12 months ending March 31, 2009 and adjusted debt to capital was 57%. We expect adjusted FFO debt coverage to move closer to 12%, and leverage to fall to below 55% by the year's end.
United Water New Jersey Inc.	A-/Stable/--	Kenneth L. Farer	See United Waterworks Inc.
United Waterworks Inc.	A-/Stable/--	Kenneth L. Farer	Financial performance at United Waterworks (UWW) and United Water New Jersey (UWNJ) remains stable. Cash flows have benefited from rate case approvals UWW received in July 2008. FFO to debt continues to be about 12% for both UWW and UWNJ, with total debt to capital of around 55%. These levels are adequate for the rating. Given the capital spending plans for 2009, capital contributions from parent-Suez Environnement are likely needed to maintain leverage below 60%.
York Water Co. (The)	A-/Stable/--	Kenneth L. Farer	York Water's cash flow continue to benefit from rate increase received in October 2008. For the 12 months ended March 31, 2009, FFO to total debt improved to 12%, from 11% for year ending Dec. 31, 2008, which is in line with the 'A-' rating. However, leverage continues to be slightly high for the rating, at 59%. We expect cash flows to remain stable, and leverage to improve to around 55%, once the company completes an anticipated equity offering in 2009.

*Ratings are as of July 9, 2009.

Rating Activity

There were no rating actions or outlook changes in the first half of the year.

Selected Articles

Table 2

Previously Published U.S. Investor Owned Water Utility Articles	
Article title	**Published date**
Issuer Ranking: U.S. Investor-Owned Water Utilities, Strongest To Weakest	July 10, 2009
Funding Shortfall Of U.S. Utility Pension And Postretirement Benefits Adds To Industry's Cost Pressure Woes	May 19, 2009
Key Credit Factors: Business And Financial Risks In The Investor-Owned Utilities Industry	Nov. 26, 2008
Credit FAQ: Standard & Poor's Assessments Of Regulatory Climates For U.S Investor-Owned Utilities	Nov. 25, 2008
Notching Of U.S. Investment-Grade Investor-Owned Utility Unsecured Debt Now Better Reflects Anticipated Absolute Recovery	Nov. 10, 2008
Assessing U.S. Utility Regulatory Environments	Nov. 7, 2008

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Table 3

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Harish Mewani of CRISIL Ltd., a Standard & Poor's Company, contributed to this report.

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Comments and ratings reflect available public data as of July 9, 2009.

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April 12, 2012

Industry Report Card:

U.S. Regulated Gas And Water Utilities' Credit Quality Should Remain Steady In 2012

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Industry Report Card:

U.S. Regulated Gas And Water Utilities' Credit Quality Should Remain Steady In 2012

The 2012 outlook for credit quality in the U.S. gas and water utility sectors will likely remain stable. While Standard & Poor's Ratings Services expects the U.S. economy to remain weak, we see little movement in regulated gas and water utilities' credit risk profiles during periods of economic change. The essential services that both sectors provide and the rate-regulated nature of their businesses allow them to generate stable cash flows and recover their costs even when the economy is weak.

Our 2012 baseline forecast calls for continued slow economic growth that would support credit quality for many companies in these sectors. However, we do not expect the impact to be so marked as to positively impact ratings or outlooks.

Economic Outlook

Standard & Poor's economists publish a monthly scenario of where we think the U.S. economy could be heading. Beyond projecting GDP and inflation, we also include outlooks for other major economic categories. We call this forecast our "baseline scenario" and we use it in all areas of our credit analyses (see table 1). Our current ratings in the U.S. gas and water utility sectors factor in this scenario.

Table 1

Standard & Poor's Economic Outlook: Gas and Water Utilities

	Forecast/Scenarios*								
	Recession		Baseline		Optimistic		Actual		
	2012e	2013e	2012e	2013e	2012e	2013e	2011	Comment/Outlook	Baseline impact
Real GDP (% change)	0.7	0.7	2.1	2.6	3.1	4.0	1.7	Real GDP is now expected to be 2.1% in 2012, a bit stronger than in 2011, though much weaker than the 3% rate in 2010.	Somewhat favorable
Real nonresidential construction (% change)	4.1	-0.1	3.1	1.8	4.9	4.9	4.4	Slower growth expected in the near term due to in part to somewhat tight lending	Somewhat favorable
Residential construction (% change)	2.5	-0.8	9.8	14.8	18.5	29.9	-1.5	Notable improvement in the near term and more significant growth thereafter in line with economic improvement. Utility customers connections could increase as a result.	Favorable
Equipment investment (% change)	4.7	3.4	8.0	6.8	11.2	11.1	10.2	Slower growth expected versus 2011, but still at a healthy pace	Somewhat favorable
Housing starts (mil.)	0.6	0.7	0.7	1.0	1.4	1.6	0.6	Noticeable growth expected in 2012 and more so in 2013, which could potentially boost new customer connections.	Somewhat favorable
Consumer spending (% change)	1.0	1.0	2.0	2.0	2.4	2.9	2.2	Slow job growth, declining wealth, and continued tight credit will weigh on consumers.	Somewhat favorable

Table 1

Standard & Poor's Economic Outlook: Gas and Water Utilities (cont.)

Unemployment rate (%)	8.6	9.2	8.2	8.0	8.2	7.3	8.9	The soft improvement and potential for discouraged job seekers to re-enter the market will likely keep the rate around 8% through 2013. This may lead to a slight decline in bad debt expense.	Somewhat favorable
Industry economic outlook	Stable	Stable	Stable	Stable	Stable to positive	Positive	Stable		

However, we realize that financial market participants also want to know how we think the economy could worsen--or improve--from our baseline scenario. Any point-in-time forecast of the economy will be wrong; it is simply a question of how far wrong. As a result, once a quarter, we also project two additional scenarios, one upside and one downside. These scenarios are set approximately at one standard deviation from the baseline (roughly the 20th and 80th percentile of the distribution of possible outcomes). We use the downside case to estimate the credit impact of an economic outlook that is weaker than the expected case and use this when thinking about the ability of investment-grade ('BBB-' and above) and high speculative-grade (rated 'BB+' or lower) companies to perform and the ability of investment-grade companies to survive such a scenario. Because our economists have assigned an approximately 20% probability of a recession, we think of the downside case as a reasonable alternative.

When analyzing the sectors within the U.S. gas and water utility sectors we focus on the economic indicators that are most correlated with usage, construction activity, and consumer spending, although neither variable is significant. Natural gas consumption is generally stable, depending on the severity of winter weather, with mild customer conservation typically somewhat offsetting incremental usage. Water consumption is generally aligned with population and household growth and is expected to increase, but only minimally in 2012. Modest changes in gas and water consumption, however, have little effect on credit quality for U.S. investor-owned gas and water utilities. Supportive regulatory mechanisms--such as revenue decoupling and straight-fixed-variable rate designs--ensure that utilities generate relatively stable cash flows regardless of usage fluctuations. On the margin, lower natural gas prices, like those currently exhibited, support credit quality because working capital requirements are lower. None of the rated gas utilities have any material direct commodity price exposure, because they pass the gas prices along to the consumer.

Standard & Poor's rating assumptions for U.S. gas and water utilities in 2012 are that:

- Real GDP growth will remain at 2.1% in 2012 and about 2.6% in 2013;
- Total housing starts around 740,000 in 2012 and nearly 1 million in 2013;
- A 10% increase in residential construction spending in 2012 and about 15% in 2013;
- Nonresidential construction spending increasing modestly in 2012 and 2013;
- The unemployment rate declining to 8.2% in 2012 and then more modestly to 8% in 2013;
- Solid access to capital to address debt maturities and incremental funding needs.

We continue to expect a slow and uneven U.S. economic recovery. Although the risks to this forecast remain high because of the European debt crisis, the improved underlying economic momentum could help to somewhat mitigate potential damage from shocks to the economy. As a result, Standard & Poor's economists put the odds of another recession at 20%, below the 40% prediction in September 2011.

Under our baseline economic assumptions, we expect usage, and therefore revenue, across the gas and water utility sectors to be stable-to-slightly higher in 2012. This, combined with some cost inflation, is likely to result in cash flows remaining broadly flat year-over-year, in our opinion. Revenue growth will be limited, but at the same time companies will have low capital spending related to limited new customer connections. Therefore, we expect credit ratios in 2012 to look similar to 2011's for most companies in the sectors and in most cases to be in line with current ratings. We expect companies to still generate negative free cash flow, however, due to high capital spending requirements related mainly to replacing aging infrastructure. As such, maintaining adequate liquidity positions remains key.

Our current ratings do not factor in a recession in the U.S. in 2012. If one occurs, in line with Standard & Poor's economists' recession scenario (see table 1), we believe that the U.S. gas and water utility sectors' credit quality could weaken, although marginally unless the recession was long lasting. Our recession scenario incorporates the following assumptions:

- Real GDP growth is minimal relative to the levels reached in 2010 and 2011;
- Residential construction and nonresidential construction is modest and increases by about 2.5% and 4%, respectively, compared with 2011;
- Total year-over-year housing starts are flat at about 600,000 relative to 2011;
- Total unemployment remains at about 9%;
- Access to capital markets is hindered.

Under these assumptions, which are not as severe as what companies went through in 2009 during the height of the recession, we believe overall usage, margins, and credit ratios would deteriorate, albeit slightly, compared with 2011. The combination of weaker construction activity, consumer spending concerns, and potentially higher bad debt expense would dampen overall results. Significant rate mechanisms are in place to insulate utilities from economic trends and help minimize the impact. In our view, a weaker economy can strongly affect a gas utility's nonregulated businesses, such as wholesale trading, retail marketing, and merchant gas storage. Indeed, many companies' nonregulated subsidiaries are underperforming, as was the case in 2011, and we do not see signs that this situation will notably change in 2012. In our forecasts, we typically cut our estimates of these businesses' cash flow contributions to accommodate this possibility. In the gas storage and wholesale trading businesses, for example, low absolute prices and low price volatility limit companies' ability to generate cash flow. Low gas prices, however, do promote more opportunities for gas heating conversions and lessen working capital use for the regulated gas utility segment. When utilities use debt to ramp up their investments in these businesses, credit quality can suffer because overall cash flows become more volatile. The size and degree of credit risk created by nonregulated businesses on the water utilities' credit profile is minimal.

Effects on ratings

About 85% of the U.S. gas utilities that we rate had stable outlooks at the end of the first quarter of 2012, unchanged from the previous quarter and generally the percentage that prevailed in 2011. The most notable recent development took place on Dec. 15, 2011, when we took rating actions on AGL Resources Inc. and Nicor Inc. and their related subsidiaries following the close of their merger. We removed the ratings from CreditWatch with negative implications, lowered the ratings to 'BBB+' from 'A-', and assigned a stable outlook (we withdrew our ratings on Nicor).

However, outlooks for the U.S. water utilities we rate have taken a negative trend. We maintained negative outlooks

on nearly 20% of the water utilities we rate at the end of the first quarter of 2012, unchanged from year-end 2011. This compares quite negatively to most of 2011 when all water utilities had stable outlooks. We recently revised outlooks on Connecticut Water Service Inc., its subsidiary, Connecticut Water Co., and California Water Service Co. due to credit metrics that we consider to be strained for their respective ratings.

Industry Credit Outlook

Regulation smoothes cash flows and supports cost recovery

State regulation will continue to influence gas and water utility credit ratings in 2012. Many recent regulatory developments have been positive for credit quality. Commissions are increasingly putting into place rate mechanisms that insulate utilities from economic trends whereby the economy's overall health is less of a factor for credit quality. In the water industry, for instance, the New Jersey Board of Public Utilities approved the implementation of a distribution system investment charge (DSIC) mechanism. While average returns on equity have gone down slightly, several jurisdictions have granted enhanced rate-making mechanisms that help ensure greater cash flow stability. Most important are rate "decoupling" and straight-fixed-variable rate designs and the aforementioned DSIC. Rate decoupling protects a utility's financial performance when conservation leads to lower consumption because it essentially makes the utility whole by increasing customer charges to compensate for lower usage. The DSIC program, prevalent in the water sector, allows for rate increases for nonrevenue-producing investments to replace aging infrastructure outside of general rate proceedings. We expect capital spending in the water sector to continue to go up due to a generally aging infrastructure and stringent water treatment and quality standards. The DSIC program mitigates the risk of cash flow lag, meaning that any revenue increases associated with today's capital spending would not need to wait until the next rate case.

Liquidity is also favorable

Liquidity is adequate for many gas and water utilities. Credit fundamentals indicate that most, if not all, gas and water utilities should continue to have ample access to funding sources and credit availability as banking syndicates are willing to negotiate credit facilities with longer terms. Some utilities are taking advantage of favorable capital markets access, strong investor appetite, and low interest rates to prefinance or extend debt maturities. Debt maturities in the gas and water sectors are relatively modest in 2012 and companies will likely refinance with new debt or with borrowings under their revolving credit facilities. Some companies have issued common stock to partially fund construction spending, which helps to balance the capital structure between debt and equity.

Stable outlook is likely to continue

Our outlook for the gas and water utility industries remains stable based on gradual economic recovery, generally supportive regulatory decisions (including mechanisms that allow for timely cost recovery), and adequate liquidity.

Chart 1

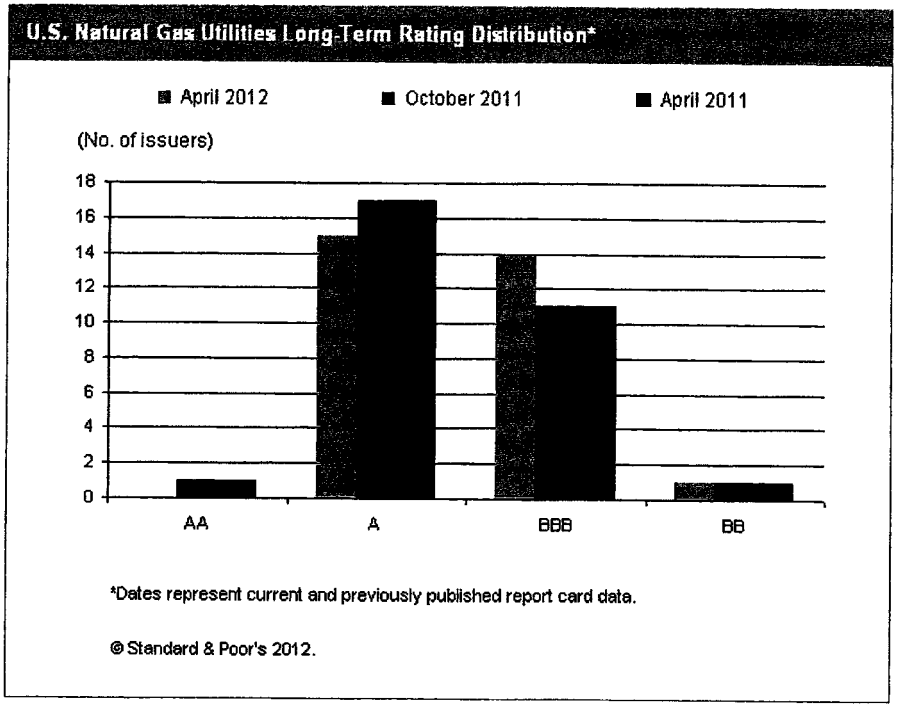

U.S. Natural Gas Utilities Long-Term Rating Distribution*
April 2012
October 2011
April 2011
(No. of issuers)
18
16
14
12
10
8
6
4
2
0
AA
A
BBB
BB
*Dates represent current and previously published report card data.
© Standard & Poor's 2012.

Chart 2

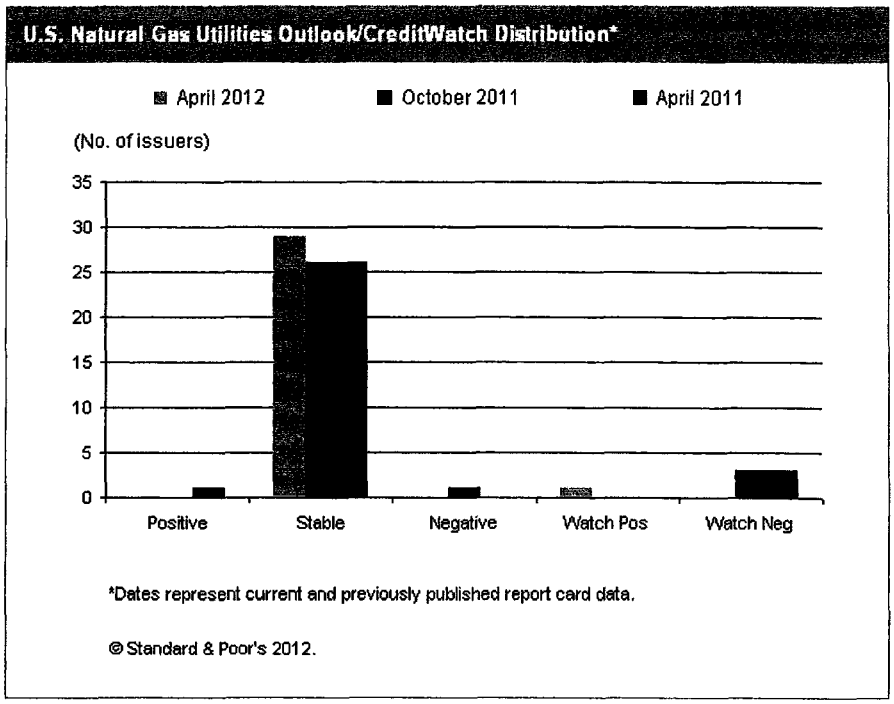

U.S. Natural Gas Utilities Outlook/CreditWatch Distribution*
April 2012
October 2011
April 2011
(No. of issuers)
35
30
25
20
15
10
5
0
Positive
Stable
Negative
Watch Pos
Watch Neg
*Dates represent current and previously published report card data.
© Standard & Poor's 2012.

Chart 3

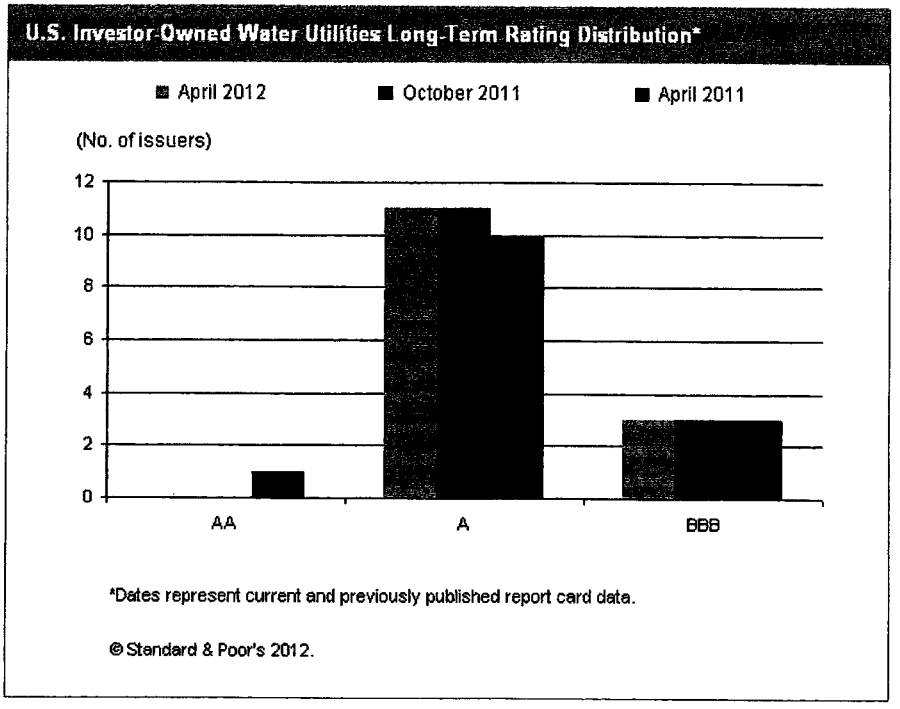
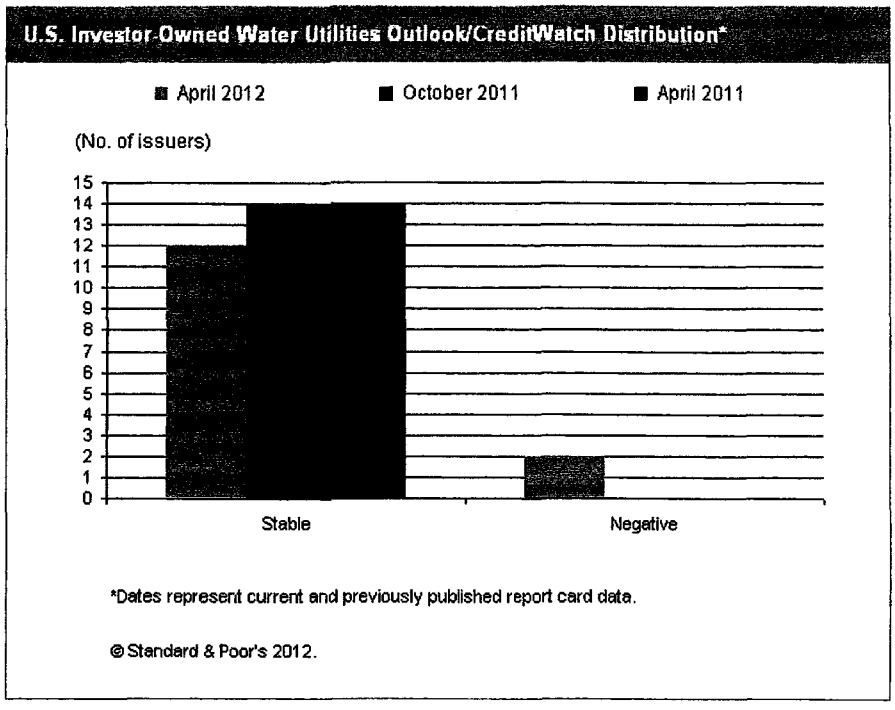

U.S. Investor-Owned Water Utilities Long-Term Rating Distribution*
April 2012
October 2011
April 2011
(No. of issuers)
12
10
8
6
4
2
0
AA
A
BBB
*Dates represent current and previously published report card data.
© Standard & Poor's 2012.

Chart 4



Issuer Review

Table 2

Company/Credit rating as of April 11, 2012/Comments	Analyst
Gas utilities	
AGL Resources Inc. (BBB+/Stable/A-2) We expect AGL to focus on integrating its recent acquisition of Nicor Inc. in 2012. We anticipate that the regulated utilities will generate stable cash flows, while its unregulated business (particularly, wholesale marketing and trading) continue to face challenging markets. We expect the regulated businesses will generate about 70% of consolidated EBITDA in 2012, although the percentage could vary depending on the performance of the nonregulated businesses, and funds from operations (FFO) to debt will be 17%-20%.	David Lundberg, CFA
Atlanta Gas Light Co. (BBB+/Stable/--) We base Atlanta Gas' rating on that of its parent, AGL Resources. We expect Atlanta Gas to continue to generate stable operating income. Stand-alone financial performance, while not public, is strong for the rating.	David Lundberg, CFA
Atmos Energy Corp. (BBB+/Stable/A-2) We expect regulated operations to benefit from the planned five rate cases in 2012. Nonregulated operations continue to perform poorly due to high competition, lower gas spreads, and lack of asset optimization opportunities. We don't anticipate material changes to the company's 2011 credit metrics (FFO/debt of 21% and interest coverage of 4.2x).	Manish Consul
Bay State Gas Co. (BBB-/Stable/--) Our ratings on Bay State Gas reflect the consolidated credit profile of its parent, Nisource Inc. We expect Nisource's adjusted FFO to	William

total debt to be about 14% in 2012.	Ferara
Cascade Natural Gas Corp. (BBB+/Stable/--) Our ratings on Cascade reflect the consolidated credit profile of its parent, diversified energy company, MDU Resources Group (BBB+/Stable/--). Cascade's operations have improved over the past three to four quarters and we expect it to maintain FFO to debt between 25% and 30%, in line with its current performance.	Manish Consul
Indiana Gas Co. Inc. (A-/Stable/--) We base Indiana Gas' ratings on that of its parent, Vectren Corp. We expect Indiana Gas to continue to generate stable cash flows. On a stand-alone basis, Indiana Gas' credit metrics should remain strong for the rating, with FFO to debt in the 80% area when considering external debt only or 20% to 25% when including intracompany debt.	David Lundberg, CFA
Laclede Gas Co. (A/Stable/A-1) We base LaClede Gas' ratings on those of the parent, LaClede Group. We expect the regulated utility (Laclede Gas) to maintain stable cash flows in 2012. The nonregulated segment will likely continue to be weak, but constitute a small percentage of overall cash flows. We expect 2012 metrics to continue to be in line for the rating, albeit modestly weaker than 2011 levels (FFO/debt of about 30%).	Manish Consul
New Jersey Natural Gas Co. (A/Stable/A-1) The ratings on New Jersey Natural Gas reflect the consolidated credit profile of parent New Jersey Resources Corp. (not rated), of which the company is the principal subsidiary. The cash flows benefit from above-average customer growth of about 1.5% due to new home construction and conversions from other fuels. However, ongoing investments in solar energy, midstream assets, and energy marketing have led to higher unregulated cash flows for the company, which we expect will be about 30% in 2012. We expect FFO/debt on a consolidated basis to be between 25% and 30% in 2012, largely due to strong growth in clean energy ventures.	Manish Consul
NiSource Inc. (BBB-/Stable/A-3) Resolution of NIPSCO's rate case will assist cash flows in 2012, although we do not expect them to dramatically affect consolidated cash flow metrics. We expect NiSource's slightly increasing capital spending program to lead to about $200 million to $300 million of negative discretionary cash flow in 2012. The most meaningful source of new growth projects over the long term is in the Marcellus Shale gas-gathering area, expected to be about $200 million in 2012. Credit ratios remain weak, but are in-line with expectations. We expect NiSource's adjusted FFO to total debt to be about 14% in 2012.	William Ferara
Nicor Gas Co. (BBB+/Stable/A-2) We base Nicor Gas' rating on that of its parent, AGL Resources. On a stand-alone basis, we expect Nicor Gas's operating performance and financial metrics to be strong, with FFO/debt around 30%.	David Lundberg, CFA
Northern Indiana Public Service Co. (BBB-/Stable/--) We base NIPSCO's ratings on the consolidated credit profile of its parent, NiSource Inc. Resolution of NIPSCO's electric rate case will assist cash flows in 2012. NIPSCO is launching a major environmental and clean energy program totaling about $600 million over the next six to eight years, which it can recover through rates as part of its settlement with the Environmental Protection Agency. A lower tax rate in Indiana will also help credit metrics. We expect NiSource to generate adjusted FFO to total debt of about 14% in 2012.	William Ferara
Northwest Natural Gas Co. (A+/Stable/A-1) We expect 2012 metrics to be at the lower end of expectation for the rating, with FFO/debt in the low 20% area. Weak natural gas storage rates are hurting the unregulated business. Performance should improve in 2013 due to the Oregon rate case ($44 million effective in November 2012).	Manish Consul
ONEOK Inc. (BBB/Stable/A-2) In January 2012, ONEOK issued $700 million of notes to repay its commercial paper borrowings and for general partnership purposes, which may include the repurchase of common stock, the purchase of additional ONEOK Partners L.P. common units. About 46% of ONEOK's stand-alone cash flow comes from equity distributions from its ownership of ONEOK Partners, with the balance coming from the distribution and energy services segments. ONEOK's stand-alone financial metrics are stronger than the consolidated metrics. For 2012, we believe ONEOK's stand-alone FFO to debt ratio will be in the high-40% area, compared with a consolidated ratio of about 20%. We expect stand-alone debt to EBITDA to be about 2.3x, compared with about 4x on a consolidated basis.	Michael V Grande
PNG Cos. LLC (BBB-/Stable/--) Due to a recent rate increase, PNG's metrics have improved considerably from the same period last year. However, on a consolidated basis, current metrics with FFO to total debt below 10% are still weaker than those of its peers. We expect PNG to continue pursuing additional rate increases and cost-recovery mechanisms. Over the next four to six quarters, cash flow could improve with FFO to debt between 9% and 11%, as the company seeks further rate increases.	Manish Consul
Piedmont Natural Gas Co. Inc. (A/Stable/A-1)	

Key credit metrics are expected to remain in line with our expectations, with FFO to debt at 25% to 27% over the next few years. Capital spending will likely be heavy in 2012 and 2013 due to investment in power generation delivery projects, but will allow the company to continue to grow its stable regulated cash flow base.	Manish Consul
Questar Corp. (A/Stable/A-1) We expect Questar Corp. to maintain strong consolidated financial metrics in 2012, with FFO to debt in the 30% area, total debt to EBITDA of about 2.4x, and a debt to capital ratio of 54%. Questar has adequate liquidity to fund 2012 capital spending of about $350 million, most of which it will spend at its Questar Gas and Wexpro subsidiaries.	Michael V. Grande
Questar Gas Co. (A/Stable/--) The ratings on Questar Gas reflect the consolidated credit profile of parent Questar Corp. (A/Stable/A-1). We expect Questar Gas to achieve stand-alone FFO to debt in the high 20% area and a debt to capitalization ratio of about 50% in 2012. Above-average customer growth in Utah of 1% to 2% and feeder-line replacement investment should enable the company to continue to earn an ROE of roughly 10.5%.	Michael V. Grande
SEMCO Energy Inc. (BBB-/Watch Pos/--) In February 2012, we put SEMCO on CreditWatch positive based on its acquisition by a higher rated parent Altagas (BBB/Stable/--). Consequently, we no longer base SEMCO's ratings on the consolidated credit profile of former parent CES. We view the announced transaction to be positive for SEMCO because it will no longer be exposed to weaker cash flows for CES's other subsidiary, New Mexico Gas Co. Inc. When the sale is complete (expected in the third quarter of 2012), we would likely raise SEMCO's rating to that of AltaGas.	Manish Consul
San Diego Gas & Electric Co. (A/Stable/A-1) SDG&E expects its general rate case, in which it seeks a 7% rate increase, to be decided by May 2012 and may boost 2012 cash flows. The company also expects its $1.9 billion Sunrise Powerlink project (about 70% complete) to be in service in the second half of 2012 and that it will notably increase SDG&E's rate base, improve its system reliability, and increase 2013 cash flows. We expect SDG&E's 2012 stand-alone adjusted FFO to debt to be adequate for the rating at about 23%. On a consolidated basis, we expect Sempra's adjusted FFO to debt to be about 20%.	William Ferara
Sempra Energy (BBB+/Stable/A-2) We expect Sempra's capital spending program in 2012 to be increasingly directed at SDG&E and SoCal Gas and focused on renewable energy, smart meters, transmission, and pipeline replacement. The company expects general rate cases at the regulated utilities to be decided in May 2012 and help boost cash flows in 2012, although we do not expect decisions in the cases to dramatically influence consolidated credit metrics. Sempra is still expected to actively pursue nonutility investments, such as a potential liquefied natural gas export terminal given its submitted application to the Dept. of Energy. We expect Sempra's cash flows will remain highly predictable and that adjusted FFO to debt ratio will be adequate for the rating at roughly 20% in 2012.	William Ferara
SourceGas LLC (BB+/Stable/--) Cash flows should improve due to the continued impact of recent rate cases and lower cash taxes. However, we do not expect significant performance improvements over the intermediate term as the company will likely use excess cash flow for sponsor distributions and not debt reduction. On a consolidated basis, we expect FFO to debt of 10% to 12% and total debt to capital to be below 70%.	Manish Consul
South Jersey Gas Co. (BBB+/Stable/A-2) The regulated utility continues to see strong cash flows, helped by the rate case and the extended utility reinvestment program. The nonregulated segment has also performed well due to cash flows from various energy-related projects, investments in the Marcellus Shale gas-gathering region, and cash flows from its other energy projects. We expect FFO to total debt to be slightly above 20% for year-end 2012. Contribution from nonregulated units is expected to be around 20% of overall cash flows in 2012 and 2013.	Manish Consul
Southern California Gas Co. (A/Stable/A-1) SoCal Gas expects its general rate case, in which it seeks a 7% increase, to be decided by May 2012, and that it may boost 2012 cash flows. The company expects capital spending for 2012 to be about $750 million, of which a large portion relates to advanced meter reading and will continue to increase SoCal Gas' rate base. Longer-term, SoCalGas is embarking on a 10-year, nearly $3 billion pipeline replacement and testing program. We expect SoCal Gas' 2012 stand-alone adjusted FFO to debt to be adequate for the rating, at about 27%. On a consolidated basis, we expect Sempra's adjusted FFO to debt to be about 20%.	William Ferara
Southern Indiana Gas & Electric Co. (A-/Stable/--) We base Southern Indiana Gas & Electric's ratings on that of its parent, Vectren Corp. We expect the company to post modest cash flow growth in 2012, as it will benefit from a full year of rate increase. On a stand-alone basis, credit metrics will continue to remain strong for the rating, with FFO to debt in the 65% to 70% area when considering only external debt or about 26% when also including intracompany debt.	David Lundberg, CFA
Southwest Gas Corp. (BBB+/Stable/--)	

Regulatory oversight in Arizona (about 54% of margin), has improved because the Arizona Corporations Commission (ACC) approved a decoupled rate design in the company's latest rate case. In December 2011, the ACC approved a rate increase of $52.6 million ($73.2 million requested) based on an ROE of 9.5%. The decoupled rate design provides for monthly weather normalization and a year-end annual true-up for nonweather variations in margins. We expect the company to achieve FFO to debt of about 25% and total adjusted debt to capital of 54% in 2012.	Michael V. Grande
The Laclede Group Inc. (A/Stable/--) We expect the regulated utility (Laclede Gas) to maintain stable cash flows in 2012. The nonregulated segment will likely continue to be weak, but constitute a small percentage of overall cash flows. We expect 2012 metrics to continue to be in line for the rating, albeit modestly weaker than 2011 levels (FFO/debt of about 30%).	Manish Consul
Vectren Corp. (A-/Stable/--) We expect key credit ratios will remain steady, with consolidated FFO to debt in the low 20% area. We forecast regulated utility operations to consist of about 80% of consolidated EBITDA over the next one to years. While regulated utility cash flows should increase modestly due to recently completed rate cases, Vectren's nonregulated businesses will generate greater growth. In particular, the company is seeing higher prices for its coal production and a strong backlog for its infrastructure services segment. Proliance, its 61% wholesale energy marketing subsidiary, continues to face challenging market conditions.	David Lundberg, CFA
Vectren Utility Holdings Inc. (A-/Stable/A-2) We base Vectren Utility Holdings' ratings on that of its parent, Vectren Corp. With the full-year impact of its 2011 approved rate case at Southern Indiana Gas & Electric, we expect modest cash flow growth at Vectren Utility Holdings. On a stand-alone basis, we expect FFO to debt to be in the high 20% area and debt to capital to be about 50%.	David Lundberg, CFA
WGL Holdings Inc. (A+/Stable/A-1) WGL Holdings' 2012 credit metrics will benefit from the rate cases implemented in Virginia and Maryland, as well as modest customer growth in its service territory. As usual, the nonregulated business will be more volatile, but it faces significant headwinds with low natural gas volatility and narrow differences in regional prices for gas. We expect WGL's adjusted FFO to total debt to be above 25% in 2012, in line with our previous expectations.	William Ferara
Washington Gas Light Co. (A+/Stable/A-1) 2012 credit metrics will benefit from the two rate cases approved in Virginia and Maryland in October and November of 2011. We expect the utility to add customers at a steady rate of 1% as well as to implement operational efficiencies. The new rate case filed in the District of Columbia for recovery of pension/other post-employment benefits, if approved in 2012, will be positive for the company as it has been struggling from higher employee costs for quite some time now. We expect Washington Gas Light's adjusted FFO to total debt (excluding bonus depreciation) to be about 28% in 2012.	William Ferara
Water utilities	
American States Water Co. (A+/Stable/--) Credit metrics are adequate for the rating, with funds from operation (FFO)/debt expected to be about 25% in 2012. We expect 2013 revenues to benefit from a general rate case filed by the subsidiary, Golden State Water Co. (A+/Stable/--), which seeks up to $31 million in additional revenues.	William Ferara
American Water Works Co. Inc. (BBB+/Stable/A-2) American Water Works completed the sale of EPCOR Water for $461 million as well as the sale of its Ohio subsidiary for $89 million. The company will use sale proceeds to reduce equity financing requirements. Cash flows are expected to improve with the approval of rate cases in Missouri and New York worth about $30 million. We expect credit metrics to remain stable in 2012.	Manish Consul
Aqua Pennsylvania Inc. (A+/Stable/--) We expect Aqua Pennsylvania's credit metrics to remain at current levels, with FFO to total debt of about 20% in 2012. Additional rate increases and strong recovery mechanisms, including the recently implemented Distribution System Improvement Charge (DSIC) in New Jersey, support this performance. On a consolidated basis, the company expects to spend about $350 million in capital spending in 2012. We expect the company will be able to meet these spending needs without issuing additional debt.	Manish Consul
California Water Service Co. (A+/Negative/--) The negative outlook reflects our view of weak credit metrics; if they stay at current levels we could lower the rating. As of Dec. 31, 2011, adjusted FFO/debt was about 14%. While some improvement is likely, ratings could be pressured if FFO to debt doesn't at least approach the mid-teens.	William Ferara
Connecticut Water Service Inc. (A/Negative/--) The negative outlook on Connecticut Water reflects our expectation of weaker financials in 2012 as the company issued debt to fund the purchase of Aqua Maine for $53.5 million and issued debt to fund capital spending. We expect the company to issue equity in the next 12 months to help pay down a portion of the debt that the company issued to fund the transaction. Depending on the size and	William Ferara

timing of the equity issuance, ratings could come under pressure.

Golden State Water Co. (A+/Stable/--) We base Golden State Water's ratings on the consolidated credit profile of its ultimate parent, American States Water. In July 2011, the company filed a general rate case for all of its water regions for about $31.3 million in additional revenues starting in 2013. We expect Golden State's adjusted FFO to total debt to be in the mid-20% range in 2012.	William Ferara
Middlesex Water Co. (A-/Stable/--) We expect adjusted FFO to debt to be about 14% in 2012. We expect credit metrics to benefit from recent rate increase filings and from several recent small acquisitions. The recently approved DSIC implementation in New Jersey is helpful for credit quality, although not expected to benefit the company until 2013.	William Ferara
New Jersey-American Water Co. (BBB+/Stable/--) We expect the credit metrics for New Jersey-American Water to remain stable and in line with our expectations due to a steady financial performance. The company is investing in energy-efficient ways to operate to reduce costs. We base the company's ratings on the consolidated credit profile of its ultimate parent, American Water Works Co.	Manish Consul
Pennsylvania-American Water Co. (BBB+/Stable/--) We base the company's ratings on the consolidated credit profile of its ultimate parent, American Water Works Co. We expect Pennsylvania-American Water's credit quality to remain stable based on steady operating and financial performance.	Manish Consul
San Jose Water Co. (A/Stable/--) We expect the company to maintain metrics appropriate for the rating, with adjusted FFO/debt to be in the 15% to 18% range for 2012. The company recently filed a general rate case for rates effective 2013, which may help credit metrics at that time.	William Ferara
The Baton Rouge Water Works Co. (A+/Stable/--) Baton Rouge Water's financial performance continues to perform in line with expectations and should remain stable. Minimal water treatment costs and access to good quality water sources support the company's business risk profile. We expect adjusted FFO to total debt to be about 35% in 2012, although metrics at its parent company, UHI, are somewhat weaker.	Manish Consul
The York Water Co. (A-/Stable/--) Credit metrics continued to improve over the past year due to recently approved rate cases. We expect adjusted FFO/debt to be in the high teens in 2012, which is strong for the rating. However, the company's small size and limited geographic scope limit and somewhat offset these credit strengths.	William Ferara
United Water New Jersey Inc. (A-/Stable/--) The ratings on United Water New Jersey represent the consolidated credit profile of parent United Water Resources. United Waterworks' financial performance is marginally improving, with adjusted FFO to debt expected to be about 13% in 2012. We expect the company to fund its capital spending plans for 2012, at least in part with contributions from parent Suez Environnement to maintain leverage below 60% (currently in the low-mid 50% area).	Manish Consul
United Waterworks Inc. (A-/Stable/--) The ratings on United Waterworks represent the consolidated credit profile of parent United Water Resources. Financial performance at United Water New Jersey remains stable. We expect adjusted FFO to debt to be about 13% in 2012, which is adequate for the rating. We expect the company to fund its capital spending plans for 2012, at least in part, with contributions from parent Suez Environnement to maintain leverage below 60% (currently in the low-mid 50% area).	Manish Consul

Recent Rating Activity

Table 3

Recent Gas Utility Rating/Outlook/CreditWatch Actions*

Company	To	From	Date
AGL Resources Inc.	BBB+/Stable/A-2	A-/Watch Neg/A-2	Dec. 15, 2011
Atlanta Gas Light Co.	BBB+/Stable/--	A-/Watch Neg/--	Dec. 15, 2011
NiSource Inc.	BBB-/Stable/A-3	BBB-/Stable/--	July 28, 2011
Nicor Gas Co.	BBB+/Stable/A-2	AA/Watch Neg/A-1+	Dec. 15, 2011
Piedmont Natural Gas Co. Inc.	A/Stable/A-1	A/Stable/--	March 1, 2012
SEMCO Energy Inc.	BBB-/Watch Pos/--	BBB-/Negative/--	Feb. 9, 2012

Table 3

Recent Gas Utility Rating/Outlook/CreditWatch Actions* (cont.)			
SEMCO Energy Inc.	BBB-/Negative/--	BBB-/Stable/--	April 28, 2011
Southwest Gas Corp.	BBB+/Stable/--	BBB/Positive/--	April 27, 2011

*Dates represent the period from Oct. 6, 2011 to April 12, 2012, covered by this report card.

Table 4

Recent Water Rating/Outlook/CreditWatch Actions*			
Company	**To**	**From**	**Date**
California Water Service Co.	A+/Negative/--	A+/Stable/--	Dec. 19, 2011
Connecticut Water Service Inc.	A/Negative/--	A/Stable/--	Oct. 28, 2011
The Baton Rouge Water Works Co.	A+/Stable/--	AA/Stable/--	June 15, 2011

*Dates represent the period from Oct. 6, 2011 to April 12, 2012, covered by this report card.

Rating Trends

Chart 5

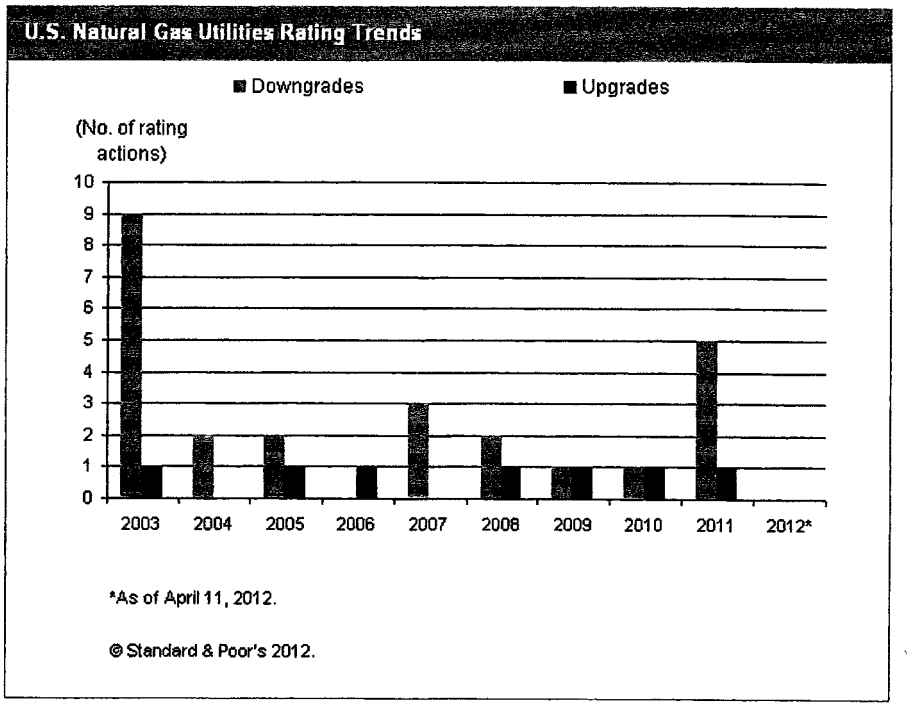


Chart 6

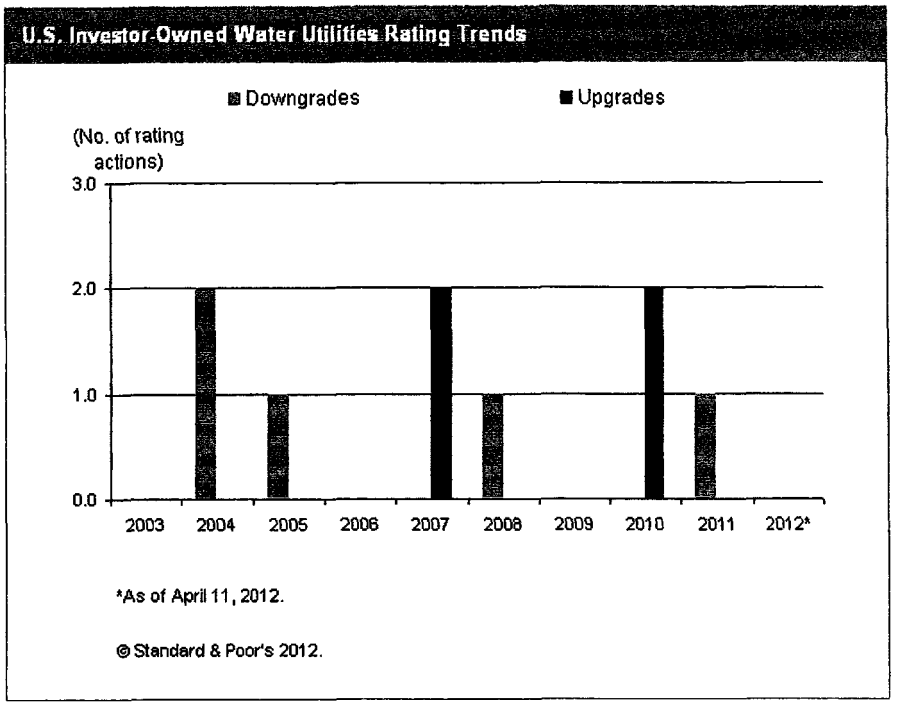


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Table 5

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Related Criteria And Research

Top 10 Investor Questions About U.S. Gas And Water Utilities In 2012, Feb. 9, 2012

Comments and ratings reflect available public data as of April 12, 2012.

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PMA-16

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April 26, 2012

Summary:
Middlesex Water Co.

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Rationale

Outlook

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Summary:
Middlesex Water Co.

Credit Rating: A-/Stable/--

Rationale

Standard & Poor's Ratings Services' ratings on Middlesex Water Co. reflect an "excellent" business risk profile and "significant" financial risk profile under our criteria. The company owns regulated water and wastewater utility systems in Middlesex County, N.J., and New Castle, Kent, and Sussex counties in Delaware. Middlesex Water's excellent business risk profile reflects a low-risk monopoly water distribution business, a supportive regulatory environment with favorable cost-recovery mechanisms that enhance cash flow predictability, improving financial metrics, and a predominately residential and commercial customer base that provides a stable and predictable revenue base. Stable but weak cash flow metrics, the company's small size, geographic concentration, and increasing costs of compliance with water-quality standards somewhat temper the strengths.

The New Jersey Board of Public Utilities (NJBPU), Pennsylvania Public Utilities Commission, and Delaware Public Service Commission regulate Middlesex Water's subsidiaries. We view these regulators' policies as supportive, particularly in Delaware and Pennsylvania, due to their infrastructure surcharge mechanisms. New Jersey recently approved the Distribution System Improvement Charge (DSIC), which will begin to benefit the company in 2013. In January 2012, Middlesex filed an increase in base rates by approximately $11.3 million per year as a result of capital investments. Tidewater Utilities (not rated), the Delaware subsidiary, requested an overall rate request of $6.9 million in September 2011, and we expect a decision sometime in the second half of 2012. We expect Middlesex Water to continue to request a rate increase in each of its jurisdictions every few years to minimize rate shock for its customers and support its financial profile.

Middlesex Water benefits from better-than-average demographics in its markets. Residential customers account for about 46% of revenues, and long-term contracts for water sales represent about 13%, providing a predictable revenue base. We expect customer growth to slow slightly from historical levels in the intermediate term, reflecting general economic conditions and reduced residential construction. Although this could reduce growth in cash flows, it could also reduce capital spending, which would be neutral for credit metrics. The company obtains about 70% of its total water supply from the Delaware and Raritan Canal, about 20% from groundwater sources, and purchases the remainder from other water utilities. The low amount of purchased water maintains predictable operating costs.

The company generates about 10% of its revenues from nonregulated water and wastewater services and water-line maintenance programs. We view these operations as fairly low risk, given the contracts long-term nature with municipal entities.

Middlesex Water's significant financial risk is characterized by relatively high debt leverage and weak cash flows. As of Dec. 31, 2011, the company had a total adjusted debt to capital ratio of 53%. Its funds from operations (FFO) to total debt ratio fell to 13% as a result of higher total adjusted leverage due to our adjustments from pensions. Under our base-case forecast, we expect FFO to debt to be in the 14% area for 2012, which would result from a 1% increase in customer growth and capital expenditures of about $18 million.

Liquidity

Under our corporate liquidity methodology, we consider Middlesex Water's liquidity to be adequate. Projected sources of liquidity (cash, FFO, and credit facility availability) exceed projected uses (maintenance and significant discretionary capital expenditures, dividends, and modest debt maturities) by roughly 1.5x during the next 12 months. Quantitatively this maps to the strong category, but given the company's small size and upcoming credit line maturities we consider its liquidity to be adequate. Sources reflect our assumptions of FFO of $26 million, credit facility availability of about $24 million, capital expenditures of $18 million, debt maturities of about $5 million, and dividends of $11 million. The company can issue about $100 million in first mortgage bonds per its existing debt-incurrence tests. In our view, Middlesex Water's liquidity position also benefits from its ability to lower capital spending, if necessary, and utilities' proven track records of successfully accessing the capital markets even during very challenging market conditions.

Recovery analysis

We assign recovery ratings to first mortgage bonds (FMBs) issued by investment-grade U.S. utilities, which can result in issue ratings being notched above a corporate credit rating (CCR) on a utility depending on the CCR category and the extent of the collateral coverage. The investment-grade FMB recovery methodology is based on the ample historical record of nearly 100% recovery for secured bondholders in utility bankruptcies and our view that the factors that supported those recoveries (limited size of the creditor class and the durable value of utility rate-based assets during and after a reorganization given the essential service provided and the high replacement cost) will persist. Under our notching criteria, we consider the limitations of FMB issuance under the utility's indenture relative to the value of the collateral pledged to bondholders, management's stated intentions on future FMB issuance, as well as the regulatory limitations on bond issuance when assigning issue ratings to utility FMBs. FMB ratings can exceed a CCR on a utility by up to one notch in the 'A' category, two notches in the 'BBB' category, and three notches in speculative-grade categories.

Middlesex's FMBs benefit from a first-priority lien on substantially all of the utility's real property owned or subsequently acquired. Collateral coverage is over 1.5x which supports a recovery rating of '1+' and an 'A' first mortgage bond rating, one notch above the CCR. The '1+' recovery rating reflects the very strong asset protection provided by the utility's asset base, the relatively stable value of assets of regulated utilities even in a default, and restrictions on the issuance of additional secured debt.

Outlook

The stable outlook reflects our expectations for continuous supportive regulation, timely rate relief, and stable financial performance. We could lower the rating if there is an unfavorable shift in regulatory conditions or credit metrics deteriorate such that the FFO to debt ratio stays below 12% on a consistent basis. Although we do not expect to do so in the near term, we could raise the rating if rate increases and returns on equity are sufficient to maintain an FFO to debt ratio of 15% and a debt to capital ratio in the low-50% area.

Related Criteria And Research

- Top 10 Investor Questions About U.S. Gas And Water Utilities In 2012, Feb. 9, 2012
- Liquidity Descriptors For Global Corporate Issuers, Sept. 28, 2011
- Business Risk/Financial Risk Matrix Expanded, May 27, 2009

- Analytical Methodology, April 15, 2008
- Changes To Collateral Coverage Requirements For '1+' Recovery Ratings On U.S. Utility First Mortgage Bonds, Sept. 6, 2007

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April 25, 2012

Connecticut Water Service Inc.

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Connecticut Water Service Inc.

Major Rating Factors

Corporate Credit Rating

A/Negative/--

Strengths:

- Favorable regulatory environment;
- Low-risk monopoly water distribution business;
- Strong, largely residential customer base that provides stable revenue; and
- Low operating risk.

Weaknesses:

- Elevated capital spending requirements for infrastructure replacement;
- Increasing costs of compliance with water standards; and
- Small size.

Rationale

Standard & Poor's Ratings Services' ratings on Connecticut Water Service Inc. (CTWS) and its primary subsidiary, Connecticut Water Co. (CWC) reflect an excellent business-risk profile and significant financial-risk profile. CWC provides water service to more than 90,000 customers in 55 towns throughout Connecticut. The company typically provides more than 90% of CTWS's operating income. The recent acquisition of Aqua Maine allows the company to broaden its geographic scope. Aqua Maine changed its name to The Maine Water Co. It adds an additional 16,000 customers to the customer base. CTWS's "excellent" business risk profile reflects a low-risk monopoly water-distribution business, a supportive regulatory environment with favorable cost-recovery mechanisms that enhance cash-flow predictability, a mostly residential and commercial customer base that provides stable revenues, and solid operations. The company's small size somewhat temper its strengths.

The Connecticut Dept. of Utility Control (DPUC) regulates the utility in Connecticut and the Maine Public Utilities Commission regulates the Maine utility. We view the DPUC's policies as supportive of credit quality, including the surcharge mechanisms, which allow the company to recover capital spending costs outside of traditional rate proceedings. The utility benefits from a surcharge mechanism that allows recovery of costs associated with the replacement of aging infrastructure. The most recently approved rate case, in July 2010, increased revenues by $8 million based on an allowed return on equity (ROE) of 9.75%, which is lower when compared with other U.S. water utilities. We view Maine as an improved regulatory environment when compared with Connecticut, although the improvement is minimal. CTWS's nonregulated subsidiaries include real estate company Chester Realty Inc. (not rated) and New England Water Utility Services Inc. (not rated), which provides water and sewer-related services. The nonregulated operations, in addition to real estate sales by the regulated subsidiaries, have historically accounted for less than 10% of revenues and we expect that nonregulated revenue over the intermediate term will continue to be less than 10% of consolidated revenue. A mostly fee-based structure, a close connection to the company's core business, and modest capital requirements mitigate the risks of the nonregulated operations, which are higher than those of the regulated utility.

We characterize the financial risk profile as significant due to increased debt leverage and weaker expected cash flow metrics. These factors are somewhat offset by moderate financial policies and stable cash flows. As of Dec. 31,

2011, CTWS had total debt, including capitalized operating leases and tax-effected pension and postretirement obligations, of $170 million, with an adjusted debt-to-capital ratio of about 59%. For the 12 months ending December 2011, funds from operations (FFO) to debt dropped to 14.2% compared with 14.7% at year end 2010. We expect the company will issue between $35 million and $45 million in equity to partially fund the Maine Water transaction and reduce its debt balance, which will help metrics improve to an FFO/debt ratio of about 15%.

Liquidity

Under Standard & Poor's corporate liquidity methodology, we consider Connecticut Water Service Inc.'s consolidated liquidity to be "adequate". Projected sources of liquidity exceed projected uses by 1.2x during the next 12 months. The company's projected sources of liquidity consist of FFO of about $26 million and availability under its $30 million revolving credit facility of about $9 million. Projected uses of cash include capital expenditures and shareholder distributions totaling $29 million. For the 12 months ended Dec. 31, 2011, CTWS reported FFO of $26 million, capital expenditures of $24 million, and dividends of $8 million. The company plans to issue equity to maintain its credit metrics.

The company is required to comply with certain covenants in connection with the various long-term agreements. As of Dec. 31, 2011, the company was in compliance with the required leverage levels (debt-to-capital ratio of less than 70% and EBITDA interest coverage of more than 2x). Utilities generally have a proven track record of successfully accessing capital markets, even during very challenging market conditions.

Outlook

The negative outlook reflects our expectation of notably weaker credit metrics due to the company's debt-leveraged acquisition of Maine Water. Our base line forecast expects 2012 FFO to debt to be about 15%, assuming the company issues equity before year-end. We would lower the company's ratings, if FFO to total debt remained below 14% absent the company's expected equity issuance and coupled with a decrease in debt leverage. We would likely revise the outlook to stable if the company can improve credit metrics to the 15% to 18% range after the equity offering.

Accounting

Standard & Poor's adjusts CTWS's financial statements for operating leases and pension and postretirement benefits. The adjustment includes adding a debt equivalent, interest expense, and depreciation to the company's reported financial statements. As a result, we impute a debt equivalent of $300,000 for operating leases and $13 million for pension and postretirement benefit obligations.

Table 1

Reconciliation Of Connecticut Water Service Inc. Reported Amounts With Standard & Poor's Adjusted Amounts (Mil. $)

	--Fiscal year ended Dec. 31, 2011--						
Connecticut Water Service Inc. reported amounts							
	Debt	**Shareholders' equity**	**Revenues**	**EBITDA**	**Operating income**	**Interest expense**	**Cash flow from operations**
Reported	156.6	119.0	69.4	24.2	16.4	5.7	26.3

Table 1

Reconciliation Of Connecticut Water Service Inc. Reported Amounts With Standard & Poor's Adjusted Amounts (Mil. $) (cont.)

Standard & Poor's adjustments							
Trade receivables sold or securitized	--	--	--	--	--	--	--
Operating leases	0.3	--	--	0.0	0.0	0.0	0.2
Debt-like hybrids	--	--	--	--	--	--	--
Equity-like hybrids	--	--	--	--	--	--	--
Intermediate hybrids reported as debt	--	--	--	--	--	--	--
Intermediate hybrids reported as equity	0.4	(0.4)	--	--	--	--	--
Postretirement benefit obligations	13.0	--	--	1.0	1.0	0.0	(0.5)
Surplus cash and near cash investments	--	--	--	--	--	--	--
Capitalized interest	--	--	--	--	--	--	--
Capitalized development costs	--	--	--	--	--	--	--
Infrastructure renewal costs	--	--	--	--	--	--	--
Index Linked debt annual accretion	--	--	--	--	--	--	--
Share-based compensation expense	--	--	--	0.9	--	--	--
Dividends received from equity investments	--	--	--	--	--	--	--
Captive finance activity	--	--	--	--	--	--	--
Deconsolidation / Consolidation	--	--	--	--	--	--	--
Nonrecourse debt	--	--	--	--	--	--	--
Securitized utility cost recovery	--	--	--	--	--	--	--
Power purchase agreements	--	--	--	--	--	--	--
Asset retirement obligations	--	--	--	--	--	--	--
Exploration costs	--	--	--	--	--	--	--
Reclassification of nonoperating income (expenses)	--	--	--	--	0.4	--	--
Reclassification of interest, dividend, and tax cash flows	--	--	--	--	--	--	--
Foreign exchange movements (reported below CFO)	--	--	--	--	--	--	--
Reclassification of working-capital cash flow changes	--	--	--	--	--	--	--
Minority interests	--	--	--	--	--	--	--
US decommissioning fund contributions	--	--	--	--	--	--	--
Debt - Accrued interest not included in reported debt	1.0	--	--	--	--	--	--
Debt - Guarantees	--	--	--	--	--	--	--

Table 1

Reconciliation Of Connecticut Water Service Inc. Reported Amounts With Standard & Poor's Adjusted Amounts (Mil. $) (cont.)

Debt - Litigation	--	--	--	--	--	--	--
EBITDA - Other	--	--	--	6.1	6.1	--	--
EBIT - Other	--	--	--	--	0.8	--	--
Total adjustments	14.7	(0.4)	0.0	8.0	8.3	0.0	(0.2)

Standard & Poor's adjusted amounts

	Debt	Equity	Revenues	EBITDA	EBIT	Interest expense	Cash flow from operations
Adjusted	171.3	118.6	69.4	32.2	24.7	5.7	26.1

Table 2

Connecticut Water Service Inc. -- Peer Comparison

Industry Sector: Water

	Connecticut Water Service Inc.	Aqua America Inc.	American States Water Co.	Middlesex Water Co.
Rating as of April 25, 2012	A/Negative/--	--/--/--	A+/Stable/--	A-/Stable/--
	--Average of past three fiscal years--			
(Mil. $)				
Revenues	65.1	702.9	393.1	98.7
EBITDA	28.0	390.3	124.7	35.3
Net income from cont. oper.	10.4	124.4	34.2	12.6
Funds from operations (FFO)	22.4	311.1	112.1	25.1
Capital expenditures	26.1	312.2	82.8	24.1
Free operating cash flow	(4.0)	(15.1)	(10.1)	(0.5)
Discretionary cash flow	(11.9)	(96.1)	(29.4)	(11.1)
Cash and short-term investments	2.5	12.0	2.4	3.3
Debt	154.8	1,667.4	395.8	189.0
Equity	113.7	1,178.7	381.9	165.0
Adjusted ratios				
EBITDA margin (%)	43.0	55.5	31.7	35.8
EBITDA interest coverage (x)	5.1	4.9	4.9	4.9
EBIT interest coverage (x)	3.9	3.4	3.4	3.7
Return on capital (%)	7.3	8.5	10.0	7.2
FFO/debt (%)	14.5	18.7	28.3	13.3
Free operating cash flow/debt (%)	(2.6)	(0.9)	(2.5)	(0.3)
Debt/EBITDA (x)	5.5	4.3	3.2	5.4
Total debt/debt plus equity (%)	57.7	58.6	50.9	53.4

Table 3

Connecticut Water Service Inc. -- Financial Summary

Industry Sector: Water

	--Fiscal year ended Dec. 31--				
	2011	**2010**	**2009**	**2008**	**2007**
Rating history	A/Negative/--	A/Stable/--	A/Stable/--	A/Stable/--	A/Stable/--
(Mil. $)					
Revenues	69.4	66.4	59.4	61.3	59.0
EBITDA	32.2	29.0	22.8	25.0	25.1
Net income from continuing operations	11.3	9.8	10.2	9.4	8.8
Funds from operations (FFO)	24.4	21.6	21.3	19.0	16.0
Capital expenditures	23.8	26.6	27.9	19.9	19.1
Dividends paid	8.2	8.0	7.7	7.4	7.2
Debt	171.3	147.7	145.4	114.2	106.4
Preferred stock	0.4	0.4	0.4	0.4	0.4
Equity	118.6	113.6	109.0	103.9	100.5
Debt and equity	289.9	261.2	254.3	218.0	206.9
Adjusted ratios					
EBITDA margin (%)	46.4	43.7	38.3	40.9	42.5
EBITDA interest coverage (x)	5.6	4.9	4.7	4.6	5.4
EBIT interest coverage (x)	4.3	3.8	3.4	3.5	3.9
FFO int. cov. (x)	5.2	4.6	5.3	4.3	4.3
FFO/debt (%)	14.2	14.7	14.7	16.7	15.0
Discretionary cash flow/debt (%)	(3.5)	(11.2)	(9.2)	(8.7)	(10.0)
Net cash flow/capex (%)	67.7	51.5	48.9	58.5	46.3
Debt/EBITDA (x)	5.3	5.1	6.4	4.6	4.2
Debt/debt and equity (%)	59.1	56.5	57.2	52.4	51.4
Return on capital (%)	8.0	7.6	6.1	7.9	8.1
Return on common equity (%)	9.6	8.6	9.3	9.0	8.8
Common dividend payout ratio (un-adj.) (%)	72.8	81.4	75.4	78.6	81.7

Related Criteria And Research

- Top 10 Investor Questions About U.S. Gas And Water Utilities In 2012, Feb 9, 2012

Ratings Detail (As Of April 25, 2012)

Connecticut Water Service Inc.	
Corporate Credit Rating	A/Negative/--
Senior Unsecured	A
Corporate Credit Ratings History	
28-Oct-2011	A/Negative/--
22-Sep-2003	A/Stable/--
Business Risk Profile	Excellent

Ratings Detail (As Of April 25, 2012) **(cont.)**

Financial Risk Profile	Significant
Related Entities	
The Connecticut Water Co.	
Issuer Credit Rating	A/Negative/--
Senior Unsecured	A

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June 22, 2012

Summary:
California Water Service Co.

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Rationale

Outlook

Related Criteria And Research

Summary:

California Water Service Co.

Credit Rating: A+/Negative/--

Rationale

Standard & Poor's Ratings Services' rating on California Water Service Co. (Cal Water) reflects the consolidated credit profile of its unrated parent, California Water Services Group (CWSG). The ratings also reflect CWSG's "excellent" business risk profile and "intermediate" financial risk profile under our criteria.

Cal Water is primarily a regulated water utility that provides about 95% of CWSG's revenues and operating income, serves more than 470,000 connections in 83 communities throughout California. The remaining revenues at CWSG mainly come from regulated water utility subsidiaries Hawaii Water Service Co., Washington Water Service Co., and New Mexico Water Service Co. CWSG also owns two small, nonregulated subsidiaries that primarily operate water and wastewater systems and provide meter reading and billing services. Based on the combination of future earnings, cash flow, and capital spending, we currently view CWSG as about 95% regulated utility and 5% nonregulated business.

We base Cal Water's excellent business risk profile on its monopolistic and lower-risk rate-regulated business that provides an essential service. The company's effective management of regulatory risk enhances the business risk profile. About 95% of CWSG's revenues consist of residential and business customers that we expect will result in a higher degree of cash flow stability.

The California Public Utilities Commission (CPUC), which regulates Cal Water, has allowed a number of cost-recovery mechanisms, which we view as credit supportive. These recovery mechanisms include recovery of purchased water, purchased power, and pension costs. Cal Water is also permitted memorandum accounts that track expenses due to unforeseen events or catastrophic events for future recovery. The CPUC allows Cal Water to file rate cases using a forward-looking test year and to true-up lost revenue from conservation efforts through its water-revenue adjustment mechanism (WRAM). In April 2012, CPUC approved an order that shortened the amortization period for WRAM to a time frame of 12-18 months for 2011 - 2013. The order also removed a 2.5% trigger on under collected balances. As on March 31, 2012, the under collected balances were about $50 million. This change will benefit the company's credit quality by reducing the regulatory lag.

Cal Water filed a settlement proposal with the CPUC requesting an authorized return on equity of 9.99%, below its previously allowed return of 10.2 %. We expect the CPUC to make a decision in the second quarter of 2012. Cal Water's last rate case decision allows the company to increase rates by $9.6 million and $9 million in 2012 and 2013. The company will file its next general rate case in July 2012 for all of its California districts. The new rates will go into effect on Jan. 1, 2014.

Recently, regulatory conditions and safety enforcement in California have received increased attention following the San Bruno pipeline explosion. Although we do not expect this accident to have negative credit implications for Cal Water over the next few months, it could potentially lead to increased compliance costs over the longer term that it would have to recover from customers, possibly increasing Cal Water's regulatory risk.

Cal Water's intermediate financial profile reflects our expectation that the financial measures will be weak over the medium term due to higher regulatory capital spending, which cash flows will only partially support. For the 12 months ended March 31, 2012, funds from operations (FFO) to debt weakened to 12.5% as compared with 13.8% at year-end 2011, and debt to EBITDA weakened to 4.5x from 3.8x at year-end 2011. Debt to capital remained high for the current rating at 61.8% at March 31, 2012 as compared with 61.2% at year-end 2011. Over the medium term, we expect financial measures to weaken such that FFO to debt and debt to EBITDA will approximate 14% and 5.0x, respectively. If the financial measures continue to weaken, we could revise the financial risk profile to aggressive, probably resulting in a ratings downgrade.

Liquidity

CWSG and Cal Water's liquidity is "exceptional" under our criteria and can more than cover its needs over the short term, even if FFO declines.

We base our liquidity assessment on the following factors and assumptions:

- We expect the company's consolidated liquidity sources (including cash, FFO, and credit facility availability) to exceed its uses by about 2.5x over the next 24 months.
- Even if consolidated EBITDA declines by 50%, we believe net sources will be well in excess of liquidity requirements.
- The company's long-term debt is manageable with about $55 million of long-term debt maturing over the next three years.
- The company can absorb high-impact, low-probability events with limited need for refinancing, has the flexibility to lower capital spending, has sound bank relationships and solid standing in the credit markets, and has generally prudent risk management.

In our analysis, we assumed consolidated liquidity of about $440 million over the next 12 months, primarily consisting of cash, FFO, and availability under the credit facilities. CWSG and Cal Water have access to unsecured revolving credit facilities of up to $400 million. These facilities expire in June 2016 and as of March 31, 2012, about $350 million was available. We estimate the company will use about $165 million over the same period for capital spending, debt maturities, and shareholder dividends.

The credit agreements include two financial covenants of debt to total capital no higher than 66.7% and an interest coverage ratio of 3x or more. As of March 31, 2012, CWSG was in compliance with the covenants, with a total capitalization ratio of 45.2% and interest ratio of 4.75x. Cal Water was also in compliance with both covenants.

Recovery analysis

We assign recovery ratings to first mortgage bonds (FMBs) issued by investment-grade U.S. utilities, which can result in issue ratings that are notched above a corporate credit rating (CCR) on a utility, depending on the CCR category and the extent of the collateral coverage. We base the investment-grade FMB recovery methodology on the ample historical record of nearly 100% recovery for secured bondholders in utility bankruptcies and on our view that the factors that supported those recoveries (limited size of the creditor class, and the durable value of utility rate-based assets during and after a reorganization, given the essential service provided and the high replacement cost) will persist. Under our notching criteria, when assigning issue ratings to utility FMBs, we consider the limitations of FMB issuance under the utility's indenture relative to the value of the collateral pledged to bondholders, management's stated intentions on future FMB issuance, as well as the regulatory limitations on bond issuance. FMB ratings can exceed a CCR on a utility by up to one notch in the 'A' category, two notches in the 'BBB'

category, and three notches in speculative-grade categories.

Cal Water's FMBs benefit from a first-priority lien on substantially all of the utility's real property owned or subsequently acquired. Collateral coverage of 1.5x supports a recovery rating of '1+' and an issue rating of 'AA-', one notch above the corporate credit rating.

Outlook

The negative outlook on the rating reflects our baseline forecast that the financial measures will be weak over the medium term due to higher regulatory capital spending only partially supported by cash flows. We expect FFO/debt, debt/EBITDA, and debt to capital to approximate 14%, 5x and 60% respectively over the medium term. We could lower the rating if either FFO/debt is consistently below 16% or debt to capital is consistently greater than 60% over the medium term. We could revise the outlook to stable if financial measures improve so that the FFO/debt is consistently greater than 16% and debt to capital is lower than 55% in the intermediate term. Although not anticipated in the intermediate term, we could raise the rating if financial measures improve drastically so that FFO to debt is higher than 30% and debt to capital is less than 45%.

Related Criteria And Research

- Liquidity Descriptors For Global Corporate Issuers, Sept. 28, 2011
- Business Risk/Financial Risk Matrix Expanded, May 27, 2009
- Analytical Methodology, April 15, 2008
- Changes To Collateral Coverage Requirements For '1+' Recovery Ratings On U.S. Utility First Mortgage Bonds, Sept. 6, 2007

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January 30, 2012

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Pennsylvania-American Water Co.

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Rationale

Outlook

Related Criteria And Research

Summary:

Pennsylvania-American Water Co.

Credit Rating: BBB+/Stable/--

Rationale

The ratings on Pennsylvania-American Water Co. reflect the consolidated credit quality of parent American Water Works Co. Inc. (AWW). Pennsylvania-American accounts for about 20% of AWW's revenues and about 28% of cash flow. Pennsylvania-American Water's favorable regulatory environment, strong services territory, stable, mostly residential customer base, absence of competition, and low operating risk support the utility's stand-alone excellent business risk profile. Pennsylvania-American Water's regulator, the Pennsylvania Public Utilities Commission, allows the addition of capital spending to rate base outside of traditional rate proceedings, rate cases based on a future test year, and a consolidated rate structure.

A favorable competitive position, a diverse and supportive regulatory environment, and a stable, above-average service territory support AWW's excellent business risk profile. AWW's regulatory framework includes reasonably allowed returns on equity and various cost-recovery mechanisms, including incentives for infrastructure improvements. The company's geographic diversity provides it with some market, cash-flow, and regulatory diversification. We view AWW's operating risks associated with its nonregulated operations as fairly low. AWW's aggressive financial profile, elevated capital-spending requirements for infrastructure replacement, increased costs of compliance with water quality standards, and the company's reliance on acquisitions to provide growth partly offset these strengths.

AWW provides regulated water and wastewater services to about 3.3 million customers in 18 states. The company's regulated utility subsidiaries represent about 89% of total revenues, but have provided more than 95% of adjusted EBITDA for the past three years. The company's nonregulated subsidiaries engage in water and wastewater facility management and maintenance, as well as design and construction consulting services related to water and wastewater plants. We view these nonregulated segments as having modest incremental risk for AWW, due to their lack of cash flow contribution and modest expected capital requirements.

A state commission regulates each of AWW's regulated subsidiaries, which supports revenue and cash flow stability. The average allowed return on equity (ROE) in AWW's seven largest jurisdictions, which account for about 80% of consolidated revenues, is about 10%. This is similar to the average allowed ROE in the water sector. In a number of jurisdictions, which represent about 50% of consolidated revenues, the utility recovers replacement capital spending between rate cases up to a stated percentage. The importance of infrastructure surcharge mechanisms has increased, given AWW's capital program of about $1 billion per year. Certain states also allow for surcharges related to the cost of power, chemicals, and purchased water. For the next few years, we expect AWW to file additional rate cases and request additional recovery mechanisms to cover rising operating costs, capital expenditures, and pension and other postretirement obligations.

The U.S. Environmental Protection Agency believes that infrastructure replacement needs for water systems are significant over the next 20 years. AWW estimates that it will need to spend about $1 billion annually in each of the next three years for replacement of infrastructure, new facilities to comply with water quality standards, and

projects to enhance reliability, quality of service, and efficiency. AWW's reliability of supply is high, as the company owns a substantial number of treatment facilities for surface and groundwater treatment, and the majority of supply comes from surface and groundwater. In 2011, surface water provided 65% of the company's water supply, groundwater 28%, and it purchased about 7%.

Consolidated financial metrics are improving. In 2011, regulatory commissions granted AWW about $118 million of general rate increases in various states, including $99 million in New Jersey, Pennsylvania, and Arizona. The company asks for rate increases to cover rising operating costs, capital expenditures, and pension and other postretirement obligations.

For the 12 months ended Sept. 30, 2011, AWW's adjusted funds from operations (FFO) totaled $895 million. FFO to debt was 13.9%, which is acceptable for the rating. Total debt to capital remained around 60% during the same period. Substantially higher capital expenses are significant risks that may prevent adequate improvements to the company's financial profile. Over the next 12 months we expect FFO to improve slightly due to additional rate increases, although a sustained improvement in both consolidated FFO to debt and debt to total capital may not materialize, given the company's financing needs.

In March 2011, AWW announced that it has entered into an agreement to sell to EPCOR Water (USA) its regulated operations in Arizona and New Mexico for an estimated $470 million. We view the transaction as marginally beneficial to AWW's business and risk profile, albeit not material enough to influence the outlook. AWW will use a portion of the sale proceeds to reduce debt (less than 5% of consolidated debt). Arizona and New Mexico are some of the relatively weaker and smaller states that AWW serves, totaling less than 5% of cash flows. Similarly, in July 2011, AWW announced the sale of its regulated operations in Ohio to Aqua America Inc. for $120 million and a purchase of Aqua America's regulated operations in New York for about $70 million. These announcements do not affect AWW's ratings.

Liquidity

The short-term ratings on AWW and AWCC are 'A-2'. We view the company's overall liquidity as adequate. For the upcoming 12 months, we expect liquidity sources to exceed uses by more than 1.2x. Cash sources consist of projected FFO of about $900 million and revolver availability of $259 million. As of Sept. 30, 2011 there were no borrowings outstanding on the revolvers. However, we discount the borrowing availability on the revolver by about $425 million to account for commercial paper and other short-term borrowings and do not give credit to a portion of the credit facility that expires within the next 12 months. Cash uses consist of expected total capital spending of about $1 billion in 2012, although mandatory and compliance-related expenses are only a fraction of that amount. Other cash uses include dividend distributions of about $165 million, debt maturities of about $34 million and pension plan contributions of about $150 million. Other potential cash uses, such as working capital needs are not significant.

Recovery analysis

We rate Pennsylvania–American Water's first mortgage bonds (FMB) 'A', two notches above the corporate credit rating, based on a recovery rating of '1+' under our recovery methodology for regulated utilities. We assign recovery ratings to FMBs issued by U.S. utilities, and this can result in issue ratings being notched above the corporate credit rating on a utility, depending on the corporate credit rating category and the extent of the collateral coverage.

We base the investment-grade FMB recovery methodology on the ample historical record of nearly 100% recovery for secured-bond holders in utility bankruptcies and our view that the factors that supported those recoveries (the

small size of the creditor class, and the durable value of utility rate-based assets during and after a reorganization, given the essential service provided and the high replacement cost) will persist. Under our notching criteria, when assigning issue ratings to utility FMBs, we consider the limitations of FMB issuance under the utility's indenture relative to the value of the collateral pledged to bondholders, management's stated intentions on future FMB issuance, and the regulatory limitations on bond issuance.

FMB ratings can exceed a utility's corporate credit rating by as much as one notch in the 'A' category, two notches in the 'BBB' category, and three notches in speculative-grade categories. (See "Changes To Collateral Coverage Requirements For '1+' Recovery Ratings On U.S. Utility First Mortgage Bonds," published Sept. 6, 2007.) Pennsylvania-American Water's collateral coverage of greater than 1.5x supports a recovery rating of '1+' and an issue rating of 'A', two notches above the corporate credit rating.

Outlook

The outlook on Pennsylvania-American Water reflects the outlook on AWW. The stable outlook on AWW and AWCC reflects our expectation that the company will receive supportive rate increases over the next three years to address rising costs and increased capital spending plans. The current rating can accommodate some acquisitions, assuming management funds the acquisitions in a balanced manner. We could lower the rating if financial performance stalls or deteriorates, which could result from substantial debt-financing of capital expenditures or acquisitions, such that FFO to debt falls below 9% and debt to capital rises above 65%. We could also lower the rating if rate increases or allowed returns are set at levels substantially below the requested figures, and if the company takes significantly longer to resolve rate case filings than we currently expect. We could raise the rating if higher-than-expected rate increases or favorable cost recovery mechanisms allow for a sustained adjusted FFO to total debt ratio of 12% to 14% and adjusted leverage between 50% and 55%.

Related Criteria And Research

- Top 10 Investor Questions: U.S. Investor-Owned Water Companies, published Jan. 25, 2010
- Industry Report Card: U.S. Investor-Owned Water Utilities Continue to Display Rating Stability, published Jan. 12, 2010
- Criteria: Key Credit Factors: Business And Financial Risks In the Investor-Owned Utilities Industry, published Nov. 26, 2008

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January 30, 2012

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Rationale

Outlook

Related Criteria And Research

Summary:

New Jersey-American Water Co.

Credit Rating: BBB+/Stable/--

Rationale

The ratings on New Jersey-American Water Co. reflect the consolidated credit quality of parent American Water Works Co. Inc. (AWW). New Jersey-American accounts for 25% of AWW's revenues and about 30% of cash flow. New Jersey-American's favorable regulatory environment, strong services territory, stable and mostly residential customer base, absence of competition, and low operating risk support the utility's stand-alone excellent business risk profile. New Jersey-American Water's regulator, the New Jersey Board of Public Utilities, reviews rate cases based on a historical test year with adjustments, and allows a consolidated rate structure and recovery of purchased water costs. In addition, the company has proposed the addition of infrastructure capital spending to rate base outside of traditional rate proceedings in its current rate filing.

A favorable competitive position, a diverse and supportive regulatory environment, and a stable, above-average service territory support AWW's excellent business risk profile. AWW's regulatory framework includes reasonably allowed returns on equity and various cost-recovery mechanisms, including incentives for infrastructure improvements. The company's geographic diversity provides it with some market, cash-flow, and regulatory diversification. We view AWW's operating risks associated with its nonregulated operations as fairly low. AWW's aggressive financial profile, elevated capital-spending requirements for infrastructure replacement, increased costs of compliance with water quality standards, and the company's reliance on acquisitions to provide growth partly offset these strengths.

AWW provides regulated water and wastewater services to about 3.3 million customers in 18 states. The company's regulated utility subsidiaries represent about 89% of total revenues, but have provided more than 95% of adjusted EBITDA for the past three years. The company's nonregulated subsidiaries engage in water and wastewater facility management and maintenance, as well as design and construction consulting services related to water and wastewater plants. We view these nonregulated segments as having modest incremental risk for AWW, due to their lack of cash flow contribution and modest expected capital requirements.

A state commission regulates each of AWW's regulated subsidiaries, which supports revenue and cash flow stability. The average allowed return on equity (ROE) in AWW's seven largest jurisdictions, which account for about 80% of consolidated revenues, is about 10%. This is similar to the average allowed ROE in the water sector. In a number of jurisdictions, which represent about 50% of consolidated revenues, the utility recovers replacement capital spending between rate cases up to a stated percentage. The importance of infrastructure surcharge mechanisms has increased, given AWW's capital program of about $1 billion per year. Certain states also allow for surcharges related to the cost of power, chemicals, and purchased water. For the next few years, we expect AWW to file additional rate cases and request additional recovery mechanisms to cover rising operating costs, capital expenditures, and pension and other postretirement obligations.

The U.S. Environmental Protection Agency believes that infrastructure replacement needs for water systems are significant over the next 20 years. AWW estimates that it will need to spend about $1 billion annually in each of the

next three years for replacement of infrastructure, new facilities to comply with water quality standards, and projects to enhance reliability, quality of service, and efficiency. AWW's reliability of supply is high, as the company owns a substantial number of treatment facilities for surface and groundwater treatment, and the majority of supply comes from surface and groundwater. In 2011, surface water provided 65% of the company's water supply, groundwater 28%, and it purchased about 7%.

Consolidated financial metrics are improving. In 2011, regulatory commissions granted AWW about $118 million of general rate increases in various states including $99 million in New Jersey, Pennsylvania, and Arizona; the company asks for rate increases to cover rising operating costs, capital expenditures, and pension and other postretirement obligations.

For the 12 months ended Sept. 30, 2011, AWW's adjusted funds from operations (FFO) totaled $895 million. FFO to debt was 13.9%, which is acceptable for the rating. Total debt to capital remained around 60% during the same period. Substantially higher capital expenses are significant risks that may prevent adequate improvements to the company's financial profile. Over the next 12 months we expect FFO to improve slightly due to additional rate increases, although a sustained improvement in both consolidated FFO to debt and debt to total capital may not materialize, given the company's financing needs.

In March 2011, AWW announced that it has entered into an agreement to sell to EPCOR Water (USA) its regulated operations in Arizona and New Mexico for an estimated $470 million. We view the transaction as marginally beneficial to AWW's business and risk profile, albeit not material enough to influence the outlook. AWW will use a portion of the sale proceeds to reduce debt (less than 5% of consolidated debt). Arizona and New Mexico are some of the relatively weaker and smaller states that AWW serves, totaling less than 5% of cash flows. Similarly, in July 2011, AWW announced the sale of its regulated operations in Ohio to Aqua America Inc. for $120 million and a purchase of Aqua America's regulated operations in New York for about $70 million. These announcements do not affect AWW's ratings.

Liquidity

The short-term ratings on AWW and AWCC are 'A-2'. We view the company's overall liquidity as adequate. For the upcoming 12 months, we expect liquidity sources to exceed uses by more than 1.2x. Cash sources consist of projected FFO of about $900 million and revolver availability of $259 million. As of Sept. 30, 2011 there were no borrowings outstanding on the revolvers. However, we discount the borrowing availability on the revolver by about $425 million to account for commercial paper and other short-term borrowings and do not give credit to a portion of the credit facility that expires within the next 12 months. Cash uses consist of expected total capital spending of about $1 billion in 2012, although mandatory and compliance-related expenses are only a fraction of that amount. Other cash uses include dividend distributions of about $165 million, debt maturities of about $34 million and pension plan contributions of about $150 million. Other potential cash uses, such as working capital needs are not significant.

Recovery analysis

We rate New Jersey–American Water's first mortgage bonds (FMB) 'A', two notches above the corporate credit rating, based on a recovery rating of '1+' under our recovery methodology for regulated utilities. We assign recovery ratings to FMBs issued by U.S. utilities, and this can result in issue ratings being notched above the corporate credit rating on a utility, depending on the corporate credit rating category and the extent of the collateral coverage.

We base the investment-grade FMB recovery methodology on the ample historical record of nearly 100% recovery

for secured-bond holders in utility bankruptcies and our view that the factors that supported those recoveries (the small size of the creditor class, and the durable value of utility rate-based assets during and after a reorganization, given the essential service provided and the high replacement cost) will persist. Under our notching criteria, when assigning issue ratings to utility FMBs, we consider the limitations of FMB issuance under the utility's indenture relative to the value of the collateral pledged to bondholders, management's stated intentions on future FMB issuance, and the regulatory limitations on bond issuance.

FMB ratings can exceed a utility's corporate credit rating by as much as one notch in the 'A' category, two notches in the 'BBB' category, and three notches in speculative-grade categories. (See "Changes To Collateral Coverage Requirements For '1+' Recovery Ratings On U.S. Utility First Mortgage Bonds," published Sept. 6, 2007.) New Jersey-American Water's collateral coverage of greater than 1.5x supports a recovery rating of '1+' and an issue rating of 'A', two notches above the corporate credit rating.

Outlook

The outlook on New Jersey-American Water reflects the outlook on AWW. The stable outlook on AWW and AWCC reflects our expectation that the company will receive supportive rate increases over the next three years to address rising costs and increased capital spending plans. The current rating can accommodate some acquisitions, assuming management funds the acquisitions in a balanced manner. We could lower the rating if financial performance stalls or deteriorates, which could result from substantial debt-financing of capital expenditures or acquisitions, such that FFO to debt falls below 9% and debt to capital rises above 65%. We could also lower the rating if rate increases or allowed returns are set at levels substantially below the requested figures, and if the company takes significantly longer to resolve rate case filings than we currently expect. We could raise the rating if higher-than-expected rate increases or favorable cost recovery mechanisms allow for a sustained adjusted FFO to total debt ratio of 12% to 14% and adjusted leverage between 50% and 55%.

Related Criteria And Research

- Top 10 Investor Questions: U.S. Investor-Owned Water Companies, published Jan. 25, 2010
- Industry Report Card: U.S. Investor-Owned Water Utilities Continue to Display Rating Stability, published Jan. 12, 2010
- Criteria: Key Credit Factors: Business And Financial Risks In the Investor-Owned Utilities Industry, published Nov. 26, 2008

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January 30, 2012

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Related Criteria And Research

Summary:
Golden State Water Co.

Credit Rating: A+/Stable/--

Rationale

Standard & Poor's Ratings Services' ratings on Golden State Water Co. (GSWC; A+/Stable/--) reflect the consolidated credit quality of parent American States Water Co. (AWR; A+/Stable/--). GSWC provides more than 80% of consolidated revenues. AWR's other subsidiary is American States Utility Services Inc. (ASUS; not rated), which provides unregulated water and wastewater services to third parties.

GSWC's "excellent" (as our criteria define the term) business risk profile is characterized by a supportive regulatory environment; the absence of competition; strong, largely residential markets; and relatively low operating risk. Increased capital requirements associated with infrastructure-replacement needs, compliance with water-quality standards, and limited control of future water supply somewhat temper company strengths.

The California Public Utilities Commission (CPUC) regulates GSWC. We view California as having a constructive regulatory environment for water companies. The CPUC has granted a number of supportive cost-recovery mechanisms that allow water utilities to generate stable cash flows and recover costs with minimal regulatory lag. Some of these supportive mechanisms include the decoupling of throughput from revenues and recovery of costs associated with reduced usage due to conservation. In addition, the CPUC allows the utility to recover its capital investments between rate cases and passes all purchased-water costs through to customers. We expect regulatory conditions in California to become somewhat stricter as a result of the 2010 pipeline explosion in San Bruno, Calif. On Nov. 2, 2011, the CPUC Division of Ratepayer Advocates (DRA) proposed a settlement authorizing a return on equity (ROE) of 9.99%, slightly below the 10% industry standard. We expect the final approved amount to be finalized by first-quarter 2012. On July 21, 2011, GSWC filed a general rate case for rate increases of approximately $31.3 million in annual revenues. The proposed rate increases for 2014 are $9.1 million, and the 2015 proposed rate increases amount to $11.5 million. These rates will be effective in January 2013.

We view the water supply situation that the company must deal with in California as challenging. California struggles with droughts and a lack of water supply as two of the company's wholesale water suppliers have restricted the amount of water available to the company. AWR purchases 40% to 45% of its water supplies, which is a similar amount to other rated water utilities in California, such as California Water Service Co. (A+/Negative/--) and San Jose Water Co. (A/Stable/--). GSWC implemented a plan to reduce consumption by 10% through voluntary actions in service areas that the Metropolitan Water District of Southern California supplies, based on the district's Water Supply Allocation Plan. The company met the required reduction for the 2010 water year.

Bear Valley Electric Service (BVES; not rated), a division of GSWC, provides electric services to the city of Big Bear Lake and adjoining areas. This segment contributes less than 10% of consolidated EBITDA. Given its size and relative contribution to EBITDA, the operations at BVES do not materially affect AWR's credit quality.

The company's nonregulated segment, ASUS, provides operations, maintenance, and construction services to water and wastewater facilities. Despite tight margins and low cash flow, these nonregulated operations pose limited

incremental risks to the company's consolidated credit profile. In addition to the complementary nature of the utility's nonregulated segment to its regulated operations, the fact that the contracts use a cost-of-service structure, shielding AWR from the majority of costs, mitigates risks. We expect AWR's nonregulated operations, which represent about 10% of operating income, to remain a relatively small cash flow contributor.

AWR's "intermediate" (as our criteria define the term) risk financial profile is characterized by cash flow and leverage ratios that are adequate for the rating. We expect adjusted metrics to remain somewhat stable, with funds from operations (FFO) to debt above 25% and debt to capital below 55%, with continued rate relief for capital spending and pension and postretirement obligations. As of Sept. 30, 2011, AWR had total adjusted debt of about $395 million, with adjusted debt to capital of 49%. For the 12 months ended Sept. 30, 2011, adjusted (FFO) totaled about $129 million, with adjusted FFO to interest coverage level of 5.8x, and adjusted FFO to total debt of 33%.

Liquidity

We view AWR's overall liquidity as "strong" (as our criteria define the term). For the next 12 months we expect liquidity sources to exceed uses by about 2x. Cash sources consist of projected FFO of about $120 million, revolver availability of $83 million, and cash of about $5 million. Cash sources consist of projected FFO of about $120 million, revolver availability of $83 million, and cash of about $5 million. Cash uses consist of expected capital spending of about $80 million and distributions of about $20 million. Other potential cash uses, such as debt maturities and working capital needs, are not significant.

In absolute dollars, we expect cash sources to exceed uses by roughly $105 million over the next 12 months. This difference will remain positive even if EBITDA falls by more than 30%, which we would not anticipate given the company's regulated cash flows. In terms of other qualitative factors, we believe that the company has considerable access to the capital markets through state and local development funds and equity markets. Similar to most water companies, we don't expect AWR's FFO to sufficiently cover its cash requirements in the near-term.

Outlook

The stable outlooks on AWR and GSWC reflect our expectation that the regulatory environment in California will continue to be supportive and financial metrics will remain in line with the rating. We expect the company to continue to raise capital in a balanced manner to address rising costs and increased capital spending plans. The current rating can accommodate some acquisitions, assuming management funds the acquisitions in a balanced manner. We could lower the rating if financial performance stalls or deteriorates, which could result from substantial debt financing of capital spending or acquisitions, such that FFO to debt falls below 20% and debt to capital rises above 55% for a sustained period. We do not expect to raise the ratings in the near term.

Related Criteria And Research

Key Credit Factors: Business And Financial Risks In The Investor-Owned Utilities Industry, Nov. 26, 2008

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March 30, 2012

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Related Criteria And Research

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Summary:

Aqua Pennsylvania Inc.

Credit Rating: A+/Stable/--

Rationale

Standard & Poor's Ratings Services' ratings on water utility Aqua Pennsylvania Inc. reflect the consolidated credit quality of its parent company, Aqua America Inc. (unrated). Aqua Pennsylvania accounts for more than one-half of consolidated Aqua America's revenues and cash flow.

Aqua Pennsylvania's business risk profile is excellent, in our assessment, reflecting a low-risk monopoly water distribution business; a supportive regulatory environment with favorable cost-recovery mechanisms that enhance cash flow predictability; a large, stable residential and commercial customer base that provides a stable revenue base; and solid operations in which purchased water accounts for only about 10% of water sales. The company's elevated capital spending requirements for infrastructure replacement, increasing costs of compliance with water quality standards, and a highly acquisitive growth strategy somewhat temper the company's strengths. We view the financial risk profile as intermediate, reflecting stable but weak cash flow metrics, high debt leverage, and solid access to the capital markets.

The Pennsylvania Public Utility Commission (PPUC) provides Aqua Pennsylvania with favorable cost-recovery mechanisms, including the addition of capital spending to rates outside the traditional rate proceedings, inclusion of certain expected expenditures in determining rates, and a consolidated rate structure. During 2010, 24 rate cases worth about $50 million were processed across several of Aqua America's subsidiaries. In 2011 the company received about $26 million worth of rate increases. A number of rate cases continue to be in progress. For 2012, we expect rate cases worth about $50 million to be processed.

Timely rate relief and balanced financing of its growth strategy support Aqua Pennsylvania's intermediate financial profile, which we view as appropriate for the rating, but consolidated financial metrics are modestly weaker than other 'A+' rated water companies. As of Dec. 31, 2011, Aqua America had total debt, including tax-effected pension and other postemployment benefits and operating leases, of about $1.7 billion, with total debt to capital of about 58%. Aqua America's adjusted funds from operations (FFO) are about $330 million and FFO to debt is about 20%. As of Sept. 30, 2011, Aqua Pennsylvania had total adjusted debt of $1.03 billion and adjusted FFO to total debt of about 24%. Over the intermediate term, we expect financial performance to approximate current levels for both Aqua America and Aqua Pennsylvania, supported by additional rate increases and existing recovery mechanisms.

Aqua America recently entered into a joint venture with Penn Virginia Resource Partners L.P. (PVR; rated BB-/Stable/--) to construct a 12-inch pipeline to provide fresh water to PVR's gas-gathering systems in Lycoming County, Pa. We believe that this project efficiently fulfills a requirement to provide water in the Marcellus Shale region and could provide Aqua with an opportunity to increase its nonregulated cash flows, which are currently less than 1% of total EBITDA.

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Liquidity

We consider Aqua America's consolidated liquidity to be adequate under Standard & Poor's corporate liquidity methodology. Projected sources of liquidity (cash, FFO, and credit facility availability) exceed projected uses (maintenance and significant discretionary capital spending, dividends, and manageable debt maturities) by about 1.5x over the next 12 months. We base this calculation on a scenario where the company has no access to the capital markets, and excludes any uncommitted facilities. As per our criteria, we also excluded the available portion of the $95 million committed facility since it expires in May 2012. We expect this facility to be renewed shortly. Over the next 12 months, we expect Aqua America's cash from operations to be in the $340 million to $370 million range, in line with recent growth. Other sources of funds include minimal cash from expected rate cases in 2011 and some borrowing ability on the revolving credit facility. Uses of cash include capital spending that we expect to be in the $300 million to $350 million range, although we consider only about one-third of it is mandatory expenditure. Debt maturities of about $40 million, and expected dividends of about $83 million, in line with increases over the past few years, are other significant uses of capital.

Aqua Pennsylvania issued about $143 million of debt in October 2010, a portion of which it will likely use to refinance existing debt. The company will deposit proceeds from the incremental debt in a restricted account and use it to fund capital spending over the next few years. These funds, in addition to infrastructure replacement surcharges, support spending on discretionary projects and can also be used for any other near-term liquidity requirements.

There is significant covenant headroom under its debt agreements. The company is required to maintain total debt to capital (as defined) below 62%, and interest coverage (as defined) of 3.6x. We expect it to remain comfortably in compliance with these covenants over the next 12 months.

Recovery analysis

We rate Aqua Pennsylvania's first mortgage bonds (FMB) 'AA-', one notch higher than the corporate credit rating, based on a recovery rating of '1+' under our recovery methodology for regulated utilities. We assign recovery ratings to FMBs issued by U.S. utilities, and this can result in issue ratings being notched above the corporate credit rating on a utility, depending on the corporate credit rating category and the extent of the collateral coverage. We base the investment-grade FMB recovery methodology on the ample historical record of nearly 100% recovery for secured-bond holders in utility bankruptcies and our view that the factors that supported those recoveries (the small size of the creditor class, and the durable value of utility rate-based assets during and after a reorganization, given the essential service provided and the high replacement cost) will persist. Under our notching criteria, when assigning issue ratings to utility FMBs, we consider the limitations of FMB issuance under the utility's indenture relative to the value of the collateral pledged to bondholders, management's stated intentions on future FMB issuance, and the regulatory limitations on bond issuance. FMB ratings can exceed a corporate credit rating on a utility by as much as one notch in the 'A' category, two notches in the 'BBB' category, and three notches in speculative-grade categories. Aqua Pennsylvania's collateral coverage of greater than 1.5x supports a recovery rating of '1+' and an issue rating of 'AA-', one notch higher than the corporate credit rating.

Outlook

The stable outlook reflects Standard & Poor's expectation of adequate and timely rate relief, management of the company's growth strategy, and maintenance of an appropriate financial risk profile. We could lower the rating if

the regulatory environment in Pennsylvania takes an unfavorable shift or the company increases debt to finance acquisitions or capital spending, resulting in consolidated FFO to debt consistently below the 17% to 18% range and leverage above 60%. Although less likely, we could raise the rating if regulators provide significant rate increases and above-average returns on equity that result in Aqua America's generating cash flow that is materially stronger than we expect, with FFO to debt of at least 25% and leverage below 55%.

Related Criteria And Research

- Methodology And Assumptions: Liquidity Descriptors For Global Corporate Issuers, Sept. 28, 2011
- Key Credit Factors: Business And Financial Risks In the Investor-Owned Utilities Industry, Nov. 26, 2008
- Changes To Collateral Coverage Requirements For '1+' Recovery Ratings On U.S. Utility First Mortgage Bond, Sept. 6, 2007

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January 30, 2012

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Related Criteria And Research

Summary:
United Waterworks Inc.

Credit Rating: A-/Stable/--

Rationale

The ratings on Wilmington, Del.-based water supplier United Waterworks Inc. (UWW) and Harrington Park, N.J.-based water supplier United Water New Jersey Inc. (UWNJ) reflect the consolidated credit profile of Harrington Park, N.J.-based parent United Water Resources (UWR; not rated). UWNJ and UWW account for around 90% of UWR's consolidated revenues and 85% of consolidated funds from operations (FFO). Suez Environnement (not rated) indirectly owns UWR through United Water Inc. (not rated).

UWNJ's and UWW's stand-alone business risk profiles are excellent, reflecting a favorable regulatory environment, no retail competition in their service territories, geographic diversity, largely residential markets, and low operating risk. Reliance on Suez Environnement for periodic capital infusions to fund capital-spending requirements for infrastructure replacement and increasing compliance costs with water-quality standards somewhat temper the company's strengths. Even though UWR gets only about 6% of its cash flows from nonregulated operations, we view these nonregulated operations, which consist of managing and maintaining municipal water and wastewater facilities, as having modest incremental risk, due to their low profit-margin volatility and modest expected capital requirements.

State commissions oversee UWR's regulated operations, and supporting revenue and cash flow stability. UWR serves more than two million people across eight states, which mitigates some of the effects of adverse weather patterns and the regulatory climate of any particular state. Many of the company's operations benefit from cost-recovery mechanisms to recover capital spending outside of traditional rate proceedings, rate cases based on a future test year, and a consolidated rate structure. Adding to revenue and cash flow stability, the company's residential and commercial customers provide a vast majority of total revenues.

UWNJ's and UWW's financial risk profile is significant. Financial measures are weak for the significant categorization, but the low cash flow volatility inherent to the water utility operations allow for more aggressive measures. We expect modest customer growth, and regulatory rate case proceedings to benefit cash flow over time. In 2011, various regulated subsidiaries of UWR received rate case increases of more than $90 million. We expect this figure to be higher in 2012. As of Sept. 30, 2011, the company showed continued improvement in its financial metrics, with FFO to debt of 13.5% and debt to capital of about 59%. We expect financial metrics to remain appropriate for the rating, with consolidated debt to capital of about 60% and FFO to debt of about 11% to 13% over the next three years.

Liquidity

Standard & Poor's bases its view of UWNJ's and UWW's liquidity on the consolidated liquidity of UWR. We view liquidity as adequate, under our corporate liquidity methodology. We expect liquidity sources will exceed projected uses by more than 1.2x during the next 12 months.

The primary sources of liquidity include internally generated cash flow, which we expect to be between $120 million

and $140 million and a $250 million revolving credit facility from Suez Environnement. Suez is an indirect parent of UWR and, given its prior history of capital infusion to UWR, its revenue of about €14 billion, more than €2 billion of EBITDA, and available credit facility of more than €1.8 billion as of Dec. 31, 2010, we believe it will have sufficient funding for the UWR revolver.

In 2012 we expect UWR's annual capital expenditures to increase to between $150 million and $200 million although mandatory and compliance-related expenses will be lower. Distribution of about $25 million and insignificant debt maturities also constitute uses of liquidity. UWR has historically funded its discretionary spending with capital infusions from its parent company, Suez Environnement. Under most scenarios, we would expect this dynamic to continue.

Outlook

The stable outlook reflects our expectation of adequate and timely rate relief and maintenance of the current financial profile. We could lower the ratings if the regulatory environment deteriorates or rate case decisions are significantly lower than those the company has requested, such that the company sustains FFO to debt below 10%. Large debt-financed acquisitions or any discontinuation of Suez Environnement's capital contributions could also lead to lower ratings. Although a positive outlook is unlikely in the near term, it could occur if financial leverage measures materially improve, with FFO to debt increasing to between 18% and 20% and the companies' debt to capital declining to the low-50% area for a sustained period of time.

Related Criteria And Research

Criteria: Key Credit Factors: Business And Financial Risks In the Investor-Owned Utilities Industry, Nov. 26, 2008

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June 5, 2012

Summary:
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Related Criteria And Research

Summary:
San Jose Water Co.

Credit Rating: A/Stable/--

Rationale

Standard & Poor's Ratings Services' ratings on San Jose Water Co. (SJWC) reflect the consolidated credit profile of its unrated parent, SJW Corp. The ratings also reflect SJWC's "excellent" business risk profile and SJW's "significant" financial risk profile under our criteria.

SJWC is a regulated water utility that has about 226,000 connections, serving a population of about one million customers in the San Jose region of California. The company purchases about 50% of its water supply, receives 40% from groundwater, and obtains 10% from surface water. SJWC also has non-rate-regulated businesses that include water system operations and maintenance agreements. SJW's other businesses include SJW Land Co. (a competitive business that invests in undeveloped properties in California and Tennessee and operates commercial buildings), SJWTX Inc. (a regulated water utility serving parts of Texas), and Texas Water Alliance Ltd. (a non-rate-regulated business that is developing a water supply project in Texas). Based on the combination of future earnings, cash flow, and capital expenditures, we currently view SJW as about 95% regulated utility and 5% non–rate-regulated business.

SJWC's excellent business risk profile is based on its monopolistic and lower-risk rate-regulated business that provides an essential service. Additionally, SJWC, which is regulated by the California Public Utilities Commission (CPUC), has demonstrated effective management of regulatory risk. About 93% of SJWC's revenues consist of residential and business customers that we expect will equate to a higher percentage of cash flow stability. We expect that SJWC's service territory load growth will be flat over the intermediate term, as increasing load growth is offset by growing conservation.

The CPUC, which regulates SJWC, has allowed SJWC to use a number of credit-supportive cost-recovery mechanisms (balancing accounts) for purchased water, purchased power, ground water extraction charges, and pension. SJWC is also permitted memorandum accounts which track expenses due to unforeseen events or catastrophic events for future recovery. Both the balancing and memorandum accounts are generally trued up at either a rate case or if the deferred balance exceeds 2%. These regulatory mechanisms potentially allow SJWC to recover higher costs between rate cases, which reduces the regulatory lag and stabilizes cash flows. The CPUC also allows SJWC to file rate cases using a forward-looking test year and to track lost revenue and incurred expenses from conservation efforts through its water-revenue adjustment mechanism.

Recently, regulatory conditions and safety enforcement in California have received increased attention following the San Bruno pipeline explosion. Although we do not expect this accident to have negative credit implications for SJWC over the next few months, it could potentially lead to increased compliance costs over the longer term that would have to be recovered from customers, possibly increasing SJWC's regulatory risk.

SJWC filed a settlement proposal with the CPUC requesting an authorized return on equity (ROE) of 9.99%, below its previously allowed ROE of 10.2 %. We expect the CPUC to make a decision in the second quarter of 2012. For

2012, SJWC implemented a previously approved $10.7 million rate increase. Recently, the company filed a rate case requesting approximately $47 million in 2013, $13 million in 2014, and $35 million in 2015. This rate case also requests a full decoupling mechanism to replace the current partial water-revenue adjustment mechanism. We expect the commission's rate case order by end of 2012.

SJW's "significant" financial risk profile reflects our expectations that the cash flows will weaken from current levels over the intermediate term, primarily as a result of higher capital expenditures and lower deferred taxes following the expiration of bonus depreciation. For the 12 months ended March 31, 2012, funds from operations (FFO) to debt was 18.5% compared with 18.6% at year-end 2011, debt to EBITDA improved to 4.3x from 4.4x at year-end 2011, and debt to capital weakened to 60.3% from 60.1% at year-end 2011. Over the intermediate term, we expect financial measures to weaken such that FFO to debt and debt to EBITDA will approximate 15% and 4.5x, respectively. These metrics would place the company at the very low end of the significant financial risk profile category.

We expect SJW's discretionary cash flow to be negative over the intermediate term, reflecting increased capital spending on its water distribution system. We expect that capital expenditures will exceed $110 million annually, up sharply from approximately $70 million currently. Fundamentally, we expect that SJW will continue to fund its investments and maturities in a manner that minimally preserves its credit quality.

Liquidity

SJW and SJWC's liquidity is "adequate" under our criteria and can more than cover its needs over the short-term, even if FFO declines.

Our liquidity assessment is based on the following factors and assumptions:

- We expect the company's consolidated liquidity sources (including cash, FFO, and credit facility availability) to exceed its uses by about 1.2x over the next 12 months.
- No long-term maturities are due over the next three years.
- Even if consolidated EBITDA declines by 15%, we believe net sources will be well in excess of liquidity requirements.
- The company can absorb high-impact, low-probability events with limited need for refinancing, has the flexibility to lower capital spending, has sound bank relationships and solid standing in the credit markets, and has generally prudent risk management.

In our analysis, we assumed consolidated liquidity of about $180 million over the next 12 months, primarily consisting of cash, FFO, and availability under the credit facilities. We estimate the company will use about $130 million over the same period for capital spending, debt maturities, working capital needs, and shareholder dividends.

At March 31, 2012, SJW Corp had $87 million available under its revolving credit facility and about $19 million cash on its balance sheet. SJW refinanced its credit facilities in 2012, increasing the size to $90 million from $85 million and extending the expiration to Sept. 1, 2014.

SJW and SJWC's credit agreements include two financial covenants of debt to total capital no higher than 66.6% and net income to interest expense greater than 175%. As of March 31, 2012, SJW and SJWC's debt to total capital were 57% and 50%, respectively, and net income to interest expense were 281% and 339%, respectively, indicating sufficient cushion with respect to these financial covenants.

Outlook

The stable rating outlook reflects our baseline forecast that over the intermediate term, FFO to debt and debt to EBITDA will approximate 15% and 4.5x, respectively. The outlook also is based on our expectation that SJWC will continue to effectively manage regulatory risk amid a stable economy. We could lower the rating if the company disproportionally increases its nonutility businesses or if its financial measures weaken such that FFO to debt is consistently less than 15%. This would most likely occur if rate case increases are significantly lower than we expect or if the company engages in disproportionate debt funding of capital expenditures. Although less likely, we could raise the rating if the financial measures greatly improve such that FFO to debt is consistently greater than 20% and debt to capital is less than 50%.

Related Criteria And Research

- Liquidity Descriptors For Global Corporate Issuers, Sept. 28, 2011
- Business Risk/Financial Risk Matrix Expanded, May 27, 2009
- Key Credit Factors: Business And Financial Risks In the Investor-Owned Utilities Industry, Nov. 26, 2008
- Analytical Methodology, April 15, 2008

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Related Criteria And Research

Summary:

Baton Rouge Water Works Co. (The)

Credit Rating: A+/Stable/--

Rationale

Standard & Poor's Ratings Services' ratings on regulated water utility Baton Rouge Water Works Co. (BRWW) reflects its "excellent" business risk profile and "intermediate" financial risk profile.

We base our ratings on BRWW on the consolidated credit profile of its majority owner, Utility Holdings Inc. (UHI; not rated). UHI owns about 85% of BRWW and 100% of Louisiana Water Co. BRWW accounts for roughly 80% of UHI's consolidated EBITDA and Louisiana Water accounts for the remaining 20%.

BRWW's excellent business risk profile reflects its low-risk, essential service, monopolistic water distribution business. In addition, the company has been able to demonstrate effective management of regulatory risk. Marginally affecting the company's business risk profile is its small size and geographic concentration.

BRWW is a regulated water company that through its subsidiaries serves about 160,000 customers, mainly in East Baton Rouge and Ascension parishes. BRWW, through its subsidiary, also operates a small nonrate-regulated business that contributes less than $1 million in total revenues. Louisiana Water provides regulated water distribution services in six different towns and cities, east of Baton Rouge.

The Louisiana Public Service Commission (LPSC) regulates BRWW and its rate-regulated businesses. The LPSC recently approved a $1.44 million rate increase for BRWW's subsidiary, representing 100% of the company's rate case request. We view this order as supportive of credit quality. In addition, BRWW's business risk profile gets support from regulatory mechanisms such as a pass-through of power costs to customers and a weather-normalization adjustment that the LPSC has approved. We view these regulatory mechanisms as credit supportive and expect that they will enhance cash flow predictability.

BRWW obtains its water supply from nine separate aquifers, which are of superior quality and are more than adequate to meet customer needs. The company has maintained its infrastructure to meet customer demand, including building a water transmission line to the high-growth areas. In addition, the company's water-treatment costs are among the lowest of its peers', which helps the company to effectively manage regulatory risk.

Residential customers account for about 95% of revenues, providing a predictable revenue base. While the company has benefitted from high growth in it service territory, partially because of the dislocation of New Orleans residents following the 2005 hurricanes, this has moderated and we expect customer growth over the medium term to more closely reflect the nationwide economic slowdown.

BRWW's intermediate financial risk profile reflects the consolidated financial risk profile of UHI and our base line

forecast that consolidated funds from operations (FFO) to debt and debt to EBITDA will approximate 30% and 2.5x,respectively, over the medium term. As of March 31, 2012, FFO to debt rose to 37.3% from 36.6% at year-end 2011, debt to EBITDA remained unchanged at 2.6x from year-end 2011 and debt to total capital modestly improved to 48% from 48.3% at the end of 2011. The company's cash flow measures improved in 2011 compared with 2010, partially reflecting higher deferred tax benefits in 2011.

We expect UHI's discretionary cash flow to be negative over the intermediate term, reflecting annual capital spending of about $20 million and dividends of about $7 million. Fundamentally, we expect that UHI will continue to fund its investments in a manner that preserves credit quality.

Liquidity

We view BRWW's liquidity on a consolidated basis with that of its majority owner, UHI. UHI has "strong" liquidity and can more than cover its needs for the near term, even if FFO declines.

We base our liquidity assessment on the following factors and assumptions:

- We expect the company's liquidity sources (including FFO, cash on hand, and current marketable securities) to exceed its uses by more than 1.7x over the next 12 months.
- When measured over the next 24 months, we expect liquidity sources to exceed uses by more than 1.5x.
- Long-term debt maturities are minimal with about $900,000 maturing in 2012 and $1 million maturing in 2013, 2014, and 2015.
- Even if EBITDA declines by 30%, we believe net sources will be well in excess of liquidity requirements.
- The company can absorb high-impact, low-probability events with limited need for refinancing, has the flexibility to lower capital spending, has solid standing in the credit markets, and has generally prudent risk management.

Although BRWW does not maintain access to a revolving credit facility, it generally maintains cash balances of about $20 million. As of March 31, 2012, UHI had about $23 million of cash and about $7 million in current marketable securities.

In our analysis, we assumed liquidity of about $50 million over the next 12 months, consisting mainly of FFO, cash on hand, and current marketable securities. We estimate the company could use about $28 million during the same period for capital spending, debt maturities, and dividends.

Recovery analysis

We assign recovery ratings to first-mortgage bonds (FMB) issued by investment-grade U.S. utilities, which can result in issue ratings higher than the corporate credit rating (CCR) on a utility, depending on the CCR category and the extent of the collateral coverage. We base the investment-grade FMB recovery methodology on the ample historical record of nearly 100% recovery for secured bondholders in utility bankruptcies and on our view that the factors that supported those recoveries (limited size of the creditor class, and the durable value of utility rate-based assets during and after a reorganization, given the essential service provided and the high replacement cost) will persist.

Under our notching criteria, we consider the limitations of FMB issuance under the utility's indenture relative to the value of the collateral pledged to bondholders, management's stated intentions on future FMB issuance, and the regulatory limitations on bond issuance. FMB ratings can exceed the CCR on a utility by up to one notch in the 'A' category, two notches in the 'BBB' category, and three notches in speculative-grade categories.

BRWW's FMBs benefit from a first-priority lien on substantially all of the utility's real property owned or subsequently acquired. BRWW's collateral coverage of about 2.3x supports a recovery rating of '1+' and an issue rating one notch above the CCR.

Outlook

The stable outlook reflects Standard & Poor's baseline forecast that consolidated FFO to debt and debt to EBITA will approximate 30% and 2.5x, respectively, over the intermediate term. We could lower the rating if financial measures consistently weaken so that FFO to debt is below 20% and debt to EBITDA is greater than 3.5x. We could also lower the rating if UHI changes its policy of maintaining a large cash balance, resulting in a liquidity assessment of less than adequate. We could raise the rating if the company manages to improve its diversity and size while still maintaining its current financial metrics.

Related Criteria And Research

- Liquidity Descriptors For Global Corporate Issuers, Sept. 28, 2011
- Business Risk/Financial Risk Matrix Expanded, May 27, 2009
- Analytical Methodology, April 15, 2008
- Assessing U.S. Utility Regulatory Environments, Nov. 7, 2007
- Changes To Collateral Coverage Requirements For '1+' Recovery Ratings On U.S. Utility First Mortgage Bonds, Sept. 6, 2007

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PMA-17

Prepared Testimony of

Robert F. Powelson
Chairman
Pennsylvania Public Utility Commission

before the

Pennsylvania House of Representatives
Consumer Affairs Committee

April 28, 2011

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Chairman Godshall, Chairman Preston, members of the Committee, I appreciate the opportunity to speak with you today about House Bill 1294. This legislation will give the Pennsylvania Public Utility Commission (PUC) the authority to allow utilities to recover in a timelier manner the capital costs associated with investments in infrastructure. The bill also allows water and wastewater utilities to combine the revenue requirements used to determine rates. For the reasons discussed below, the PUC supports the passage of this legislation.

While the ratemaking model currently employed at the PUC has worked relatively well for many decades, it does not adequately address the challenges we face today or going forward. In Pennsylvania, and across the nation, much of our utility infrastructure is over 70 years old. Replacing this infrastructure – from gas pipelines, to electric transmission lines, to wastewater collection systems – is extremely expensive. However, for both safety and reliability reasons, many of Pennsylvania's aging pipes and wires should soon be replaced. While many utilities are accelerating their infrastructure replacement schedules to address this challenge, replacing Pennsylvania's aging utility infrastructure remains a massive and expensive undertaking.

Even though utilities are investing significant amounts of money to replace and repair their physical infrastructure, the existing ratemaking methodology used by the PUC does not allow utilities to recover these costs in a timely manner. Utility ratemaking is founded upon the relationship between revenues, operating expenses, and investment (or rate base). Historically, utility companies counted on revenues increasing and

expenses decreasing as they became more efficient. Utilities could also assume that their rate base would grow, at least in partial relationship, to revenues. Times are different today.

Utilities are seeing their revenues decrease. Energy efficiency measures such as Act 129, while achieving their stated goals, are encouraging less consumption per customer, which means less revenue for utilities. With respect to expenses, while there is always room for increased efficiencies and innovation, most utilities have already taken numerous steps to reduce expenses and increase productivity. At the same time, utilities have seen rate base increase because infrastructure replacement generally does not generate a single dollar of new revenue. Thus, while utilities' revenues are decreasing, their expenses and rate base are increasing.

In order to ensure the continued safety and reliability of our utility system, it is essential that the PUC and the Legislature help Pennsylvania's utilities resolve the problem of aging infrastructure in our state. House Bill 1294 will do this by allowing the PUC to consider new ratemaking methods that will better address the challenges the utility industry faces today. By reducing regulatory lag and incenting investment in infrastructure, this legislation will ensure that the utility infrastructure in the Commonwealth will be updated in an expeditious manner, resulting in a safer and more reliable utility system.

One of the alternative ratemaking methods House Bill 1294 would allow the PUC to consider is the use of a fully projected future test year. Traditionally, when a utility

wants to increase its rates, it files a rate case with the PUC using a test year comprising of the utility's revenues and expenses during the 12-month period immediately following an historic test year. Ideally, a test year should reflect as closely as possible the conditions the utility will face when the rates being established will be in effect. However, the test year the PUC currently uses almost always results in "regulatory lag" because, by the time the rates go into effect at the conclusion of the rate case, the information relied upon from the test year is outdated.

House Bill 1294 would instead allow utilities to use, with the PUC's approval, a fully projected future test year. Under this approach, utilities' rates and costs will match the first year new rates are in effect. This will significantly reduce regulatory lag and will encourage less frequent base rate case filings, saving utilities and customers millions in rate case expenses.

Another alternative ratemaking method that House Bill 1294 would allow the PUC to consider is an automatic adjustment charge that enables utilities to recover certain infrastructure improvement costs between base rate cases through a surcharge on customers' bills. This surcharge is often called a Distribution System Improvement Charge (DSIC) by the water and natural gas industry, and a Collection System Infrastructure Charge (CSIC) by the wastewater industry. These surcharges ensure the least possible rate impact on customers by spreading out over time the cost of replacing and enhancing Pennsylvania's utility infrastructure.

Pennsylvania implemented the DSIC for the water industry in 1997. Over the past fourteen years, the DSIC has had substantial impact on accelerating water infrastructure replacement in Pennsylvania. Prior to the DSIC, Pennsylvania American Water Company (PAWC) projected that it would take about 225 years to upgrade its entire system. With DSIC, the projected amount of time for upgrades to the PAWC distribution system is about 117 years – a timeframe that more closely matches the expected service life of the system.

Pennsylvania was the first state in the nation to enact and use the DSIC, and since that time, it has become a national "best practice." Seven other states have now adopted mechanisms similar to Pennsylvania's water DSIC. Due to in large part to the DSIC, the PA PUC was recognized by Standard & Poor's for effectively encouraging water company investment in infrastructure improvements. The DSIC has also been recognized in a resolution passed by the National Association of Regulatory Utility Commissioners (NARUC) as a national best practice regulatory tool. In addition, the Council of State Governments included DSIC in its model legislation. The DSIC is one of the most important regulatory tools of the past decade and it was created in Pennsylvania.

Given the success Pennsylvania has had with the water DSIC, a logical next step is to expand the DSIC, or a similar ratemaking mechanism, to other sectors of the utility industry, such as the natural gas, electric, and wastewater sectors. Currently, there are approximately 11,000 miles of cast iron, unprotected bare steel, and even a small portion of wooden natural gas pipes in Pennsylvania that have reached or are reaching the end of

their useful lives. If left in place, these facilities will continue to deteriorate. Although I believe the natural gas transportation network in Pennsylvania as whole is very safe, the recent tragic events in Allentown and Philadelphia have proven that we must take every step possible to replace vulnerable pipelines.

Natural gas companies spend millions every year repairing, replacing and maintaining the pipelines. As explained above, the current process for recouping the costs of making these upgrades is insufficient and results in unnecessary delay. House Bill 1294 would allow utilities to request permission from the PUC to use a mechanism similar to DSIC to recoup the revenue needed to upgrade and improve the pipelines in a timely manner. This DSIC mechanism would allow natural gas companies the flexibility to perform safety upgrades without a lengthy process to approve the rates necessary to make the large capital investment, and would encourage companies to replace pipelines under an expedited schedule.

In addition, the DSIC and CSIC will provide ratepayers with improved service quality and greater rate stability. By replacing aging infrastructure at an accelerated pace, there will be fewer main breaks, less frequent service interruptions, increased safety, and lower levels of unaccounted for natural gas and wastewater. The DSIC saves costs, not only in reducing frequency of rate cases, but by incenting capital investment to replace aging infrastructure. The infrastructure replacement encouraged by the DSIC would also help create hundreds of jobs — utility positions and pipeline contractors — needed to support the infrastructure replacement program. In light of today's difficult financial

markets, DSIC and CSIC are the type of innovative regulatory policies expected as rating agencies tighten their ratings benchmarks and are a key element in maintaining access to capital markets on reasonable terms.

It is also important to note that under House Bill 1294, utilities will not be able to implement a DSIC or CSIC without PUC approval. When a utility seeks to implement a surcharge such as DSIC, these requests receive closer scrutiny and review than time allows during a base rate case. In addition, the PUC has many safeguards to ensure the DSIC is implemented appropriately. For example, the PUC caps the surcharge to a percent of the total utility bill and requires that all customers receive notice of any such rate change. In addition, the PUC performs annual reconciliation audits to ensure that over-collections are refunded with interest and under-collections are included in future rates without interest recovery. Finally, the PUC reduces the surcharge to zero if the utility is over-earning. Through these safeguards, the PUC will ensure the DSIC and other related surcharges are implemented in manner that protects and benefits customers.

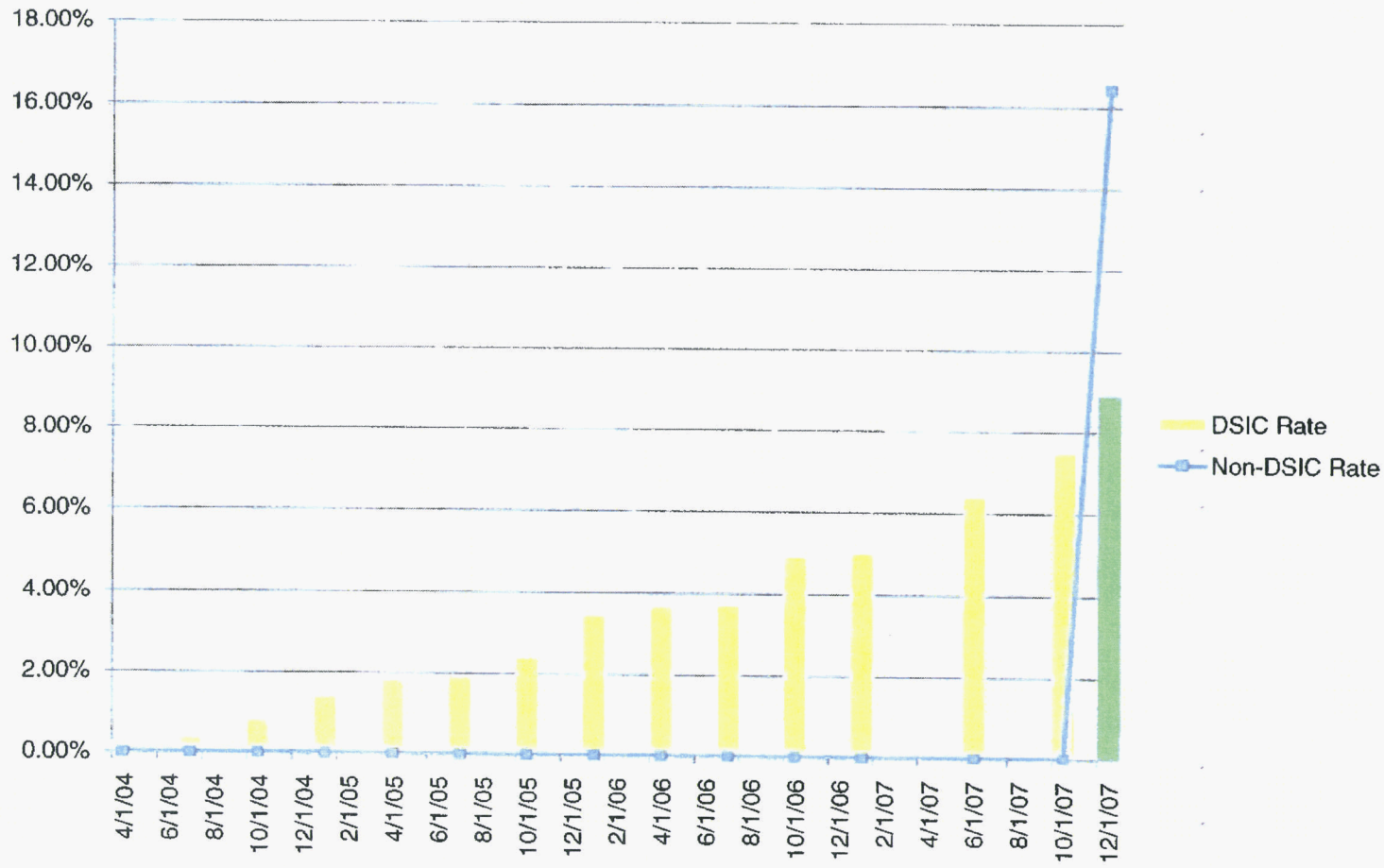
House Bill 1294 would also permit utilities to combine the revenue requirements of water and wastewater operations. Recently, the cost of wastewater treatment and collection has risen exponentially. As a result, many wastewater utilities have been granted significant rate increases by the PUC, which, in many cases, have resulted in rate shock for customers. By allowing utilities that provide both water and wastewater services to combine their revenue requirements, this will spread the increasing costs of

wastewater treatment and collection across a larger group of customers, thereby mitigating the dramatic rate increases for wastewater customers.

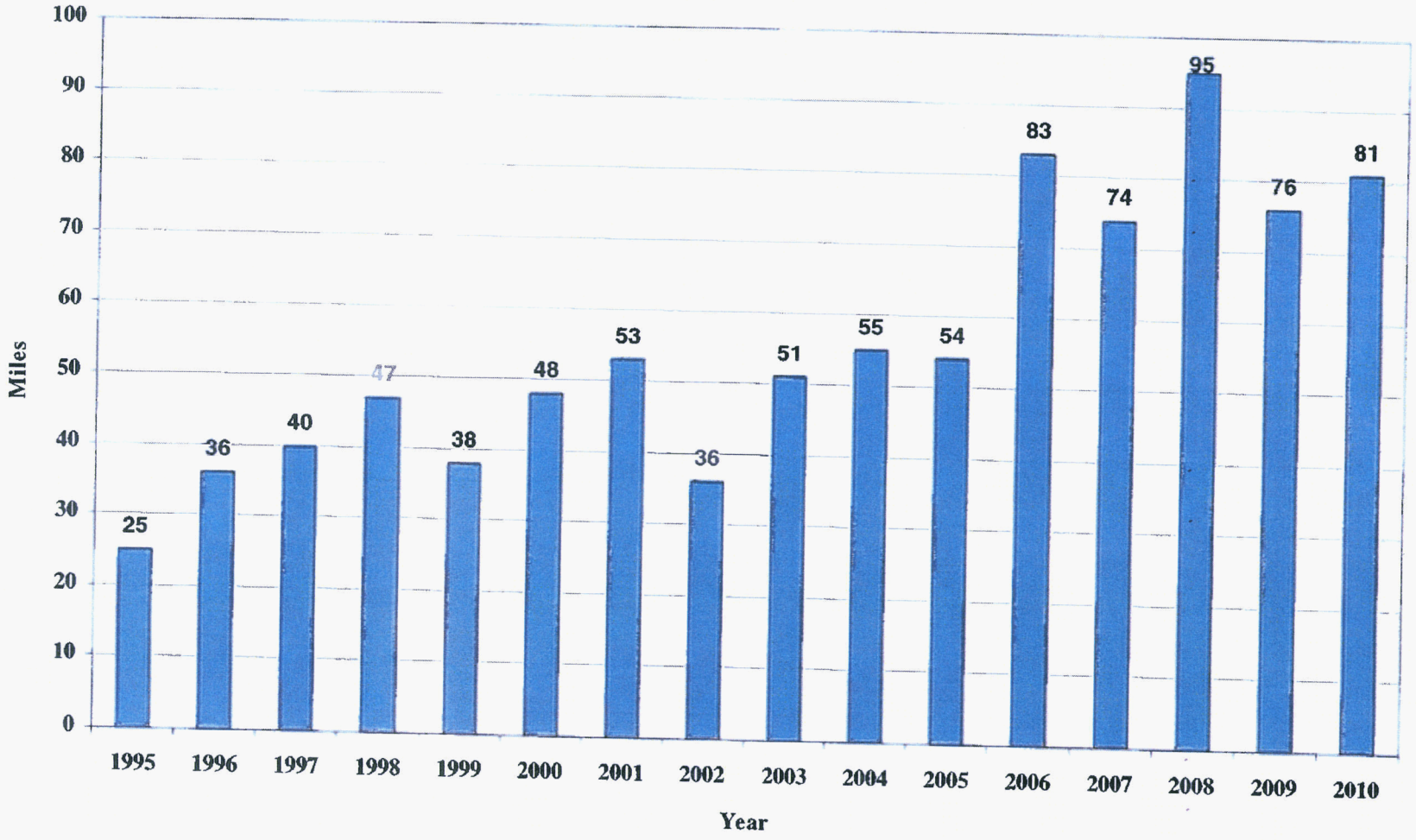
This approach makes sense when considering economies of scale. The number of wastewater customers in Pennsylvania is relatively small, which means it is difficult for those customers to absorb large rate increases. In contrast, there are a large number of water customers in Pennsylvania. Thus, if a portion of the wastewater rate increase is spread across the water customers, it will only result in a very small increase in the water customers' bills. This approach also allows wastewater customers to more gradually adjust to their increased rates.

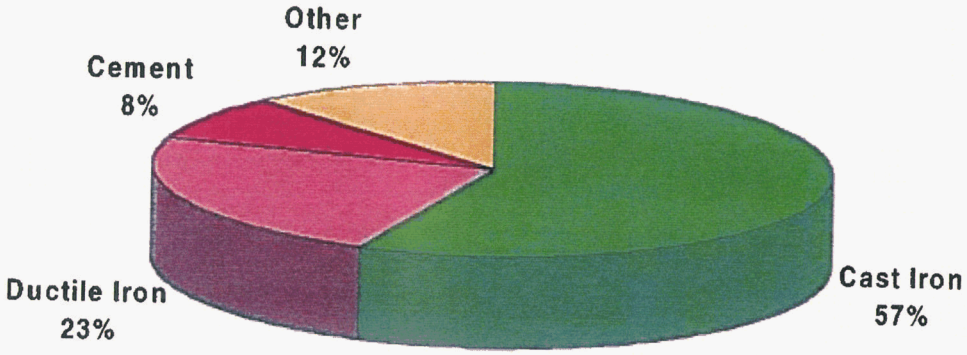
The statutory changes embodied in House Bill 1294 are necessary to enable the PUC to address the regulatory challenges facing us. The alternative ratemaking mechanisms permitted under this legislation will encourage investment in our state, accelerate aging infrastructure replacement, and result in greater rate stability for customers. For these reasons, the PUC encourages the Legislature to pass House Bill 1294.

DSIC Rate Gradualism
Smaller rate increases over time

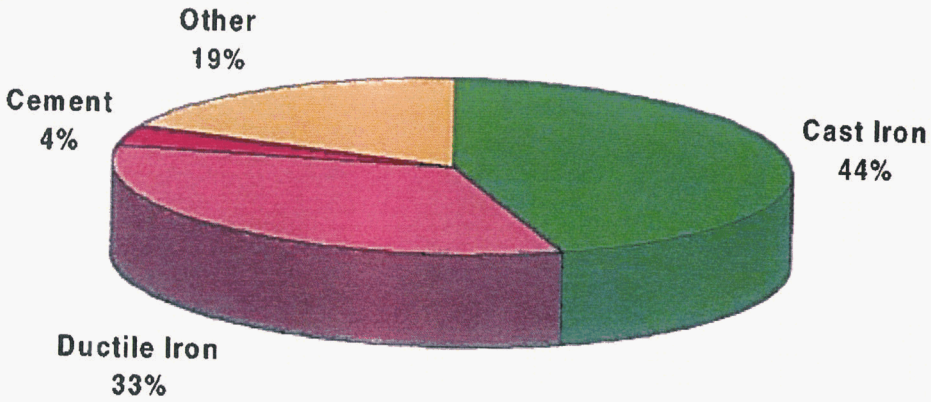


Pennsylvania American Water: Miles of Pipe Replaced

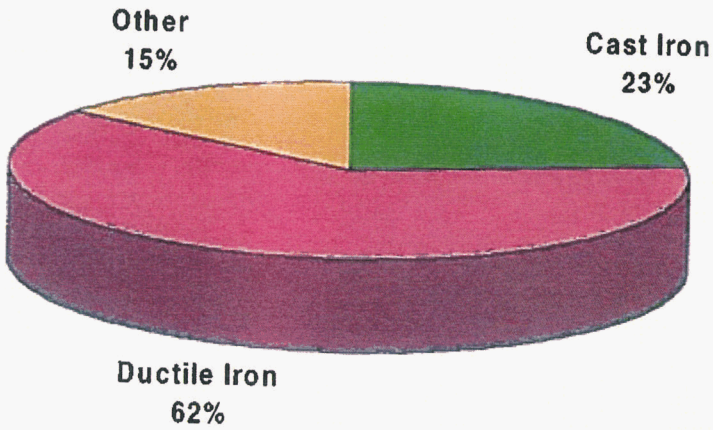




1997 (pre-DSIC)

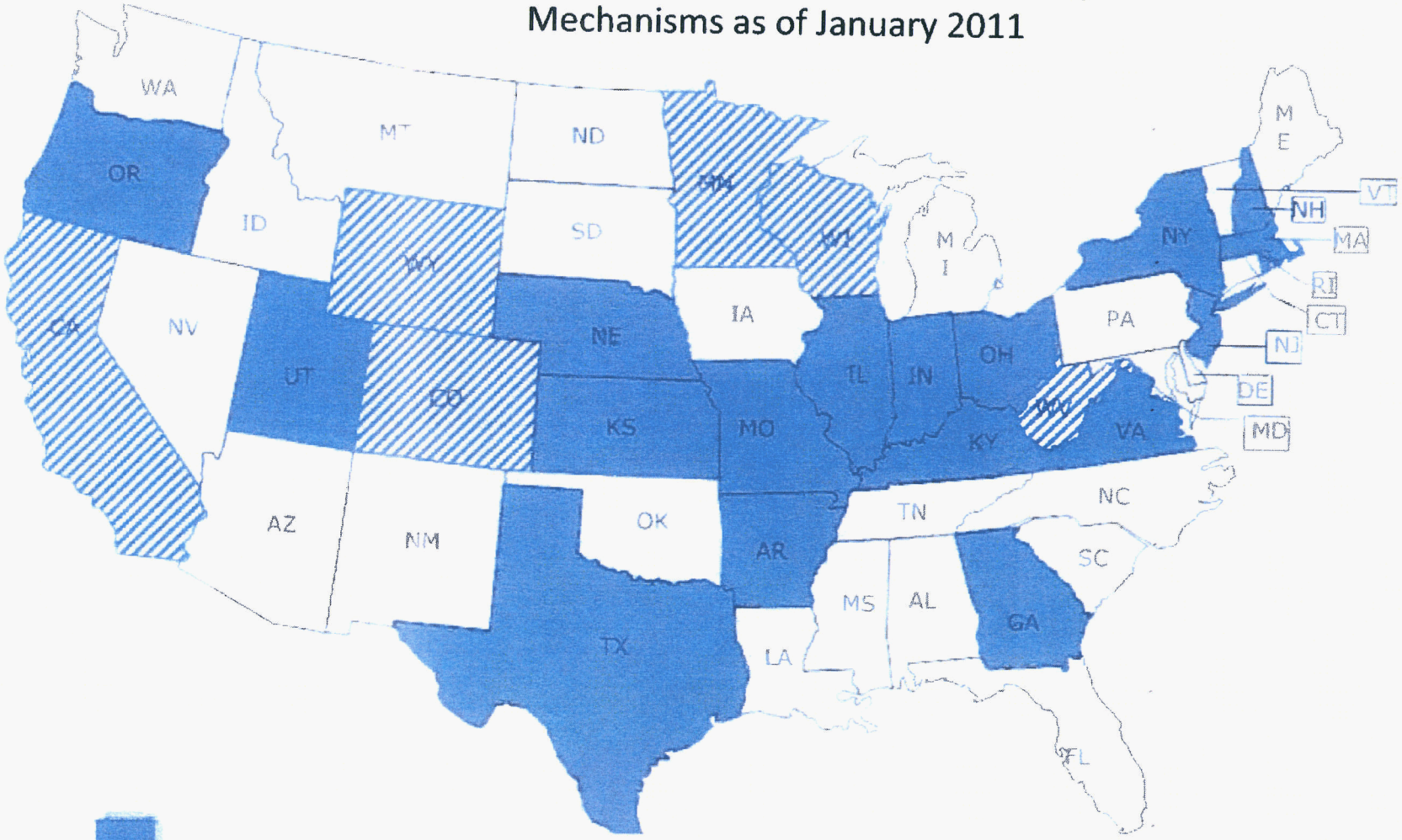


2008



Projected after Completion of Targeted Pool of Pipe

States With Infrastructure Cost Recovery Mechanisms as of January 2011



States with Approved Infrastructure Cost Recovery Mechanisms (18)

States with Pending Infrastructure Cost Recovery Mechanisms (6)

William M. Garfield

ARIZONA WATER COMPANY

Docket No. W-01445A-12-

2012 RATE HEARING

(For Test Year Ending 12/31/11

PREPARED

DIRECT TESTIMONY & EXHIBITS

OF

William M. Garfield

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EXHIBIT

September 2006 AWWA Journal Article *Economies of Scale in Community Water Systems*.... WMG-1

ARIZONA WATER COMPANY

Direct Testimony of

William M. Garfield

I. Introduction and Qualifications

Q. PLEASE STATE YOUR NAME, EMPLOYER AND OCCUPATION.

A. My name is William M. Garfield. I am employed by Arizona Water Company (the "Company") as its President and Chief Operating Officer. As such, I am responsible for the management and operations of the Company and each of the Company's vice presidents report directly to me. Also, I conduct regular meetings with Company officers and department heads to ensure that work is completed in accordance with the Company's planning objectives and capital and operations budgets, for which I am also responsible. I report directly to the Company's Chief Executive Officer.

Q. PLEASE DESCRIBE YOUR WORK EXPERIENCE, EDUCATIONAL BACKGROUND AND PROFESSIONAL AFFILIATIONS.

A. Since I joined the Company in February 1984 I have held the positions of Engineer, Senior Engineer, Operations Manager, Vice President of Operations and I currently hold the position of President and Chief Operating Officer, which I have held since July 18, 2003.

I completed my undergraduate studies at Southern Illinois University at Carbondale and received a Bachelor of Science degree with honors in Thermal and Environmental Engineering. I have taken post-graduate coursework at Arizona State University in Civil Engineering, including coursework in hydrology, water and wastewater treatment and statistics. I am a member of Tau Beta Pi, a national honorary engineering society.

I am a member of the American Water Works Association ("AWWA"), the Arizona Water Association and serve on AWWA's Water Meter Standards Committee. I have been active in numerous water industry stakeholder groups with the Arizona Department of Environmental Quality, the Arizona Department of Water Resources ("ADWR") and the Central Arizona Groundwater Replenishment District, and I am a certified water distribution system and water treatment plant operator. I serve on the Company's Board of Directors, the Board of Directors of the Water Infrastructure Finance Authority of Arizona and the Board of Directors of the Water Utilities Association of Arizona. Also, I have served as Chairman of the Water Management Subcommittee of the Pinal Active Management Area Groundwater User Advisory Council. In addition, I have been a member of the Statewide Water Advisory Group, served on the Arizona Water Institute's External Advisory Board and I was a member of the Economic Working Group of the Blue Ribbon Panel on Sustainability, a panel formed to address water sustainability which was jointly chaired by the Arizona Corporation Commission (the "Commission"), ADWR and Arizona Department of Environmental Quality.

Q. HAVE YOU PREVIOUSLY PROVIDED TESTIMONY FOR THE COMPANY IN ANY OF ITS RATE APPLICATIONS AT THE COMMISSION?

A. Yes. I have testified in the Company's last six rate application proceedings.[1]

Q. WHAT IS THE PURPOSE AND EXTENT OF YOUR DIRECT TESTIMONY?

A. The purpose of my testimony is to provide, discuss or describe:

- An overview of the relative size of the Company's water systems,
- Additional business risks faced by the Company due to its small water system size, geographically isolated water systems, high per customer capital costs, inability to earn its authorized return within the last 15 years and significant infrastructure replacement needs, and

[1] *See* Docket Nos. W-01445A-00-0962, W-01445A-02-0619, W-01445A-04-0650, W-01445A-08-0440, W-01445A-10-0517 and W-01445A-11-0317.

- The Company's conservation efforts and Best Management Practices ("BMPs") and the need to fund BMPs.

II. Summary of Testimony

Q. PLEASE SUMMARIZE YOUR DIRECT TESTIMONY

A. I testify about the relatively small size and geographic isolation of the Company's water systems. I also testify about the tremendous challenges and business risks facing the Company due to the small size of the Company's individual water systems, its higher than average capital and operating costs resulting from the small system size, its historically low rate of return over the past fifteen years and the tremendous and extraordinary infrastructure and funding challenges facing the Company related to urgent need to replace aging and failing infrastructure.

I also testify about the Company's BMPs and the need to fund BMPs. In Decision No. 71845, the Commission ordered the Company to implement a certain number of BMPs for each water system, including its Northern Group water systems. On December 22, 2010, the Company submitted its BMP tariffs to the Commission in Docket No. W-01445A-08-0440. Decision No. 71845 cited testimony from Staff Witness Steve Olea who testified that "Staff would not oppose requiring additional BMPs or some type of funding mechanism, if the chosen BMPs were appropriate for the system in which they were implemented."[2] Indeed, the Commission agreed the Company could seek recovery of the costs of implementing the BMPs. The Commission, in Decision No. 71845, ordered that "Arizona Water Company may request cost recovery of actual costs associated with the BMPs implemented in its next rate case."[3] Accordingly, the Company requests that the increased cost of implementing these BMPs be authorized and approved for recovery in this proceeding. Mr. Reiker addresses recovery of the costs of these BMPs in his pre-filed direct testimony.

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[2] See W-01445A-08-0440 Hearing Transcript Pages 1060-1063.
[3] See Decision No. 71845, Page 94, Lines 9-10.

III. A Comparison of the Size of the Company's Water Systems

Q. CAN YOU PROVIDE AN OVERVIEW OF THE SIZE OF THE COMPANY'S WATER SYSTEMS?

A. Yes. The following table shows the number of metered customers served by the Company in each of its public water systems, as listed in its Annual Report to the Commission for calendar year 2011. This table does not include fire hydrant meters, private fire sprinkler services or other non-metered connections.

Public Water System	Metered Customers
Forest Towne	5
Coolidge Airport	9
Winkelman	157
Stanfield	196
Tierra Grande	351
Ajo	674
Valley Vista	769
Pinetop Lakes	999
Rimrock	1214
Superior	1269
San Manuel	1436
Oracle/SaddleBrooke Ranch	1686
White Tank	2042
Pinewood	2844
Miami	2978
Sierra Vista	3018
Bisbee	3428
Lakeside	4001
Overgaard	4141
Sedona	5727
Apache Junction	19694
Pinal Valley	27588
Median	1561

Q. ARE THESE PUBLIC WATER SYSTEMS CONSIDERED SMALL IN COMPARISON TO OTHER WATER SYSTEMS IN ARIZONA OR BY ANY STANDARD WATER SYSTEM CLASSIFICATION?

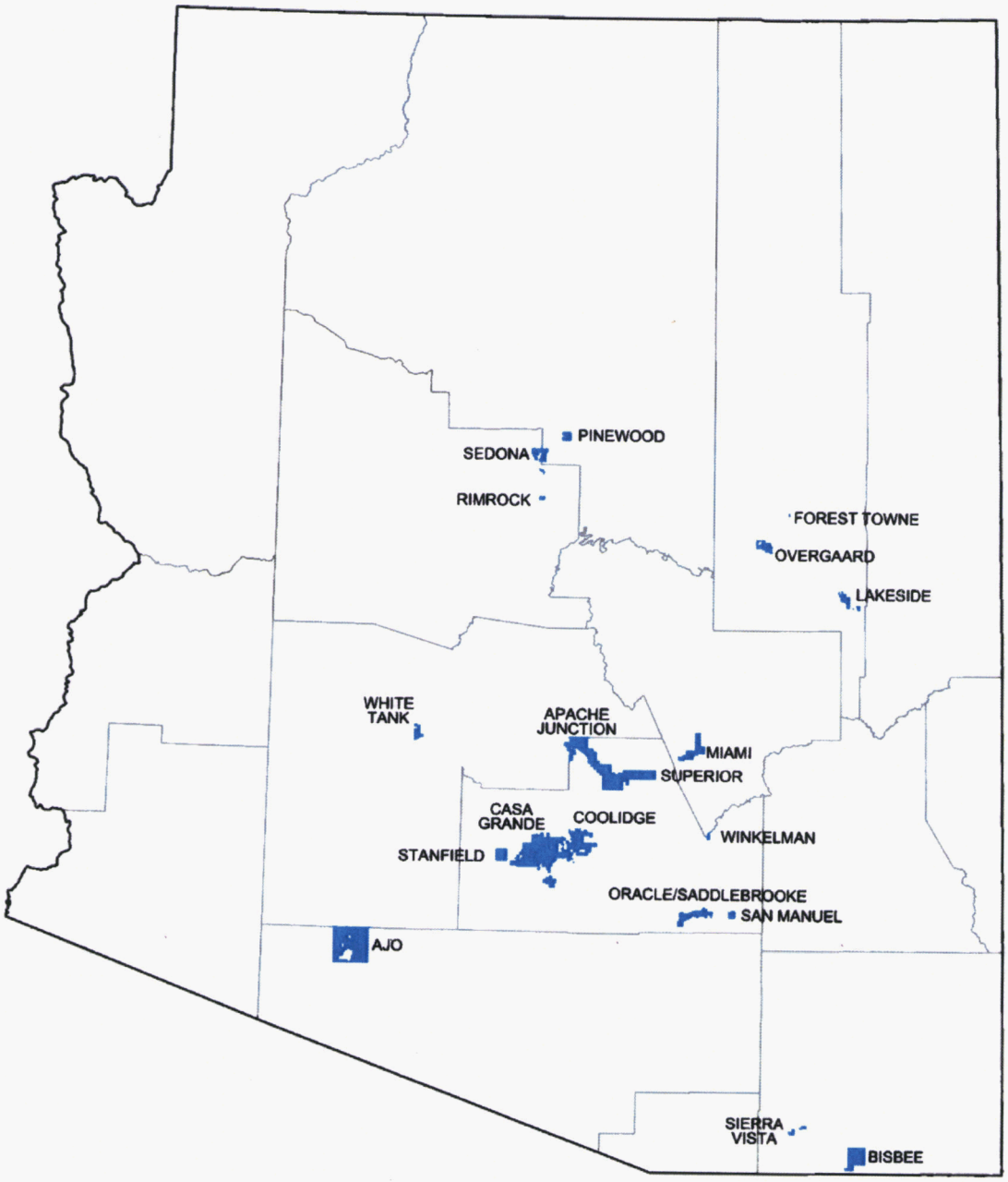
A. Yes. Three of these public water systems are classified as very small, five are classified as small, nine are classified as medium and five are classified as large

according to the U.S. Environmental Protection Agency.[4] Even though the Company currently serves over 84,400 customers in these 23 separate and geographically diverse water systems, the median size of the Company's public water systems is only 1561 customers, which is small compared to other water utilities with a similar number of customers but with fewer and much larger water systems.

Q. ARE THESE PUBLIC WATER SYSTEMS INTERCONNECTED, IN CLOSE PROXIMITY TO EACH OTHER OR ARE THEY GEOGRAPHICALLY ISOLATED FROM EACH OTHER?

A. The Company's water systems are located in eight counties in Arizona and are generally isolated from each other. In some cases, the water systems are 50 or more miles apart. The distance between water systems is as much as 250 miles. The following map shows the location of each public water system and the relative distance separating each public water system.

[4] The EPA has established categories of public water system size by population served (not customers) as very small (25-500). small (501-3,300), medium (3,301-10,000), large (10,001-100,000) and very large (greater than 100,001).



Q. HOW DO OPERATIONS AND MAINTENANCE ("O&M") COSTS AND CAPITAL COSTS COMPARE BETWEEN SMALL GEOGRAPHICALLY ISOLATED WATER SYSTEMS AND LARGE INTERCONNECTED SYSTEMS?

A. Generally, O&M expenses and capital costs are higher on a per unit basis for small water systems than for large water systems.

Q. DO YOU HAVE ANY EVIDENCE TO SUPPORT THIS STATEMENT?

A. Yes. The principle of economies of scale means that the capital intensity of a small water system is much greater compared to that of a large water system. For

example, the American Water Works Association published an article on the economies of scale in community water systems in the September 2006 edition of the Journal of the AWWA titled, "*Economies of Scale in Community Water Systems*".[5] The authors of this AWWA Journal article concluded that not only was the cost to produce water significantly higher for smaller water systems, but capital costs were also significantly higher for smaller water systems than for their large or very large water system counterparts. The graphs below, taken from the September 2006 AWWA Journal, show an inverse relationship between cost and water system size, both from an operating expense and capital cost perspective. These graphs show that operating expenses and capital costs for a very small water system can be as much as four times those of a very large water system.

In addition, Company witness Pauline Ahern compares the capital intensity of the water utility industry to that of the electric, combination gas and electric and gas utilities, and concludes that the water industry is over 39% more capital intensive than the water utility industry generally and over 136% more capital intensive than the electric industry. (*See* Ahern Direct Exhibit PMA-2, page 1)

The co-authors of the above-referenced September 2006 AWWA Journal article, referring to Figure 2 on the following page, stated that "Figure 2 gives several interesting insights into production-cost distribution. Most important, unit costs generally decline as system size increases." (*See* page 104 of Exhibit WMG-1) The co-authors of the AWWA Journal article, referring to Figure 3 on page 11 of this pre-filed direct testimony, stated that "Figure 3 indicates that average unit costs of production fall as system size increases for all of the six factors of production..." and "It is interesting to note that the greatest economies of scale exist in the cost categories for capital, outside services, other, and materials." (*See* page 106 of Exhibit WMG-1)

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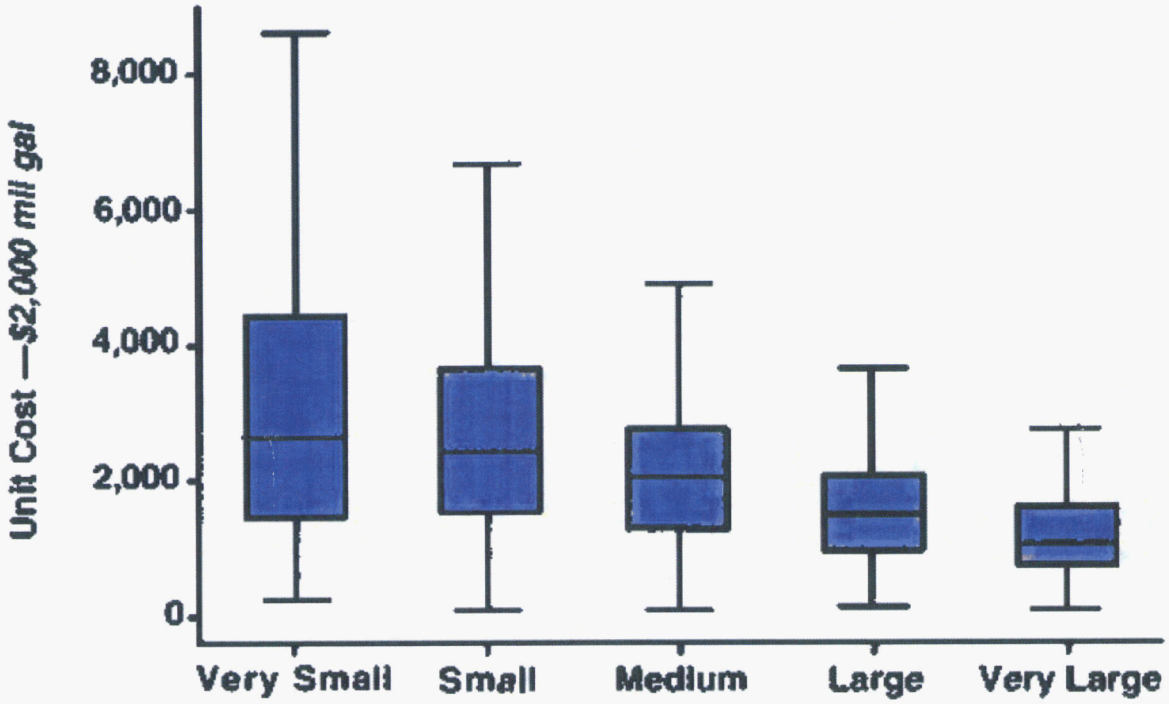
[5] See September 2006 Journal AWWA, pages 100-108, *Economies of Scale in Community Water Systems,* co-authored by Jhih-Shyang Shih, Winston Harrington, William A. Pizer and Kenneth Gillingham.

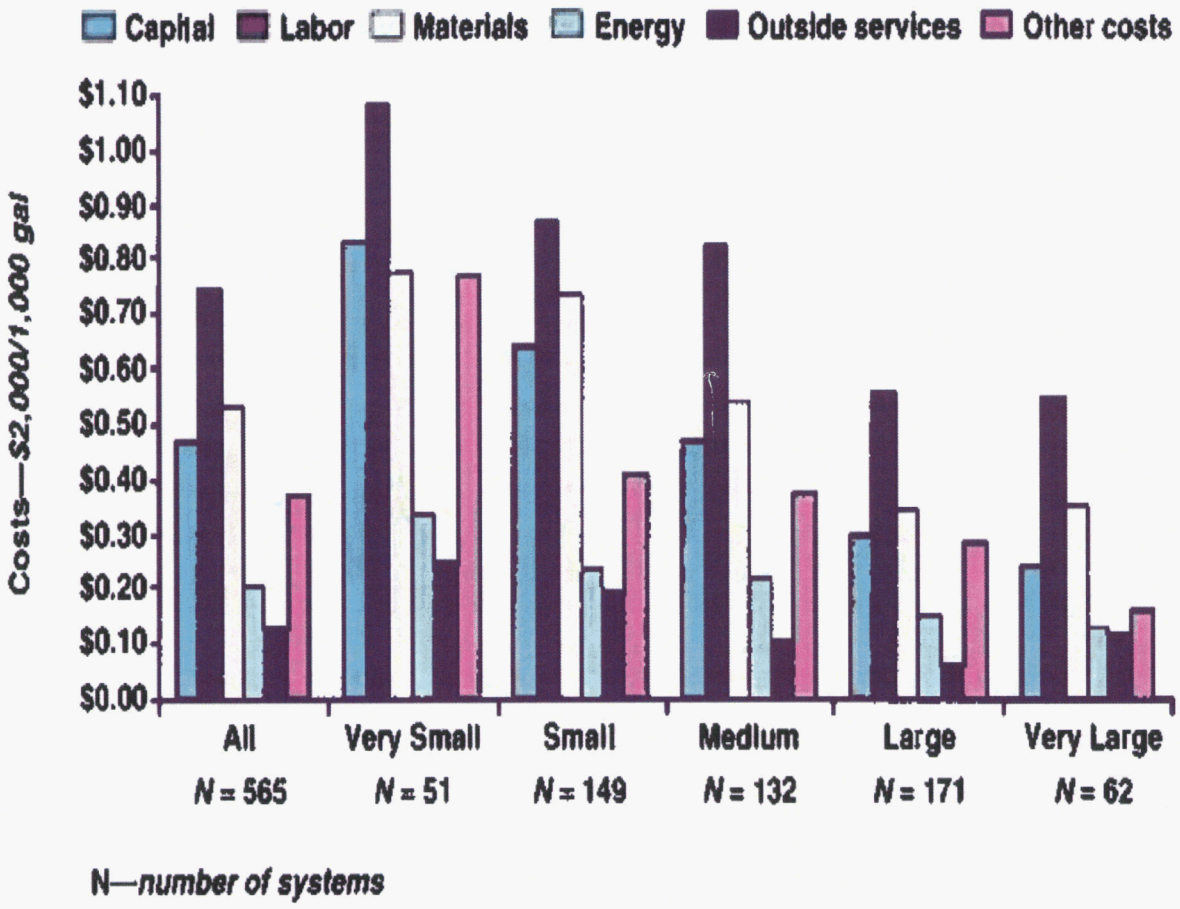
FIGURE 2 Distribution of plant production costs by size*



The line through the box shows the median production costs. The top and bottom edges of the box show the interquartile range (the 75th and 25th percentiles). The horizontal lines (whiskers) above and below the box show the 95th end 5th percentiles.

"Very small" category excludes costs for outside services.

FIGURE 3 Average unit costs of production (by utility size) for each of the six factors in the 1995 Community Water System Survey (USEPA, 1997b)



Q. HOW DO THE COMPANY'S NORTHERN GROUP OF WATER SYSTEMS COMPARE TO ITS LARGEST PUBLIC WATER SYSTEMS?

A. The following table compares basic water infrastructure facilities between the Company's Northern Group water systems and its Apache Junction and Pinal Valley water systems, which are the Company's two largest public water systems.[6]

[6] Based on Arizona Water Company's 2011 Annual Report filed with the Arizona Corporation Commission

Factor	Northern Group	Apache Junction	Pinal Valley
Customers	19,700	19,694	27,588
Wells	35	8	22
Total Well Capacity	8,925 GPM	11,940 GPM	22,410 GPM
Average Well Capacity	255 GPM	1,493 GPM	1,019 GPM
Water Storage Tanks	33	13	15
Total Tank Capacity	10,523,800 Gals	19,100,000 Gals	16,992,000 Gals
Average Tank Capacity	318,903 Gals	1,469,230 Gals	1,132,800 Gals
Water Treatment Plants	13	2	6
Total Plant Capacity	6,890,400 GPD	3,478,400 GPD	5,837,120 GPD
Average Plant Capacity	0.5 MGD	7.0 MGD	3.25 MGD

GPD (gallons per day), MGD (million gallons per day), GPM (gallons per minute), Gals (gallons)

Q. HOW WOULD YOU COMPARE THE COMPANY'S NORTHERN GROUP OF WATER SYSTEMS TO THE COMPANY'S TWO LARGEST WATER SYSTEMS?

A. Based on the table above, the number of wells, water storage tanks and water treatment plants is significantly higher for the Company's Northern Group of water systems than for the Company's Apache Junction and Pinal Valley water systems. In addition, the average capacity of the wells, water storage tanks and water treatment plants is significantly lower for the Company's Northern Group of water systems than for its Apache Junction and Pinal Valley water systems, which benefit from greater economies of scale.

Q. WHAT DOES THIS DEMONSTRATE?

A. Based on the principle of the economies of scale, the capital intensity in the Company's water systems, especially in its Northern Group of water systems, demonstrates that costs are higher because its facilities are generally smaller in size than typically found in large or very large water systems. This should be taken into account in setting rates.

Q. HAS THE COMPANY BEEN ABLE TO EARN ITS AUTHORIZED RATE OF RETURN OVER THE PAST FIFTEEN YEARS?

A. No. In fact, Mr. Reiker shows in Section VII of his pre-filed direct testimony that the Company fell short of its authorized rate of return by over $40 million since

1996, due in part to declining sales but also because the Company's capital investments increased very significantly during this time period.

Q. HOW DOES THAT COMPARE TO THE PROXY GROUP OF NINE WATER COMPANIES DISCUSSED IN MS. AHERN'S TESTIMONY?

A. The Company's financial performance, as measured by the return on common stock equity, fell far short of the proxy group of nine water companies, as shown in Ms. Ahern's direct testimony.[7]

IV. Additional Business Risks Faced by Arizona Water Company

Q. HOW DOES THE COMPANY'S BUSINESS RISK COMPARE TO THAT OF THE PROXY GROUP OF NINE WATER COMPANIES DISCUSSED BY MS. AHERN?

A. Ms. Ahern addresses the unique credit and business risks of the Company, how they compare to the proxy group of nine water companies and their resulting effect on the Company's cost of equity in this proceeding. The Company is facing additional business risk because the Company i) is comprised of small, geographically isolated systems, ii) has higher capital and operating costs because of the small size of most its water systems, iii) has fallen far short of earning its authorized rate of return over the past fifteen years, and iv) is facing the unprecedented need to replace $192 million of aging and failing infrastructure over the next ten years, which would more than double the Company's existing total capitalization. The proxy group of nine water companies is not facing comparable additional business risks.

V. The Company's Conservation Efforts and BMPs and the Need to Fund BMPs

Q. WHAT IS THE STATUS OF THE COMPANY'S IMPLEMENTATION OF BMPs AS REQUIRED IN DECISION NO. 71845?

A. The Company submitted for the Commission's consideration the additional BMPs required in Decision No. 71845 on December 22, 2010. Since that time, the

[7] See Ahern Direct Testimony, Exhibit PMA-3, page 25

Company has continued to work with Staff to finalize tariff language for these BMPs. As of the date of this application, the final language of the BMP tariffs is under review by Staff. Once approved by Staff, the BMP tariffs will be submitted to the Commission for approval. Because there are added costs related to the implementation of these additional BMPs, the Company is requesting that the Commission approve the recovery of such costs for the Northern Group in this proceeding; as the Commission expressly authorized in Decision No. 71845.[8]

Q. UNDER WHAT CONSERVATION PROGRAM IS THE COMPANY REGULATED BY THE ADWR?

A. None of the Company's Northern Group water systems are regulated under ADWR's Modified Non-Per-Capita Conservation Program because they are not located in an Active Management Area. Nonetheless, the Company is required to submit Annual Water Use Reports to ADWR for all of the Northern Group water systems, except for the Forest Towne water system. In addition, the Company was also required to submit a System Water Plan to ADWR for these same water systems, which included a Water Supply Plan, Drought Preparedness Plan and Water Conservation Plan, which must be updated every five years.

Q. DOES THE COMPANY INTEND TO IMPLEMENT THE BMPs REQUIRED IN DECISION NO. 71845?

A. Yes. A number of BMPs were implemented before Decision No. 71845. The additional BMPs have been submitted for the Commission's consideration and the Company will implement them in accordance with the Commission's requirements.

Q. DOES THIS CONCLUDE YOUR DIRECT TESTIMONY IN THIS MATTER?

A. Yes.

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[8] *See* Mr. Reiker's pre-filed direct testimony.

WMG-1

BY JHIH-SHYANG SHIH, WINSTON HARRINGTON, WILLIAM A. PIZER, AND KENNETH GILLINGHAM

Economies of scale in community water systems

CAN COMMUNITY WATER SYSTEMS COMBAT RISING COSTS FROM NEW REGULATORY REQUIREMENTS THROUGH CONSOLIDATION?

Small water systems face increasingly stringent regulatory requirements under the Safe Drinking Water Act as amended in 1996. According to the National Public Water Systems Compliance Report, more than 54,000 publicly and privately owned community water systems (CWSs) exist in the United States, serving about 252 million people (USEPA, 1997a). Of these, approximately 93% are categorized as "small" or "very small," serving fewer than 10,000 customers (USEPA, 2002). Although these systems serve only 20% of the total population served by all systems, they have received much attention from federal regulators and state and local health officials because they face particular difficulties in complying with federal and state water quality requirements. Because of their size, the technical, managerial, and financial capacities that modern water treatment systems require are often beyond their capabilities. For example, among all the size categories, systems serving 25–500 individuals experience the most violations per 1,000 people served.

Many also believe that supplying customers with water is overly costly for small systems (see Beecher & Cadmus, 2002, for a review of likely mechanisms). At least two distinct kinds of scale economies exist in water supply systems. Capital equipment is the most familiar. There are also scale economies in many ordinary business operations, such as billing, purchasing, and computer systems, as well as in ancillary water treatment and testing operations.

Consolidating water systems—whether through merging smaller systems or through a larger system absorbing one or more small systems—may be a way

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to reduce the cost of supplying water and to improve the ability of these systems to meet more-stringent regulatory requirements cost-effectively. If consolidation is to achieve scale economies in capital equipment, the systems involved must be geographically close to allow connection to the same water treatment plants. Achieving scale economies in ordinary business operations might not require systems to be physically connected. For example, material costs may show scale economies because large systems may be able to negotiate better long-term contracts. However, capital and energy costs may be very sensitive to physical connection.

Although the benefits of consolidation are potentially large (Cadmus, 2002; AWWA, 1997), water supply systems remain almost uniquely unconsolidated among all local and municipal services. The reason for this is beyond the scope of this article, but it is time to reexamine the issue, particularly to determine whether policies exist that could enhance consolidation benefits and reduce costs.

In this article the authors use the 2000 and 1995 Community Water Supply surveys (CWSS; USEPA, 2002, 1997b) to examine the potential for achieving reductions in water supply unit costs by increasing system size and consolidating existing systems. To do this, it is key to distinguish system size from other causes of cost variation. System size is only one of many variables that affect water supply cost. Differences in the cost of raw water supply, for example, depend on climate, topography, and geology. The quality of the raw water may affect cost because some raw water supplies will require more expensive treatment than others to meet acceptable health and potability standards. The spatial distribution of the final demand for water will also affect distribution system costs, with higher population densities enabling the fixed costs of the distribution system to be spread over a larger number of accounts. In addition, there may be differences in the efficiency of water supply systems, with some systems obtaining more output than others from the same quantity of inputs. When all else is equal, more-efficient systems will have lower costs. In this work, the authors attempt to separate the cost elements attributable to scale from all other factors to the extent possible, although data limitations make it somewhat difficult.

TWO APPROACHES FOR ESTIMATING PRODUCTION RELATIONS AND SCALE ECONOMIES ARE AVAILABLE

Scale economies postulate that the production cost per unit declines as the volume of production increases, reflecting an increase in input productivity. Different explanations such as topography, indivisibility, organization, and finance can underlie such a phenomenon in other industries (Norman, 1979). Topography reflects the possibility that, for example, the cost of pipes is related to circumference whereas flow is related to cross-sectional area, making it cheaper per gallon to pipe larger quantities. In other instances, a fixed amount of equipment (or knowledge) may be required regardless of volume or in large increments of volume. Organizationally, larger scale allows greater specialization and may result in greater leverage in financial transactions. Scale economies have been observed in industries as diverse as cement manufacture, electricity (Christensen & Greene, 1976), education (Cohn et al, 1989), and banking (Adams et al, 2004).

The production economics literature offers two basic approaches to estimating production relations and scale economies (Coelli et al, 1998). The first approach assumes that all decision-making units (DMUs)—such as firms, plants, and water systems—are technically efficient. Beginning with this assumption, econometric estimation and index methods are then used to study the aggregate technical change, return-to-scale, and optimization rules. This method assumes that the particular DMU is operating on the production possibility frontier, and no further output is technically possible with the given level of inputs. Observed variation along the frontier is assumed to be noise.

A more recently developed approach does not make the assumption of technical efficiency for all DMUs. Here, the goal is to first identify the technology frontier, defined as the maximum output achievable from a given set of inputs. DMUs on this frontier are said to be technically efficient. Then efficiency analysis examines the degree to which other DMUs lie inside the frontier or use a cost-minimizing set of inputs. In the empirical research described in this article, the authors adopt the first approach (although an analysis using the second approach leads to quite similar results). By allowing for flexible scale economies, the efficient scale could be identified (Figure 1).

Researchers studying such relationships have estimated them in a variety of ways. Figure 1 suggests a primal approach—modeling output as a function of inputs. An alternative is characterized by the pioneering work of Christensen & Greene (1976), who instead estimate cost as a function of input prices and scale:

$$\ln C = \alpha_0 + \alpha_Y \ln Y + \frac{1}{2}\gamma_{YY} \ln Y^2 + \sum_i \alpha_i \ln P_i + \frac{1}{2}\sum_i \sum_j \gamma_{ij} \ln P_i \ln P_j + \sum_i \gamma_{YI} \ln Y \ln P_i \quad (1)$$

in which $\gamma_{ij} = \gamma_{ji}$, C is total cost, Y is output, and each P_i is the price of a particular factor input. These researchers apply this approach to understand economies of scale in US electric power generation. Although Figure 1 shows output per input (the slope of rays through the origin) rising with economies of scale, cost per output should fall with economies of scale. In Eq 1, input prices are used to control for changes both in over-

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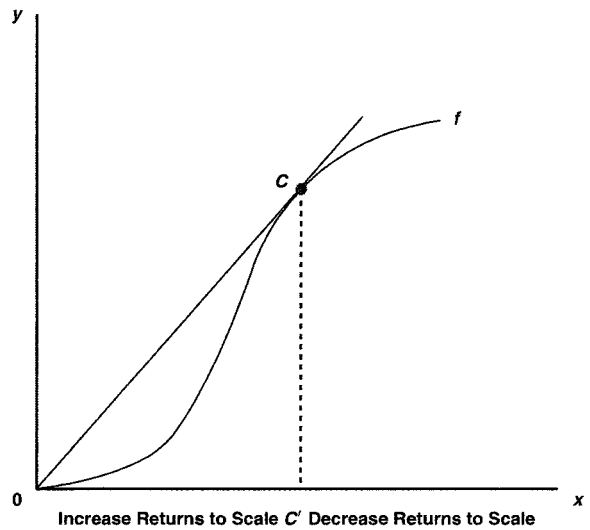
FIGURE 1 Productivity and scale economies*



**A simple production process in which a single input (x) is used to produce a single output (y). The curve (f) represents the production function, which is the output attainable from each input level (the current state of technology in the industry). A ray through the origin measures productivity at a particular data point. The slope of this ray is y/x (output/input). The figure shows a production relation with initially increasing and later decreasing returns to scale (noticeable by the initially convex and subsequently concave production function). By allowing for flexible scale economies, the efficient scale can be identified (e.g., point C).*

TABLE 1 Community water system surveys for systems with population information available

Size Category	Population Served	Number of Systems	
		1995	2000
Very small	25–500	574	336
Small	501–3,300	511	207
Medium	3,301–10,000	270	168
Large	10,001–100,000	361	284
Very large	>100,000	121	251
Total		1,837	1,246

all inflation and composition (relative prices). Composition changes are used in the same way that would be necessary in a primal approach through relevant quantities of inputs on the right-hand side.

In this article, the authors adopt a simplified version of the Christensen & Greene (1976) model for empirical analysis. Only the linear terms of the general equation are considered, and the factor prices are ignored because these data are unavailable. The authors do, however, control for the CWS ownership and the type of raw water sources.

USEPA SURVEYS YIELD NECESSARY INFORMATION FOR ESTIMATING SCALE ECONOMIES

Approximately every five years the US Environmental Protection Agency (USEPA) conducts a CWSS, which is designed to obtain data to support the development and evaluation of drinking water regulations. For this project the authors used the CWSS 2000 and CWSS 1995 (USEPA 2002, 1997b). The CWSS database contains detailed operating characteristics and financial information for a large random sample of CWSs. The survey includes questions about annual water production by water source, service population, characteristics of treatment facilities, characteristics of untreated sources, water sales revenues and deliveries by customer category, water-related revenues, water system expenses, and water system assets. Although much information is common to both surveys, each survey also has some unique elements. For example, CWSS 1995 contains more detailed information on the breakdown of water system finances, allowing classification of production inputs into six categories—capital, labor, materials, energy, outside services, and other. For economic analysis, however, this information is not as useful as it might be because expenditures on each of these inputs are recorded, not the quantities and average prices. In any case, this breakdown of cost information is not present in CWSS 2000, and categories of cost are defined differently, making cross-survey comparisons of water system finances somewhat problematic. For example, the past year's capital improvements expenditure is included in the defined value of total water system expenses in the 1995 data set. In the 2000 data set, however, capital improvements expenditures are defined as spending over the past five years and are included as a separate group from total expenses.

CWSS 2000 also contains some questions not present in CWSS 1995, yielding limited information on raw and finished water quality for systems serving more than 500,000 individuals.

In the CWSS, water systems are classified primarily according to the number of people served. The full

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sample sizes for 1995 and 2000 are 1,980 and 1,246, respectively. The population-served information for some systems, however, is missing in the databases. Table 1 defines each category and gives the number of systems in CWSS 1995 and CWSS 2000 that have complete population-served information in each size category.

Sources of raw water also vary among water systems. Table 2 shows the percentage of plants in each size category using groundwater, surface water, and water purchased from other producers. The totals may exceed 100% because some water systems have more than one source type.

TABLE 2 Percentage of sources using three different types of water

Size Category	Surface Water %	Groundwater %	Purchased Water %
1995 survey			
Very small	30.8	66.2	42.0
Small	23.9	56.9	37.2
Medium	27.8	60.7	31.5
Large	44.0	61.8	33.0
Very large	55.4	55.4	43.8
2000 survey			
Very small	38.7	63.7	21.4
Small	35.7	47.8	26.6
Medium	53.0	46.4	23.2
Large	53.5	45.8	37.0
Very large	67.3	44.2	37.1

CWSS 1995 contains additional detail on the cost of inputs to water water production. Input variables include costs for capital, labor, material, energy, and outside services, along with the "other" category. Depreciation expenses are used as a surrogate for capital costs. Labor costs include direct compensation for salaries and bonuses. Materials costs include expenses for disinfectants, precipitant chemicals, other chemicals, materials and supplies, and purchased water (both raw and treated). Energy costs include expenses for electricity and other energy, such as gas and oil. Outside services costs include expenses for analytical lab services and other outside contractor services. Other costs include other operating expenses, such as general and administrative expenses not reported elsewhere, payments in lieu of taxes, and other outgoing cash transfers. Costs exclude tax payments, which puts the costs of public and private water supply systems on the same footing. The output variable is total water produced in millions of gallons. Total unit cost and factor unit costs are derived using total operating expenses and individual factor costs divided by the total water produced.

CWSS 1995 begins with 1,980 observations. To properly analyze the data set, first the data needed cleaning. The authors eliminated 143 observations that were missing values for the population served; 278 observations that were missing values for total expenses; 86 systems that were either missing a value or recording a zero for total water production (output); 96 observations that were missing a value for ownership class (public or private); 4 systems that were not classified with a public water supply identification number; 1 system that was missing a value for the production source; and 5 outlier systems with impossible costs per unit produced, leaving 1,367 systems for analysis.

For some analyses, the authors also eliminated observations with zero values for the six input factors—553 observations with zero values for capital; 37 for labor; 11 for materials; 41 for energy; 105 for outside services; and 55 for other costs. After the data cleaning, the sample size dropped to 565.

CWSS 2000 contains a subsample of systems also surveyed in 1995. CWSS 2000 is the fifth edition of the survey (USEPA, 2002) and, overall, is much more organized than CWSS 1995. In 2000, investigators asked detailed questions on topics such as treatment technologies, raw water quality, and posttreatment water quality for very large systems and for chemicals such as arsenic and methyl tertiary butyl ether. Similar to CWSS 1995, the 2000 survey collected data on water system operations and finances that are critical to the preparation of regulatory, policy, implementation, and compliance analyses. Unfortunately, CWSS 2000 contains less detailed financial information on drinking water expenses than its predecessor—the detailed input cost information available in CWSS 1995 is not available in CWSS 2000.

The most interesting aspect of CWSS 2000 is the subsample of systems queried in both surveys. The number of overlapping samples is 132, which is not a huge number but adequate for a simple panel data analysis (panel data means data with multiple observations crossing several years).

To conduct a consistent comparison of the data in the two surveys, information on total expenses, total finished water production, population served, and water source was used.

In the analysis that follows, the authors use three subdata sets of CWSS 1995 and CWSS 2000, depending on the model that's estimated. To summarize these subdata

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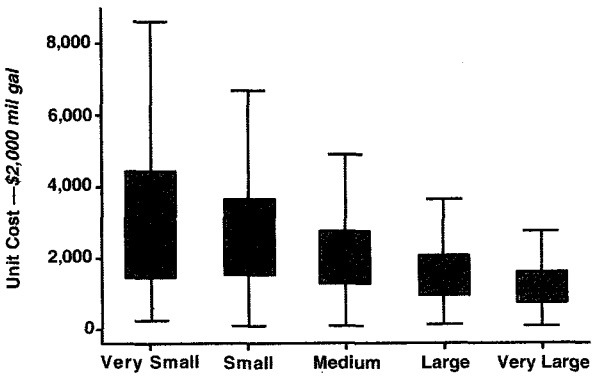
FIGURE 2 Distribution of plant production costs by size*



The line through the box shows the median production costs. The top and bottom edges of the box show the interquartile range (the 75th and 25th percentiles). The horizontal lines (whiskers) above and below the box show the 95th and 5th percentiles.

**"Very small" category excludes costs for outside services.*

TABLE 3 Scale economies of total operating expense

Variable	Number (Standard Error)
Constant	8.34* (0.061)
ln W†	–0.16* (0.009)
Surface	0.17* (0.050)
Purchased	0.52* (0.053)
Public	–0.12* (0.041)
Adjusted R^2	0.46
Observations	565

*Significant to 1% level
†Log change in production

sets, for analysis of costs by type, a sample from CWSS 1995 that contains 565 observations was used. Data are complete for each of the six input factors in these 565 observations. Second, for analysis of total costs, two full data sets for CWSS 1995 and CWSS 2000 with complete data for total operations and maintenance expenses and total water produced were used. The sample sizes are 1,367 and 995, respectively. Finally, for panel data analysis, a data set of 132 system observations that are found in both CWSS 1995 and CWSS 2000 was used.

UNIT COSTS DECLINE AS SYSTEM SIZE INCREASES, BUT THERE'S NO GUARANTEE

The box-and-whisker plot in Figure 2 shows the range of unit production costs (operating costs plus depreciation in dollars per million gallons) for plants of various sizes in 1995 (the graph for 2000 is similar).

Figure 2 gives several interesting insights into production-cost distribution. Most important, unit costs generally decline as system size increases. The 1995 median cost per million gallons for a very small plant is 135% greater than that for a very large plant ($2,653/mil gal versus $1,128/mil gal). However, very little difference exists between the median cost of very small and small plants. The decline in costs with increasing size is also evident in other statistics. The 75th and 95th percentiles also show declines, as does the 25th percentile, at least for small plants and larger. Finally, Figure 2 shows that despite generally falling costs, plenty of overlap remains in costs across all size categories. For example, 20.7% of very small plants and 22.0% of medium plants have a unit cost lower than the median unit cost of very large plants. It can be seen, then, that size does not guarantee lower costs.

To quantify the effect of size and to control for other survey factors that affect costs, we estimate a model that includes data on water source, ownership, and size. Water source variables are designated in the model as "ground," "surface," and "purchased." These categories represent the percentage of raw water that comes from groundwater, surface water, and water purchased from other utilities, respectively. Most utilities in the sample (1,149 of 1,367 in CWSS 1995 and 800 of 995 in CWSS 2000) obtain water exclusively from one type of source. Ownership is a dummy variable indicating whether the system is publicly or privately owned (for comparability, costs exclude taxes paid by private systems). This can be written as

$$\ln C = \alpha + \beta \text{ Public} + \gamma_1 \text{ Surface} + \gamma_2 \text{ Purchased} + \theta \ln W \quad (2)$$

in which C is annual unit cost in dollars per thousand gallons and W is annual production of finished water (in million gallons). Table 3 shows estimation results for total unit cost. Variables "private" and "ground" are not included in Eq 2. If both the ownership dummies—"private" and "public"—were included in the equation, their sum would be identical to the constant term. To avoid this linear dependency, one of the two must be dropped. Similarly, one

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of the three ownership variables must be dropped (Studenmund, 2001). The coefficients on the remaining variables represent the differences relative to the base case defined by those two variables. Table 3 indicates that expected costs vary significantly on the basis of water source ("surface," "purchased," and "public" coefficients measure costs relative to groundwater at privately owned systems).

Controlling for size, groundwater systems have the lowest cost; surface water systems are on average 17% more costly than groundwater systems, and use of purchased water is 52% more costly than groundwater. Of course, particular localities may not have unlimited access to different water sources, and it is unlikely that many utilities would be able, by changing water source, to reduce costs by the amounts suggested by the coefficients in Table 3.

These results also indicate that scale economies exist in the overall operations of these water providers. The coefficients on the size variables (ln *W*) are actually elasticities. For example, a 1% increase in surface water production reduces unit costs by 0.16%. Although this is statistically significant, the magnitude is fairly modest. On average, for example, a doubling of production volume reduces unit costs by 10%.

The estimate of scale economies was derived by comparing the costs of various-sized systems. These systems may differ in many ways that are not observed, and if those differences are correlated with size, it's possible to attribute their effects on costs to the effect of plant size. Such omitted variables could cause either an over- or underestimate of scale effects. Another way of estimating scale economies is to observe the unit costs of the same water supply system at different production volumes. The advantage of this approach is that it yields direct evidence of the effect of a size change, in contrast to the indirect evidence provided by cross-sectional estimation. In addition, it automatically controls for many system-specific factors that affect costs. The disadvantage is that data are much harder to obtain.

TABLE 4 Factor elasticity (with respect to total water produced) estimations* using various models

Cost Category	Model 1	Model 2	Model 3	Model 4
Capital (1995)	–0.175	–0.176	–0.169	–0.170
Labor (1995)	–0.129	–0.140	–0.122	–0.134
Material (1995)	–0.186	–0.150	–0.188	–0.151
Energy (1995)	–0.120	–0.130	–0.111	–0.122
Outside services (1995)	–0.219	–0.223	–0.204	–0.208
Other costs (1995)	–0.181	–0.181	–0.166	–0.167
Total (1995)	–0.125	–0.116	–0.121	–0.112
Total (2000)	–0.118	–0.130	–0.125	–0.134
Difference between 1995 and 2000	–0.475	–0.468	–0.470	–0.463
Source controls		Yes		Yes
Ownership controls			Yes	Yes

*All estimations are significant to 1% level.

Fortunately, a subsample of 132 water supply systems was surveyed in both CWSS 1995 and CWSS 2000. For these systems, the change in reported unit costs (in constant 2000 dollars) was regressed against the change in production volume. To begin, the authors regress $\Delta \ln C$, the log change in unit costs in constant dollars between 1995 and 2000, against the log change in production $\Delta \ln W$, which gives the results shown in the "Difference between 1995 and 2000" row of Table 4. More generally, Table 4 shows estimates of the elasticity of unit cost with respect to water volume for a variety of model variants of the original equation, including component costs. Source and ownership controls are included and excluded as shown in the table.

Clearly, the largest variation in Table 4 is between the cross-section estimates, using data from a single year, and the difference estimates using differenced data across the two samples from CWSS 1995 and 2000. The elasticity of unit costs with respect to water volume is much larger in this difference model, more than double any of the nondifferenced estimates. On the basis of the estimated elasticity of roughly 0.47, a doubling of water volume would lower unit costs by almost 30% (e.g., $2^{-0.47} = 0.72 \sim 1 - 30\%$).

Why is the differenced estimate so much larger? Most likely, the short time horizon from 1995 to 2000 implies that capacity and other potentially fixed factors of production are not changing, and it is simply the gains to higher-capacity utilization rather than true scale economies that are being measured. If 0.47 is the true value, it is also hard to imagine what omitted variable would lead the nondifferenced estimates to be smaller—i.e., a variable correlated with size and costs in the same direction. If increased capacity utilization is the real story behind the differenced estimates, that would not occur with a consolidation (or at least not to the degree that is seen with more water being distributed through the same physical system).

In addition to observing total costs, the individual component costs using the more detailed financial data available in CWSS 1995 can also be

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FIGURE 3 Average unit costs of production (by utility size) for each of the six factors in the 1995 Community Water System Survey (USEPA, 1997b)

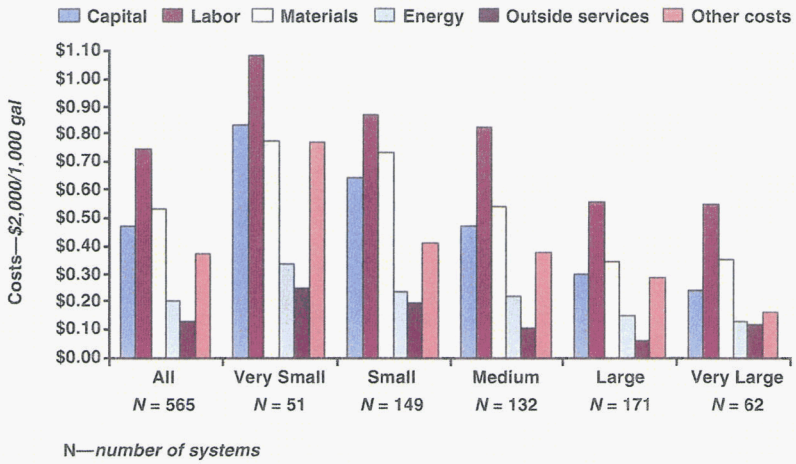

TABLE 5 Total and individual component cost savings among the water systems below the median size

Cost Category	Cost—%
Capital	2.7
Labor	3.2
Materials	3.3
Energy	0.8
Outside services	0.9
Other costs	2.1
Total costs	13.5

considered. Figure 3 shows the average unit costs of production for each of these factors by the size (population served) of the system. Figure 3 indicates that the average unit costs of production fall as system size increases for all of the six factors of production, but not necessarily at the same rate. Table 4 quantifies these economies of scale for each component, regressing the component cost per thousand gallons on the log water supplied, with and without source and ownership controls.

It is interesting that the greatest economies of scale exist in the cost categories for capital, outside services, other, and materials. Labor and energy costs exhibit the fewest economies of scale of the six factors. This suggests that larger systems may be relatively better than smaller systems at bargaining for and receiving outside services and materials at lower costs. In addition, it is important to note that these gains do not necessarily depend on water systems becoming physically interconnected.

The smaller elasticity value for labor may imply that larger systems are more economically efficient, as a result of, for example, negotiating contracts and eliminating redundant positions. However, the labor economies of scale are not as substantial as those from outside services, other, and materials costs. Similarly, the lower elasticity value for energy costs suggests that larger systems may have to pump water farther per unit delivered, preventing the gains from economies of scale that accrue from reducing other types of costs by increasing water system size.

CONSOLIDATION CAN RESULT IN COST SAVINGS UNDER SEVERAL SCENARIOS

By the use of estimates of the elasticity of unit costs with respect to system output, calculations of the potential cost savings from consolidating all small water systems throughout the United States can be made. From the original model, for each system, the authors used

$$\Delta \ln C = \theta \Delta \ln W, \qquad (3)$$

in which C is unit costs (dollars per thousand gallons) and W is the volume of water supplied. If $\Delta \ln C$ is the change in log unit costs, $W C \exp(\Delta \ln C)$ is the new total cost. Therefore the total cost savings (relative to the observed costs) in the sample is calculated as

$$\sum_i W_i \times C_i \times [1 - \exp(\theta \times \Delta \ln W_i)] \qquad (4)$$

i.e., the old costs minus the new costs. Given θ, the only question is what to assume about $\Delta \ln W_i$ in the experiment on consolidating water systems.

As a starting point, the authors computed the cost savings associated with giving systems below the median supplied water level the scale economy gains associated with moving their output to the median level (304 mil gal). The authors did not assume that the output of these systems would actually rise, but that somehow they would be able to realize those gains.

Carrying out these calculations, the authors found that among the 565 facilities in CWSS 1995 for which detailed cost data are available, such an exercise would realize a $9 million cost savings. Of the total costs of $2.2 billion, this is less

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than half of 1%. Among the water systems below the median size, however, with total costs of only $67 million, this is a cost savings of 14%. For more than 40 systems, cost savings of more than 50% could be achieved. Table 5 shows total as well as individual component cost savings as a percentage of total expenditure of water systems below the median size.

The authors also simulated the cost savings for the following three scenarios: (A) Combine small water systems serving <500 people with metropolitan water systems serving >50,000 people; (B) Combine small water systems serving <500 people-with medium water systems serving 3,300–10,000 people; and (C) Double the size for the systems serving <500 people. For scenarios A and B, the medians of total water produced in each population group—6,506 and 5,800 mil gal for systems serving >50,000 people and between 3,300–10,000 people, respectively—are used as the targets for scaling up the small systems. For scenario C, two times the current total water produced is used as the target for scaling up. Table 6 gives the total and individual components of cost savings for water systems serving <500 people (using the 565-sample data set) for the three scenarios.

The total cost savings for small systems serving <500 people in the 565 samples are $1.5 million; $700,000; and $280,000 for scenarios A, B, and C, respectively. Generally, the major cost savings are from capital, labor, materials, and other costs. Although costs for outside services have relatively large elasticity because the cost share is small, the cost savings in this category proves to be relatively small. Also, cost savings from energy are small relative to other factors, indicating that on average, an increase in system size saves less money from reduced energy costs than from any of the other types of expenses. One potential explanation for this is that water pumping costs increase as system size increases. On the other hand, the cost categories of materials, outside services, and other do not rely on interconnection to obtain savings. If the cost savings are scaled up to the national level using survey sample weights, the cost savings are $1,115 million (all facilities to median size), $794 million (scenario A), $417 million (scenario B), and $140 million (scenario C). To scale calculations to the national level, the savings at each facility is multiplied by the sampling weights used to scale the original sample up to national values. The sampling weights are inflated to reflect the reduced sample size (565) in such a way as to maintain the original distribution of facility size (e.g., across very small, small, medium, large, and very large). Among factors that likely do not require interconnection, such as materials, outside services, and other costs, the savings are $500, $380, $218, and $70 million, respectively.

CONCLUSIONS

In this article, the data sets from CWSS 1995 and CWSS 2000 were evaluated to examine the production costs of water supply systems. The authors found that smaller systems tend to face higher unit production costs across the full range of production inputs. Although physical interconnection may be difficult, consolidating administrative tasks and bargaining power may allow water systems to realize some of the potential economies of scale. The variation in unit costs across and within system sizes, however, is large, and size explains only a part of the cost distribution. Viewed another way, a high degree of technical inefficiency in terms of large cost differences exists among systems with the same input structure.

A variety of estimation techniques and cost measures yield broadly consistent estimates. It is apparent that groundwater and surface water are, not surprisingly, cheaper than purchased water. Public systems consistently have lower costs than private ones. Certain cost components also exhibit economies of scale to a greater or lesser extent than others.

By quantifying the economies of scale, it appears that doubling a system's production would lower unit costs between 10 and 30%, depending on the model and the cost component. Consolidating small systems into a large system, however, could double the small system's scale several times over, resulting in gains of 50% or more. The authors' estimates suggest that by giving all systems below the median system size the efficiency gain associated with moving to the median system size, savings of $9 million would be realized in the sample of 565 facilities. Extrapolated to the entire population of roughly 50,000 systems, more than $1 billion could be saved. Similar though slightly smaller estimates exist when

TABLE 6 Total and individual component cost savings percentages for the water systems serving <500 people in the 565-sample data set

Scenario	A	B	C
Capital	12.6	4.3	2.7
Labor	13.7	5.9	2.5
Materials	11.6	5.8	2.2
Energy	3.5	1.9	0.6
Outside services	4.2	2.5	0.8
Other costs	10.9	6.3	2.0
Total costs	56.5	26.3	10.5

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considering merging small systems with larger systems.

The majority of cost savings are in the capital, labor, materials, and other cost categories. Although increased efficiencies associated with capital and some labor input (e.g., production versus administration and management) would require interconnection, other efficiency gains would not. To the extent that these gains arise from increased bargaining power, they are all achievable without interconnection.

Compared with overall supply costs, these numbers might be considered small at about 4.2%. To the small and very small systems realizing the gains, though, they are large. Of course, it's not possible to claim that all these benefits could actually be realized. The fact that so many small water supply systems still exist suggests the possibility of costs or barriers to consolidation that are not readily apparent in the CWSS data. One obvious example is the cost of interconnection when trying to physically bring a rural population into a large system, though some gains may not require this. In any case, as small water systems confront increasing regulatory challenges, consolidation may offer some hope of reducing that regulatory burden. Additional research is needed, however, on the local causes of cost heterogeneity in water supply systems and the localized costs and benefits of consolidation.

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If you have a comment about this article, please contact us at journal@awwa.org.

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Joseph D. Harris

ARIZONA WATER COMPANY

Docket No. W-01445A-12-

2012 RATE HEARING

(For Test Year Ending 12/31/11

PREPARED

DIRECT TESTIMONY & EXHIBITS

OF

Joseph D. Harris

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ARIZONA WATER COMPANY

Direct Testimony of

Joseph D. Harris

I. Introduction and Qualifications

Q. PLEASE STATE YOUR NAME, EMPLOYER AND OCCUPATION?

A. My name is Joseph D. Harris. I am employed by Arizona Water Company (the "Company") as Vice President and Treasurer.

Q. PLEASE DESCRIBE YOUR EDUCATIONAL BACKGROUND AND WORK EXPERIENCE.

A. I have been Vice President and Treasurer of the Company since March 2007. I received a Bachelor of Science degree in Accounting from Northern Illinois University in 1981 and I am a Certified Public Accountant in the State of Illinois. From approximately 1982 until 1999, I worked for Northern Illinois Water Company, first as Staff Accountant (from 1986 to 1999) and then as Chief Accountant, where I managed the accounting department and oversaw the company's financial reporting, tax compliance, strategic planning and filings with the Illinois Commerce Commission. From November 1999 until July 2002, I served as Comptroller of Illinois American Water Company, managing the company's accounting and information system departments. From July 2002 until March 2007, I worked for American Water Service Company as Senior Financial Analyst and as Manager for Performance, Planning and Reporting, where I directed and coordinated preparation of the annual business plan and quarterly forecasts, and provided financial expertise on all financial issues. I am also a member of the American Institute of Certified Public Accountants.

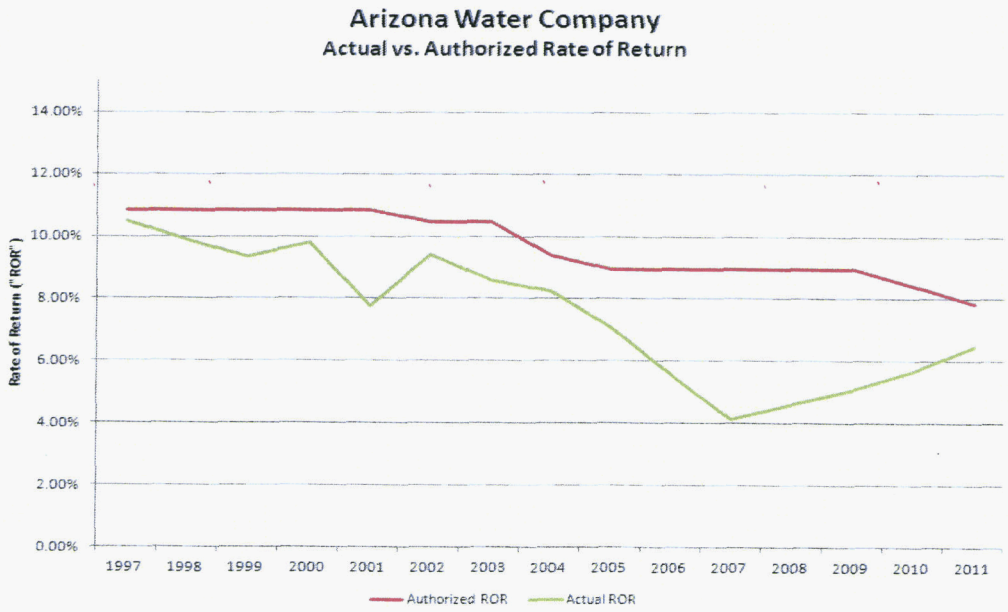
Q. WHAT IS THE PURPOSE OF YOUR TESTIMONY?

A. The purpose of my testimony is to provide a summary of the Company's financial performance, including that of its Northern Group which is the subject of this rate proceeding. I also support the Company's proposed continuation of the Arsenic Cost Recovery Mechanism ("ACRM"), implementation of a Distribution System Improvement Charge ("DSIC"), the deferral, for accounting purposes, of tank maintenance costs, and the approval of an Off-Site Facilities Fee tariff.

II. Summary of Financial Performance

Q. PLEASE SUMMARIZE THE COMPANY'S FINANCIAL PERFORMANCE.

A. The Company's financial performance remains poor. As shown on Schedule A-2 of the Company's application, for the twelve months ending December 31, 2011, ("Test Year"), the Company's returns on year-end capital and equity were 6.13 percent and 6.28 percent, respectively. Although 2011 was the Company's first full year of operations under the new rates authorized by the Commission in Decision No. 71845 (August 25, 2010) its actual return on common equity ("ROE") fell 322 basis points short of the 9.5 percent ROE approved in that decision. As shown in the chart below, 2011 was the 15th year in a row that the Company's earnings fell short of its Commission-determined cost of service:



As shown in the chart, above, the Company's overall Rate of Return ("ROR") increased from its lowest levels in 2007. This improvement was, in large part, the result of progressive action taken by the Commission in approving the ACRM. As a result, the Company was able to begin recovering the capital costs, and limited operating costs associated with over $30 million worth of arsenic treatment facilities much sooner than it otherwise would have under the traditional ratemaking framework. However, despite the significant benefits afforded by the ACRM, various cost-cutting measures (discussed below), and a total Company general rate case, the Company has still not been able to fully recover its cost of service.

Q. HAS THE NORTHERN GROUP PERFORMED ANY BETTER THAN THE COMPANY AS A WHOLE?

A. No. As shown on page 1, line 8, of Schedule A-1, the ROR for the Northern Group for Test Year 2011 was 4.34 percent, 353 basis points short of the 7.87 percent ROR authorized in Decision No. 71845.

Q. WHAT STEPS HAS THE COMPANY TAKEN TO IMPROVE ITS FINANCIAL PERFORMANCE?

A. Beginning as early as 2008, the Company began taking steps to avert an impending financial crisis by sharply reducing its capital budget as well as reducing certain operation and maintenance expenses. In early 2009, even more dramatic efforts were made to reduce costs, including, for the first time in the Company's 55-year history, staff reductions. Other cost reduction efforts included a wage and hiring freeze. The capital budget was reduced by 57 percent in 2008 and slashed by an additional 38 percent in 2009. This new "bare bones" capital budget level continued through 2011, and even though the Company's 2012 budget is $10.975 million, it is still less than 80 percent of the average level of capital spending that occurred in the years 2002 – 2007 as the

Company continues its efforts to control its expenses, debt, and stabilize its earnings.

Q. EVEN WITH THESE REDUCTIONS TO CAPITAL EXPENDITURES AND OPERATING EXPENSES, HAS THE COMPANY RECOVERED ITS COST OF SERVICE?

A. No. These steps were taken to stave off a financial crisis while the Company's last rate filing was pending. Even with the rates granted in Decision No. 71845, the Company is not recovering its cost of service. This is primarily because rates set in the last general rate case were designed to recover the Company's costs through the adjusted test year 2007. Since that time, operating costs and investment in utility plant have risen. Additionally, the Company's response to the financial crisis is not sustainable because, in part, it already cut investment and expenses to a level that, if continued in the long term, will jeopardize the Company's ability to provide service.

Q. IS THE COMPANY MAKING ANY PROPOSALS THAT WOULD HELP TO MITIGATE OR IMPROVE THIS SITUATION?

A. Yes. The Company is proposing continuation of the ACRM for its Verde Valley water system and seeking authorization of an ACRM for its Navajo water system to help alleviate the financial burden of constructing new government-mandated arsenic removal facilities required to comply with stringent new United States Environmental Protection Agency ("EPA") safe drinking water standards. Additionally, the Company is requesting that the Commission approve a DSIC mechanism to assist the Company in replacing aging infrastructure. The Company's proposed DSIC, which is also addressed by Company witness Ms. Ahern in her pre-filed testimony, balances fiscal responsibility with customer affordability. The Company is also seeking authority to record deferral of costs associated with tank maintenance, including the costs of inspecting and cleaning water storage tanks, and recoating the exterior and interior surfaces. The

Company proposes to seek recovery of the recorded costs in subsequent rate filings. Finally, the Company is seeking approval of an Off-Site Facilities Fee tariff to provide a portion of the funds needed to construct infrastructure in its Verde Valley system.

III. ACRM Continuation

Q. DOES THE COMPANY NEED TO CONSTRUCT NEW ARSENIC REMOVAL FACILITIES IN ITS VERDE VALLEY AND NAVAJO SYSTEMS?

A. Yes. For the reasons described in Mr. Schneider's direct testimony, the Company must construct new arsenic removal facilities in its Verde Valley and Navajo systems. Design work on the Southwest Center arsenic removal facility in the Verde Valley system is completed, and the Company anticipates beginning construction in 2013. Additionally, arsenic levels have risen in two wells in the Navajo system and, as a result, the Company needs to construct two arsenic removal facilities, one at its Zane Grey Well No. 3 and one at its Mogollon Well No. 5. Planning and design work on these facilities is underway.

Q. WHAT WILL BE THE FINANCIAL IMPACT OF CONSTRUCTING THESE NEW ARSENIC REMOVAL FACILITIES?

A. The estimated cost of these facilities to comply with government-mandated public health standards is approximately $2,536,000. Without the ability to recover the costs associated with these Federally-mandated investments, these costs will have a significant negative impact on the Company's financial performance. For example, the Company will need nearly $455,000 of additional annual revenues just to recover the capital costs associated with these facilities. This does not include the additional revenues required to recover operating costs for operating these facilities. An exhibit showing the revenue requirement based on the estimated cost of these facilities is attached as Exhibit JDH-1.

Q. HAS THE COMMISSION PREVIOUSLY AUTHORIZED CONTINUATION OF THE ACRM FOR THE VERDE VALLEY SYSTEM?

A. Yes. In Decision No. 71845, the Commission authorized the Company to make new ACRM filings for required arsenic removal facilities that were planned for construction in its Verde Valley (Sedona) system. The Company is requesting that the authorization granted in Decision No. 71845 be continued and be extended to the Navajo system.

IV. System Consolidation

Q. IS THE COMPANY PROPOSING TO COMPLETE ITS PLAN, INITIALLY AUTHORIZED IN DECISION NO. 71845, TO IMPLEMENT FULL RATE CONSOLIDATION IN THE VERDE VALLEY SYSTEM?

A. Yes. In Decision No. 71845, the Commission authorized the full rate consolidation of the Pinewood and Rimrock systems into a single water system known as Verde Valley, which in turn was partially consolidated with the Sedona system. The Sedona system's rates were partially consolidated with and into Verde Valley by way of a common monthly minimum charge and consolidated financial/accounting records. Commodity rates for Sedona remained separate, and were to be fully consolidated with Verde Valley in a future rate proceeding. The Company's proposal in this application is to complete the full consolidation contemplated by the Commission in Decision No. 71845 by consolidating Sedona's commodity rates with those of Verde Valley.

V. DSIC

Q. BRIEFLY DESCRIBE WHAT YOU MEAN BY A DSIC.

A. As I stated at the outset, a DSIC or Distribution System Improvement Charge, is a ratemaking tool that allows utilities to recover the capital costs (depreciation and return) of non-revenue producing distribution system improvement projects completed between rate cases. Ms. Ahern discusses the benefits of, and regulatory support for, DSIC mechanisms in her direct testimony.

Q. ARE THERE OTHER JURISDICTIONS WHERE DSIC-TYPE MECHANISMS ARE ALREADY IN PLACE?

A. Yes. Many jurisdictions including Delaware, California, Connecticut, Pennsylvania, Indiana, Illinois, Missouri, New York, New Hampshire, Ohio and New Jersey have adopted DSIC-type mechanisms to finance the ongoing replacement of aging and deteriorating water distribution networks. In early 1999, the National Association of Regulatory Utility Commissioners ("NARUC") endorsed the mechanism as an example of an innovative regulatory tool that public utility commissions should consider adopting to solve infrastructure remediation challenges.[1] In 2005, NARUC adopted a resolution identifying the DSIC as a Regulatory Policy Best Practice.[2] Additionally, it has been designated by the Council of State Governments as "Model Legislation".[3]

Q. ARE THERE SIMILARITIES BETWEEN THE DSIC-TYPE MECHANISMS IN USE IN OTHER JURISDICTIONS?

A. Yes. Commonly, DSIC-type mechanisms used in other states:

1. Allow recovery of a return on and depreciation expense related to investment in water distribution system improvements;

2. Utilize the Weighted Average Cost of Capital determined in last rate case as the authorized return, although some jurisdictions allow updating of debt cost;

3. Cap increases at a percentage of revenues either annually or at a maximum percent of revenues between general rate cases;

4. Require companies to make an initial filing providing evidence to demonstrate why a DSIC-type surcharge is appropriate for their circumstances;

5. Apply an earnings test to ensure that companies are not over earning;

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[1] JDH-3, Exhibit E: National Association of Regulatory Utility Commissioners ("NARUC") Resolution Endorsing and Co-Sponsoring the Distribution System Improvement Charge, 1999.

[2] JDH-2, Exhibit F: National Association of Regulatory Utility Commissioners ("NARUC") Resolution Supporting Consideration of Regulatory Policies Deemed as "Best Practices"2005.

[3] The Council of State Governments, "Suggested State Legislation", 2000 Volume 59 pages 44-45

6. Are typically limited to the following non-revenue producing assets: water mains and valves (including cleaning and relining and elimination of dead-end mains and costs of relocations due to street or highway construction), public fire hydrants, services and water meters;

7. Provide for a streamlined review process with surcharges going into effect within 30 to 60 days from filing;

8. Reset the DSIC step surcharge to zero when new general rates are approved;

9. Provide for customer notification of the implementation of the DSIC-type surcharge.

Additionally, several of the jurisdictions require the utility to prepare a listing and cost estimate of the projects it intends to construct in the upcoming year to allow regulatory staff more oversight of the infrastructure replacement. Exhibit JDH-2 provides an overview of the particulars of each jurisdictions DSIC-type mechanism.

Q. HAS A DSIC BEEN APPROVED IN ARIZONA?

A. Not yet. However, in Docket No. W-01303A-05-0405 the Commission adopted a Public Safety Surcharge for Arizona-American Water Company. This type of surcharge was specifically designed to provide funding for expenditures to replace undersized and inadequate mains in the Town of Paradise Valley. Additionally, the Company requested approval of a DSIC in its 2010 Test Year rate case for its Eastern Group (Docket No. 11-0310) and provided a substantial record of support for that request in that docket. As of the date of this pre-filed testimony, the Commission has yet to rule on the Company's request in that docket.

Q. HAS THE COMMISSION APPROVED ANY OTHER TYPE OF MECHANISM SIMILAR TO A DSIC?

A. Yes. The Commission approved the ACRM, which is virtually identical to a DSIC in terms of mechanics. The ACRM was developed through joint efforts of the Company, Commission Staff and the Residential Utility Consumers Office ("RUCO"), and allows utilities that construct arsenic removal facilities to seek recovery of capital costs and narrowly defined components of operating costs of arsenic removal facilities between formal rate filings. Without this progressive recovery method, a significant number of the State's water utilities would not have been able to comply with new, more stringent, safe drinking water standards for arsenic and, as a result, these utilities, including the Company, would have been placed in a precarious financial position.

Q. HAS THE COMMISSION EXPRESSED AN OPINION ON THE DSIC?

A. Yes. In Decision No. 71845, the Commission stated that an infrastructure funding mechanism (i.e., DSIC) may be reasonable in certain circumstances, such as for replacement of certain of the Company's aging infrastructure or infrastructure that faces other unique challenges. The Commission further stated its belief that it was appropriate for the Company to further develop this issue for future consideration. The Commission directed the Company to prepare a study and file a report on DSIC, and to utilize the information from that study to inform the Commission of further proposals for a DSIC mechanism in future rate cases.

Q. WAS THE REQUIRED DSIC STUDY FILED WITH THE COMMISSION?

A. Yes. The DSIC study that the Company prepared and filed details the history of the DSIC, the need for water distribution system improvements, the cost of those improvements, the potential rate impacts and the balance between costs and benefits to customers. An updated version of the DSIC study was filed on July 22, 2011, and is attached as Exhibit JDH-3.

Q. DID THE DSIC STUDY CONCLUDE THAT DETERIORATING OR AGING WATER DISTRIBUTION INFRASTRUCTURE WAS PRIMARILY AN EAST COAST PROBLEM?

A. No. As discussed in the DSIC study, the EPA report titled, "Drinking Water Infrastructure Needs Survey and Assessment, Fourth Report to Congress" shows a twenty year national capital improvement need of $334.8 billion. As shown in an excerpt of this report, attached as Exhibit JDH-4, water systems in Arizona are projected to have infrastructure needs over the next twenty years of nearly $7.5 billion, with $3.7 billion of that need being in transmission and distribution systems. The EPA report also categorized these capital needs by system size. Using the system sizes from the report, the Company's 19 water systems are classified as medium or small systems. For systems of this size, the report identified water system infrastructure needs in Arizona of $2.1 billion for medium-sized systems and $889 million for small systems. As discussed in Mr. Schneider's direct testimony, the Company is taking direct action to reduce water losses and has prepared a detailed study of its Northern Group distribution systems to determine the sources of water losses (e.g., failing infrastructure) and identify the best approach to help reduce such water losses[4]. The results of that study show that the Company is facing an infrastructure crisis arising from the fact that 190,500 feet of water mains, 9,580 service lines and 8,020 meters and meter boxes in the Verde Valley and Navajo water systems need to be replaced in order to maintain water system integrity and reliable and adequate water service. Without these necessary water infrastructure replacements, the Company will experience increasing water main pipeline breaks, leaks and water losses caused by failing water infrastructure.

Q. CAN THESE INFRASTRUCTURE REPLACEMENTS BE HANDLED AS PART OF THE COMPANY'S NORMAL RENEWALS AND REPLACEMENTS?

A. No. Although over the last ten years the Company's rate of water main replacement in the Verde Valley and Navajo systems has averaged 2,700 feet

[4] The study titled "Water Loss Reduction Program for Water Systems in the Northern Group" is attached to Mr. Schneider's direct testimony as Exhibit FKS-19.

per year, it would take over 70 years to replace the 190,500 feet of water mains identified in the Company's detailed water distribution system study. The Company also identified 9,580 failing plastic service lines and 8,020 meters and meter boxes that need to be replaced to reduce water loss. The preliminary cost estimate of these infrastructure replacements is over $84 million, as shown in the table below:

Quantity	Description of Water Infrastructure	Estimated Cost
190,500	Replace Failing Water Mains	$ 27,162,000
9,580	Replace Failing Plastic Services	46,955,000
8,020	Replace Water Meters and Meter Boxes	10,094,000
Total		$ 84,211,000

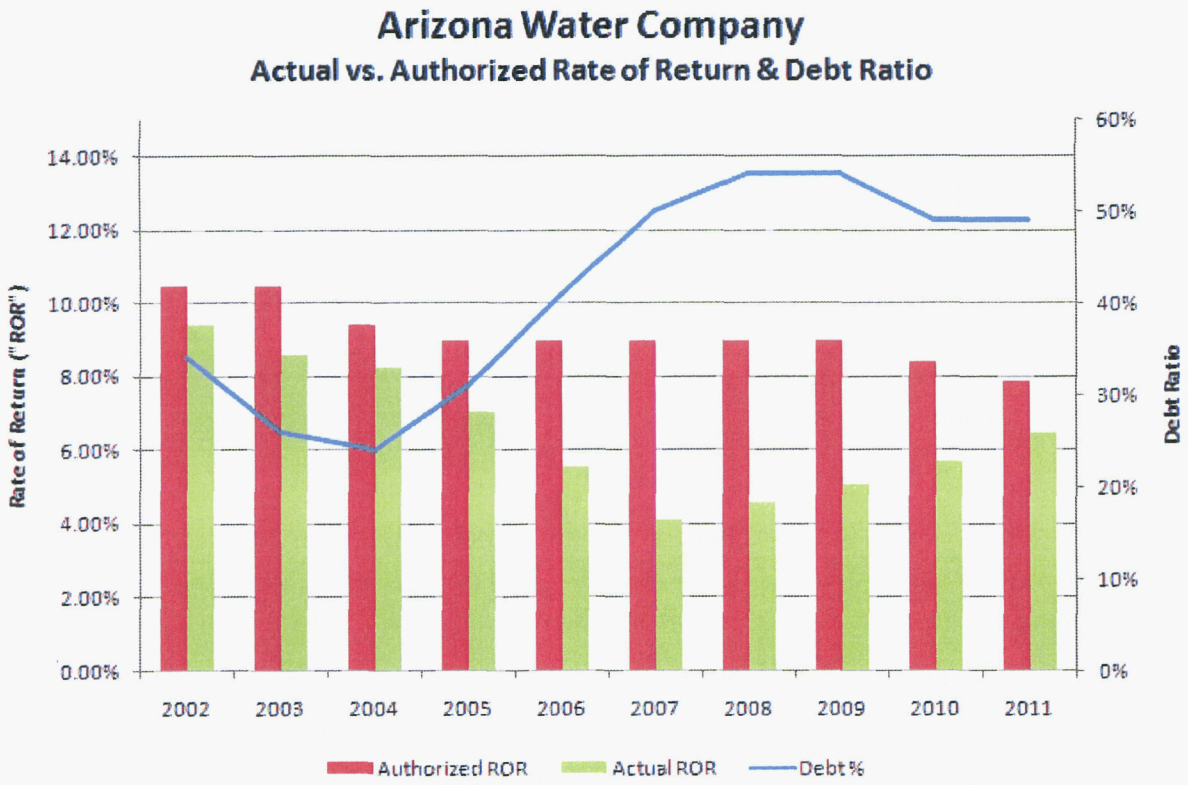
These water infrastructure replacements are essential to the Company's ability to provide safe, reliable and adequate water service, but they also significantly increase the Company's cost of providing service without any ability to begin recovering such increased costs in a timely manner. Given the magnitude of the required water infrastructure replacements, only a portion of which are summarized in the above table, incurring the associated costs would be detrimental to the Company's financial condition. Making matters worse is the fact that the Company has not recovered its cost of service in 15 years, despite filing six rate cases and implementing significant cost-cutting measures. If this condition continues, the Company's shareholders will be burdened with continuing to subsidize the cost of providing water service with funds that would otherwise be available to fund water infrastructure replacements. For these reasons, a mechanism like the DSIC, designed to address the lag between the time when costs are incurred and when they are recovered, is necessary.

Q. ARE THERE RATEMAKING STRATEGIES THAT COULD BE EMPLOYED OTHER THAN ESTABLISHING A DSIC?

A. Other than basing rates on a future test year or increasing the rate of return, no. When a utility is faced with a large capital project, its cost and construction timeline are usually well known in advance. With that knowledge, a utility could try to time its rate case filing to coincide with completion of the facility to minimize the amount of earnings erosion. However, the water infrastructure replacement program needed by the Company does not lend itself to that type of timing strategy. Although the scope of the Company's water infrastructure replacement program is extensive, it is made up of many smaller projects that will be constructed each year for a number of years. Most of these projects will likely have a very short construction timeline, meaning that they would either not qualify for the accrual of an Allowance for Funds Used During Construction ("AFUDC"), or the amount of AFUDC recorded would be nominal. Further, because these replacement programs do not increase sales, they will not generate additional revenues. In order to generate any financial return for such assets, the Company would have to file for annual general rate increases under the traditional rate case model, but such filings are not realistically possible or cost-effective for the Company and its rate payers.

Q. DID THE COMPANY EXPERIENCE AN EROSION OF ITS EQUITY BALANCE AS A RESULT OF THE MASSIVE INVESTMENT IN ARSENIC TREATMENT FACILITIES?

A. Yes. In fact, the magnitude of the Company's investment in arsenic treatment facilities was such that even with the benefits afforded by the ACRM, the Company's debt ratio increased sharply during that time period due, in part, to the Company's inability to earn its authorized rate of return. As illustrated in the following chart:



Without a DSIC or similar mechanism designed to address regulatory lag by providing cash flows between rate cases, the swings in the Company's debt ratio and the gap between the Company's earned and authorized returns will become significantly larger. To the extent the Company's ability to earn its authorized return is impaired, as it has been, its financial integrity and ability to fund water infrastructure projects is further compromised. Therefore, in addition to a mechanism designed to address regulatory lag, such as a DSIC, consideration should be given to increasing the rate of return, so as to improve and preserve the Company's ability to attract capital on reasonable terms.

Q. WHAT DO YOU MEAN WHEN YOU SAY INCREASING THE RATE OF RETURN?

A. Specifically, this refers to the additional Company-specific risk premium more fully described by Ms. Ahern in her direct testimony. In this application, the Company provides an exhaustive study of its Northern Group distribution system

identifying over $84 million in urgently needed water infrastructure replacements. Additionally, the Company has already presented extensive evidence of the much needed water infrastructure replacements in its Western and Eastern Groups[5] that total $41 and $67 million respectively. Together, these water infrastructure replacements total $192 million, which is over 25 percent higher than the Company's total capitalization of $153 million. As Ms. Ahern discusses in her direct testimony, the tremendous cost of plant replacement increases the risk to the Company that it will not be able to earn a fair rate of return.

Q. WHAT ARE THE ELEMENTS OF THE COMPANY'S PROPOSED DSIC?

A. As identified in the Company's DSIC study, the following elements comprise the Company's proposed DSIC:

1. The DSIC will recover the fixed costs associated with DSIC-eligible utility plant additions, net of retirements, placed in service between rate cases. Utility plant additions eligible for the DSIC will be limited to those non-revenue producing additions which are properly classified in the following NARUC Uniform System of Accounts for Class A and B Water Utilities (1976).

343 – Transmission and Distribution Mains

344 – Fire Mains

345 – Services

346 – Meters

347 – Meter Installations

348 – Hydrants

2. The DSIC will be filed on an annual basis to reflect eligible utility plant additions placed in service during the previous year.

3. Each annual filing will include an update of the projects that make up the Company's first phase of water infrastructure replacement, more fully described

[5] Western Group Docket No. W-01445A-10-0517
Eastern Group Docket No. W-01445A-11-0310

in Exhibit FKS-19 of Mr. Schneider's direct testimony, which will allow Staff to review the projects the Company will be submitting in the following year's DSIC application.

4. The Weighted Average Cost of Capital and depreciation rates authorized in the Company's most recent rate decision for the effected water system will be used to determine the return on investment and associated depreciation expense.

5. Supporting data, as described below, for each annual filing will be filed with the Commission. Exhibit JDH-5 contains examples of the following schedules:

Schedule 1: The Company's most recent balance sheet at the time of filing for a DSIC step increase.

Schedule 2: The most recent income statement for the Company and those systems for which the Company requests a DSIC step increase.

Schedule 3: An earnings test schedule for each system where the Company is requesting a DSIC step increase. The earnings test will reflect the Company's most recent financial data.

Schedule 4: A rate review schedule for each system showing the incremental and pro forma effects of the step increase associated with the eligible DSIC capital costs on the financial data provided in Schedules 2 and 3.

Schedule 5: A revenue requirement schedule showing the calculation of the required increase related to eligible DSIC capital costs for each system. The schedule will also indicate the current incremental increase, and proposed monthly fixed basic service and volumetric charges for a customer with a

5/8 x 3/4-inch meter. The required rate of return, gross revenue conversion factor and depreciation rate would be the same as those approved in that system's last rate case.

Schedule 6: A schedule showing the surcharge calculation for eligible DSIC capital costs for each system. Fifty percent of recoverable capital costs will be in the form of a monthly fixed surcharge and fifty percent will be in the form of a volumetric surcharge. The monthly fixed surcharge will be scaled to each meter size based on the approved 5/8 x 3/4-inch equivalent capacity ratio. This schedule will also provide information related to the number of customers by meter size and the number of gallons sold.

Schedule 7: A rate base schedule for each system showing the rate base determined in the most recent rate case as well as the most recent rate base calculated as of the date of the information provided in Schedules 1 and 2, both adjusted to reflect the inclusion of completed and in-service eligible DSIC facilities.

Schedule 8: A Construction Work In Progress ledger showing monthly charges related to the construction of eligible DSIC water infrastructure facilities.

Schedule 9: A schedule showing the calculation of the Company's three-factor allocation methodology.

Schedule 10: A typical bill analysis comparing bills for customers with a 5/8 x 3/4-inch meter under present and proposed rates.

6. Following the Company's filing of the schedules described above, Staff would review the Company's annual filing and prepare a memorandum and

recommended order to be approved by the Commission before the DSIC surcharge is implemented.

7. The DSIC surcharge will be shown as a separate line item on each customer's bill. At least twice per year, the Company will print a message on each customer's bill which explains the DSIC surcharge and describes the progress being made on the Company's aging infrastructure replacements.

8. The DSIC will be phased in each year and capped at 7.5 percent of the annual amount billed to customers under otherwise applicable rates and charges.

9. The DSIC will be reset to zero, as of the effective date of each new general rate case, by inclusion of the DSIC-eligible plant in the rate base used to set base rates. Thereafter, new DSIC-eligible utility plant additions not included in the general rate case will form the basis for any new annual DSIC filing. No DSIC filing will be made if, in any annual period, the affected system is earning a rate of return that exceeds the authorized rate of return for that system.

Q. HAS THE COMPANY PREPARED A PROPOSED TARIFF FOR THE DSIC?

A. Yes. The Company's proposed form of tariff is attached as Exhibit JDH-6.

Q. HAS THE COMPANY PREPARED AN EXAMPLE CALCULATION OF THE DSIC USING THE COMPANY'S ENGINEERING COST ESTIMATE OF $1.6 MILLION TO REPLACE AGING INFRASTRUCTURE?

A. Yes. A worksheet for the Verde Valley (Sedona, Rimrock and Pinewood) and Navajo (Lakeside and Overgaard) systems showing the calculation of the revenue requirement for a combined water infrastructure investment of approximately $1.6 million and the impact on a typical residential monthly bill is attached as Exhibit JDH-7.

Q. WHAT IS THE ESTIMATED EFFECT OF THE DSIC SURCHARGE ON AN AVERAGE RESIDENTIAL BILL?

A. Based on the water main and service line replacement program described in Section X and Exhibit 19 of Mr. Schneider's direct testimony, at an estimated

annual cost of $1.6 million, the Company estimates that the impact on a typical residential customer's monthly bill in Verde Valley would be $1.01 and in Navajo it would be $0.76.

Q. HOW DOES A DSIC BENEFIT CUSTOMERS?

A. There are a number of customer benefits highlighted by the DSIC study. Primary among them are improved water quality and fire protection, decreased water loss, increased water pressure, fewer service interruptions, and gradualism in rate increases that will limit the rate impact on customers to small, regular increases rather than large irregular increases that make customer affordability and acceptance more difficult[6].

Failing water distribution infrastructure causes a number of customer service issues such as degradation of water quality and service interruptions. Service interruptions can affect hundreds of customers when water mains fail. Additionally, leaking water mains and services result in millions of gallons of treated water being lost each year. While the Company's leak detection and repair program has made progress in reducing the amount of water lost to leaks, the DSIC proposed by the Company is a way to make additional, significant progress in improving the integrity and reliability of its water distribution systems and to take positive steps forward in eliminating customer outages caused by water distribution system failures.

Implementation of the DSIC will also provide the necessary financial resources for the Company to invest in replacing its aging infrastructure and allow it to make these investments in incremental steps. As mentioned previously, Ms. Ahern provides additional testimony about the Company's proposed DSIC in her direct testimony.

VI. <u>Deferred Tank Maintenance</u>

[6] JDH-3 Certificate of Compliance Filing – DSIC Study, pages 9 – 10

1 **Q. BRIEFLY DESCRIBE WHAT YOU MEAN BY TANK MAINTENANCE.**

2 A. Tank maintenance refers to the Company's program of inspecting and cleaning
3 water storage tanks as well as recoating the exterior and interior surfaces.
4 Typically, the Company has found that the interior coatings of storage tanks
5 show deterioration after 14 years, and it has been the Company's experience that
6 postponing interior recoating beyond 14 years results in premature metal
7 damage. Similarly, after seven years, exterior surfaces show signs of chalking
8 and cracking due to ultraviolet rays. Repainting is required to maintain metal
9 protection, a suitable exterior appearance, and prevent surface corrosion.

10 **Q. HOW ARE THE COSTS ASSOCIATED WITH THE COMPANY'S TANK**
11 **MAINTENANCE PROGRAM ACCOUNTED FOR?**

12 A. Beginning with the issuance of Decision No. 71845, the Company began
13 expensing the costs associated with its tank maintenance program.

14 **Q. IS THIS THE MOST APPROPRIATE ACCOUNTING TREATMENT FOR THESE**
15 **TYPES OF EXPENSES?**

16 A. No. Based on the foregoing, these costs do not lend themselves to recovery as
17 an operating expense under the historical test year framework because any
18 given test year, or an average of prior years, will reflect a level of expense that
19 does not recur on an annual basis.

20 **Q. WHAT ACCOUNTING TREATMENT DO YOU PROPOSE?**

21 A. To appropriately match expenses with revenues, the Company proposes to
22 record tank maintenance costs as a deferred asset, to be amortized over the
23 period in which the benefits are realized (in this case seven to fourteen years),
24 consistent with the principle of matching the costs and the benefits over the same
25 period. As described above, these infrequent but significant costs do not lend
26 themselves to recovery as an ordinary operating expense. Rather, with respect
27 to "infrequent maintenance expenditures," "a common solution is to defer the
28 extraordinary items when incurred, and then amortize them over a period that, in

the commission's opinion, will result in a fair annual charge to operating income."[7]

Q. IS THIS THE SAME ACCOUNTING TREATMENT SOUGHT BY THE COMPANY IN DOCKET NO. W-01445A-11-0092?

A. Yes. In December 2010 the Company filed an application with the Commission seeking an accounting order authorizing the deferral of incremental costs associated with implementing additional BMPs, as ordered by the Commission in Decision No. 71845, and to defer the costs associated with the Company's tank maintenance program for the purpose of seeking recovery of such costs in a future rate proceeding.

Q. WHAT IS THE STATUS OF THAT DOCKET?

A. As of the date of filing this rate application, no action has been taken on the Company's application for an accounting order in Docket No. W-01445A-11-0092.

Q. HAS THIS ACCOUNTING TREATMENT BEEN APPROVED FOR OTHER WATER UTILITIES IN ARIZONA?

A. Yes. This accounting treatment was approved for Arizona-American Water Company, (now Epcor USA) in Decision No. 72047.

VII. Off-Site Facilities Fee

Q. WHAT IS THE PURPOSE OF THE COMPANY'S PROPOSED OFF-SITE FACILITIES FEE?

A. The purpose of the Off-Site Facilities Fee is to equitably apportion a portion of the costs associated with constructing additional off-site facilities to provide water supply, production, treatment, delivery, storage and pressure facilities among all new customers whose water supply requirements make these facilities

[7] Deloitte & Touche Public Utilities Manual, 1993. pp. 53-54

necessary. The fee would be applicable to all new service connections in the Verde Valley system.

Q. WHAT IS THE AMOUNT OF THE PROPOSED FEE?

A. The proposed fee is $1,100 for each new service connection with a 5/8 x 3/4-inch meter and is graduated in amount for larger meter sizes. Exhibit JDH-8 shows the estimated funds needed by meter size and a projection of the amount collected and expended to construct the necessary off-site facilities.

Q. HOW DID THE COMPANY ARRIVE AT THIS AMOUNT?

A. The Company arrived at this amount by determining the cost, in current dollars, of off-site infrastructure facilities that would not otherwise be provided by developers and divided it by the number of new 5/8 x 3/4-inch meter equivalents. In determining the fee, consideration was also given to the reasonable portion of the related infrastructure costs that should be collected from new customers.

Q. HAS THIS TYPE OF FEE BEEN APPROVED BY THE COMMISSION BEFORE?

A. Yes. Off-site facilities fees have been approved in Docket Nos. W-01303A-05-0718, W-02859A-99-0101, W-02234A-00-0706 and WS-02987A-99-0745. In addition, an off-site facilities fee was approved for the Company's Pinal Valley system in Decision No. 73144, and the Company is currently seeking to implement an off-site facilities fee for its Superstition system in Docket No. W-01445A-11-0310.

Q. WOULD THIS FEE BE A REPLACEMENT FOR ADVANCES OR CONTRIBUTIONS TYPICALLY ASSOCIATED WITH EXTENDING OR PROVIDING WATER INFRASTRUCTURE FACILITIES?

A. No. This fee is intended to fund off-site facilities which would be in addition to an applicant's advance or contribution of the cost of extending and providing on-site water infrastructure facilities to the applicant's premises or development.

Q. WHAT FACILITIES DOES THE COMPANY INTEND TO FUND WITH THIS OFF-SITE FACILITIES FEE?

A. The facilities, discussed in greater detail by Mr. Schneider in Section VIII of his direct testimony, are primarily the East Sedona Storage and Water Supply facilities and the necessary transmission and distribution mains needed to provide water service that are not otherwise supported by developer contributions.

Q. WHEN DOES THE COMPANY PLAN TO CONSTRUCT THESE FACILITIES?

A. The preliminary schedule of construction is detailed by Mr. Schneider in his direct testimony. These fees will be used to help offset the cost of these facilities and their resulting impact on rate base and customer water rates.

Q. HOW WOULD THE OFF-SITE FACILITIES FEES BE ACCOUNTED FOR?

A. In accordance with the Off-Site Facilities Fee tariff established for the Pinal Valley water system, these fees will be recorded as Contributions in Aid of Construction. There will be a corresponding offset to rate base when the facilities constructed with these fees are completed and placed into service.

Q. HAS THE COMPANY PREPARED A TARIFF FOR ITS PROPOSED OFF-SITE FACILITIES FEE?

A. Yes. The Company's proposed Off-Site Facilities Fee tariff is attached hereto as Exhibit JDH-9.

Q. DOES THAT CONCLUDE YOUR DIRECT TESTIMONY?

A. Yes.

JDH-1

ARIZONA WATER COMPANY
DOCKET NO. W-01445A-12-XXXX
REVENUE REQUIREMENT
AS OF DECEMBER 2011

Line No.		[A] VERDE VALLEY	[B] NAVAJO	[C]	[D]
1					
2	Arsenic Compliance Revenue Requirement:				
3					
4	Test Year Data:				
5	Arsenic Plant in Service	$ 1,192,000	$ 1,344,000		
6	Accumulated Depreciation	-	-		
7	Arsenic Rate Base	$ 1,192,000	$ 1,344,000		
8	Required Rate of Return	9.11%	9.11%		
9	Required Operating Income	$ 108,591	$ 122,438		
10	Gross Revenue Conversion Factor	1.65690	1.65690		
11	Revenue Required - Return on Arsenic Treatment Plant	$ 179,925	$ 202,868		
12	Depreciation on Arsenic Treatment Plant (Sch. 8, p. 1)	$ 34,085	$ 38,438		
13					
14	Revenue Required - Capital Costs (Ln. 11 + Ln. 12 + Ln. 13)	$ 214,009	$ 241,307		
15					
16	Revenue Required - Capital Costs & Recurring O&M Expenses (Ln. 14 + Ln. 15)	$ 214,009	$ 241,307		
17	Revenue Required - Deferred O&M Expenses	$ -	$ -		
18	Total Revenue Required - Step 1 (Ln. 16 + Ln. 17)	$ 214,009	$ 241,307		
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JDH-2

Arizona Water Company
Docket No. W-01445A-12-XXXX
Summary of DSIC Programs in Other States

Line No.	State	Availability	Circumstances Where Used	Program	Year Enacted	Purpose	Return used to Calculate Revenue	Depreciation	Filings
1.	Pennsylvania	Water	Utilities must submit initital application, testimony and exhibits justifying surcharge	Distribution System Improvement Charge (DSIC)	1996	Allow recovery of a return on and depreciation expense related to investment in distribution system improvements	Weighted Average Cost of Capital determined in last rate case	Calculated using approved rates less plant retired	Quarterly
2.	Illinois	Water and Wastewater	Utilities must submit initital application, testimony and exhibits justifying surcharge	Qualifying Infrastructure Plant Surcharge (QIP)	2000	Allow recovery of a return on and depreciation expense related to investment in distribution system improvements	Weighted Average Cost of Capital determined in last rate case	Calculated using approved rates less plant retired	Quarterly
3.	Indiana	Water	Utilities must submit initital application, testimony and exhibits justifying surcharge	Distribution System Improvement Charge (DSIC)	2000	Allow recovery of a return on and depreciation expense related to investment in distribution system improvements	Weighted Average Cost of Capital determined in last rate case	Calculated using approved rates less plant retired	Annually
4.	Delaware	Water	Utilities must submit initital application, testimony and exhibits justifying surcharge	Distribution System Improvement Charge (DSIC)	2001	Allow recovery of a return on and depreciation expense related to investment in distribution system improvements	Weighted Average Cost of Capital determined in last rate case	Calculated using approved rates less plant retired	Semi-annually
5.	Ohio	Water and Wastewater	Utilities must submit initital application, testimony and exhibits justifying surcharge	System Improvement Charge (SIC)	2003	Allow recovery of a return on and depreciation expense related to investment in distribution system improvements	Weighted Average Cost of Capital determined in last rate case	Calculated using approved rates less plant retired	Annually
6.	Missouri	Water (St. Louis County only) and Gas	Utilities must submit initital application, testimony and exhibits justifying surcharge	Infrastructure System Replacement Surcharge (ISRS)	2003	Allow recovery of a return on and depreciation expense related to investment in distribution system improvements	Weighted Average Cost of Capital determined in last rate case	Calculated using approved rates less plant retired	Semi-annually
7.	New York	Water	Case by Case	Distribution System Improvement Charge (DSIC)	2005	Allow recovery of a return on and depreciation expense related to investment in distribution system improvements	Weighted Average Cost of Capital determined in last rate case	Calculated using approved rates less plant retired	Semi-annually
8.	Connecticut	Water	Utilities must submit initital application, testimony and exhibits justifying surcharge	Water Infrastructure and Conservation Adjustment (WICA)	2007	Allow recovery of a return on and depreciation expense related to investment in distribution system improvements	Weighted Average Cost of Capital determined in last rate case	Calculated using approved rates less plant retired	Semi-annually
9.	California	Water	Pilot program (case by case)	Infrastructure System Replacement Surcharge (ISRS)	2007	Allow recovery of a return on and depreciation expense related to investment in distribution system improvements	Weighted Average Cost of Capital determined in last rate case	Calculated using approved rates less plant retired	Quarterly
10.	New Hampshire	Water	Pilot program	Water Infrastructure and Conservation Adjustment (WICA)	2009	Allow recovery of a return on and depreciation expense related to investment in distribution system improvements	Weighted Average Cost of Capital determined in last rate case	Calculated using approved rates less plant retired	Annually
11.	New Jersey	Water	Utilities must submit initital application, testimony and exhibits justifying surcharge	Distribution System Improvement Charge (DSIC)	2012	Allow recovery of a return on and depreciation expense related to investment in distribution system improvements	Weighted Average Cost of Capital determined in last rate case (cost of debt updated)	Calculated using approved rates less plant retired	Semi-annually

Line No.	State	CAP Annual	CAP Overall	Earnings Test	Separate Tariff	Notice to Customers	Hearing Required	Plant Limit	Surcharge Reset to Zero in Next Rate Case
1.	Pennsylvania	7.5%	7.5%	Yes	Yes	Yes	No	Non-revenue producing: Mains and valves (including cleaning and relining and elimination of dead-end mains and costs of relocations due to street or highway construction), hydrants, services, meters	Yes
2.	Illinois	5.0%	5.0%	No	Yes	Yes	No	Non-revenue producing: Mains (including elimination of dead-end mains and costs of relocations due to street or highway construction, hydrants, services, meters Wastewater: Force and Gravity Collecting Sewers (including costs of relocations due to street or highway construction), Services	Yes
3.	Indiana	5.0%	5.0%	No	Yes	No	Yes, within 60 days of filing	Distribution mains, valves, hydrants, service lines, meters, meter installations and other appurtenances	Yes
4.	Delaware	5.0%	7.5%	Yes	Yes	Yes	No, 30 day review by Commission Staff	Non-revenue producing: Mains (including elimination of dead-end mains and costs of relocations due to street or highway construction), hydrants, services, meters	Yes
5.	Ohio	3.0%	3.0%	Yes	Yes	Yes		Non-revenue producing: Mains (including elimination of dead-end mains and costs of relocations due to street or highway construction, hydrants, services Wastewater: Lift stations and mains (including costs of relining and cleaning and relocations due to street or highway construction); Land and land rights aquired as necessary for any service line, equipment or facility covered by this tariff.	Yes
6.	Missouri	10.0%	10.0%	No	Yes	Yes	No	Mains (includes cleaning, relining and costs of relocations due to street or highway construction), valves and hydrants	Yes
7.	New York	Company specific capital expenditures	Company specific capital expenditures	No	Yes	No	No, 60 day review by Commission Staff	Distribution or transmission mains (including cleaning or relining of mains), valves, services and hydrants	Yes
8.	Connecticut	5.0%	7.5%	No	Yes	Yes	No, 180 day review period	Mains (includes cleaning & relining), valves, services, hydrants, meters, leak detection equipment, installation of production meters and pressure reducing valves	Yes
9.	California	4.0% Quarterly	7.0%	No	Yes	Yes	No	Capital projects approved by the California PUC and include wells, pumps, mains, hydrants, services, meters, tools & equipment	Yes
10.	New Hampshire	Company specific capital expenditures	7.5%	No	Yes	Yes	Yes	Mains (includes cleaning & relining), valves, services, hydrants, meters, installation of production meters and pressure reducing valves	Yes
11.	New Jersey	5.0%	5.0%	Yes	Yes	Yes, with initial filing	No, 60 day review by Board Staff and Division of Rate Counsel	Mains (includes cleaning & relining and costs of relocations due to street or highway construction), valves, services, hydrants,	Yes, General Rate Case required within 3 years of initial filing

Arizona Water Company
Docket No. W-01445A-12-XXXX
Summary of DSIC Programs in Other States

Line No.	State	Other
1.	Pennsylvania	Annual audit, true-up
2.	Illinois	
3.	Indiana	Annual true-up
4.	Delaware	Staff approval of projects up-front, annual true-up
5.	Ohio	
6.	Missouri	Annual true-up
7.	New York	Staff approval of projects up-front, annual true-up
8.	Connecticut	Staff approval of projects up-front, annual true-up
9.	California	
10.	New Hampshire	Staff approval of projects up-front, annual true-up
11.	New Jersey	Staff approval of projects up-front, annual true-up

JDH-3

ARIZONA WATER COMPANY
Robert W. Geake (No. 009695)
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3805 N. Black Canyon Highway
Phoenix, Arizona 85012-5351
Telephone: (602) 240-6860

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BEFORE THE ARIZONA CORPORATION COMMISSION

IN THE MATTER OF THE APPLICATION OF ARIZONA WATER COMPANY, AN ARIZONA CORPORATION, FOR A DETERMINATION OF THE FAIR VALUE OF ITS UTILITY PLANT AND PROPERTY, AND FOR ADJUSTMENTS TO ITS RATES AND CHARGES FOR UTILITY SERVICE AND FOR CERTAIN RELATED APPROVALS BASED THEREON.	Docket No. W-01445A-08-0440 **CERTIFICATE OF FILING COMPLIANCE ITEM**

The Arizona Corporation Commission (the "Commission"), in Decision No. 71845 (the "Decision") at page 95, lines 1-7, ordered Arizona Water Company (the "Company") to prepare a study on Distribution System Improvement Charges ("DSIC") designed to implement leak detection devices and make conservation based repairs to infrastructure. The Commission further ordered that the study should further detail costs, rate impacts and consider how to balance costs and benefits for customers and that the Company shall undertake this study and file a report detailing the findings of this study by June 30, 2011, with Docket Control, as a compliance item in this docket.

The Company filed the initial form of the DSIC study in this docket on June 29, 2011 in compliance with the Decision. The Company is now filing an update to the DSIC study in this docket, attached hereto as Attachment A.

RESPECTFULLY SUBMITTED this 22nd day of July 2011.

ARIZONA WATER COMPANY

By: Robert W. Geake

Robert W. Geake
Vice President and General Counsel
Arizona Water Company
P. O. Box 29006
Phoenix, AZ 85038
Attorney for Applicant

CERTIFICATE OF SERVICE

An original and thirteen (13) copies of the foregoing were delivered this 22nd day of July, 2011 to:

Docketing Supervisor
Docket Control Division
Arizona Corporation Commission
1200 West Washington Street
Phoenix, Arizona 85007

A copy of the foregoing was mailed this 22nd day of July, 2011 to:

Honorable Lyn Farmer
Chief Administrative Law Judge
Hearing Division
Arizona Corporation Commission
1200 West Washington Street
Phoenix, Arizona 85007

Wesley C. Van Cleve, Attorney
Legal Division
Arizona Corporation Commission
1200 West Washington Street
Phoenix, Arizona 85007

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Phoenix, Arizona 85004
Attorneys for Abbott Laboratories

By: Robert W. Geake

Arizona Water Company
Distribution System Improvement Charge (DSIC) Study
Docket No. W-01445A-08-0440
July 22, 2011

ATTACHMENT A

Arizona Water Company
Distribution System Improvement Charge (DSIC) Study
Docket No. W-01445A-08-0440
July 22, 2011

Introduction and Background

In Decision No. 71845, the Arizona Corporation Commission (the "Commission") ordered Arizona Water Company (the "Company") to prepare a study on Distribution System Improvement Charges ("DSIC") designed to implement leak detection devices and make conservation-based repairs to infrastructure, and to file a report detailing the findings of this study with the Commission. The Commission stated that an infrastructure funding mechanism may be reasonable for certain of the Company's aging systems, or for systems that face other unique challenges. Further, the Commission ordered that the information contained in the study should be used by the Company to further develop this issue for future Commission consideration.

This DSIC study examines costs and effects on customer rates and takes into consideration how to balance the costs and benefits of necessary infrastructure replacements for customers. It is submitted to the Commission to provide the information discussed above, to establish the basis and need for implementing a DSIC mechanism to address aging and failing infrastructure, and to urge the Commission to approve such a mechanism in the Company's general rate cases.

The Company is a public service corporation which provides public utility water service in portions of Cochise, Coconino, Gila, Maricopa, Navajo, Pima, Pinal and Yavapai Counties in Arizona pursuant to certificates of convenience and necessity granted by the Commission. The Company operates twenty-two (22) public water systems that serve approximately 84,300 customers.

Historical Development of DSIC

The pressing need to replace aging drinking water infrastructure has been brought to the forefront of public attention by entities such as the United States Environmental Protection Agency (the "EPA") and the American Society of Civil Engineers (the "ASCE"). The ASCE's *2009 Report Card for American Infrastructure* gave the nation's aging drinking water system infrastructure a grade of D minus.[1] In addition, the EPA, in its report entitled *Drinking Water Infrastructure Needs Survey and Assessment*, projected a twenty-year capital improvement funding need of $334.8 billion.[2]

In Decision No. 71845, the Commission noted that aging infrastructure is often seen as an East Coast or Midwest phenomenon. However, according to the EPA report cited above, water providers in Arizona will need to fund nearly $7.4 billion of water system infrastructure replacements over the next twenty years, over half of which is needed for transmission and

[1] Exhibit A: *2009 Report Card for American Infrastructure – Water and Environment, Drinking Water* produced by American Society of Civil Engineers.
[2] Exhibit B: *Drinking Water Infrastructure Needs Survey and Assessment, Fourth Report to Congress* by the United States Environmental Protection Agency.

distribution system replacements. The EPA report further identified infrastructure funding needs for medium and small-sized water providers in Arizona as $2.1 billion and $889 million, respectively.

The EPA report classified medium sized community water systems as those that serve more than 3,300 but less than 100,000 persons. Community water systems serving 3,300 persons or fewer are classified as small. Based on the EPA's classification the Company's Ajo, Stanfield, Tierra Grande, Coolidge Airport and Winkelman systems are classified as small systems. All of the Company's other systems are classified as medium systems.

In recognition of this growing crisis, regulated water utilities have begun to develop ways along with their state regulatory commissions, to provide rate mechanisms to help fund the replacement and rehabilitation of failing infrastructure while, at the same time, balancing financial stability with customer affordability. In 1996, Philadelphia Suburban Water Company ("PSWC") petitioned the Pennsylvania Public Utility Commission ("PPUC") for approval of a DSIC. The PSWC DSIC was designed to recover the fixed costs (depreciation and pre-tax return) of certain non-revenue-producing infrastructure rehabilitation and replacement projects completed and placed in service between rate cases. In its petition to the PPUC, PSWC presented evidence that it was only able to replace/rehabilitate fifteen (15) miles out of a total of 3,130 miles of transmission and distribution mains or less than one-half of one percent each year, due to funding limitations. According to PSWC, at that pace, it would take approximately 212 years to complete all of the needed replacements/rehabilitations to its transmission and distribution mains. PSWC also noted that the DSIC would help it break the cycle of filing for general rate increases every fifteen (15) months, thus reducing the frequency of rate filings to the benefit of both customers and the PPUC.

The DSIC proposed by PSWC included a number of limitations. Among these were restrictions on the type of utility plant eligible for cost recovery, quarterly filing requirements, a cap on the maximum amount of revenue that could be collected by the DSIC, an eligibility earnings test, and a true-up mechanism which reset the DSIC to zero when the underlying utility plant was included in base rates in a subsequent general rate case.

In approving the DSIC in late 1996, the PPUC noted that: "PSWC and other Pennsylvania water companies had been required to make significant investments in new utility plants for projects such as the filtration of surface water supplies, the replacement of aging water distribution plant and the implementation of meter replacement programs. In addition, water companies face the daunting challenge of rehabilitating their existing distribution infrastructure before the property reaches the end of its service life to avoid serious public health and safety risks".[3]

Following its adoption by the PPUC, public utility commissions in many other jurisdictions, including Delaware, California, Connecticut, Indiana, Illinois, Missouri, New York

[3] Exhibit C: *Petition of Philadelphia Suburban Water Company for Approval to Implement a Tariff Supplement Establishing a Distribution System Improvement Charge; Doc. No. P-00961036, Opinion and Order.*

and Ohio, adopted DSIC-type mechanisms.[4] In early 1999, the National Association of Regulatory Utility Commissioners ("NARUC") endorsed the mechanism as an example of an innovative regulatory tool that other public utility commissions should consider adopting to solve infrastructure remediation challenges.[5] In 2005, NARUC adopted a resolution identifying the DSIC as a Regulatory Policy Best Practice.[6]

At the 1998 National Association of Water Companies' Pennsylvania Forum, Commissioner Norma Brownell of the PPUC reported that implementation of the DSIC created little consumer reaction and resulted in infrastructure investment that otherwise would not have occurred. In a July 2007 Public Meeting, PPUC Chairman Wendell F. Holland further praised the DSIC mechanism "as one of the most important regulatory tools of the past decade," and additionally noted the consumer safeguards that were established in conjunction with adoption of the DSIC, such as DSIC revenues capped at a percentage of general revenues, resetting the DSIC to zero at the time of the next general rate case, providing notice to customers of any change in the DSIC rate, audits conducted as needed, and an annual reconciliation audit.[7]

While the DSIC has become an important regulatory tool in other jurisdictions, it has not yet been approved in Arizona. However, in Docket No. W-01303A-05-0405, the Commission adopted a Public Safety Surcharge in Paradise Valley for Arizona American Water Company. This type of surcharge was specifically designed to provide funding for the replacement of undersized and inadequate water mains in the Town of Paradise Valley. While the Public Safety Surcharge collected funds in advance of construction, the DSIC is more like the Arsenic Cost Recovery Mechanism ("ACRM"), which was developed through the collective efforts of the Company, the Commission Staff and the Residential Utility Consumer Office ("RUCO"). The ACRM allows utilities that construct arsenic treatment plants to seek recovery of capital costs and narrowly defined components of arsenic treatment plant operating costs incurred between formal rate filings. Without this progressive recovery method, a significant number of the State's water utilities would not have had the financial ability to comply with new, more stringent, safe drinking water standards for arsenic.

Assessment of the Company's Distribution Systems

Due to the phenomenal rate of growth seen in the last decade, there is a common misconception that water distribution systems in Arizona are relatively young and that there is no aging infrastructure crisis in this state. In fact, many of the Company's water systems are comprised of a large percentage of aging water mains and service lines that are approaching or have already exceeded the end of their useful service lives, and many of those facilities are obsolete or failing. In the Bisbee system, for example, a significant portion of the water mains

[4] Exhibit D: *DSIC-type Mechanism by State.*
[5] Exhibit E: *National Association of Regulatory Utility Commissioners ("NARUC") Resolution Endorsing and Co-Sponsoring the Distribution System Improvement Charge, 1999.*
[6] Exhibit F: *National Association of Regulatory Utility Commissioners ("NARUC") Resolution. Supporting Consideration of Regulatory Policies Deemed as "Best Practices", 2005.*
[7] Exhibit G: *Motion of Chairman Wendell F. Holland, Docket No.: P-00062241, et al.*

date back to the early 1900s, and nearly thirty-five percent (35%) of that system's water mains, many of which have a history of chronic leaks, have reached the end of their useful service lives and need to be replaced. Even water systems viewed as more modern, such as the Company's Pinal Valley water system, have many water mains that were installed during the period of time from the 1920s through the 1940s.

The materials used in the manufacture of pipe and services play a significant role in determining the useful service lives of water mains, service lines and other distribution system components. For water mains constructed of ferrous pipe materials, such as cast iron, steel, galvanized steel or ductile iron, corrosion causes pitting of the pipe material. Eventually, the corrosion continues until a hole is formed in the pipe wall leading to a water leak. In advanced stages of corrosion, water mains can fail completely, resulting in water main breaks, often causing costly damage to the water facilities, the roadway and nearby property. In addition, corrosion can lead to the formation of tuberculation, which restricts the flow of water.

Water mains constructed of non-ferrous pipe materials, such as polyvinyl chloride ("PVC") and cement asbestos ("CA"), can become brittle or lose their physical integrity over time through various physical and chemical causes. Even the gasket materials made to seal the joints between pipes can degrade and fail. CA pipe, which has been used since the 1930s, loses physical strength through the leaching of cement or binding agents caused by corrosive soil conditions. This loss of physical strength or integrity leads to increased frequencies of water main leaks and breaks.

Water service lines are typically constructed of copper or polyethylene. Other materials have also been used, such as galvanized steel and PVC. Copper service lines can become pitted by internal or external corrosion leading to leaks or breaks. In the 1970s, the use of polyethylene for water service lines became commonplace however, it has been found that these materials become brittle and split longitudinally as they age, making repairs impractical and requiring complete replacement as leaks are discovered. Corrosion of galvanized steel service lines leads to similar signs of failure, including pitting and tuberculation, as seen in galvanized steel water mains.

Soil condition is an example of the factors that contribute to corrosion of water mains. When the Company first considered the use of ductile iron pipe, it conducted a number of soil surveys with help from professional engineers working for the Ductile Iron Pipe Research Association ("DIPRA"). Those soil surveys looked for certain soil attributes or conditions that could lead to corrosion. For water mains made from ferrous materials, such as ductile iron pipe, the presence of water, oxygen, conductive soils, sulfate reducing bacteria, and nearby cathodic protection systems were found to accelerate or promote corrosion. Field tests were conducted as part of these soil surveys to determine whether soils were conductive and would lead to corrosion. Because corrosion is an electrochemical process, conductive soil is likely to lead to corrosion in water mains made of ferrous or copper materials. The existence of cathodic protection systems, such as those used to protect steel gas mains against corrosion, can lead to increased rates of corrosion for water distribution systems. The DIPRA study concluded that

wrapping ductile iron pipe with a polywrap material would help protect the pipe against corrosion by providing a non-conductive barrier and by providing a barrier against the transfer of oxygen to the pipe.

As a benefit of the DIPRA study, the Company developed specifications for new installations that required the use of polywrap (or encasement of ductile iron pipe with a plastic barrier) in nearly all of its water systems. The plastic barrier limits oxygen transfer to the pipe material, thereby reducing the rates of corrosion. The Company even requires polywrap to be used on copper service lines in certain instances, based on the Company's experience with corrosive soil conditions in some of its water systems. These measures will help to prolong the life of infrastructure installed since 1986, when ductile iron was first used by the Company in its water systems. When the Company replaces aging pre-1986 infrastructure, it uses polywrap, as necessary, to maximize the useful life of the new infrastructure.

Additional environmental factors such as vegetation growth can also act to shorten the life of distribution systems. In downtown Coolidge, for example, the Company has replaced more than a mile of CA pipe due, in part, to the destructive effects of tamarack tree roots that have grown into the couplings of the mains and have caused the couplings to leak or fail. CA pipe accounts for forty-six percent (46%) of the water distribution system in the Pinal Valley water system.

Every water system has measurable system water losses. As pipes age, the frequency of water main and service line breaks and leaks increases. This observation was confirmed by an EPA research program titled "Aging Water Infrastructure Research Program" which found that the earliest sign of aging pipes is an increasing frequency of water main leaks. The condition of pipes degrades over time and, at some point, repairs alone are inadequate to reduce water losses. When reduction of system water losses through leak detection and repairs cannot reasonably keep pace with the increasing rate of leaks or breaks, the Company then needs to replace the water mains.

In Decision No. 71845, the Commission ordered the Company to reduce water loss in all of its systems to less than ten percent (10%) by July 2011. If it is not possible to comply with that standard by that date, the Company is required to submit a report demonstrating how it intends to reduce water losses to less than ten percent (10%). It is not possible for the Company to comply with that standard for all of its water systems and it will submit such a report to the Commission. The report will show that, absent a DSIC-type mechanism, it is unable to replace all of the infrastructure required to lower the water loss to meet the Commission's standard.

Economic Discussion

One of the important economic considerations that influences the Company's decision to invest in needed water distribution system improvements is the fact that replacement costs have increased dramatically over time. For example, in the Pinal Valley water system, nearly 14,000 feet of cast iron water mains were installed from 1921 to 1929. According to the Handy-

Whitman engineering cost index (an index that tracks construction costs over time), the cost factor for a cast iron water main installed in 1921 is 27, while the cost factor for a cast iron water main installed in 2010 is 587. This means that the replacement cost for such a water main in 2010 is 22 times greater than the original installation cost ninety years ago in 1921. Even though this is a significant increase, the index does not consider the full increase in construction costs over time, as water main installation in the 1920s was much less complicated than it is today. For example, modern day excavation must take into account the multitude of competing underground infrastructures such as sewer, power, and gas lines, as well as fiber optic and data networks. It should also be noted that these water mains are in service and that service to customers must be maintained during the replacement project, which complicates the process and adds significant additional cost.

As part of its efforts to monitor and identify the sources and remedies for water loss, the Company conducted a detailed analysis of its Superstition, Pinal Valley, Bisbee and Oracle service areas and concluded that, based upon water main repair logs and the age of the distribution system, approximately 521,000 feet of water mains need to be replaced. Additionally, service line repair records show that approximately 9,820 failing plastic service lines and 8,321 services on failing water mains need to be replaced.[8] The preliminary cost estimate for these much-needed utility plant replacements is over $102 million, as shown in the table below:

QUANTITY	DESCRIPTION	ESTIMATED COST
40,379	Replace Failing Water Mains 1900 - 1909	$ 2,826,530
22,712	Replace Failing Water Mains 1910 - 1919	1,587,818
29,737	Replace Failing Water Mains 1920 - 1929	1,780,750
61,590	Replace Failing Water Mains 1930 - 1939	4,019,164
324,647	Replace Failing Problematic Water Mains 1940 and later	16,545,154
41,838	Replace Failing Large Diameter Water Mains	5,221,060
8,321	Replace Services on Failing Water Mains	19,692,000
9,770	Replace Failing Plastic Services	25,287,500
Subtotal - Materials and Labor		$ 76,959,976
Performance Bonds, Surveying, Right of Way Permitting, Testing, Field Inspection and Overhead		25,068,721
Estimated Cost of Construction		$ 102,028,697

[8] The first study titled "Water Loss Reduction Program for the Pinal Valley Service Area" is attached to Mr. Schneider's direct testimony in Docket W-01445A-10-0517 as Exhibit FKS-10. The second study titled "Water Loss Reduction Program for Water Systems in the Eastern Group" is an exhibit in the Company's Eastern Group rate case.

It is significant that one of the key facts that led to the development of the ACRM was the magnitude of the approximately $30 million the Company needed to invest in water treatment systems to remove arsenic from its public drinking water supplies. But that amount is $72 million less than the estimated $102 million capital cost needed for infrastructure replacement for the Superstition, Pinal Valley, Bisbee and Oracle systems.

When a utility is faced with a large capital project, its cost and construction timeline are usually known well in advance. With that knowledge, the utility can try to time its rate case filing to coincide with completion of the facility to minimize the amount of earnings erosion. In the case of the Company's infrastructure replacement program, funding a project of this size and magnitude would be a difficult if not impossible task, given the Company's capitalization (approximately $150 million) and status as a privately-held entity. Assuming the Company was able to issue additional long-term debt to fund such a project, the traditional utility regulatory model would cause equity to erode at an unacceptable rate during the twelve to eighteen months it would take to conduct a general rate case.

The situation is further complicated by the fact that the Company's infrastructure replacement program is made up of many smaller projects that will be constructed every year for a number of years. Most of these projects would likely have a very short construction timeline, meaning that they would either not qualify for Allowance for Funds Used During Construction ("AFUDC"), or the amount of AFUDC recorded during the construction period would be nominal. Because these replacement programs do not increase sales, they will not generate additional revenues. In order to generate a financial return, the Company would be forced to file for annual general rate increases under the traditional rate case model, also resulting in erosion of earnings and equity. Such an erosion of the Company's equity balance would result in unsatisfactory financial ratios, the inability to issue short or long term debt and lead to higher costs for customers.

The DSIC discussed above was designed specifically to address this problem: it allows water providers to implement critical infrastructure replacement programs and recover the associated costs on a timely basis to ensure both the financial integrity of the utility and lower long-term average costs to customers.

DSIC Details

The Company proposes implementation of a DSIC under the following guidelines:

1. The DSIC would recover the fixed costs associated with DSIC-eligible utility plant additions, net of retirements placed in service between rate cases. Utility plant additions eligible for the DSIC would be limited to those additions net of retirements which are properly classified in the following NARUC Uniform System of Accounts for Class A and B Water Utilities (1976):

343 Transmission and Distribution Mains
344 Fire Mains
345 Services
346 Meters
347 Meter Installations
348 Hydrants
398 Miscellaneous Equipment (Leak Detection Equipment)

2. The Company would file DSIC updates with the Commission on a semi-annual basis to reflect eligible utility plant placed in service during the six-month period ending two months prior to each DSIC update, as illustrated below:

Effective Date of Update	Period in Which DSIC-Eligible Plant Additions Made
July 1	November 1 – April 30
January 1	May 1 – October 31

3. The Company would file supporting data, as described below, for each semi-annual filing with the Commission at least 30 days prior to the effective date of the update:

Schedule 1: The Company's most recent balance sheet at the time of filing for a DSIC step increase.

Schedule 2: The Company's most recent income statement, including those systems for which the Company requests a DSIC step increase.

Schedule 3: An earnings test schedule for each system where the Company is requesting a DSIC step increase. The earnings test will reflect the Company's most recent financial data.

Schedule 4: A rate review schedule for each system showing the incremental and pro forma effects of the step increase associated with the eligible DSIC capital costs on the financial data provided in Schedules 2 and 3.

Schedule 5: A revenue requirement schedule showing the calculation of the required increase related to eligible DSIC capital costs for each system. The schedule would also indicate the current incremental increase, proposed monthly fixed basic service and volumetric charges for a customer with a 5/8" x 3/4" meter. The required rate of return, gross conversion factor and depreciation rate would be the same rates approved in that system's last rate case.

Schedule 6: A schedule showing the surcharge calculation for eligible DSIC capital costs for each system. Fifty percent (50%) of recoverable capital costs would be in the form of a monthly fixed surcharge, and fifty percent (50%) would be in the form of a volumetric surcharge. The monthly fixed surcharge would be scaled to each meter size, based on the

approved 5/8" x 3/4" equivalent capacity ratio. This schedule would also provide information related to the number of customers by meter size and the number of gallons sold.

Schedule 7: A rate base schedule for each system showing the rate base determined in the most recent rate case, as well as the most recent rate base calculated as of the date of the information provided in Schedules 1 and 2, both adjusted to reflect the inclusion of completed and in-service eligible DSIC facilities.

Schedule 8: A Construction Work In Progress ledger showing monthly charges related to the construction of eligible DSIC facilities.

Schedule 9: A schedule showing the calculation of the Company's general plant allocation methodology.

Schedule 10: A typical bill analysis comparing bills for customers with a 5/8" x 3/4" meter under present and proposed rates.

4. The DSIC surcharge would be shown as a separate line item on each customer's bill. At least twice per year, the Company would be required to print a message on each customer's bill explaining the DSIC surcharge and indicating the progress made on replacing aging infrastructure.

5. The DSIC would be phased-in over time and capped at seven and one-half percent (7.5%) of the annual amount billed to customers under otherwise applicable rates and charges.

6. The DSIC would be reset to zero, as of the effective date of each new general rate case, by inclusion of the DSIC-eligible plant in rate base used to set base rates in the general rate case. Thereafter, new DSIC-eligible utility plant additions not included in the general rate case would form the basis for the new semi-annual DSIC filings. No DSIC filing would be made if, in any semi-annual period, the system for which the filing is made is earning a rate of return that exceeds the rate of return that would be used to calculate the revenue requirement under the DSIC.

Customer Benefits

Customer benefits associated with a DSIC include improved water quality, fire protection and public safety, increased water pressure, decreased water loss, reduced main breaks and fewer service interruptions. Additionally, implementation of a DSIC would help lead to rate stability, improve affordability and avoid large or sudden rate increases.

Failing distribution infrastructure often results in a number of customer service issues ranging from service interruptions for a single customer to larger problems involving service outages for hundreds of customers. Additionally, leaking water mains and service lines result in millions of gallons of treated water lost every year. While the Company's leak detection and

repair program has made progress in reducing the amount of water lost to leaks and breaks, the distribution system replacement plan and the DSIC mechanism proposed here by the Company are practical ways to make real progress towards updating and improving integrity and reliability of the distribution system, as well as reducing customer outages caused by distribution system failures.

The National Regulatory Research Institute ("NRRI"), in its publication *Effective Regulation: Guidance for Public-Interest Decision Makers*, cited infrastructure replacement as posing several challenges for utilities and regulatory commissions, including how to finance infrastructure replacements such that rates increase gradually (as opposed to sudden spikes) while maintaining the utilities financial stability.[9] Implementation of a DSIC would help meet those goals by providing the Company with the necessary financial means to invest in replacement of its aging infrastructure, and would allow it to make these investments in orderly, scheduled, incremental steps. Additionally, implementing a DSIC would mitigate the rate impact on customers by providing small, regular rate increases, rather than large, irregular increases that make customer affordability and acceptance more difficult.

Based on $2.5 million of infrastructure to be replaced, the impact on a typical residential customer's monthly bill in the Pinal Valley water system would be $0.87.[10] Even at the maximum capped amount of seven and one-half percent (7.5%), the average monthly residential bill would not increase by more than $2.58. In a recent ITT Value of Water Survey, nearly one in four American voters is "very concerned" about the state of the nation's water infrastructure and, when asked, two-thirds responded that they were willing to pay an average of $6.20 more per month to upgrade water infrastructure.[11] While each customer may hold a different view of how much they would be willing to pay to replace infrastructure, it is interesting to note that, in this survey and the comments expressed by PPUC Commissioner Brownell, customers appear to support increased water rates for necessary infrastructure replacement.

Conclusion

Water distribution systems have a limited life and must eventually be replaced. The replacement of aging water system infrastructure, however, requires the replacement of all utility plant, whether funded initially by contributions, refundable advances, or utility investments. This single issue is a primary focus of discussions at the NARUC, the American Water Works Association, the ASCE, the EPA and other organizations. The scope of this issue is so large, in fact, that the capital investments identified by the EPA in a recent national survey shows that hundreds of billions of dollars in capital investments are needed to replace aging water system infrastructure in this country.

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[9] Exhibit H: *Effective Regulation: Guidance for Public-Interest Decision Makers* produced by the National Regulatory Research Institute
[10] Exhibit I: *DSIC Revenue Requirement*
[11] Exhibit J: *ITT Corporation Value of Water Survey, Americans on the U.S. Water Crisis, 2010*

In a detailed study focusing on its Superstition, Pinal Valley, Bisbee and Oracle service areas, the Company identified over $102 million in critically needed water main and service line replacements. These replacements are needed to improve service reliability, increase pressure, decrease water losses and to enhance fire protection and public safety. The current rate structure will not allow for these critically needed investments. Battered in recent years by steep increases in debt and expenses, the Company has been unable to recover its cost of service for a number of years. In this type of financial environment, prudent management would lead the Company to slash its capital spending to the minimum, not to increase its capital spending. Yet, it is in this environment that the Company faces an order from the Commission to reduce its water losses, which requires replacement of aging water distribution infrastructure. Analyses conducted by the Company's engineering staff show that significant water main and service line replacements are immediately necessary for a number of its systems and, ultimately, for all of its systems, to ensure the integrity of the distribution system.

Even if it were possible for the Company to fund these much needed water distribution system replacements under traditional rate making, the resulting steep increases in customer rates could create a hardship for customers. A better way to achieve these goals is the adoption of the DSIC as outlined in this study. This would result in gradual increases in customers' bills without the impacts resulting from traditional ratemaking, while providing the Company a way to recover its cost of these investments in water distribution system improvements. Therefore, the Company urges the Commission to carefully consider the information presented in this study to develop a DSIC procedure as a ratemaking tool to address the urgent need for water distribution system replacements.

Exhibit A

EXHIBIT

A

Drinking Water

America's drinking water systems face an annual shortfall of at least $11 billion to replace aging facilities that are near the end of their useful lives and to comply with existing and future federal water regulations. This does not account for growth in the demand for drinking water over the next 20 years. Leaking pipes lose an estimated 7 billion gallons of clean drinking water a day.

Solutions

- increase funding for water infrastructure system improvements and associated operations through a comprehensive federal program;
- Create a Water Infrastructure Trust Fund to finance the national shortfall in funding of infrastructure systems under the Clean Water Act and the Safe Drinking Water Act, including storm-water management and other projects designed to improve the nation's water quality;
- Employ a range of financing mechanisms, such as appropriations from general treasury funds, issuance of revenue bonds and tax exempt financing at state and local levels, public-private partnerships, state infrastructure banks, and user fees on certain consumer products as well as innovative financing mechanisms, including broad-based environmental restoration taxes to address problems associated with water pollution, wastewater management and treatment, and storm-water management.

Conditions

The nation's drinking-water systems face staggering public investment needs over the next 20 years. Although America spends billions on infrastructure each year, drinking water systems face an annual shortfall of at least $11 billion in funding needed to replace aging facilities that are near the end of their useful life and to comply with existing and future federal water regulations. The shortfall does not account for any growth in the demand for drinking water over the next 20 [tip:years.=Fix that leak!
A faucet dripping just once per second will waste as much as 2,700 gallons of water per year. Fix any leaking faucets.]

Of the nearly 53,000 community water systems, approximately 83% serve 3,300 or fewer people. These systems provide water to just 9% of the total U.S. population served by all community systems. In contrast, 8% of community water systems serve more than 10,000 people and provide water to 81% of the population served. Eighty-five percent (16,348) of nontransient, noncommunity water systems and 97% (83,351) of transient noncommunity water systems serve 500 or fewer people. These smaller systems face huge financial, technological, and managerial challenges in meeting a growing number of federal drinking-water regulations.

In 2002, the U.S. Environmental Protection Agency (EPA) issued The Clean Water and Drinking Water Infrastructure Gap Analysis, which identified potential funding gaps between projected needs and spending from 2000 through 2019. This analysis estimated a potential 20 -year funding gap for drinking water capital expenditures as well as operations and maintenance, ranging from $45 billion to $263 billion, depending on spending levels. Capital needs alone were pegged at $161 billion.

The Congressional Budget Office (CBO) concluded in 2003 that "current funding from all levels of government and current revenues generated from ratepayers will not be sufficient to meet the nation's future demand for water infrastructure." The CBO estimated the nation's needs for drinking water investments at between $10 billion and $20 billion over the next 20 years.

ESTIMATED 5-YEAR FUNDING REQUIREMENTS FOR DRINKING WATER AND WASTEWATER

Total investment needs
$255 BILLION

Estimated spending
$[illegible]6.4 BILLION

Projected shortfall
$[illegible] BILLION

Case Studies

LOUISVILLE, KENTUCKY
American Recovery and Reinvestment Act Funding (/case-study/american-recovery-and-reinvestment-act-funding)

PORT ANGELES, WASHINGTON
Downtown Water Main Project (/case-study/downtown-water-main-project)

ORANGE COUNTY, CALIFORNIA
Groundwater Replenishment System (/case-study/groundwater-replenishment-system)

In 1996, Congress enacted the drinking-water state revolving loan fund (SRF) program. The program authorizes the EPA to award annual capitalization grants to states. States then use their grants (plus a 20% state match) to provide loans and other assistance to public water systems. Communities repay loans into the fund, thus replenishing the fund and making resources available for projects in other communities. Eligible projects include installation and replacement of treatment facilities, distribution systems, and some storage facilities. Projects to replace aging infrastructure are eligible if they are needed to maintain compliance or to further public health protection goals.

Federal assistance has not kept pace with demand, however. Between FY 1997 and FY 2008, Congress appropriated approximately $9.5 billion for the SRF. This 11-year total is only slightly more than the annual capital investment gap for each of those years as calculated by the EPA in 2002.

Design Life of Drinking Water Systems

COMPONENTS	YEARS OF DESIGN LIFE
Reservoirs and Dams	50–80
Treatment Plants—Concrete Structures	60–70
Treatment Plants—Mechanical and Electrical	15–25
Trunk Mains	65–95
Pumping Stations—Concrete Structures	60–70
Pumping Stations—Mechanical and Electrical	25
Distribution	60–95

SOURCE US EPA Clean Water and Drinking Water Infrastructure Gap Analysis Report, September 2002

Water Usage: 1950 and 2000

	1950	2000	PERCENT CHANGE
Population (Millions)	93.4	242	159%
Usage (Billions of Gallons per Day)	14	43	207%
Per Capita Usage (Gallons per Person per Day)	149	179	20%

SOURCE US EPA Clean Water and Drinking Water Infrastructure Gap Analysis Report, September 2002

Resilience

Drinking water systems provide a critical public health function and are essential to life, economic development, and growth. Disruptions in service can hinder disaster response and recovery efforts, expose the public to water-borne contaminants, and cause damage to roadways, structures, and other infrastructure, endangering lives and resulting in billions of dollars in losses.

The nation's drinking-water systems are not highly resilient; present capabilities to prevent failure and properly maintain or reconstitute services are inadequate. Additionally, the lack of investment and the interdependence on the energy sector contribute to the lack of overall

system resilience. These shortcomings are currently being addressed through the construction of dedicated emergency power generation at key drinking water utility facilities, increased connections with adjacent utilities for emergency supply, and the development of security and criticality criteria. Investment prioritization must take into consideration system vulnerabilities, interdependencies, improved efficiencies in water usage via market incentives, system robustness, redundancy, failure consequences, and ease and cost of recovery.

Conclusion

The nation's drinking-water systems face staggering public investment needs over the next 20 years. Although America spends billions on infrastructure each year, drinking water systems face an annual shortfall of at least $11 billion in funding needed to replace aging facilities that are near the end of their useful life and to comply with existing and future federal water regulations. The shortfall does not account for any growth in the demand for drinking water over the next 20 years.

Of the nearly 53,000 community water systems, approximately 83% serve 3,300 or fewer people. These systems provide water to just 9% of the total U.S. population served by all community systems. In contrast, 8% of community water systems serve more than 10,000 people and provide water to 81% of the population served. Eighty-five percent (16,348) of nontransient, noncommunity water systems and 97% (83,351) of transient noncommunity water systems serve 500 or fewer people. These smaller systems face huge financial, technological, and managerial challenges in meeting a growing number of federal drinking-water regulations.

In 2002, the U.S. Environmental Protection Agency (EPA) issued The Clean Water and Drinking Water Infrastructure Gap Analysis, which identified potential funding gaps between projected needs and spending from 2000 through 2019. This analysis estimated a potential 20 -year funding gap for drinking water capital expenditures as well as operations and maintenance, ranging from $45 billion to $263 billion, depending on spending levels. Capital needs alone were pegged at $161 billion.

The Congressional Budget Office (CBO) concluded in 2003 that "current funding from all levels of government and current revenues generated from ratepayers will not be sufficient to meet the nation's future demand for water infrastructure." The CBO estimated the nation's needs for drinking water investments at between $10 billion and $20 billion over the next 20 years.

In 1996, Congress enacted the drinking-water state revolving loan fund (SRF) program. The program authorizes the EPA to award annual capitalization grants to states. States then use their grants (plus a 20% state match) to provide loans and other assistance to public water systems. Communities repay loans into the fund, thus replenishing the fund and making resources available for projects in other communities. Eligible projects include installation and replacement of treatment facilities, distribution systems, and some storage facilities. Projects to replace aging infrastructure are eligible if they are needed to maintain compliance or to further public health protection goals.

Federal assistance has not kept pace with demand, however. Between FY 1997 and FY 2008, Congress appropriated approximately $9.5 billion for the SRF. This 11-year total is only slightly more than the annual capital investment gap for each of those years as calculated by the EPA in 2002.

Sources

1. Congressional Research Service, Safe Drinking Water Act: Selected Regulatory and Legislative Issues, April 2008.
2. U.S. Environmental Protection Agency, The Clean Water and Drinking Water Infrastructure Gap Analysis, September 2002.
3. U.S. Congressional Budget Office, Future Investment in Drinking Water and Wastewater Infrastructure, May 2002.
4. G. Tracy Mehan, Testimony before the Subcommittee on Water Resources and Environment, U.S. House Transportation and Infrastructure Committee, February 2009.

Report Card for American Infrastrucure *produced by American Society of Civil Engineers*

Arizona

Top Three Infrastructure Concerns:

1. Roads
2. Drinking Water
3. Mass Transit

Key Infrastructure Facts

Arizona Transportation Report Card 2004
(http://www.azsce.org/downloads/AZSCE_2004_Infrastructure_Report_Card_6.pdf)

- 12% of Arizona's bridges are structurally deficient or functionally obsolete.
- There are 96 high hazard dams in Arizona. A high hazard dam is defined as a dam whose failure would cause a loss of life and significant property damage.
- 43 of Arizona's 248 dams are in need of rehabilitation to meet applicable state dam safety standards.
- 29% of high hazard dams in Arizona have no emergency action plan (EAP). An EAP is a predetermined plan of action to be taken including roles, responsibilities and procedures for surveillance, notification and evacuation to reduce the potential for loss of life and property damage in an area affected by a failure or mis-operation of a dam.
- Arizona's drinking water infrastructure needs an investment of $9.12 billion over the next 20 years.
- Arizona ranked 33rd in the quantity of hazardous waste produced and 27th in the total number of hazardous waste producers.
- Arizona reported an unmet need of $8.6 million for its state public outdoor recreation facilities and parkland acquisition.
- 21% of Arizona's roads are in poor or mediocre condition.
- 41% of Arizona's major urban highways are congested.
- Vehicle travel on Arizona's highways increased by 78% from 1990 to 2007.
- Arizona has $4.57 billion in wastewater infrastructure needs.

Sources

***Survey of the state's ASCE members conducted in September 2008**

Deficient Bridge Report, Federal Highway Administration, 2008.
National Inventory of Dams, U.S. Army Corps of Engineers, 2008.
Drinking Water Needs Survey and Assessment, Environmental Protection Agency, 2003.
National Biennial RCRA Hazardous Waste Report, Environmental Protection Agency, 2007.
The U.S. Waterway System – Transportation Facts, Navigation Data Center, U.S Army Corps of Engineers, February 2007.
2007 Annual Report, Land and Water Conservation Fund State Assistance Program, National Park Service.
TRIP Fact Sheet, March 2009.
Clean Water Needs Survey, Environmental Protection Agency, 2004.

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New York (/state-page/new-york)
North Carolina (/state-page/north-carolina)
North Dakota (/state-page/north-dakota)
Ohio (/state-page/ohio)
Oklahoma (/state-page/oklahoma)
Oregon (/state-page/oregon)
Pennsylvania (/state-page/pennsylvania)
Rhode Island (/state-page/rhode-island)
South Carolina (/state-page/south-carolina)
South Dakota (/state-page/south-dakota)
Tennessee (/state-page/tennessee)
Texas (/state-page/texas)
Utah (/state-page/utah)
Vermont (/state-page/vermont)
Virginia (/state-page/virginia)

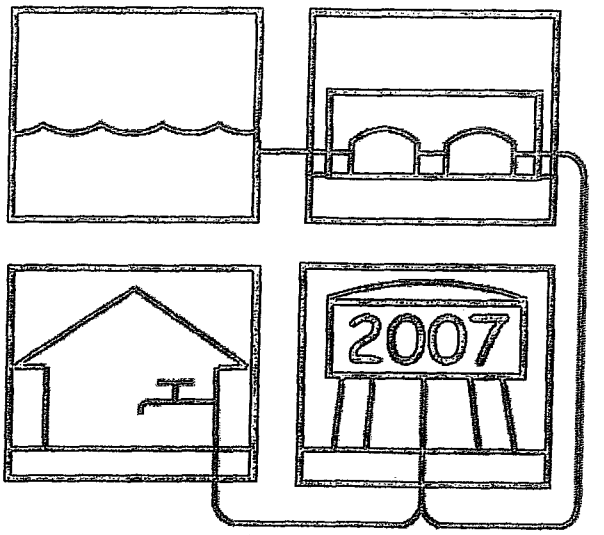
Exhibit B

EXHIBIT

B

Drinking Water Infrastructure Needs Survey and Assessment

Fourth Report to Congress



U.S. Environmental Protection Agency
Office of Water
Office of Ground Water and Drinking Water
Drinking Water Protection Division
Washington, D.C. 20460

Exhibit C

EXHIBIT

C

NOTICES

Petition of Philadelphia Suburban Water Company for Approval to Implement a Tariff Supplement Establishing a Distribution System Improvement Charge; Doc. No. P-00961036

[26 Pa.B. 4490]

Commissioners Present: **John M. Quain, Chairperson; Lisa Crutchfield, Vice Chairperson; John Hanger; Robert K. Bloom**

Public meeting held
August 22, 1996

Opinion and Order

By the Commission:

I. *Background*

On March 20, 1996, the Philadelphia Suburban Water Company (PSWC or company) filed the above-referenced petition with this Commission requesting regulatory approval to file and implement an automatic adjustment clause tariff that would establish a Distribution System Improvement Charge (DSIC or surcharge) under section 1307(a) of the Public Utility Code. 66 Pa.C.S. § 1307(a). Section 1307 (a) provides statutory authority for a utility to establish, subject to Commission review and approval, a tariffed automatic adjustment clause mechanism designed to provide "a just and reasonable return on the rate base" of the public utility.

As proposed by PSWC, the DSIC would operate to recover the fixed costs (depreciation and pre-tax return) of certain nonrevenue producing, nonexpense reducing infrastructure rehabilitation projects completed and placed in service between section 1308 base rate cases. The company maintains that the property additions eligible for the DSIC will be limited to revenue neutral infrastructure projects, consisting principally of replacement investments in so-called "mass property" accounts. The DSIC is designed to provide the company with the resources it needs to accelerate its investment in new utility plant to replace aging water distribution infrastructure, facilitating compliance with evolving regulatory requirements imposed by the Safe Drinking Water Act (SDWA) and the implementation of solutions to regional water supply problems.

To illustrate its point, the company states that it has 3,180 miles of mains, that it is currently rehabilitating approximately 15 miles of main each year, and that, at that pace, it would require approximately 212 years to make all of the needed improvements to existing facilities. The company also states that water service, more than any other utility service, is critical to maintaining public health as water is "a necessity of life and vital for public fire protection services." Petition at 3.

The company alleges that the DSIC may enable it to break out of a cycle, imposed on it by its capital investment needs, of filing base rate relief every 15 months. Any reduction in rate case filing frequency would generate costs savings which would inure to the benefit of customers and the Commission. In its petition, the company proposes certain accounts for recovery, time-frames and other procedures to be followed in implementing the DSIC. The details of those procedures will be discussed below.

To begin with, the company proposes that the DSIC become effective for service rendered on and after July 1, 1996. The company also proposes that the initial charge to be calculated would recover the fixed costs of eligible plant additions that have not previously been reflected in the company's rate base and will have been placed in service between January 1, 1996 and May 31, 1996. Thereafter, the company proposes to update the DSIC on a quarterly basis to reflect eligible plant additions placed in service during the 3-month periods ending 1 month prior to the effective date of each DSIC update. Petition at 3-4.

The company also proposes that the DSIC be capped at 5% of the amount billed to customers under otherwise applicable rates and charges, exclusive of amounts recovered under the State Tax Adjustment Surcharge (STAS). If the cap is reached, the company would not seek any additional increases. Petition at 4.

As with any section 1307 automatic adjustment clause, the DSIC will be subject to an annual reconciliation, whereby the revenue received under the DSIC for the reconciliation period will be compared to the Company's eligible costs for that period. The difference between such revenues and costs will be recouped or refunded to customers, as appropriate, in accordance with section 1307(e). Petition at 5.

Lastly, in terms of procedures, the company proposes that the DSIC will be reset to zero as of the effective date of new section 1308 base rates that provide for prospective recovery of the annual costs that had previously been recovered under the DSIC. Petition at 5. And to avoid over recovery of costs in the absence of a base rate case, the company also proposed that the DSIC will be reset to zero if, in any quarter, data filed with the Commission in the company's then most recent Annual or Quarterly Earnings Report shows that the company will earn a rate of return that would exceed the rate of return used to calculate its fixed costs under the DSIC. Petition at 5.

In terms of the legal issues raised by its petition, the company also states that its proposed automatic adjustment clause and procedures are lawful for a number of reasons found in statutory and case law. With regard to statutory law, PSWC states that section 1307(a) of the Public Utility Code, 66 Pa.C.S. § 1307(a), provides that a company may establish a sliding scale of rates or such other method for the automatic adjustment of the rates to recover a variety of costs. Petition at 19. Moreover, the company has cited circumstances in which the Commission has authorized the use of section 1307(a) automatic adjustment clauses to recover a wide array of expenses, depreciation and capital costs. See *Pennsylvania Industrial Energy Coalition v. Pa. P.U.C.*, 653 A.2d 1336 (Pa. Cmwlth. 1995) (PIEC) (recovery of electric utilities' demand-side management costs); 52 Pa. Code § 69.181 (recovery of gas utilities' take or pay liabilities to pipeline suppliers); 52 Pa. Code § 69.341(b) (recovery of gas utilities' gas supply realignment costs and stranded costs resulting from Federal Energy Regulatory Commission Order 636); and 52 Pa. Code § 69.353 (recovery of water utilities' principal and interest due on PennVEST obligations). Petition at 20-21.

Answers were filed by the Office of Trial Staff (OTS) (Answer filed April 9, 1996), the Office of Small Business Advocate (OSBA) (Answer filed May 3, 1996) and the Office of Consumer Advocate (OCA) (Comments and testimony filed May 6, 1996). Protests to the petition were also filed by many individual customers.

In its answer, the OTS requests that the Commission deny the company's petition based on legal and technical grounds. With regard to the legal objections, the OTS argues that, since the facilities are "new" facilities, the company is attempting to circumvent a base rate review through the use of a surcharge, in violation of the Court's decision in *PIEC*.

The OSBA's answer did not submit legal arguments opposing the implementation of the DSIC. Rather, the OSBA has requested that the Commission conduct a thorough investigation regarding the reasonableness and lawfulness of the proposed tariff supplement as they affect the company's various customer classes.

In its comments, the OCA argues against the implementation of the DSIC alleging that the company

does not need the DSIC mechanism and that implementation of a DSIC mechanism would provide in excess of a fair return to the company. With regard to legal arguments, OCA challenges the legality of the surcharge based upon the same arguments outlined in OTS' answer based on its interpretation of section 1307(a) and the *PIEC* decision.

On May 30, 1996, the company filed a reply with the Commission addressing the comments raised in the answers filed by OTS, OSBA and OCA. The OCA then filed a response to this reply on June 19, 1996. In PSWC's reply to the various parties concerning the legality of the DSIC, the company continued to support the legality of a surcharge under section 1307(a) of the Public Utility Code and the Commonwealth Court decision in *PIEC*, and supplied rebuttal arguments in support of its need for the DSIC and the legality of its proposal.

II. *Discussion*

At the outset of this discussion regarding the PSWC petition, we believe it necessary to clarify the Commission's view of the scope of this proceeding and the nature of the PSWC proposal. Because the PSWC petition requests regulatory approval to file and implement a certain type of automatic adjustment clause, we will not address, in this order, the specific factual issues that may be raised by the proposed tariff supplement submitted as Exhibit A to the petition. The Commission views the tariff supplement in Exhibit A as no more than the company's proposal as to how such an automatic adjustment clause should be structured. Indeed, as explained below, the specific tariff supplement proposed by PSWC will not be approved by this order.

Therefore, to the extent that parties have objections and/or complaints to the rates to be charged by means of an automatic adjustment clause that provides for the recovery of a water company's infrastructure improvement costs, those objections and/or complaints would be appropriately addressed to an actual PSWC tariff filing that contains specific rates to be charged to consumers based on specific distribution system improvement expenditures. A section 701 complaint would be the appropriate procedural vehicle to challenge such a tariff filing and, provided that factual issues are raised, the filing of such a complaint will entitle the complainant to a hearing before an administrative law judge and an adjudication of the complaint.

Thus, the key issues raised by the PSWC petition, and to be resolved in this order, are generic threshold issues regarding (1) the legality of the type of automatic adjustment clause proposed by the company and (2) the appropriate general structure of such an automatic adjustment clause that conforms to the requirement of the statute and Pennsylvania case law. In other words, this proceeding will address the legal issue concerning the adoption of the surcharge under section 1307(a) of the Code. In addition, the Commission will outline the general parameters of a surcharge mechanism that meets the requirement of the statute, that is consistent with the case law, that has adequate safeguards to protect consumers' interests and, therefore, constitutes a surcharge that is likely to receive regulatory approval when filed.

To begin with, we applaud companies who present this Commission with innovative ideas to address recurring problems for their respective industries. In the water industry, companies are faced with the dual tasks of improving the quality of the water delivered to customers due to the new mandates of the SDWA and other governmental requirements and, at the same time, maintaining an aging water utility infrastructure. We recognize that, in recent years, PSWC and other Pennsylvania water companies have been required to make significant investments in new utility plant for projects such as the filtration of surface water supplies, the replacement of aging water distribution plant and the implementation of meter replacement programs. In addition, water companies face the daunting challenge of rehabilitating their existing distribution infrastructure before the property reaches the end of its service life to avoid serious public health and safety risks.

In the Commission's judgment, the establishment of a DSIC along the lines proposed by PSWC can substantially aid the water company in meeting these challenges on behalf of the water consuming public. We agree with the company that the establishment of a DSIC would enable the company to address, in an orderly and comprehensive manner, the problems presented by its aging water distribution

system, and would have a direct and positive effect upon water quality, water pressure and service reliability. For these reasons, we endorse the concept of using an automatic adjustment clause to address this regulatory problem for the water industry in Pennsylvania and, in particular, the type of DSIC proposed by PSWC.

A. *Legal Issues*

In Pennsylvania, utility costs are recovered from customers through section 1308 base rates and through section 1307 automatic adjustment clauses. The purpose of a section 1307 automatic adjustment clause is to provide an automatic mechanism enabling utilities to recover specific costs not covered by general rates. *Allegheny Ludlum Steel Corporation v. Pa. P.U.C.* 501 Pa. 71, 75 n.3, 459 A.2d 1218, 1220 n.3 (1983). Moreover, section 1307(e), 66 Pa.C.S. § 1307(e), provides that the automatic adjustment clause procedures shall include an annual report detailing the revenues collected and the expenses incurred under the automatic adjustment clause, followed by a public hearing to reconcile the amounts and to determine any refunds owed to customers or additional recovery due from customers.

Until recently, an automatic adjustment clause has usually been applied only to gas and electric companies. However, the Commission has provided for the recovery of capital costs in at least one instance to date, i.e., for PECO Energy's costs to convert oil-fired units to units which burn natural gas. *Philadelphia Electric Co. ECR No. 3*, Docket No. M-00920312 (Order adopted April 1, 1993). The Commission has also adopted a policy statement which encourages water companies to seek section 1307(a) cost recovery for their PENNVEST debt costs, 52 Pa. Code § 69.361, and policy statements approving section 1307 cost recovery for certain FERC Order 636 stranded costs, 52 Pa. Code § 69.341 (b)(4), and electric utility coal uprating costs, 52 Pa. Code § 57.124(a). Moreover, since 1970, the Commission has authorized all utilities to use an automatic adjustment clause mechanism to recover certain incremental changes in State tax rates. 52 Pa. Code § 69.44.

Pennsylvania case law regarding the permissible scope of section 1307 cost recovery, while not extensive, supports a broad interpretation of that section. In *National Fuel Gas Distribution Corp. v. Pa. P.U.C.*, 473 A.2d 1109, 1121 (Pa. Cmwlth. 1984), the Commonwealth Court held that the purpose of section 1307 of the code is to permit reflection in customer charges of changes in one component of a utility's cost of providing public service without the necessity of the "broad, costly and time-consuming inquiry" required in a section 1308 base rate case. Moreover, under the 1995 *PIEC* decision, the Commonwealth Court adopted the Commission's legal position that its use of section 1307 was not limited to fuel and purchased power costs. At the same time, the Commonwealth Court cautioned that section 1307 should have limited application and should not override the traditional ratemaking process. *PIEC* at 1349. In determining whether DSM costs could be recovered through the section 1307 mechanism, the Court wrote:

> Although we agree that Section 1307 should have limited application and the PUC should not use it to disassemble the traditional rate-making process, *the General Assembly did not limit the allowance of automatic adjustment to only fuel costs and taxes which are generally beyond the control of the utility. Instead, the General Assembly specifically allowed the recovery of fuel costs and also allowed the PUC or the utilities to initiate the automatic adjustment of costs within specific procedures* . . . In this case, Section 1319 of the Code specifically states that all prudent and reasonable costs should be recovered and sets forth requirements that the proposed programs be determined to be "prudent and cost-effective" by the PUC (or the Bureau of Conservation, Economics and Energy Planning as designated by the PUC), before any costs may be recovered through the surcharge mechanism.

PIEC at 1349 (emphasis added). The Court then concluded that the recovery of DSM costs under section 1307 was lawful because the language of section 1307 gives the Commission discretion to establish automatic adjustment clauses for the recovery of prudently incurred costs, and because in section 1319 the legislature specifically identified and provided for the recovery of prudent and reasonable costs for developing DSM programs.

Clearly, the Court in *PIEC* recognized the importance of the statute (section 1319) in providing for the

recovery of development costs of the DSM programs via section 1307. However, the Court also recognized that the language of section 1307 is not limited to a narrow set of costs (as advocated by the industrials), that whether the costs at issue should be recovered via an automatic adjustment clause is a matter of Commission discretion, and that the court "is not free to substitute its discretion for the discretion properly exercised by the PUC in establishing the surcharge method." *PIEC* at 1349.

Turning to the PSWC proposal to file and implement an automatic adjustment clause to recover its distribution system improvement costs, we find that the proposal is appropriately limited and narrowly tailored to recover a specific category of utility costs--the incremental fixed costs (depreciation and pre-tax return) associated with nonrevenue producing, nonexpense reducing distribution system improvement projects completed and placed in service between base rate cases. Recovery of this narrow set of costs is clearly permitted under section 1307(a) (which has no cost category limitation in its language) and Pennsylvania case law; and, in the Commission's judgment, this proposal is in no way a mechanism to "disassemble" the traditional ratemaking process for several reasons: first, the DSIC is designed to identify and recover the distribution system improvement costs incurred between rate cases; second, the costs to be recovered represent a narrow subset of the company's total cost of service; and third, the DSIC amount will be capped at a relatively low level to prevent any long-term evasion of a base rate review of these plant costs. Indeed, the company's proposal recognizes that there will be a full review of these costs in a subsequent section 1308 base rate proceeding. We also note that the DSIC is designed to reflect only the costs of the eligible plant additions that are actually placed in service during the 3-month periods ending 1 month prior to the effective date of each surcharge update; this key provision serves to avoid any potential violation of section 1315 and this State's long-standing "used and useful" rule.

Additionally, we find that sections 1307(d) and (e) provide broad auditing powers to the Commission and a formal reconciliation mechanism to carefully monitor the operation of such a surcharge. While admittedly section 1307(d) is addressed to fuel cost adjustment audits, we do not view the Commission's auditing power over automatic adjustment clauses as limited to only fuel costs, given the broad auditing and investigative powers granted to the Commission via sections 504, 505, 506, and 516 of the Public Utility Code. 66 Pa.C.S. §§ 504, 505, 506, 516. Nor would we be likely to approve a utility's request for approval of an automatic adjustment clause in the absence of its complete agreement that the Commission has such auditing powers. Moreover, section 1307(e) provides for a mandatory annual reconciliation report regarding the revenues and expenses recovered via an automatic adjustment clause and a "public hearing on the substance of the report and any matters pertaining to the use by such public utility" of the automatic adjustment clause. As such, the costs to be recovered via the company's DSIC proposal will be subject to the Commission's auditing powers, an annual reconciliation report and public hearings.

B. *General Tariff Parameters*

The basic elements of a tariff supplement to implement a lawful DSIC mechanism include a statement of purpose and description of eligible property, a specification of its effective date and the dates of its subsequent quarterly updates, details regarding the computation methodology and appropriate consumer safeguards. The proposed tariff supplement included with the PSWC petition, as Exhibit A, includes most of these elements but, in the Commission's judgment, certain elements should be modified in order to adequately protect consumer interests and to comply with section 1307. In order to provide guidance to PSWC and any other water utility that may need to implement a DSIC, the Commission has developed sample tariff language that, if used in a water utility's section 1307 proposed tariff supplement, is likely to receive the Commission's approval. The sample tariff language is contained in Appendix A to this order.

The major differences between the tariff supplement proposed by PSWC and the sample tariff language in Appendix A can be summarized as follows:

--specification of the eligible plant accounts by type and account number;

--provision to include recovery of main extensions installed to implement solutions to regional water

supply problems that have been documented as presenting a significant public health and safety concern to existing customers;

--specification that the costs of projects funded by PENNVEST loans are not eligible;

--provision of a prospective January 1, 1997 effective date for the tariff supplement and the property eligible for the initial filing;

--if more than 2 years have elapsed since the utility's last base rate case, use of the equity return rate determined by staff and specified in the latest Quarterly Earnings Report released by the Commission;

--greater specification of the depreciation and pretax return elements in the formula to calculate the DSIC;

--added provision to provide interest to consumers for any over recoveries during operation of the DSIC; and

--provision for customer notice of any DSIC changes.

Thus, use of the sample tariff language will fully explain the DSIC computation, including a listing of DSIC eligible property and related account numbers, so that in future years the purpose and intent of the DSIC surcharge will be apparent from reading only the tariff supplement. Additionally, the inclusion of plant account numbers and descriptions of property eligible for DSIC cost recovery parallels the format used for other section 1307 surcharges, such as the ECR for electric utilities, the GCR for gas distribution utilities and the SCR for steam heat companies.

With these changes to PSWC's proposal, the eligible property, filing dates, parameters, and consumer safeguards have been significantly strengthened. In particular, we note here that the provisions (1) for resetting the DSIC to zero if the company's rate of return exceeds its allowable rate of return, and (2) for resetting the DSIC to zero as of the effective date of new section 1308 base rates that provide for prospective recovery of the eligible plant costs both serve as effective and reliable rate mechanisms to insure that the DSIC automatic adjustment clause will not produce rates in excess of a fair return to the utility, as required by section 1307(a). We also note that the provision of a 5% of billed revenues cap on the maximum amount of any DSIC insures that the surcharge mechanism will not evade the section 1308 base rate process and its intensive top-to-bottom review of all company revenue, expense, rate base and return claims. See Appendix A. In other words, the 5% cap will insure that the surcharge will not allow the company to avoid a base rate review of the eligible property in perpetuity.

Accordingly, although we are denying the PSWC petition to the extent that it requests permission to file and implement a section 1307(a) tariff supplement to implement a surcharge as set forth in its Exhibit A, we invite the company to file a new tariff supplement consistent with the parameters outlined in the sample tariff language set forth in Appendix A to this order. The sample tariff language in Appendix A is identical to that recommended for the Pennsylvania-American Water Company at Docket No. P-00961031 which has also requested permission to file a DSIC surcharge.

As with other section 1307 tariff filings, the new tariff supplement would provide for a notice period of no less than 60 days to allow sufficient time for staff review of the proposed tariff supplement and its initial rates for consistency with the sample tariff language and for accuracy of the plant account, depreciation, pre-tax return and other elements of the DSIC calculation. If recommended for approval by staff and formally approved by the Commission, the tariff supplement and initial rates to implement the DSIC will be permitted to go into effect, subject to the outcome of any timely filed complaints. Subsequent quarterly updates, however, may be filed on 10 days notice as originally proposed by the company. *Therefore,*

It Is Ordered That:

1. The petition filed by the Philadelphia Suburban Water Company (PSWC) to file and implement a

section 1307(a) automatic adjustment clause tariff that would establish a Distribution System Improvement Charge (DSIC) is hereby approved in part and denied in part consistent with this order.

2. All protests, answers and other objections filed with respect to the PSWC petition are hereby granted in part and denied in part consistent with this order.

3. Any complaints regarding the rates to be charged pursuant to a DSIC tariff supplement may be filed if and when PSWC files a tariff supplement with specific rates in accordance with the tariff parameters outlined by this order.

4. The parameters set forth in the Appendix A are hereby adopted to serve as sample tariff language to be implemented for tariff supplements to establish a DSIC.

5. The normal auditing, reconciliation, reporting and public hearing procedures applicable to all 1307 (e) filings will likewise apply to all DSIC tariff supplements.

6. This order be published in the *Pennsylvania Bulletin*.

7. This order be served upon Philadelphia Suburban Water Company, the Office of Consumer Advocate, the Office of Small Business Advocate, the Office of Trial Staff and the National Association of Water Companies.

JOHN G. ALFORD,
Secretary

APPENDIX A

Sample Tariff Language

Distribution System Improvement Charge (DSIC)

I. *General Description*

Purpose: To recover the fixed costs (depreciation and pre-tax return) of certain nonrevenue producing, nonexpense reducing distribution system improvement projects completed and placed in service and to be recorded in the individual accounts, as noted below, between base rate cases and to provide the Company with the resources to accelerate the replacement of aging water distribution infrastructure, to comply with evolving regulatory requirements imposed by the Safe Drinking Water Act and to develop and implement solutions to regional water supply problems. The costs of extending facilities to serve new customers are not recoverable through the DSIC. Also, Company projects receiving PENNVEST funding are not DSIC-eligible property.

Eligible Property: The DSIC-eligible property will consist of the following:

--services (account 323), meters (account 324) and hydrants (account 325) installed as in-kind replacements for customers;

--mains and valves (account 322) installed as replacements for existing facilities that have worn out, are in deteriorated condition, or upgraded to meet Chapter 65 regulations of Title 52;

--main extensions (account 322) installed to eliminate dead ends and to implement solutions to regional water supply problems that have been documented as presenting a significant health and safety concern for customers currently receiving service from the company or the acquired Company;

--main cleaning and relining (account 322) projects; and

--unreimbursed funds related to capital projects to relocate Company facilities due to highway relocations.

Effective Date: The DSIC will become effective for bills rendered on and after January 1, 1997.

II. *Computation of the DSIC*

Calculation: The initial charge, effective January 1, 1997, shall be calculated to recover the fixed costs of eligible plant additions that have not previously been reflected in the Company's rate base and will have been placed in service between September 1, 1996, and November 30, 1996. Thereafter, the DSIC will be updated on a quarterly basis to reflect eligible plant additions placed in service during the 3-month periods ending 1 month prior to the effective date of each DSIC update. Thus, changes in the DSIC rate will occur as follows:

Effective Date of Change	**Date To Which DSIC-Eligible Plant Addition Reflected**
April 1	February 28
July 1	May 30
October 1	August 31
January 1	November 30

The fixed costs of eligible distribution system improvement projects will consist of depreciation and pre-tax return, calculated as follows:

Depreciation: The depreciation expense will be calculated by applying to the original cost of DSIC-eligible property the annual accrual rates employed in the Company's last base rate case for the plant accounts in which each retirement unit of DSIC-eligible property is recorded.

Pre-tax return: The pre-tax return will be calculated using the State and Federal income tax rates, the Company's actual capital structure and actual cost rates for long-term debt and preferred stock as of the last day of the 3-month period ending 1 month prior to the effective date of the DSIC and subsequent updates. The cost of equity will be the equity return rate approved in the Company's last fully-litigated base rate proceeding for which a final order was entered not more than 2 years prior to the effective date of the DSIC. If more than 2 years shall have elapsed between the entry of such a final order and the effective date of the DSIC, then the equity return rate used in the calculation will be the equity return rate calculated by the Commission Staff in the latest Quarterly Report on the Earnings of Jurisdictional Utilities released by the Commission.

DISC Surcharge Amount: The charge will be expressed as a percentage carried to two decimal places and will be applied to the total amount billed to each customer under the Company's otherwise applicable rates and charges, excluding amounts billed for public fire protection service and the State Tax Adjustment Surcharge (STAS). To calculate the DSIC, one-fourth of the annual fixed costs associated with all property eligible for cost recovery under the DSIC will be divided by the Company's projected revenue for sales of water for the quarterly period during which the charge will be collected, exclusive of revenues from public fire protection service and the STAS.

Formula: The formula for calculation of the DISC surcharge is as follows:

$$DSIC = \frac{(DSI \times PTRR) + Dep + e}{PQR}$$

Where:

DSI = the original cost of eligible distribution system improvement projects.

PTRR = the pre-tax return rate applicable to eligible distribution system improvement projects.

Dep = Depreciation expense related to eligible distribution system improvement projects.

e = the amount calculated under the annual reconciliation feature as described below.

PQR = Projected quarterly revenue including any revenue from acquired companies that are now being charged the rates of the acquiring company.

Quarterly updates: Supporting data for each quarterly update will be filed with the Commission and served upon the Office of Trial Staff, the Office of Consumer Advocate and the Office of Small Business Advocate at least 10 days prior to the effective date of the update.

III. *Safeguards*

Cap: The DSIC will be capped at 5% of the amount billed to customers under otherwise applicable rates and charges.

Audit/Reconciliation: The DSIC will be subject to audit at intervals determined by the Commission. It will also be subject to annual reconciliation based on a reconciliation period consisting of the 12 months ending December 31 of each year. The revenue received under the DSIC for the reconciliation period will be compared to the Company's eligible costs for that period. The difference between revenue and costs will be recouped or refunded, as appropriate, in accordance with section 1307(e), over a 1 year period commencing on April 1 of each year. If DSIC revenues exceed DSIC-eligible costs, such overcollections will be refunded with interest. Interest on the overcollections will be calculated at the residential mortgage lending specified by the Secretary of Banking in accordance with the Loan Interest and Protection Law (41 P. S. § 101, et seq.) and will be refunded in the same manner as an overcollection.

New Base Rates: The charge will be reset at zero as of the effective date of new base rates that provide for prospective recovery of the annual costs that had theretofore been recovered under the DSIC. Thereafter, only the fixed costs of new eligible plant additions, that have not previously been reflected in the Company's rate base, would be reflected in the quarterly updates of the DSIC.

Earning Reports: The charge will also be reset at zero if, in any quarter, data filed with the Commission in the Company's then most recent Annual or Quarterly Earnings reports show that the Company will earn a rate of return that would exceed the allowable rate of return used to calculate its fixed costs under the DSIC as described in the Pre-tax return section.

Customer Notice: Customers shall be notified of changes in the DSIC by including appropriate information on the first bill they receive following any change. An explanatory bill insert shall also be included with the first billing.

[Pa.B. Doc. No. 96-1560. Filed for public inspection September 13, 1996, 9:00 a.m.]

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Exhibit D

EXHIBIT

D

ARIZONA WATER COMPANY
DSIC-type Mechanisms by State

Line No.	State	Program	Frequency	Surcharge Cap	Included Plant
1					
2	Indiana	Distribution System Improvement Charge (DSIC)	Annually	5.0%	Mains, hydrants, services, meters
3					
4	Illinois	Qualifying Infrastructure Plant Surcharge (QIPS)	Annually	5.0%	Mains, hydrants, services, meters
5					
6	Missouri	Infrastructure System Replacement Surcharge (ISRS)	Semi-Annually	10.0%	Mains (includes relining), valves, hydrants, facility relocations
7					
8	Ohio	System Infrastructure Charge	Annually	3.0%	Mains (includes cleaning, relining, & extensions), valves, hydrants, services, land/land rights, rel
9					
10	Pennsylvania	Distribution System Improvement Charge (DSIC)	Quarterly	7.5%	Mains, valves, services, meters
11					
12	California	Distribution System Improvement Charge (DSIC)	Quarterly	7.0%	Wells, pumps, mains, hydrants, services, meters, tools & equipment
13					
14	Delaware	Distribution System Improvement Charge (DSIC)	Semi-Annually	7.5%	Mains, valves, hydrants, services, meters
15					
16	Connecticut	Water Infrastructure Conservation Adjustment (WICA)	Semi-Annually	5.0%	Mains (includes cleaning & relining), valves, services, hydrants, meters, leak detection equipmen
17					
18					
19					
20					
21					
22					

Exhibit E

EXHIBIT

E

Resolution Endorsing and Co-Sponsoring "The Distribution System Improvement Charge"

WHEREAS, The Pennsylvania Public Utility Commission and the Pennsylvania Legislature have adopted a promising and unique regulatory approach that encourages the acceleration of the needed remediation of aging water utility infrastructures; *and*

WHEREAS, The Distribution System Improvement Charge is an automatic adjustment charge that enables recovery of infrastructure improvement costs on a quarterly basis in between rate cases for projects that are non-revenue producing and non-expense reducing such as main cleaning and relining, fire hydrant replacement and main extensions to eliminate dead ends; *and*

WHEREAS, A videotape which explains this unique approach is being prepared by the National Association of Water Companies to help educate and inform other regulatory agencies and legislatures about the benefits of this unique approach; *and*

WHEREAS, The U.S. EPA within its Drinking Water Infrastructure Needs Survey has identified a magnitude of national infrastructure needs of $77.2 billion in pending expenditures; *and*

WHEREAS, As the magnitude of need may be too great to be accomplished under traditional ratemaking methodologies; *and*

WHEREAS, The Distribution System Improvement Charge provides benefits to ratepayers such as improved water quality, increased pressure, fewer main breaks, fewer service interruptions, lower levels of unaccounted for water, and more time between rate cases which leads to greater rate stability; *and*

WHEREAS, Ratepayer protections are incorporated in the Pennsylvania approach: the surcharge is limited to a maximum of 5% of the water bill, annual reconciliation audits are conducted where overcollections will be refunded with interest and undercollections will be billed into future rates without interest recovery, the surcharge is reset to zero at the time of the next rate case, the charge is reset to zero if the company is over-earning, customer notice is provided, and all charges reflect used and useful plant; *now, therefore, be it*

RESOLVED, That the Board of Directors of the National Association of Regulatory Utility Commissioners (NARUC), convened at its 1999 Winter Meetings in Washington, D.C, agrees to endorse the mechanism as an example of an innovative regulatory tool that other Public Utility Commissions may consider to solve infrastructure remediation challenges in their States; *now be it further*

RESOLVED, That NARUC agrees to co-sponsor with the National Association of Water Companies the videotape of the Distribution System Improvement Charge as an educational tool to inform other regulatory agencies and legislatures about this promising new mechanism.

Sponsored by the Committee on Water
Adopted February 24, 1999

Exhibit F

EXHIBIT

F

Resolution Supporting Consideration of Regulatory Policies Deemed as "Best Practices"

WHEREAS, A number of innovative regulatory policies and mechanisms have been implemented by public utility commissions throughout the United States which have contributed to the ability of the water industry to effectively meet water quality and infrastructure challenges; *and*

WHEREAS, The capacity of such policies and mechanism to facilitate resolution of these challenges in appropriate circumstances supports identification of such policies and mechanisms as "best practices"; *and*

WHEREAS, During a recent educational dialogue, the "2005 NAWC Water Policy Forum," held among representatives from the water industry, State economic regulators, and State and federal drinking water program administrators, participants discussed (consensus was not sought nor determined) and identified over 30 innovative policies and mechanisms that have been summarized in a report of the Forum to be available on the website of the Committee on Water at www.naruc.org; *and*

WHEREAS, As public utility commissions continue to grapple with finding solutions to meet the myriad water and wastewater industry challenges, the Committee on Water hereby acknowledges the Forum's *Summary Report* as a starting point in a commission's review of available and proven regulatory mechanisms whenever additional regulatory policies and mechanisms are being considered; *and*

WHEREAS, To meet the challenges of the water and wastewater industry which may face a combined capital investment requirement nearing one trillion dollars over a 20-year period, the following policies and mechanisms were identified to help ensure sustainable practices in promoting needed capital investment and cost-effective rates: a) the use of prospectively relevant test years; b) the distribution system improvement charge; c) construction work in progress; d) pass-through adjustments; e) staff-assisted rate cases; f) consolidation to achieve economies of scale; g) acquisition adjustment policies to promote consolidation and elimination of non-viable systems; h) a streamlined rate case process; i) mediation and settlement procedures; j) defined timeframes for rate cases; k) integrated water resource management; l) a fair return on capital investment; *and* m) improved communications with ratepayers and stakeholders; *and*

WHEREAS, Due to the massive capital investment required to meet current and future water quality and infrastructure requirements, adequately adjusting allowed equity returns to recognize industry risk in order to provide a fair return on invested capital was recognized as crucial; *and*

WHEREAS, In light of the possibility that rate increases necessary to remediate aging infrastructure to comply with increasing water quality standards could aversely affect the affordability of water service to some customers, the following were identified as best practices to address these concerns: a) rate case phase-ins; b) innovative payment arrangements; c) allowing the consolidation of rates ("Single Tariff Pricing") of a multi-divisional water utility to spread capital costs over a larger base of customers; *and* d) targeted customer assistance programs; *and*

WHEREAS, Small water company viability issues continue to be a challenge for regulators, drinking water program administrators and the water industry; best practices identified by Forum participants include: a) stakeholder collaboration; b) a memoranda of understanding among relevant

State agencies and health departments; c) condemnation and receivership authority; and d) capacity development planning; *and*

WHEREAS, The U.S. Environmental Protection Agency's "Four-Pillar Approach" was discussed as yet another best practice essential for water and wastewater systems to sustain a robust and sustainable infrastructure to comprehensively ensure safe drinking water and clean wastewater, including: a) better management at the local or facility level; b) full-cost pricing; c) water efficiency or water conservation; *and* d) adopting the watershed approach, all of which economic regulators can help promote; *and*

WHEREAS, State drinking water program administrators emphasized the following mechanisms which Forum participants identified as best practices: a) active and effective security programs; b) interagency coordination to assist with new water quality regulation development and implementation, such as a memorandum of understanding; c) expanded technical assistance for small water systems; d) data system modernization to improve data reliability; e) effective administration and oversight of the Drinking Water State Revolving Fund to maximize infrastructure remediation, along with permitting investor owned water companies access in all States; f) the move from source water assessment to actual protection; *and* g) providing State drinking water programs with adequate resources to carry out their mandates; *now therefore be it*

RESOLVED, That the National Association of Regulatory Utility Commissioners (NARUC), convened in its July 2005 Summer Meetings in Austin, Texas, conceptually supports review and consideration of the innovative regulatory policies and practices identified herein as "best practices;" *and be it further*

RESOLVED, That NARUC recommends that economic regulators consider and adopt as many as appropriate of the regulatory mechanisms identified herein as best practices; *and be it further*

RESOLVED, That the Committee on Water stands ready to assist economic regulators with implementation of any of the best practices set forth within this Resolution.

Sponsored by the Committee on Water
Adopted by the NARUC Board of Directors July 27, 2005

Exhibit G

EXHIBIT

G

PENNSYLVANIA PUBLIC UTILITY COMMISSION
HARRISBURG, PENNSYLVANIA 17105-3265

Petition of Pennsylvania-American Water Company for Approval to Implement a Tariff Supplement...Revising the Distribution Distribution System Improvement Charge	**Public Meeting held July 11, 2007** **JUL-2007-OSA-0161*** **Docket No.: P-00062241, *et al.***

MOTION OF CHAIRMAN WENDELL F. HOLLAND

Before us for consideration is the Petition filed by the Pennsylvania American Water Company for approval to implement a tariff supplement revising the distribution system improvement charge ("DSIC"). The revision being sought is a request to raise the DSIC cap from 5% of billed revenues to 7.5% on DSIC eligible infrastructure.[1] Administrative Law Judge Wayne L. Weismandel issued a Recommended Decision which denied the Petition. I disagree with the Recommended Decision and instead will move to grant Pennsylvania-American's Exceptions which succinctly clarify the Petition's consistency with the purpose of DSIC, along with providing ample support as to the benefits expected to accrue to ratepayers with a 7.5% DSIC cap.

If there were ever a regulatory tool literally created right here in Pennsylvania that is recognized as a best practice around the country it is the DSIC. Its main features are that it is:

- Pro-environmental as it significantly decreases line loss of one of our most precious resources;
- Promotes a major objective of this Administration and this Legislature which is to fix Pennsylvania's aging infrastructure; and
- Promotes economic development as it creates hundreds of jobs.

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[1] Revenue neutral projects allowed under DSIC include: main and valve replacement, main cleaning and relining, fire hydrant replacement, main extensions to eliminate dead ends, solutions to regionalization projects and meter change outs.

Background

1. National View

The DSIC mechanism is one of the most important regulatory tools of the past decade. It has been cited by the National Association of Regulatory Utility Commissioners as a "Best Practice"[2] and it has been designated by the Council of State Governments as "Model Legislation."[3] Nationwide, it is common knowledge that infrastructure is deteriorating throughout the country and this dilemma must be addressed in a timely, cost-effective manner.[4] The U.S. Environmental Protection Agency cites a $276.8 billion need to upgrade or replace drinking water infrastructure over the next 20 years.[5] Here in the Commonwealth, the state's portion of drinking water infrastructure needs over 20 years totals $10.8 billion.[6]

Many utilities were built more than a century ago and much of today's plant in service requires expensive upgrading. The unprecedented magnitude of the extent of needed infrastructure upgrades, along with the high cost, call for innovative solutions. Mains that were first placed into the ground a century ago cost approximately $1 a foot. Today, the remediation or replacement costs range from $61 to $100 per foot. Under traditional ratemaking, the pace of remediation ranged from a few hundred years to 900 years, or not in any way nearing a realistic timeframe to match the actual service lives of mains (approximately 75-125 years, with exceptions based on materials and soils). Legislatures in six other states recognized that a new regulatory mechanism was needed to accelerate the pace of infrastructure upgrades at a reasonable cost. DSIC has been a key response toward resolving this challenge.

2. Pennsylvania Perspective

Prior to DSIC's implementation in 1997, Pennsylvania-American's timeframe to upgrade its existing, aging infrastructure was 225 years.[7] Following DSIC's implementation, the timeframe was reduced by nearly 25% to 170 years. A critical factor is that with its current increased investments in DSIC eligible projects over the 5% cap (the most recent[8] quarterly filing reached 6.36%), the Company estimates a 33%

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[2] NARUC Board of Directors, "Resolution Supporting Consideration of Regulatory Policies Deemed as Best Practices," July 27, 2005.

[3] Council of State Governments, "Suggested State Legislation," 2000 Volume 59, pages 44-45.

[4] Innumerable articles have documented this situation, among the most well known is the American Society of Civil Engineers, "Report Card for America's Infrastructure," 2005; water and wastewater infrastructure received grades of "D minus; the grade for American's infrastructure overall was a "D."

[5] U.S. Environmental Protection Agency, "Drinking Water Infrastructure Needs Survey and Assessment," 2003.

[6] *Ibid.*

[7] Other jurisdictional water companies faced similar or worse timeframes.

[8] As of January 1, 2007.

reduction to 112 years, which more realistically reflects actual service lives.[9] Matching replacement with service life substantially improves service reliability.

Infrastructure remediation and improved service and service reliability directly benefits customers. Upgrades of deteriorated mains are essential to reduce main breaks, service interruptions and unaccounted for water; and improve water quality, improve pressure, enhance fire protection, and achieve rate stability. Additional ratepayer benefits include these essential goals; DSIC:

- Promoted the acquisition of small and non-viable water systems, consistent with Commission policy (see 52 Pa. Code §§ 69.711 (relating to small and nonviable systems));
- Promoted the regionalization of water systems, consistent with Commission policy (see 52 Pa. Code §69.721 (relating to acquisitions));
- Reduced rate case expense by decreasing the frequency of base rate case filings;
- Allowed water utilities to afford remediation projects that would have otherwise been cost-prohibitive; and
- Decreased main breaks, service interruptions, low pressure problems, and discolored water.[10]

When DSIC's implementation was approved by the Commission, several critical safeguards were established, including a cap of 5% of billed revenues.[11] Additional safeguards include: resetting the DSIC to zero at the time of the next base rate case or if the utility is over-earning; providing notice to customers of any change in the DSIC rate; audits are conducted as needed, and an annual reconciliation audit is conducted to ascertain any over or under-collections, with any over-collections being refunded with interest at the time of the next DSIC calculation. All mains or other DSIC eligible projects have been placed into service prior to DSIC charges being issued to customers and meet used and useful parameters, which are among the foundations of utility ratemaking principles. These safeguards remain untouched by the Company's requested higher cap.

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[9] Pennsylvania-American Main Brief, page 9.

[10] Aqua Pennsylvania, Inc. Correction to Amicus Curiae Brief, Docket Nos. P-00062241 and P-00062241C-0001, p. 4.

[11] Petition of Pennsylvania-American Water Company for Approval to Implement a Tariff Supplement Establishing a Distribution System Improvement Charge, Docket No. P-00961031, Order entered August 16, 1996, see Attachment A, "Sample Tariff Language," p. 4. The Petition was undergoing an appeal in Commonwealth Court when an amendment was enacted by the Legislature to add a section to the Public Utility Code to expressly provide for the allowance of an automatic adjustment charge for infrastructure remediation at 66 Pa. C.S. §1307 (g). The new section of the Statute was signed into law on December 18, 1996.

The Company points out that:

> . . . under the ALJ's criteria, there would not be a need for a DSIC at all, so long as a minimal level of adequate service was being rendered. Fortunately, the General Assembly had a broader vision and has provided the Commission with the tools to replace aging infrastructure in the Commonwealth. PAWC simply requests that the Commission use this tool and permit the Company to increase its DSIC percentage so that the purpose of the law can be realized.[12]

Goal of An Increased Cap

Pennsylvania-American recognized that its ideal spending level for infrastructure remediation "should be adequate to keep pace with the anticipated remaining useful life of the distribution system infrastructure."[13] The Company explained that in 2006 it accelerated its infrastructure upgrade program by over 50% and replaced 82 miles of mains. This can be compared with the pre-DSIC figure of replacing 25 miles per year. From DSIC's inception in1997 until 2005, the Company replaced 47 miles of main, or 0.56%. The 2006 increased rate of 0.90% has been maintained in 2007 at a DSIC level of 6.36% for all of 2007, although it is only allowed to collect at 5%. As previously stated, the current accelerated rate should enable the Company to significantly reduce by 34% the amount of time it would take to make all of the needed improvements, from approximately170 years to 112 years.[14]

The Company also noted its current focus on replacing smaller diameter mains due to its discovery that they were found to be a more frequent source of main breaks than larger diameter mains.[15] The Company states that an increased DSIC cap to 7.5% will support its efforts to accelerate the systematic replacement of its older small diameter mains. The company estimates it can reduce by about 20 years the time in which it will be able to make the needed improvements to this segment of its distribution system. The Company points out that in comparison, "an under-funded DSIC is more likely to result in more significant costs associated with unplanned or more extensive system repairs in the future (e.g., more main breaks and service interruptions, higher levels of unaccounted for water, etc.).[16]

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12 Pennsylvania-American Water Company Exceptions, Docket No. P-00062241, p. 11.
13 Pennsylvania-American Water Company Main Brief, p. 9.
14 *Ibid.*, pp. 8-9.
15 *Ibid.*, p. 11.
16 *Ibid.*, p. 12.

The Company has determined that a higher investment level is essential for it to keep pace with the anticipated remaining useful life of the distribution system infrastructure.[17] In fact, the Company summarizes the evidence presented in the instant case as revealing a choice between:

> . . . (1) providing the Company with adequate resources (a 7.5% DSIC cap) to support a three-year or more base rate case filing cycle, or (2) providing the Company with more limited resources (a 5% DSIC cap) that would encourage a more frequent base rate case cycle – every year or two.[18]

The Company summarizes further that:

> . . . the current DSIC cap of 5% will still be inadequate to provide the Company with resources adequate to achieve the Commission's long term objective – to accelerate the replacement of PAWC's efforts to accelerate its distribution system improvement program and encouraging the Company to make reasonable frequent base rate case filings.[19]

A higher DSIC rate today is consistent with the legislative intent to economically accelerate infrastructure remediation:

> The DSIC more accurately reflects the ongoing investments and improvements that are made in the water distribution system versus the less frequent but larger step increases that would result from base rate increases without an appropriately funded DSIC. The timely recovery of the fixed costs of infrastructure replacement through the DSIC provides an incentive for increased and continued levels of capital infusion. This results in a stronger and more reliable water distribution system for both current and future customers.[20]

Moreover, I note that Pennsylvania-American's customers' rates at the 5% DSIC rate average $1.75 a month. With a 7.5% DSIC, that rate will increase by $1.00 a month. It should be kept in mind that this rate will be reset to zero following the next base rate case (or at any time that the Company is over-earning) and it takes a number of billing cycles of progressive increases over a few years to rise to the allowed level of the cap.

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17 *Ibid.*, p. 9

18 Pennsylvania-American Exceptions, p. 12.

19 *Ibid.*

20 Pennsylvania-American Main Brief, p. 13.

Most importantly, DSIC represents a dollar-for-dollar recovery of prudent expenses incurred for improving reliability to customers.

In addition, a response is necessary to the argument put forth by the Office of Consumer Advocate ("OCA") that simple presentation of expenses virtually guarantees recovery.[21] Expense recovery is granted only for those DSIC eligible projects that are prudently incurred, in service and used and useful. In raising the level of DSIC expense recovery, we clearly intend to continue its cautious use. Contrary to the OCA's reference to the reasoning of the Commonwealth Court in the recent Collection System Improvement Charge Appeal,[22] the DSIC review and audit process includes a determination of compliance and prudency. Hence, the Court's reference to recovery of projects being relatively automatic (using the example of a solid gold manhole cover being allowed, provided the expense was made and submitted) is simply not accurate nor reflective of the extensive and thorough DSIC review process.

Finally, I am mindful of the value of DSIC: "its success cannot be denied. It is now time to improve upon that success by allowing an incremental increase in the cap."[23] I wholeheartedly agree.

THEREFORE, I MOVE:

1. That the Recommended Decision of Administrative Law Judge Wayne L. Weismandel is rejected, consistent with this Motion;

2. That the Exceptions of the Pennsylvania-American Water Company are granted;

3. That the Petition of Pennsylvania-American Water Company to implement a tariff supplement revising the distribution system improvement charge is granted.

4. That the Office of Special Assistants shall prepare the appropriate order consistent with this Motion.

_____ _____

DATE **WENDELL F. HOLLAND, CHAIRMAN**

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21 Office of Consumer Advocate Main Brief, p. 12.

22 *Popowsky v. Pa. PUC,* 869 A.2d 1144, 1156 (2005).

23 Aqua Pennsylvania Amicus Curiae Brief, p. 3.

Exhibit H

EXHIBIT

H

INFRASTRUCTURE REPLACEMENT AND ASSET MANAGEMENT[16]

Surveys conducted by the EPA suggest that the need for water and wastewater infrastructure improvement and replacement (both privately and publicly owned) over the next 20 years is between $500 billion and $1 trillion. This dollar level reflects a growing need across the nation to replace water and sewer pipes and other water and wastewater facilities as they approach the end of their useful lives.

The reason for this surge in infrastructure needs stems from the population boom and economic growth at the end of World War II. During those post-war years, there was unprecedented industrial, business, commercial and residential development, along with the water and wastewater infrastructure to support it. That infrastructure is now reaching the age when it is beginning to wear out and needs to be upgraded or replaced. Water and wastewater utilities need to manage those assets actively or risk adverse economic consequences, such as unplanned system failures, increased maintenance costs, and unbudgeted repair and replacement costs. Depending on the length of the useful life of various components, the need to replace this infrastructure will continue over the next several decades.

Many utilities have conducted plans consisting of a complete assessment of utility facilities and assets, including a determination of the condition and remaining useful life of each component of the system, right down to each segment of buried pipe. Components of the system are also rated in terms of criticality for operation of the system. A model is often developed based on asset condition, criticality, and other relevant factors to prioritize the infrastructure replacement and improvement needs over time. Costs are then applied to determine reinvestment needs over time.

The goal of these plans is to determine a reinvestment timeline that will allow continued operation of critical infrastructure throughout its useful life, but will ensure replacement before it fails and before maintenance costs increase dramatically. Planners then can prepare infrastructure replacement schedules and budgets that will spread out the costs of improvements over a pre-established planning horizon. This scheduling and budgeting will avoid unplanned maintenance and capital costs to the utility while maintaining efficient operation of the system.

This situation poses several challenges for utilities and regulatory commissions. One challenge is how to finance the necessary infrastructure replacements such that (a) rates increase gradually (as opposed to sudden spikes in rates) while (b) maintaining the utilities' financial stability. A second challenge is ensuring that the large expenditures are made prudently, so as to win and sustain customer trust and political credibility. Adding to the challenge is the absence, for most utilities, of a designated fund available to replace aging infrastructure—an absence attributable to ratemaking practices which have kept depreciation rates low and have disallowed or discouraged rate recovery of contributions in aid of construction.

Exhibit I

EXHIBIT

I

ARIZONA WATER COMPANY
DSIC Revenue Requirement
As of December 31, 2010

Line No.		[A] Pinal Valley
1	TEST YEAR DATA	
2		
3	Eligible DSIC Plant in Service	$ 2,500,000
4	Accumulated Depreciation	-
5	(Sch. 8, p. 1)	
6	Eligible DSIC Plant Rate Base	$ 2,500,000
7	Required Rate of Return	9.51%
8	(Proposed)	
9	Required Operating Income	$ 237,750
10	(Ln. 6 x Ln. 7)	
11	Revenue Conversion Factor	1.6569
12	(Decision No. 71845)	
13	Revenue Requirement - Return on Eligible DSIC Plant	$ 393,927
14	(Ln. 9 x Ln. 11)	
15		
16	Depreciation on Eligible DSIC Plant	$ 45,248
17	(Sch. 8, p. 1)	
18		
19	Total Revenue Requirement	$ 439,175
20	(Ln. 13 + Ln. 16)	
21		
22	Total Operating Revenue	17,358,501
23		
24	Maximum increase cap	7.5%
25		
26	Total Operating Revenue Limited by cap	$ 1,301,888
27	(Ln. 22 X Ln. 24)	
28		
29	Total Revenue Requirement lesser of L 19 or 26	$ 439,175
30		

		PINAL VALLEY (CASA GRANDE/COOLIDGE)		
		Current Rates	Proposed Rates	
		Decision No. 71845	DSIC	Total [B + C]
31				
32				
33				
34				
35				
36				
37	5/8 X 3/4-INCH RESIDENTIAL METER			
38	Basic Service Charge	$ 15.79	$ 0.50	$ 16.29
39	Commodity Rate (Per M Gallon)			
40	0 - 3,000 Gallons	$ 1.3700	$ 0.0437	1.4137
41	3,001 - 10,000 Gallons	$ 1.7123	$ 0.0437	1.7560
42	Over 10,000 Gallons	$ 2.1406	$ 0.0437	2.1843
43				
44				
45				

		PINAL VALLEY (STANFIELD)		
		Current Rates	Proposed Rates	
		Decision No. 71845	DSIC	Total [B + C]
46				
47				
48				
49				
50				
51	5/8 X 3/4-INCH RESIDENTIAL METER			
52	Basic Service Charge	$ 15.79	$ 0.50	$ 16.29
53	Commodity Rate (Per M Gallon)			
54	0 - 3,000 Gallons	$ 2.4379	$ 0.0437	2.4816
55	3,001 - 10,000 Gallons	$ 3.0476	$ 0.0437	3.0913
56	Over 10,000 Gallons	$ 3.8097	$ 0.0437	3.8534
57				
58				
59	Average Residential Bill (5/8 x 3/4 meter) - Casa Grande / Coolidge (8,522 gallons of usage)	$ 29.36	$ 0.87	$ 30.23
60				
61	Average Residential Bill (5/8 x 3/4 meter) - Stanfield (8,522 gallons of usage)	$ 39.93	$ 0.87	$ 40.81
62				
63				

Exhibit J

EXHIBIT

J

650
WATER MAIN BREAKS PER DAY
$2.6
BILLION IN LOST WATER EVERY YEAR
AT RISK
OUR NATION'S CLEAN WATER

EXECUTIVE SUMMARY

95% of American voters value water over any other service they receive, including heat and electricity

Our nation's industrial and agricultural businesses—among the heaviest water users—rank it second, after only electricity

About three out of four American voters and businesses* say disruptions in the water system would have direct and personal consequences

Too many take clean water for granted: 69% of voters, 72% of businesses*

When asked, U.S. voters and businesses* do express concern about our nation's water.

Nearly one in four American voters is "very concerned" about the state of the nation's water infrastructure

29% percent of voters agree that water pipes and systems in America are crumbling and approaching a state of crisis

80% of voters say water infrastructure needs reform; about 40% say major reform

*INDUSTRIAL AND AGRICULTURAL BUSINESSES ONLY

EXECUTIVE SUMMARY

People understand that, fixing our nation's water infrastructure problems is a shared responsibility:

85% of voters, 83% of businesses* agree federal, state and local governments should invest money in upgrading our water pipes and systems

79% of voters, 75% of businesses* agree and think government officials need to spend more time addressing water issues

Both citizens and businesses* understand and accept responsibility

63% of American voters, and 57% of businesses* say they are willing to pay a little more each month to upgrade our water system

People everywhere are willing to pay more, regardless of region, residence, gender, age or political affiliation

Voters are willing to pay on average $6.20 more per month

If we took them up on their offer, the United States could invest about $5.4 billion more per year in our nation's water infrastructure**

This is more than four times the FY09 federal investment in our nation's drinking water systems

*INDUSTRIAL AND AGRICULTURAL BUSINESSES ONLY
**BASED ON 2010 CENSUS U.S. BUREAU PROJECTIONS: 114,200,000 U.S. HOUSEHOLDS

JDH-4

Exhibit 2.1: State 20-Year Need Reported by Project Type (in millions of January 2007 dollars)

State	Transmission/ Distribution	Source	Treatment	Storage	Other	Total
Alabama	$3,343.9	$71.6	$386.5	$285.3	$12.0	$4,099.4
Alaska	$478.2	$56.4	$121.3	$150.0	$6.5	$812.4
Arizona	$3,819.0	$460.3	$2,150.2	$900.1	$81.1	$7,410.7
Arkansas	$3,667.5	$149.3	$966.0	$478.3	$17.4	$5,278.5
California	$22,988.5	$2,515.3	$7,549.7	$5,735.6	$257.3	$39,046.3
Colorado	$3,156.7	$371.7	$2,150.2	$696.7	$24.8	$6,400.1
Connecticut	$807.1	$134.9	$280.6	$151.6	$19.7	$1,394.0
District of Columbia	$836.8	$0.0	$0.4	$35.5	$1.5	$874.2
Florida	$7,234.9	$887.3	$3,552.1	$975.4	$173.5	$12,823.1
Georgia	$6,295.6	$406.2	$1,390.5	$751.5	$93.9	$8,937.7
Illinois	$8,982.0	$1,576.3	$2,907.8	$1,386.7	$164.2	$15,017.1
Indiana	$3,814.2	$353.8	$1,096.1	$648.5	$31.8	$5,944.4
Iowa	$4,356.8	$271.9	$990.8	$467.2	$26.4	$6,113.1
Kansas	$2,784.4	$187.1	$684.1	$339.7	$35.0	$4,030.2
Kentucky	$3,643.6	$121.7	$699.0	$474.8	$38.9	$4,978.1
Louisiana	$5,100.7	$305.7	$1,024.8	$427.4	$41.3	$6,900.1
Maryland	$3,497.6	$180.6	$1,134.5	$606.0	$24.7	$5,443.4
Massachusetts	$4,456.4	$340.9	$1,130.1	$823.4	$39.1	$6,790.0
Michigan	$7,657.6	$529.6	$2,548.5	$1,035.8	$71.3	$11,842.8
Minnesota	$2,819.3	$372.0	$1,982.9	$770.3	$43.9	$5,988.4
Mississippi	$1,604.4	$284.7	$907.2	$429.8	$17.2	$3,243.3
Missouri	$4,801.8	$324.7	$1,281.2	$635.7	$42.3	$7,085.6
Nebraska	$1,017.7	$140.5	$309.2	$300.8	$8.4	$1,776.6
Nevada	$1,116.4	$892.3	$202.2	$460.6	$19.8	$2,691.3
New Jersey	$4,722.9	$307.1	$1,850.4	$1,056.7	$24.7	$7,961.6
New York	$15,417.0	$1,915.5	$6,986.2	$2,707.8	$110.9	$27,137.3
North Carolina	$6,037.1	$670.7	$2,237.7	$1,032.7	$77.1	$10,055.2
Ohio	$8,374.2	$564.2	$2,235.6	$1,330.4	$94.6	$12,599.0
Oklahoma	$2,603.5	$142.0	$858.9	$493.5	$14.1	$4,112.1
Oregon	$1,520.6	$156.3	$546.1	$536.0	$26.2	$2,785.3
Pennsylvania	$7,644.9	$557.1	$1,834.5	$1,284.2	$58.7	$11,379.3
Puerto Rico	$1,079.5	$80.6	$1,037.4	$325.2	$14.8	$2,537.5
South Carolina	$1,102.7	$75.2	$222.3	$210.2	$17.9	$1,628.3
Tennessee	$2,356.3	$109.2	$692.8	$368.0	$21.2	$3,547.6
Texas	$15,950.2	$1,600.3	$5,785.2	$2,695.8	$99.2	$26,130.8
Virginia	$3,806.3	$196.0	$1,293.3	$722.8	$43.6	$6,061.9
Washington	$5,765.5	$717.3	$1,580.0	$1,502.7	$190.6	$9,756.0
Wisconsin	$3,550.5	$385.1	$1,467.5	$758.7	$24.2	$6,186.0
Partially Surveyed States*	$10,478.1	$1,131.1	$3,347.3	$2,099.5	$136.3	$17,192.4
Subtotal	**$198,690.3**	**$19,542.3**	**$67,421.3**	**$36,091.3**	**$2,246.3**	**$323,991.4**
American Samoa	$43.7	$10.6	$15.9	$22.0	$0.6	$92.8
Guam	$223.6	$2.0	$8.6	$29.7	$0.0	$263.9
Commonwealth of the Northern Mariana Islands	$123.2	$28.7	$61.8	$65.8	$9.7	$289.3
U.S. Virgin Islands	$138.3	$7.1	$45.9	$59.8	$2.3	$253.3
Subtotal	**$528.8**	**$48.4**	**$132.2**	**$177.2**	**$12.7**	**$899.4**
Total State Need	**$199,219.1**	**$19,590.7**	**$67,553.5**	**$36,268.5**	**$2,259.0**	**$324,890.8**

* For the 2007 DWINSA the need for states that opt out of the medium system portion of the survey is presented cumulatively and not by state. The list of the 14 partially surveyed states can be seen in Exhibit 2.4.

JDH-5

ARIZONA WATER COMPANY
Docket No. W-01445A-12-XXXX
Balance Sheet
As of December 31, 2011

Line No.		[A] TOTAL COMPANY	[B] NORTHERN GROUP[1]	[C] NAVAJO
1	ASSETS			
2				
3	UTILITY PLANT			
4	Gross Utility Plant	$ 408,786,575		
5	Less: Accumulated Depreciation	104,225,823		
6	Net Utility Plant	$ 304,560,752		
7				
8	CURRENT ASSETS			
9	Cash on Hand and in Banks	11,899,209		
10	Investments and Special Deposits	2,703		
11	Accounts Receivable	3,210,767		
12	Materials & Supplies	298,828		
13	Other	757,793		
14	Total Current Assets	$ 16,169,300		
15				
16	DEFERRED DEBITS	$ 7,312,924		
17				
18	TOTAL ASSETS	$ 328,042,976		
19				
20				
21	LIABILITIES			
22				
23	CAPITALIZATION			
24	Common Stock	2,700,000		
25	Capital Surplus	19,309,347		
26	Retained Earnings	56,211,847		
27	Common Stockholders Equity	$ 78,221,194	$ 31,080,969	$ 24,647,208
28	Long-Term Debt	75,000,000	29,895,000	23,706,735
29	Total Capitalization	$ 153,221,194	$ 60,975,969	$ 48,353,943
30				
31	CURRENT LIABILITIES			
32	Notes Payable	-		
33	Accounts Payable	6,998,332		
34	Accrued Expenses	3,034,819		
35	Other	-		
36	Total Current Liabilities	$ 10,033,151		
37				
38	DEFERRED CREDITS			
39	Advances for Construction	76,041,295		
40	Contributions in Aid of Construction	55,153,200		
41	Deferred Income Taxes	29,186,404		
42	Other	4,407,732		
43	Total Deferred Credits	$ 164,788,631		
44				
45	TOTAL CAPITAL AND LIABILITIES	$ 328,042,976		
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52				
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54				
55	[1]Allocated based on percentage of rate base to total company rate base.			

ARIZONA WATER COMPANY
Docket No. W-01445A-12-XXXX
Income Statement
As of December 31, 2011

Line No.		[A] TOTAL COMPANY	[B] NORTHERN GROUP	[C] NAVAJO
1				
2	OPERATING REVENUE	$ 55,869,594	$ 11,322,340	$ 3,917,284
3				
4	OPERATING EXPENSES			
5	Operation and Maintenance	25,936,455	5,264,034	1,990,750
6	Depreciation	8,913,573	1,689,546	643,577
7	Taxes Other than Income	7,919,670	1,493,442	481,042
8	Income Taxes	3,701,397	812,424	226,582
9	Total Operating Expenses	$ 46,471,095	$ 9,259,446	$ 3,341,951
10				
11	OPERATING INCOME	$ 9,398,499	$ 2,062,894	$ 575,333
12				
13	OTHER (INCOME) AND DEDUCTIONS			
14	Other (Income) - Net	(259,254)	(56,906)	(24,448)
15				
16	Interest on Long-Term Debt	5,115,500	1,148,398	359,135
17	Other Interest and Amortization	(369,202)	(82,884)	(25,920)
18	Total Interest	$ 4,746,298	$ 1,065,514	$ 333,215
19				
20	Total Other (Income) and Deductions	$ 4,487,044	$ 1,008,608	$ 308,767
21				
22	NET INCOME	$ 4,911,455	$ 1,054,286	$ 266,566
23				
24				
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Line No.		[A] NAVAJO
1		
2	REVENUE	
3	Total Operating Revenue	$ 3,917,284
4		
5	OPERATING EXPENSES	
6	Operation and Maintenance	1,990,750
7	Depreciation	643,577
8	Taxes Other than Income	481,042
9	Income Taxes	226,582
10	Total Operating Expenses	$ 3,341,951
11		
12	OPERATING INCOME/(LOSS)	$ 575,333
13		
14	RATE BASE - O.C.L.D. (Includes DSIC Plant)	10,224,973
15	(Sch. 7, Ln. 33)	
16		
17	RATE OF RETURN - O.C.L.D	5.63%
18	(Ln. 12 / Ln. 14)	
19		
20	AUTHORIZED RATE OF RETURN	7.87%
21	(Decision No. 71845)	
22		
23	OPERATING MARGIN	14.69%
24	(Ln. 12 / Ln. 3)	
25		
26	Interest Expense - Net	$ 333,215
27		
28	INEREST COVERAGE	2.41
29	[(Ln. 12 + Ln. 9) / Ln. 26]	
30		
31	Other (Income) and Deductions	$ (24,448)
32		
33	Equity Ratio	45.9%
34	(Decision 71845)	
35		
36	Allocated Equity	$ 4,688,150
37	(Ln. 14 x Ln. 33)	
38		
39	RETURN ON EQUITY	5.69%
40	[(Ln. 12 - Ln. 26 - Ln. 31) / Ln. 36]	
41		
42	AUTHORIZED RETURN ON EQUITY	9.50%
43	(Decision No. 71845)	
44		
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ARIZONA WATER COMPANY
Docket No. W-01445A-12-XXXX
Rate Review
As of December 31, 2011

Line No.		[A] NAVAJO Per Dec. No. 71845	[B] NAVAJO 12 Mos. Ending 12/31/2011	[C] NAVAJO DSIC Increase	[D] NAVAJO Adjusted with DSIC
1					
2	REVENUE				
3	Total Operating Revenue	$ 3,934,442	$ 3,917,284	$ 93,458	$ 4,010,742
4					
5	OPERATING EXPENSES				
6	Operation and Maintenance	2,149,747	1,990,750	-	1,990,750
7	Depreciation	621,869	643,577	10,060	653,637
8	Taxes Other than Income	116,327	481,042	-	481,042
9	Income Taxes	283,004	226,582	32,746	259,328
10	Total Operating Expenses	$ 3,170,947	$ 3,341,951	$ 42,807	$ 3,384,758
11					
12	OPERATING INCOME/(LOSS)	$ 763,495	$ 575,333	$ 50,652	$ 625,985
13					
14	RATE BASE - O.C.L.D.	10,336,573	9,668,973	556,000	10,224,973
15	(Sch. 7, Ln. 33)				
16					
17	RATE OF RETURN - O.C.L.D	7.39%	5.95%	9.11%	6.12%
18	(Ln. 12 / Ln. 14)				
19					
20	AUTHORIZED RATE OF RETURN	7.87%	7.87%	7.87%	7.87%
21	*(Decision No. 71845)*				
22					
23	OPERATING MARGIN	19.41%	14.69%	54.20%	15.61%
24	(Ln. 12 / Ln. 3)				
25					
26	Interest Expense - Net	$ 359,135	$ 333,215	80,000	413,215
27					
28	INEREST COVERAGE	2.91	2.41	1.04	2.14
29	[(Ln. 12 + Ln. 9) / Ln. 26]				
30					
31					
32					
33	Equity Ratio	45.9%	45.9%	51.0%	51.0%
34	*(Decision 71845)*				
35					
36	Allocated Equity	$ 4,739,319	$ 4,433,224	$ 283,393	$ 5,211,669
37	(Ln. 14 x Ln. 33)				
38					
39	*RETURN ON EQUITY*	8.53%	5.46%	-10.40%	4.08%
40	[(Ln. 12 - Ln. 26) / Ln. 36]				
41					
42	AUTHORIZED RETURN ON EQUITY	9.50%	9.50%	9.50%	9.50%
43	(Decision No. 71845)				
44					
45	THREE FACTOR RATIO	0.1019	0.1271	0.1271	0.1271
46					
47					
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Supporting Schedules:

Recap Schedules:

Line No.		[A] NAVAJO
1	TEST YEAR DATA	
2		
3	Eligible DSIC Plant in Service	$ 556,000
4	Accumulated Depreciation	-
5	(Sch. 8, p. 1)	
6	Eligible DSIC Plant Rate Base	$ 556,000
7	Required Rate of Return	9.11%
8		
9	Required Operating Income	$ 50,652
10	(Ln. 6 x Ln. 7)	
11	Revenue Conversion Factor	1.6465
12		
13	Revenue Requirement - Return on Eligible DSIC Plant	$ 83,398
14	(Ln. 9 x Ln. 11)	
15		
16	Depreciation on Eligible DSIC Plant	$ 10,060
17	(Sch. 8, p. 1)	
18		
19	Total Revenue Requirement	$ 93,458
20	(Ln. 13 + Ln. 16)	
21		
22	Total Operating Revenue	$ 3,917,284
23		
24	Maximum increase cap	7.50%
25		
26	Maximum increase	$ 293,796
27	(Ln 22 X Ln 24)	
28		
29	Total Revenue Requirement lesser of Ln19 or Ln 26	$ 93,458
30		
31		
32		
33		
34		
35		NAVAJO
36		Current Rates
37		Proposed Rates
38		
39		Decision No. 71845
40	5/8 X 3/4-INCH RESIDENTIAL METER	
41	Basic Service Charge	$ 12.64
42	Commodity Rate (Per M Gallon)	
43	0 - 3,000 Gallons	$ 4.2771
44	3,001 - 10,000 Gallons	$ 5.1320
45	Over 10,000 Gallons	$ 6.1580
46		
47		
48		
49		
50	Average Residential Bill (5/8 x 3/4 meter) - (3,200 gallons of usage)	$ 26.50
51		
52		
53		
54		
55		

	[B] DSIC	[C] Total [B + C]
5/8 X 3/4-INCH RESIDENTIAL METER		
Basic Service Charge	$ 0.40	$ 13.04
0 - 3,000 Gallons	$ 0.1132	4.3903
3,001 - 10,000 Gallons	$ 0.1132	5.2452
Over 10,000 Gallons	$ 0.1132	6.2712
Average Residential Bill (5/8 x 3/4 meter) - (3,200 gallons of usage)	$ 0.76	$ 27.26

NAVAJO

Line No.	GROWTH	Customers	M Gallons Sold	M Gallons Sold Per Cust.
4	12/31/2010 (Year 1)	9,120	410,528.8	45.0
5	12/31/2011 (Year 2)	9,171	415,411.8	45.3
6	Increase/(Decrease)	51	4,883	0.3
7	Percentage Change	0.56%	1.19%	0.63%
8	Average M Gallons		412,970.3	

INCREMENTAL FIXED COSTS TO BE RECOVERED PER BILL

Size	Customers by Meter Size 12/31/2011	12/31/2012	Est. Average Customers (A + B) / 2	Basic Service Charge	Meter Multiples	Equivalent Meters (C X F)	Fixed Increment Monthly (G39 X F)	Fixed Increment Annual (C X G) X 12
5/8"	8,877	8,927	8,902	**varies**	1.0	8,902	$ 0.40	$ 42,261
1"	102	103	103	**varies**	2.5	256	0.99	1,217
1.5"	-	-	-	**varies**	n/a	-	-	-
2"	62	62	62	**varies**	8.0	496	3.16	2,355
3"	4	4	4	**varies**	16.0	64	6.33	304
4"	3	3	3	**varies**	25.0	75	9.89	356
6"	1	1	1	**varies**	50.0	50	19.78	237
8"	-	-	-	**varies**	80.0	-	31.65	-
10"	-	-	-	**varies**	115.0	-	45.50	-
Totals	9,049	9,100	9,075			9,843		$ 46,729

CALCULATION OF SURCHARGE

		Minimum Surcharge (F34 X .5)	Commodity Surcharge (F34 X .5)
Total Revenue Requirement of DSIC Eligible Plant Capital Costs	$ 93,458		
50% of Total Revenue Requirement on Line 34 Recoverable through Basic Service Charge		$ 46,729	
50% of Total Revenue Requirement on Line 34 Recoverable through Commodity Charge			$ 46,729
Equivalent Meters (Col. G, Ln. 26 X 12 Mos.)		118,119	
Increment Per Equivalent 5/8" Meter (Col. G, Ln. 35 / Col. G, Ln. 38)		$ 0.40	
Average M Gallons (Col. C, Ln. 8)			412,970.3
Increment Per M Gallon (Col. H, Ln. 36 / Col. H, Ln. 41)			$ 0.1132

ARIZONA WATER COMPANY
Docket No. W-01445A-12-XXXX
Rate Base
As of December 31, 2011

Line No.		[A] NAVAJO Per Dec. No. 71845	[B] NAVAJO DSIC Plant Increase	[C] NAVAJO Dec. Plus DSIC Plant (A + B)	[D] NAVAJO Actual Balance 12/31/2011	[E] NAVAJO DSIC Plant Increase	[F] NAVAJO Actual Plus DSIC Increase (D + E)
1							
2	DSIC Eligible Plant	$ -	$ 556,000	$ 556,000	$ -	$ 556,000	$ 556,000
3							
4	Other Utility Plant in Service	26,636,201	-	26,636,201	29,976,333	-	29,976,333
5	Total Plant in Service	$ 26,636,201	$ 556,000	$ 27,192,201	$ 29,976,333	$ 556,000	$ 30,532,333
6	(Ln. 2 + Ln. 4)						
7							
8	Accumulated Depreciation	7,421,249.0	-	7,421,249	9,713,905	-	9,713,905
9	Net Utility Plant	$ 19,214,952	$ 556,000	$ 19,770,952	$ 20,262,428	$ 556,000	$ 20,818,428
10	(Ln. 5 - Ln. 8)						
11							
12	Advances	3,787,664	-	3,787,664	3,416,251	-	3,416,251
13							
14	Contributions - Net	3,251,861	-	3,251,861	4,858,599	-	4,858,599
15							
16	Deferred Income Tax	1,952,914	-	1,952,914	2,752,278	-	2,752,278
17							
18	Customer Deposits	15,235			21,020		21,020
19							
20	Working Capital Allowance	129,295	-	129,295	454,693	-	454,693
21	(Per Dec. 71845)						
22							
23	Net Regulatory Asset/(Liability)	-					
24							
25	Subtotal Rate Base	$ 10,336,573	$ 556,000	$ 10,907,808	$ 9,668,973	$ 556,000	$ 10,224,973
26	(Ln. 9 - Ln. 12 - Ln. 14 - Ln. 16 + Ln. 18)						
27							
28	Phoenix Office Allocation	- [1]	-	-	- [1]	-	-
29							
30	Meter Shop Allocation	- [1]	-	-	-	-	-
31							
32	Total Rate Base	10,336,573	556,000	10,907,808	9,668,973	556,000	10,224,973
33	(Ln. 21 + Ln. 24 + Ln. 26)						
34							
35							
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53							
54	[1]Phoenix Office and Meter Shop allocation included in line 4.						
55							

ARIZONA WATER COMPANY
Docket No. W-01445A-12-XXXX
CWIP Ledger
As of December 31, 2011

Line No.	[A]	[B]	[C]	[D]	[E]	[F]	[G]	[H]	[I]	[I]
1					NAVAJO					
2	W.A. No.	Month/Year	Date	Description	Vendor Name	Invoice No.	34301	34501	34801	Total
3										
4	1-5000	May-11	5/30/2008	JV-1 PAYROLL			1,341.00	45.00	114.00	1,500.00
5			5/30/2008	JV-2 PAYROLL TAXES			107.00	4.00	9.00	120.00
6			5/30/2008	JV-9 TRANSPORTATION			268.00	9.00	23.00	300.00
7							$ 1,716.00	$ 58.00	$ 146.00	$ 1,920.00
8										
13										
14		Jun-11	6/30/2008	JV-1 PAYROLL			7,154.00	240.00	607.00	8,001.00
15			6/30/2008	JV-2 PAYROLL TAXES			501.00	17.00	42.00	560.00
16			6/30/2008	JV-9 TRANSPORTATION			1,431.00	48.00	121.00	1,600.00
17			6/30/2008	Payables Trx Entry	ABC CONTRACTING	0100004	515,569.00	17,350.00	11,000.00	543,919.00
18							$ 524,655.00	$ 17,655.00	$ 11,770.00	$ 554,080.00
19										
20						Project Totals	$ 526,371.00	$ 17,713.00	$ 11,916.00	$ 556,000.00
21										
22						Depreciation Rate	1.79%	2.38%	1.82%	
23										
24						Annual Depreciation Expense	$ 9,422	$ 422	$ 217	$ 10,060
25										

Supporting Schedules:

N:\2012_Rate_Case\Work Papers\DSIC ACRM Support\DSIC Schedules NG\8-CWIP Lgr
Processing Date: 7/30/2012 12:28 PM

Recap Schedules:

ARIZONA WATER COMPANY
Docket No. W-01445A-12-XXXX
Three Factor Calculation
As of December 31, 2011

Line No.	System	2011 Customers	2011 Gross Plant Less Intangibles	2011 Gross Payroll	Ratios Customers	Ratios Gross Plant Less Intangibles	Ratios Gross Payroll	Total	Three Factor Ratio
1									
2	Superstition	23,971	$ 112,553,162	$ 2,096,441	0.2839	0.2852	0.2866	0.8557	0.2852
3	Cochise	6,456	21,167,606	671,311	0.0765	0.0536	0.0918	0.2219	0.0740
4	San Manuel	1,450	4,356,691	137,938	0.0172	0.0110	0.0189	0.0471	0.0157
5	Oracle / SaddleBrooke	1,693	12,484,950	161,055	0.0200	0.0316	0.0220	0.0737	0.0246
6	Winkelman	156	576,860	14,840	0.0018	0.0015	0.0020	0.0053	0.0018
7	Saddlebrooke	-	-	-	-	-	-	-	-
8	Pinal Valley	28,266	144,149,065	2,313,807	0.3347	0.3652	0.3164	1.0163	0.3388
9	White Tank	2,034	18,630,469	162,691	0.0241	0.0472	0.0222	0.0935	0.0312
10	Ajo	678	2,264,293	64,193	0.0080	0.0057	0.0088	0.0225	0.0075
11	Navajo	10,567	49,481,196	956,418	0.1251	0.1254	0.1308	0.3813	0.1271
12	Verde Valley	9,171	29,016,581	734,992	0.1086	0.0735	0.1005	0.2826	0.0942
13					-	-	-	-	-
14					-	-	-	-	-
15					-	-	-	-	-
16					-	-	-	-	-
17					-	-	-	-	-
18					-	-	-	-	-
19					-	-	-	-	-
20									
21	Totals	84,442	$ 394,680,873	$ 7,313,686	1.0000	1.0000	1.0000	3.0000	1.0000
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ARIZONA WATER COMPANY
Docket No. W-01445A-12-XXXX
Typical Bill Analysis
As of December 31, 2011

Line No.	Gallons Consumption	[A] NAVAJO Present Rates	[B] NAVAJO Proposed Rates	[C] NAVAJO DSIC Increase	[D] NAVAJO Percent Increase
1					
2	-	$ 12.64	$ 13.04	$ 0.40	3.1%
3	1,000	16.92	17.43	0.51	3.0%
4	2,000	21.19	21.82	0.62	2.9%
5	3,000	25.47	26.21	0.74	2.9%
6	4,000	30.60	31.45	0.85	2.8%
7	5,000	35.74	36.70	0.96	2.7%
8	6,000	40.87	41.94	1.07	2.6%
9	7,000	46.00	47.19	1.19	2.6%
10	8,000	51.13	52.43	1.30	2.5%
11	9,000	56.26	57.68	1.41	2.5%
12	10,000	61.40	62.92	1.53	2.5%
13	11,000	67.55	69.19	1.64	2.4%
14	12,000	73.71	75.46	1.75	2.4%
15	13,000	79.87	81.74	1.87	2.3%
16	14,000	86.03	88.01	1.98	2.3%
17	15,000	92.19	94.28	2.09	2.3%
18	20,000	122.98	125.63	2.66	2.2%
19	25,000	153.77	156.99	3.22	2.1%
20					
21					
22	Average Residential Consumption	3,200	3,200		
23					
24	Residential Bill at Average Consumption	$ 26.50	$ 27.26	$ 0.76	2.9%
25					
26					
27					
28					
29					
30	Basic Service Charge	$ 12.64	$ 13.04	$ 0.40	3.1%
31					
32	Commodity Rate (per M Gallon)				
33	0 - 3,000 Gallons	4.2771	4.3903	0.1132	2.6%
34	3,001 - 10,000 Gallons	5.1320	5.2452	0.1132	2.2%
35	Over 10,000 Gallons	6.1580	6.2712	0.1132	1.8%
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JDH-6

TARIFF SCHEDULE

ARIZONA WATER COMPANY	A.C.C. No.
Filed by: William M. Garfield	Cancelling A.C.C. No.
Title: President	Tariff or Schedule No.
Date of Original Filing:	Filed:
System(s): **VERDE VALLEY (Sedona, Pinewood, Rimrock)**	Effective:
NAVAJO (Overgaard, Pinetop Lakes)	

DISTRIBUTION SYSTEM IMPROVEMENT CHARGE (DSIC)

I. Purpose and Applicability

(A) Purpose: The purpose of this Distribution System Improvement Charge ("DSIC") is to recover the fixed costs (depreciation and pre-tax return) of certain non-revenue producing, non-expense reducing distribution system improvement projects completed and placed in service as described below, between base rate cases, and to provide Arizona Water Company ("the Company") with the resources to accelerate the replacement of aging water distribution infrastructure.

(B) Applicability: The DSIC is applicable to customers in the systems listed above.

II. Definitions

Unless the context otherwise requires, the definitions set forth in R-14-2-401 of the Arizona Corporation Commission's ("Commission") rules and regulations governing water utilities shall apply in interpreting this tariff schedule.

"Company" means Arizona Water Company.

"DSIC" means the Distribution System Improvement Charge

"Eligible Distribution System Improvements" means new, used and useful water utility plant projects that:

(1) were not included in the public utility's rate base in its most recent general rate case; and which
(2) replace or renew water mains, valves, services, meters and hydrants serving existing customers that have reached the end of their useful service life, are worn out, are in deteriorated condition, or which will negatively impact the quality and reliability of service to the customer if not replaced or renewed.

III. Terms and Conditions

(A) Calculation: The initial charge shall be calculated to recover the fixed costs of Eligible Distribution System Improvements that have not previously been reflected in the Company's rate base and will have been placed in service before December 31, 20XX. Thereafter, the DSIC will be updated on an annual basis to reflect Eligible Distribution System Improvements placed in service during the twelve-month period prior to the effective date of each DSIC update. Any request for a change in the DSIC will be filed with the supporting data and schedules required pursuant to Decision No. XXXXX.

The fixed costs of Eligible Distribution System Improvements will consist of depreciation and pre-tax return, calculated as follows:

(1) Depreciation: The depreciation expense will be calculated by applying to the original cost of Eligible Distribution System Improvements the annual accrual rates employed in the Company's last base rate case for the plant accounts in which each retirement unit of Eligible Distribution System Improvements is recorded.

(2) Pre-Tax Return: Revenues necessary to produce net operating income equal to the Company's weighted cost of capital as established in the most recent general rate proceeding for the Company's Northern Group systems multiplied by the net original cost of Eligible Distribution System Improvements.

(3) DSIC Surcharge Amount:

(a) Fifty percent of recoverable capital costs will be in the form of a monthly fixed surcharge and fifty percent will be in the form of a volumetric surcharge. The monthly fixed surcharge will be scaled to each meter size based on the approved 5/8 x 3/4-inch equivalent capacity ratio.

(b) Annual DSIC revenues between base rate filings shall be capped at 7.5% of the amount billed to customers under otherwise applicable rates and charges.

(c) The DSIC Surcharge Amount shall be reset to zero as of the effective date of new base rates that provide for the prospective recovery of the annual costs theretofore recovered under the DSIC.

(d) No DSIC filing will be made if, in any annual period, the system for which the filing would otherwise be made is earning a rate of return that exceeds the authorized rate of return for that system.

(e) A copy of the surcharge calculation for each water system will be available for public inspection at the Company's Sedona, Overgaard and Lakeside offices.

B) Customer Notice: Customers shall be notified of changes in the DSIC by including appropriate information on the first bill they receive following any change. An explanatory bill insert shall also be included with the first billing.

C) Adjustment: Plus the applicable proportionate part of any taxes or governmental impositions which are or may in the future be assessed on the basis of the gross revenues of the Company and/or the price or revenue from the water or service-sold and/or the volume of water pumped or purchased for sale and/or sold hereunder and any tax or similar assessment based on the withdrawal, delivery or use of water. In the event of any increase or decrease in taxes or other governmental impositions, rates shall be adjusted to reflect such increase or decrease.

JDH-7

ARIZONA WATER COMPANY
Docket No. W-01445A-12-XXXX
DSIC Revenue Requirement
As of December 31, 2011

Line No.		[A] Navajo
1	TEST YEAR DATA	
2		
3	Eligible DSIC Plant in Service	$ 556,000
4	Accumulated Depreciation	-
5	(Sch. 8, p. 1)	
6	Eligible DSIC Plant Rate Base	$ 556,000
7	Required Rate of Return	9.11%
8	(Proposed)	
9	Required Operating Income	$ 50,652
10	(Ln. 6 x Ln. 7)	
11	Revenue Conversion Factor	1.6465
12	(Decision No. 71845)	
13	Revenue Requirement - Return on Eligible DSIC Plant	$ 83,398
14	(Ln. 9 x Ln. 11)	
15		
16	Depreciation on Eligible DSIC Plant	$ 10,060
17	(Sch. 8, p. 1)	
18		
19	Total Revenue Requirement	$ 93,458
20	(Ln. 13 + Ln. 16)	
21		
22	Total Operating Revenue	$ 3,917,284
23		
24	Maximum increase cap	7.5%
25		
26	Total Operating Revenue Limited by cap	$ 293,796
27	(Ln. 22 X Ln. 24)	
28		
29	Total Revenue Requirement lesser of L 19 or 26	$ 93,458
30		

Line No.		Navajo		
		Current Rates	Proposed Rates	
		Decision No. 71845	DSIC	Total [B + C]
31				
32				
33				
34				
35				
36				
37	5/8 X 3/4-INCH RESIDENTIAL METER			
38	Basic Service Charge	$ 12.64	$ 0.40	$ 13.04
39	Commodity Rate (Per M Gallon)			
40	0 - 3,000 Gallons	$ 4.2771	$ 0.1132	4.3903
41	3,001 - 10,000 Gallons	$ 5.1320	$ 0.1132	5.2452
42	Over 10,000 Gallons	$ 6.1580	$ 0.1132	6.2712
43				
44				
45				
46				
47	Average Residential Bill (5/8 x 3/4 meter) - (3,200 gallons of usage)	$ 26.50	$ 0.76	$ 27.26
48				
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ARIZONA WATER COMPANY
Docket No. W-01445A-12-XXXX
Surcharge Calculation
As of December 31, 2011

NAVAJO

Line No.		[A]	[B]	[C]	[D]
3	GROWTH		Customers	M Gallons Sold	M Gallons Sold Per Cust.
4	12/31/2010 (Year 1)		9,120	410,528.8	45.0
5	12/31/2011 (Year 2)		9,171	415,411.8	45.3
6	Increase/(Decrease)		51	4,883	0.3
7	Percentage Change		0.56%	1.19%	0.63%
8	Average M Gallons			412,970.3	

11 INCREMENTAL FIXED COSTS TO BE RECOVERED PER BILL

Line No.	Size	Customers by Meter Size 12/31/2011	12/31/2012	Est. Average Customers (A + B) / 2	Basic Service Charge	Meter Multiples	Equivalent Meters (C X F)	Fixed Increment Monthly (G39 X F)	Fixed Increment Annual (C X G) X 12
17	5/8"	8,877	8,927	8,902	**varies**	1.0	8,902	$ 0.40	$ 42,259
18	1"	102	103	103	**varies**	2.5	257	0.99	1,218
19	1.5"	-	-	-	**varies**	n/a	-	-	-
20	2"	62	62	62	**varies**	8.0	496	3.16	2,355
21	3"	4	4	4	**varies**	16.0	64	6.33	304
22	4"	3	3	3	**varies**	25.0	75	9.89	356
23	6"	1	1	1	**varies**	50.0	50	19.78	237
24	8"	-	-	-	**varies**	80.0	-	31.65	-
25	10"	-	-	-	**varies**	115.0	-	45.49	-
26	Totals	9,050	9,100	9,075			9,844		$ 46,729

29 CALCULATION OF SURCHARGE

Line No.			Minimum Surcharge (F34 X .5)	Commodity Surcharge (F34 X .5)
34	Total Revenue Requirement of DSIC Eligible Plant Capital Costs	$ 93,458		
35	50% of Total Revenue Requirement on Line 34 Recoverable through Basic Service Charge		$ 46,729	
36	50% of Total Revenue Requirement on Line 34 Recoverable through Commodity Charge			$ 46,729
38	Equivalent Meters (Col. G, Ln. 26 X 12 Mos.)		118,125	
39	Increment Per Equivalent 5/8" Meter (Col. G, Ln. 35 / Col. G, Ln. 38)		$ 0.40	
41	Average M Gallons (Col. C, Ln. 8)			412,970.3
42	Increment Per M Gallon (Col. H, Ln. 36 / Col. H, Ln. 41)			$ 0.1132

ARIZONA WATER COMPANY
Docket No. W-01445A-12-XXXX
DSIC Revenue Requirement
As of December 31, 2011

Line No.		[A] Verde Valley
1	TEST YEAR DATA	
2		
3	Eligible DSIC Plant in Service	$ 1,049,000
4	Accumulated Depreciation	-
5	(Sch. 8, p. 1)	
6	Eligible DSIC Plant Rate Base	$ 1,049,000
7	Required Rate of Return	9.11%
8	(Proposed)	
9	Required Operating Income	$ 95,564
10	(Ln. 6 x Ln. 7)	
11	Revenue Conversion Factor	1.6469
12	(Decision No. 71845)	
13	Revenue Requirement - Return on Eligible DSIC Plant	$ 157,384
14	(Ln. 9 x Ln. 11)	
15		
16	Depreciation on Eligible DSIC Plant	$ 18,987
17	(Sch. 8, p. 1)	
18		
19	Total Revenue Requirement	$ 176,371
20	(Ln. 13 + Ln. 16)	
21		
22	Total Operating Revenue	7,405,056
23		
24	Maximum increase cap	7.5%
25		
26	Total Operating Revenue Limited by cap	$ 555,379
27	(Ln. 22 X Ln. 24)	
28		
29	Total Revenue Requirement lesser of L 19 or 26	$ 176,371

	VERDE VALLEY (Sedona)		
	Current Rates	Proposed Rates	
	Decision No. 71845	DSIC	Total [B + C]
37	5/8 X 3/4-INCH RESIDENTIAL METER		
38	Basic Service Charge	$ 23.10	$ 0.55	$ 23.65
39	Commodity Rate (Per M Gallon)			
40	0 - 3,000 Gallons	$ 1.5317	$ 0.0745	1.6062
41	3,001 - 10,000 Gallons	$ 1.9147	$ 0.0745	1.9892
42	Over 10,000 Gallons	$ 2.3910	$ 0.0745	2.4655
43				
44	Average Residential Bill (5/8 x 3/4 meter) - (6,200 gallons of usage)	$ 33.82	$ 1.01	$ 34.83

	VERDE VALLEY (Pinewood/Rimrock)		
	Current Rates	Proposed Rates	
	Decision No. 71845	DSIC	Total [B + C]
54	5/8 X 3/4-INCH RESIDENTIAL METER		
55	Basic Service Charge	$ 23.10	$ 0.55	$ 23.65
56	Commodity Rate (Per M Gallon)			
57	0 - 3,000 Gallons	$ 3.3891	$ 0.0745	3.4636
58	3,001 - 10,000 Gallons	$ 4.2361	$ 0.0745	4.3106
59	Over 10,000 Gallons	$ 5.2954	$ 0.0745	5.3699
60				
61	Average Residential Bill (5/8 x 3/4 meter) - (6,200 gallons of usage)	$ 46.82	$ 1.01	$ 47.83

ARIZONA WATER COMPANY
Docket No. W-01445A-12-XXXX
Surcharge Calculation
As of December 31, 2011

VERDE VALLEY

Line No.	GROWTH	[A] Customers	[B] M Gallons Sold	[C] M Gallons Sold Per Cust.
4	12/31/2009 (Year 1)	10,567	1,180,143.8	111.7
5	12/31/2010 (Year 2)	10,567	1,186,698.7	112.3
6	Increase/(Decrease)	-	6,555	0.6
7	Percentage Change	0.00%	0.56%	0.56%
8	Average M Gallons		1,183,421.3	

INCREMENTAL FIXED COSTS TO BE RECOVERED PER BILL

Line No.	Size	Customers by Meter Size 12/31/2011	12/31/2012	Est. Average Customers (A + B) / 2	Basic Service Charge	Meter Multiples	Equivalent Meters (C X F)	Fixed Increment Monthly (G39 X F)	Fixed Increment Annual (C X G) X 12
17	5/8"	9,457	9,457	9,457	**varies**	1.0	9,457	$ 0.55	$ 62,271
18	1"	768	768	768	**varies**	2.5	1,919	1.37	12,638
19	1.5"	-	-	-	**varies**	n/a	-	-	-
20	2"	173	173	173	**varies**	8.0	1,385	4.39	9,122
21	3"	6	6	6	**varies**	16.0	96	8.78	632
22	4"	9	9	9	**varies**	25.0	225	13.72	1,482
23	6"	3	3	3	**varies**	50.0	150	27.44	988
24	8"	2	2	2	**varies**	80.0	160	43.90	1,054
25	10"	-	-	-	**varies**	115.0	-	63.10	-
26	Totals	10,418	10,418	10,418			13,393		$ 88,186

CALCULATION OF SURCHARGE

Line No.			Minimum Surcharge (F34 X .5)	Commodity Surcharge (F34 X .5)
34	Total Revenue Requirement of DSIC Eligible Plant Capital Costs	$ 176,371		
35	50% of Total Revenue Requirement on Line 34 Recoverable through Basic Service Charge		$ 88,186	
36	50% of Total Revenue Requirement on Line 34 Recoverable through Commodity Charge			$ 88,186
38	Equivalent Meters (Col. G, Ln. 26 X 12 Mos.)		160,715	
39	Increment Per Equivalent 5/8" Meter (Col. G, Ln. 35 / Col. G, Ln. 38)		$ 0.55	
41	Average M Gallons (Col. C, Ln. 8)			1,183,421.3
42	Increment Per M Gallon (Col. H, Ln. 36 / Col. H, Ln. 41)			$ 0.0745

JDH-8

ARIZONA WATER COMPANY
Docket No. W-01445A-12-XXXX
Off-site Facilities Fee Overview

Line No.	[A]	[B]	[C]	[D]	[E]
1	ESTIMATED OFF-SITE FACILITIES				
2					Estimated
3					Cost
4					
5		Real Property & Right of Way			190,000
6		Storage Tank			2,060,000
7		Well			1,800,000
8		Booster Station			750,000
9					
10					
11				Total:	$4,800,000
12					
13					
14	Off-Site Facilities Fee				
15	by Meter Size				
16	Meter	Meter			
17	Size	Multiplier	Fee		
18					
19	5/8 & 3/4-inch	1	$1,100		
20	3/4-inch	1.5	$1,650		
21	1-inch	2.5	$2,750		
22	1.5-inch	5	$5,500		
23	2-inch	8	$8,800		
24	3-inch	16	$17,600		
25	4-inch	25	$27,500		
26	6-inch & Larger	50	$55,000		
27					
28					
29					
30					
31					
32					
33					
34					
35					
36					
37					
38					
39					
40					

[F]	[G]	[H]	[I]	[J]
			Estimated	
Year	No. of Customers	Annual Fees	Cumulative Fees	Construction Expenditures	Fund Balance
2012	6,506	-	-	190,000	(190,000)
2013	6,575	75,900	75,900	421,500	(535,600)
2014	6,642	73,700	149,600	2,094,250	(2,556,150)
2015	6,708	72,600	222,200	2,094,250	(4,577,800)
2016	6,772	70,400	292,600	-	(4,507,400)
2017	6,835	69,300	361,900	-	(4,438,100)
2018	6,897	68,200	430,100	-	(4,369,900)
2019	6,957	66,000	496,100	-	(4,303,900)
2020	7,015	63,800	559,900	-	(4,240,100)
2021	7,072	62,700	622,600	-	(4,177,400)
2022	7,128	61,600	684,200	-	(4,115,800)
2023	7,183	60,500	744,700	-	(4,055,300)
2024	7,236	58,300	803,000	-	(3,997,000)
2025	7,288	57,200	860,200	-	(3,939,800)
2026	7,339	56,100	916,300	-	(3,883,700)
2027	7,389	55,000	971,300	-	(3,828,700)
2028	7,437	52,800	1,024,100	-	(3,775,900)

JDH-9

TARIFF SCHEDULE

ARIZONA WATER COMPANY	A.C.C. No.
Filed by: William M. Garfield	Cancelling A.C.C. No.
Title: President	Tariff or Schedule No.
Date of Original Filing:	Filed:
System(s): **VERDE VALLEY (SEDONA)**	Effective:

OFF-SITE FACILITIES FEE (WATER)

I. Purpose and Applicability

The purpose of the off-site facilities fees payable to Arizona Water Company ("the Company") pursuant to this tariff is to equitably apportion the costs of constructing additional off-site facilities necessary to provide water production, treatment, delivery, storage and pressure among all new service connections. These charges are applicable to all new service connections established after the effective date of this tariff undertaken via Main Extension Agreements or requests for service not requiring a Main Extension Agreement. The charges are one-time charges and are payable as a condition to Company's establishment of service, as more particularly provided below.

II. Definitions

Unless the context otherwise requires, the definitions set forth in R-14-2-401 of the Arizona Corporation Commission's ("Commission") rules and regulations governing water utilities shall apply in interpreting this tariff schedule.

"Applicant" means any party entering into an agreement with Company for the installation of water facilities to serve new service connections, including Developers and/or Builders of new residential subdivisions and/or commercial and industrial properties.

"Company" means Arizona Water Company.

"Main Extension Agreement" means any agreement whereby an Applicant agrees to advance the costs of the installation of water facilities necessary for the Company to serve new service connections within a development, or installs such water facilities necessary to serve new service connections and transfer ownership of such water facilities to the Company, which agreement shall require the approval of the Commission pursuant to A.A.C. R-14-2-406, and shall have the same meaning as "Water Facilities Agreement" or "Line Extension Agreement."

"Off-site Facilities" means water treatment facilities, including treatment of other available water supplies, storage tanks and related appurtenances and equipment necessary for proper operation of such water treatment facilities, including engineering

and design costs. Off-site facilities may also include booster pumps, wells for recovery of other groundwater supplies, pressure tanks, transmission mains and related appurtenances and equipment necessary for proper operation of such facilities if these facilities are not for the exclusive use of the applicant and will benefit the entire water system.

"Service Connection" means and includes all service connections for single-family residential or commercial, industrial other uses, regardless of meter size.

III. Off-Site Water Facilities Fee

For each new service connection, the Company shall collect an off-site facilities fee derived from the following table:

OFF-SITE FACILITIES FEE TABLE		
Meter Size	**Size Factor**	**Total Fee**
5/8" x 3/4 "	1	$1,100
3/4"	1.5	$1,650
1"	2.5	$2,750
1-1/2 "	5	$5,500
2"	8	$8,800
3"	16	$17,600
4"	25	$27,500
6" or larger	50	$55,000

IV. Terms and Conditions

(A) Assessment of One Time Off-Site Facilities Fee: The off-site facilities fee may be assessed only once per parcel, service connection, or lot within a subdivision (similar to meter and service line installation charge).

(B) Use of Off-Site Facilities Fee: Off-site facilities fees may only be used to pay for capital items of off-site facilities or for repayment of loans obtained to fund the cost of installation of off-site facilities. Off-site facilities fees shall not be used to cover repairs, maintenance, or operational costs. The Company shall record amounts collected under tariff as Contributions in Aid of Construction ("CIAC"); however, such amounts shall not be deducted from rate base until such amounts have been expended for utility plant.

(C) Time of Payment:

(1) For those requiring a Main Extension Agreement: In the event that the Applicant is required to enter into a Main Extension Agreement, whereby the Applicant agrees to advance the costs of installing mains, valves,

fittings, hydrants and other on-site improvements or construct such improvements in order to extend service in accordance with R-14-2-406(B), payment of the off-site facilities fees required hereunder shall be made by the Applicant no later than 15 calendar days after receipt of notification from the Company that the Utilities Division of the Arizona Corporation Commission has approved the Main Extension Agreement in accordance with R-14-2-406(M).

(2) For those connecting to an existing main: In the event that the Applicant is not required to enter into a Main Extension Agreement, the off-site facilities fee charges hereunder shall be due and payable at the time the meter and service line installation fee is due and payable.

(D) Off-Site Facilities Construction By Developer: Company and Applicant may agree to construction of off-site facilities necessary to serve a particular development by Applicant, which facilities are then conveyed to Company. In that event, Company shall credit the total cost of such off-site facilities as an offset to off-site facilities fees due under this Tariff. If the total cost of the off-site facilities constructed by Applicant and conveyed to Company is less than the applicable off-site facilities fees under this Tariff, Applicant shall pay the remaining amount of off-site facilities fees owed hereunder. If the total cost of the off-site facilities contributed by Applicant and conveyed to Company is more than the applicable off-site facilities fees under this Tariff, Applicant shall be refunded the difference upon acceptance of the off-site facilities by the Company.

(E) Failure to Pay Charges; Delinquent Payments: The Company will not be obligated to make an advance commitment to provide or actually provide water service to any Applicant in the event that the Applicant has not paid in full all charges hereunder. Under no circumstances will the Company set a meter or otherwise allow service to be established if the entire amount of any payment due hereunder has not been paid.

(F) Large Subdivision and/or Development Projects: In the event that the Applicant is engaged in the development of a residential subdivision and/or development containing more than 150 lots, the Company may, in its discretion, agree to payment of off-site facilities fees in installments. Such installments may be based on the residential subdivision and/or development's phasing, and should attempt to equitably apportion the payment of charges hereunder based on the Applicant's construction schedule and water service requirements. In the alternative, the Applicant shall post an irrevocable letter of credit in favor of the Company in a commercially reasonable form, which may be drawn by the Company consistent with the actual or planned construction and hook up schedule for the subdivision and/or development.

(G) Off-Site Facilities Fees Non-refundable: The amounts collected by the Company as off-site facilities fees shall be non-refundable contributions in aid of construction.

(H) Use of Off-Site Facilities Fees Received: All funds collected by the Company as off-site facilities fees shall be deposited into a separate interest bearing bank account

and used solely for the purposes of paying for the costs of installation of off-site facilities, including repayment of loans obtained for the installation of off-site facilities that will benefit the entire water system.

(I) Off-Site Facilities Fee in Addition to On-site Facilities: The off-site facilities fee shall be in addition to any costs associated with the construction of on-site facilities under a Main Extension Agreement.

(J) Disposition of Excess Funds: After all necessary and desirable off-site facilities are constructed utilizing funds collected pursuant to this tariff, or if the off-site facilities fee tariff has been terminated by order of the Arizona Corporation Commission, any funds remaining in the bank account shall be refunded. The manner of the refund shall be determined by the Commission at the time a refund becomes necessary.

(K) Fire Flow Requirements: In the event the Applicant for service has fire flow requirements that require additional facilities not covered by this tariff, such additional facilities shall be constructed under a separate Main Extension Agreement as a non-refundable contribution and shall be in addition to the off-site facilities fees.

(L) Status Reporting Requirements to the Commission: The Company shall submit a calendar year off-site facilities fee status report each January 31st to Docket Control for the prior twelve (12) month period, beginning January 31, 20___, until the off-site facilities fee tariff is no longer in effect. This status report shall contain a list of all customers that have paid the off-site facilities fee, the amount each has paid, the physical location/address of the property in respect of which such fee was paid, the amount of money spent from the account, the amount of interest earned on the funds within the tariff account, and a list of all facilities that have been installed with the tariff funds during the twelve (12) month period.

Joel M. Reiker

ARIZONA WATER COMPANY

Docket No. W-01445A-12-

2012 RATE HEARING

(For Test Year Ending 12/31/11

PREPARED

DIRECT TESTIMONY & EXHIBITS

OF

Joel M. Reiker

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ARIZONA WATER COMPANY

Direct Testimony of

Joel M. Reiker

I. Introduction and Qualifications

Q. PLEASE STATE YOUR NAME, EMPLOYER, AND OCCUPATION.

A. My name is Joel M. Reiker. I am employed by Arizona Water Company (the "Company") as Vice President - Rates and Revenues. In this role, my responsibilities include the direction, oversight, preparation and support of regulatory filings related to the Company's rates and charges for utility service.

Q. PLEASE DESCRIBE YOUR EDUCATIONAL BACKGROUND AND WORK EXPERIENCE.

A. In 1998, I graduated from the Arizona State University School of Management, receiving a Bachelor of Science degree in global business with a specialization in financial management. I have participated in a variety of educational programs and classes on public utility and regulatory issues, including the National Association of Regulatory Utility Commissioners ("NARUC") and the Institute of Public Utilities' Regulatory Studies program at Michigan State University, as well as courses in water distribution system operation and maintenance. From 1999 to 2005, I was employed by the Arizona Corporation Commission ("Commission") as a Staff Rate Analyst in the Utilities Division. During my employment with the Commission, my responsibilities included providing recommendations on behalf of Staff regarding rate of return, mergers and acquisitions, divestitures, financings, and affiliated interests issues, and I occasionally acted as an arbitrator for disputes brought before the Utilities Division. Subsequent to my employment with the Commission, I was employed by the American Water Works Service Company ("American Water") as Senior Regulatory Analyst. My

responsibilities with American Water included the preparation and support of regulatory filings, including rate cases, on behalf of utility subsidiaries in the states of Arizona, California, New Mexico and Hawaii. In 2007, I joined the Company as Manager of Rates and Regulatory Accounting. I am a member of the American Water Works Association ("AWWA") and the Society of Utility and Regulatory Financial Analysts ("SURFA"). I am an Arizona Department of Environmental Quality ("ADEQ") certified water distribution system operator and a SURFA Certified Rate of Return Analyst. Appendix A contains a listing of my relevant regulatory experience.

Q. HAVE YOU PREVIOUSLY TESTIFIED BEFORE THE COMMISSION?

A. Yes. I have testified before the Commission in cases involving rates, mergers and acquisitions, financings, complaints, and the Commission's affiliated interests rules. I also testified in California before the California Public Utilities Commission on issues regarding rate of return, risk and revenue decoupling, and I prepared and filed pre-filed testimony with the New Mexico Public Regulation Commission addressing marginal cost-based special contracts.

II. Purpose and Scope of Testimony

Q. WHAT IS THE SCOPE OF YOUR TESTIMONY IN THIS PROCEEDING?

A. I address several issues and specific adjustments in this general rate case application, including the development of rate base, working capital requirement, and net operating income for the Company's Northern Group for the historical twelve-month period ending December 31, 2011 ("Test Year"). I also sponsor the calculation of the associated increase in gross revenue requirement, as well as the Company's cost of service study and proposed rate design for each system in the Northern Group.

Q. DOES YOUR TESTIMONY IN THIS PROCEEDING INCORPORATE THE RECOMMENDATIONS OF OTHER COMPANY WITNESSES?

A. Yes. My testimony in this proceeding incorporates recommendations sponsored in the pre-filed direct testimonies of William M. Garfield, Joseph D. Harris, Fredrick K. Schneider and Pauline M. Ahern.

Q. PLEASE IDENTIFY THE EXHIBITS AND ASSOCIATED SCHEDULES YOU ARE SPONSORING.

A. I sponsor the rate case exhibits and schedules marked A through H accompanying the Company's application in this proceeding. These schedules constitute all of the information required from Class A utilities pursuant to Arizona Administrative Code ("A.A.C.") R14-2-103.B. I also sponsor Exhibits JMR-1 and JMR-2 attached to this pre-filed testimony.

Q. WERE THESE EXHIBITS PREPARED BY YOU OR UNDER YOUR DIRECTION AND SUPERVISION?

A. Yes, they were.

Q. DID THE COMPANY FILE THE ADDITIONAL INFORMATION REQUIRED FOR CLASS A, B AND C UTILITIES PURSUANT TO A.A.C. R14-2-103.B.5?

A. Yes. These additional filing requirements are included as Appendices 1 through 5 to the Company's application.

Q. WHICH OF THE COMPANY'S SYSTEMS ARE INCLUDED IN THIS GENERAL RATE CASE APPLICATION?

A. As stated above, this application includes the Company's water systems located in its Northern Group. The Company's Northern Group includes the Navajo and Verde Valley systems.

The Navajo system was formed as a result of Decision 71845 (August 24, 2010), which consolidated the water systems formerly known as Lakeside and Overgaard. Decision 71845 also authorized full rate consolidation of the Pinewood and Rimrock water systems into a single water system known as Verde Valley which, in turn, was partially consolidated with the Sedona system by way of a single, consolidated, basic service charge. Under this approach, the

accounting records of the Sedona, Pinewood and Rimrock systems were fully consolidated into the new Verde Valley system.

Q. WERE THE COMMODITY RATES FOR SEDONA, PINEWOOD AND RIMROCK FULLY CONSOLIDATED IN DECISION 71845?

A. No. As stated above, Decision 71845 consolidated the fixed basic service charges and accounting records of Sedona, Pinewood and Rimrock, but only the commodity rates, tariffs and billing records for the Pinewood and Rimrock systems were fully consolidated. The Sedona system retained separate commodity rates, which are to be fully consolidated into Verde Valley in a future rate proceeding. As more fully discussed by Mr. Harris in his pre-filed testimony, in this proceeding the Company proposes to complete the consolidation of the Verde Valley system by designing a single fixed basic service charge and commodity rate structure for the Verde Valley system, consistent with Decision 71845.

III. <u>The Concept of a Fair and Reasonable Rate</u>

Q. WHAT IS A FAIR AND REASONABLE RATE?

A. In the context of public utility regulation, a fair and reasonable rate, in the aggregate, is one that provides the utility an opportunity to recover no less, and no more, than its cost of providing service, including the cost of capital deployed in the provision of such service, to the public. The authoritative text on utility ratemaking by professors Bonbright, Danielsen and Kamerschen provides the following statement on cost of service as the standard of reasonableness:

> No writer whose views on public utility rates command respect purports to find a single yardstick by sole reference to which rates may be judged reasonable or socially desirable as distinguished from rates that are unreasonable or adverse to the public interest. A complex of tests of acceptability is required just as would be the case with the tests of a good automobile, a good income-tax law, or a good poem. Nevertheless, one standard of reasonable rates can fairly be said to outrank all others in the importance attached to it by experts and public opinion alike – the standard of costs of service, often qualified by the stipulation that the relevant cost is necessary,

true (i.e., private and social) cost or cost reasonably or prudently incurred.[1]

As I discuss in Section VII, below, a specific rate charged to an individual customer may not be equal to the cost of providing service to that customer. Such an *individual* rate can still be considered fair and reasonable, provided that some overriding benefit or goal is realized. However, if the *overall* rate level (i.e. the aggregate rate) does not, on average over the long-term, equal the cost of service, it cannot be considered fair and reasonable.

Q. ARE UTILITIES THAT CHARGE LESS THAN A FAIR AND REASONABLE RATE STILL OBLIGATED TO PROVIDE SERVICE TO THE PUBLIC?

A. Yes. Public utilities have an obligation to serve all customers in their service territory who desire such service, regardless of whether or not the rates charged fully recover the cost of service. However, it is also the duty of a regulated utility to act in the long-term best interest of its customers by seeking appropriate rate relief when its rates become inadequate. As mentioned above, such rate relief requires the regulator to determine the utility's cost of service and set new rates equal to that cost of service. This arrangement is known as the "regulatory compact." The regulatory compact states that in return for being granted the exclusive right to provide utility service to the certificated area, the regulated utility assumes an obligation to serve, with fair and reasonable compensation for such service being equal to the costs incurred.

Q. IS A UTILITY ACTING IN THE LONG-TERM BEST INTEREST OF ITS CUSTOMERS IF IT SEEKS RATE RELIEF?

A. Yes. A utility whose rates are less than its total cost of service still incurs that cost of service. Put another way, if the parties benefiting from a particular service are not paying for that service, somebody else must pick up the tab. In

[1] Bonbright, James C., Albert L. Danielsen and David R. Kamerschen. Principles of Public Utility Rates. Public Utilities Reports, Inc. 1988. p. 109.

the case of a regulated public utility, it is the owners of that utility who pay those costs, or "pick up the tab." This situation sometimes occurs in the short-term, as one might expect actual revenues to fluctuate around actual costs in any given year. However, over the *long-term*, those fluctuations should cancel each other out such that, on *average*, rates are equal to cost. If rates are consistently lower than cost, the owners of the utility are forced to subsidize the cost of service, which is not sustainable in the long-term. This situation, aside from encouraging inefficient and excessive water consumption in the near-term, has the undesirable effect of unnecessarily increasing costs in the future.

Q. HOW IS THAT?

A. The utility's owners provide the capital necessary to build, improve, repair and replace the infrastructure required to provide safe and reliable water service. It is important to distinguish this capital, which represents an investment on the part of owners, from the costs associated with running the utility which, as mentioned above, include costs associated with deploying said capital (i.e. the rate of return). Each dollar of these costs that the owners of the utility are required to pay represents one less dollar that would otherwise be available to build, improve, repair and replace infrastructure. Over time, subsidizing the cost of service creates financial pressure to reduce or delay improvements, operate the utility in a weakened financial condition or, in some cases, divert shareholder capital to other enterprises. Because water utilities operate in a rising cost industry,[2] when utility plant improvements are eventually made, they come at an even higher cost. Additionally, operating the utility in a weakened financial condition increases the future cost associated with the capital needed to make those improvements.

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[2] See Chestnutt. "Conservation Rates in the Real World." Journal AWWA. Feb. 1998. p. 64., Consolidated Water Rates: Issues and Practices in Single-Tariff Pricing. U.S. Environmental Protection Agency and the NARUC. Sept. 1999. p. 31., and chart of T&D Maintenance Cost per Customer – 1966 to 2011 in Section VI.

Q. HOW IS THE FOREGOING DISCUSSION RELEVANT TO THE COMPANY'S REQUEST FOR RATE RELIEF IN THIS PROCEEDING?

A. Given the regulatory compact, mentioned above, any question relating to the appropriate rate to be charged as a result of this proceeding can only be answered by asking: what is the Company's cost of service? In this proceeding, Company witness Mr. Harris addresses the Company's earnings and financial condition, while Ms. Ahern addresses the cost of the capital deployed by the Company's owners for the purpose of providing water utility service. Additionally, Mr. Schneider addresses the need to replace a significant amount of infrastructure in the Northern Group, and the associated capital that will be required. In this testimony, I present, and provide evidentiary support for, the revenue required to improve and maintain the Company's financial condition, thereby allowing for the cost-effective replacement of infrastructure. That revenue requirement is no less, and no more, than the Company's cost of service.

IV. Summary of Revenue Requirement

Q. PLEASE EXPLAIN SCHEDULE A-1.

A. Schedule A-1 to the Company's application is titled "Computation of Increase in Gross Revenue Requirement." The increase in gross revenues for each system in the Northern Group represents the change in gross revenues that the Company has determined is necessary to recover the cost of providing safe, reliable and adequate service to its customers. Page 1 of Schedule A-1 includes a summary for the Northern Group. As shown on line 23 of page 1, the total required increase in gross revenues for the Northern Group based on the historical Test Year ending December 31, 2011 is $2,829,777, or 27.95 percent, over current base rates.

Q. DOES THE REQUIRED INCREASE IN GROSS REVENUES OF $2,829,777, SHOWN ON SCHEDULE A-1, REFLECT THE ACTUAL NET INCREASE IN REVENUES?

A. No, it does not. Customers located in the Sedona portion of the Verde Valley system are currently paying step-one of the arsenic cost recovery mechanism ("ACRM") surcharge. On June 22, 2012, the Company filed an application to implement step-two of the ACRM surcharge in all portions of the Verde Valley system. The Company's proposed step-two ACRM surcharge for the Verde Valley system represents approximately $809,000 in annualized Test Year revenue. But that step-two ACRM surcharge will be reset to zero at the close of this proceeding, as the associated arsenic remediation costs are reflected in the Company's adjusted Test Year operating revenue. Therefore, the actual net revenue increase in the Northern Group will be $2,020,777 ($2,829,777 - $809,000 = $2,020,777), or 19.96 percent. This scenario is an excellent example of how surcharges designed to recover discrete cost increases, such as the ACRM, can lessen the impact of general rate increases and promote gradualism by providing for interim, or "step," increases.

Q. WHAT IS THE CONSOLIDATED REVENUE ADJUSTMENT SHOWN ON LINE 21 OF SCHEDULE A-1?

A. The consolidated revenue adjustment, shown on line 21 of Schedule A-1, represents the increase/(decrease) in the revenue requirement of each system resulting from the Company's proposed rate design. In systems where the Company is proposing rate consolidation, the adjustment will be positive or negative. The total (net) consolidated revenue adjustment for the Northern Group is zero. As shown on Schedules A through H, the Company has provided revenue requirement data for each of the water systems included in this filing as they currently exist.

V. Rate Base and Rate Base Adjustments

A. Rate Base

Q. HOW DID YOU ARRIVE AT THE TEST YEAR ORIGINAL COST RATE BASE SHOWN ON SCHEDULE B-1, LINE 23?

A. The original cost rate base was calculated by establishing the balance of utility plant in service at the end of the Test Year, per the Company's books, as shown in column A, lines 3–9 of Schedule B-2. Typical rate base deductions (accumulated depreciation, advances for construction, etc.) and additions (working capital, etc.) were then calculated to arrive at the actual end-of-Test Year rate base shown in column A, line 30 of Schedule B-2. Finally, the Company made various pro forma adjustments (columns B through J of Schedule B-2) to the actual end-of-Test Year rate base to arrive at the adjusted end-of-Test Year rate base shown in column L of Schedule B-2. As shown in column L, line 30 of Schedule B-2, and summarized on Schedule B-1, the Northern Group's total adjusted end-of-Test Year rate base is $36,045,843. The Company's original cost rate base is used as its fair value rate base for the purposes of this proceeding.

Q. HOW DID YOU ESTIMATE THE WORKING CASH COMPONENT OF WORKING CAPITAL SHOWN ON SCHEDULE B-5, LINE 3?

A. The working cash component of required working capital was estimated using the "lead/lag study" methodology. A lead/lag study examines the net lag days between: (1) the time lag between services rendered and the receipt of revenues for such services and (2) the time lag between recording costs and the payment of such costs. The lead/lag study submitted by the Company in its 2007 Test Year total-Company rate case (Docket No. 08-0440) was used as a starting point to estimate the working cash requirement in this case.

Q. PLEASE RECONCILE THE REMAINING WORKING CAPITAL COMPONENTS LISTED ON LINES 5–9 OF SCHEDULE B-5 WITH THE

COMPANY'S COMPARATIVE BALANCE SHEET SHOWN ON SCHEDULE E-1.

A. The amount of materials and supplies inventories, required bank balances, and prepayments included in the required working capital allowance shown on Schedule B-5 represents a 13-month average, whereas the balance sheet shown on Schedule E-1 represents a single point in time. A 13-month average balance of the aforementioned working capital components eliminates daily fluctuations and more accurately reflects ongoing balances.

B. <u>Rate Base Adjustments</u>

Q. PLEASE EXPLAIN RATE BASE ADJUSTMENT RB-1 – ADJUST RATE BASE TO INCLUDE POST-TEST YEAR PLANT.

A. Rate base adjustment RB-1, detailed on pages 1–4 of the Appendix to Schedule B-2, increases the end-of-Test Year balance of utility plant and accumulated depreciation to reflect revenue-neutral utility plant additions placed into service after the end of the Test Year. Revenue-neutral utility plant includes only those items required for the provision of service to customers served during the Test Year.

Rate base adjustment RB-1 increases the Northern Group's net utility plant in service by $3,985,545, and increases the Phoenix office's net plant in service by $230,548. This adjustment assumes that these items were placed in service as of December 31, 2011, and assumes for ratemaking purposes that the Company recorded a half-year of depreciation on these additions, consistent with standard utility plant accounting practices.

Q. PLEASE EXPLAIN RATE BASE ADJUSTMENT RB-2 – ALLOCATE PHOENIX OFFICE AND METER SHOP RATE BASE.

A. Rate base adjustment RB-2, detailed on page 5 of the Appendix to Schedule B-2, is the adjustment necessary to allocate rate base items related to the Phoenix office and meter shop to each system, consistent with the Commission's

previously approved allocation methods. Phoenix office and meter shop net rate base is allocated using a three-factor formula. The three-factor formula is based on the ratios of each system's number of customers, gross plant less intangibles and payroll, to total-company customers, gross plant less intangibles and payroll.

VI. Income Statement

A. Test Year Revenues and Revenue-Based Adjustments

Q. DID YOU VERIFY AND PROVE THE TEST YEAR REVENUES?

A. Yes. Schedule H-5 shows the Company's bill count. The bill count lists the number of bills by thousand-gallon block and the cumulative consumption by rate block for each rate schedule. The bill count was prepared using the methodology described in Appendix C of the AWWA's Manual of Water Supply Practices M1, and it is presented in a format consistent with A.A.C. R14-2-103 (Appendix), as well as prior rate case filings by the Company.

As shown on page 2 of Schedule H-2, column E, line 8, the Northern Group's total billed water revenues during the Test Year were $10,020,701, compared to total adjusted general ledger ("GL") water revenues of $10,020,898 shown on page 2 of Schedule H-2, column K, line 8. The unreconciled difference of $197 ($10,020,898 - $10,020,701) represents 0.00 percent of adjusted GL water revenues. Revenues for each of the Northern Group water systems are reconciled to within ±0.01 percent of adjusted GL water revenues on the remaining pages of Schedule H-2.[3]

Q. PLEASE EXPLAIN INCOME STATEMENT ADJUSTMENT IS-1 – REMOVE SALES TAXES FROM REVENUES AND EXPENSES.

A. Income statement adjustment IS-1, detailed on page 1 of the Appendix to Schedule C-2, is a pro forma adjustment to remove revenue-based taxes from operating revenues and expenses. The purpose of the adjustment is to

[3] A correlation of bill count revenue to actual billed revenue of three percent or less generally indicates that the bill tabulation is sufficiently accurate for rate-design purposes. See AWWA M1 Manual, p. 315.

segregate revenues billed pursuant to the Company's tariffs, which exclude sales taxes and regulatory assessments, from total operating revenues, which include sales taxes and regulatory assessments. Because the Company's tariff rate for coin machine service includes sales tax, sales taxes on coin machine revenues were not removed. Income statement adjustment IS-1 reduces revenues and expenses by $1,060,124 in the Northern Group, and has no effect on the Company's adjusted Test Year operating income.

Q. PLEASE EXPLAIN INCOME STATEMENT ADJUSTMENT IS-2 – ELIMINATE NET UNBILLED REVENUES.

A. Income statement adjustment IS-2, detailed on page 2 of the Appendix to Schedule C-2, removes the effect of the year-end accounting requirement to accrue revenues earned but not yet billed. In January of each year, the prior year's unbilled revenue accounting adjustment recorded in December is reversed. In December of each year, the revenues earned but not yet billed to customers are quantified and recorded as a year-end accounting adjustment. The net effect of the January and December accounting adjustments are removed from the adjusted operating income by including this pro forma adjustment. This adjustment increases Test Year revenues by $15,870.

Q. PLEASE EXPLAIN INCOME STATEMENT ADJUSTMENT IS-3 – REMOVE MONITORING ASSISTANCE PROGRAM ("MAP") REVENUES AND EXPENSES.

A. Income statement adjustment IS-3, detailed on page 3 of the Appendix to Schedule C-2, removes the surcharge revenues and Test Year expenses associated with the ADEQ's MAP. The MAP initially provided the required testing for three categories of constituents: inorganic, synthetic organic, and volatile organic chemicals. In addition to these constituents, the program now includes testing for asbestos, radionuclides, nitrite and nitrate.

For each system that is required to participate in the MAP, the Company must pay an annual fee to the ADEQ based on a formula in that agency's regulations covering the normal testing requirements. Pursuant to the Company's MAP Surcharge Tariff, MA-262, a filing is made with the Director of the Utilities Division in October of each year to establish the surcharge to be effective beginning the following January. The MAP surcharge revenues of $16,244 collected in 2011 and the MAP expenses of $15,986, recorded in 2011 for the Northern Group, should be removed from the Test Year revenues and expenses to determine new base rates in this proceeding.

Q. WHAT ARE THE ADVANTAGES OF RETAINING THIS METHOD OF DEALING WITH MAP COSTS?

A. There are several benefits to retaining the procedure as currently designed. First, because the testing costs are outside the control of the Company and set by another State agency independent of the Commission, it is beneficial to inform customers on their bills that participation in MAP testing is required by the ADEQ and not the Commission. Additionally, the MAP surcharge procedure provides a direct benefit to customers when MAP program cost reductions realized in the past are passed on to customers by way of a reduced MAP surcharge, or a water system's requirement to participate in the MAP is eliminated altogether as a result of customer growth.

Q. PLEASE EXPLAIN INCOME STATEMENT ADJUSTMENT IS-4 – REMOVE ARSENIC COST RECOVERY MECHANISM ("ACRM") REVENUES.

A. Income statement adjustment IS-4, detailed on page 4 of the Appendix to Schedule C-2, removes the Test Year surcharge revenues collected pursuant to the Company's ACRM. During the Test Year, a step-one ACRM surcharge was in effect in the Sedona portion of the Verde Valley system. This adjustment reduces revenues by $52,771, reflecting the recovery of capital costs (return and depreciation) related to arsenic treatment facilities. Because the costs

associated with these facilities are reflected in the Company's adjusted Test Year operating income, the Test Year revenues collected pursuant to the ACRM should be removed.

Q. IS THE COMPANY REQUESTING AUTHORITY TO FILE ADDITIONAL ACRMS IN THE FUTURE?

A. Yes. As explained by Mr. Harris and Mr. Schneider, the Company must design and construct additional arsenic treatment facilities in the Navajo and Verde Valley systems. Without the authority to implement surcharges under the ACRM, the capital and operating costs related to these federally-mandated projects will go unrecovered for an extended period of time. As a result, the Company requests authority in this docket to file additional ACRM surcharges in the Navajo and Verde Valley systems, to be "trued-up" in a future rate proceeding.

Q. DID THE COMMISSION AUTHORIZE THE COMPANY TO FILE FOR ADDITIONAL ACRM SURCHARGES IN DECISION 71845?

A. Yes. In Decision No. 71845, the Commission recognized the ACRM's usefulness in providing the Company an opportunity to recover certain types of discrete cost increases associated with major plant investment, and authorized the Company to file for additional ACRM surcharges. In this proceeding, the Company requests authority to implement future ACRM surcharges in the Navajo and Verde Valley systems.

Q. PLEASE EXPLAIN INCOME STATEMENT ADJUSTMENT IS-5 – ADJUST REVENUES TO REFLECT MISCELLANEOUS CREDITS AND COIN MACHINE SALES.

A. Income statement adjustment IS-5, detailed on page 5 of the Appendix to Schedule C-2, is a "housekeeping" adjustment designed to adjust booked revenues to reflect the actual amount of water dispensed from the Company's coin operated machines. Income statement adjustment IS-5 reduces revenues by $38 in the Northern Group.

Q. PLEASE EXPLAIN INCOME STATEMENT ADJUSTMENT IS-6 – ANNUALIZE REVENUES AND EXPENSES TO REFLECT END OF TEST YEAR CUSTOMERS.

A. Income statement adjustment IS-6, detailed on pages 6–9 of the Appendix to Schedule C-2, is the adjustment necessary to match revenues and expenses with an end of Test Year rate base. This is accomplished by adjusting revenues and expenses to reflect the number of customers served by the Company on the last day of the Test Year, December 31, 2011. The adjustment to revenues of $47,578 in the Northern Group is the difference between the revenues generated by the Test Year 2011 bill count, shown on Schedule H-5, and revenues generated by a bill count reflecting the number of customers actually served on December 31, 2011.

The additional $10,366 in expenses for source of supply, pumping, and water treatment were calculated by multiplying (1) the difference between (i) the number of gallons sold per the Test Year bill count, and (ii) the number of gallons sold per a bill count reflecting the number of customers served on December 31, 2011, by (2) the average costs shown on lines 30–32 of Schedule E-7.

The additional $10,331 in transmission and distribution, customer accounting, and administrative and general expenses was calculated by multiplying (1) the difference between (i) the number of customers reflected in the Test Year bill count and, (ii) a bill count reflecting the number of customers served on December 31, 2011, by (2) the average costs shown on lines 35–37 of Schedule E-7.

Q. PLEASE EXPLAIN INCOME STATEMENT ADJUSTMENT IS-7 – NORMALIZE REVENUES AND EXPENSES TO REFLECT TYPICAL WEATHER AND USAGE.

A. Income statement adjustment IS-7, detailed on pages 10 – 13 of the Appendix to Schedule C-2, is the adjustment to revenues and expenses necessary to reflect

residential customer sales under normal weather conditions and usage patterns. The Company normalized residential sales by conducting a multiple regression analysis of monthly residential usage per customer and weather conditions for the five years ending December 2011, using the exponential trend model.[4] The results of the Company's analysis, which are shown in Exhibit JMR-1, show that weather conditions in the Northern Group during 2011 were drier and warmer than normal, causing Test Year residential usage to be higher than under normal weather conditions. As shown in column G of Exhibit JMR-1, under normalized weather conditions, adjusted Test Year residential per customer usage is 1.88 percent lower and 0.51 percent lower than recorded 2011 Year usage in the Navajo and Verde Valley systems, respectively. Additionally, the Company's analysis shows a statistically significant annual decline in residential usage of 2.03 percent and 2.71 percent in the Navajo and Verde Valley systems, respectively. These annual declines, reported in column J of Exhibit JMR-1, are consistent with the findings of previous studies of declining usage conducted by the Company, as well as published research on the issue of declining usage. I discuss declining usage in more detail in Section VII of my testimony, below.

Q. HOW DID YOU USE THE RESULTS OF THE COMPANY'S MULTIPLE REGRESSION ANALYSIS TO ADJUST REVENUES AND EXPENSES TO REFLECT TYPICAL WEATHER AND USAGE?

A. The Company adjusted residential revenues to reflect a 3.91 percent reduction and a 3.22 percent reduction in the number of gallons sold to residential customers in the Navajo and Verde Valley systems, respectively. These percentage reductions represent the normalization of sales associated with weather and declining usage, as shown in column D of Exhibit JMR-1. Corresponding adjustments to reflect these reductions were also made to source

[4] The exponential trend model is a linear trend regression model with a base-10 logarithm applied to the dependent variable.

of supply, pumping and water treatment expenses. Income statement adjustment IS-7 reduces operating revenues and expenses in the Northern Group by $131,954 and $45,815, respectively.

B. Expense-Based Adjustments

Q. PLEASE EXPLAIN INCOME STATEMENT ADJUSTMENT IS-8 – ANNUALIZE PAYROLL & RELATED EXPENSE.

A. Income statement adjustment IS-8, detailed on pages 14-17 of the Appendix to Schedule C-2, increases payroll and related expenses (i.e. payroll taxes and Company-funded 401(k)) to reflect known and measurable changes to the Company's payroll expense. In addition, the Company's pro forma payroll and related expenses include the effect of hiring three additional employees. Two of these new employees, a production and treatment operator and a serviceman, will be hired in the Verde Valley system for the purposes of operating arsenic treatment facilities and detecting, locating, and repairing distribution main and service line leaks, respectively. The Company will also hire an accounting clerk to be located in the Phoenix office. Income statement adjustment IS-8 increases payroll and related expenses in the Northern Group by $272,593.

Q. PLEASE EXPLAIN INCOME STATEMENT ADJUSTMENT IS-9 – ADJUST INSURANCE EXPENSE.

A. Income statement adjustment IS-9, detailed on page 18 of the Appendix to Schedule C-2, adjusts medical, dental, long-term disability, and life insurance expenses to reflect increases in the associated premiums. Additionally, in an effort to continue to recruit and retain qualified personnel, the Company added vision care to its group insurance package in 2012, the cost of which is reflected in this adjustment. Income statement adjustment IS-9 increases operating expenses in the Northern Group by $54,771.

Q. PLEASE EXPLAIN INCOME STATEMENT ADJUSTMENT IS-10 – ADJUST ADMINISTRATIVE & GENERAL ("A&G") EXPENSE TO INCLUDE CUSTOMER DEPOSIT INTEREST EXPENSE.

A. Income statement adjustment IS-10, detailed on page 19 of the Appendix to Schedule C-2, is the pro forma adjustment necessary to recover interest expense related to customer deposits, as required by A.A.C. R14-2-403.B.3. Because customer deposits are deducted from the rate base, the interest expense related to such deposits will go unrecovered absent an adjustment to include this component of the cost of service as an operating expense. This adjustment increases operating expenses by $4,127 in the Northern Group.

Q. PLEASE EXPLAIN INCOME STATEMENT ADJUSTMENT IS-11 – ADJUST & ANNUALIZE RENTS.

A. Income statement adjustment IS-11, detailed on page 20 of the Appendix to Schedule C-2, is the pro forma adjustment necessary to reflect the ongoing cost associated with leased office space. Specifically, this adjustment annualizes and adjusts the lease costs associated with customer service offices in the Navajo and Verde Valley systems, as well as the Company's Phoenix office. Income statement adjustment IS-11 increases operating expenses by $19,269 in the Northern Group.

Q. PLEASE EXPLAIN INCOME STATEMENT ADJUSTMENT IS-12 – ADJUST PURCHASED POWER EXPENSE.

A. Income statement adjustment IS-12, detailed on page 21 of the Appendix to Schedule C-2, is the pro forma adjustment necessary to reflect increases in the rates paid for purchased power in the Northern Group. Income statement adjustment IS-12 increases operating expenses in the Northern Group by $27,175.

Q. PLEASE EXPLAIN INCOME STATEMENT ADJUSTMENT IS-13 – ADJUST RATE CASE EXPENSE.

A. Income statement adjustment IS-13, detailed on page 22 of the Appendix to Schedule C-2, is the pro forma adjustment necessary to recover the cost of preparing this rate case. The Company requests recovery of rate case expense currently estimated at $441,576, amortized over three years. This adjustment increases operating expenses by $108,732 in the Northern Group.

Q. HOW DID THE COMPANY ARRIVE AT ITS ESTIMATED RATE CASE EXPENSE OF $441,576?

A. The Company's estimated rate case expense is based upon a rate case expense budget prepared by the Company in consultation with outside counsel and cost of equity expert witness Ms. Pauline Ahern. Estimates of costs such as public notice, printing, and other such expenses were based upon costs actually incurred during prior Company rate proceedings.

Q. PLEASE EXPLAIN INCOME STATEMENT ADJUSTMENT IS-14 – ADJUST A&G EXPENSE TO REFLECT ADDITIONAL BEST MANAGEMENT PRACTICES ("BMPs").

A. Income statement adjustment IS-14, detailed on page 23 of the Appendix to Schedule C-2, is the adjustment necessary to recover the costs associated with implementing additional BMPs in the Navajo and Verde Valley systems, as ordered by the Commission in Decision 71845. The additional costs reflected in this adjustment are associated with events/programs, landscape information and consultations, residential usage audits, high-use inquiry/notification and water waste investigations. Income statement adjustment IS-14 increases operating expenses by $42,325 in the Northern Group.

Q. PLEASE EXPLAIN INCOME STATEMENT ADJUSTMENT IS-15 – ADJUST FLEET FUEL EXPENSE.

A. Income statement adjustment IS-15, detailed on page 24 of the Appendix to Schedule C-2, is the adjustment necessary to reflect the current cost of gasoline used to fuel the Company's fleet of service vehicles. Income statement

adjustment IS-15 increases operating expenses by $5,068 in the Northern Group.

Q. PLEASE EXPLAIN INCOME STATEMENT ADJUSTMENT IS-16 – ADJUST ARSENIC TREATMENT EXPENSE.

A. Income statement adjustment IS-16, detailed on page 25 of the Appendix to Schedule C-2, is the adjustment necessary to reflect increases in the known and measurable costs of operating the Company's arsenic treatment plants located in the Northern Group. This adjustment reflects the current contractual rate for treatment media replacement and disposal for 11 arsenic treatment plants located in the Verde Valley system. Income statement adjustment IS-16 increases operating expenses by $113,315 in the Northern Group.

Q. PLEASE EXPLAIN INCOME STATEMENT ADJUSTMENT IS-17 – ADJUST VEHICLE/TRANSPORTATION EXPENSE TO REFLECT TWO ADDITIONAL SERVICE VEHICLES.

A. Income statement adjustment IS-17, detailed on page 26 of the Appendix to Schedule C-2, is an adjustment to reflect the costs associated with two additional service vehicles to be leased in the Verde Valley system. These additional service vehicles will be assigned to the Company's new production and treatment operator and serviceman to be hired in the Verde Valley system, mentioned above with respect to income statement adjustment IS-8 (payroll & related expense). Income statement adjustment IS-17 increases operating expenses in the Northern Group by $30,851.

Q. PLEASE EXPLAIN INCOME STATEMENT ADJUSTMENT IS-18 – ADJUST POSTAGE EXPENSE.

A. Income statement adjustment IS-18, detailed on page 27 of the Appendix to Schedule C-2, is the adjustment necessary to reflect the 2.133 percent increase in postage rates effective January 22, 2012. Income statement adjustment IS-18 increases operating expenses in the Northern Group by $2,388.

Q. PLEASE EXPLAIN INCOME STATEMENT ADJUSTMENT IS-19 – NORMALIZE TRANSMISSION AND DISTRIBUTION ("T&D") MAINTENANCE – MAINS AND SERVICES.

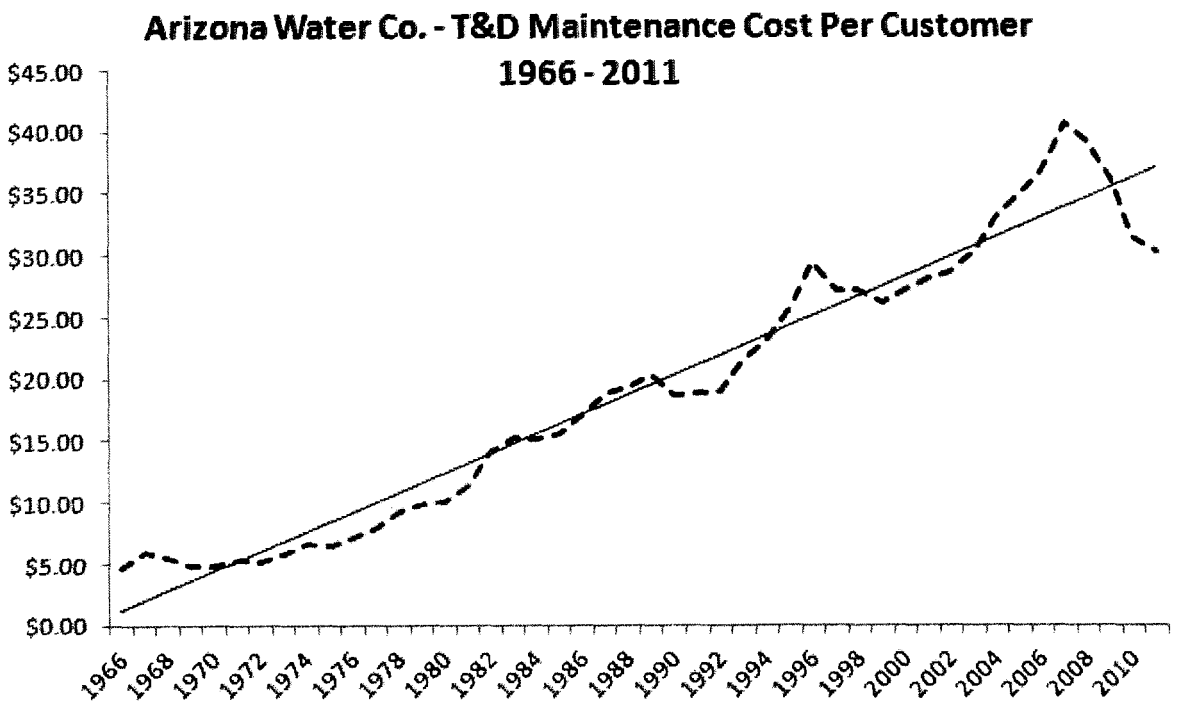
A. Income statement adjustment IS-19, detailed on page 28 of the Appendix to Schedule C-2, is the pro forma adjustment necessary to reflect a normalized level of maintenance expense associated with mains and services. Income statement adjustment IS-19 increases operating expenses in the Northern Group by $134,940.

Q. WHY DID THE COMPANY NORMALIZE THESE EXPENSES?

A. The Company normalized maintenance expenses associated with mains and services because the Test Year levels of these expenses remained abnormally low as a result of temporary cost-cutting measures implemented in 2008. These cost-cutting measures, which are also discussed by Company witness Mr. Harris in Section II of his pre-filed testimony, included short-term reductions to certain operating expenses as well as the Company's capital budget. As a result, the Test Year level of maintenance expense associated with mains and services, on a total-Company basis, was $1,569,457, or $548,988 below the level incurred in 2007 of $2,118,445.

Q. CAN THE COMPANY CONTINUE TO OPERATE AT THE REDUCED LEVELS OF MAINTENANCE EXPENSE THAT IT INCURRED DURING THE TEST YEAR?

A. No. As shown in the graph below illustrating the increase in per customer T&D maintenance costs incurred by the Company from 1966 to 2011, infrastructure-related maintenance costs increase over time:



The trend line (solid line) in the above graph illustrates a steady and consistent increase in the cost to maintain the Company's distribution infrastructure and is consistent with and corroborates other evidence that water utilities operate in a rising-cost industry.[5] As a result, the Company cannot continue to expend the reduced levels of maintenance expense experienced during the Test Year without unnecessarily placing at risk its ability to continue to provide safe and reliable water service, ultimately resulting in a higher cost of service. Additionally, a component of a utility's cost of service should not be set artificially lower than what can reasonably be deemed prudent and necessary to provide safe and reliable service on the basis of historical test year rate setting. Such a practice places the utility's credit at risk and conflicts with the concept of a fair and reasonable rate.

Q. HOW DID THE COMPANY NORMALIZE THESE MAINTENANCE EXPENSES?

[5] See Footnote No. 2.

A. Because the Test Year level of maintenance expense associated with mains and services was abnormally low (and nonrecurring) and not representative of the level of costs that must be prudently incurred during normal business conditions, which include a more proactive approach to reducing water loss, the Company performed the statistical methodology of least-squares trend fitting, which relies on the use of historical costs, to arrive at a normalized level of expense. This approach is consistent with Staff's recommendations in prior rate proceedings with respect to categories of expenses that are found to be extraordinary and nonrecurring.

Q. PLEASE EXPLAIN INCOME STATEMENT ADJUSTMENT IS-20 – ADJUST DEPRECIATION EXPENSE.

A. Income statement adjustment IS-20, detailed on pages 29–32 of the Appendix to Schedule C-2, adjusts depreciation and amortization expense to reflect the Company's adjusted end-of-Test Year plant balances and current depreciation rates. The effect of this adjustment is to annualize depreciation expense related to utility plant placed in service during the Test Year, as well as post-Test Year utility plant. This adjustment to annualize depreciation and amortization expense increases operating expenses by $150,254 in the Northern Group.

Q. PLEASE EXPLAIN INCOME STATEMENT ADJUSTMENT IS-21 – SYNCHRONIZE INTEREST EXPENSE WITH RATE BASE.

A. Income statement adjustment IS-21, detailed on page 33 of the Appendix to Schedule C-2, is the adjustment necessary to synchronize interest expense with the Test Year adjusted rate base. Although this adjustment is "below-the-line," it is required in order to properly calculate the adjustment to federal and state income taxes (income statement adjustment IS-24), as well as to illustrate the effect of all other pro forma adjustments and the required increase in gross revenues on net income. Income statement adjustment IS-21 increases interest expense by $138,616 in the Northern Group.

Q. PLEASE EXPLAIN INCOME STATEMENT ADJUSTMENT IS-22 – REMOVE OTHER INCOME AND DEDUCTIONS.

A. Income statement adjustment IS-22, detailed on page 34 of the Appendix to Schedule C-2, is another below-the-line adjustment required to properly illustrate the effect of all other pro forma adjustments and the required increase in gross revenues on net income.

Q. PLEASE EXPLAIN INCOME STATEMENT ADJUSTMENT IS-23 – ADJUST PROPERTY TAXES.

A. Income statement adjustment IS-23, detailed on page 35 of the Appendix to Schedule C-2, adjusts property taxes to reflect the effect of known and measurable changes in revenues, as reflected in the Company's rate application. The pro forma adjustment utilizes the current methodology used by the Arizona Department of Revenue to determine an amount that is referred to as "full cash value" for each of the Company's water systems. Income statement adjustment IS-23 increases Test Year property taxes in the Northern Group by $21,141.

Q. PLEASE EXPLAIN INCOME STATEMENT ADJUSTMENT IS-24 – ADJUST INCOME TAXES.

A. Income statement adjustment IS-24, detailed on page 36 of the Appendix to Schedule C-2, adjusts Federal and state income taxes to reflect the tax effect of all other pro forma adjustments. Income statement adjustment IS-24 decreases Test Year income tax expense in the Northern Group by $585,563.

VII. <u>Cost of Service Study ("COSS") and Rate Design</u>

Q. WHAT IS A COSS?

A. A COSS is a study which allocates a utility's investment and expenses to different classes of customers and provides a basis for allocating future revenues to customer classes via rate design. Under cost of service ratemaking, each customer class should pay rates that are commensurate with the cost of providing service to that class. In reality, rates that are not uniformly consistent

with cost of service principles can still be found to be fair and equitable and, thus, in the public interest.[6] Such rate structures may include the intended subsidization of one particular class of customers by another class of customers for the overall benefit of all customers, subsidization within a customer class via a lifeline rate, or the subsidization of smaller volume users by larger volume users via a conservation-oriented rate design.

Q. WHY DID YOU PREPARE A COSS IN THIS PROCEEDING?

A. The COSS, set forth in Schedules G-1 through G-7 of the Company's application, provides a starting point for determining how proposed revenues should be allocated to the residential, commercial, industrial and private fire service customer classes. Additionally, the COSS shows how revenues should be allocated between fixed basic service charges and volumetric/commodity rates. The COSS is also useful in developing a residential rate structure that provides incentives for conservation in the form of increasing cost discounts for reduced usage.

Q. HOW DID YOU PREPARE THE COMPANY'S COSS?

A. I prepared the COSS using the "commodity demand" method, whereby costs (both capital-related and operating) are separated into four functions; commodity, demand, customer and direct private fire. Commodity costs are costs that tend to vary with the quantity of water produced. Demand costs are associated with providing facilities to meet peak demands placed on the system by customers. Customer costs comprise those costs associated with serving customers regardless of the amount of water they use. Direct private fire costs are those costs that are directly associated with private fire service. These cost functions are then distributed to the different customer classes to derive an estimate of the cost of providing service to each class. In separating the various costs into

[6] Assuming those rates, in the aggregate, produce revenues that are equal to the cost of providing service.

functions (Schedule G-7), I relied on the allocation factors utilized by the Company and accepted by Staff and RUCO in Docket No. 08-0440.[7] The Company's COSS at present and proposed rates are summarized in Schedules G-1 and G-2, respectively.

Q. HOW DID YOU DEVELOP THE COMPANY'S PROPOSED RATE DESIGN?

A. The COSS provides a basis for designing separate rate schedules for the residential, commercial and industrial customer classes. Once a target revenue requirement was determined for each customer class using the "commodity demand" method, and certain policy issues (discussed below) were taken into consideration, rates were developed to generate the revenue requirement. The Company's rate design for each water system is shown in Schedule H-3 and a typical bill analysis is shown in Schedule H-4.

Q. WHAT POLICY ISSUES WERE CONSIDERED WHEN DEVELOPING THE COMPANY'S PROPOSED RATES?

A. The Company took four policy issues into consideration when developing its proposed rate design in this proceeding. They are gradualism, affordability, conservation and cost recovery.

Q. PLEASE DISCUSS GRADUALISM.

A. The first policy issue considered when developing the Company's proposed rate design was gradualism. As shown on page 1, column B, lines 25 and 27 of Schedule G-1 (Rate of Return by Customer Class), the adjusted Test Year rate of return provided by the residential customer class is 3.48 percent, compared to the Company's required rate of return of 9.11 percent. This difference shows that the present rate revenues provided by the residential class are, on average, significantly lower than cost. However, as shown by the rate of return provided by the residential class under proposed rates of 7.12 percent, shown on page 1,

[7] Certain allocation factors reflect those recommended by Staff and accepted by the Company in Docket No. 08-0440.

column B, line 24 of Schedule G-2 (Cost of Service Summary – Proposed Rates), the Company chose not to increase residential rate revenues to full cost of service in this proceeding. Instead, the Company proposes to bring rates closer to the cost of service in several gradual steps rather than in one large step. This principle of gradualism is a continuation of the Company's methodology in its last total-Company rate proceeding, which the Commission found to be just and reasonable in Decision 71845.[8]

Q. DOES THE COMPANY'S APPROACH PROMOTE AFFORDABILITY?

A. Yes. The Company's approach serves to promote affordability by providing a life-sustaining commodity to residential customers at discounted prices. These discounts, shown on line 50 of Schedule H-4, range from 11.32 percent to 13.51 percent at the average level of usage.

Q. DOES THE COMPANY'S PROPOSED RATE DESIGN INCLUDE ANY ADDITIONAL DISCOUNTS FOR RESIDENTIAL CUSTOMERS?

A. Yes. The Company's proposed rate design also incorporates a lifeline rate which provides a minimal amount of water at cost discounts ranging from 11.79 percent to 13.52 percent to all residential 5/8-inch customers independent of income level or ability to pay, thus helping to keep water bills affordable for basic needs. These discounts are shown on line 47 of Schedule H-4.

Q. DOES THE COMPANY'S PROPOSED RATE DESIGN ENCOURAGE CONSERVATION?

A. Yes. In addition to providing fair and equitable discounts to residential customers, the Company's proposed residential rate design encourages conservation by incorporating a third commodity rate tier for 5/8-inch meters that is set higher than cost. This third rate tier sends a price-signal to customers with

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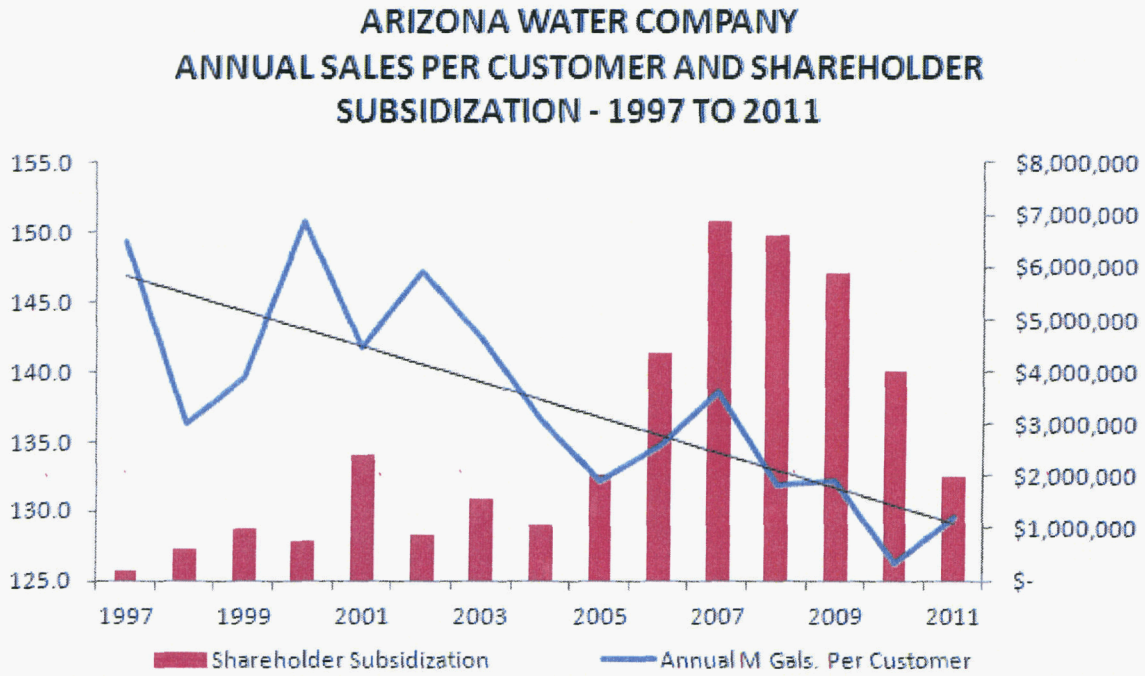
[8] See Decision No. 71845, p. 84 at 21.

high monthly usage, and the revenues generated pursuant to this third tier help to fund the discounts provided to customers with lower monthly usage.

Q. WILL THE COMPANY RECOVER ITS COST OF SERVICE IF CUSTOMERS CONSERVE WATER?

A. No. Because a significant portion of the Company's fixed costs are recovered through the volumetric commodity rate, the Company will not recover its cost of service when customers take advantage of the monetary incentives, which are inherent in the Company's proposed rate design, to reduce the amount of water they use. In fact, customers have been benefiting, as a whole, from these incentives for many years, as the Company has experienced a long-term and pervasive decline in residential usage. This is shown in the following chart depicting the actual historical decline in annual usage per customer and the level of shareholder subsidization, or under-recovery of the Company's Commission-determined cost of service, since 1997:



Consequently, the Company, despite having filed six rate cases and having implemented significant cost-cutting measures including workforce reductions, has been unable to recover its cost of service for the past 15 years.

Given these circumstances, the regulatory precept of a fair and reasonable rate requires appropriate adjustments and/or accommodations be made to recognize and account for this continued decline in sales.

Q. HOW DOES THE COMPANY PROPOSE TO ADDRESS THE ISSUE OF COST RECOVERY IN AN ENVIRONMENT OF DECLINING CUSTOMER USAGE IN THIS PROCEEDING?

A. As discussed in Section VI, above, with respect to income statement adjustment IS-7, the Company adjusted the Test Year sales volumes to reflect the known and measurable declines in residential usage per customer shown in Exhibit JMR-1. Additionally, the Company incorporated these reductions into the billing determinants used to design its proposed rates. Finally, the Company designed a fixed basic service charge consistent with that suggested by the COSS, so as to avoid shifting excessive levels of fixed costs into the volumetric commodity rate. Each of these methods is discussed in more detail below.

Q. HAVE YOU PERFORMED ANY STATISTICAL STUDIES WHICH SUPPORT THE COMPANY'S FINDING THAT CUSTOMER USAGE IS DECLINING?

A. Yes. In the Company's 2007 Test Year total-Company general rate case (Docket No. 08-0440), I conducted a statistical study of the effect of an inverted tier rate design on residential consumption in the Company's Western Group,[9] and two statistical studies of customer usage over time in each of the Company's systems that had inverted tier rates in effect at that time.[10] Each of those studies showed a marked decline in residential usage. Additionally, in the Company's 2010 Test Year rate proceedings for its Western and Eastern Groups (Docket Nos. 10-0517 and 11-0310, respectively), I conducted multiple regression analyses which showed that residential and combined residential and commercial per customer

[9] See Docket No. 08-0440, Reiker direct testimony, Exhibit JMR-4.

[10] See Docket No. 08-0440, Reiker rebuttal testimony, Exhibits JMR-RB4 through JMR-RB7, and Reiker rate design and cost of service rebuttal testimony, Exhibit JMR-RBEX3.

usage is declining in all but one system that had increasing block/tiered rates in effect at the beginning of 2010.[11]

Q. HAVE YOU PERFORMED ANY ADDITIONAL STUDIES OF CUSTOMER USAGE FOR PURPOSES OF THIS PROCEEDING?

A. Yes. As mentioned above, the Company's weather and usage normalization model presented in Section VI, above, and summarized in Exhibit JMR-1, shows an annual decline in residential usage per customer in the Navajo and Verde Valley systems of 2.03 percent and 2.71 percent, respectively, over the five-year period ending with the Test Year. The results of this recent study are summarized in the table below:

Annual Growth/(Decline) in Usage Per Residential Customer

	Percentage Increase / (Decline)	t-Statistic	Statistically Significant?
Navajo	(2.03%)	(2.41)	Yes
Verde Valley	(2.71%)	(3.80)	Yes

As shown in Exhibit JMR-1 and the table above, the results of this new study are statistically significant and consistent with the Company's past findings, as well as the findings of experts who have conducted published research on the subject of declining usage.

Q. WHAT IS THE PUBLISHED RESEARCH YOU REFER TO?

A. Most notably, I am referring to a 2010 research project sponsored by the Water Research Foundation and the U.S. Environmental Protection Agency ("WRF-EPA Study") for the purpose of studying declining trends in household water usage, drawing conclusions on the magnitude and causes of declining usage,

[11] See Docket No. 10-0517, Exhibit JMR-5 and Docket No. 11-0310, Exhibit JMR-1.

and providing a tool for projecting such usage.[12] Another study of customer usage found a decrease in residential usage between 2001 and 2010 across several states, with the reporting authors agreeing with the conclusions of the WRF-EPA Study.[13]

Q. WHAT WERE THE FINDINGS OF THE WRF-EPA STUDY?

A. The WRF-EPA Study found a decline in annual residential usage at the national level of 0.44% per year since 1975. The decline was also pervasive at the regional level. Additionally, and more importantly for purposes of this proceeding, the WRF-EPA Study concluded that residential water usage will *continue* to decline, citing new federal regulations governing water conserving appliances:

> Another factor that will continue to lower residential water usage is the recently approved higher water efficiency standards for washing machines and dishwashers. Under the new legislation, new home dishwashers manufactured beginning in 2010 will be prohibited from using more than 4.5 or 6.5 gallons of water per cycle, depending on machine size. Beginning in 2011 all new home clothes washers will use at least [sic] 9.5 gallons per cycle per cubic foot that the clothes washer uses.[14]

Based on the results of the WRF-EPA Study showing that clothes washers represent approximately 21 percent of household indoor water consumption,[15] and an analysis of the new Federal guidelines estimating a decrease in the average number of gallons per load of 35 percent,[16] one can expect a 7.35 percent decline in indoor water usage in many households.

Q. BASED ON THE COMPANY'S OWN ANALYSIS, EVIDENCE AND FINDINGS CONCERNING DECLINING USAGE AND THAT OF PUBLISHED EXPERTS,

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[12] "North America Residential Water Usage Trends Since 1992." Water Research Foundation. © 2010. Pp. xxi, xxvii.
[13] "Declining Residential Water Use Presents Challenges, Opportunities." Opflow. May 2011.
[14] WRF-EPA. pp. xxvii – xxviii, 65 – 77.
[15] WRF-EPA. p. 47.
[16] "Declining Residential Water Use." Opflow. p. 19.

SHOULD THE COMMISSION CONCLUDE THAT A KNOWN AND MEASURABLE DECLINE IN RESIDENTIAL USAGE WILL EXIST DURING THE TIME PERIOD NEW RATES ARE IN EFFECT?

A. Yes. The evidence shows that a known and measurable decline in residential per customer usage not only exists, but that it will persist throughout the period new rates are in effect. Accordingly, this change should be recognized and accounted for in the ratemaking process. Absent an adjustment or other appropriate mechanism designed to address declining usage, the level of costs that go unrecovered will increase linearly from the first 1,000 gallons curtailed, and the Company will be unable to recover rising infrastructure-related and other costs from a shrinking sales base.

Q. CAN YOU PROVIDE AN EXAMPLE OF HOW A DECLINE IN SALES CAUSES A REDUCTION IN REVENUES THAT IS FAR GREATER THAN ANY ASSOCIATED SAVINGS IN COSTS?

A. Yes. Exhibit JMR-2 as well as the graph below demonstrates how, as customers curtail their usage, the level of unrecovered costs increases dramatically:

REDUCTION IN REVENUES VS. COSTS WITH INVERTED TIER RATES-VERDE VALLEY

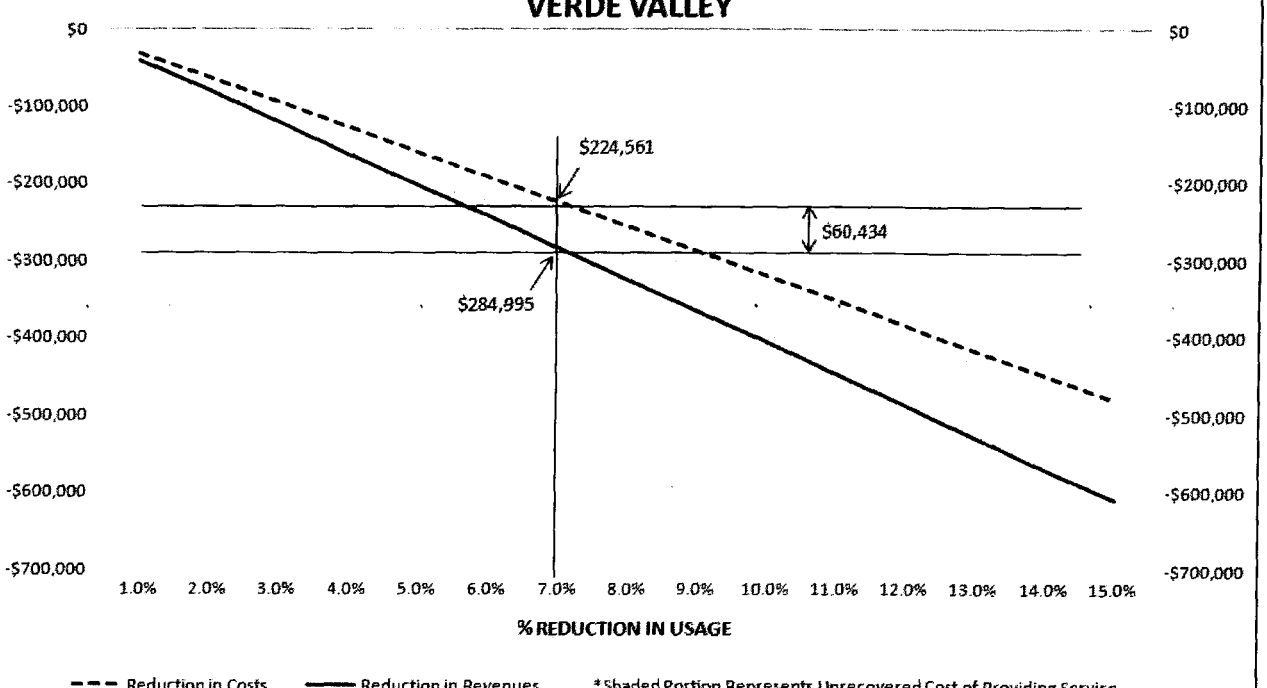

Exhibit JMR-2 and the graph shown above are based on the residential cost of service in the Verde Valley system. The exhibit and graph reflect an inverted tier rate design with a fixed basic service charge set at the level suggested by the COSS, and three commodity rate tiers with break-over points set at 3,000 and 10,000 gallons, whose rates increase by 25 percent from one tier to the next. The dashed line in the above graph represents the reduction in adjusted Test Year costs, while the solid line represents the reduction in revenues at increasing percentage reductions in usage. The shaded portion in the above graph represents the amount of the Verde Valley system's residential cost of service that goes unrecovered as a result of declining per customer sales. Based on the COSS and the rate design reflected in Exhibit JMR-2 and the graph shown above, a modest seven percent reduction in customer usage reduces revenues and costs by $284,995 and $224,561, respectively. The difference, $60,434, represents unrecovered costs incurred by the Company, and ultimately funded by shareholders, to provide service to residential customers in the Verde Valley system. That significant shortfall in cost recovery increases linearly from the first 1,000 gallons curtailed by customers.

Q. HOW DID THE COMPANY ACCOUNT FOR THE KNOWN AND MEASURABLE DECLINES IN CUSTOMER USAGE DISCUSSED ABOVE?

A. As mentioned above, the Company adjusted Test Year revenues, through income statement adjustment IS-7, to reflect the known and measurable decline in residential usage per customer shown in Exhibit JMR-1. These known and measurable reductions are also reflected in the billing determinants used to design proposed rates, shown on Schedule H-5 beginning at page 3, line 43.

Q. PLEASE DISCUSS THE COMPANY'S SECOND METHOD OF ADDRESSING COST RECOVERY IN AN ENVIRONMENT OF DECLINING USAGE – DESIGNING A FIXED BASIC SERVICE CHARGE CONSISTENT WITH THAT SUGGESTED BY THE COSS.

A. As shown on page 1, column A, lines 48 and 49 of Schedule G-1, the COSS shows that no less than 51 percent of the revenues in the Northern Group should be recovered through the fixed basic service charge. The Company's proposed rate design in this proceeding is consistent with the COSS in that 51 percent of the overall revenue requirement in the Northern Group is allocated to the fixed basic service charge.

Q. HOW DOES THE COMPANY'S PROPOSED FIXED BASIC SERVICE CHARGE DIFFER FROM THOSE TRADITIONALLY RECOMMENDED BY STAFF?

A. In my experience, Staff typically allocates as little as 40 percent, and occasionally less, of the overall revenue requirement to the fixed basic service charge. Under such a rate design, the downward sloping solid line (reduction in revenues) in the above graph would be much steeper (i.e. revenues would decline more rapidly), and the shaded portion representing the level of unrecovered costs would grow much larger than depicted above as customers curtail usage. In other words, a significantly larger portion of the Company's fixed costs would be at risk and go unrecovered as customer usage continues to decline.

Q. HAS THE COMMISSION RECENTLY ADDRESSED THE ISSUE OF FIXED COST RECOVERY FOR WATER UTILITIES?

A. Yes. An approach similar to the Company's proposal was proposed by Global Water Utilities for Santa Cruz Water Company in Docket No. 09-0080 (et al.), and ultimately adopted by the Commission in Decision No. 71878 (September 14, 2010). In that case the Commission adopted, without the benefit of a COSS, a fixed basic service/monthly minimum charge designed to recover 50 percent of the utility's revenue requirement in conjunction with the transition from a flat commodity rate to a conservation-oriented inverted tier rate structure.

Q. HAS THE COMPANY EXPLORED ANY OTHER METHODS OF ADDRESSING DECLINING CUSTOMER USAGE?

A. Yes. The Company has explored additional methods meant to address the effect of declining customer usage on its ability to recover its cost of service. These methods include mechanisms such as revenue stabilization funds and water revenue adjustment mechanisms designed to fully address the revenue effects resulting from reductions in usage. In Decision No. 71845, the Commission stated that it intended to examine in a subsequent proceeding the disincentives to the promotion of water conservation and methods to mitigate these disincentives.[17]

Q. WHAT ARE SOME OTHER ASPECTS OF THE COMPANY'S PROPOSED RATE DESIGN IN THIS PROCEEDING?

A. The Company's proposed rate design incorporates the same basic principles that the Company proposed, and the Commission adopted, in Decision 71845. The fixed basic service charge for the residential, commercial, and industrial customer classes is based on the volumetric capacity of each meter size relative to a 5/8-inch meter. The residential 5/8-inch commodity rate is a three-tiered increasing block structure with break-over points set at 3,000 and 10,000 gallons and commodity rates that increase by 25 percent from one rate tier to the next. For residential meters larger than 5/8-inch, a two-tiered structure was used with the break-over point set at 10,000 gallons for a 1-inch meter and scaled higher based on meter size for larger meters. The commercial rate design incorporates two tiers with the break-over point set at 10,000 gallons for a 5/8-inch meter and scaled higher based on meter size for larger meters. Consistent with the rate design approved for industrial customers and customers purchasing water for resale in Decision No. 71845, the Company proposes a single-tier commodity rate in this proceeding.

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[17] See Decision No. 71845, p. 94 at 19-21.

Q. WHAT IS THE COMPANY PROPOSING WITH RESPECT TO CUSTOMERS PURCHASING WATER FOR CONSTRUCTION?

A. The Company proposes to charge the same inverted-tier rates for construction water as those proposed for commercial customers with the corresponding meter size.

Q. IS THE COMPANY PROPOSING ANY CHANGES TO ITS SERVICE CHARGES?

A. Yes. The Company is proposing a number of changes to its service charges, as well as its service line and meter installation charges, for the Northern Group to bring them in line with those recently approved for the Company's Western Group in Decision 73144. Those charges are shown on page 17 of Schedule H-3.

Q. IS THE COMPANY PROPOSING TO CHANGE THE FORMAT OF ITS GENERAL SERVICE TARIFF?

A. No. The Company is not proposing changes to the format of its general service tariff in this proceeding.

Q. DOES THIS CONCLUDE YOUR DIRECT TESTIMONY?

A. Yes.

JMR-1

ARIZONA WATER COMPANY
Test Year Ended December 31, 2011
Income Statement Adjustment IS-7
Weather & Usage Normalization - Summary

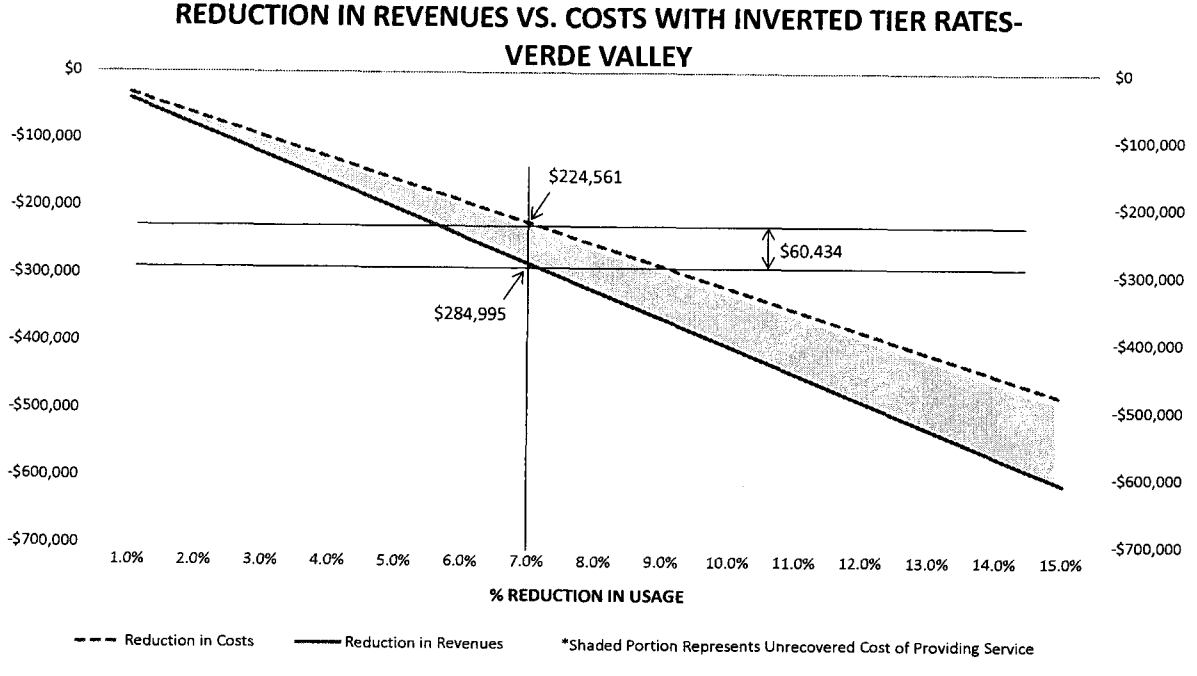
Summary - Northern Group Weather & Usage Normalization

Line No.		[A]	[B]	[C]	[D]	[E]	[F]	[G]	[H]	[I]	[J]
			Weather & Usage Normalized			Weather Normalized			Usage Normalized		
		Total M Gals. Used Per Customer T.Y. 2011	Total M Gals. Used Per Customer Adjusted T.Y. 2011	Increase / (Decrease) M Gals.	Increase / (Decrease) %	Total M Gals. Used Per Customer Adjusted T.Y. 2011	Increase / (Decrease) M Gals.	Increase / (Decrease) %	Total M Gals. Used Per Customer Adjusted T.Y. 2011	Increase / (Decrease) M Gals.	Increase / (Decrease) %
10	Navajo	40.023	38.458	-1.564	-3.91%	39.272	-0.751	-1.88%	39.209	-0.814	-2.03%
11	Verde Valley	84.677	81.948	-2.729	-3.22%	84.243	-0.434	-0.51%	82.382	-2.295	-2.71%

JMR-2

ARIZONA WATER COMPANY
Test Year Ended December 31, 2011
Reduction in Revenues vs. Costs with Inverted Tier Rates

Line No.		Residential Cost of Service - Verde Valley [A] Usage	[B] Cost/Rate	[C] %	[D] Revenues
1	*Total Residential Cost of Service/Revenue Requirement (Sch. G-1, p. 6, col. E, ln. 10)*				$ 6,510,123
2					
3	% of Residential Revenues Required from Fixed Charge (Sch. G-1, p. 5, col. B, ln. 48)			51%	$ 3,302,115
4	% of Residential Revenues Required from Commodity Charge (Sch. G-1, p. 3, col. B, ln. 49)			49%	3,208,008
5					
6	*Total Residential M Gallons Sold (Sch. G-1, p. 6, col. A, ln. 9)*	816,822			
7					
8	Residential Cost Per M Gallon/Cost-Based Commodity Rate (Sch. G-1, p. 6, col. G, ln. 10)		$ 3.9274		$ 3,208,008
9					
10					
11	Inverted Tier Commodity Rates (*break over points at 3,000 & 10,000 gals.*)				
12	Tier-1 Commodity Rate	333,420	$ 3.1900		$ 1,063,615
13	Tier-2 Commodity Rate	265,897	$ 3.9875		$ 1,060,269
14	Tier-3 Commodity Rate	217,504	$ 4.9844		$ 1,084,124
15		816,822			$ 3,208,008



ARIZONA WATER COMPANY

Docket No. W-1445A-12-

2012 RATE HEARING EXHIBIT

For Test Year Ended December 31, 2011

ARIZONA WATER COMPANY

2012 Rate Hearing

TEST YEAR ENDING DECEMBER 31, 2011

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ARIZONA WATER COMPANY
Test Year Ended December 31, 2011
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A

SUMMARY SCHEDULES

A-1 COMPUTATION OF INCREASE IN GROSS REVENUE REQUIREMENT

A-2 SUMMARY RESULTS OF OPERATIONS

A-3 SUMMARY OF CAPITAL STRUCTURE

A-4 CONSTRUCTION EXPENDITURES AND GROSS UTILITY PLANT IN SERVICE

A-5 SUMMARY STATEMENT OF CASH FLOWS

ARIZONA WATER COMPANY
Test Year Ended December 31, 2011
Computation of Increase in Gross Revenue Requirement

Line No.	Description	Northern Group [A]	[B]	[C]	[D]
1					
2		Original			
3		Cost			
4	Adjusted Rate Base	$ 36,045,843			
5					
6	Adjusted Operating Income	$ 1,565,051			
7					
8	Current Rate of Return (Ln. 6 ÷ Ln. 4)	4.34%			
9					
10	Required Operating Income (Ln. 4 X Ln. 12)	$ 3,283,579			
11					
12	Required Rate of Return	9.11%			
13					
14	Operating Income Deficiency (Ln. 10 - Ln. 6)	$ 1,718,527			
15					
16	Gross Revenue Conversion Factor	1.6466			
17					
18	Required Increase in Gross Revenue				
19	(Ln. 14 X Ln. 16)	$ 2,829,777			
20					
21	Add: Consolidated Revenue Adjustment[1]	$ -			
22					
23	Proposed Increase in Gross Revenues	$ 2,829,777			
24					
25					
26					
27					
28					
29	Customer Classification	Revenue - Present Rates	Revenue - Proposed Rates	Dollar Increase	Percent Increase
30					
31	Residential	$ 7,936,122	$ 9,717,291	$ 1,781,170	22.44%
32	Commercial	2,003,262	3,032,722	1,029,460	51.39%
33	Industrial	4,231	6,069	1,838	43.43%
34	Private Fire Service	59,816	69,420	9,604	16.06%
35	Other Water Revenues	17,270	25,172	7,903	45.76%
36					
37	Total Water Revenues	$ 10,020,701	$ 12,850,675	$ 2,829,974	28.24%
38					
39	Miscellaneous Revenues	103,758	103,758	-	0.00%
40					
41	Total Operating Revenues	$ 10,124,459	$ 12,954,433	$ 2,829,974	27.95%
42					
43					
44	Revenue Adjustments (Sch. C-1, Ln. 10)	(1,197,683)			
45	Subtotal (Ln. 41 - Ln. 44)	$ 11,322,142			
46					
47	G.L. Revenues (Sch. C-1, Ln. 10)	11,322,340			
48	Difference (Ln. 45 - Ln. 47)	$ (197)			
49	%	0.00%			
50					
51					
52					
53	[1]Consolidated Revenue Adjustment represents				
54	the increase/(decrease) in revenue requirement				
55	resulting from proposed rate consolidation.				

Supporting Schedules:
B-1, C-1, C-3, H-1

ARIZONA WATER COMPANY
Test Year Ended December 31, 2011
Computation of Increase in Gross Revenue Requirement

Line No.	Description	Navajo [A]	[B]	[C]	[D]	Verde Valley (Sedona, Pinewood, Rimrock) [E]	[F]	[G]	[H]
1									
2		Original				Original			
3		Cost				Cost			
4	Adjusted Rate Base	$ 9,911,050				$ 26,134,793			
5									
6	Adjusted Operating Income	$ 430,276				$ 1,134,775			
7									
8	Current Rate of Return (Ln. 6 ÷ Ln. 4)	4.34%				4.34%			
9									
10	Required Operating Income (Ln. 4 X Ln. 12)	$ 902,842				$ 2,380,736			
11									
12	Required Rate of Return	9.11%				9.11%			
13									
14	Operating Income Deficiency (Ln. 10 - Ln. 6)	$ 472,566				$ 1,245,961			
15									
16	Gross Revenue Conversion Factor	1.6469				1.6465			
17									
18	Required Increase in Gross Revenue								
19	(Ln. 14 X Ln. 16)	$ 778,281				$ 2,051,496			
20									
21	Add: Consolidated Revenue Adjustment[1]	$ -				$ -			
22									
23	Proposed Increase in Gross Revenues	$ 778,281				$ 2,051,496			
24									
25									
26									
27									
28									
29	Customer Classification	Revenue - Present Rates	Revenue - Proposed Rates	Dollar Increase	Percent Increase	Revenue - Present Rates	Revenue - Proposed Rates	Dollar Increase	Percent Increase
30									
31	Residential	$ 3,065,682	$ 3,674,671	$ 608,989	19.86%	$ 4,870,440	$ 6,042,621	$ 1,172,181	24.07%
32	Commercial	459,129	620,127	160,997	35.07%	1,544,132	2,412,595	868,463	56.24%
33	Industrial	532	925	392	73.70%	3,699	5,144	1,445	39.07%
34	Private Fire Service	14,767	16,350	1,583	10.72%	45,049	53,070	8,021	17.81%
35	Other Water Revenues	12,449	18,847	6,398	51.39%	4,820	6,325	1,505	31.21%
36									
37	Total Water Revenues	$ 3,552,561	$ 4,330,920	$ 778,359	21.91%	$ 6,468,140	$ 8,519,755	$ 2,051,615	31.72%
38									
39	Miscellaneous Revenues	42,441	42,441	-	0.00%	61,317	61,317	-	0.00%
40									
41	Total Operating Revenues	$ 3,595,002	$ 4,373,361	$ 778,359	21.65%	$ 6,529,457	$ 8,581,072	$ 2,051,615	31.42%
42									
43									
44	Revenue Adjustments (Sch. C-1, Ln. 10)	(322,204)				(875,480)			
45	Subtotal (Ln. 41 - Ln. 44)	$ 3,917,205				$ 7,404,937			
46									
47	G.L. Revenues (Sch. C-1, Ln. 10)	3,917,284				7,405,056			
48	Difference (Ln. 45 - Ln. 47)	$ (79)				$ (119)			
49	%	0.00%				0.00%			
50									
51									
52									

53 [1]Consolidated Revenue Adjustment represents
54 the increase/(decrease) in revenue requirement
55 resulting from proposed rate consolidation.

Supporting Schedules:
B-1, C-1, C-3, H-1

ARIZONA WATER COMPANY
Test Year Ended December 31, 2011
Summary Results of Operations

Line No.	Description	Total Company [A] Prior Years Ended 12/31/2009	[B] Prior Years Ended 12/31/2010	[C] Test Year Actual 12/31/2011
1	Gross Revenues	$ 51,429,838	$ 52,189,106	$ 55,869,594
2	Revenue Deductions and Operating Expenses	43,772,030	43,711,520	46,471,094
3	Operating Income	$ 7,657,808	$ 8,477,586	$ 9,398,500
4	Other Income and Deductions	223,759	195,900	259,254
5	Interest Expense	4,980,395	4,917,806	4,746,298
6	Net Income	$ 2,901,172	$ 3,755,680	$ 4,911,456
7	Common Shares	270,000	270,000	270,000
8	Earned Per Average Common Share	10.75	13.91	18.19
9	Dividends Paid	4,287,600	4,287,600	4,665,600
10	Dividends Per Common Share	15.88	15.88	17.28
11	Payout Ratio	1.48	1.14	0.95
12	Return on Average Invested Capital	5.08%	5.61%	6.14%
13	Return on Year End Capital	5.13%	5.54%	6.13%
14	Return on Average Common Equity	4.21%	5.14%	6.29%
15	Return on Year End Common Equity	4.25%	4.82%	6.28%
16	Times Bond Interest Earned Before Income Taxes	1.97	2.20	2.68
17	Times Total Interest and Preferred Dividends Earned After Income Taxes	1.61	1.80	2.11

Supporting Schedules:
C-1, E-2, F-1

Recap Schedules:

ARIZONA WATER COMPANY
Test Year Ended December 31, 2011
Summary Results of Operations

Line No.	Description	Northern Group [A] Prior Years Ended 12/31/2009	[B] Prior Years Ended 12/31/2010	[C] Test Year Actual 12/31/2011	[D] Test Year Adjusted 12/31/2011	[E] Projected Year Present Rates 12/31/2012	[F] Projected Year Proposed Rates 12/31/2012
1	Gross Revenues	$ 10,412,457	$ 10,696,665	$ 11,322,340	$ 10,124,656	$ 11,184,780	$ 14,014,557
2	Revenue Deductions and						
3	Operating Expenses	8,739,175	8,878,253	9,259,446	8,559,605	9,989,186	11,038,748
4	Operating Income	$ 1,673,282	$ 1,818,412	$ 2,062,894	$ 1,565,051	$ 1,195,594	$ 2,975,809
5							
6	Other Income and						
7	Deductions	49,160	43,333	56,906	-	-	-
8	Interest Expense	1,094,193	1,087,819	1,065,557	1,204,173	1,204,173	1,204,173
9	Net Income	$ 628,249	$ 773,926	$ 1,054,243	$ 360,879	$ (8,579)	$ 1,771,636
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Supporting Schedules:
C-1, E-2, F-1

Recap Schedules:

ARIZONA WATER COMPANY
Test Year Ended December 31, 2011
Summary Capital Structure

Line No.	Description	Total Company [A] Prior Years Ended 12/31/2009	[B] Prior Years Ended 12/31/2010	[C] Test Year 12/31/2011	[D] Projected Year Present Rates 12/31/2012	[E] Projected Year Proposed Rates 12/31/2012
1						
2						
3						
4	Short-Term Debt	$ 6,000,000	$ -	$ -	$ -	$ -
5						
6	Long-Term Debt	75,000,000	75,000,000	75,000,000	75,000,000	75,000,000
7						
8	Total Debt	$ 81,000,000	$ 75,000,000	$ 75,000,000	$ 75,000,000	$ 75,000,000
9						
10						
11	Preferred Stock	-	-	-	-	-
12						
13	Common Equity	68,285,255	77,975,338	78,221,194	75,818,340	77,598,555
14						
15						
16	Total Capital	$ 149,285,255	$ 152,975,338	$ 153,221,194	$ 150,818,340	$ 152,598,555
17						
18						
19	Capitalization Ratios					
20						
21	Short-Term Debt	4.02%	0.00%	0.00%	0.00%	0.00%
22						
23	Long-Term Debt	50.24%	49.03%	48.95%	49.73%	49.15%
24						
25	Total Debt	54.26%	49.03%	48.95%	49.73%	49.15%
26						
27						
28	Preferred Stock	0.00%	0.00%	0.00%	0.00%	0.00%
29						
30	Common Equity	45.74%	50.97%	51.05%	50.27%	50.85%
31						
32						
33	Total Capital	100.00%	100.00%	100.00%	100.00%	100.00%
34						
35						
36	Weighted Cost of Short-term Debt	6.04%	2.96%	0.00%	0.00%	0.00%
37						
38	Weighted Cost of Long-term Debt/Senior Capital	5.93%	6.82%	6.82%	6.82%	6.82%
39						
40	Rate of Return Earned on Common Equity	4.25%	4.82%	6.28%	2.98%	5.21%
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Supporting Schedules:
E-1, D-1

Recap Schedules:

ARIZONA WATER COMPANY
Test Year Ended December 31, 2011
Summary Capital Structure

Line No.	Description	Northern Group [A] Prior Years Ended 12/31/2009	[B] Prior Years Ended 12/31/2010	[C] Test Year 12/31/2011	[D] Projected Year Present Rates 12/31/2012	[E] Projected Year Proposed Rates 12/31/2012
1						
2						
3						
4	Short-Term Debt	$ 1,318,200	$ -	$ -	$ -	$ -
5						
6	Long-Term Debt	16,477,500	16,590,000	16,462,500	16,462,500	16,462,500
7						
8	Total Debt	$ 17,795,700	$ 16,590,000	$ 16,462,500	$ 16,462,500	$ 16,462,500
9						
10						
11	Preferred Stock	-	-	-	-	-
12						
13	Common Equity	15,002,271	17,248,145	17,169,552	16,642,126	17,032,883
14						
15						
16	Total Capital	$ 32,797,971	$ 33,838,145	$ 33,632,052	$ 33,104,626	$ 33,495,383
17						
18						
19	Capitalization Ratios					
20						
21	Short-Term Debt	4.02%	0.00%	0.00%	0.00%	0.00%
22						
23	Long-Term Debt	50.24%	49.03%	48.95%	49.73%	49.15%
24						
25	Total Debt	54.26%	49.03%	48.95%	49.73%	49.15%
26						
27						
28	Preferred Stock	0.00%	0.00%	0.00%	0.00%	0.00%
29						
30	Common Equity	45.74%	50.97%	51.05%	50.27%	50.85%
31						
32						
33	Total Capital	100.00%	100.00%	100.00%	100.00%	100.00%
34						
35						
36	Weighted Cost of Short-term Debt	6.04%	2.96%	0.00%	0.00%	0.00%
37						
38	Weighted Cost of Long-term Debt/Senior Capital	5.93%	6.82%	6.82%	6.82%	6.82%
39						
40	Rate of Return Earned on Common Equity	4.19%	4.49%	6.14%	-0.05%	10.40%
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Supporting Schedules:
E-1, D-1

Recap Schedules:

ARIZONA WATER COMPANY
Test Year Ended December 31, 2011
Construction Expenditures and Gross Utility Plant in Service

Line No.		Total Company [A] Construction Expenditures[1]	[B] Net Increase in Plant	[C] Total Plant[2]
1				
2	Prior Year Ended December 31, 2009	5,532,598	3,582,695	387,582,096
3				
4	Prior Year Ended December 31, 2010	7,400,057	3,081,280	390,792,809
5				
6	Test Year Ended December 31, 2011	9,515,243	12,697,510	403,546,899
7				
8	Projected Year Ended December 31, 2012	10,975,000	12,111,449	415,816,698
9				
10	Projected Year Ended December 31, 2013	11,789,400	19,302,135	435,269,208
11				
12	Projected Year Ended December 31, 2014	11,438,150	18,765,702	454,142,156
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54	[1]Company-funded			
55	[2]Excludes Plant Held for Future Use			

Supporting Schedules:
F-3, E-5

Recap Schedules:

ARIZONA WATER COMPANY
Test Year Ended December 31, 2011
Construction Expenditures and Gross Utility Plant in Service

Line No.		Northern Group [A] Construction Expenditures[1]	[B] Net Increase in Plant	[C] Total Plant[2]
1				
2	Prior Year Ended December 31, 2009	1,053,916	(506,876)	76,962,590
3				
4	Prior Year Ended December 31, 2010	2,031,164	1,292,872	78,255,462
5				
6	Test Year Ended December 31, 2011	2,163,948	1,817,774	80,073,235
7				
8	Projected Year Ended December 31, 2012	4,181,184	4,668,429	84,741,664
9				
10	Projected Year Ended December 31, 2013	2,424,936	4,001,145	88,742,809
11				
12	Projected Year Ended December 31, 2014	3,965,614	6,543,263	95,286,072
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54	[1]Company-funded			
55	[2]Excludes Plant Held for Future Use			

ARIZONA WATER COMPANY
Test Year Ended December 31, 2011
Construction Expenditures and Gross Utility Plant in Service

Line No.		Navajo [A] Construction Expenditures[1]	Navajo [B] Net Increase in Plant	Navajo [C] Total Plant[2]	Verde Valley (Sedona, Pinewood, Rimrock) [D] Construction Expenditures[1]	Verde Valley [E] Net Increase in Plant	Verde Valley [F] Total Plant[2]
1							
2	Prior Year Ended December 31, 2009	412,262	(19,032)	28,952,503	627,300	(477,285)	46,518,186
3							
4	Prior Year Ended December 31, 2010	309,405	(101,034)	28,851,469	1,661,877	1,326,966	47,845,152
5							
6	Test Year Ended December 31, 2011	152,631	167,058	29,018,527	1,981,609	1,639,416	49,484,568
7							
8	Projected Year Ended December 31, 2012	568,586	634,845	29,653,372	3,534,889	3,946,819	53,431,388
9							
10	Projected Year Ended December 31, 2013	485,000	800,250	30,453,622	1,890,000	3,118,500	56,549,888
11							
12	Projected Year Ended December 31, 2014	830,000	1,369,500	31,823,122	3,100,000	5,115,000	61,664,888
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54	[1]Company-funded						
55	[2]Excludes Plant Held for Future Use						

ARIZONA WATER COMPANY
Test Year Ended December 31, 2011
Construction Expenditures and Gross Utility Plant in Service

Line No.		Phoenix Office - Northern Group [A] Construction Expenditures[1]	[B] Net Increase in Plant	[C] Total Plant[2]	Meter Shop - Northern Group [D] Construction Expenditures[1]	[E] Net Increase in Plant	[F] Total Plant[2]
1							
2	Prior Year Ended December 31, 2009	14,354	(12,756)	1,458,539	-	2,197	33,361
3							
4	Prior Year Ended December 31, 2010	59,184	66,014	1,524,554	698	926	34,287
5							
6	Test Year Ended December 31, 2011	29,963	11,817	1,536,371	(255)	(518)	33,769
7							
8	Projected Year Ended December 31, 2012	76,884	85,844	1,622,215	824	920	34,689
9							
10	Projected Year Ended December 31, 2013	49,168	81,127	1,703,342	768	1,268	35,957
11							
12	Projected Year Ended December 31, 2014	34,846	57,495	1,760,837	768	1,268	37,224
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54	[1]Company-funded						
55	[2]Excludes Plant Held for Future Use						

ARIZONA WATER COMPANY
Test Year Ended December 31, 2011
Construction Expenditures and Gross Utility Plant in Service

Line No.		Phoenix Office [A] Construction Expenditures[1]	[B] Net Increase in Plant	[C] Total Plant[2]	Meter Shop [D] Construction Expenditures[1]	[E] Net Increase in Plant	[F] Total Plant[2]
1							
2	Prior Year Ended December 31, 2009	65,336	(58,062)	6,638,776	-	10,001	151,850
3							
4	Prior Year Ended December 31, 2010	267,558	253,419	6,892,195	3,155	3,156	155,006
5							
6	Test Year Ended December 31, 2011	136,505	107,217	6,999,412	(1,160)	(1,162)	153,844
7							
8	Projected Year Ended December 31, 2012	350,271	391,088	7,390,501	3,755	4,192	158,037
9							
10	Projected Year Ended December 31, 2013	224,000	369,600	7,760,101	3,500	5,775	163,812
11							
12	Projected Year Ended December 31, 2014	158,750	261,938	8,022,038	3,500	5,775	169,587
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54	[1]Company-funded						
55	[2]Excludes Plant Held for Future Use						

Supporting Schedules:
F-3, E-5

Recap Schedules:

ARIZONA WATER COMPANY
Test Year Ended December 31, 2011
Summary Statement of Cash Flows

Line No.	Source of Funds	Total Company [A] Prior Year Ended 12/31/2009	[B] Prior Year Ended 12/31/2010	[C] Test Year Ended 12/31/2011	[D] Projected Year Present Rates 12/31/2012	[E] Projected Year Proposed Rates 12/31/2012
1						
2	Net Cash Provided by Operating Activities	$ 14,022,187	$ 14,740,136	$ 17,153,539	$ 13,816,797	$ 16,787,394
3						
4	Net Cash Used in Investing Activities	(6,205,023)	(5,980,243)	(10,800,078)	(12,253,946)	(12,253,946)
5						
6	Net Cash Provided by Financing Activities	(6,276,031)	(45,696)	(4,781,424)	(4,270,778)	(4,315,460)
7						
8	Net Increase (Decrease) in Cash	$ 1,541,133	$ 8,714,197	$ 1,572,037	$ (2,707,927)	$ 217,988
9						
10	Cash & Cash Equivalents - Beginning of Year	$ 71,843	$ 1,612,976	$ 10,327,173	$ 11,899,210	$ 11,899,210
11						
12	Cash & Cash Equivalents - End of Year	$ 1,612,976	$ 10,327,173	$ 11,899,210	$ 9,191,283	$ 12,117,198
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Supporting Schedules:
E-3, F-2

Recap Schedules:

B

RATE BASE SCHEDULES

B-1		SUMMARY ORIGINAL COST RATE BASE
B-2		ORIGINAL COST RATE BASE PRO FORMA ADJUSTMENTS
B-2	**APPENDIX**	CALCULATION OF RATE BASE PRO FORMA ADJUSTMENTS
B-3		RCND RATE BASE PRO FORMA ADJUSTMENTS
B-4		RCND DETAIL OF PLANT ACCOUNTS
B-5		COMPUTATION OF WORKING CAPITAL
B-5	**APPENDIX**	COMPUTATION OF WORKING CASH REQUIREMENT

ARIZONA WATER COMPANY
Test Year Ended December 31, 2011
Summary Original Cost Rate Base

Line No.		Northern Group [A] Original Cost Rate Base
1		
2	Gross Plant in Service	$ 84,174,349
3		
4	Less:	
5	Accumulated Depreciation	23,163,812
6	Net Plant in Service	$ 61,010,537
7		
8	Less:	
9	Advances in Aid of Construction	7,048,087
10	Contributions in Aid of Construction:	
11	Gross	16,491,869
12	Accumulated Amortization	(3,964,163)
13	Net Contributions in Aid of Construction	$ 12,527,706
14		
15	Deferred Income Tax	6,406,416
16	Customer Deposits	68,783
17		
18	Add:	
19	Working Capital	1,086,298
20	Net Regulatory Asset / (Liability)	-
21		
22		
23	Total Rate Base	$ 36,045,843
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ARIZONA WATER COMPANY
Test Year Ended December 31, 2011
Summary Original Cost Rate Base

Line No.		Navajo [A] Original Cost Rate Base	Verde Valley (Sedona Pinewood, Rimrock) [B] Original Cost Rate Base
1			
2	Gross Plant in Service	$ 30,223,380	$ 53,950,969
3			
4	Less:		
5	Accumulated Depreciation	9,719,013	13,444,799
6	Net Plant in Service	$ 20,504,367	$ 40,506,170
7			
8	Less:		
9	Advances in Aid of Construction	3,416,251	3,631,836
10	Contributions in Aid of Construction:		
11	Gross	6,338,423	10,153,446
12	Accumulated Amortization	(1,479,824)	(2,484,339)
13	Net Contributions in Aid of Construction	$ 4,858,599	$ 7,669,107
14			
15	Deferred Income Tax	2,752,278	3,654,138
16	Customer Deposits	21,020	47,763
17			
18	Add:		
19	Working Capital	454,831	631,466
20	Net Regulatory Asset / (Liability)	-	-
21			
22			
23	Total Rate Base	$ 9,911,050	$ 26,134,793
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ARIZONA WATER COMPANY
Test Year Ended December 31, 2011
Summary Original Cost Rate Base

Line No.		Phoenix Office [A] Original Cost Rate Base	Meter Shop [B] Original Cost Rate Base
1			
2	Gross Plant in Service	$ -	$ -
3			
4	Less:		
5	Accumulated Depreciation	-	-
6	Net Plant in Service	$ -	$ -
7			
8	Less:		
9	Advances in Aid of Construction	-	-
10	Contributions in Aid of Construction:		
11	Gross	-	-
12	Accumulated Amortization	-	-
13	Net Contributions in Aid of Construction	$ -	$ -
14			
15	Deferred Income Tax	-	-
16	Customer Deposits	-	-
17			
18	Add:		
19	Working Capital	-	-
20	Net Regulatory Asset / (Liability)	-	-
21			
22			
23	Total Rate Base	$ -	$ -
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Supporting Schedules:
B-2, B-3, B-5, E-1

Recap Schedules:
A-1

Northern Group

Line No.		[A] Actual End of Test Year	[B] Adjustment RB-1	[C] Adjustment BLANK	[D] Adjustment BLANK	[E] Adjustment BLANK	[F] Adjustment BLANK	[G] Adjustment BLANK	[H] Adjustment BLANK	[I] Adjustment BLANK	[J] Adjustment RB-2	[K] Total Pro Forma Adjustments	[L] Adjusted End of Test Year
1													
2	Plant Classification												
3	Intangible Plant	$ 5,319	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 2,008	$ 2,008	$ 7,327
4	Source of Supply Plant	9,566,569	50,000	-	-	-	-	-	-	-	18	50,018	9,616,586
5	Pumping Plant	6,219,549	40,000	-	-	-	-	-	-	-	-	40,000	6,259,549
6	Water Treatment Plant	4,051,359	2,970,788	-	-	-	-	-	-	-	450	2,971,238	7,022,597
7	Transmission & Distribution Plant	56,770,161	605,942	-	-	-	-	-	-	-	1,331	607,273	57,377,435
8	General Plant	1,890,138	382,177	-	-	-	-	-	-	-	1,618,539	2,000,716	3,890,854
9	Total Gross Plant in Service	$ 78,503,096	$ 4,048,907	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 1,622,346	$ 5,671,253	$ 84,174,349
10													
11	Less:												
12	Accumulated Depreciation	22,655,322	63,362	-	-	-	-	-	-	-	445,128	508,490	23,163,812
13	Net Plant in Service	$ 55,847,774	$ 3,985,545	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 1,177,218	$ 5,162,763	$ 61,010,537
14													
15	Less:												
16	Advances in Aid of Construction	7,048,087	-	-	-	-	-	-	-	-	-	-	7,048,087
17	Contributions in Aid of Construction:												
18	Gross	16,491,869	-	-	-	-	-	-	-	-	-	-	16,491,869
19	Accumulated Amortization	(3,964,163)	-	-	-	-	-	-	-	-	-	-	(3,964,163)
20	Net Contributions in Aid of Construction	$ 12,527,706	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 12,527,706
21													
22	Deferred Income Tax	-	-	-	-	-	-	-	-	-	6,406,416	6,406,416	6,406,416
23	Customer Deposits	68,783	-	-	-	-	-	-	-	-	-	-	68,783
24													
25	Add:												
26	Working Capital	1,086,298	-	-	-	-	-	-	-	-	-	-	1,086,298
27	Net Regulatory Asset / (Liability)	-	-	-	-	-	-	-	-	-	-	-	-
28													
29													
30	Total Rate Base	$ 37,289,496	$ 3,985,545	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ (5,229,198)	$ (1,243,653)	$ 36,045,843
31													
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ARIZONA WATER COMPANY
Test Year Ended December 31, 2011
Original Cost Rate Base Pro Forma Adjustments

Line No.		Navajo [A] Actual End of Test Year	[B] Adjustment RB-1	[C] Adjustment BLANK	[D] Adjustment BLANK	[E] Adjustment BLANK	[F] Adjustment BLANK	[G] Adjustment BLANK	[H] Adjustment BLANK	[I] Adjustment BLANK	[J] Adjustment RB-2	[K] Total Pro Forma Adjustments	[L] Adjusted End of Test Year
1													
2	Plant Classification												
3	Intangible Plant	$ 1,946	$ -								$ 863	$ 863	$ 2,809
4	Source of Supply Plant	2,289,740	50,000								8	50,008	2,339,748
5	Pumping Plant	2,890,524	40,000								-	40,000	2,930,524
6	Water Treatment Plant	148,363	50,000								193	50,193	198,557
7	Transmission & Distribution Plant	22,654,431	149,981								572	150,553	22,804,984
8	General Plant	1,033,523	217,891								695,345	913,236	1,946,759
9	Total Gross Plant in Service	$ 29,018,527	$ 507,872	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 696,981	$ 1,204,853	$ 30,223,380
10													
11	Less:												
12	Accumulated Depreciation	9,516,521	11,259								191,233	202,492	9,719,013
13	Net Plant in Service	$ 19,502,006	$ 496,613	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 505,748	$ 1,002,361	$ 20,504,367
14													
15	Less:												
16	Advances in Aid of Construction	3,416,251										-	3,416,251
17	Contributions in Aid of Construction:												
18	Gross	6,338,423										-	6,338,423
19	Accumulated Amortization	(1,479,824)										-	(1,479,824)
20	Net Contributions in Aid of Construction	$ 4,858,599	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 4,858,599
21													
22	Deferred Income Tax	-									2,752,278	2,752,278	2,752,278
23	Customer Deposits	21,020										-	21,020
24													
25	Add:												
26	Working Capital	454,831										-	454,831
27	Net Regulatory Asset / (Liability)	-										-	-
28													
29													
30	Total Rate Base	$ 11,660,967	$ 496,613	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ (2,246,530)	$ (1,749,917)	$ 9,911,050
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ARIZONA WATER COMPANY
Test Year Ended December 31, 2011
Original Cost Rate Base Pro Forma Adjustments

Verde Valley (Sedona, Pinewood, Rimrock)

Line No.		[A] Actual End of Test Year	[B] Adjustment RB-1	[C] Adjustment BLANK	[D] Adjustment BLANK	[E] Adjustment BLANK	[F] Adjustment BLANK	[G] Adjustment BLANK	[H] Adjustment BLANK	[I] Adjustment BLANK	[J] Adjustment RB-2	[K] Total Pro Forma Adjustments	[L] Adjusted End of Test Year
1													
2	Plant Classification										$ 1,145	$ 1,145	$ 4,518
3	Intangible Plant	$ 3,373	$ -								10	10	7,276,838
4	Source of Supply Plant	7,276,828	-								-	-	3,329,025
5	Pumping Plant	3,329,025	-								257	2,921,045	6,824,041
6	Water Treatment Plant	3,902,996	2,920,788								759	456,720	34,572,451
7	Transmission & Distribution Plant	34,115,731	455,961								923,194	1,087,480	1,944,095
8	General Plant	856,615	164,286										
9	Total Gross Plant in Service	$ 49,484,568	$ 3,541,035	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 925,365	$ 4,466,401	$ 53,950,969
10													
11	Less:												
12	Accumulated Depreciation	13,138,801	52,103								253,895	305,998	13,444,799
13	Net Plant in Service	$ 36,345,767	$ 3,488,932	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 671,470	$ 4,160,402	$ 40,506,170
14													
15	Less:												
16	Advances in Aid of Construction	3,631,836										-	3,631,836
17	Contributions in Aid of Construction:												
18	Gross	10,153,446										-	10,153,446
19	Accumulated Amortization	(2,484,339)										-	(2,484,339)
20	Net Contributions in Aid of Construction	$ 7,669,107	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 7,669,107
21													
22	Deferred Income Tax	-									3,654,138	3,654,138	3,654,138
23	Customer Deposits	47,763										-	47,763
24													
25	Add:												
26	Working Capital	631,466										-	631,466
27	Net Regulatory Asset / (Liability)	-										-	-
28													
29													
30	Total Rate Base	$ 25,628,528	$ 3,488,932	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ (2,982,668)	$ 506,265	$ 26,134,793
31													
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Line No.		Phoenix Office											
		[A] Actual End of Test Year	[B] Adjustment RB-1	[C] Adjustment BLANK	[D] Adjustment BLANK	[E] Adjustment BLANK	[F] Adjustment BLANK	[G] Adjustment BLANK	[H] Adjustment BLANK	[I] Adjustment BLANK	[J] Adjustment RB-2	[K] Total Pro Forma Adjustments	[L] Adjusted End of Test Year
1													
2	Plant Classification												
3	Intangible Plant	$ 9,148	$ -								$ (9,148)	$ (9,148)	$ -
4	Source of Supply Plant	-	-								-	-	-
5	Pumping Plant	-	-								-	-	-
6	Water Treatment Plant	-	-								-	-	-
7	Transmission & Distribution Plant	-	-								-	-	-
8	General Plant	6,990,265	237,841								(7,228,106)	(6,990,265)	-
9	Total Gross Plant in Service	$ 6,999,412	$ 237,841	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ (7,237,253)	$ (6,999,412)	$ -
10													
11	Less:												
12	Accumulated Depreciation	1,958,538	7,293								(1,965,832)	(1,958,538)	-
13	Net Plant in Service	$ 5,040,874	$ 230,548	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ (5,271,421)	$ (5,040,874)	$ -
14													
15	Less:												
16	Advances in Aid of Construction	-										-	-
17	Contributions in Aid of Construction:												
18	Gross	-										-	-
19	Accumulated Amortization	-										-	-
20	Net Contributions in Aid of Construction	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
21													
22	Deferred Income Tax	29,186,404									(29,186,404)	(29,186,404)	-
23	Customer Deposits	-										-	-
24													
25	Add:												
26	Working Capital	-										-	-
27	Net Regulatory Asset / (Liability)	-										-	-
28													
29													
30	Total Rate Base	$ (24,145,531)	$ 230,548	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 23,914,983	$ 24,145,531	$ -
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32													
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Meter Shop

Line No.		[A] Actual End of Test Year	[B] Adjustment RB-1	[C] Adjustment BLANK	[D] Adjustment BLANK	[E] Adjustment BLANK	[F] Adjustment BLANK	[G] Adjustment BLANK	[H] Adjustment BLANK	[I] Adjustment BLANK	[J] Adjustment RB-2	[K] Total Pro Forma Adjustments	[L] Adjusted End of Test Year
1													
2	Plant Classification												
3	Intangible Plant	$ -											
4	Source of Supply Plant	80									$ -	$ -	$ -
5	Pumping Plant	-									(80)	(80)	-
6	Water Treatment Plant	2,050									-	-	-
7	*Transmission & Distribution Plant*	6,066									(2,050)	(2,050)	-
8	General Plant	145,649									(6,066)	(6,066)	-
9	Total Gross Plant in Service	$ 153,844	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	(145,649)	(145,649)	-
10											$ (153,844)	$ (153,844)	$ -
11	Less:												
12	Accumulated Depreciation	62,087									(62,087)	(62,087)	-
13	Net Plant in Service	$ 91,758	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ (91,758)	$ (91,758)	$ -
14													
15	Less:												
16	Advances in Aid of Construction	-										-	-
17	Contributions in Aid of Construction:												
18	Gross	-										-	-
19	Accumulated Amortization	-										-	-
20	Net Contributions in Aid of Construction	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
21													
22	Deferred Income Tax	-											
23	Customer Deposits	-										-	-
24												-	-
25	Add:												
26	Working Capital	-											
27	Net Regulatory Asset / (Liability)	-										-	-
28												-	-
29													
30	Total Rate Base	$ 91,758	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ (91,758)	$ (91,758)	$ -
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Navajo

Line No.		Depreciation Rate	[A] Work Authorization 1-4921	[B] Work Authorization 1-4922	[C] Work Authorization 1-4924	[D] Work Authorization 1-4925	[E] Work Authorization 1-4926	[F] Work Authorization 1-4920	[G] Work Authorization 1-4923	[H] Work Authorization 1-4927	[I] Work Authorization BLANK	[J] Total Plant	[K] Depreciation Expense (Full Year)
1	Intangible Plant												
2	301 Organization	0.00%											
3	302 Franchises	n/a										$ -	$ -
4	303 Other Intangibles	n/a										-	
5	Subtotal Intangible Plant		$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
6	Source of Supply Plant												
7	310.1 Water Rights	0.00%											
8	310.3 Other Source of Supply Land	0.00%										-	-
9	310.4 Wells - Other	n/a										-	-
10	314 Wells	3.13%		50,000								-	
11	Subtotal Source of Sup. Plant		$ -	$ 50,000	$ -	$ -	$ -	$ -	$ -	$ -	$ -	50,000	1,565
12	Pumping Plant											$ 50,000	$ 1,565
13	320 Pumping Plant Land	0.00%											
14	321 Pumping Plant Struct. & Improv.	2.86%										-	-
15	325 Electtric Pumping Equipment	5.88%										-	-
16	328 Gas Engine Equipment	4.00%				40,000						40,000	2,352
17	Subtotal Pumping Plant		$ -	$ -	$ -	$ 40,000	$ -	$ -	$ -	$ -	$ -	-	-
18	Water Treatment Plant											$ 40,000	$ 2,352
19	330 Water Treatment Plant Land	0.00%											
20	331 Water Trtmt. Struct. & Improv.	2.50%							50,000			50,000	-
21	332 Water Treatment Equipment	2.86%										-	-
22	Subtotal Water Trtmt. Plant		$ -	$ -	$ -	$ -	$ -	$ -	$ 50,000	$ -	$ -	-	-
23	Transmission & Distribution Plant											$ 50,000	$ -
24	340 Trans. and Dist. Land	0.00%											
25	342 Storage Tanks	2.00%										-	-
26	343 Trans. & Dist. Mains	1.79%	39,482									-	-
27	344 Fire Sprinkler Taps	2.00%								60,000		99,482	1,781
28	345 Services	2.38%	499									-	-
29	346 Meters	4.55%			50,000							499	12
30	348 Hydrants	1.82%										50,000	2,275
31	Subtotal Trans. & Dist.		$ 39,981	$ -	$ 50,000	$ -	$ -	$ -	$ -	$ 60,000	$ -	-	-
32	General Plant											$ 149,981	$ 4,068
33	389 General Plant Land	0.00%											
34	390 General Plant Structures	2.50%										-	-
35	390.1 Leasehold Improvements	n/a										-	-
36	391 Office Furniture & Equipment	6.67%										-	
37	393 Warehouse Equipment	5.00%										-	-
38	394 Tools, Shop & Garage Equip.	4.00%										-	-
39	395 Laboratory Equipment	5.00%										-	-
40	396 Power Operated Equipment	6.67%										-	-
41	397 Communication Equipment	6.67%										-	-
42	398 Miscellaneous Equipment	3.33%					147,891	70,000				217,891	14,533
43	Subtotal General Plant		$ -	$ -	$ -	$ -	$ 147,891	$ 70,000	$ -	$ -	$ -	-	-
44												$ 217,891	$ 14,533
45	Total Utility Plant		$ 39,981	$ 50,000	$ 50,000	$ 40,000	$ 147,891	$ 70,000	$ 50,000	$ 60,000	$ -	$ 507,872	$ 22,518
46													
47	Accumulated Depreciation (1/2-Year Convention)												$ 11,259
48													
49	Net Plant											$ 496,613	
50													
51													
52													
53													
54													
55													

ARIZONA WATER COMPANY
Test Year Ended December 31, 2011
Rate Base Adjustment RB-1 (Continued)
Adjust Rate Base to Include Post-Test Year Plant

Line No.		Depreciation Rate	Verde Valley [A] Work Authorization BLANK	[B] Work Authorization 1-4814	[C] Work Authorization 1-4873	[D] Work Authorization 1-4874	[E] Work Authorization 1-4875	[F] Work Authorization 1-4928	[G] Work Authorization 1-4929	[H] Work Authorization BLANK	[I] Work Authorization 1-4930	[J] Work Authorization 1-4931
1	Intangible Plant											
2	301 Organization	0.00%										
3	302 Franchises	n/a										
4	303 Other Intangibles	n/a										
5	Subtotal Intangible Plant		$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
6	Source of Supply Plant											
7	310.1 Water Rights	0.00%										
8	310.3 Other Source of Supply Land	0.00%										
9	310.4 Wells - Other	n/a										
10	314 Wells	3.13%										
11	*Subtotal Source of Sup. Plant*		$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
12	Pumping Plant											
13	320 Pumping Plant Land	0.00%										
14	321 Pumping Plant Struct. & Improv.	2.86%										
15	325 Electtric Pumping Equipment	5.88%										
16	328 Gas Engine Equipment	4.00%										
17	Subtotal Pumping Plant		$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
18	Water Treatment Plant											
19	330 Water Treatment Plant Land	0.00%										
20	331 Water Trtmt. Struct. & Improv.	2.50%										
21	332 Water Treatment Equipment	2.86%		1,183,437	445,986	703,043	588,322					
22	Subtotal Water Trtmt. Plant		$ -	$ 1,183,437	$ 445,986	$ 703,043	$ 588,322	$ -	$ -	$ -	$ -	$ -
23	Transmission & Distribution Plant											
24	340 Trans. and Dist. Land	0.00%										
25	342 Storage Tanks	2.00%										
26	343 Trans. & Dist. Mains	1.79%										
27	344 Fire Sprinkler Taps	2.00%						75,000			60,543	57,473
28	345 Services	2.38%										
29	346 Meters	4.55%							205,800		49,647	7,498
30	348 Hydrants	1.82%										
31	Subtotal Trans. & Dist.		$ -	$ -	$ -	$ -	$ -	$ 75,000	$ 205,800	$ -	$ 110,190	$ 64,971
32	General Plant											
33	389 General Plant Land	0.00%										
34	390 General Plant Structures	2.50%										
35	390.1 Leasehold Improvements	n/a										
36	391 Office Furniture & Equipment	6.67%										
37	393 *Warehouse Equipment*	5.00%										
38	394 Tools, Shop & Garage Equip.	4.00%										
39	395 Laboratory Equipment	5.00%										
40	396 Power Operated Equipment	6.67%										
41	397 Communication Equipment	6.67%										
42	398 *Miscellaneous Equipment*	3.33%										
43	Subtotal General Plant		$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
44												
45	Total Utility Plant		$ -	$ 1,183,437	$ 445,986	$ 703,043	$ 588,322	$ 75,000	$ 205,800	$ -	$ 110,190	$ 64,971
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Supporting Schedules:

Recap Schedules:

ARIZONA WATER COMPANY
Test Year Ended December 31, 2011
Rate Base Adjustment RB-1 (Continued)
Adjust Rate Base to Include Post-Test Year Plant

Line No.		Depreciation Rate	Verde Valley (continued) [A] Work Authorization 1-4932	[B] Work Authorization BLANK	[C] Work Authorization BLANK	[D] Work Authorization BLANK	[E] Work Authorization BLANK	[F] Work Authorization BLANK	[G] Work Authorization BLANK	[H] Work Authorization BLANK	[I] Total Plant	[J] Depreciation Expense (Full Year)
1	Intangible Plant											
2	301 Organization	0.00%										
3	302 Franchises	n/a										
4	303 Other Intangibles	n/a									$ -	$ -
5	Subtotal Intangible Plant		$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
6	Source of Supply Plant											
7	310.1 Water Rights	0.00%										
8	310.3 Other Source of Supply Land	0.00%									-	-
9	310.4 Wells - Other	n/a									-	-
10	314 Wells	3.13%									-	-
11	Subtotal Source of Sup. Plant		$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
12	Pumping Plant											
13	320 Pumping Plant Land	0.00%										
14	321 Pumping Plant Struct. & Improv.	2.86%									-	-
15	325 Electtric Pumping Equipment	5.88%									-	-
16	328 Gas Engine Equipment	4.00%									-	-
17	Subtotal Pumping Plant		$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
18	Water Treatment Plant											
19	330 Water Treatment Plant Land	0.00%										
20	331 Water Trtmt. Struct. & Improv.	2.50%									-	-
21	332 Water Treatment Equipment	2.86%									-	-
22	Subtotal Water Trtmt. Plant		$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	2,920,788	83,535
23	Transmission & Distribution Plant											
24	340 Trans. and Dist. Land	0.00%									$ 2,920,788	$ 83,535
25	342 Storage Tanks	2.00%									-	-
26	343 Trans. & Dist. Mains	1.79%									-	-
27	344 Fire Sprinkler Taps	2.00%									193,016	3,455
28	345 Services	2.38%									-	-
29	346 Meters	4.55%									262,945	6,258
30	348 Hydrants	1.82%									-	-
31	Subtotal Trans. & Dist.		$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 455,961	$ 9,713
32	General Plant											
33	389 General Plant Land	0.00%										
34	390 General Plant Structures	2.50%									-	-
35	390.1 Leasehold Improvements	n/a									-	-
36	391 Office Furniture & Equipment	6.67%									-	
37	393 Warehouse Equipment	5.00%									-	-
38	394 Tools, Shop & Garage Equip.	4.00%									-	-
39	395 Laboratory Equipment	5.00%									-	-
40	396 Power Operated Equipment	6.67%									-	-
41	397 Communication Equipment	6.67%	164,286								-	-
42	398 Miscellaneous Equipment	3.33%									164,286	10,958
43	Subtotal General Plant		$ 164,286	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 164,286	$ 10,958
44												
45	Total Utility Plant		$ 164,286	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 3,541,035	$ 104,205
46												
47	Accumulated Depreciation (1/2-Year Convention)											$ 52,103
48												
49	Net Plant										$ 3,488,932	
50												
51												
52												
53												
54												
55												

Supporting Schedules:

Recap Schedules:

Line No.		Depreciation Rate	Phoenix Office [A] Work Authorization 1-4933	[B] Work Authorization 1-4934	[C] Work Authorization BLANK	[D] Work Authorization BLANK	[E] Work Authorization BLANK	[F] Work Authorization BLANK	[G] Work Authorization BLANK	[H] Work Authorization BLANK	[I] Total Plant	[J] Depreciation Expense (Full Year)
1	Intangible Plant											
2	301 Organization	0.00%									$ -	$ -
3	302 Franchises	n/a									-	
4	303 Other Intangibles	n/a									-	
5	Subtotal Intangible Plant		$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
6	Source of Supply Plant											
7	310.1 Water Rights	0.00%									-	-
8	310.3 Other Source of Supply Land	0.00%									-	-
9	310.4 Wells - Other	n/a									-	
10	314 Wells	3.13%									-	-
11	Subtotal Source of Sup. Plant		$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
12	Pumping Plant											
13	320 Pumping Plant Land	0.00%									-	-
14	321 Pumping Plant Struct. & Improv.	2.86%									-	-
15	325 Electtric Pumping Equipment	5.88%									-	-
16	328 Gas Engine Equipment	4.00%									-	-
17	Subtotal Pumping Plant		$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
18	Water Treatment Plant											
19	330 Water Treatment Plant Land	0.00%									-	-
20	331 Water Trtmt. Struct. & Improv.	2.50%									-	-
21	332 Water Treatment Equipment	2.86%									-	-
22	Subtotal Water Trtmt. Plant		$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
23	Transmission & Distribution Plant											
24	340 Trans. and Dist. Land	0.00%									-	-
25	342 Storage Tanks	2.00%									-	-
26	343 Trans. & Dist. Mains	1.79%									-	-
27	344 Fire Sprinkler Taps	2.00%									-	-
28	345 Services	2.38%									-	-
29	346 Meters	4.55%									-	-
30	348 Hydrants	1.82%									-	-
31	Subtotal Trans. & Dist.		$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
32	General Plant											
33	389 General Plant Land	0.00%									-	-
34	390 General Plant Structures	2.50%									-	-
35	390.1 Leasehold Improvements	n/a									-	
36	391 Office Furniture & Equipment	6.67%	190,000								190,000	12,673
37	393 Warehouse Equipment	5.00%									-	-
38	394 Tools, Shop & Garage Equip.	4.00%		47,841							47,841	1,914
39	395 Laboratory Equipment	5.00%									-	-
40	396 Power Operated Equipment	6.67%									-	-
41	397 Communication Equipment	6.67%									-	-
42	398 Miscellaneous Equipment	3.33%									-	-
43	Subtotal General Plant		$ 190,000	$ 47,841	$ -	$ -	$ -	$ -	$ -	$ -	$ 237,841	$ 14,587
44												
45	Total Utility Plant		$ 190,000	$ 47,841	$ -	$ -	$ -	$ -	$ -	$ -	$ 237,841	$ 14,587
46												
47	Accumulated Depreciation (1/2-Year Convention)											$ 7,293
48												
49	Net Plant										$ 230,548	
50												
51												
52												
53												
54												
55												

ARIZONA WATER COMPANY
Test Year Ended December 31, 2011
Rate Base Adjustment RB-2
Allocate Phoenix Office & Meter Shop Rate Base

Line No.		Northern Group [A] Test Year Adjusted	[B] Allocated Navajo	[C] Allocated Verde Valley
1				
2	3-Factor Allocation Ratio		0.0943	0.1252
3				
4	Phoenix Office			
5	Plant Classification			
6	Intangible Plant	$ 9,148	$ 863	$ 1,145
7	Source of Supply Plant	-	-	-
8	Pumping Plant	-	-	-
9	Water Treatment Plant	-	-	-
10	Transmission & Distribution Plant	-	-	-
11	General Plant	7,228,106	681,610	904,959
12	Total Gross Plant in Service	$ 7,237,253	$ 682,473	$ 906,104
13	Less:			
14	Accumulated Depreciation	1,965,832	185,378	246,122
15	Net Plant in Service	$ 5,271,421	$ 497,095	$ 659,982
16	Less:			
17	Deferred Income Tax	29,186,404	2,752,278	3,654,138
18	Total Rate Base	$ (23,914,983)	$ (2,255,183)	$ (2,994,156)
19				
20				
21				
22	Meter Shop			
23	Plant Classification			
24	Intangible Plant	$ -	$ -	$ -
25	Source of Supply Plant	80	8	10
26	Pumping Plant	-	-	-
27	Water Treatment Plant	2,050	193	257
28	Transmission & Distribution Plant	6,066	572	759
29	General Plant	145,649	13,735	18,235
30	Total Gross Plant in Service	$ 153,844	$ 14,508	$ 19,261
31	Less:			
32	Accumulated Depreciation	62,087	5,855	7,773
33	Net Plant in Service	$ 91,758	$ 8,653	$ 11,488
34				
35	Total Rate Base	$ 91,758	$ 8,653	$ 11,488
36				
37				
38	Total Phoenix Office & Meter Shop			
39	Plant Classification			
40	Intangible Plant	$ 9,148	$ 863	$ 1,145
41	Source of Supply Plant	80	8	10
42	Pumping Plant	-	-	-
43	Water Treatment Plant	2,050	193	257
44	Transmission & Distribution Plant	6,066	572	759
45	General Plant	7,373,755	695,345	923,194
46	Total Gross Plant in Service	$ 7,391,098	$ 696,981	$ 925,365
47	Less:			
48	Accumulated Depreciation	$ 2,027,919	191,233	253,895
49		$ 5,363,179	$ 505,748	$ 671,470
50	Less:			
51	Deferred Income Tax	29,186,404	2,752,278	3,654,138
52	Total Rate Base	$ (23,823,225)	$ (2,246,530)	$ (2,982,668)
53				
54				
55				

Line No.	
1	The Company did not conduct a Reconstruction Cost-New study.

Line No.	
1	The Company did not conduct a Reconstruction Cost-New study.

ARIZONA WATER COMPANY
Test Year Ended December 31, 2011
Computation of Working Capital

Line No.		Northern Group [A] Working Capital
1		
2	Working Cash Requirement	
3	(Sch. B-5 Appendix)	$ 195,597
4		
5	Material and Supplies Inventories[1]	88,156
6		
7	Required Bank Balances[1]	231,729
8		
9	Prepayments & Special Deposits[1]	570,816
10		
11	Total Working Capital Allowance	$ 1,086,298
12		
13		
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54		
55	[1]13-month average balances	

Supporting Schedules:
E-1 (as adjusted to reflect 13-month average balances), B-5 Appendix

ARIZONA WATER COMPANY
Test Year Ended December 31, 2011
Computation of Working Capital

Line No.		Navajo [A] Working Capital	Verde Valley (Sedona, Pinewood, Rimrock) [B] Working Capital
1			
2	Working Cash Requirement		
3	(Sch. B-5 Appendix)	$ 84,216	$ 111,380
4			
5	Material and Supplies Inventories[1]	26,083	62,073
6			
7	Required Bank Balances[1]	99,566	132,163
8			
9	Prepayments & Special Deposits[1]	244,967	325,849
10			
11	Total Working Capital Allowance	$ 454,831	$ 631,466
12			
13			
14			
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16			
17			
18			
19			
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54			
55	[1]13-month average balances		

Supporting Schedules:
E-1 (as adjusted to reflect 13-month average balances), B-5 Appendix

ARIZONA WATER COMPANY
Test Year Ended December 31, 2011
Computation of Working Cash Requirement

Line No.		Navajo [A] Test Year Adjusted Results	[B] Revenue Lag Days[1]	[C] Expense Lag Days[2]	[D] Net Lag Days [H - I]	[E] Lead / Lag Factor [J ÷ 365]	[F] Working Cash Requirement [G X K]	Verde Valley (Sedona, Pinewood, Rimrock) [G] Test Year Adjusted Results	[H] Revenue Lag Days[1]	[I] Expense Lag Days[2]	[J] Net Lag Days [B - C]	[K] Lead / Lag Factor [D ÷ 365]	[L] Working Cash Requirement [A X E]
1													
2	Operating Expenses												
3	Purchased Power	$ 262,792	29.23	30.87	(1.64)	(0.0045)	$ (1,184)	$ 635,560	28.82	30.87	(2.05)	(0.0056)	$ (3,573)
4	Payroll	930,148	29.23	14.00	15.23	0.0417	38,801	1,306,798	28.82	14.00	14.82	0.0406	53,052
5	Purchased Water	610	29.23	30.47	(1.24)	(0.0034)	(2)	-	28.82	-	28.82	0.0790	-
6	Chemicals	17,436	29.23	(18.11)	47.34	0.1297	2,261	26,279	28.82	(18.11)	46.93	0.1286	3,379
7	Property & Liability Insurance	49,336	29.23	(45.27)	74.50	0.2041	10,069	65,502	28.82	(45.27)	74.09	0.2030	13,296
8	Workman's Compensation Insurance	9,176	29.23	(46.50)	75.73	0.2075	1,904	12,183	28.82	(46.50)	75.32	0.2064	2,514
9	Health Insurance	177,978	29.23	(8.92)	38.15	0.1045	18,600	223,971	28.82	(8.92)	37.74	0.1034	23,157
10	Other O&M (Excluding Rate Case Expense)	587,449	29.23	(9.27)	38.50	0.1055	61,957	1,219,792	28.82	(9.27)	38.09	0.1044	127,286
11	Federal Income Taxes	294,536	29.23	37.00	(7.77)	(0.0213)	(6,273)	776,673	28.82	37.00	(8.18)	(0.0224)	(17,410)
12	State Income Taxes	64,884	29.23	37.00	(7.77)	(0.0213)	(1,382)	171,094	28.82	37.00	(8.18)	(0.0224)	(3,835)
13	FICA Taxes	69,483	29.23	14.00	15.23	0.0417	2,898	97,861	28.82	14.00	14.82	0.0406	3,973
14	FUTA & SUTA Taxes	2,230	29.23	83.10	(53.87)	(0.1476)	(329)	3,253	28.82	83.10	(54.28)	(0.1487)	(484)
15	Property Taxes	128,416	29.23	212.00	(182.77)	(0.5008)	(64,305)	235,027	28.82	212.00	(183.18)	(0.5019)	(117,953)
16	Registration, Svc. Contracts, & Misc. Fees	64,052	29.23	(98.83)	128.06	0.3508	22,472	84,930	28.82	(98.83)	127.65	0.3497	29,702
17	Retirement Annuities (401k)	84,555	29.23	34.72	(5.49)	(0.0151)	(1,273)	106,531	28.82	34.72	(5.90)	(0.0162)	(1,723)
18													
19													
20	Total	$ 2,743,081					$ 84,216	$ 4,965,453					$ 111,380
21													
22													
23													
24													
25													
26													
27													
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49													
50	[1]2011 Actual lag days per AWC billing system.												
51	[2]Dec. No. 64282 as amended by Dec. Nos. 66849												
52	& 68302. Purchased power lag days per												
53	Dec. No. 71845. Purchased water lag days												
54	are actual 2011.												
55													

C

TEST YEAR INCOME STATEMENTS

C-1		ADJUSTED TEST YEAR INCOME STATEMENT
C-2		INCOME STATEMENT PRO FORMA ADJUSTMENTS
C-2	**APPENDIX**	CALCULATION OF INCOME STATEMENT PRO FORMA ADJUSTMENTS
C-3		COMPUTATION OF GROSS REVENUE CONVERSION FACTOR

ARIZONA WATER COMPANY
Test Year Ended December 31, 2011
Adjusted Test Year Income Statement

Line No.		Northern Group [A] Test Year Ended 12/31/2011	[B] Total Pro Forma Adjustments	[C] Test Year Adjusted Results	[D] Required Revenue Increase	[E] Adjusted with Increase
1	Operating Revenues					
2	Residential	$ 8,897,832	$ (961,547)	$ 7,936,285		
3	Commercial	2,221,794	(218,528)	2,003,266		
4	Industrial	3,594	638	4,231		
5	Private Fire Service	66,835	(7,019)	59,816		
6	Other Water Revenues	18,845	(1,545)	17,300		
7	Total Water Revenues	$ 11,208,900	$ (1,188,002)	$ 10,020,898		
8						
9	Miscellaneous	113,440	(9,681)	103,758		
10	Total Operating Revenues	$ 11,322,340	$ (1,197,683)	$ 10,124,656	$ 2,829,777	$ 12,954,433
11						
12	Operating Expenses					
13	Source of Supply Expenses:					
14	Purchased Water	610	-	610	-	610
15	Other	77,884	6,016	83,900	-	83,900
16	Pumping Expenses:					
17	Purchased Power	898,352	-	898,352	-	898,352
18	Purchased Gas	451	-	451	-	451
19	Other	292,753	33,841	326,594	-	326,594
20	Water Treatment Expenses	567,248	101,754	669,002	-	669,002
21	Transmission & Distribution Expenses	1,047,823	231,194	1,279,017	-	1,279,017
22	Customer Accounting Expenses	974,482	94,596	1,069,078	-	1,069,078
23	Sales Expense	2,058	-	2,058	-	2,058
24	Administrative & General Expenses	1,402,373	280,835	1,683,208	-	1,683,208
25	Total Operations & Maintenance Expense	$ 5,264,034	$ 748,236	$ 6,012,270	$ -	$ 6,012,270
26						
27	Depreciation & Amortization Expenses	1,689,546	150,254	1,839,800	-	1,839,800
28						
29	Taxes					
30	Federal Income Taxes	707,353	(521,446)	185,907	885,302	1,071,209
31	State Income Taxes	105,071	(64,117)	40,954	195,024	235,978
32	Property Taxes	311,379	21,141	332,520	30,924	363,444
33	Other	1,182,063	(1,033,909)	148,155	-	148,155
34	Total Taxes	$ 2,305,867	$ (1,598,331)	$ 707,535	$ 1,111,250	$ 1,818,785
35						
36	Total Operating Expenses	$ 9,259,446	$ (699,841)	$ 8,559,605	$ 1,111,250	$ 9,670,854
37	Operating Income	$ 2,062,894	$ (497,842)	$ 1,565,051	$ 1,718,527	$ 3,283,579
38						
39	Other Income & Deductions:					
40	Interest:					
41	Long-Term Debt	1,148,444	55,729	1,204,173	-	1,204,173
42	Short-Term Debt	841	(841)	-	-	-
43	Other	(83,728)	83,728	-	-	-
44	Total Interest	$ 1,065,557	$ 138,616	$ 1,204,173	$ -	$ 1,204,173
45						
46	Other (Income) - Net	(56,906)	56,906	-	-	-
47						
48	Total Other (Income) & Deductions	$ 1,008,651	$ 195,522	$ 1,204,173	$ -	$ 1,204,173
49						
50	Net Income	$ 1,054,243	$ (693,364)	$ 360,879	$ 1,718,527	$ 2,079,406
51						
52						
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Supporting Schedules:
E-2, C-2

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Recap Schedules:
A-1

ARIZONA WATER COMPANY
Test Year Ended December 31, 2011
Adjusted Test Year Income Statement

Line No.		Navajo [A] Test Year Ended 12/31/2011	[B] Total Pro Forma Adjustments	[C] Test Year Adjusted Results	[D] Required Revenue Increase	[E] Adjusted with Increase	Verde Valley (Sedona, Pinewood, Rimrock) [F] Test Year Ended 12/31/2011	[G] Total Pro Forma Adjustments	[H] Test Year Adjusted Results	[I] Required Revenue Increase	[J] Adjusted with Increase
1	Operating Revenues										
2	Residential	$ 3,355,969	$ (290,248)	$ 3,065,720			$ 5,541,864	$ (671,299)	$ 4,870,565		
3	Commercial	485,813	(26,674)	459,139			1,735,981	(191,855)	1,544,126		
4	Industrial	374	158	532			3,220	479	3,699		
5	Private Fire Service	15,974	(1,207)	14,767			50,861	(5,812)	45,049		
6	Other Water Revenues	13,498	(1,018)	12,480			5,347	(527)	4,820		
7	Total Water Revenues	$ 3,871,628	$ (318,989)	$ 3,552,639			$ 7,337,272	$ (869,013)	$ 6,468,259		
8											
9	Miscellaneous	45,656	(3,215)	42,441			67,784	(6,466)	61,317		
10	Total Operating Revenues	$ 3,917,284	$ (322,204)	$ 3,595,080	$ 778,281	$ 4,373,361	$ 7,405,056	$ (875,480)	$ 6,529,576	$ 2,051,496	$ 8,581,072
11											
12	Operating Expenses										
13	Source of Supply Expenses:										
14	Purchased Water	610	-	610	-	610	-	-	-	-	-
15	Other	37,983	879	38,862	-	38,862	39,901	5,137	45,038	-	45,038
16	Pumping Expenses:										
17	Purchased Power	262,792	-	262,792	-	262,792	635,560	-	635,560	-	635,560
18	Purchased Gas	451	-	451	-	451	-	-	-	-	-
19	Other	80,858	13,606	94,464	-	94,464	211,895	20,235	232,130	-	232,130
20	Water Treatment Expenses	76,861	(3,284)	73,577	-	73,577	490,387	105,038	595,425	-	595,425
21	Transmission & Distribution Expenses	441,848	88,587	530,435	-	530,435	605,975	142,606	748,581	-	748,581
22	Customer Accounting Expenses	478,844	41,612	520,456	-	520,456	495,638	52,984	548,622	-	548,622
23	Sales Expense	881	-	881	-	881	1,177	-	1,177	-	1,177
24	Administrative & General Expenses	609,622	114,617	724,239	-	724,239	792,751	166,218	958,968	-	958,968
25	Total Operations & Maintenance Expense	$ 1,990,750	$ 256,018	$ 2,246,768	$ -	$ 2,246,768	$ 3,273,284	$ 492,218	$ 3,765,502	$ -	$ 3,765,502
26											
27	Depreciation & Amortization Expenses	643,577	29,264	672,841	-	672,841	1,045,969	120,989	1,166,958	-	1,166,958
28											
29	Taxes										
30	Federal Income Taxes	197,278	(146,185)	51,093	243,443	294,536	510,075	(375,261)	134,814	641,859	776,673
31	State Income Taxes	29,304	(18,049)	11,255	53,628	64,884	75,767	(46,069)	29,698	141,396	171,094
32	Property Taxes	135,561	(15,788)	119,773	8,643	128,416	175,818	36,928	212,747	22,281	235,027
33	Other	345,481	(282,408)	63,073	-	63,073	836,582	(751,500)	85,082	-	85,082
34	Total Taxes	$ 707,624	$ (462,430)	$ 245,195	$ 305,715	$ 550,909	$ 1,598,242	$ (1,135,902)	$ 462,341	$ 805,535	$ 1,267,876
35											
36	Total Operating Expenses	$ 3,341,951	$ (177,147)	$ 3,164,804	$ 305,715	$ 3,470,519	$ 5,917,495	$ (522,694)	$ 5,394,801	$ 805,535	$ 6,200,336
37	Operating Income	$ 575,333	$ (145,057)	$ 430,276	$ 472,566	$ 902,842	$ 1,487,561	$ (352,786)	$ 1,134,775	$ 1,245,961	$ 2,380,736
38											
39	Other Income & Deductions:										
40	Interest:										
41	Long-Term Debt	359,135	(28,040)	331,096	-	331,096	789,309	83,768	873,077	-	873,077
42	Short-Term Debt	263	(263)	-	-	-	578	(578)	-	-	-
43	Other	(26,183)	26,183	-	-	-	(57,545)	57,545	-	-	-
44	Total Interest	$ 333,215	$ (2,120)	$ 331,096	$ -	$ 331,096	$ 732,342	$ 140,735	$ 873,077	$ -	$ 873,077
45											
46	Other (Income) - Net	(24,448)	24,448	-	-	-	(32,459)	32,459	-	-	-
47											
48	Total Other (Income) & Deductions	$ 308,768	$ 22,328	$ 331,096	$ -	$ 331,096	$ 699,883	$ 173,194	$ 873,077	$ -	$ 873,077
49											
50	Net Income	$ 266,565	$ (167,385)	$ 99,181	$ 472,566	$ 571,747	$ 787,677	$ (525,980)	$ 261,698	$ 1,245,961	$ 1,507,659
51											
52											
53											
54											
55											

ARIZONA WATER COMPANY
Test Year Ended December 31, 2011
Income Statement Pro Forma Adjustments

Northern Group

Line No.		[A] Test Year Ended 12/31/2011	[B] Adjustment IS-1	[C] Adjustment IS-2	[D] Adjustment IS-3	[E] Adjustment IS-4	[F] Adjustment IS-5	[G] Adjustment IS-6	[H] Adjustment IS-7	[I] Adjustment BLANK	[J] Adjustment BLANK	[K] Adjustment IS-8	[L] Adjustment IS-9	[M] Adjustment IS-10
1	*Operating Revenues*													
2	Residential	$ 8,897,832	$ (805,815)	$ 17,613	$ (15,879)	$ (36,213)	$ -	$ 10,701	$ (131,954)	$ -	$ -	$ -	$ -	$ -
3	Commercial	2,221,794	(235,808)	(2,707)	(362)	(16,529)	-	36,877	-	-	-	-	-	-
4	Industrial	3,594	(325)	964	(1)	-	-	-	-	-	-	-	-	-
5	Private Fire Service	66,835	(7,019)	-	-	-	-	-	-	-	-	-	-	-
6	Other Water Revenues	18,845	(1,477)	-	(2)	(29)	(38)	-	-	-	-	-	-	-
7	Total Water Revenues	$ 11,208,900	$ (1,050,443)	$ 15,870	$ (16,244)	$ (52,771)	$ (38)	$ 47,578	$ (131,954)	$ -	$ -	$ -	$ -	$ -
8														
9	Miscellaneous	113,440	(9,681)	-	-	-	-	-	-	-	-	-	-	-
10	Total Operating Revenues	$ 11,322,340	$ (1,060,124)	$ 15,870	$ (16,244)	$ (52,771)	$ (38)	$ 47,578	$ (131,954)	$ -	$ -	$ -	$ -	$ -
11														
12	Operating Expenses													
13	Source of Supply Expenses:													
14	Purchased Water	610	-	-	-	-	-	-	-	-	-	-	-	-
15	Other	77,884	-	-	-	-	-	537	(2,166)	-	-	7,079	-	-
16	Pumping Expenses:													
17	Purchased Power	898,352	-	-	-	-	-	-	-	-	-	-	-	-
18	Purchased Gas	451	-	-	-	-	-	-	-	-	-	-	-	-
19	Other	292,753	-	-	-	-	-	6,951	(30,219)	-	-	24,121	-	-
20	Water Treatment Expenses	567,248	-	-	(15,986)	-	-	2,879	(13,430)	-	-	13,223	-	-
21	Transmission & Distribution Expenses	1,047,823	-	-	-	-	-	2,967	-	-	-	73,321	-	-
22	Customer Accounting Expenses	974,482	-	-	-	-	-	3,259	-	-	-	65,250	-	-
23	Sales Expense	2,058	-	-	-	-	-	-	-	-	-	-	-	-
24	Administrative & General Expenses	1,402,373	-	-	-	-	-	4,105	-	-	-	63,384	54,771	4,127
25	Total Operations & Maintenance Expense	$ 5,264,034	$ -	$ -	$ (15,986)	$ -	$ -	$ 20,697	$ (45,815)	$ -	$ -	$ 246,378	$ 54,771	$ 4,127
26														
27	Depreciation & Amortization Expenses	1,689,546	-	-	-	-	-	-	-	-	-	-	-	-
28														
29	Taxes													
30	Federal Income Taxes	707,353	-	-	-	-	-	-	-	-	-	-	-	-
31	State Income Taxes	105,071	-	-	-	-	-	-	-	-	-	-	-	-
32	Property Taxes	311,379	-	-	-	-	-	-	-	-	-	-	-	-
33	Other	1,182,063	(1,060,124)	-	-	-	-	-	-	-	-	26,215	-	-
34	Total Taxes	$ 2,305,867	$ (1,060,124)	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 26,215	$ -	$ -
35														
36	Total Operating Expenses	$ 9,259,446	$ (1,060,124)	$ -	$ (15,986)	$ -	$ -	$ 20,697	$ (45,815)	$ -	$ -	$ 272,593	$ 54,771	$ 4,127
37	Operating Income	$ 2,062,894	$ -	$ 15,870	$ (258)	$ (52,771)	$ (38)	$ 26,881	$ (86,139)	$ -	$ -	$ (272,593)	$ (54,771)	$ (4,127)
38														
39	Other Income & Deductions:													
40	Interest:													
41	Long-Term Debt	1,148,444	-	-	-	-	-	-	-	-	-	-	-	-
42	Short-Term Debt	841	-	-	-	-	-	-	-	-	-	-	-	-
43	Other	(83,728)	-	-	-	-	-	-	-	-	-	-	-	-
44	Total Interest	$ 1,065,557	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
45														
46	Other (Income) - Net	(56,906)	-	-	-	-	-	-	-	-	-	-	-	-
47														
48	Total Other (Income) & Deductions	$ 1,008,651	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
49														
50	Net Income	$ 1,054,243	$ -	$ 15,870	$ (258)	$ (52,771)	$ (38)	$ 26,881	$ (86,139)	$ -	$ -	$ (272,593)	$ (54,771)	$ (4,127)
51														
52														
53														
54														
55														

(Continued)

Line No.		Northern Group [N] Adjustment IS-11	[O] Adjustment IS-12	[P] Adjustment IS-13	[Q] Adjustment IS-14	[R] Adjustment IS-15	[S] Adjustment IS-16	[T] Adjustment IS-17	[U] Adjustment IS-18	[V] Adjustment IS-19	[W] Adjustment BLANK	[X] Adjustment BLANK	[Y] Adjustment BLANK	[Z] Adjustment BLANK
1	Operating Revenues													
2	Residential	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
3	Commercial	-	-	-	-	-	-	-	-	-	-	-	-	-
4	Industrial	-	-	-	-	-	-	-	-	-	-	-	-	-
5	Private Fire Service	-	-	-	-	-	-	-	-	-	-	-	-	-
6	Other Water Revenues	-	-	-	-	-	-	-	-	-	-	-	-	-
7	Total Water Revenues	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
8														
9	Miscellaneous	-	-	-	-	-	-	-	-	-	-	-	-	-
10	Total Operating Revenues	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
11														
12	Operating Expenses													
13	Source of Supply Expenses:													
14	Purchased Water	-	-	-	-	-	-	-	-	-	-	-	-	-
15	Other	-	-	-	-	80	-	487	-	-	-	-	-	-
16	Pumping Expenses:													
17	Purchased Power	-	-	-	-	-	-	-	-	-	-	-	-	-
18	Purchased Gas	-	-	-	-	-	-	-	-	-	-	-	-	-
19	Other	-	26,507	-	-	915	-	5,568	-	-	-	-	-	-
20	Water Treatment Expenses	-	-	-	-	247	113,315	1,506	-	-	-	-	-	-
21	Transmission & Distribution Expenses	-	3	-	-	2,817	-	17,146	-	134,940	-	-	-	-
22	Customer Accounting Expenses	17,696	666	-	-	753	-	4,585	2,388	-	-	-	-	-
23	Sales Expense	-	-	-	-	-	-	-	-	-	-	-	-	-
24	Administrative & General Expenses	1,573	-	108,732	42,325	256	-	1,560	-	-	-	-	-	-
25	Total Operations & Maintenance Expense	$ 19,269	$ 27,175	$ 108,732	$ 42,325	$ 5,068	$ 113,315	$ 30,851	$ 2,388	$ 134,940	$ -	$ -	$ -	$ -
26														
27	Depreciation & Amortization Expenses	-	-	-	-	-	-	-	-	-	-	-	-	-
28														
29	Taxes													
30	Federal Income Taxes	-	-	-	-	-	-	-	-	-	-	-	-	-
31	State Income Taxes	-	-	-	-	-	-	-	-	-	-	-	-	-
32	Property Taxes	-	-	-	-	-	-	-	-	-	-	-	-	-
33	Other	-	-	-	-	-	-	-	-	-	-	-	-	-
34	Total Taxes	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
35														
36	Total Operating Expenses	$ 19,269	$ 27,175	$ 108,732	$ 42,325	$ 5,068	$ 113,315	$ 30,851	$ 2,388	$ 134,940	$ -	$ -	$ -	$ -
37	Operating Income	$ (19,269)	$ (27,175)	$ (108,732)	$ (42,325)	$ (5,068)	$ (113,315)	$ (30,851)	$ (2,388)	$ (134,940)	$ -	$ -	$ -	$ -
38														
39	Other Income & Deductions:													
40	Interest:													
41	Long-Term Debt	-	-	-	-	-	-	-	-	-	-	-	-	-
42	Short-Term Debt	-	-	-	-	-	-	-	-	-	-	-	-	-
43	Other	-	-	-	-	-	-	-	-	-	-	-	-	-
44	Total Interest	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
45														
46	Other (Income) - Net	-	-	-	-	-	-	-	-	-	-	-	-	-
47														
48	Total Other (Income) & Deductions	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
49														
50	Net Income	$ (19,269)	$ (27,175)	$ (108,732)	$ (42,325)	$ (5,068)	$ (113,315)	$ (30,851)	$ (2,388)	$ (134,940)	$ -	$ -	$ -	$ -
51														
52							(Continued)							
53														
54														
55														

Line No.		Northern Group [AA] Adjustment BLANK	[AB] Adjustment BLANK	[AC] Adjustment BLANK	[AD] Adjustment IS-20	[AE] Adjustment IS-21	[AF] Adjustment IS-22	[AG] Adjustment IS-23	[AH] Adjustment IS-24	[AI] Total Pro Forma Adjustments	[AJ] Test Year Adjusted Results	[AK] Required Revenue Increase	[AL] Adjusted with Increase
1	Operating Revenues												
2	Residential	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ (961,547)	$ 7,936,285		
3	Commercial	-	-	-	-	-	-	-	-	(218,528)	2,003,266		
4	Industrial	-	-	-	-	-	-	-	-	638	4,231		
5	Private Fire Service	-	-	-	-	-	-	-	-	(7,019)	59,816		
6	Other Water Revenues	-	-	-	-	-	-	-	-	(1,545)	17,300		
7	Total Water Revenues	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ (1,188,002)	$ 10,020,898		
8													
9	Miscellaneous	-	-	-	-	-	-	-	-	(9,681)	103,758		
10	Total Operating Revenues	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ (1,197,683)	$ 10,124,656	$ 2,829,777	$ 12,954,433
11													
12	Operating Expenses												
13	Source of Supply Expenses:												
14	Purchased Water	-	-	-	-	-	-	-	-	-	610		610
15	Other	-	-	-	-	-	-	-	-	6,016	83,900		83,900
16	Pumping Expenses:												
17	Purchased Power	-	-	-	-	-	-	-	-	-	898,352		898,352
18	Purchased Gas	-	-	-	-	-	-	-	-	-	451		451
19	Other	-	-	-	-	-	-	-	-	33,841	326,594		326,594
20	Water Treatment Expenses	-	-	-	-	-	-	-	-	101,754	669,002		669,002
21	Transmission & Distribution Expenses	-	-	-	-	-	-	-	-	231,194	1,279,017		1,279,017
22	Customer Accounting Expenses	-	-	-	-	-	-	-	-	94,596	1,069,078		1,069,078
23	Sales Expense	-	-	-	-	-	-	-	-	-	2,058		2,058
24	Administrative & General Expenses	-	-	-	-	-	-	-	-	280,835	1,683,208		1,683,208
25	Total Operations & Maintenance Expense	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 748,236	$ 6,012,270	$ -	$ 6,012,270
26													
27	Depreciation & Amortization Expenses	-	-	-	150,254	-	-	-	-	150,254	1,839,800		1,839,800
28													
29	Taxes												
30	Federal Income Taxes	-	-	-	-	-	-	-	(521,446)	(521,446)	185,907	885,302	1,071,209
31	State Income Taxes	-	-	-	-	-	-	-	(64,117)	(64,117)	40,954	195,024	235,978
32	Property Taxes	-	-	-	-	-	-	21,141	-	21,141	332,520	30,924	363,444
33	Other	-	-	-	-	-	-	-	-	(1,033,909)	148,155	-	148,155
34	Total Taxes	$ -	$ -	$ -	$ -	$ -	$ -	$ 21,141	$ (585,563)	$ (1,598,331)	$ 707,535	$ 1,111,250	$ 1,818,785
35													
36	Total Operating Expenses	$ -	$ -	$ -	$ 150,254	$ -	$ -	$ 21,141	$ (585,563)	$ (699,841)	$ 8,559,605	$ 1,111,250	$ 9,670,854
37	Operating Income	$ -	$ -	$ -	$ (150,254)	$ -	$ -	$ (21,141)	$ 585,563	$ (497,842)	$ 1,565,051	$ 1,718,527	$ 3,283,579
38													
39	Other Income & Deductions:												
40	Interest:												
41	Long-Term Debt	-	-	-	-	55,729	-	-	-	55,729	1,204,173		1,204,173
42	Short-Term Debt	-	-	-	-	(841)	-	-	-	(841)	-		-
43	Other	-	-	-	-	83,728	-	-	-	83,728	-		-
44	Total Interest	$ -	$ -	$ -	$ -	$ 138,616	$ -	$ -	$ -	$ 138,616	$ 1,204,173	$ -	$ 1,204,173
45													
46	Other (Income) - Net	-	-	-	-	-	56,906	-	-	56,906	-		-
47													
48	Total Other (Income) & Deductions	$ -	$ -	$ -	$ -	$ 138,616	$ 56,906	$ -	$ -	$ 195,522	$ 1,204,173	$ -	$ 1,204,173
49													
50	Net Income	$ -	$ -	$ -	$ (150,254)	$ (138,616)	$ (56,906)	$ (21,141)	$ 585,563	$ (693,364)	$ 360,879	$ 1,718,527	$ 2,079,406
51													
52													
53													
54													
55													

Line No.		[A] Test Year Ended 12/31/2011	[B] Adjustment IS-1	[C] Adjustment IS-2	[D] Adjustment IS-3	[E] Adjustment IS-4	[F] Adjustment IS-5	Navajo [G] Adjustment IS-6	[H] Adjustment IS-7	[I] Adjustment BLANK	[J] Adjustment BLANK	[K] Adjustment IS-8	[L] Adjustment IS-9	[M] Adjustment IS-10
1	Operating Revenues													
2	Residential	$ 3,355,969	$ (245,642)	$ 8,179	$ (2,678)	$ -	-	$ 18,644	$ (68,751)					
3	Commercial	485,813	(38,755)	1,269	(72)	-	-	10,885						
4	Industrial	374	(44)	202	-	-	-							
5	Private Fire Service	15,974	(1,207)				-							
6	Other Water Revenues	13,498	(1,018)		(0)	-	-							
7	Total Water Revenues	$ 3,871,628	$ (286,666)	$ 9,650	$ (2,750)	$ -	$ -	$ 29,528	$ (68,751)	$ -	$ -	$ -	$ -	$ -
8														
9	Miscellaneous	45,656	(3,215)		-	-								
10	Total Operating Revenues	$ 3,917,284	$ (289,881)	$ 9,650	$ (2,750)	$ -	$ -	$ 29,528	$ (68,751)	$ -	$ -	$ -	$ -	$ -
11														
12	Operating Expenses													
13	Source of Supply Expenses:													
14	Purchased Water	610												
15	Other	37,983						361	(1,281)			1,773		
16	Pumping Expenses:													
17	Purchased Power	262,792												
18	Purchased Gas	451												
19	Other	80,858						3,216	(11,418)			2,905		
20	Water Treatment Expenses	76,861			(2,810)			718	(2,550)			1,277		
21	Transmission & Distribution Expenses	441,848						3,130				15,798		
22	Customer Accounting Expenses	478,844						3,392				20,500		
23	Sales Expense	881												
24	Administrative & General Expenses	609,622						4,318				19,020	24,253	1,261
25	Total Operations & Maintenance Expense	$ 1,990,750	$ -	$ -	$ (2,810)	$ -	$ -	$ 15,134	$ (15,249)	$ -	$ -	$ 61,272	$ 24,253	$ 1,261
26														
27	Depreciation & Amortization Expenses	643,577												
28														
29	Taxes													
30	Federal Income Taxes	197,278												
31	State Income Taxes	29,304												
32	Property Taxes	135,561												
33	Other	345,481	(289,881)									7,473		
34	Total Taxes	$ 707,624	$ (289,881)	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 7,473	$ -	$ -
35														
36	Total Operating Expenses	$ 3,341,951	$ (289,881)	$ -	$ (2,810)	$ -	$ -	$ 15,134	$ (15,249)	$ -	$ -	$ 68,745	$ 24,253	$ 1,261
37	Operating Income	$ 575,333	$ -	$ 9,650	$ 60	$ -	$ -	$ 14,395	$ (53,503)	$ -	$ -	$ (68,745)	$ (24,253)	$ (1,261)
38														
39	Other Income & Deductions:													
40	Interest:													
41	Long-Term Debt	359,135												
42	Short-Term Debt	263												
43	Other	(26,183)												
44	Total Interest	$ 333,215	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
45														
46	Other (Income) - Net	(24,448)												
47														
48	Total Other (Income) & Deductions	$ 308,768	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
49														
50	Net Income	$ 266,565	$ -	$ 9,650	$ 60	$ -	$ -	$ 14,395	$ (53,503)	$ -	$ -	$ (68,745)	$ (24,253)	$ (1,261)
51														
52														
53														
54														
55														

(Continued)

Line No.		Navajo [N] Adjustment IS-11	[O] Adjustment IS-12	[P] Adjustment IS-13	[Q] Adjustment IS-14	[R] Adjustment IS-15	[S] Adjustment IS-16	[T] Adjustment IS-17	[U] Adjustment IS-18	[V] Adjustment IS-19	[W] Adjustment BLANK	[X] Adjustment BLANK	[Y] Adjustment BLANK	[Z] Adjustment BLANK
1	Operating Revenues													
2	Residential													
3	Commercial													
4	Industrial													
5	Private Fire Service													
6	Other Water Revenues													
7	Total Water Revenues	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
8														
9	Miscellaneous													
10	Total Operating Revenues	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
11														
12	Operating Expenses													
13	Source of Supply Expenses:													
14	Purchased Water													
15	Other					26		-						
16	Pumping Expenses:													
17	Purchased Power													
18	Purchased Gas													
19	Other		18,603			300		-						
20	Water Treatment Expenses					81		-						
21	Transmission & Distribution Expenses		-			924		-		68,736				
22	Customer Accounting Expenses	15,988	459			247		-	1,026					
23	Sales Expense													
24	Administrative & General Expenses	676		46,256	18,750	84		-						
25	Total Operations & Maintenance Expense	$ 16,664	$ 19,063	$ 46,256	$ 18,750	$ 1,663	$ -	$ -	$ 1,026	$ 68,736	$ -	$ -	$ -	$ -
26														
27	Depreciation & Amortization Expenses													
28														
29	Taxes													
30	Federal Income Taxes													
31	State Income Taxes													
32	Property Taxes													
33	Other													
34	Total Taxes	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
35														
36	Total Operating Expenses	$ 16,664	$ 19,063	$ 46,256	$ 18,750	$ 1,663	$ -	$ -	$ 1,026	$ 68,736	$ -	$ -	$ -	$ -
37	Operating Income	$ (16,664)	$ (19,063)	$ (46,256)	$ (18,750)	$ (1,663)	$ -	$ -	$ (1,026)	$ (68,736)	$ -	$ -	$ -	$ -
38														
39	Other Income & Deductions:													
40	Interest:													
41	Long-Term Debt													
42	Short-Term Debt													
43	Other													
44	Total Interest	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
45														
46	Other (Income) - Net													
47														
48	Total Other (Income) & Deductions	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
49														
50	Net Income	$ (16,664)	$ (19,063)	$ (46,256)	$ (18,750)	$ (1,663)	$ -	$ -	$ (1,026)	$ (68,736)	$ -	$ -	$ -	$ -
51														
52														
53														
54														
55														

(Continued)

Line No.		[AA] Adjustment BLANK	[AB] Adjustment BLANK	[AC] Adjustment BLANK	[AD] Adjustment IS-20	[AE] Adjustment IS-21	[AF] Adjustment IS-22	[AG] Adjustment IS-23	[AH] Adjustment IS-24	[AI] Total Pro Forma Adjustments	[AJ] Test Year Adjusted Results	[AK] Required Revenue Increase	[AL] Adjusted with Increase
							Navajo						
1	Operating Revenues												
2	Residential									$ (290,248)	$ 3,065,720		
3	Commercial									(26,674)	459,139		
4	Industrial									158	532		
5	Private Fire Service									(1,207)	14,767		
6	Other Water Revenues									(1,018)	12,480		
7	Total Water Revenues	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ (318,989)	$ 3,552,639		
8													
9	Miscellaneous									(3,215)	42,441		
10	Total Operating Revenues	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ (322,204)	$ 3,595,080	$ 778,281	$ 4,373,361
11													
12	Operating Expenses												
13	Source of Supply Expenses:												
14	Purchased Water									-	610		610
15	Other									879	38,862		38,862
16	Pumping Expenses:												
17	Purchased Power									-	262,792		262,792
18	Purchased Gas									-	451		451
19	Other									13,606	94,464		94,464
20	Water Treatment Expenses									(3,284)	73,577		73,577
21	Transmission & Distribution Expenses									88,587	530,435		530,435
22	Customer Accounting Expenses									41,612	520,456		520,456
23	Sales Expense									-	881		881
24	Administrative & General Expenses									114,617	724,239		724,239
25	Total Operations & Maintenance Expense	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 256,018	$ 2,246,768	$ -	$ 2,246,768
26													
27	Depreciation & Amortization Expenses				29,264					29,264	672,841		672,841
28													
29	Taxes												
30	Federal Income Taxes								(146,185)	(146,185)	51,093	243,443	294,536
31	State Income Taxes								(18,049)	(18,049)	11,255	53,628	64,884
32	Property Taxes							(15,788)		(15,788)	119,773	8,643	128,416
33	Other									(282,408)	63,073		63,073
34	Total Taxes	$ -	$ -	$ -	$ -	$ -	$ -	$ (15,788)	$ (164,234)	$ (462,430)	$ 245,195	$ 305,715	$ 550,909
35													
36	Total Operating Expenses	$ -	$ -	$ -	$ 29,264	$ -	$ -	$ (15,788)	$ (164,234)	$ (177,147)	$ 3,164,804	$ 305,715	$ 3,470,519
37	Operating Income	$ -	$ -	$ -	$ (29,264)	$ -	$ -	$ 15,788	$ 164,234	$ (145,057)	$ 430,276	$ 472,566	$ 902,842
38													
39	Other Income & Deductions:												
40	Interest:												
41	Long-Term Debt					(28,040)				(28,040)	331,096		331,096
42	Short-Term Debt					(263)				(263)	-		-
43	Other					26,183				26,183	-		-
44	Total Interest	$ -	$ -	$ -	$ -	$ (2,120)	$ -	$ -	$ -	$ (2,120)	$ 331,096	$ -	$ 331,096
45													
46	Other (Income) - Net						24,448			24,448	-		-
47													
48	Total Other (Income) & Deductions	$ -	$ -	$ -	$ -	$ (2,120)	$ 24,448	$ -	$ -	$ 22,328	$ 331,096	$ -	$ 331,096
49													
50	Net Income	$ -	$ -	$ -	$ (29,264)	$ 2,120	$ (24,448)	$ 15,788	$ 164,234	$ (167,385)	$ 99,181	$ 472,566	$ 571,747
51													
52													
53													
54													
55													

Verde Valley (Sedona, Pinewood, Rimrock)

Line No.		[A] Test Year Ended 12/31/2011	[B] Adjustment IS-1	[C] Adjustment IS-2	[D] Adjustment IS-3	[E] Adjustment IS-4	[F] Adjustment IS-5	[G] Adjustment IS-6	[H] Adjustment IS-7	[I] Adjustment BLANK	[J] Adjustment BLANK	[K] Adjustment IS-8	[L] Adjustment IS-9	[M] Adjustment IS-10
1	Operating Revenues													
2	Residential	$ 5,541,864	$ (560,173)	$ 9,434	$ (13,201)	$ (36,213)	-	$ (7,943)	$ (63,203)					
3	Commercial	1,735,981	(197,052)	(3,976)	(290)	(16,529)	-	25,993						
4	Industrial	3,220	(281)	762	(1)	-	-							
5	Private Fire Service	50,861	(5,812)				-							
6	Other Water Revenues	5,347	(458)		(2)	(29)	(38)							
7	Total Water Revenues	$ 7,337,272	$ (763,777)	$ 6,220	$ (13,494)	$ (52,771)	$ (38)	$ 18,050	$ (63,203)	$ -	$ -	$ -	$ -	$ -
8														
9	Miscellaneous	67,784	(6,466)		-	-								
10	Total Operating Revenues	$ 7,405,056	$ (770,243)	$ 6,220	$ (13,494)	$ (52,771)	$ (38)	$ 18,050	$ (63,203)	$ -	$ -	$ -	$ -	$ -
11														
12	Operating Expenses													
13	Source of Supply Expenses:													
14	Purchased Water	-												
15	Other	39,901						176	(885)			5,306		
16	Pumping Expenses:													
17	Purchased Power	635,560												
18	Purchased Gas	-												
19	Other	211,895						3,735	(18,802)			21,216		
20	Water Treatment Expenses	490,387			(13,176)			2,161	(10,880)			11,946		
21	Transmission & Distribution Expenses	605,975						(163)				57,523		
22	Customer Accounting Expenses	495,638						(133)				44,750		
23	Sales Expense	1,177												
24	Administrative & General Expenses	792,751						(213)				44,365	30,519	2,866
25	Total Operations & Maintenance Expense	$ 3,273,284	$ -	$ -	$ (13,176)	$ -	$ -	$ 5,563	$ (30,566)	$ -	$ -	$ 185,106	$ 30,519	$ 2,866
26														
27	Depreciation & Amortization Expenses	1,045,969												
28														
29	Taxes													
30	Federal Income Taxes	510,075												
31	State Income Taxes	75,767												
32	Property Taxes	175,818												
33	Other	836,582	(770,243)									18,743		
34	Total Taxes	$ 1,598,242	$ (770,243)	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 18,743	$ -	$ -
35														
36	Total Operating Expenses	$ 5,917,495	$ (770,243)	$ -	$ (13,176)	$ -	$ -	$ 5,563	$ (30,566)	$ -	$ -	$ 203,848	$ 30,519	$ 2,866
37	Operating Income	$ 1,487,561	$ -	$ 6,220	$ (318)	$ (52,771)	$ (38)	$ 12,486	$ (32,636)	$ -	$ -	$ (203,848)	$ (30,519)	$ (2,866)
38														
39	Other Income & Deductions:													
40	Interest:													
41	Long-Term Debt	789,309												
42	Short-Term Debt	578												
43	Other	(57,545)												
44	Total Interest	$ 732,342	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
45														
46	Other (Income) - Net	(32,459)												
47														
48	Total Other (Income) & Deductions	$ 699,883	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
49														
50	Net Income	$ 787,677	$ -	$ 6,220	$ (318)	$ (52,771)	$ (38)	$ 12,486	$ (32,636)	$ -	$ -	$ (203,848)	$ (30,519)	$ (2,866)
51														
52														
53														
54														
55														

(Continued)

		Verde Valley (Sedona, Pinewood, Rimrock)												
		[N]	[O]	[P]	[Q]	[R]	[S]	[T]	[U]	[V]	[W]	[X]	[Y]	[Z]
Line No.		Adjustment IS-11	Adjustment IS-12	Adjustment IS-13	Adjustment IS-14	Adjustment IS-15	Adjustment IS-16	Adjustment IS-17	Adjustment IS-18	Adjustment IS-19	Adjustment BLANK	Adjustment BLANK	Adjustment BLANK	Adjustment BLANK
1	Operating Revenues													
2	Residential													
3	Commercial													
4	Industrial													
5	Private Fire Service													
6	Other Water Revenues													
7	Total Water Revenues	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
8														
9	Miscellaneous													
10	Total Operating Revenues	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
11														
12	Operating Expenses													
13	Source of Supply Expenses:													
14	Purchased Water													
15	Other					54		487						
16	Pumping Expenses:													
17	Purchased Power													
18	Purchased Gas													
19	Other		7,904			615		5,568						
20	Water Treatment Expenses					166	113,315	1,506						
21	Transmission & Distribution Expenses		3			1,893		17,146		66,204				
22	Customer Accounting Expenses	1,708	207			506		4,585	1,362					
23	Sales Expense													
24	Administrative & General Expenses	897		62,476	23,575	172		1,560						
25	Total Operations & Maintenance Expense	$ 2,605	$ 8,113	$ 62,476	$ 23,575	$ 3,406	$ 113,315	$ 30,851	$ 1,362	$ 66,204	$ -	$ -	$ -	$ -
26														
27	Depreciation & Amortization Expenses													
28														
29	Taxes													
30	Federal Income Taxes													
31	State Income Taxes													
32	Property Taxes													
33	Other													
34	Total Taxes	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
35														
36	Total Operating Expenses	$ 2,605	$ 8,113	$ 62,476	$ 23,575	$ 3,406	$ 113,315	$ 30,851	$ 1,362	$ 66,204	$ -	$ -	$ -	$ -
37	Operating Income	$ (2,605)	$ (8,113)	$ (62,476)	$ (23,575)	$ (3,406)	$ (113,315)	$ (30,851)	$ (1,362)	$ (66,204)	$ -	$ -	$ -	$ -
38														
39	Other Income & Deductions:													
40	Interest:													
41	Long-Term Debt													
42	Short-Term Debt													
43	Other													
44	Total Interest	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
45														
46	Other (Income) - Net													
47														
48	Total Other (Income) & Deductions	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
49														
50	Net Income	$ (2,605)	$ (8,113)	$ (62,476)	$ (23,575)	$ (3,406)	$ (113,315)	$ (30,851)	$ (1,362)	$ (66,204)	$ -	$ -	$ -	$ -
51														
52														
53														
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(Continued)

Line No.		Verde Valley (Sedona, Pinewood, Rimrock)											
		[AA]	[AB]	[AC]	[AD]	[AE]	[AF]	[AG]	[AH]	[AI]	[AJ]	[AK]	[AL]
		Adjustment BLANK	Adjustment BLANK	Adjustment BLANK	Adjustment IS-20	Adjustment IS-21	Adjustment IS-22	Adjustment IS-23	Adjustment IS-24	Total Pro Forma Adjustments	Test Year Adjusted Results	Required Revenue Increase	Adjusted with Increase
1	Operating Revenues												
2	Residential									$ (671,299)	$ 4,870,565		
3	Commercial									(191,855)	1,544,126		
4	Industrial									479	3,699		
5	*Private Fire Service*									(5,812)	45,049		
6	Other Water Revenues									(527)	4,820		
7	Total Water Revenues	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ (869,013)	$ 6,468,259		
8													
9	Miscellaneous									(6,466)	61,317		
10	Total Operating Revenues	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ (875,480)	$ 6,529,576	$ 2,051,496	$ 8,581,072
11													
12	Operating Expenses												
13	Source of Supply Expenses:												
14	Purchased Water									-	-		-
15	Other									5,137	45,038		45,038
16	Pumping Expenses:												
17	Purchased Power									-	635,560		635,560
18	Purchased Gas									-	-		-
19	Other									20,235	232,130		232,130
20	Water Treatment Expenses									105,038	595,425		595,425
21	Transmission & Distribution Expenses									142,606	748,581		748,581
22	Customer Accounting Expenses									52,984	548,622		548,622
23	Sales Expense									-	1,177		1,177
24	*Administrative & General Expenses*									166,218	958,968		958,968
25	Total Operations & Maintenance Expense	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 492,218	$ 3,765,502	$ -	$ 3,765,502
26													
27	Depreciation & Amortization Expenses				120,989					120,989	1,166,958		1,166,958
28													
29	Taxes												
30	Federal Income Taxes								(375,261)	(375,261)	134,814	641,859	776,673
31	State Income Taxes								(46,069)	(46,069)	29,698	141,396	171,094
32	Property Taxes							36,928		36,928	212,747	22,281	235,027
33	Other									(751,500)	85,082		85,082
34	Total Taxes	$ -	$ -	$ -	$ -	$ -	$ -	$ 36,928	$ (421,330)	$ (1,135,902)	$ 462,341	$ 805,535	$ 1,267,876
35													
36	Total Operating Expenses	$ -	$ -	$ -	$ 120,989	$ -	$ -	$ 36,928	$ (421,330)	$ (522,694)	$ 5,394,801	$ 805,535	$ 6,200,336
37	Operating Income	$ -	$ -	$ -	$ (120,989)	$ -	$ -	$ (36,928)	$ 421,330	$ (352,786)	$ 1,134,775	$ 1,245,961	$ 2,380,736
38													
39	Other Income & Deductions:												
40	Interest:												
41	Long-Term Debt					83,768				83,768	873,077		873,077
42	Short-Term Debt					(578)				(578)	-		-
43	Other					57,545				57,545	-		-
44	Total Interest	$ -	$ -	$ -	$ -	$ 140,735	$ -	$ -	$ -	$ 140,735	$ 873,077	$ -	$ 873,077
45													
46	Other (Income) - Net						32,459			32,459	-		-
47													
48	Total Other (Income) & Deductions	$ -	$ -	$ -	$ -	$ 140,735	$ 32,459	$ -	$ -	$ 173,194	$ 873,077	$ -	$ 873,077
49													
50	Net Income	$ -	$ -	$ -	$ (120,989)	$ (140,735)	$ (32,459)	$ (36,928)	$ 421,330	$ (525,980)	$ 261,698	$ 1,245,961	$ 1,507,659
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53													
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ARIZONA WATER COMPANY
Test Year Ended December 31, 2011
Income Statement Adjustment IS-1
Remove Sales Tax from Revenues & Expenses

Line No.		Northern Group - Sales Tax [A] Residential	[B] Commercial	[C] Industrial	[D] Private Fire	[E] Other	[F] Miscellaneous	[G] Total Sales Tax
1								
2	Northern Group							
3	Navajo	245,642	38,755	44	1,207	1,018	3,215	289,881
4	Verde Valley	560,173	197,052	281	5,812	458	6,466	770,243
5	Sedona	420,434	192,739	268	5,691	230	4,713	624,076
6	Pinewood, Rimrock	139,738	4,313	13	121	229	1,754	146,168
7	Subtotal	$ 805,815	$ 235,808	$ 325	$ 7,019	$ 1,477	$ 9,681	$ 1,060,124
8								
9	Total	$ 805,815	$ 235,808	$ 325	$ 7,019	$ 1,477	$ 9,681	$ 1,060,124
10								
11								
12	Increase/(Decrease) in Revenues & Expenses	$ (805,815)	$ (235,808)	$ (325)	$ (7,019)	$ (1,477)	$ (9,681)	$ (1,060,124)
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Line No.		Northern Group - Unbilled Revenues [A]	[B]	[C]	[D]
1					
2			Revenues		
3		Residential	Commercial	Industrial	Total
4	Northern Group				
5	Navajo	$ (8,179)	$ (1,269)	$ (202)	$ (9,650)
6	Verde Valley	(9,434)	3,976	(762)	(6,220)
7	Sedona	(12,254)	3,977	(740)	(9,017)
8	Pinewood, Rimrock	2,820	(1)	(22)	2,797
9					
10	Subtotal	$ (17,613)	$ 2,707	$ (964)	$ (15,870)
11					
12	Total	$ (17,613)	$ 2,707	$ (964)	$ (15,870)
13					
14					
15	Increase/(Decrease) in Revenues	$ 17,613	$ (2,707)	$ 964	$ 15,870
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ARIZONA WATER COMPANY
Test Year Ended December 31, 2011
Income Statement Adjustment IS-3
Remove Monitoring Assistance Program ("MAP") Revenues & Expenses

Line No.		Northern Group - MAP [A] Residential	[B] Commercial	[C] Industrial	[D] Other	[E] Miscellaneous	[F] Total MAP Revenues	[G] Total MAP Expenses
1								
2	Northern Group							
3	Navajo	$ 2,678	$ 72	$ -	$ 0		$ 2,750	$ 2,810
4	Verde Valley	13,201	290	1	2	-	13,494	13,176
5	Sedona	2,095	164	1	-		2,259	
6	Pinewood, Rimrock	11,106	127	1	2		11,235	
7								
8	Subtotal	$ 15,879	$ 362	$ 1	$ 2	$ -	$ 16,244	$ 15,986
9								
10	Total	$ 15,879	$ 362	$ 1	$ 2	$ -	$ 16,244	$ 15,986
11								
12								
13	Increase/(Decrease) in Revenues & Expenses	$ (15,879)	$ (362)	$ (1)	$ (2)	$ -	$ (16,244)	$ (15,986)
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Line No.		Northern Group - ACRM [A] Residential	[B] Commercial	[C] Industrial	[D] Other	[E] Miscellaneous	[F] Total ACRM Revenues
1							
2	Northern Group						
3	Navajo	-	-	-	-	-	-
4	Verde Valley	36,213	16,529	-	29	-	52,771
5	Sedona	36,213	16,529	-	29	-	52,771
6	Pinewood, Rimrock	-	-	-	-	-	-
7							-
8	Subtotal	$ 36,213	$ 16,529	$ -	$ 29	$ -	$ 52,771
9							
10	Total	$ 36,213	$ 16,529	$ -	$ 29	$ -	$ 52,771
11							
12							
13	Increase/(Decrease) in Revenues	$ (36,213)	$ (16,529)	$ -	$ (29)	$ -	$ (52,771)
14							
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ARIZONA WATER COMPANY
Test Year Ended December 31, 2011
Income Statement Adjustment IS-5
Adjust Revenues to Reflect Actual Coin Machine Sales

Line No.		Northern Group - Coin Machine								
		[A]	[B]	[C]	[D]	[E]	[F]	[G]	[H]	[I]
		Residential	Commercial	Industrial	Private Fire	Coin Machine	Construction	Sales for Resale	Total Other Revenues	Total Water Revenues
1										
2	Northern Group									
3	Navajo								-	-
4	Verde Valley	-	-	-	-	(38)	-	-	(38)	(38)
5	Sedona	-	-	-	-	(38)	-	-	(38)	(38)
6	Pinewood, Rimrock								-	-
7									-	-
8	Subtotal	$ -	$ -	$ -	$ -	$ (38)	$ -	$ -	$ (38)	$ (38)
9										
10	Total	$ -	$ -	$ -	$ -	$ (38)	$ -	$ -	$ (38)	$ (38)
11										
12										
13	Increase/(Decrease) in Revenues	$ -	$ -	$ -	$ -	$ (38)	$ -	$ -	$ (38)	$ (38)
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ARIZONA WATER COMPANY
Test Year Ended December 31, 2011
Income Statement Adjustment IS-6
Annualize Revenue & Expense to Reflect End-of-Test Year Customer Counts

Navajo

Line No.	Class of Service	[A] No. of Customers Per Bill Count Sch. H-2, Col. A	[B] Year-End Number of Customers	[C] Additional Customers [B - A]	[D] Additional Bills to be Issued [C X 12]	[E] Average Gallons Sold Per Customer Sch. H-2, Col. B	[F] Additional Gallons To Be Sold [D X E]	[G] Additoinal Volumetric Revenue at Present Rates	[H] Additional Fixed Charge Revenue at Present Rates	[I] Total Additional Revenue at Present Rates [G + H]
4	Residential 5/8 x 3/4 -inch	8,652.9	8,708.5	55.6	667	3,150	2,101,395	$ 9,074	$ 8,432	$ 17,505
5	Residential 1-inch	36.3	36.6	0.2	3	17,465	48,919	273	89	361
6	Residential 1.5-inch	-	-	-	-	-	-	-	-	-
7	Residential 2-inch	24.2	24.3	0.2	2	27,040	50,376	259	188	447
8	Residential 3-inch	1.8	1.8	0.0	0	136,990	18,481	97	27	124
9	Residential 4-inch	1.8	1.8	0.0	0	219,500	31,023	162	45	207
10	Residential 6-inch	-	-	-	-	-	-	-	-	-
11	Residential 8-inch	-	-	-	-	-	-	-	-	-
12	Residential 10-inch	-	-	-	-	-	-	-	-	-
13	Subtotal Residential	8,717.0	8,773.0	56.0	672		2,250,194	$ 9,863	$ 8,781	$ 18,644
15	Commercial 5/8 x 3/4 -inch	224.1	229.8	5.7	69	6,569	452,936	$ 2,128	$ 872	$ 3,000
16	Commercial 1-inch	65.2	66.8	1.7	20	19,828	397,582	1,959	634	2,593
17	Commercial 1.5-inch	-	-	-	-	-	-	-	-	-
18	Commercial 2-inch	37.8	38.8	1.0	12	52,714	613,641	2,883	1,177	4,061
19	Commercial 3-inch	2.3	2.3	0.1	1	118,730	82,197	386	140	526
20	Commercial 4-inch	1.2	1.2	0.0	0	36,286	13,026	61	113	175
21	Commercial 6-inch	1.0	1.0	0.0	0	232,133	71,426	336	195	530
22	Commercial 8-inch	-	-	-	-	-	-	-	-	-
23	Commercial 10-inch	-	-	-	-	-	-	-	-	-
24	*Subtotal Commercial*	331.5	340.0	8.5	102		1,630,808	$ 7,754	$ 3,131	$ 10,885
26	Totals	9,048.5	9,113.0	64.5	774		3,881,002	$ 17,617	$ 11,911	$ 29,528

Line No.	Class of Expense	Average Cost Per Gallon Sold Per Sch. E-7	Cost Per Average Customer Per Sch. E-7	Additional Gallons To Be Sold	Additional Customers	Additional Costs Resulting from Customer Growth
35	Source of Supply					
36	Pumping	$ 0.000093		3,881,002		$ 361
37	Water Treatment	$ 0.000829		3,881,002		3,216
38		$ 0.000185		3,881,002		718
39	Transmission & Distribution					
40	Customer Accounting		$ 48.52		65	3,130
41	Administrative & General		$ 52.58		65	3,392
42	Totals		$ 66.94		65	4,318
						$ 15,134

Verde Valley (Sedona, Pinewood, Rimrock)

Line No.	Class of Service	[A] No. of Customers Per Bill Count Sch. H-2, Col. A	[B] Year-End Number of Customers	[C] Additional Customers [B - A]	[D] Additional Bills to be Issued [C X 12]	[E] Average Gallons Sold Per Customer Sch. H-2, Col. B	[F] Additional Gallons To Be Sold [D X E]	[G] Additoinal Volumetric Revenue at Present Rates	[H] Additional Fixed Charge Revenue at Present Rates	[I] Total Additional Revenue at Present Rates [G + H]
4	Residential 5/8 x 3/4 -inch	9,088.8	9,073.8	(15.0)	(180)	*varies*	(1,169,340.3)	$ (2,432)	$ (4,154)	$ (6,586)
5	Residential 1-inch	540.3	539.4	(1.0)	(12)	*varies*	(162,240.5)	(336)	(668)	(1,004)
6	Residential 1.5-inch	-	-	-	-	*varies*	-	-	-	-
7	Residential 2-inch	26.1	26.0	(0.0)	(1)	*varies*	(49,916.1)	(137)	(102)	(239)
8	Residential 3-inch	-	-	-	-	*varies*	-	-	-	-
9	Residential 4-inch	1.8	1.7	(0.0)	(0)	*varies*	(5,933.2)	(11)	(22)	(33)
10	Residential 6-inch	1.0	1.0	(0.0)	(0)	*varies*	(27,426.0)	(56)	(25)	(81)
11	Residential 8-inch	-	-	-	-	*varies*	-	-	-	-
12	Residential 10-inch	-	-	-	-	*varies*	-	-	-	-
13	Subtotal Residential	9,658.0	9,642.0	(16.0)	(192)		(1,414,856)	$ (2,973)	$ (4,970)	$ (7,943)
15	Commercial 5/8 x 3/4 -inch	368.6	374.8	6.2	74	*varies*	1,017,861.2	$ 2,093	$ 1,715	$ 3,808
16	Commercial 1-inch	226.9	231.0	4.1	49	*varies*	1,411,050.7	2,704	2,827	5,531
17	Commercial 1.5-inch	-	-	-	-	*varies*	-	-	-	-
18	Commercial 2-inch	147.3	149.8	2.6	31	*varies*	2,472,875.1	4,747	5,740	10,487
19	Commercial 3-inch	6.0	6.1	0.1	1	*varies*	746,337.4	1,597	488	2,085
20	Commercial 4-inch	7.3	7.4	0.1	2	*varies*	641,304.8	1,228	921	2,149
21	Commercial 6-inch	2.0	2.0	0.0	0	*varies*	209,724.3	402	508	910
22	Commercial 8-inch	1.8	1.9	0.0	0	*varies*	145,223.6	278	745	1,023
23	Commercial 10-inch	-	-	-	-	*varies*	-	-	-	-
24	Subtotal Commercial	759.8	773.0	13.2	158		6,644,377	$ 13,049	$ 12,944	$ 25,993
26	Totals	10,417.8	10,415.0	(2.8)	(34)		5,229,521	$ 10,076	$ 7,974	$ 18,050

Class of Expense	Average Cost Per Gallon Sold Per Sch. E-7	Cost Per Average Customer Per Sch. E-7	Additional Gallons To Be Sold	Additional Customers	Additional Costs Resulting from Customer Growth
Source of Supply	$ 0.000034		5,229,521		$ 176
Pumping	$ 0.000714		5,229,521		3,735
Water Treatment	$ 0.000413		5,229,521		2,161
Transmission & Distribution		$ 57.36		(3)	(163)
Customer Accounting		$ 46.92		(3)	(133)
Administrative & General		$ 75.04		(3)	(213)
Totals					$ 5,563

Line No.	Class of Service	[A] No. of Customers Per Bill Count Sch. H-2, Col. A	[B] Year-End Number of Customers	[C] Additional Customers [B - A]	[D] Additional Bills to be Issued [C X 12]	[E] Average Gallons Sold Per Customer Sch. H-2, Col. B	[F] Additional Gallons To Be Sold [D X E]	[G] Additoinal Volumetric Revenue at Present Rates	[H] Additional Fixed Charge Revenue at Present Rates	[I] Total Additional Revenue at Present Rates [G + H]
		Verde Valley (Sedona)								
1										
2	Class of Service									
3										
4	Residential 5/8 x 3/4 -inch	5,076.9	5,067.8	(9.1)	(109)	8,751	(954,546)	$ (1,702)	$ (2,520)	$ (4,222)
5	Residential 1-inch	528.3	527.4	(0.9)	(11)	14,201	(161,196)	(331)	(656)	(987)
6	Residential 1.5-inch	-	-	-	-	-	-	-	-	-
7	Residential 2-inch	24.1	24.0	(0.0)	(1)	70,211	(36,328)	(70)	(96)	(165)
8	Residential 3-inch	-	-	-	-	-	-	-	-	-
9	Residential 4-inch	1.8	1.7	(0.0)	(0)	157,810	(5,933)	(11)	(22)	(33)
10	Residential 6-inch	1.0	1.0	(0.0)	(0)	1,276,575	(27,426)	(56)	(25)	(81)
11	Residential 8-inch	-	-	-	-	-	-	-	-	-
12	Residential 10-inch	-	-	-	-	-	-	-	-	-
13	Subtotal Residential	5,632.1	5,622.0	(10.1)	(121)		(1,185,429)	$ (2,171)	$ (3,317)	$ (5,488)
14										
15	Commercial 5/8 x 3/4 -inch	334.1	340.2	6.1	73	13,785	1,012,772	$ 2,072	$ 1,697	$ 3,769
16	Commercial 1-inch	222.2	226.2	4.1	49	28,863	1,410,172	2,700	2,822	5,522
17	Commercial 1.5-inch	-	-	-	-	-	-	-	-	-
18	Commercial 2-inch	140.6	143.2	2.6	31	79,817	2,467,651	4,725	5,714	10,438
19	Commercial 3-inch	6.0	6.1	0.1	1	565,629	746,337	1,597	488	2,085
20	Commercial 4-inch	7.3	7.4	0.1	2	402,230	641,305	1,228	921	2,149
21	Commercial 6-inch	2.0	2.0	0.0	0	476,833	209,724	402	508	910
22	Commercial 8-inch	1.8	1.9	0.0	0	360,200	145,224	278	745	1,023
23	Commercial 10-inch	-	-	-	-	-	-	-	-	-
24	Subtotal Commercial	713.9	727.0	13.1	157		6,633,185	$ 13,001	$ 12,894	$ 25,895
25										
26	Totals	6,346.0	6,349.0	3.0	36		5,447,756	$ 10,830	$ 9,577	$ 20,407
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Line No.	Class of Service	Verde Valley (Pinewood, Rimrock) [A] No. of Customers Per Bill Count Sch. H-2, Col. A	[B] Year-End Number of Customers	[C] Additional Customers [B - A]	[D] Additional Bills to be Issued [C X 12]	[E] Average Gallons Sold Per Customer Sch. H-2, Col. B	[F] Additional Gallons To Be Sold [D X E]	[G] Additoinal Volumetric Revenue at Present Rates	[H] Additional Fixed Charge Revenue at Present Rates	[I] Total Additional Revenue at Present Rates [G + H]
1										
2	Class of Service									
3										
4	Residential 5/8 x 3/4 -inch	4,011.9	4,006.0	(5.9)	(71)	3,036	(214,795)	$ (730)	$ (1,634)	$ (2,365)
5	Residential 1-inch	12.0	12.0	(0.0)	(0)	4,935	(1,044)	(4)	(12)	(17)
6	Residential 1.5-inch	-	-	-	-	-	-	-	-	-
7	Residential 2-inch	2.0	2.0	(0.0)	(0)	385,246	(13,588)	(67)	(7)	(74)
8	Residential 3-inch	-	-	-	-	-	-	-	-	-
9	Residential 4-inch	-	-	-	-	-	-	-	-	-
10	Residential 6-inch	-	-	-	-	-	-	-	-	-
11	Residential 8-inch	-	-	-	-	-	-	-	-	-
12	Residential 10-inch	-	-	-	-	-	-	-	-	-
13	Subtotal Residential	4,025.9	4,020.0	(5.9)	(71)		(229,427)	$ (802)	$ (1,653)	$ (2,455)
14										
15	Commercial 5/8 x 3/4 -inch	34.5	34.6	0.1	1	6,773	5,089	$ 22	$ 17	$ 39
16	Commercial 1-inch	4.8	4.8	0.0	0	8,491	878	4	6	10
17	Commercial 1.5-inch	-	-	-	-	-	-	-	-	-
18	Commercial 2-inch	6.7	6.7	0.0	0	35,983	5,224	22	27	49
19	Commercial 3-inch	-	-	-	-	-	-	-	-	-
20	Commercial 4-inch	-	-	-	-	-	-	-	-	-
21	Commercial 6-inch	-	-	-	-	-	-	-	-	-
22	Commercial 8-inch	-	-	-	-	-	-	-	-	-
23	Commercial 10-inch	-	-	-	-	-	-	-	-	-
24	Subtotal Commercial	45.9	46.0	0.1	1		11,192	$ 47	$ 50	$ 98
25										
26	Totals	4,071.8	4,066.0	(5.8)	(70)		(218,235)	$ (754)	$ (1,603)	$ (2,357)
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ARIZONA WATER COMPANY
Test Year Ended December 31, 2011
Income Statement Adjustment IS-7
Normalize Revenues & Expenses to Reflect Typical Weather & Usage

Navajo

Line No.	Class of Service	[A] Actual Gallons Sold Per Customer (Sch. H-2, Col. B X 12 Mos.)	[B] Normalized Gallons Sold Per Customer	[C] Increase / (Decrease) [B - A]	[D] Year-End Number of Customers	[E] Additional Gallons To Be Sold [C X D]	[F] Commodity Rate Revenue Per Gallon (Sch. H-5)	[G] Increase / (Decrease) in Revenue
4	Residential 5/8 x 3/4 -inch	37,803	36,325	(1,478)	8,709	(12,868,198)	$ 0.0049	$ (63,677)
5	Residential 1-inch	209,582	201,389	(8,192)	37	(299,564)	0.0058	(1,745)
6	Residential 1.5-inch	-	-	-	-	-	-	-
7	Residential 2-inch	324,480	311,797	(12,683)	24	(308,486)	0.0054	(1,672)
8	Residential 3-inch	1,643,886	1,579,629	(64,257)	2	(113,172)	0.0054	(612)
9	Residential 4-inch	2,634,000	2,531,041	(102,959)	2	(189,971)	0.0055	(1,045)
10	Residential 6-inch	-	-	-	-	-	-	-
11	Residential 8-inch	-	-	-	-	-	-	-
12	Residential 10-inch	-	-	-	-	-	-	-
13								
14	Total Residential	40,182	38,611	(1,571)	8,773	(13,779,392)		$ (68,751)
15								
16	Total Increase/(Decrease) in Revenue							$ (68,751)
17								
18								
19								
20								
21								
22	Class of Expense				Average Cost Per Gallon Sold (Sch. E-7)	Additional Gallons To Be Sold		Increase / (Decrease) in Expenses
23								
24	Source of Supply				$ 0.000093	(13,779,392)		$ (1,281)
25	Pumping				0.000829	(13,779,392)		(11,418)
26	Water Treatment				0.000185	(13,779,392)		(2,550)
27								
28	Total Residential							$ (15,249)
29								
30	Total Increase/(Decrease) in Expenses							$ (15,249)
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ARIZONA WATER COMPANY
Test Year Ended December 31, 2011
Income Statement Adjustment IS-7
Normalize Residential Revenue to Reflect Typical Weather & Usage

Verde Valley (Sedona, Pinewood, Rimrock)

Line No.	Class of Service	[A] Actual Gallons Sold Per Customer (Sch. H-2, Col. B X 12 Mos.)	[B] Normalized Gallons Sold Per Customer	[C] Increase / (Decrease) [B - A]	[D] Year-End Number of Customers	[E] Additional Gallons To Be Sold [C X D]	[F] Commodity Rate Revenue Per Gallon (Sch. H-5)	[G] Increase / (Decrease) in Revenue
4	Residential 5/8 x 3/4 -inch	*varies*	*varies*	*varies*	9,074	(21,857,809)	*varies*	$ (52,810)
5	Residential 1-inch	*varies*	*varies*	*varies*	539	(2,919,695)	*varies*	(6,385)
6	Residential 1.5-inch	*varies*	*varies*	*varies*	-	-	*varies*	-
7	Residential 2-inch	*varies*	*varies*	*varies*	26	(950,414)	*varies*	(2,794)
8	Residential 3-inch	*varies*	*varies*	*varies*	-	-	*varies*	-
9	Residential 4-inch	*varies*	*varies*	*varies*	2	(106,624)	*varies*	(204)
10	Residential 6-inch	*varies*	*varies*	*varies*	1	(492,868)	*varies*	(1,011)
11	Residential 8-inch	*varies*	*varies*	*varies*	-	-	*varies*	-
12	Residential 10-inch	*varies*	*varies*	*varies*	-	-	*varies*	-
14	Total Residential	*varies*	*varies*	*varies*	9,642	(26,327,410)		$ (63,203)
16	Total Increase/(Decrease) in Revenue							$ (63,203)

Line No.	Class of Expense	Average Cost Per Gallon Sold (Sch. E-7)	Additional Gallons To Be Sold	Increase / (Decrease) in Expenses
24	Source of Supply	0.000034	(26,327,410)	$ (885)
25	Pumping	0.000714	(26,327,410)	(18,802)
26	Water Treatment	0.000413	(26,327,410)	(10,880)
28	Total Residential			$ (30,566)
30	Total Increase/(Decrease) in Expenses			$ (30,566)

Line No.	Class of Service	Verde Valley (Sedona) [A] Actual Gallons Sold Per Customer (Sch. H-2, Col. B X 12 Mos.)	[B] Normalized Gallons Sold Per Customer	[C] Increase / (Decrease) [B - A]	[D] Year-End Number of Customers	[E] Additional Gallons To Be Sold [C X D]	[F] Commodity Rate Revenue Per Gallon (Sch. H-5)	[G] Increase / (Decrease) in Revenue
1								
2								
3								
4	Residential 5/8 x 3/4 -inch	105,017	101,633	(3,385)	5,068	(17,153,959)	$ 0.0020	$ (33,855)
5	Residential 1-inch	170,416	164,924	(5,493)	527	(2,896,825)	0.0022	(6,284)
6	Residential 1.5-inch	-	-	-	-	-	-	-
7	Residential 2-inch	842,537	815,381	(27,156)	24	(652,842)	0.0020	(1,294)
8	Residential 3-inch	-	-	-	-	-	-	-
9	Residential 4-inch	1,893,714	1,832,677	(61,037)	2	(106,624)	0.0019	(204)
10	Residential 6-inch	15,318,900	14,825,148	(493,752)	1	(492,868)	0.0021	(1,011)
11	Residential 8-inch	-	-	-	-	-	-	-
12	Residential 10-inch	-	-	-	-	-	-	-
13								
14	Total Residential	117,563	113,774	(3,789)	5,622	(21,303,118)		$ (42,647)
15								
16	Total Increase/(Decrease) in Revenue							$ (42,647)
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Line No.	Class of Service	[A] Actual Gallons Sold Per Customer (Sch. H-2, Col. B X 12 Mos.)	[B] Normalized Gallons Sold Per Customer	[C] Increase / (Decrease) [B - A]	[D] Year-End Number of Customers	[E] Additional Gallons To Be Sold [C X D]	[F] Commodity Rate Revenue Per Gallon (Sch. H-5)	[G] Increase / (Decrease) in Revenue
		Verde Valley (Pinewood, Rimrock)						
1								
2								
3								
4	Residential 5/8 x 3/4 -inch	36,430	35,256	(1,174)	4,006	(4,703,851)	$ 0.0040	$ (18,955)
5	Residential 1-inch	59,217	57,308	(1,909)	12	(22,870)	0.0044	(101)
6	Residential 1.5-inch	-	-	-	-	-	-	-
7	Residential 2-inch	4,622,950	4,473,945	(149,005)	2	(297,572)	0.0050	(1,500)
8	Residential 3-inch	-	-	-	-	-	-	-
9	Residential 4-inch	-	-	-	-	-	-	-
10	Residential 6-inch	-	-	-	-	-	-	-
11	Residential 8-inch	-	-	-	-	-	-	-
12	Residential 10-inch	-	-	-	-	-	-	-
13								
14	Total Residential	38,776	37,527	(1,250)	4,020	(5,024,292)		$ (20,556)
15								
16	Total Increase/(Decrease) in Revenue							$ (20,556)
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Line No.	System	Northern Group - Payroll [A] Source of Supply Increase / (Decrease)	[B] Pumping Increase / (Decrease)	[C] Water Treatment Increase / (Decrease)	[D] Transmission & Distribution Increase / (Decrease)	[E] Customer Accounting Increase / (Decrease)	[F] Administrative & General Increase / (Decrease)	[G] Total Increase / (Decrease)
1								
2	Northern Group							
3	Navajo	$ 1,773	$ 2,905	$ 1,277	$ 15,798	$ 20,500	$ 13,051	$ 55,304
4	Verde Valley	5,306	21,216	11,946	57,523	44,750	36,845	177,586
5								
6	Subtotal	$ 7,079	$ 24,121	$ 13,223	$ 73,321	$ 65,250	$ 49,897	$ 232,890
7								
8	Total	$ 7,079	$ 24,121	$ 13,223	$ 73,321	$ 65,250	$ 49,897	$ 232,890
9								
10								
11	Increase/(Decrease) in Expenses							$ 232,890
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ARIZONA WATER COMPANY
Test Year Ended December 31, 2011
Income Statement Adjustment IS-8 (Continued)
Annualize Payroll & Related Expense

Line No.	System	Northern Group - Payroll Taxes [A] Payroll Taxes Increase / (Decrease)
1		
2	Northern Group	
3	Navajo	$ 7,473
4	Verde Valley	18,743
5		
6	Subtotal	$ 26,215
7		
8	Total	$ 26,215
9		
10		
11	Increase/(Decrease) in Expenses	$ 26,215
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ARIZONA WATER COMPANY
Test Year Ended December 31, 2011
Income Statement Adjustment IS-8 (Continued)
Annualize Payroll & Related Expense

Line No.	System	Northern Group - 401k [A] 401k Increase / (Decrease)
1		
2	Northern Group	
3	Navajo	$ 5,968
4	Verde Valley	7,519
5		
6	Subtotal	$ 13,487
7		
8	Total	$ 13,487
9		
10		
11	Increase/(Decrease) in Expenses	$ 13,487
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ARIZONA WATER COMPANY
Test Year Ended December 31, 2011
Income Statement Adjustment IS-8 (Continued)
Annualize Payroll & Related Expense

Line No.	System	Northern Group - Total Payroll & Related							
		[A] Source of Supply Increase / (Decrease)	[B] Pumping Increase / (Decrease)	[C] Water Treatment Increase / (Decrease)	[D] Transmission & Distribution Increase / (Decrease)	[E] Customer Accounting Increase / (Decrease)	[F] Administrative & General Increase / (Decrease)	[G] Taxes - Other Increase / (Decrease)	[H] Total Increase / (Decrease)
1									
2	Northern Group								
3	Navajo	1,773	2,905	1,277	15,798	20,500	19,020	7,473	68,745
4	Verde Valley	5,306	21,216	11,946	57,523	44,750	44,365	18,743	203,848
5									
6	Subtotal	$ 7,079	$ 24,121	$ 13,223	$ 73,321	$ 65,250	$ 63,384	$ 26,215	$ 272,593
7									
8	Total	$ 7,079	$ 24,121	$ 13,223	$ 73,321	$ 65,250	$ 63,384	$ 26,215	$ 272,593
9									
10									
11	Increase/(Decrease) in Expenses								$ 272,593
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ARIZONA WATER COMPANY
Test Year Ended December 31, 2011
Income Statement Adjustment IS-9
Adjust Insurance Expense

Northern Group - Insurance

Line No.	System	[A] Increase / (Decrease) Medical	[B] Increase / (Decrease) Dental	Increase / (Decrease) Vision	[C] Increase / (Decrease) Long-Term Disability	[D] Increase / (Decrease) Life	[E] Total Increase / (Decrease)
1							
2	Northern Group						
3	Navajo	$ 20,205	$ 1,579	$ 1,385	$ 376	$ 708	$ 24,253
4	Verde Valley	25,456	1,989	1,744	437	892	30,519
5	Subtotal	$ 45,661	$ 3,568	$ 3,129	$ 813	$ 1,601	$ 54,771
6							
7	Total	$ 45,661	$ 3,568	$ 3,129	$ 813	$ 1,601	$ 54,771
8							
9							
10	Increase/(Decrease) in Expenses						
11							$ 54,771
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ARIZONA WATER COMPANY
Test Year Ended December 31, 2011
Income Statement Adjustment IS-10
Adjust A&G Expense to Include Customer Deposit Interest Expense

		Northern Group - Deposit Interest			
		[A]	[B]	[C]	[D]
Line No.	System	Test Year Customer Deposits 12/31/2011	Applicable Interest Rate	Annual Expense	Increase / (Decrease)
1					
2					
3	Northern Group				
4	Navajo	$ 21,020	6.00%	$ 1,261	$ 1,261
5	Verde Valley	47,763	6.00%	2,866	2,866
6	Subtotal	$ 68,783		$ 4,127	$ 4,127
7					
8	Total	$ 68,783		$ 4,127	$ 4,127
9					
10					
11	Increase/(Decrease) in Expenses				$ 4,127
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ARIZONA WATER COMPANY
Test Year Ended December 31, 2011
Income Statement Adjustment IS-11
Adjust & Annualize Rents

Line No.	System	Northern Group - Rents [A] Increase / (Decrease) 401-9052 (Cust. Acctg.)	[B] Increase / (Decrease) Acct. 401-9310 (A&G)	[C] Total Increase / (Decrease)
1	System			
2				
3	Northern Group			
4	Navajo	$ 15,988	$ 676	$ 16,664
5	Verde Valley	1,708	897	2,605
6				
7	Subtotal	$ 17,696	$ 1,573	$ 19,269
8				
9	Total	$ 17,696	$ 1,573	$ 19,269
10				
11				
12	Increase/(Decrease) in Expenses	$ 17,696	$ 1,573	$ 19,269
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Line No.	System	Northern Group - Purchased Power [A] Purch. Power - Pumping Increase / (Decrease)	[B] Purch. Power - Trans. & Dist. Increase / (Decrease)	[C] Purch. Power - Cust. Acctg. Increase / (Decrease)	[D] Total Purch. Power - Increase / (Decrease)
1	System				
2					
3	Northern Group				
4	Navajo	$ 18,603	$ -	$ 459	$ 19,063
5	Verde Valley	7,904	3	207	8,113
6					
7	Subtotal	$ 26,507	$ 3	$ 666	$ 27,175
8					
9	Total	$ 26,507	$ 3	$ 666	$ 27,175
10					
11					
12	Increase/(Decrease) in Expenses	$ 26,507	$ 3	$ 666	$ 27,175
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ARIZONA WATER COMPANY
Test Year Ended December 31, 2011
Income Statement Adjustment IS-13
Adjust Rate Case Expense

Northern Group - Rate Case Expense

Line No.	System	[A] T.Y. 2010 Rate Case Expense Estimate / Spread	[B] Normalization Period in Years	[C] Annual Expense - Normalized	[D] T.Y. 2011 Prior Rate Case Expense Charged to O&M - 928.2	[E] Increase / (Decrease)
1						
2	Northern Group					
3	Navajo	$ 189,707	3	$ 63,236	$ 16,980	$ 46,256
4	Verde Valley	251,869	3	83,956	21,480	62,476
5						
6	Subtotal	$ 441,576		$ 147,192	$ 38,460	$ 108,732
7						
8						
9						
10	Phoenix Office	$ 441,576				
11						
12	Total			$ 147,192	$ 38,460	$ 108,732
13						
14	Increase/(Decrease) in Rate Case Expense					$ 108,732
15						
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ARIZONA WATER COMPANY
Test Year Ended December 31, 2011
Income Statement Adjustment IS-14
Adjust A&G Expense to Reflect Additional Best Management Practices ("BMP")

		Northern Group - BMPs							
		[A]	[B]	[C]	[D]	[E]	[F]	[G]	[H]
Line No.	System	Events & Programs Increase / (Decrease)	Landscape Information Increase / (Decrease)	Residential Audit Prog. Increase / (Decrease)	Landscape Consultations Increase / (Decrease)	High Use Inquiry & Resol. Increase / (Decrease)	High Use Notification Increase / (Decrease)	Wasted Water Investigations Increase / (Decrease)	Total Increase / (Decrease)
1									
2	Northern Group								
3	Navajo	$ 2,000	$ 250	$ 6,400	$ 1,150	$ 5,200	$ 1,000	$ 2,750	$ 18,750
4	Verde Valley	2,000	250	9,150	1,150	5,200	1,225	4,600	23,575
5	Subtotal	$ 4,000	$ 500	$ 15,550	$ 2,300	$ 10,400	$ 2,225	$ 7,350	$ 42,325
6									
7	Total	$ 4,000	$ 500	$ 15,550	$ 2,300	$ 10,400	$ 2,225	$ 7,350	$ 42,325
8									
9									
10	Increase/(Decrease) in Expenses								$ 42,325
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		Northern Group - Fleet Fuel						
		[A]	[B]	[C]	[D]	[E]	[F]	[G]
Line No.	System	Source of Supply Increase / (Decrease)	Pumping Increase / (Decrease)	Water Treatment Increase / (Decrease)	Transmission & Distribution Increase / (Decrease)	Customer Accounting Increase / (Decrease)	Administrative & General Increase / (Decrease)	Total Increase / (Decrease)
1								
2	Northern Group							
3	Navajo	$ 26	$ 300	$ 81	$ 924	$ 247	$ 84	$ 1,663
4	Verde Valley	54	615	166	1,893	506	172	3,406
5								
6	Subtotal	$ 80	$ 915	$ 247	$ 2,817	$ 753	$ 256	$ 5,068
7								
8	Total	$ 80	$ 915	$ 247	$ 2,817	$ 753	$ 256	$ 5,068
9								
10								
11	Increase/(Decrease) in Expenses							$ 5,068
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ARIZONA WATER COMPANY
Test Year Ended December 31, 2011
Income Statement Adjustment IS-16
Adjust Arsenic Treatment Expense

Line No.	System	Northern Group - Arsenic Treatment [A] Increase / (Decrease) Water Trtmt.
1		
2	Northern Group	
3	Navajo	$ -
4	Verde Valley	113,315
5		
6	Subtotal	$ 113,315
7		
8	Total	$ 113,315
9		
10		
11	Increase/(Decrease) in Expenses	$ 113,315
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Line No.	System	Northern Group - New Service Vehicle [A] Source of Supply Increase / (Decrease)	[B] Pumping Increase / (Decrease)	[C] Water Treatment Increase / (Decrease)	[D] Transmission & Distribution Increase / (Decrease)	[E] Customer Accounting Increase / (Decrease)	[F] Administrative & General Increase / (Decrease)	[G] Total Increase / (Decrease)
1								
2								
3								
4	System							
5								
6	Northern Group							
7	Navajo	$ -	$ -	$ -	$ -	$ -	$ -	$ -
8	Verde Valley	487	5,568	1,506	17,146	4,585	1,560	30,851
9								
10	Subtotal	$ 487	$ 5,568	$ 1,506	$ 17,146	$ 4,585	$ 1,560	$ 30,851
11								
12	Total							
13								$ 30,851
14								
15	Increase/(Decrease) in Expenses							
16								$ 30,851
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ARIZONA WATER COMPANY
Test Year Ended December 31, 2011
Income Statement Adjustment IS-18
Adjust Postage Expense

Line No.	System	Northern Group - Postage [A] Increase/ (Decrease) - Postage Expense
1		
2	Northern Group	
3	Navajo	$ 1,026
4	Verde Valley	1,362
5		
6	Subtotal	$ 2,388
7		
8	Total	$ 2,388
9		
10		
11	Increase/(Decrease) in Expenses	$ 2,388
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Line No.	System	Northern Group - T&D Maintenance [A] Increase / (Decrease) T&D Maintenance - Mains and Services
1		
2		
3		
4		
5		
6	Northern Group	
7	Navajo	$ 68,736
8	Verde Valley	66,204
9		
10	Subtotal	$ 134,940
11		
12	Total	$ 134,940
13		
14		
15	Increase/(Decrease) in Expenses	$ 134,940
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ARIZONA WATER COMPANY
Test Year Ended December 31, 2011
Income Statement Adjustment IS-20
Adjust Depreciation Expense to Reflect Adjusted Plant Balances

Navajo

Line No.	Acct. No.		[A] Depreciation Rate	[B] Utiltiy Plant in Service 12/31/2011 Sch. E-5	[C] Depreciation Expense - UPIS [A X B]	[D] Deprec. Exp. - Post-Test Year Plant Sch. B-2 Appdx.	[E] Deprec. Exp. - Phoenix Office (3-factor Alloc.) 0.0943	[F] Deprec. Exp. - Meter Shop (3-factor Alloc.) 0.0943	[G] Total Depreciation Expense [C + D + E + F]
1		*Intangible Plant*							
2	301	Organization	0.00%	$ -	$ -	$ -	$ -	$ -	$ -
3	302	Franchises	note_1	-	-	-	-	-	-
4	303	Other Intangibles	note_1	1,946	97	-	40	-	137
5		Subtotal Intangible Plant		$ 1,946	$ 97	$ -	$ 40	$ -	$ 137
6		Source of Supply Plant							
7	310.1	Water Rights	0.00%	500,739	-	-	-	-	-
8	310.3	Other Source of Supply Land	0.00%	30,155	-	-	-	-	-
9	310.4	Wells - Other	note_1	-	-	-	-	-	-
10	314	Wells	3.13%	1,758,846	55,052	1,565	-	-	56,617
11		Subtotal Source of Supply Plant		$ 2,289,740	$ 55,052	$ 1,565	$ -	$ -	$ 56,617
12		Pumping Plant							
13	320	Pumping Plant Land	0.00%	8,553	-	-	-	-	-
14	321	Pumping Plant Structures & Improvements	2.86%	149,931	4,288	-	-	-	4,288
15	325	Electtric Pumping Equipment	5.88%	2,732,041	160,644	2,352	-	-	162,996
16	328	Gas Engine Equipment	4.00%	-	-	-	-	-	-
17		Subtotal Pumping Plant		$ 2,890,524	$ 164,932	$ 2,352	$ -	$ -	$ 167,284
18		Water Treatment Plant							
19	330	Water Treatment Plant Land	0.00%	-	-	-	-	-	-
20	331	Water Treatment Structures & Improvements	2.50%	563	14	-	-	-	14
21	332	Water Treatment Equipment	2.86%	147,800	4,227	-	-	6	4,233
22		Subtotal Water Treatment Plant		$ 148,363	$ 4,241	$ -	$ -	$ 6	$ 4,247
23		Transmission & Distribution Plant							
24	340	Transmission and Distribution Land	0.00%	53,126	-	-	-	-	-
25	342	Storage Tanks	2.00%	1,338,226	26,765	-	-	-	26,765
26	343	Transmission & Distribution Mains	1.79%	14,098,390	252,361	1,781	-	10	254,152
27	344	Fire Sprinkler Taps	2.00%	204,862	4,097	-	-	-	4,097
28	345	Services	2.38%	4,978,068	118,478	12	-	-	118,490
29	346	Meters	4.55%	574,011	26,117	2,275	-	-	28,392
30	348	Hydrants	1.82%	1,407,748	25,621	-	-	-	25,621
31		Subtotal Transmission & Distribution Plant		$ 22,654,431	$ 453,439	$ 4,068	$ -	$ 10	$ 457,517
32		General Plant							
33	389	General Plant Land	0.00%	1,995	-	-	-	-	-
34	390	General Plant Structures	2.50%	323,670	8,092	-	128	125	8,345
35	390.1	Leasehold Improvements	note_2	74,227	13,259	-	4,531	-	17,790
36	391	Office Furniture & Equipment	6.67%	219,044	14,610	-	32,461	70	47,142
37	393	Warehouse Equipment	5.00%	3,512	176	-	17	36	230
38	394	Tools, Shop & Garage Equipment	4.00%	110,115	4,405	-	929	262	5,596
39	395	Laboratory Equipment	5.00%	2,690	134	-	7	14	156
40	396	Power Operated Equipment	6.67%	10,462	698	-	-	9	707
41	397	Communication Equipment	6.67%	250,792	16,728	14,533	1,328	-	32,589
42	398	Miscellaneous Equipment	3.33%	37,015	1,233	-	23	-	1,255
43		Subtotal General Plant		$ 1,033,523	$ 59,334	$ 14,533	$ 39,424	$ 516	$ 113,808
44									
45		Total Depreciation Expense - Utility Plant		$ 29,018,527	$ 737,096	$ 22,518	$ 39,464	$ 532	$ 799,610
46		Amortization of Regulatory Assets/(Liabilities) (Sch. B-2 Appndx.)							-
47		Less: Contribution Depreciation	2.00%	6,338,423					(126,768)
48		Total Pro Forma Depreciation & Amortization Expense							$ 672,841
49		Test Year Recorded Depreciation & Amortization Expense							643,577
50		Increase/(Decrease) in Depreciation & Amortization Expense							$ 29,264
51									
52									

53 note_1 Acct. 302 - Franchises amortized over 25 years. Acct. 303 - Other intangibles amortized over 15 & 20 Years.
54 Acct. 310.4 - Wells - Other amortized over 24 years. Accumulated Amortization booked to Acct. 111 - Amort. Of Ltd. Term Investments.
55 note_2 Acct. 390.1 - Leasehold Improvements amortized over the remaining life of the associated lease.

ARIZONA WATER COMPANY
Test Year Ended December 31, 2011
Income Statement Adjustment IS-20 (Continued)
Adjust Depreciation Expense to Reflect Adjusted Plant Balances

Verde Valley

Line No.	Acct. No.		[A] Depreciation Rate	[B] Utiltiy Plant in Service 12/31/2011 Sch. E-5	[C] Depreciation Expense - UPIS [A X B]	[D] Deprec. Exp. - Post-Test Year Plant Sch. B-2 Appdx.	[E] Deprec. Exp. - Phoenix Office (3-factor Alloc.) 0.1252	[F] Deprec. Exp. - Meter Shop (3-factor Alloc.) 0.1252	[G] Total Depreciation Expense [C + D + E + F]
1		Intangible Plant							
2	301	Organization	0.00%	$ -	$ -	$ -	$ -	$ -	$ -
3	302	Franchises	note_1	935	37	-	-	-	37
4	303	Other Intangibles	note_1	2,438	122	-	53	-	175
5		Subtotal Intangible Plant		$ 3,373	$ 159	$ -	$ 53	$ -	$ 212
6		Source of Supply Plant							
7	310.1	Water Rights	0.00%	156,158	-	-	-	-	-
8	310.3	Other Source of Supply Land	0.00%	631,671	-	-	-	-	-
9	310.4	Wells - Other	note_1	-	-	-	-	-	-
10	314	Wells	3.13%	6,488,999	203,106	-	-	-	203,106
11		Subtotal Source of Supply Plant		$ 7,276,828	$ 203,106	$ -	$ -	$ -	$ 203,106
12		Pumping Plant							
13	320	Pumping Plant Land	0.00%	5,544	-	-	-	-	-
14	321	Pumping Plant Structures & Improvements	2.86%	108,350	3,099	-	-	-	3,099
15	325	Electtric Pumping Equipment	5.88%	3,214,908	189,037	-	-	-	189,037
16	328	Gas Engine Equipment	4.00%	223	9	-	-	-	9
17		Subtotal Pumping Plant		$ 3,329,025	$ 192,144	$ -	$ -	$ -	$ 192,144
18		Water Treatment Plant							
19	330	Water Treatment Plant Land	0.00%	-	-	-	-	-	-
20	331	Water Treatment Structures & Improvements	2.50%	269,532	6,738	-	-	-	6,738
21	332	Water Treatment Equipment	2.86%	3,633,464	103,917	83,535	-	7	187,459
22		Subtotal Water Treatment Plant		$ 3,902,996	$ 110,655	$ 83,535	$ -	$ 7	$ 194,197
23		Transmission & Distribution Plant							
24	340	Transmission and Distribution Land	0.00%	134,524	-	-	-	-	-
25	342	Storage Tanks	2.00%	1,782,264	35,645	-	-	-	35,645
26	343	Transmission & Distribution Mains	1.79%	23,490,637	420,482	3,455	-	14	423,951
27	344	Fire Sprinkler Taps	2.00%	751,183	15,024	-	-	-	15,024
28	345	Services	2.38%	5,012,440	119,296	6,258	-	-	125,554
29	346	Meters	4.55%	823,214	37,456	-	-	-	37,456
30	348	Hydrants	1.82%	2,121,468	38,611	-	-	-	38,611
31		Subtotal Transmission & Distribution Plant		$ 34,115,731	$ 666,514	$ 9,713	$ -	$ 14	$ 676,241
32		General Plant							
33	389	General Plant Land	0.00%	2,858	-	-	-	-	-
34	390	General Plant Structures	2.50%	201,929	5,048	-	170	165	5,384
35	390.1	Leasehold Improvements	note_2	50,677	43	-	6,015	-	6,058
36	391	Office Furniture & Equipment	6.67%	139,595	9,311	-	43,098	93	52,502
37	393	Warehouse Equipment	5.00%	37,881	1,894	-	23	48	1,966
38	394	Tools, Shop & Garage Equipment	4.00%	114,922	4,597	-	1,233	348	6,178
39	395	Laboratory Equipment	5.00%	13,475	674	-	9	19	702
40	396	Power Operated Equipment	6.67%	52,603	3,509	-	-	12	3,521
41	397	Communication Equipment	6.67%	209,107	13,947	10,958	1,763	-	26,668
42	398	Miscellaneous Equipment	3.33%	33,569	1,118	-	30	-	1,148
43		Subtotal General Plant		$ 856,615	$ 40,141	$ 10,958	$ 52,342	$ 686	$ 104,127
44									
45		Total Depreciation Expense - Utility Plant		$ 49,484,568	$ 1,212,720	$ 104,205	$ 52,396	$ 706	$ 1,370,027
46		Amortization of Regulatory Assets/(Liabilities) (Sch. B-2 Appndx.)							-
47		Less: Contribution Depreciation	2.00%	10,153,446					(203,069)
48		Total Pro Forma Depreciation & Amortization Expense							$ 1,166,958
49		Test Year Recorded Depreciation & Amortization Expense							1,045,969
50		Increase/(Decrease) in Depreciation & Amortization Expense							$ 120,989
51									
52									

53 note_1 Acct. 302 - Franchises amortized over 25 years. Acct. 303 - Other intangibles amortized over 15 & 20 Years.
54 Acct. 310.4 - Wells - Other amortized over 24 years. Accumulated Amortization booked to Acct. 111 - Amort. Of Ltd. Term Investments.
55 note_2 Acct. 390.1 - Leasehold Improvements amortized over the remaining life of the associated lease.

ARIZONA WATER COMPANY
Test Year Ended December 31, 2011
Income Statement Adjustment IS-20 (Continued)
Adjust Depreciation Expense to Reflect Adjusted Plant Balances

			Phoenix Office				
			[A]	[B]	[C]	[D]	[E]
Line No.	Acct. No.		Depreciation Rate	Utiltiy Plant in Service 12/31/2011 Sch. E-5	Depreciation Expense - UPIS [A X B]	Deprec. Exp. - Post-Test Year Plant Sch. B-2 Appdx.	Total Depreciation Expense [C + D]
1		Intangible Plant					
2	301	Organization	0.00%	$ 651	$ -	$ -	$ -
3	302	Franchises	note_1	-	-	-	-
4	303	Other Intangibles	note_1	8,496	425	-	425
5		Subtotal Intangible Plant		$ 9,148	$ 425	$ -	$ 425
6		Source of Supply Plant					
7	310.1	Water Rights	0.00%	-	-	-	-
8	310.3	Other Source of Supply Land	0.00%	-	-	-	-
9	310.4	Wells - Other	note_1	-	-	-	-
10	314	Wells	3.13%	-	-	-	-
11		Subtotal Source of Supply Plant		$ -	$ -	$ -	$ -
12		Pumping Plant					
13	320	Pumping Plant Land	0.00%	-	-	-	-
14	321	Pumping Plant Structures & Improvements	2.86%	-	-	-	-
15	325	Electtric Pumping Equipment	5.88%	-	-	-	-
16	328	Gas Engine Equipment	4.00%	-	-	-	-
17		Subtotal Pumping Plant		$ -	$ -	$ -	$ -
18		Water Treatment Plant					
19	330	Water Treatment Plant Land	0.00%	-	-	-	-
20	331	Water Treatment Structures & Improvements	2.50%	-	-	-	-
21	332	Water Treatment Equipment	2.86%	-	-	-	-
22		Subtotal Water Treatment Plant		$ -	$ -	$ -	$ -
23		Transmission & Distribution Plant					
24	340	Transmission and Distribution Land	0.00%	-	-	-	-
25	342	Storage Tanks	2.00%	-	-	-	-
26	343	Transmission & Distribution Mains	1.79%	-	-	-	-
27	344	Fire Sprinkler Taps	2.00%	-	-	-	-
28	345	Services	2.38%	-	-	-	-
29	346	Meters	4.55%	-	-	-	-
30	348	Hydrants	1.82%	-	-	-	-
31		Subtotal Transmission & Distribution Plant		$ -	$ -	$ -	$ -
32		General Plant					
33	389	General Plant Land	0.00%	-	-	-	-
34	390	General Plant Structures	2.50%	54,371	1,359	-	1,359
35	390.1	Leasehold Improvements	note_2	1,543,079	48,047	-	48,047
36	391	Office Furniture & Equipment	6.67%	4,970,962	331,563	12,673	344,236
37	393	Warehouse Equipment	5.00%	3,705	185	-	185
38	394	Tools, Shop & Garage Equipment	4.00%	198,344	7,934	1,914	9,847
39	395	Laboratory Equipment	5.00%	1,508	75	-	75
40	396	Power Operated Equipment	6.67%	-	-	-	-
41	397	Communication Equipment	6.67%	211,088	14,080	-	14,080
42	398	Miscellaneous Equipment	3.33%	7,207	240	-	240
43		Subtotal General Plant		$ 6,990,265	$ 403,483	$ 14,587	$ 418,070
44							
45		Total Depreciation Expense - Utility Plant		$ 6,999,412	$ 403,908	$ 14,587	$ 418,495
46		Amortization of Regulatory Assets/(Liabilities) (Sch. B-2 Appndx.)					-
47		Less: Contribution Depreciation	2.00%	-			-
48		Total Pro Forma Depreciation & Amortization Expense					$ 418,495
49							
50							
51							
52							

53 note_1 Acct. 302 - Franchises amortized over 25 years. Acct. 303 - Other intangibles amortized over 15 & 20 Years.
54 Acct. 310.4 - Wells - Other amortized over 24 years. Accumulated Amortization booked to Acct. 111 - Amort. Of Ltd. Term Investments.
55 note_2 Acct. 390.1 - Leasehold Improvements amortized over the remaining life of the associated lease.

ARIZONA WATER COMPANY
Test Year Ended December 31, 2011
Income Statement Adjustment IS-20 (Continued)
Adjust Depreciation Expense to Reflect Adjusted Plant Balances

				Meter Shop				
			[A]	[B]	[C]	[D]	[E]
Line No.	Acct. No.		Depreciation Rate	Utiltiy Plant in Service 12/31/2011 Sch. E-5	Depreciation Expense - UPIS [A X B]	Deprec. Exp. - Post-Test Year Plant Sch. B-2 Appdx.	Total Depreciation Expense [C + D]
1		Intangible Plant					
2	301	Organization	0.00%	$ -	$ -	$ -	$ -
3	302	Franchises	note_1	-	-	-	-
4	303	Other Intangibles	note_1	-	-	-	-
5		Subtotal Intangible Plant		$ -	$ -	$ -	$ -
6		Source of Supply Plant					
7	310.1	Water Rights	0.00%	-	-	-	-
8	310.3	Other Source of Supply Land	0.00%	80	-	-	-
9	310.4	Wells - Other	note_1	-	-	-	-
10	314	Wells	3.13%	-	-	-	-
11		Subtotal Source of Supply Plant		$ 80	$ -	$ -	$ -
12		Pumping Plant					
13	320	Pumping Plant Land	0.00%	-	-	-	-
14	321	Pumping Plant Structures & Improvements	2.86%	-	-	-	-
15	325	Electtric Pumping Equipment	5.88%	-	-	-	-
16	328	Gas Engine Equipment	4.00%	-	-	-	-
17		Subtotal Pumping Plant		$ -	$ -	$ -	$ -
18		Water Treatment Plant					
19	330	Water Treatment Plant Land	0.00%	-	-	-	-
20	331	Water Treatment Structures & Improvements	2.50%	-	-	-	-
21	332	Water Treatment Equipment	2.86%	2,050	59	-	59
22		Subtotal Water Treatment Plant		$ 2,050	$ 59	$ -	$ 59
23		Transmission & Distribution Plant					
24	340	Transmission and Distribution Land	0.00%	-	-	-	-
25	342	Storage Tanks	2.00%	-	-	-	-
26	343	Transmission & Distribution Mains	1.79%	6,066	109	-	109
27	344	Fire Sprinkler Taps	2.00%	-	-	-	-
28	345	Services	2.38%	-	-	-	-
29	346	Meters	4.55%	-	-	-	-
30	348	Hydrants	1.82%	-	-	-	-
31		Subtotal Transmission & Distribution Plant		$ 6,066	$ 109	$ -	$ 109
32		General Plant					
33	389	General Plant Land	0.00%	-	-	-	-
34	390	General Plant Structures	2.50%	52,852	1,321	-	1,321
35	390.1	Leasehold Improvements	note_2	-	-	-	-
36	391	Office Furniture & Equipment	6.67%	11,097	740	-	740
37	393	Warehouse Equipment	5.00%	7,728	386	-	386
38	394	Tools, Shop & Garage Equipment	4.00%	69,534	2,781	-	2,781
39	395	Laboratory Equipment	5.00%	2,981	149	-	149
40	396	Power Operated Equipment	6.67%	1,458	97	-	97
41	397	Communication Equipment	6.67%	-	-	-	-
42	398	Miscellaneous Equipment	3.33%	-	-	-	-
43		Subtotal General Plant		$ 145,649	$ 5,475	$ -	$ 5,475
44							
45		Total Depreciation Expense - Utility Plant		$ 153,844	$ 5,643	$ -	$ 5,643
46		Amortization of Regulatory Assets/(Liabilities) (Sch. B-2 Appndx.)					-
47		Less: Contribution Depreciation	2.00%	-			-
48		Total Pro Forma Depreciation & Amortization Expense					$ 5,643
49							
50							
51							
52							

53 note_1 Acct. 302 - Franchises amortized over 25 years. Acct. 303 - Other intangibles amortized over 15 & 20 Years.
54 Acct. 310.4 - Wells - Other amortized over 24 years. Accumulated Amortization booked to Acct. 111 - Amort. Of Ltd. Term Investments.
55 note_2 Acct. 390.1 - Leasehold Improvements amortized over the remaining life of the associated lease.

Northern Group - Synchronized Interest

Line No.	System	[A] Adjusted Orig. Cost Rate Base Sch. B-1 Ln. 23	[B] Weighted Cost of Long-Term Debt Sch. D-1	[C] Synchronized Interest - Long-Term Debt	[D] Test Year Long-Term Interest Expense	[E] Increase / (Decrease) Long-Term Interest Exp.	[F] Weighted Cost of Short-Term Debt Sch. D-1	[G] Synchronized Interest - Short-Term Debt	[H] Test Year Short-Term Interest Expense	[I] Increase / (Decrease) Short-Term Interest Exp.	[J] Test Year Other Interest Expense	[K] Increase / (Decrease) Other Interest Exp.
1												
2												
3	Northern Group											
4	Navajo	$ 9,911,050	3.34%	$ 331,096	$ 359,135	$ (28,040)	0.00%	$ -	$ 263	$ (263)	$ (26,183)	$ 26,183
5	Verde Valley	26,134,793	3.34%	873,077	789,309	83,768	0.00%	-	578	(578)	(57,545)	57,545
6												
7	Subtotal	$ 36,045,843		$ 1,204,173	$ 1,148,444	$ 55,729		$ -	$ 841	$ (841)	$ (83,728)	$ 83,728
8												
9	Total	$ 36,045,843		$ 1,204,173	$ 1,148,444	$ 55,729		$ -	$ 841	$ (841)	$ (83,728)	$ 83,728
10												
11												
12	Increase/(Decrease) in Expenses											$ 138,616
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Line No.	System	Northern Group - Other Income [A] T.Y. Other (Income) - Net
1		
2	Northern Group	
3	Navajo	$ (24,448)
4	Verde Valley	(32,459)
5		
6	Subtotal	$ (56,906)
7		
8	Total	$ (56,906)
9		
10		
11	Increase/(Decrease) in Expenses	$ 56,906
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ARIZONA WATER COMPANY
Test Year Ended December 31, 2011
Income Statement Adjustment IS-23
Adjust Property Taxes

Line No.		Navajo [A] T.Y. Adjusted Results	Navajo [B] Adjusted w/ Increase	Verde Valley [C] T.Y. Adjusted Results	Verde Valley [D] Adjusted w/ Increase	Northern Group [E] T.Y. Adjusted Results	Northern Group [F] Adjusted w/ Increase
1							
2	Adjusted Revenues - Test Year Ended 12/31/2011	$ 3,595,080	$ 3,595,080	$ 6,529,576	$ 6,529,576	$ 10,124,656	$ 10,124,656
3	Adjusted Revenues - Test Year Ended 12/31/2011	3,595,080	3,595,080	6,529,576	6,529,576	10,124,656	10,124,656
4	Adjusted Revenues - T.Y.E. 12/31/2011 / Proposed Revenues	3,595,080	4,373,361	6,529,576	8,581,072	10,124,656	12,954,433
5							
6	Average Revenue	$ 3,595,080	$ 3,854,507	$ 6,529,576	$ 7,213,408	$ 10,124,656	$ 11,067,915
7							
8	Average Revenue Multiplied by 2	$ 7,190,161	$ 7,709,014	$ 13,059,152	$ 14,426,816	$ 20,249,313	$ 22,135,830
9							
10							
11							
12							
13							
14							
15	Deduct:						
16	Net Book Value of Transportation Equipment	$ -	$ -	$ -	$ -	$ -	$ -
17							
18							
19	Full Cash Value	$ 7,190,161	$ 7,709,014	$ 13,059,152	$ 14,426,816	$ 20,249,313	$ 22,135,830
20							
21	Assessment Ratio	20.0%	20.0%	20.0%	20.0%	20.0%	20.0%
22							
23	Assessed Value	1,438,032	1,541,803	2,611,830	2,885,363	4,049,863	4,427,166
24							
25	Property Tax Rate	8.33%	8.33%	8.15%	8.15%	8.21%	8.21%
26							
27	Property Tax	119,773	128,416	212,747	235,027	332,520	363,444
28							
29	Tax on Parcels	-	-	-	-	-	-
30							
31	Total Property Taxes - Calculated	$ 119,773	$ 128,416	$ 212,747	$ 235,027	$ 332,520	$ 363,444
32							
33	Test Year Property Taxes	135,561		175,818		311,379	
34							
35	Increase / (Decrease) in Property Taxes	$ (15,788)		$ 36,928		$ 21,141	
36							
37	Test Year Property Taxes - Adjusted		119,773		212,747		332,520
38							
39	Increase / (Decrease) in Property Taxes		$ 8,643		$ 22,281		$ 30,924
40							
41	As % of Change in Revenue Requirement		1.11%		1.09%		1.09%
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ARIZONA WATER COMPANY
Test Year Ended December 31, 2011
Income Statement Adjustment IS-24
Adjust Income Taxes to Reflect Adjusted Test Year Results & Proposed Revenues

Line No.		Navajo [A] T.Y. Adjusted Results	Navajo [B] Adjusted w/ Increase	Verde Valley [C] T.Y. Adjusted Results	Verde Valley [D] Adjusted w/ Increase	Northern Group [D] T.Y. Adjusted Results	Northern Group [E] Adjusted w/ Increase
1							
2							
3	Operating Income Before Inc. Taxes	$ 492,625	$ 1,262,262	$ 1,299,288	$ 3,328,503	$ 1,791,912	$ 4,590,765
4	Interest Expense	331,096	331,096	873,077	873,077	1,204,173	1,204,173
5	Arizona Taxable Income (Ln. 3 + Ln. 4)	$ 161,529	$ 931,167	$ 426,210	$ 2,455,426	$ 587,739	$ 3,386,592
6							
7	Less Arizona Income Tax (Ln. 5 X Ln. 7)	$ 11,255	$ 64,884	$ 29,698	$ 171,094	$ 40,954	$ 235,978
8	Arizona Income Tax Rate = 6.968%						
9							
10	Federal Income Before Taxes (Ln. 5)	$ 161,529	$ 931,167	$ 426,210	$ 2,455,426	$ 587,739	$ 3,386,592
11	Less Arizona Income Taxes (Ln. 7)	11,255	64,884	29,698	171,094	40,954	235,978
12	Federal Taxable Income (Ln. 10 - Ln. 11)	$ 150,274	$ 866,283	$ 396,512	$ 2,284,332	$ 546,786	$ 3,150,615
13							
14	Federal Income Taxes:						
15	15% Bracket from $1 to $50,000	-	-	-	-	-	-
16	25% Bracket from $50,001 to $75,000	-	-	-	-	-	-
17	34% Bracket from $75,001 to $100,000	-	-	-	-	-	-
18	39% Bracket from $100,001 to $335,000	-	-	-	-	-	-
19	34% Bracket over $335,000	51,093	294,536	134,814	776,673	185,907	1,071,209
20							
21	Federal Income Taxes:	$ 51,093	$ 294,536	$ 134,814	$ 776,673	$ 185,907	$ 1,071,209
22							
23							
24	Total Income Tax (Ln. 11 + Ln. 21)	$ 62,348	$ 359,420	$ 164,512	$ 947,767	$ 226,861	$ 1,307,187
25							
26	Tax Rate (Ln. 24 ÷ Ln. 5)	38.60%	38.60%	38.60%	38.60%	38.60%	38.60%
27							
28	Effective Income Tax Rates						
29	State (Ln. 7 ÷ Ln. 5)	6.97%	6.97%	6.97%	6.97%	6.97%	6.97%
30	Federal (Ln. 21 ÷ Ln. 5)	31.63%	31.63%	31.63%	31.63%	31.63%	31.63%
31							
32							
33	Test Year Federal Income Taxes - Booked (Sch. C-2, Ln. 30)	$ 197,278		$ 510,075		$ 707,353	
34	Increase / (Decrease) in Federal Income Taxes (Ln. 21 - Ln. 33)	(146,185)		(375,261)		(521,446)	
35							
36	Test Year State Income Taxes - Booked (Sch. C-2, Ln. 31)	$ 29,304		$ 75,767		$ 105,071	
37	Increase / (Decrease) in State Income Taxes (Ln. 11 - Ln. 36)	(18,049)		(46,069)		(64,117)	
38							
39	Test Year Federal Income Taxes - Adjusted		$ 51,093		$ 134,814		$ 185,907
40	Increase / (Decrease) in Federal Income Taxes (Ln. 21 - Ln. 39)		243,443		641,859		885,302
41							
42	Test Year State Income Taxes - Adjusted		11,255		29,698		40,954
43	Increase / (Decrease) in State Income Taxes (Ln. 11 - Ln. 42)		53,628		141,396		195,024
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45							
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ARIZONA WATER COMPANY
Test Year Ended December 31, 2011
Computation of Gross Revenue Conversion Factor

Line No.	Description	Northern Group [A] Percentage of Incremental Gross Revenues
1		
2	Federal Income Taxes	31.63%
3		
4	State Income Taxes	6.97%
5		
6	Total Federal & State Income Tax Percentage	38.60%
7		
8	Operating Income % = 100% - Tax Percentage	61.40%
9		
10	Property Tax Factor (Sch. C-2 Appdx.)	1.09%
11		
12	Effective Property Tax Factor (Ln. 8 x Ln. 10)	0.67%
13		
14	Combined Federal & State Income & Property Tax Rate	39.27%
15		
16	Operating Income % = 100% - Tax Percentage	60.73%
17		
18		
19		
20		
21		
22	1 / Operating Income % = Gross Revenue Conversion Factor	
23		1.6466
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ARIZONA WATER COMPANY
Test Year Ended December 31, 2011
Computation of Gross Revenue Conversion Factor

Line No.	Description	Navajo [A] Percentage of Incremental Gross Revenues	Verde Valley (Sedona, Pinewood, Rimrock) [B] Percentage of Incremental Gross Revenues
1			
2	Federal Income Taxes	31.63%	31.63%
3			
4	State Income Taxes	6.97%	6.97%
5			
6	Total Federal & State Income Tax Percentage	38.60%	38.60%
7			
8	Operating Income % = 100% - Tax Percentage	61.40%	61.40%
9			
10	Property Tax Factor (Sch. C-2 Appdx.)	1.11%	1.09%
11			
12	Effective Property Tax Factor (Ln. 8 x Ln. 10)	0.68%	0.67%
13			
14	Combined Federal & State Income & Property Tax Rate	39.28%	39.27%
15			
16	Operating Income % = 100% - Tax Percentage	60.72%	60.73%
17			
18			
19			
20			
21			
22	1 = Gross Revenue Conversion Factor		
23	Operating Income %	1.6469	1.6465
24			
25			
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D

COST OF CAPITAL

D-1 SUMMARY COST OF CAPITAL

D-2 COST OF DEBT

D-3 COST OF PREFERRED STOCK

D-4 COST OF COMMON STOCK EQUITY

ARIZONA WATER COMPANY
Test Year Ended December 31, 2011
Summary Cost of Capital

		Total Company							
		[A]	[B]	[C]	[D]	[E]	[F]	[G]	[H]
		End of Test Year - Actual				End of Projected Year - Present Rates			
Line No.	Description	Dollar Amount	Percent of Total	Rate of Return	Weighted Return	Dollar Amount	Percent of Total	Rate of Return	Weighted Return
2	Short-Term Debt	$ -	0.00%	0.00%	0.00%	$ -	0.00%	0.00%	0.00%
4	Long-Term Debt	75,000,000	48.95%	6.82%	3.34%	75,000,000	49.73%	6.82%	3.39%
6	Common Equity	78,221,194	51.05%	6.28%	3.21%	75,818,340	50.27%	2.98%	1.50%
8	Totals	$ 153,221,194	100.00%		6.55%	$ 150,818,340	100.00%		4.89%

		End of Test Year - Proposed				End of Projected Year - Proposed Rates			
		Dollar Amount	Percent of Total	Cost Rate	Weighted Cost	Dollar Amount	Percent of Total	Rate of Return	Weighted Return
20	Short-Term Debt	$ -	0.00%	0.00%	0.00%	$ -	0.00%	0.00%	0.00%
22	Long-Term Debt	75,000,000	48.95%	6.82%	3.34%	75,000,000	49.15%	6.82%	3.35%
24	Common Equity	78,221,194	51.05%	11.30%	5.77%	77,598,555	50.85%	5.21%	2.65%
26	Totals	$ 153,221,194	100.00%		9.11%	$ 152,598,555	100.00%		6.00%

54 [1]Allocated based on
55 3-factor methodology

ARIZONA WATER COMPANY
Test Year Ended December 31, 2011
Summary Cost of Capital

Northern Group

Line No.	Description	[A] End of Test Year - Actual Dollar Amount[1]	[B] Percent of Total	[C] Rate of Return	[D] Weighted Return	[E] End of Projected Year - Present Rates Dollar Amount[1]	[F] Percent of Total	[G] Rate of Return	[H] Weighted Return
2	Short-Term Debt	$ -	0.00%	0.00%	0.00%	$ -	0.00%	0.00%	0.00%
4	Long-Term Debt	16,462,500	48.95%	6.82%	3.34%	16,462,500	49.73%	6.82%	3.39%
6	Common Equity	17,169,552	51.05%	6.14%	3.13%	16,642,126	50.27%	-0.05%	-0.03%
8	Totals	$ 33,632,052	100.00%		6.48%	$ 33,104,626	100.00%		3.37%

		End of Test Year - Proposed Dollar Amount[1]	Percent of Total	Cost Rate	Weighted Cost	End of Projected Year - Proposed Rates Dollar Amount[1]	Percent of Total	Rate of Return	Weighted Return
20	Short-Term Debt	$ -	0.00%	0.00%	0.00%	$ -	0.00%	0.00%	0.00%
22	Long-Term Debt	16,462,500	48.95%	6.82%	3.34%	16,462,500	49.15%	6.82%	3.35%
24	Common Equity	17,169,552	51.05%	11.30%	5.77%	17,032,883	50.85%	10.40%	5.29%
26	Totals	$ 33,632,052	100.00%		9.11%	$ 33,495,383	100.00%		8.64%

54 [1]Allocated based on
55 3-factor methodology

ARIZONA WATER COMPANY
Test Year Ended December 31, 2011
Cost of Debt

Line No.		Total Company [A]	[B]	[C]	[D]	[E]	[F]
		End of Test Year - Actual			End of Projected Year - Present Rates		
	Long-Term Debt	Amount Outstanding	Annual Cost	Interest Rate	Amount Outstanding	Annual Cost	Interest Rate
1							
2							
3	Series K, Due April 1, 2031	15,000,000	1,206,855	8.05%	15,000,000	1,206,855	8.05%
4	Series L, Due August 1, 2036	25,000,000	1,575,650	6.30%	25,000,000	1,575,650	6.30%
5	Series M, Due August 1, 2038	35,000,000	2,336,110	6.67%	35,000,000	2,336,110	6.67%
6							
7	Totals	$ 75,000,000	$ 5,118,615	6.82%	$ 75,000,000	$ 5,118,615	6.82%
8							
9	Short-Term Debt						
10							
11	Bank Loans	-	-	0.00%	-	-	0.00%
12							
13	Totals	$ 75,000,000	$ 5,118,615	6.82%	$ 75,000,000	$ 5,118,615	6.82%
14							
15							
16							
17							
18							
19							
20		End of Test Year - Proposed			End of Projected Year - Proposed Rates		
21		Amount	Annual	Interest	Amount	Annual	Interest
22	Long-Term Debt	Outstanding	Cost	Rate	Outstanding	Cost	Rate
23							
24	Series K, Due April 1, 2031	15,000,000	1,206,855	8.05%	15,000,000	1,206,855	8.05%
25	Series L, Due August 1, 2036	25,000,000	1,575,650	6.30%	25,000,000	1,575,650	6.30%
26	Series M, Due August 1, 2038	35,000,000	2,336,110	6.67%	35,000,000	2,336,110	6.67%
27							
28	Totals	$ 75,000,000	5,118,615	6.82%	$ 75,000,000	$ 5,118,615	6.82%
29							
30	Short-Term Debt						
31							
32	Bank Loans	-	-	-	-	-	0.00%
33							
34	Totals	$ 75,000,000	$ 5,118,615	6.82%	$ 75,000,000	$ 5,118,615	6.82%
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54	[1]Allocated based on						
55	3-factor methodology						

ARIZONA WATER COMPANY
Test Year Ended December 31, 2011
Cost of Debt

Northern Group

Line No.		[A]	[B]	[C]	[D]	[E]	[F]
		End of Test Year - Actual			End of Projected Year - Present Rates		
	Long-Term Debt	Amount Outstanding[1]	Annual Cost	Interest Rate	Amount Outstanding[1]	Annual Cost	Interest Rate
3	Series K, Due April 1, 2031	3,292,500	264,905	8.05%	3,292,500	264,905	8.05%
4	Series L, Due August 1, 2036	5,487,500	345,855	6.30%	5,487,500	345,855	6.30%
5	Series M, Due August 1, 2038	7,682,500	512,776	6.67%	7,682,500	512,776	6.67%
7	Totals	$ 16,462,500	$ 1,123,536	6.82%	$ 16,462,500	$ 1,123,536	6.82%
9	Short-Term Debt						
11	Bank Loans	-	-	0.00%	-	-	0.00%
13	Totals	$ 16,462,500	$ 1,123,536	6.82%	$ 16,462,500	$ 1,123,536	6.82%

Line No.		[A]	[B]	[C]	[D]	[E]	[F]
		End of Test Year - Proposed			End of Projected Year - Proposed Rates		
	Long-Term Debt	Amount Outstanding[1]	Annual Cost	Interest Rate	Amount Outstanding[1]	Annual Cost	Interest Rate
24	Series K, Due April 1, 2031	3,292,500	264,905	8.05%	3,292,500	264,905	8.05%
25	Series L, Due August 1, 2036	5,487,500	345,855	6.30%	5,487,500	345,855	6.30%
26	Series M, Due August 1, 2038	7,682,500	512,776	6.67%	7,682,500	512,776	6.67%
28	Totals	16,462,500	1,123,536	6.82%	$ 16,462,500	$ 1,123,536	6.82%
30	Short-Term Debt						
32	Bank Loans	-	-	-	-	-	0.00%
34	Totals	$ 16,462,500	$ 1,123,536	6.82%	$ 16,462,500	$ 1,123,536	6.82%

[1]Allocated based on
3-factor methodology

Line No.	
1	Not applicable, no preferred stock issued or outstanding.
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Line No.	
1	See the pre-filed testimony of Pauline M. Ahern.
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FINANCIAL STATEMENTS AND STATISTICAL SCHEDULES

E-1	COMPARATIVE BALANCE SHEETS
E-2	COMPARATIVE INCOME STATEMENTS
E-3	COMPARATIVE STATEMENT OF CHANGES IN FINANCIAL POSITION
E-4	STATEMENT OF CHANGES IN STOCKHOLDER'S EQUITY
E-5	DETAIL PLANT IN SERVICE
E-6	COMPARATIVE DEPARTMENTAL STATEMENTS OF OPERATING INCOME
E-7	OPERATING STATISTICS
E-8	TAXES CHARGED TO OPERATIONS
E-9	NOTES TO FINANCIAL STATEMENTS

ARIZONA WATER COMPANY
Test Year Ended December 31, 2011
Comparative Balance Sheets

Total Company

Line No.	Assets	[A] Test Year Ended 12/31/2011	[B] Prior Year Ended 12/31/2010	[C] Prior Year Ended 12/31/2009
1				
2				
3	Assets			
4				
5	Utility Plant	$ 405,990,002	$ 393,235,912	$ 387,582,097
6	Construction Work in Progress	2,796,573	3,187,159	2,160,266
7	Utility Plant Acquisition Adjustment	-	-	-
8	Less: Accumulated Depreciation	(104,225,823)	(95,226,395)	(86,303,450)
9	Net Plant	$ 304,560,753	$ 301,196,676	$ 303,438,913
10				
11	Current & Accrued Assets			
12	Cash	$ 11,899,209	$ 10,327,173	$ 1,612,976
13	Investments & Special Deposits	2,703	2,703	2,703
14	Customer Accounts Receivable	3,239,190	3,369,114	3,067,422
15	Accounts Receivable - Other	160,129	106,392	74,586
16	Allowance for Doubtful Accounts	(28,423)	(32,719)	(41,156)
17	Materials and Supplies	298,828	301,494	277,830
18	Prepaid Expenses	597,664	454,306	455,566
19	Total Current & Accrued Assets	$ 16,169,300	$ 14,528,463	$ 5,449,927
20				
21	Deferred Debits			
22	Deferred Debt Expense	75,228	78,342	81,456
23	Other Deferred Debits	7,237,696	7,170,254	6,075,634
24	Total Deferred Debits	$ 7,312,924	$ 7,248,596	$ 6,157,090
25				
26				
27	Total Assets	$ 328,042,977	$ 322,973,735	$ 315,045,930
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	[D] Test Year Ended 12/31/2011	[E] Prior Year Ended 12/31/2010	[F] Prior Year Ended 12/31/2009
Liabilities & Stockholders' Equity			
Total Stockholders' Equity	$ 78,221,194	$ 77,975,338	$ 68,285,255
Long-Term Debt	75,000,000	75,000,000	75,000,000
Current & Accrued Liabilities			
Current Maturities of Long-Term Debt	-	-	-
Notes Payable	-	-	6,000,000
Accounts Payable	6,148,895	5,119,464	4,427,735
Customer Service Deposits	849,437	799,458	689,779
Accrued Taxes	497,119	1,933,081	357,964
Accrued Interest	1,735,917	1,735,917	1,736,920
Total Current & Accrued Liabilities	$ 9,231,368	$ 9,587,920	$ 13,212,398
Deferred Credits & Reserves			
Refundable Advances for Construction	$ 76,041,295	$ 77,869,922	$ 82,666,061
Special Maintenance Reserves	801,783	801,783	865,198
Deferred Income Taxes	29,186,404	25,368,073	23,622,910
Other Deferred Credits	4,407,732	5,186,924	3,884,937
Total Deferred Credits & Reserves	$ 110,437,215	$ 109,226,702	$ 111,039,106
Contributions in Aid of Construction - Net	$ 55,153,200	$ 51,183,775	$ 47,509,171
Total Liabilities & Equity	$ 328,042,977	$ 322,973,735	$ 315,045,930

ARIZONA WATER COMPANY
Test Year Ended December 31, 2011
Comparative Income Statements

Line No.		Total Company [A] Test Year Ended 12/31/2011	[B] Prior Year Ended 12/31/2010	[C] Prior Year Ended 12/31/2009
4	Operating Revenues	$ 55,869,594	$ 52,189,106	$ 51,429,838
6	Operating Expenses:			
7	Operation & Maintenance	25,936,455	25,643,099	26,569,684
8	Depreciation & Amortization	8,913,573	8,506,196	8,473,316
9	Taxes:			
10	Federal Income	3,222,694	2,139,809	1,880,441
11	State Income	478,703	241,726	179,848
12	Property	2,112,526	1,933,281	1,796,896
13	Other	5,807,144	5,247,409	4,871,845
14	Total Operating Expenses	$ 46,471,094	$ 43,711,520	$ 43,772,030
16	Operating Income	$ 9,398,500	$ 8,477,586	$ 7,657,808
18	Other Income & Deductions:			
19	Interest:			
20	Long-Term Debt	5,115,500	5,115,500	5,115,500
21	Short-Term Debt	3,748	117,924	196,945
22	Other	(372,950)	(315,618)	(332,050)
23	Total Interest	$ 4,746,298	$ 4,917,806	$ 4,980,395
25	Other (Income) - Net	$ (259,254)	$ (195,900)	$ (223,759)
27	Total Other (Income) & Deductions	$ 4,487,044	$ 4,721,906	$ 4,756,636
29	Net Income	$ 4,911,456	$ 3,755,680	$ 2,901,172
31	Average Common Shares Outstanding	270,000	270,000	270,000
32	Earnings Per Share of Common Stock	$ 18.19	$ 13.91	$ 10.75

ARIZONA WATER COMPANY
Test Year Ended December 31, 2011
Comparative Income Statements

Line No.		Northern Group [A] Test Year Ended 12/31/2011	[B] Prior Year Ended 12/31/2010	[C] Prior Year Ended 12/31/2009
4	Operating Revenues	$ 11,322,340	$ 10,696,665	$ 10,412,457
6	*Operating Expenses:*			
7	Operation & Maintenance	5,264,034	5,384,117	5,447,232
8	Depreciation & Amortization	1,689,546	1,618,833	1,554,786
9	Taxes:			
10	Federal Income	707,353	458,982	410,887
11	State Income	105,071	51,849	39,298
12	Property	311,379	292,211	302,459
13	Other	1,182,063	1,072,261	984,513
14	Total Operating Expenses	$ 9,259,446	$ 8,878,253	$ 8,739,175
16	Operating Income	$ 2,062,894	$ 1,818,412	$ 1,673,282
18	Other Income & Deductions:			
19	Interest:			
20	Long-Term Debt	1,148,444	1,131,549	1,123,875
21	Short-Term Debt	841	26,085	43,269
22	Other	(83,728)	(69,815)	(72,951)
23	Total Interest	$ 1,065,557	$ 1,087,819	$ 1,094,193
25	Other (Income) - Net	$ (56,906)	$ (43,333)	$ (49,160)
27	Total Other (Income) & Deductions	$ 1,008,651	$ 1,044,486	$ 1,045,033
29	Net Income	$ 1,054,243	$ 773,926	$ 628,249
31	Average Common Shares Outstanding	270,000	270,000	270,000
32	Earnings Per Share of Common Stock	$ 3.90	$ 2.87	$ 2.33

ARIZONA WATER COMPANY
Test Year Ended December 31, 2011
Comparative Statement of Changes in Financial Position

Line No.		Total Company [A] Test Year Ended 12/31/2011	[B] Prior Year Ended 12/31/2010	[C] Prior Year Ended 12/31/2009
1				
2				
3				
4	Cash Flows from Operating Activities:			
5	Net Income	$ 4,911,456	$ 3,755,683	$ 2,901,166
6	Adjustments to reconcile net income to net cash provided by			
7	operating activities:			
8	Depreciation & Amortization	8,916,580	8,383,028	8,476,554
9	Deferred Income Taxes	3,818,331	1,745,163	2,271,385
10	Gain on Sale of Property	(95,882)	-	(134,849)
11	Changes in Assets & Liabilities:			
12	Accounts & Notes Receivable, net	71,891	(341,935)	367,624
13	Materials & Supplies	2,666	(23,664)	(7,497)
14	Other Current Assets	(143,358)	1,260	29,964
15	Deferred Debits	(64,329)	(1,091,506)	(529,849)
16	Accounts Payable	1,122,163	691,729	238,708
17	Accrued Taxes	(1,435,962)	1,575,117	(197,511)
18	Accrued Interest	-	(1,003)	147,476
19	Deferred Credits	-	(63,415)	446,062
20	Other Current Liabilities	-	109,679	12,954
21	Other - Net	49,983	-	-
22	Net Cash provided by Operating Activities	$ 17,153,539	$ 14,740,136	$ 14,022,187
23				
24	Cash Flows from Investing Activities:			
25	Capital Expenditures - Company Funds	(9,631,483)	(5,698,889)	(5,743,494)
26	Capital Expenditures - Contributions & Advances	(1,278,946)	(281,354)	(607,453)
27	Proceeds from Sale of Property	110,351	-	145,924
28	Net Cash Used in Investing Activities	$ (10,800,078)	$ (5,980,243)	$ (6,205,023)
29				
30	Cash Flows from Financing Activities:			
31	Net Borrowings under Note Payable	-	(6,000,000)	(1,300,000)
32	Proceeds from Issuance of Long-Term Debt	-	-	-
33	Repayments of Long-Term Debt	-	-	-
34	Dividends on Common Stock	(4,665,600)	(4,287,600)	(4,287,600)
35	Refunds of Advances in Aid of Construction	(882,172)	(961,310)	(1,478,587)
36	Contributions in Aid of Construction	766,348	981,214	790,156
37	Capital Contributions	-	10,222,000	-
38	Net Cash Provided by Financing Activities	$ (4,781,424)	$ (45,696)	$ (6,276,031)
39				
40	Net Increase (Decrease) in Cash	$ 1,572,037	$ 8,714,197	$ 1,541,133
41				
42	Cash and Cash Equivalents, Beginning of Year	$ 10,327,173	$ 1,612,976	$ 71,843
43	Cash & Cash Equivalents, End of Year	$ 11,899,210	$ 10,327,173	$ 1,612,976
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ARIZONA WATER COMPANY
Test Year Ended December 31, 2011
Statement of Changes in Stockholder's Equity

Line No.		Total Company [A] Common Stock Shares	[B] Common Stock Amount	[C] Additional Paid-In-Capital	[D] Retained Earnings	[E] Total
5	Balance - December 31, 2008	270,000	$ 2,700,000	$ 9,087,347	$ 57,884,342	$ 69,671,689
7	Net Income				2,901,166	2,901,166
9	Dividends Paid				(4,287,600)	(4,287,600)
11	Other/Reclass				-	-
13	Balance - December 31, 2009	270,000	$ 2,700,000	$ 9,087,347	$ 56,497,908	$ 68,285,255
15	Net Income				3,755,683	3,755,683
17	Dividends Paid				(4,287,600)	(4,287,600)
19	Other/Reclass			10,222,000	-	10,222,000
21	Balance - December 31, 2010	270,000	$ 2,700,000	$ 19,309,347	$ 55,965,991	$ 77,975,338
23	Net Income				4,911,456	4,911,456
25	Dividends Paid				(4,665,600)	(4,665,600)
27	Other/Reclass				-	-
29	Balance, December 31, 2011	270,000	$ 2,700,000	$ 19,309,347	$ 56,211,847	$ 78,221,194

ARIZONA WATER COMPANY
Test Year Ended December 31, 2011
Detail Plant in Service

Line No.	Acct. No.		Total Company [A] End of Prior Year 12/31/2010	[B] Net Additions	[C] End of Test Year 12/31/2011
1		Intangible Plant			
2	301	Organization	$ 651	$ 0	$ 651
3	302	Franchises	111,600	1	111,601
4	303	Other Intangibles	1,513,423	96,243	1,609,666
5		Subtotal Intangible Plant	$ 1,625,674	$ 96,244	$ 1,721,918
6		Source of Supply Plant			
7	310.1	Water Rights	2,594,783	19,996	2,614,779
8	310.3	Other Source of Supply Land	1,197,420	0	1,197,420
9	310.4	Wells - Other	1,526,600	0	1,526,600
10	314	Wells	24,997,781	15,048	25,012,829
11		Subtotal Source of Supply Plant	$ 30,316,584	$ 35,044	$ 30,351,628
12		Pumping Plant			
13	320	Pumping Plant Land	86,789	1	86,790
14	321	Pumping Plant Structures & Improvements	1,026,638	(11,261)	1,015,377
15	325	Electric Pumping Equipment	29,379,586	583,161	29,962,747
16	328	Gas Engine Equipment	209,204	(197)	209,007
17		Subtotal Pumping Plant	$ 30,702,217	$ 571,703	$ 31,273,920
18		Water Treatment Plant			
19	330	Water Treatment Plant Land	683,529	0	683,529
20	331	Water Treatment Structures & Improvements	1,943,468	37,773	1,981,241
21	332	Water Treatment Equipment	20,329,114	3,982,576	24,311,690
22		Subtotal Water Treatment Plant	$ 22,956,111	$ 4,020,349	$ 26,976,460
23		Transmission & Distribution Plant			
24	340	Transmission and Distribution Land	864,636	(0)	864,636
25	342	Storage Tanks	12,866,704	1,050,040	13,916,744
26	343	Transmission & Distribution Mains	189,588,695	4,652,434	194,241,129
27	344	Fire Sprinkler Taps	4,554,650	161,847	4,716,497
28	345	Services	53,221,813	1,113,368	54,335,181
29	346	Meters	7,579,772	87,092	7,666,864
30	348	Hydrants	17,937,613	495,925	18,433,538
31		Subtotal Transmission & Distribution Plant	$ 286,613,883	$ 7,560,705	$ 294,174,588
32		General Plant			
33	389	General Plant Land	70,136	0	70,136
34	390	General Plant Structures	2,273,072	1,844	2,274,916
35	390.1	Leasehold Improvements	2,612,339	237,108	2,849,447
36	391	Office Furniture & Equipment	6,363,422	77,971	6,441,393
37	393	Warehouse Equipment	86,486	9,207	95,693
38	394	Tools, Shop & Garage Equipment	1,523,096	11,103	1,534,199
39	395	Laboratory Equipment	220,988	10,614	231,602
40	396	Power Operated Equipment	237,801	16,645	254,446
41	397	Communication Equipment	4,748,356	101,383	4,849,739
42	398	Miscellaneous Equipment	442,644	4,170	446,814
43		Subtotal General Plant	$ 18,578,340	$ 470,045	$ 19,048,385
44		Plant in Service			
45		(Ln. 5 + Ln. 11 + Ln. 17 Ln. 22 + Ln. 31 + Ln. 43)	$ 390,792,809	$ 12,754,090	$ 403,546,899
46	107	Construction Work in Progress	3,187,159	$ (390,586)	2,796,573
47		Total Plant (Ln. 45 + Ln. 46)	$ 393,979,968	$ 12,363,505	$ 406,343,473
48	108	Accumulated Depreciation & Amort.	(94,363,024)	$ (8,999,428)	(103,362,452)
49		Net Plant in Service (Ln. 45 + Ln. 48)	$ 296,429,785	$ 3,754,662	$ 300,184,447
50					
51	105	Plant Held for Future Use	2,443,103	-	2,443,103
52	110	Accum. Depr. - Plant Held for Future Use	(863,371)	-	(863,371)
53		Net Plant Held for Future Use (Ln. 51 + Ln. 52)	$ 1,579,732	$ -	$ 1,579,732
54					
55		Total Net Plant (Ln. 46 + Ln. 49 + Ln. 53)	$ 301,196,676	$ 3,364,077	$ 304,560,753

ARIZONA WATER COMPANY
Test Year Ended December 31, 2011
Detail Plant in Service

Line No.	Acct. No.		Northern Group [A] End of Prior Year 12/31/2010	[B] Net Additions	[C] End of Test Year 12/31/2011
1		Intangible Plant			
2	301	Organization	$ 144	$ (1)	$ 143
3	302	Franchises	935	-	935
4	303	Other Intangibles	6,263	(14)	6,249
5		Subtotal Intangible Plant	$ 7,342	$ (15)	$ 7,327
6		Source of Supply Plant			
7	310.1	Water Rights	656,772	125	656,897
8	310.3	Other Source of Supply Land	661,844	0	661,844
9	310.4	Wells - Other	-	-	-
10	314	Wells	8,244,911	2,934	8,247,845
11		Subtotal Source of Supply Plant	$ 9,563,527	$ 3,059	$ 9,566,586
12		Pumping Plant			
13	320	Pumping Plant Land	14,097	(0)	14,097
14	321	Pumping Plant Structures & Improvements	255,354	2,927	258,281
15	325	Electric Pumping Equipment	5,883,366	63,583	5,946,949
16	328	Gas Engine Equipment	223	0	223
17		Subtotal Pumping Plant	$ 6,153,040	$ 66,509	$ 6,219,549
18		Water Treatment Plant			
19	330	Water Treatment Plant Land	-	-	-
20	331	Water Treatment Structures & Improvements	232,333	37,762	270,095
21	332	Water Treatment Equipment	2,759,858	1,021,856	3,781,714
22		Subtotal Water Treatment Plant	$ 2,992,191	$ 1,059,618	$ 4,051,809
23		Transmission & Distribution Plant			
24	340	Transmission and Distribution Land	187,650	0	187,650
25	342	Storage Tanks	3,118,055	2,435	3,120,490
26	343	Transmission & Distribution Mains	37,440,253	150,105	37,590,358
27	344	Fire Sprinkler Taps	913,648	42,397	956,045
28	345	Services	9,782,903	207,605	9,990,508
29	346	Meters	1,390,415	6,810	1,397,225
30	348	Hydrants	3,295,059	234,157	3,529,216
31		Subtotal Transmission & Distribution Plant	$ 56,127,983	$ 643,510	$ 56,771,493
32		General Plant			
33	389	General Plant Land	4,853	(0)	4,853
34	390	General Plant Structures	549,317	(182)	549,135
35	390.1	Leasehold Improvements	465,511	(1,902)	463,610
36	391	Office Furniture & Equipment	1,442,759	9,442	1,452,201
37	393	Warehouse Equipment	33,812	10,091	43,902
38	394	Tools, Shop & Garage Equipment	280,955	2,881	283,836
39	395	Laboratory Equipment	16,645	504	17,149
40	396	Power Operated Equipment	47,233	16,152	63,385
41	397	Communication Equipment	500,934	5,299	506,233
42	398	Miscellaneous Equipment	69,360	2,806	72,166
43		Subtotal General Plant	$ 3,411,379	$ 45,092	$ 3,456,471
44		Plant in Service			
45		(Ln. 5 + Ln. 11 + Ln. 17 Ln. 22 + Ln. 31 + Ln. 43)	$ 78,255,462	$ 1,817,774	$ 80,073,235
46	107	Construction Work in Progress	763,208	$ 481,487	1,244,695
47		Total Plant (Ln. 45 + Ln. 46)	$ 79,018,670	$ 2,299,261	$ 81,317,931
48	108	Accumulated Depreciation & Amort.	(21,198,571)	$ (1,900,278)	(23,098,849)
49		Net Plant in Service (Ln. 45 + Ln. 48)	$ 57,056,890	$ (82,504)	$ 56,974,386
50					
51	105	Plant Held for Future Use	313,824	-	313,824
52	110	Accum. Depr. - Plant Held for Future Use	(223,521)	-	(223,521)
53		Net Plant Held for Future Use (Ln. 51 + Ln. 52)	$ 90,303	$ -	$ 90,303
54					
55		Total Net Plant (Ln. 46 + Ln. 49 + Ln. 53)	$ 57,910,401	$ 398,983	$ 58,309,384

ARIZONA WATER COMPANY
Test Year Ended December 31, 2011
Detail Plant in Service

Line No.	Acct. No.		Navajo [A] End of Prior Year 12/31/2010	Navajo [B] Net Additions	Navajo [C] End of Test Year 12/31/2011	Verde Valley (Sedona, Pinewood, Rimrock) [D] End of Prior Year 12/31/2010	Verde Valley [E] Net Additions	Verde Valley [F] End of Test Year 12/31/2011
1		Intangible Plant						
2	301	Organization	$ -	$ -	$ -	$ -	$ -	$ -
3	302	Franchises	-	-	-	935	-	935
4	303	Other Intangibles	1,946	0	1,946	2,438	0	2,438
5		Subtotal Intangible Plant	$ 1,946	$ 0	$ 1,946	$ 3,373	$ 0	$ 3,373
6		Source of Supply Plant						
7	310.1	Water Rights	500,614	125	500,739	156,158	0	156,158
8	310.3	Other Source of Supply Land	30,155	0	30,155	631,671	0	631,671
9	310.4	Wells - Other	-	-	-	-	-	-
10	314	Wells	1,758,846	(0)	1,758,846	6,486,065	2,934	6,488,999
11		Subtotal Source of Supply Plant	$ 2,289,615	$ 125	$ 2,289,740	$ 7,273,894	$ 2,934	$ 7,276,828
12		Pumping Plant						
13	320	Pumping Plant Land	8,553	(0)	8,553	5,544	(0)	5,544
14	321	Pumping Plant Structures & Improvements	147,004	2,927	149,931	108,350	(0)	108,350
15	325	Electric Pumping Equipment	2,715,746	16,295	2,732,041	3,167,620	47,288	3,214,908
16	328	Gas Engine Equipment	-	-	-	223	0	223
17		Subtotal Pumping Plant	$ 2,871,303	$ 19,221	$ 2,890,524	$ 3,281,737	$ 47,288	$ 3,329,025
18		Water Treatment Plant						
19	330	Water Treatment Plant Land	-	-	-	-	-	-
20	331	Water Treatment Structures & Improvements	563	0	563	231,770	37,762	269,532
21	332	Water Treatment Equipment	146,542	1,258	147,800	2,612,863	1,020,601	3,633,464
22		Subtotal Water Treatment Plant	$ 147,105	$ 1,258	$ 148,363	$ 2,844,633	$ 1,058,363	$ 3,902,996
23		Transmission & Distribution Plant						
24	340	Transmission and Distribution Land	53,126	0	53,126	134,524	-	134,524
25	342	Storage Tanks	1,338,226	0	1,338,226	1,779,829	2,435	1,782,264
26	343	Transmission & Distribution Mains	14,074,015	24,375	14,098,390	23,364,896	125,741	23,490,637
27	344	Fire Sprinkler Taps	189,255	15,607	204,862	724,393	26,790	751,183
28	345	Services	4,890,315	87,753	4,978,068	4,892,588	119,852	5,012,440
29	346	Meters	568,034	5,977	574,011	822,381	833	823,214
30	348	Hydrants	1,397,090	10,658	1,407,748	1,897,969	223,499	2,121,468
31		Subtotal Transmission & Distribution Plant	$ 22,510,061	$ 144,370	$ 22,654,431	$ 33,616,580	$ 499,151	$ 34,115,731
32		General Plant						
33	389	General Plant Land	1,995	(0)	1,995	2,858	0	2,858
34	390	General Plant Structures	323,670	0	323,670	201,929	0	201,929
35	390.1	Leasehold Improvements	74,227	0	74,227	49,955	722	50,677
36	391	Office Furniture & Equipment	218,767	277	219,044	138,721	874	139,595
37	393	Warehouse Equipment	3,512	0	3,512	27,514	10,367	37,881
38	394	Tools, Shop & Garage Equipment	108,579	1,536	110,115	113,560	1,362	114,922
39	395	Laboratory Equipment	2,690	(0)	2,690	12,962	513	13,475
40	396	Power Operated Equipment	10,462	0	10,462	36,448	16,155	52,603
41	397	Communication Equipment	250,522	270	250,792	210,237	(1,130)	209,107
42	398	Miscellaneous Equipment	37,015	(0)	37,015	30,751	2,818	33,569
43		Subtotal General Plant	$ 1,031,439	$ 2,084	$ 1,033,523	$ 824,935	$ 31,680	$ 856,615
44		Plant in Service						
45		(Ln. 5 + Ln. 11 + Ln. 17 Ln. 22 + Ln. 31 + Ln. 43)	$ 28,851,469	$ 167,058	$ 29,018,527	$ 47,845,152	$ 1,639,416	$ 49,484,568
46	107	Construction Work in Progress	-	$ 1,871	1,871	763,208	$ 479,616	1,242,824
47		Total Plant (Ln. 45 + Ln. 46)	$ 28,851,469	$ 168,929	$ 29,020,398	$ 48,608,360	$ 2,119,032	$ 50,727,392
48	108	Accumulated Depreciation & Amort.	(8,829,055)	$ (687,466)	(9,516,521)	(12,005,892)	$ (1,132,909)	(13,138,801)
49		Net Plant in Service (Ln. 45 + Ln. 48)	$ 20,022,414	$ (520,408)	$ 19,502,006	$ 35,839,260	$ 506,507	$ 36,345,767
50								
51	105	Plant Held for Future Use	313,824	-	313,824	-	-	-
52	110	Accum. Depr. - Plant Held for Future Use	(223,521)	-	(223,521)	-	-	-
53		Net Plant Held for Future Use (Ln. 51 + Ln. 52)	$ 90,303	$ -	$ 90,303	$ -	$ -	$ -
54								
55		Total Net Plant (Ln. 46 + Ln. 49 + Ln. 53)	$ 20,112,717	$ (518,537)	$ 19,594,180	$ 36,602,468	$ 986,123	$ 37,588,591

ARIZONA WATER COMPANY
Test Year Ended December 31, 2011
Detail Plant in Service

Line No.	Acct. No.		Phoenix Office - Northern Group [A] End of Prior Year 12/31/2010	[B] Net Additions	[C] End of Test Year 12/31/2011	Meter Shop - Northern Group [D] End of Prior Year 12/31/2010	[E] Net Additions	[F] End of Test Year 12/31/2011
1		Intangible Plant						
2	301	Organization	$ 144	$ (1)	$ 143	$ -	$ -	$ -
3	302	Franchises	-	-	-	-	-	-
4	303	Other Intangibles	1,879	(14)	1,865	-	-	-
5		Subtotal Intangible Plant	$ 2,023	$ (15)	$ 2,008	$ -	$ -	$ -
6		Source of Supply Plant						
7	310.1	Water Rights	-	-	-	-	-	-
8	310.3	Other Source of Supply Land	-	-	-	18	(0)	18
9	310.4	Wells - Other	-	-	-	-	-	-
10	314	Wells	-	-	-	-	-	-
11		Subtotal Source of Supply Plant	$ -	$ -	$ -	$ 18	$ (0)	$ 18
12		Pumping Plant						
13	320	Pumping Plant Land	-	-	-	-	-	-
14	321	Pumping Plant Structures & Improvements	-	-	-	-	-	-
15	325	Electric Pumping Equipment	-	-	-	-	-	-
16	328	Gas Engine Equipment	-	-	-	-	-	-
17		Subtotal Pumping Plant	$ -	$ -	$ -	$ -	$ -	$ -
18		Water Treatment Plant						
19	330	Water Treatment Plant Land	-	-	-	-	-	-
20	331	Water Treatment Structures & Improvements	-	-	-	-	-	-
21	332	Water Treatment Equipment	-	-	-	453	(4)	450
22		Subtotal Water Treatment Plant	$ -	$ -	$ -	$ 453	$ (4)	$ 450
23		Transmission & Distribution Plant						
24	340	Transmission and Distribution Land	-	-	-	-	-	-
25	342	Storage Tanks	-	-	-	-	-	-
26	343	Transmission & Distribution Mains	-	-	-	1,342	(10)	1,331
27	344	Fire Sprinkler Taps	-	-	-	-	-	-
28	345	Services	-	-	-	-	-	-
29	346	Meters	-	-	-	-	-	-
30	348	Hydrants	-	-	-	-	-	-
31		Subtotal Transmission & Distribution Plant	$ -	$ -	$ -	$ 1,342	$ (10)	$ 1,331
32		General Plant						
33	389	General Plant Land	-	-	-	-	-	-
34	390	General Plant Structures	12,027	(92)	11,935	11,691	(90)	11,601
35	390.1	Leasehold Improvements	341,329	(2,623)	338,706	-	-	-
36	391	Office Furniture & Equipment	1,082,816	8,310	1,091,126	2,455	(19)	2,436
37	393	Warehouse Equipment	820	(6)	813	1,966	(270)	1,696
38	394	Tools, Shop & Garage Equipment	43,435	101	43,536	15,381	(118)	15,263
39	395	Laboratory Equipment	334	(3)	331	659	(5)	654
40	396	Power Operated Equipment	-	-	-	323	(3)	320
41	397	Communication Equipment	40,175	6,159	46,334	-	-	-
42	398	Miscellaneous Equipment	1,594	(12)	1,582	-	-	-
43		Subtotal General Plant	$ 1,522,530	$ 11,833	$ 1,534,363	$ 32,474	$ (504)	$ 31,970
44		Plant in Service						
45		(Ln. 5 + Ln. 11 + Ln. 17 Ln. 22 + Ln. 31 + Ln. 43)	$ 1,524,554	$ 11,817	$ 1,536,371	$ 34,287	$ (518)	$ 33,769
46	107	Construction Work in Progress	-	$ -	-	-	$ -	-
47		Total Plant (Ln. 45 + Ln. 46)	$ 1,524,554	$ 11,817	$ 1,536,371	$ 34,287	$ (518)	$ 33,769
48	108	Accumulated Depreciation & Amort.	(351,148)	$ (78,751)	(429,899)	(12,477)	$ (1,152)	(13,628)
49		Net Plant in Service (Ln. 45 + Ln. 48)	$ 1,173,406	$ (66,934)	$ 1,106,472	$ 21,811	$ (1,670)	$ 20,141
50								
51	105	Plant Held for Future Use	-	-	-	-	-	-
52	110	Accum. Depr. - Plant Held for Future Use	-	-	-	-	-	-
53		Net Plant Held for Future Use (Ln. 51 + Ln. 52)	$ -	$ -	$ -	$ -	$ -	$ -
54								
55		Total Net Plant (Ln. 46 + Ln. 49 + Ln. 53)	$ 1,173,406	$ (66,934)	$ 1,106,472	$ 21,811	$ (1,670)	$ 20,141

Supporting Schedules:

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Recap Schedules:
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ARIZONA WATER COMPANY
Test Year Ended December 31, 2011
Detail Plant in Service

Line No.	Acct. No.		Phoenix Office [A] End of Prior Year 12/31/2010	[B] Net Additions	[C] End of Test Year 12/31/2011	Meter Shop [D] End of Prior Year 12/31/2010	[E] Net Additions	[F] End of Test Year 12/31/2011
1		Intangible Plant						
2	301	Organization	$ 651	$ 0	$ 651	$ -	$ -	$ -
3	302	Franchises	-	-	-	-	-	-
4	303	Other Intangibles	8,496	0	8,496	-	-	-
5		Subtotal Intangible Plant	$ 9,147	$ 1	$ 9,148	$ -	$ -	$ -
6		Source of Supply Plant						
7	310.1	Water Rights	-	-	-	-	-	-
8	310.3	Other Source of Supply Land	-	-	-	80	-	80
9	310.4	Wells - Other	-	-	-	-	-	-
10	314	Wells	-	-	-	-	-	-
11		Subtotal Source of Supply Plant	$ -	$ -	$ -	$ 80	$ -	$ 80
12		Pumping Plant						
13	320	Pumping Plant Land	-	-	-	-	-	-
14	321	Pumping Plant Structures & Improvements	-	-	-	-	-	-
15	325	Electric Pumping Equipment	-	-	-	-	-	-
16	328	Gas Engine Equipment	-	-	-	-	-	-
17		Subtotal Pumping Plant	$ -	$ -	$ -	$ -	$ -	$ -
18		Water Treatment Plant						
19	330	Water Treatment Plant Land	-	-	-	-	-	-
20	331	Water Treatment Structures & Improvements	-	-	-	-	-	-
21	332	Water Treatment Equipment	-	-	-	2,050	(0)	2,050
22		Subtotal Water Treatment Plant	$ -	$ -	$ -	$ 2,050	$ (0)	$ 2,050
23		Transmission & Distribution Plant						
24	340	Transmission and Distribution Land	-	-	-	-	-	-
25	342	Storage Tanks	-	-	-	-	-	-
26	343	Transmission & Distribution Mains	-	-	-	6,066	(0)	6,066
27	344	Fire Sprinkler Taps	-	-	-	-	-	-
28	345	Services	-	-	-	-	-	-
29	346	Meters	-	-	-	-	-	-
30	348	Hydrants	-	-	-	-	-	-
31		Subtotal Transmission & Distribution Plant	$ -	$ -	$ -	$ 6,066	$ (0)	$ 6,066
32		General Plant						
33	389	General Plant Land	-	-	-	-	-	-
34	390	General Plant Structures	54,371	0	54,371	52,852	(0)	52,852
35	390.1	Leasehold Improvements	1,543,079	(0)	1,543,079	-	-	-
36	391	Office Furniture & Equipment	4,895,192	75,770	4,970,962	11,097	0	11,097
37	393	Warehouse Equipment	3,705	0	3,705	8,888	(1,160)	7,728
38	394	Tools, Shop & Garage Equipment	196,363	1,981	198,344	69,534	(0)	69,534
39	395	Laboratory Equipment	1,508	(0)	1,508	2,981	-	2,981
40	396	Power Operated Equipment	-	-	-	1,458	(0)	1,458
41	397	Communication Equipment	181,623	29,465	211,088	-	-	-
42	398	Miscellaneous Equipment	7,207	0	7,207	-	-	-
43		Subtotal General Plant	$ 6,883,048	$ 107,217	$ 6,990,265	$ 146,810	$ (1,161)	$ 145,649
44		Plant in Service						
45		(Ln. 5 + Ln. 11 + Ln. 17 Ln. 22 + Ln. 31 + Ln. 43)	$ 6,892,195	$ 107,217	$ 6,999,412	$ 155,006	$ (1,162)	$ 153,844
46	107	Construction Work in Progress	-	$ -	-	-	$ -	-
47		Total Plant (Ln. 45 + Ln. 46)	$ 6,892,195	$ 107,217	$ 6,999,412	$ 155,006	$ (1,162)	$ 153,844
48	108	Accumulated Depreciation & Amort.	(1,587,468)	$ (371,070)	(1,958,538)	(56,404)	$ (5,683)	(62,087)
49		Net Plant in Service (Ln. 45 + Ln. 48)	$ 5,304,727	$ (263,853)	$ 5,040,874	$ 98,602	$ (6,844)	$ 91,758
50								
51	105	Plant Held for Future Use	-	-	-	-	-	-
52	110	Accum. Depr. - Plant Held for Future Use	-	-	-	-	-	-
53		Net Plant Held for Future Use (Ln. 51 + Ln. 52)	$ -	$ -	$ -	$ -	$ -	$ -
54								
55		Total Net Plant (Ln. 46 + Ln. 49 + Ln. 53)	$ 5,304,727	$ (263,853)	$ 5,040,874	$ 98,602	$ (6,844)	$ 91,758

ARIZONA WATER COMPANY
Test Year Ended December 31, 2011
Comparative Departmental Statements of Operating Income

Line No.		Total Company [A] Test Year Ended 12/31/2011	[B] Prior year Ended 12/31/2010	[C] Prior Year Ended 12/31/2009
1				
2				
3	Operating Revenues			
4	Residential	$ 39,647,936	$ 37,622,139	$ 37,093,594
5	Commercial	11,677,354	10,666,922	10,356,013
6	Industrial	1,135,801	1,334,430	1,394,964
7	Private Fire Service	265,724	122,630	52,544
8	Other Water Revenues	1,065,553	635,098	623,587
9	Total Water Revenues	$ 53,792,368	$ 50,381,220	$ 49,520,702
10				
11	Miscellaneous	2,077,226	1,807,887	1,909,136
12	Total Operating Revenues	$ 55,869,594	$ 52,189,106	$ 51,429,838
13				
14	Operating Expenses			
15	Source of Supply Expenses:			
16	Purchased Water	1,444,286	1,485,034	1,954,969
17	Other	261,633	270,708	244,831
18	Pumping Expenses:			
19	Purchased Power	5,154,269	4,900,759	4,830,738
20	Purchased Gas	3,347	2,533	3,243
21	Other	1,669,197	1,603,904	1,666,803
22	Water Treatment Expenses	2,565,628	2,546,757	2,975,074
23	Transmission & Distribution Expenses	4,579,564	4,639,179	5,129,301
24	Customer Accounting Expenses	3,951,412	3,976,236	4,199,196
25	Sales Expense	12,150	-	13,845
26	Administrative & General Expenses	6,294,969	6,217,989	5,551,684
27	Total Operations & Maintenance Expense	$ 25,936,455	$ 25,643,099	$ 26,569,684
28				
29	Depreciation & Amortization Expenses	8,913,573	8,506,196	8,473,316
30				
31	Taxes			
32	Federal Income Taxes	3,222,694	2,139,809	1,880,441
33	State Income Taxes	478,703	241,726	179,848
34	Property Taxes	2,112,526	1,933,281	1,796,896
35	Other	5,807,144	5,247,409	4,871,845
36	Total Taxes	$ 11,621,066	$ 9,562,225	$ 8,729,030
37				
38	Total Operating Expenses	$ 46,471,094	$ 43,711,520	$ 43,772,030
39	Operating Income	$ 9,398,500	$ 8,477,586	$ 7,657,808
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ARIZONA WATER COMPANY
Test Year Ended December 31, 2011
Comparative Departmental Statements of Operating Income

Line No.		Northern Group [A] Test Year Ended 12/31/2011	[B] Prior year Ended 12/31/2010	[C] Prior Year Ended 12/31/2009
3	Operating Revenues			
4	Residential	$ 8,897,832	$ 8,601,174	$ 8,497,436
5	Commercial	2,221,794	1,905,689	1,751,582
6	Industrial	3,594	23,060	15,155
7	Private Fire Service	66,835	30,924	12,741
8	Other Water Revenues	18,845	24,040	25,031
9	Total Water Revenues	$ 11,208,900	$ 10,584,887	$ 10,301,945
11	Miscellaneous	113,440	111,778	110,512
12	Total Operating Revenues	$ 11,322,340	$ 10,696,665	$ 10,412,457
14	Operating Expenses			
15	Source of Supply Expenses:			
16	Purchased Water	610	1,422	1,626
17	Other	77,884	78,030	65,289
18	Pumping Expenses:			
19	Purchased Power	898,352	902,106	866,311
20	Purchased Gas	451	-	-
21	Other	292,753	278,647	309,910
22	Water Treatment Expenses	567,248	713,621	766,300
23	Transmission & Distribution Expenses	1,047,823	1,020,031	1,194,470
24	Customer Accounting Expenses	974,482	1,003,650	1,021,372
25	Sales Expense	2,058	-	3,375
26	Administrative & General Expenses	1,402,373	1,386,610	1,218,579
27	Total Operations & Maintenance Expense	$ 5,264,034	$ 5,384,117	$ 5,447,232
29	Depreciation & Amortization Expenses	1,689,546	1,618,833	1,554,786
31	Taxes			
32	Federal Income Taxes	707,353	458,982	410,887
33	State Income Taxes	105,071	51,849	39,298
34	Property Taxes	311,379	292,211	302,459
35	Other	1,182,063	1,072,261	984,513
36	Total Taxes	$ 2,305,867	$ 1,875,303	$ 1,737,157
38	Total Operating Expenses	$ 9,259,446	$ 8,878,253	$ 8,739,175
39	Operating Income	$ 2,062,894	$ 1,818,412	$ 1,673,282

ARIZONA WATER COMPANY
Test Year Ended December 31, 2011
Comparative Departmental Statements of Operating Income

Line No.		Navajo [A] Test Year Ended 12/31/2011	Navajo [B] Prior year Ended 12/31/2010	Navajo [C] Prior Year Ended 12/31/2009	Verde Valley (Sedona, Pinewood, Rimrock) [D] Test Year Ended 12/31/2011	Verde Valley [E] Prior year Ended 12/31/2010	Verde Valley [F] Prior Year Ended 12/31/2009
1							
2							
3	Operating Revenues						
4	Residential	$ 3,355,969	$ 3,470,983	$ 3,720,102	$ 5,541,864	$ 5,130,191	$ 4,777,334
5	Commercial	485,813	501,556	506,608	1,735,981	1,404,133	1,244,974
6	Industrial	374	5,340	2,218	3,220	17,721	12,937
7	Private Fire Service	15,974	7,484	3,206	50,861	23,440	9,535
8	Other Water Revenues	13,498	16,012	10,942	5,347	8,028	14,089
9	Total Water Revenues	$ 3,871,628	$ 4,001,374	$ 4,243,076	$ 7,337,272	$ 6,583,513	$ 6,058,869
10							
11	Miscellaneous	$ 45,656	$ 45,411	$ 43,413	$ 67,784	$ 66,367	$ 67,099
12	Total Operating Revenues	$ 3,917,284	$ 4,046,785	$ 4,286,489	$ 7,405,056	$ 6,649,879	$ 6,125,968
13							
14	Operating Expenses						
15	Source of Supply Expenses:						
16	Purchased Water	610	1,422	1,359	-	-	267
17	Other	37,983	38,990	23,669	39,901	39,040	41,620
18	Pumping Expenses:						
19	Purchased Power	262,792	237,462	205,184	635,560	664,644	661,127
20	Purchased Gas	451	-	-	-	-	-
21	Other	80,858	87,867	73,561	211,895	190,780	236,349
22	Water Treatment Expenses	76,861	74,386	87,039	490,387	639,235	679,261
23	Transmission & Distribution Expenses	441,848	426,991	507,324	605,975	593,040	687,146
24	Customer Accounting Expenses	478,844	487,922	494,275	495,638	515,728	527,097
25	Sales Expense	881	-	1,247	1,177	-	2,128
26	Administrative & General Expenses	609,622	597,714	495,628	792,751	788,896	722,951
27	Total Operations & Maintenance Expense	$ 1,990,750	$ 1,952,754	$ 1,889,286	$ 3,273,284	$ 3,431,363	$ 3,557,946
28							
29	Depreciation & Amortization Expenses	643,577	620,496	616,294	1,045,969	998,337	938,492
30							
31	Taxes						
32	Federal Income Taxes	197,278	196,317	251,032	510,075	262,665	159,855
33	State Income Taxes	29,304	22,177	24,009	75,767	29,672	15,289
34	Property Taxes	135,561	137,851	153,354	175,818	154,360	149,105
35	Other	345,481	339,411	330,222	836,582	732,850	654,291
36	Total Taxes	$ 707,624	$ 695,756	$ 758,617	$ 1,598,242	$ 1,179,547	$ 978,540
37							
38	Total Operating Expenses	$ 3,341,951	$ 3,269,006	$ 3,264,197	$ 5,917,495	$ 5,609,247	$ 5,474,978
39	Operating Income	$ 575,333	$ 777,779	$ 1,022,292	$ 1,487,561	$ 1,040,632	$ 650,990
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ARIZONA WATER COMPANY
Test Year Ended December 31, 2011
Operating Statistics

Line No.		Total Company [A] Test Year Ended 12/31/2011	[B] Prior Year Ended 12/31/2010	[C] Prior Year Ended 12/31/2009
1				
2				
3	M Gallons Sold			
4	Residential	7,406,129	7,266,479	7,657,663
5	Commerical	2,689,739	2,562,387	2,675,757
6	Industrial	601,310	620,956	599,643
7	Other	225,920	128,544	128,879
8	Total M Gallons Sold	10,923,098	10,578,366	11,061,942
9				
10	Average No. Customers			
11	Residential	78,222	78,127	77,909
12	Commerical	4,909	4,691	4,643
13	Industrial	43	48	50
14	Average Customers	83,175	82,866	82,602
15				
16	Private Fire Service	824	793	771
17	Other	77	76	90
18				
19				
20	Total Average Customers	84,075	83,735	83,463
21				
22	Average Annual M Gallons Per			
23	Residential Customer	94.7	93.0	98.3
24				
25	Average Annual Revenue Per			
26	Residential Customer	$ 506.86	$ 481.55	$ 476.11
27				
28				
29	Average Cost Per M Gallons Sold			
30	Source of Supply Expense	$ 0.16	$ 0.17	$ 0.20
31	Pumping Expense	0.62	0.62	0.59
32	Water Treatment Expense	0.23	0.24	0.27
33				
34	Average Cost Per Customer			
35	Trans. & Dist. Expense	$ 54.47	$ 55.40	$ 61.46
36	Customer Acctg. Expense	47.00	47.49	50.31
37	A & G Expense	74.87	74.26	66.52
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ARIZONA WATER COMPANY
Test Year Ended December 31, 2011
Operating Statistics

Line No.		Northern Group [A] Test Year Ended 12/31/2011	[B] Prior Year Ended 12/31/2010	[C] Prior Year Ended 12/31/2009
3	M Gallons Sold			
4	Residential	1,168,503	1,175,693	1,238,718
5	Commerical	431,721	410,430	436,548
6	Industrial	79	1,094	509
7	Other	1,640	3,454	2,561
8	Total M Gallons Sold	1,601,943	1,590,671	1,678,336
10	Average No. Customers			
11	Residential	18,375	18,420	18,479
12	Commerical	1,091	1,033	1,015
13	Industrial	2	7	5
14	Average Customers	19,468	19,460	19,499
16	Private Fire Service	200	197	192
17	Other	3	4	6
20	Total Average Customers	19,671	19,661	19,697
22	Average Annual M Gallons Per			
23	Residential Customer	63.6	63.8	67.0
25	Average Annual Revenue Per			
26	Residential Customer	$ 484.24	$ 466.95	$ 459.84
29	Average Cost Per M Gallons Sold			
30	Source of Supply Expense	$ 0.05	$ 0.05	$ 0.04
31	Pumping Expense	0.74	0.74	0.70
32	Water Treatment Expense	0.35	0.45	0.46
34	Average Cost Per Customer			
35	Trans. & Dist. Expense	$ 53.27	$ 51.88	$ 60.64
36	Customer Acctg. Expense	49.54	51.05	51.85
37	A & G Expense	71.29	70.53	61.87

ARIZONA WATER COMPANY
Test Year Ended December 31, 2011
Operating Statistics

Line No.		Navajo [A] Test Year Ended 12/31/2011	Navajo [B] Prior Year Ended 12/31/2010	Navajo [C] Prior Year Ended 12/31/2009	Verde Valley (Sedona, Pinewood, Rimrock) [D] Test Year Ended 12/31/2011	Verde Valley [E] Prior Year Ended 12/31/2010	Verde Valley [F] Prior Year Ended 12/31/2009
1							
2							
3	M Gallons Sold						
4	Residential	350,267	343,239	361,988	818,236	832,454	876,730
5	Commerical	63,602	64,371	67,967	368,119	346,059	368,581
6	Industrial	45	805	259	34	289	250
7	Other	1,355	2,114	1,071	285	1,340	1,490
8	Total M Gallons Sold	415,269	410,529	431,285	1,186,674	1,180,142	1,247,051
9							
10	Average No. Customers						
11	Residential	8,717	8,711	8,758	9,658	9,709	9,721
12	Commerical	332	321	322	760	712	693
13	Industrial	1	5	3	0	2	2
14	Average Customers	9,050	9,037	9,083	10,418	10,423	10,416
15							
16	Private Fire Service	55	52	50	145	145	142
17	Other	2	2	2	1	2	4
18							
19							
20	Total Average Customers	9,107	9,091	9,135	10,564	10,570	10,562
21							
22	Average Annual M Gallons Per						
23	Residential Customer	40.2	39.4	41.3	84.7	85.7	90.2
24							
25	Average Annual Revenue Per						
26	Residential Customer	$ 384.99	$ 398.46	$ 424.77	$ 573.81	$ 528.40	$ 491.44
27							
28							
29	Average Cost Per M Gallons Sold						
30	Source of Supply Expense	$ 0.09	$ 0.10	$ 0.06	$ 0.03	$ 0.03	$ 0.03
31	Pumping Expense	0.83	0.79	0.65	0.71	0.72	0.72
32	Water Treatment Expense	0.19	0.18	0.20	0.41	0.54	0.54
33							
34	Average Cost Per Customer						
35	Trans. & Dist. Expense	$ 48.52	$ 46.97	$ 55.54	$ 57.36	$ 56.11	$ 65.06
36	Customer Acctg. Expense	52.58	53.67	54.11	46.92	48.79	49.91
37	A & G Expense	66.94	65.75	54.26	75.04	74.64	68.45
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ARIZONA WATER COMPANY
Test Year Ended December 31, 2011
Taxes Charged to Operations

Line No.		Total Company [A] Test Year Ended 12/31/2011	[B] Prior Year Ended 12/31/2010	[C] Prior Year Ended 12/31/2009
1				
2				
3	Federal Taxes:			
4	Federal Income	$ 3,222,694	$ 2,139,809	$ 1,880,441
5	FICA (Employer's)	631,999	625,298	651,353
6	Federal Unemployment	8,749	9,139	9,345
7	Total Federal Taxes	$ 3,863,443	$ 2,774,246	$ 2,541,139
8				
9	State Taxes:			
10	State Income	$ 478,703	$ 241,726	$ 179,848
11	Property	2,112,526	1,933,281	1,796,896
12	State Sales and Water Use	3,395,743	3,002,536	2,664,666
13	State Unemployment	11,880	12,338	6,776
14	Total State Taxes	$ 5,998,852	$ 5,189,881	$ 4,648,186
15				
16	Local Taxes	$ 1,758,772	$ 1,598,098	$ 1,539,705
17				
18	Total Taxes to Operations	$ 11,621,066	$ 9,562,225	$ 8,729,030
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ARIZONA WATER COMPANY
Test Year Ended December 31, 2011
Taxes Charged to Operations

Line No.		Northern Group [A] Test Year Ended 12/31/2011	[B] Prior Year Ended 12/31/2010	[C] Prior Year Ended 12/31/2009
1				
2				
3	Federal Taxes:			
4	Federal Income	$ 707,353	$ 458,982	$ 410,887
5	FICA (Employer's)	141,897	143,006	147,401
6	Federal Unemployment	2,000	2,090	2,115
7	Total Federal Taxes	$ 851,250	$ 604,078	$ 560,403
8				
9	State Taxes:			
10	State Income	$ 105,071	$ 51,849	$ 39,298
11	Property	311,379	292,211	302,459
12	State Sales and Water Use	686,674	613,685	543,344
13	State Unemployment	2,715	2,822	1,534
14	Total State Taxes	$ 1,105,839	$ 960,567	$ 886,635
15				
16	Local Taxes	$ 348,777	$ 310,658	$ 290,119
17				
18	Total Taxes to Operations	$ 2,305,867	$ 1,875,303	$ 1,737,157
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ARIZONA WATER COMPANY
Test Year Ended December 31, 2011
Taxes Charged to Operations

Line No.		Navajo [A] Test Year Ended 12/31/2011	Navajo [B] Prior Year Ended 12/31/2010	Navajo [C] Prior Year Ended 12/31/2009	Verde Valley (Sedona, Pinewood, Rimrock) [D] Test Year Ended 12/31/2011	Verde Valley [E] Prior Year Ended 12/31/2010	Verde Valley [F] Prior Year Ended 12/31/2009
1							
2							
3	Federal Taxes:						
4	Federal Income	$ 197,278	$ 196,317	$ 251,032	$ 510,075	$ 262,665	$ 159,855
5	FICA (Employer's)	62,212	61,467	60,315	79,685	81,539	87,086
6	Federal Unemployment	860	898	865	1,139	1,192	1,250
7	Total Federal Taxes	$ 260,350	$ 258,682	$ 312,212	$ 590,900	$ 345,396	$ 248,191
8							
9	State Taxes:						
10	State Income	29,304	22,177	24,009	75,767	29,672	15,289
11	Property	135,561	137,851	153,354	175,818	154,360	149,105
12	State Sales and Water Use	242,126	236,342	227,172	444,548	377,343	316,172
13	State Unemployment	1,168	1,213	628	1,547	1,609	906
14	Total State Taxes	$ 408,159	$ 397,583	$ 405,163	$ 697,680	$ 562,984	$ 481,472
15							
16	Local Taxes	$ 39,115	$ 39,491	$ 41,242	$ 309,663	$ 271,167	$ 248,877
17							
18	Total Taxes to Operations	$ 707,624	$ 695,756	$ 758,617	$ 1,598,242	$ 1,179,547	$ 978,540

Line No.

(1) Summary of Significant Accounting Policies

Arizona Water Company (the "Company") is a wholly owned subsidiary of Utility Investment Company, which is a wholly owned subsidiary of United Resources, Inc.

The Company prepares its financial statements in accordance with U.S. generally accepted accounting principles and the accounting requirements of the Arizona Corporation Commission (the Commission) as set forth in the Uniform System of Accounts prescribed by the National Association of Regulatory Utility Commissioners. The differences consist chiefly of the treatment of deferred taxes and are not material to the Company's financial position in relation to GAAP.

(a) Cash Equivalents

The Company considers all highly liquid debt instruments purchased with maturities of three months or less to be cash equivalents.

(b) Utility Plant and Depreciation

Utility plant is recorded at original cost as defined for regulatory purposes. Retired utility plant is eliminated from utility plant accounts at cost and is charged against accumulated depreciation.

Properties acquired by the Company at its inception in 1955 were recorded at original cost less depreciation substantially as shown on the predecessor company's books. Operating utility systems acquired subsequently were recorded at estimated original cost as determined by Company engineers and/or independent professional engineers. Use of the aforementioned estimated original cost basis of the properties as an element in the rate making process has been sustained by the Commission.

Differences between the estimated original cost of properties acquired and their actual acquisition costs are accounted for as acquisition adjustments and are included in or deducted from utility plant. Beginning in 1987, in accordance with a Commission order, the Company adopted a policy of amortizing acquisition adjustments over a five-year period from the date of acquisition.

Depreciation is computed on a straight-line composite basis based on property classifications ranging from 1.79% to 6.67%. For federal and state income tax purposes, depreciation is computed using accelerated methods.

(c) Deferred Debits

The Company has entered into agreements through 2108 for the long-term availability of Central Arizona Project (CAP) water. Under the agreements, the Company's obligation totaled $270 thousand and $268 thousand in 2011 and 2010, respectively, and may change during the remaining life of the agreements. In 1995, in accordance with a Commission order, the Company began accruing an allowance for funds used during construction (AFUDC) on water service capital charge payments made to CAP. AFUDC represents the cost of debt funds used to finance the CAP payments. AFUDC does not represent current cash earnings. AFUDC has been calculated using a composite rate of 6.89% for 2011 and 2010. The Company ceases to accrue AFUDC when the CAP payments are included in the cost of service by the Commission. As of December 31, 2011, the amount deferred, including AFUDC of $4.3 million, totaled $5.5 million. As of December 31, 2010, the amount deferred, including AFUDC of $3.9 million, totaled $5 million. The Company believes all such costs will be recovered.

(d) Advances for and Contributions in Aid of Construction

Customers' advances for construction are refundable generally based on 10% of revenues from the constructed property over a 10-year period. Unrefunded advances remaining at the expiration of the contracts are credited to contributions in aid of construction. Beginning in 1993 and in accordance with an order from the Commission, the Company began amortizing contributions in aid of construction over the estimated useful life of the related asset. Such amortization totaled $1.2 million for the years ended December 31, 2011 and 2010. Water utility property has been acquired generally from developers in non cash transactions of $2.6 million and $1.9 million in 2011 and 2010, respectively.

(e) Income Taxes

The Company is included in the consolidated federal income tax return of United Resources, Inc. The Company computes its federal tax expense on a separate return basis. The Company's federal income tax balance due (refundable) for the years ended December 31, 2011 and 2010 was $(1.1) million and $419 thousand, respectively. Beginning in 1983, in compliance with a Commission order, deferred federal income taxes are provided on the excess tax depreciation deduction relating to assets placed in service after 1980 and investment tax credits are amortized to income over the estimated useful lives of the related assets. Income tax adjustments arising from other items reported differently for income tax and financial reporting purposes are reflected currently in income in accordance with orders and practices of the Commission for ratemaking purposes.

(f) Revenues

Revenues include unbilled amounts based on estimated usage from the latest meter reading to the end of the accounting period.

(g) Use of Estimates

The preparation of financial statements in conformity with U.S. generally accepted accounting principles requires management to make a number of estimates and assumptions that affect the reported amount of assets and liabilities and disclosure of contingent assets and liabilities at the date of the financial statements. Such estimates and assumptions affect the reported amounts of revenues and expenses during the reporting period. On an ongoing basis, the Company evaluates its estimates and assumptions based upon historical experience and various other factors and circumstances. The Company believes that its estimates and assumptions are reasonable in the circumstances; however, actual results may differ from these estimates depending on future conditions.

(2) Long-term Debt and Other Borrowings

Under provisions of the General Mortgage Bond Indenture, as supplemented, at December 31, 2011 and 2010, retained earnings as defined in the indenture of $54.2 million and $54 million, respectively, were available for the payment of dividends on common stock (other than stock dividends) or for certain other distributions or acquisitions respecting capital stock. Substantially all of the Company's utility plant is pledged as collateral under provisions of the General Mortgage Bond Indenture. The Company's long-term debt is privately placed and there is no public market, which makes an estimate of fair value impractical. No principal payments are due on the Company's bonds before their maturity dates.

The Company has an unsecured line of credit with a commercial bank that allows for borrowings of up to $1 million and $10.4 million at December 31, 2011 and 2010, respectively. The Company may borrow at rates publicly announced by the bank from time to time at its reference rate less one quarter of a percentage point or its offshore rate plus one and one-half percentage points. The reference rate and 30-day offshore rate were 3.25% and 0.30%, respectively, at December 31, 2011 and 3.25% and 0.26%, respectively, at December 31, 2010. There were no amounts borrowed under this line as of December 31, 2011 and 2010. The line of credit expired on February 27, 2012 and has been subsequently extended allowing for borrowings of up to $1 million through February 28, 2013.

Line No.

(3) Retirement Plan

The Arizona Water Company Retirement and Savings Plan (the "Plan"), is a defined contribution plan that covers all employees of the Company. For those employees who have over one year of service with the Company, the Plan provides for Company contributions calculated as a percentage of such employees' gross wages and a match of a portion of such employees' contributions to the Plan. Total retirement expense for 2011 and 2010 was $821 thousand and $832 thousand, respectively.

(4) Income Taxes

The following is a reconciliation between the amount of income tax expense computed at federal and state statutory rates and that shown in the accompanying statements of income:

(dollars in thousands)	2011	2010
Federal and state income taxes at statutory rates	$ 3,428	$ 2,418
Increase (decrease) in taxes resulting from:		
Excess book over tax depreciation	502	406
Investment tax credit, current year amortization	(36)	(36)
Other, net	(133)	(426)
Total tax expense	$ 3,761	$ 2,362
Tax expense included in:		
Operations	$ 3,701	$ 2,382
Other income	60	(20)
Total tax expense	$ 3,761	$ 2,362

Deferred tax provisions, included in the tax expense amounts shown above, amounted to $3.9 million and $1.8 million for 2011 and 2010, respectively.

The Company's federal income tax returns are subject to examination from the year ended December 31, 2008 through the current year and the Company's Arizona income tax returns are subject to examination from the year ended December 31, 2007 through the current year.

(5) Leases

The Company has several operating leases covering certain real estate and equipment. Total rent expense associated with these leases for the years ended December 31, 2011 and 2010 was $460 thousand and $758 thousand, respectively. The Company leases certain real estate from a related party. Total rents paid to this entity were $206 thousand and $203 thousand for the years ended December 31, 2011 and 2010 respectively.

Future minimum lease payments under these operating leases with remaining lease terms in excess of one year as of December 31, 2011 are:

Year ending December 31: (dollars in thousands)	
2012	$ 496
2013	448
2014	394
2015	359
2016	232
Thereafter	345
	$ 2,274

(6) Commitments

Under the agreement with CAP, the Company is obligated to make payments to CAP for water availability of $272 thousand in 2012, $227 thousand in 2013 and $181 thousand thereafter.

(7) Litigation

The Company, along with others, is a defendant in various lawsuits brought by several Native American groups claiming certain surface and groundwater rights. In the opinion of management, the resolution of these matters will not have a material effect on the financial statements.

(8) Subsequent Events

Other than the disclosure in Note 2, no events have occurred subsequent to the balance sheet date through March 22, 2012, the date the financial statements were available to be issued, that require adjustment to, or disclosure in, the financial statements.

F

PROJECTIONS AND FORECASTS

F-1 PROJECTED INCOME STATEMENTS – PRESENT & PROPOSED

F-2 PROJECTED STATEMENTS OF CHANGES IN FINANCIAL POSITION

F-3 PROJECTED CONSTRUCTION REQUIREMENTS

F-4 ASSUMPTIONS USED IN RATE FILING

ARIZONA WATER COMPANY
Test Year Ended December 31, 2011
Projected Income Statements - Present & Proposed

Line No.		Total Company [A] Test Year Actual 12/31/2011	[B] Present Rates Year Ended 12/31/2012	[C] Adjustments	[D] Proposed Rates Year Ended 12/31/2012
1					
2	Operating Revenues	$ 55,869,594	$ 55,993,216	$ 2,829,777	$ 58,822,993
3					
4	Operating Expenses:				
5	Operation & Maintenance	25,936,455	30,136,650	-	30,136,650
6	Depreciation & Amortization	8,913,573	9,145,587	-	9,145,587
7	Taxes:				
8	Federal Income	3,222,694	1,046,857	823,614	1,870,471
9	State Income	478,703	247,886	195,024	442,910
10	Property	2,112,526	2,389,005	30,924	2,419,929
11	Other	5,807,144	5,878,406	-	5,878,406
12	Total Operating Expenses	$ 46,471,094	$ 48,844,390	$ 1,049,562	$ 49,893,952
13					
14	Operating Income	$ 9,398,500	$ 7,148,827	$ 1,780,215	$ 8,929,041
15					
16	Other Income & Deductions:				
17	Interest:				
18	Long-Term Debt	5,115,500	4,886,080	-	4,886,080
19	Short-Term Debt	3,748	-	-	-
20	Other	(372,950)	-	-	-
21	Total Interest	$ 4,746,298	$ 4,886,080	$ -	$ 4,886,080
22					
23	Other (Income) - Net	(259,254)	-	-	-
24					
25	Total Other (Income) & Deductions	$ 4,487,044	$ 4,886,080	$ -	$ 4,886,080
26					
27	Net Income	$ 4,911,456	$ 2,262,747	$ 1,780,215	$ 4,042,962
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ARIZONA WATER COMPANY
Test Year Ended December 31, 2011
Projected Income Statements - Present & Proposed

Line No.		Northern Group [A] Test Year Actual 12/31/2011	[B] Present Rates Year Ended 12/31/2012	[C] Adjustments	[D] Proposed Rates Year Ended 12/31/2012
1					
2	Operating Revenues	$ 11,322,340	$ 11,184,780	$ 2,829,777	$ 14,014,557
3					
4	Operating Expenses:				
5	Operation & Maintenance	5,264,034	6,613,497	-	6,613,497
6	Depreciation & Amortization	1,689,546	1,839,800	-	1,839,800
7	Taxes:				
8	Federal Income	707,353	(3,969)	823,614	819,645
9	State Income	105,071	(940)	195,024	194,084
10	Property	311,379	332,520	30,924	363,444
11	Other	1,182,063	1,208,279	-	1,208,279
12	Total Operating Expenses	$ 9,259,446	$ 9,989,186	$ 1,049,562	$ 11,038,748
13					
14	Operating Income	$ 2,062,894	$ 1,195,594	$ 1,780,215	$ 2,975,809
15					
16	Other Income & Deductions:				
17	Interest:				
18	Long-Term Debt	1,148,444	1,204,173	-	1,204,173
19	Short-Term Debt	841	-	-	-
20	Other	(83,728)	-	-	-
21	Total Interest	$ 1,065,557	$ 1,204,173	$ -	$ 1,204,173
22					
23	Other (Income) - Net	(56,906)	-	-	-
24					
25	Total Other (Income) & Deductions	$ 1,008,651	$ 1,204,173	$ -	$ 1,204,173
26					
27	Net Income	$ 1,054,243	$ (8,579)	$ 1,780,215	$ 1,771,636
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ARIZONA WATER COMPANY
Test Year Ended December 31, 2011
Projected Statements of Changes in Financial Position
Present and Proposed Rates

Line No.		Total Company [A] Test Year Ended 12/31/2011	[B] At Present Rates Projected Year 12/31/2012	[C] At Proposed Rates Projected Year 12/31/2012
1				
2	Cash Flows from Operating Activities:			
3	Net Income	$ 4,911,456	$ 2,262,747	$ 4,042,962
4	Adjustments to reconcile net income to net cash provided by operating activities:			
5	Depreciation & Amortization	8,916,580	9,334,791	9,334,791
6	Deferred Income Taxes	3,818,331	1,841,643	3,290,556
7	Gain on Sale of Property	(95,882)	-	-
8	Changes in Assets & Liabilities:			
9	Accounts & Notes Receivable, net	71,891	72,050	75,691
10	Materials & Supplies	2,666	2,666	2,666
11	Other Current Assets	(143,358)	(143,358)	(143,358)
12	Deferred Debits	(64,329)	(64,329)	(64,329)
13	Accounts Payable	1,122,163	1,122,163	1,122,163
14	Accrued Taxes	(1,435,962)	(661,559)	(923,731)
15	Accrued Interest	-	-	-
16	Deferred Credits	-	-	-
17	Other Current Liabilities	-	-	-
18	Other - Net	49,983	49,983	49,983
19	Net Cash provided by Operating Activities	$ 17,153,539	$ 13,816,797	$ 16,787,394
20				
21	Cash Flows from Investing Activities:			
22	Capital Expenditures - Company Funds	(9,631,483)	(10,975,000)	(10,975,000)
23	Capital Expenditures - Contributions & Advances	(1,278,946)	(1,278,946)	(1,278,946)
24	Proceeds from Sale of Property	110,351	-	-
25	Net Cash Used in Investing Activities	$ (10,800,078)	$ (12,253,946)	$ (12,253,946)
26				
27	Cash Flows from Financing Activities:			
28	Net Borrowings under Note Payable	-	-	-
29	Proceeds from Issuance of Long-Term Debt	-	-	-
30	Repayments of Long-Term Debt	-	-	-
31	Dividends on Common Stock	(4,665,600)	(4,665,600)	(4,665,600)
32	Refund of Advances in Aid of Construction	(882,172)	(884,124)	(928,806)
33	Contributions and Advances in Aid of Construction	766,348	1,278,946	1,278,946
34	Capital Contributions	-	-	-
35	Net Cash Provided by Financing Activities	$ (4,781,424)	$ (4,270,778)	$ (4,315,460)
36				
37	Net Increase (Decrease) in Cash	$ 1,572,037	$ (2,707,927)	$ 217,988
38				
39	Cash and Cash Equivalents, Beginning of Year	$ 10,327,173	$ 11,899,210	$ 11,899,210
40	Cash & Cash Equivalents, End of Year	$ 11,899,210	$ 9,191,283	$ 12,117,198
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Supporting Schedules:
E-3, F-3

Recap Schedules:
A-5

ARIZONA WATER COMPANY
Test Year Ended December 31, 2011
Projected Construction Requirements

Line No.	Property Classification	Total Company [A] Actual Test Year[1] 12/31/2011	[B] Projected[1] Thru 12/31/2012	[C] Projected[1] Thru 12/31/2013	[D] Projected[1] Thru 12/31/2014
1	Production Plant	$ 20,352	$ 275,000	$ -	$ -
2	Water Treatment Plant	4,587,842	3,180,000	3,180,000	2,435,000
3	Transmission & Distribution Plant	4,602,771	5,839,750	7,538,750	8,125,250
4	General Plant	304,278	1,680,250	1,070,650	877,900
5	Totals	$ 9,515,243	$ 10,975,000	$ 11,789,400	$ 11,438,150

[1]Company-funded

Supporting Schedules:

N:\2012_Rate_Case\Schedules\2012 AWC Rate Case Model NG 7.25.12 830am.xlsx\F3
Processing Date: 7/27/2012 10:18 AM

Recap Schedules:
F-2, A-4

ARIZONA WATER COMPANY
Test Year Ended December 31, 2011
Projected Construction Requirements

Line No.	Property Classification	Northern Group [A] Actual Test Year[1] 12/31/2011	[B] Projected[1] Thru 12/31/2012	[C] Projected[1] Thru 12/31/2013	[D] Projected[1] Thru 12/31/2014
1	Production Plant	$ 2,934	$ 50,000	$ -	$ -
2	Water Treatment Plant	1,740,705	2,560,000	800,000	660,000
3	Transmission & Distribution Plant	354,182	886,000	1,521,000	3,256,000
4	General Plant	66,126	685,184	103,936	49,614
5	Totals	$ 2,163,948	$ 4,181,184	$ 2,424,936	$ 3,965,614

[1]Company-funded

Supporting Schedules:

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Recap Schedules:
F-2, A-4

ARIZONA WATER COMPANY
Test Year Ended December 31, 2011
Projected Construction Requirements

Line No.	Property Classification	Navajo [A] Actual Test Year[1] 12/31/2011	Navajo [B] Projected[1] Thru 12/31/2012	Navajo [C] Projected[1] Thru 12/31/2013	Navajo [D] Projected[1] Thru 12/31/2014	Verde Valley (Sedona, Pinewood, Rimrock) [E] Actual Test Year[1] 12/31/2011	Verde Valley [F] Projected[1] Thru 12/31/2012	Verde Valley [G] Projected[1] Thru 12/31/2013	Verde Valley [H] Projected[1] Thru 12/31/2014
1	Production Plant	$ -	$ 50,000	$ -	$ -	$ 2,934	$ -	$ -	$ -
2	Water Treatment Plant	4,685	50,000	-	660,000	1,736,020	2,510,000	800,000	-
3	Transmission & Distribution Plant	145,657	234,000	439,000	164,000	208,525	652,000	1,082,000	3,092,000
4	General Plant	2,288	234,586	46,000	6,000	34,130	372,889	8,000	8,000
5	Totals	$ 152,631	$ 568,586	$ 485,000	$ 830,000	$ 1,981,609	$ 3,534,889	$ 1,890,000	$ 3,100,000

[1]Company-funded

Supporting Schedules:

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Processing Date: 7/27/2012 10:18 AM

Recap Schedules:
F-2, A-4

ARIZONA WATER COMPANY
Test Year Ended December 31, 2011
Projected Construction Requirements

Line No.	Property Classification	Phoenix Office - Northern Group [A] Actual Test Year[1] 12/31/2011	[B] Projected[1] Thru 12/31/2012	[C] Projected[1] Thru 12/31/2013	[D] Projected[1] Thru 12/31/2014	Meter Shop - Northern Group [E] Actual Test Year[1] 12/31/2011	[F] Projected[1] Thru 12/31/2012	[G] Projected[1] Thru 12/31/2013	[H] Projected[1] Thru 12/31/2014
1	Property Classification								
2									
3	Production Plant	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
4									
5	Water Treatment Plant	-	-	-	-	-	-	-	-
6									
7	Transmission & Distribution Plant	-	-	-	-	-	-	-	-
8									
9	General Plant	29,963	76,884	49,168	34,846	(255)	824	768	768
10									
11									
12									
13	Totals	$ 29,963	$ 76,884	$ 49,168	$ 34,846	$ (255)	$ 824	$ 768	$ 768
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55	[1]Company-funded								

ARIZONA WATER COMPANY
Test Year Ended December 31, 2011
Projected Construction Requirements

Line No.	Property Classification	Phoenix Office [A] Actual Test Year[1] 12/31/2011	[B] Projected[1] Thru 12/31/2012	[C] Projected[1] Thru 12/31/2013	[D] Projected[1] Thru 12/31/2014	Meter Shop [E] Actual Test Year[1] 12/31/2011	[F] Projected[1] Thru 12/31/2012	[G] Projected[1] Thru 12/31/2013	[H] Projected[1] Thru 12/31/2014
1									
2									
3	Production Plant	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
4									
5	Water Treatment Plant	-	-	-	-	-	-	-	-
6									
7	Transmission & Distribution Plant	-	-	-	-	-	-	-	-
8									
9	General Plant	136,505	350,271	224,000	158,750	(1,160)	3,755	3,500	3,500
10									
11									
12									
13	Totals	$ 136,505	$ 350,271	$ 224,000	$ 158,750	$ (1,160)	$ 3,755	$ 3,500	$ 3,500
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55	[1]Company-funded								

Line No.

1 Revenues & Expenses

2

3 Revenues and expenses were projected using the pro forma changes developed for the test year 2011. Actual expenses incurred during 2012 were
4 considered when developing pro forma adjustments. Where specific rate changes were known to have occurred, those changes were applied
5 to test year volumes to determine pro forma adjustments.

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7 Construction Requirements

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9 Construction forecasts are based on estimated plant requirements including new facilties and replacements of existing facilities with an emphasis on
10 improving or maintaining the infrastructure to ensure safe and reliable service.

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G

COST OF SERVICE ANALYSIS

G-1 RATES OF RETURN BY CUSTOMER CLASSIFICATION – EXISTING RATES

G-2 RATES OF RETURN BY CUSTOMER CLASSIFICATION – PROPOSED RATES

G-3 RATE BASE ALLOCATION TO CLASSES

G-4 OPERATING EXPENSES ALLOCATION TO CLASSES

G-5 DISTRIBUTION OF RATE BASE BY FUNCTION

G-6 DISTRIBUTION OF EXPENSES BY FUNCTION

G-7 DEVELOPMENT OF ALLOCATION FACTORS

ARIZONA WATER COMPANY
Test Year Ended December 31, 2011
Rate of Return by Customer Class - Present Rates

Line No.		Northern Group [A] Adjusted Total	[B] Residential	[C] Commercial	[D] Industrial	[E] Other	[F] Direct Private Fire
1							
2	Operating Revenues						
3	Water Revenues (Sch. H-1)	$ 10,020,701	$ 7,936,122	$ 2,003,262	$ 4,231	$ 17,270	$ 59,816
4	Miscellaneous Revenues[1] (Sch. H-1)	103,758	82,796	20,123	41	194	603
5	Total Operating Revenues	$ 10,124,459	$ 8,018,918	$ 2,023,385	$ 4,273	$ 17,464	$ 60,419
6							
7	Operating Expenses						
8	Operations & Maintenance Expense	6,012,270	5,021,695	981,122	1,933	7,426	93
9	Depreciation & Amortization Expense	1,839,800	1,544,972	268,073	1,037	2,947	22,771
10	Income Taxes	226,861	26,571	188,707	127	1,727	9,730
11	Property Taxes	332,520	263,554	66,268	140	578	1,980
12	Other Taxes	148,155	124,717	23,191	46	198	2
13	Total Operating Expenses	$ 8,559,605	$ 6,981,510	$ 1,527,361	$ 3,282	$ 12,877	$ 34,575
14							
15	Taxable Income	587,542	68,824	488,718	328	4,473	25,199
16							
17	Net Operating Income	$ 1,564,854	$ 1,037,408	$ 496,024	$ 991	$ 4,588	$ 25,844
18							
19	Interest Expense	1,204,173	995,154	196,012	790	1,842	10,375
20							
21							
22							
23	Rate Base	$ 36,045,843	$ 29,789,044	$ 5,867,454	$ 23,641	$ 55,139	$ 310,566
24							
25	Rate of Return (Ln. 17 ÷ Ln. 23)	4.34%	3.48%	8.45%	4.19%	8.32%	8.32%
26							
27	Required Rate of Return (Sch. A-1, Ln. 12)	9.11%	9.11%	9.11%	9.11%	9.11%	9.11%
28							
29	Required Operating Income (Ln. 23 X Ln. 27)	$ 3,283,579	$ 2,713,618	$ 534,493	$ 2,154	$ 5,023	$ 28,291
30							
31	Operating Income Deficiency (Ln. 29 - Ln. 17)	$ 1,718,725	$ 1,676,211	$ 38,469	$ 1,162	$ 435	$ 2,447
32							
33	Additional Taxes at Proposed Rates						
34	(Sch. G-4, Lns. 42 + 48 - 18 + 24)	$ 1,111,250	$ 693,661	$ 410,039	$ 729	$ 3,159	$ 3,661
35							
36	Required Increase in Gross Revenues (Ln. 31 + Ln. 34)	$ 2,829,974	$ 2,369,872	$ 448,509	$ 1,892	$ 3,594	$ 6,108
37							
38	% Required Increase in Gross Revenues (Ln. 36 ÷ Ln. 5)	27.95%	29.55%	22.17%	44.27%	20.58%	10.11%
39							
40	Gross Revenue Requirement (Ln. 5 + Ln. 36)	$ 12,954,433	$ 10,388,790	$ 2,471,893	$ 6,164	$ 21,058	$ 66,527
41							
42	Less: Miscellaneous Revenues at Proposed Rates	$ (103,758)	$ (79,499)	$ (23,441)	$ (46)	$ (230)	$ (542)
43							
44	Revenue Requirement - Metered Water Revenues	$ 12,850,675	$ 10,309,290	$ 2,448,453	$ 6,118	$ 20,828	$ 65,985
45							
46							
47							
48	% of Revenues Required from Fixed Charge	51%	53%	40%	50%	46%	100%
49	% of Revenues Required from Commodity Charge	49%	47%	60%	50%	54%	0%
50							
51							
52							
53							
54	[1]Allocated to customer classes based on						
55	percentage of total water revenues						

Supporting Schedules:
G-3, G-4, H-1

Recap Schedules:

ARIZONA WATER COMPANY
Test Year Ended December 31, 2011
Cost Distribution to Customer Classes

Line No.		Northern Group [A] Commodity	[B] Demand	[C] Customer	[D] Direct Private Fire	[E] Total Cost of Service	[F] Cost of Service Monthly Fixed 5/8"	[G] Cost of Service Commodity Per M Gal
1								
2	Unit	M Gal	equiv. meter	bill				
3	Total Units	1,611,054	23,372	234,395	n/a			
4	Cost of Service	$ 2,772,942	$ 7,157,663	$ 2,957,300	$ 66,527	$ 12,954,433		
5	Cost per Unit	$ 1.72	$ 306.24	$ 12.62	n/a			
6								
7								
8	Residential							
9	Units of Service	1,169,339	19,793	220,980	n/a			
10	Cost of Service	$ 1,952,842	$ 5,787,454	$ 2,648,493	n/a	$ 10,388,790	$ 24.17	$ 4.1447
11								
12	Commercial							
13	Units of Service	439,996	3,510	13,356	n/a			
14	Cost of Service	$ 816,115	$ 1,349,437	$ 306,341	n/a	$ 2,471,893	$ 38.96	$ 3.3883
15								
16	Industrial							
17	Units of Service	79	16	19	n/a			
18	Cost of Service	$ 372	$ 5,364	$ 429	n/a	$ 6,164	$ 36.32	$ 38.5589
19								
20	Other							
21	Units of Service	1,640	53	40	n/a			
22	Cost of Service	$ 3,613	$ 15,408	$ 2,037	n/a	$ 21,058	$ 62.96	$ 6.8998
23								
24	Direct Private Fire							
25	Cost of Service	n/a	n/a	n/a	$ 66,527	$ 66,527		
26								
27								
28	Total System Cost of Service	$ 2,772,942	$ 7,157,663	$ 2,957,300	$ 66,527	$ 12,954,433		
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Supporting Schedules:
G-3, G-4, H-1

Recap Schedules:

ARIZONA WATER COMPANY
Test Year Ended December 31, 2011
Rate of Return by Customer Class - Present Rates

Line No.		Navajo [A] Adjusted Total	[B] Residential	[C] Commercial	[D] Industrial	[E] Other	[F] Direct Private Fire
1							
2	Operating Revenues						
3	Water Revenues (Sch. H-1)	$ 3,552,561	$ 3,065,682	$ 459,129	$ 532	$ 12,449	$ 14,767
4	Miscellaneous Revenues[1] (Sch. H-1)	42,441	36,625	5,485	6	149	176
5	Total Operating Revenues	$ 3,595,002	$ 3,102,307	$ 464,614	$ 539	$ 12,598	$ 14,944
6							
7	Operating Expenses						
8	Operations & Maintenance Expense	2,246,768	2,054,159	186,746	372	5,450	41
9	Depreciation & Amortization Expense	672,841	614,270	51,566	131	1,967	4,908
10	Income Taxes	62,348	(11,041)	69,040	(23)	1,370	3,002
11	Property Taxes	119,773	103,358	15,479	18	420	498
12	Other Taxes	63,073	57,666	5,242	10	153	1
13	Total Operating Expenses	$ 3,164,804	$ 2,818,413	$ 328,074	$ 508	$ 9,359	$ 8,450
14							
15	Taxable Income	161,450	(28,589)	178,777	(59)	3,547	7,775
16							
17	Net Operating Income	$ 430,198	$ 283,894	$ 136,540	$ 31	$ 3,239	$ 6,494
18							
19	Interest Expense	331,096	301,443	26,803	67	1,062	1,721
20							
21							
22							
23	Rate Base	$ 9,911,050	$ 9,023,422	$ 802,309	$ 2,003	$ 31,789	$ 51,527
24							
25	Rate of Return (Ln. 17 ÷ Ln. 23)	4.34%	3.15%	17.02%	1.53%	10.19%	12.60%
26							
27	Required Rate of Return (Sch. A-1, Ln. 12)	9.11%	9.11%	9.11%	9.11%	9.11%	9.11%
28							
29	Required Operating Income (Ln. 23 X Ln. 27)	$ 902,842	$ 821,984	$ 73,086	$ 182	$ 2,896	$ 4,694
30							
31	Operating Income Deficiency (Ln. 29 - Ln. 17)	$ 472,645	$ 538,090	$ (63,454)	$ 152	$ (343)	$ (1,800)
32							
33	Additional Taxes at Proposed Rates						
34	(Sch. G-4, Lns. 42 + 48 - 18 + 24)	$ 305,715	$ 238,269	$ 64,124	$ 158	$ 2,568	$ 595
35							
36	Required Increase in Gross Revenues (Ln. 31 + Ln. 34)	$ 778,359	$ 776,359	$ 669	$ 310	$ 2,225	$ (1,205)
37							
38	% Required Increase in Gross Revenues (Ln. 36 ÷ Ln. 5)	21.65%	25.03%	0.14%	57.57%	17.66%	-8.06%
39							
40	Gross Revenue Requirement (Ln. 5 + Ln. 36)	$ 4,373,361	$ 3,878,666	$ 465,284	$ 849	$ 14,823	$ 13,739
41							
42	Less: Miscellaneous Revenues at Proposed Rates	$ (42,441)	$ (36,010)	$ (6,077)	$ (9)	$ (185)	$ (160)
43							
44	Revenue Requirement - Metered Water Revenues	$ 4,330,920	$ 3,842,656	$ 459,207	$ 840	$ 14,638	$ 13,579
45							
46							
47							
48	% of Revenues Required from Fixed Charge	57%	58%	46%	56%	46%	100%
49	% of Revenues Required from Commodity Charge	43%	42%	54%	44%	54%	0%
50							
51							
52							
53							
54	[1]Allocated to customer classes based on						
55	*percentage of total water revenues*						

Supporting Schedules:
G-3, G-4, H-1

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Recap Schedules:

ARIZONA WATER COMPANY
Test Year Ended December 31, 2011
Cost Distribution to Customer Classes

Line No.		Navajo [A] Commodity	[B] Demand	[C] Customer	[D] Direct Private Fire	[E] Total Cost of Service	[F] Cost of Service Monthly Fixed 5/8"	[G] Cost of Service Commodity Per M Gal
1								
2	Unit	M Gal	equiv. meter	bill				
3	Total Units	419,150	9,935	109,399	n/a			
4	Cost of Service	$ 734,272	$ 2,329,364	$ 1,295,985	$ 13,739	$ 4,373,361		
5	Cost per Unit	$ 1.75	$ 234.45	$ 11.85	n/a			
6								
7								
8	Residential							
9	Units of Service	352,517	9,069	105,276	n/a			
10	Cost of Service	$ 602,598	$ 2,071,927	$ 1,204,142	n/a	$ 3,878,666	$ 20.96	$ 4.6482
11								
12	Commercial							
13	Units of Service	65,232	825	4,080	n/a			
14	Cost of Service	$ 128,677	$ 246,636	$ 89,971	n/a	$ 465,284	$ 34.50	$ 3.8630
15								
16	Industrial							
17	Units of Service	45	2	14	n/a			
18	Cost of Service	$ 98	$ 556	$ 195	n/a	$ 849	$ 24.03	$ 8.2779
19								
20	Other							
21	Units of Service	1,355	39	29	n/a			
22	Cost of Service	$ 2,900	$ 10,245	$ 1,678	n/a	$ 14,823	$ 68.90	$ 5.9191
23								
24	Direct Private Fire							
25	Cost of Service	n/a	n/a	n/a	$ 13,739	$ 13,739		
26								
27								
28	Total System Cost of Service	$ 734,272	$ 2,329,364	$ 1,295,985	$ 13,739	$ 4,373,361		
29								
30								
31								
32								
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34								
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Supporting Schedules:
G-3, G-4, H-1

Recap Schedules:

ARIZONA WATER COMPANY
Test Year Ended December 31, 2011
Rate of Return by Customer Class - Present Rates

Line No.		Verde Valley (Sedona, Pinewood, Rimrock) [A] Adjusted Total	[B] Residential	[C] Commercial	[D] Industrial	[E] Other	[F] Direct Private Fire
1							
2	Operating Revenues						
3	Water Revenues (Sch. H-1)	$ 6,468,140	$ 4,870,440	$ 1,544,132	$ 3,699	$ 4,820	$ 45,049
4	Miscellaneous Revenues[1] (Sch. H-1)	61,317	46,171	14,638	35	46	427
5	Total Operating Revenues	$ 6,529,457	$ 4,916,611	$ 1,558,770	$ 3,734	$ 4,866	$ 45,476
6							
7	Operating Expenses						
8	Operations & Maintenance Expense	3,765,502	2,967,536	794,376	1,562	1,976	53
9	Depreciation & Amortization Expense	1,166,958	930,703	216,507	906	980	17,863
10	Income Taxes	164,512	37,611	119,667	149	358	6,727
11	Property Taxes	212,747	160,196	50,789	122	159	1,482
12	Other Taxes	85,082	67,052	17,949	35	45	1
13	Total Operating Expenses	$ 5,394,801	$ 4,163,097	$ 1,199,287	$ 2,774	$ 3,517	$ 26,125
14							
15	Taxable Income	426,092	97,414	309,941	387	926	17,424
16							
17	Net Operating Income	$ 1,134,656	$ 753,514	$ 359,483	$ 960	$ 1,349	$ 19,350
18							
19	Interest Expense	873,077	693,711	169,210	723	780	8,654
20							
21							
22							
23	Rate Base	$ 26,134,793	$ 20,765,621	$ 5,065,144	$ 21,638	$ 23,350	$ 259,039
24							
25	Rate of Return (Ln. 17 ÷ Ln. 23)	4.34%	3.63%	7.10%	4.44%	5.78%	7.47%
26							
27	Required Rate of Return (Sch. A-1, Ln. 12)	9.11%	9.11%	9.11%	9.11%	9.11%	9.11%
28							
29	Required Operating Income (Ln. 23 X Ln. 27)	$ 2,380,736	$ 1,891,634	$ 461,407	$ 1,971	$ 2,127	$ 23,597
30							
31	Operating Income Deficiency (Ln. 29 - Ln. 17)	$ 1,246,080	$ 1,138,121	$ 101,923	$ 1,011	$ 778	$ 4,247
32							
33	Additional Taxes at Proposed Rates						
34	(Sch. G-4, Lns. 42 + 48 - 18 + 24)	$ 805,535	$ 455,392	$ 345,916	$ 571	$ 590	$ 3,066
35							
36	Required Increase in Gross Revenues (Ln. 31 + Ln. 34)	$ 2,051,615	$ 1,593,513	$ 447,839	$ 1,582	$ 1,369	$ 7,313
37							
38	% Required Increase in Gross Revenues (Ln. 36 ÷ Ln. 5)	31.42%	32.41%	28.73%	42.35%	28.13%	16.08%
39							
40	Gross Revenue Requirement (Ln. 5 + Ln. 36)	$ 8,581,072	$ 6,510,123	$ 2,006,610	$ 5,316	$ 6,235	$ 52,788
41							
42	Less: Miscellaneous Revenues at Proposed Rates	$ (61,317)	$ (43,489)	$ (17,364)	$ (37)	$ (46)	$ (382)
43							
44	Revenue Requirement - Metered Water Revenues	$ 8,519,755	$ 6,466,634	$ 1,989,246	$ 5,279	$ 6,189	$ 52,406
45							
46							
47							
48	% of Revenues Required from Fixed Charge	48%	51%	38%	50%	47%	100%
49	% of Revenues Required from Commodity Charge	52%	49%	62%	50%	53%	0%
50							
51							
52							
53							
54	[1]Allocated to customer classes based on						
55	percentage of total water revenues						

Supporting Schedules:
G-3, G-4, H-1

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Recap Schedules:

Line No.		Verde Valley (Sedona, Pinewood, Rimrock) [A] Commodity	[B] Demand	[C] Customer	[D] Direct Private Fire	[E] Total Cost of Service	[F] Cost of Service Monthly Fixed 5/8"	[G] Cost of Service Commodity Per M Gal
1								
2	Unit	M Gal	equiv. meter	bill				
3	Total Units	1,191,904	13,437	124,996	n/a			
4	Cost of Service	$ 2,038,670	$ 4,828,299	$ 1,661,315	$ 52,788	$ 8,581,072		
5	Cost per Unit	$ 1.71	$ 359.32	$ 13.29	n/a			
6								
7								
8	Residential							
9	Units of Service	816,822	10,724	115,704	n/a			
10	Cost of Service	$ 1,350,244	$ 3,715,527	$ 1,444,352	n/a	$ 6,510,123	$ 26.92	$ 3.9274
11								
12	Commercial							
13	Units of Service	374,763	2,684	9,276	n/a			
14	Cost of Service	$ 687,438	$ 1,102,801	$ 216,370	n/a	$ 2,006,610	$ 40.44	$ 3.3057
15								
16	Industrial							
17	Units of Service	34	14	5	n/a			
18	Cost of Service	$ 274	$ 4,807	$ 234	n/a	$ 5,316	$ 61.15	$ 79.2322
19								
20	Other							
21	Units of Service	285	15	11	n/a			
22	Cost of Service	$ 713	$ 5,163	$ 359	n/a	$ 6,235	$ 47.32	$ 11.5667
23								
24	Direct Private Fire							
25	Cost of Service	n/a	n/a	n/a	$ 52,788	$ 52,788		
26								
27								
28	Total System Cost of Service	$ 2,038,670	$ 4,828,299	$ 1,661,315	$ 52,788	$ 8,581,072		
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ARIZONA WATER COMPANY
Test Year Ended December 31, 2011
Cost of Service Summary - Proposed Rates

Line No.		Northern Group [A] Adjusted Total	[B] Residential	[C] Commercial	[D] Industrial	[E] Other	[F] Direct Private Fire
1							
2	Operating Revenues						
3	Water Revenues (Sch. H-1)	$ 12,850,675	$ 9,717,291	$ 3,032,722	$ 6,069	$ 25,172	$ 69,420
4	Miscellaneous Revenues[1] (Sch. H-1)	103,758	79,499	23,441	46	230	542
5	Total Operating Revenues	$ 12,954,433	$ 9,796,791	$ 3,056,163	$ 6,115	$ 25,403	$ 69,962
6							
7	Operating Expenses						
8	Operations & Maintenance Expense	6,012,270	5,021,695	981,122	1,933	7,426	93
9	Depreciation & Amortization Expense	1,839,800	1,544,972	268,073	1,037	2,947	22,771
10	Income Taxes	1,307,187	708,136	580,073	826	4,731	13,422
11	Property Taxes	363,444	275,650	84,942	169	733	1,949
12	Other Taxes	148,155	124,717	23,191	46	198	2
13	Total Operating Expenses	$ 9,670,855	$ 7,675,171	$ 1,937,401	$ 4,011	$ 16,035	$ 38,237
14							
15	Taxable Income	3,386,593	1,834,601	1,502,822	2,140	12,256	34,772
16							
17	Net Operating Income	$ 3,283,579	$ 2,121,620	$ 1,118,762	$ 2,104	$ 9,367	$ 31,726
18							
19	Interest Expense	1,204,173	995,154	196,012	790	1,842	10,375
20							
21							
22	Rate Base	$ 36,045,843	$ 29,789,044	$ 5,867,454	$ 23,641	$ 55,139	$ 310,566
23							
24	Rate of Return[2] (Ln. 17 ÷ Ln. 22)	9.11%	7.12%	19.07%	8.90%	16.99%	10.22%
25							
26	Increase in Gross Revenues	$ 2,829,974	$ 1,777,873	$ 1,032,778	$ 1,842	$ 7,938	$ 9,543
27							
28	% Increase in Gross Revenues	28.0%	22.2%	51.0%	43.1%	45.5%	15.8%
29							
30							
31	% of Revenues Generated from Fixed Charge	51%	54%	40%	94%	67%	100%
32	% of Revenues Generated from Commodity Charge	49%	46%	60%	6%	33%	0%
33							
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47							
48							
49							
50							
51							
52	[1]Allocated to customer classes based on						
53	percentage of total water revenues						
54	[2]Rate of return at proposed rates includes						
55	the effects of proposed rate consolidation						

Supporting Schedules:
H-1, G-3, G-4

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Recap Schedules:

ARIZONA WATER COMPANY
Test Year Ended December 31, 2011
Cost of Service Summary - Proposed Rates

Line No.		Navajo [A] Adjusted Total	[B] Residential	[C] Commercial	[D] Industrial	[E] Other	[F] Direct Private Fire
1							
2	Operating Revenues						
3	Water Revenues (Sch. H-1)	$ 4,330,920	$ 3,674,671	$ 620,127	$ 925	$ 18,847	$ 16,350
4	Miscellaneous Revenues[1] (Sch. H-1)	42,441	36,010	6,077	9	185	160
5	Total Operating Revenues	$ 4,373,361	$ 3,710,681	$ 626,204	$ 934	$ 19,032	$ 16,510
6							
7	Operating Expenses						
8	Operations & Maintenance Expense	2,246,768	2,054,159	186,746	372	5,450	41
9	Depreciation & Amortization Expense	672,841	614,270	51,566	131	1,967	4,908
10	Income Taxes	359,420	221,629	130,255	126	3,799	3,611
11	Property Taxes	128,416	108,958	18,387	27	559	485
12	Other Taxes	63,073	57,666	5,242	10	153	1
13	Total Operating Expenses	$ 3,470,519	$ 3,056,682	$ 392,198	$ 666	$ 11,927	$ 9,045
14							
15	Taxable Income	931,167	574,186	337,459	326	9,841	9,354
16							
17	Net Operating Income	$ 902,842	$ 653,999	$ 234,006	$ 267	$ 7,105	$ 7,465
18							
19	Interest Expense	331,096	301,443	26,803	67	1,062	1,721
20							
21							
22	Rate Base	$ 9,911,050	$ 9,023,422	$ 802,309	$ 2,003	$ 31,789	$ 51,527
23							
24	Rate of Return[2] (Ln. 17 ÷ Ln. 22)	9.11%	7.25%	29.17%	13.35%	22.35%	14.49%
25							
26	Increase in Gross Revenues	$ 778,359	$ 608,374	$ 161,589	$ 395	$ 6,434	$ 1,566
27							
28	% Increase in Gross Revenues	21.7%	19.6%	34.8%	73.3%	51.1%	10.5%
29							
30							
31	% of Revenues Generated from Fixed Charge	53%	54%	41%	75%	62%	100%
32	% of Revenues Generated from Commodity Charge	47%	46%	59%	25%	38%	0%
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49							
50							
51							
52	[1]Allocated to customer classes based on						
53	percentage of total water revenues						
54	[2]Rate of return at proposed rates includes						
55	the effects of proposed rate consolidation						

Supporting Schedules:
H-1, G-3, G-4

Recap Schedules:

ARIZONA WATER COMPANY
Test Year Ended December 31, 2011
Cost of Service Summary - Proposed Rates

Line No.		Verde Valley (Sedona, Pinewood, Rimrock) [A] Adjusted Total	[B] Residential	[C] Commercial	[D] Industrial	[E] Other	[F] Direct Private Fire
1							
2	Operating Revenues						
3	*Water Revenues (Sch. H-1)*	$ 8,519,755	$ 6,042,621	$ 2,412,595	$ 5,144	$ 6,325	$ 53,070
4	Miscellaneous Revenues[1] (Sch. H-1)	61,317	43,489	17,364	37	46	382
5	Total Operating Revenues	$ 8,581,072	$ 6,086,110	$ 2,429,959	$ 5,181	$ 6,371	$ 53,452
6							
7	Operating Expenses						
8	Operations & Maintenance Expense	3,765,502	2,967,536	794,376	1,562	1,976	53
9	Depreciation & Amortization Expense	1,166,958	930,703	216,507	906	980	17,863
10	Income Taxes	947,767	486,506	449,817	700	932	9,811
11	Property Taxes	235,027	166,693	66,554	142	174	1,464
12	Other Taxes	85,082	67,052	17,949	35	45	1
13	Total Operating Expenses	$ 6,200,336	$ 4,618,489	$ 1,545,203	$ 3,345	$ 4,108	$ 29,191
14							
15	Taxable Income	2,455,426	1,260,416	1,165,363	1,814	2,415	25,418
16							
17	Net Operating Income	$ 2,380,736	$ 1,467,620	$ 884,756	$ 1,837	$ 2,263	$ 24,261
18							
19	Interest Expense	873,077	693,711	169,210	723	780	8,654
20							
21							
22	Rate Base	$ 26,134,793	$ 20,765,621	$ 5,065,144	$ 21,638	$ 23,350	$ 259,039
23							
24	Rate of Return[2] (Ln. 17 ÷ Ln. 22)	9.11%	7.07%	17.47%	8.49%	9.69%	9.37%
25							
26	*Increase in Gross Revenues*	$ 2,051,615	$ 1,169,499	$ 871,188	$ 1,447	$ 1,504	$ 7,976
27							
28	% Increase in Gross Revenues	31.4%	23.8%	55.9%	38.8%	30.9%	17.5%
29							
30							
31	% of Revenues Generated from Fixed Charge	50%	54%	40%	98%	84%	100%
32	% of Revenues Generated from Commodity Charge	50%	46%	60%	2%	16%	0%
33							
34							
35							
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49							
50							
51							
52	[1]Allocated to customer classes based on						
53	percentage of total water revenues						
54	[2]Rate of return at proposed rates includes						
55	the effects of proposed rate consolidation						

Supporting Schedules:
H-1, G-3, G-4

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Recap Schedules:

ARIZONA WATER COMPANY
Test Year Ended December 31, 2011
Allocation of Rate Base to Classes of Service

Line No.		Northern Group [A] Adjusted Total	[B] Residential	[C] Commercial	[D] Industrial	[E] Other	[F] Direct Private Fire
1	Rate Base						
2							
3	Net Utility Plant in Service						
4	Commodity	$ 4,912,543	$ 3,606,591	$ 1,299,901	$ 263	$ 5,789	$ -
5	Demand	44,212,885	36,876,814	7,214,253	34,719	87,100	-
6	Customer	11,167,263	10,518,342	646,181	882	1,858	-
7	Direct Private Fire	717,846	-	-	-	-	717,846
8	Subtotal Net Utility Plant in Service	$ 61,010,537	$ 51,001,746	$ 9,160,334	$ 35,863	$ 94,747	$ 717,846
9							
10	Deductions						
11	Commodity	1,884,040	1,408,839	472,373	114	2,714	-
12	Demand	16,956,358	14,312,920	2,593,765	12,117	37,556	-
13	Customer	6,790,329	6,409,804	378,757	570	1,198	-
14	Direct Private Fire	420,264	-	-	-	-	420,264
15	Subtotal Deductions	$ 26,050,991	$ 22,131,563	$ 3,444,895	$ 12,801	$ 41,468	$ 420,264
16							
17	Additions						
18	Commodity	85,791	64,083	21,581	5	122	-
19	Demand	772,117	651,287	118,577	555	1,699	-
20	Customer	215,406	203,491	11,858	18	39	-
21	Direct Private Fire	12,984	-	-	-	-	12,984
22	Subtotal Additions	$ 1,086,298	$ 918,861	$ 152,015	$ 579	$ 1,860	$ 12,984
23							
24	Total Rate Base	$ 36,045,843	$ 29,789,044	$ 5,867,454	$ 23,641	$ 55,139	$ 310,566
25							
26							
27							
28	Total Commodity	$ 3,114,294	$ 2,261,834	$ 849,108	$ 154	$ 3,198	$ -
29	Total Demand	28,028,644	23,215,180	4,739,064	23,157	51,242	-
30	Total Customer	4,592,340	4,312,029	279,282	330	699	-
31	Total Direct Private Fire	310,566	-	-	-	-	310,566
32	Total Rate Base	$ 36,045,843	$ 29,789,044	$ 5,867,454	$ 23,641	$ 55,139	$ 310,566
33							
34							
35	Required Rate of Return	9.11%	9.11%	9.11%	9.11%	9.11%	9.11%
36							
37	Required Operating Income						
38	Commodity	$ 283,695	$ 206,041	$ 77,349	$ 14	$ 291	$ -
39	Demand	2,553,256	2,114,776	431,703	2,109	4,668	-
40	Customer	418,337	392,802	25,441	30	64	-
41	Direct Private Fire	28,291	-	-	-	-	28,291
42	Total Required Operating Income	$ 3,283,579	$ 2,713,618	$ 534,493	$ 2,154	$ 5,023	$ 28,291
43							
44	Weighted Cost of Debt	3.34%	3.34%	3.34%	3.34%	3.34%	3.34%
45							
46	Interest Expense						
47	Commodity	$ 104,038	$ 75,560	$ 28,366	$ 5	$ 107	$ -
48	Demand	936,345	775,543	158,317	774	1,712	-
49	Customer	153,415	144,051	9,330	11	23	-
50	Direct Private Fire	10,375	-	-	-	-	10,375
51	Total Interest Expense	$ 1,204,173	$ 995,154	$ 196,012	$ 790	$ 1,842	$ 10,375
52							
53							
54							
55							

ARIZONA WATER COMPANY
Test Year Ended December 31, 2011
Allocation of Rate Base to Classes of Service

Line No.		Navajo [A] Adjusted Total	[B] Residential	[C] Commercial	[D] Industrial	[E] Other	[F] Direct Private Fire
1	Rate Base						
2							
3	Net Utility Plant in Service						
4	Commodity	$ 1,541,126	$ 1,296,130	$ 239,845	$ 167	$ 4,984	$ -
5	Demand	13,870,131	12,660,549	1,152,402	3,199	53,981	-
6	Customer	4,944,947	4,758,583	184,420	633	1,311	-
7	Direct Private Fire	148,164	-	-	-	-	148,164
8	Subtotal Net Utility Plant in Service	$ 20,504,367	$ 18,715,262	$ 1,576,667	$ 3,999	$ 60,275	$ 148,164
9							
10	Deductions						
11	Commodity	755,787	635,638	117,623	82	2,444	-
12	Demand	6,802,080	6,208,886	565,152	1,569	26,473	-
13	Customer	3,390,327	3,262,553	126,441	434	899	-
14	Direct Private Fire	99,955	-	-	-	-	99,955
15	Subtotal Deductions	$ 11,048,148	$ 10,107,077	$ 809,216	$ 2,085	$ 29,816	$ 99,955
16							
17	Additions						
18	Commodity	33,970	28,569	5,287	4	110	-
19	Demand	305,726	279,064	25,401	71	1,190	-
20	Customer	111,819	107,604	4,170	14	30	-
21	Direct Private Fire	3,318	-	-	-	-	3,318
22	Subtotal Additions	$ 454,831	$ 415,238	$ 34,858	$ 89	$ 1,329	$ 3,318
23							
24	Total Rate Base	$ 9,911,050	$ 9,023,422	$ 802,309	$ 2,003	$ 31,789	$ 51,527
25							
26							
27							
28	Total Commodity	$ 819,308	$ 689,061	$ 127,509	$ 89	$ 2,649	$ -
29	Total Demand	7,373,776	6,730,727	612,651	1,701	28,698	-
30	Total Customer	1,666,439	1,603,634	62,149	213	442	-
31	Total Direct Private Fire	51,527	-	-	-	-	51,527
32	Total Rate Base	$ 9,911,050	$ 9,023,422	$ 802,309	$ 2,003	$ 31,789	$ 51,527
33							
34							
35	Required Rate of Return	9.11%	9.11%	9.11%	9.11%	9.11%	9.11%
36							
37	Required Operating Income						
38	Commodity	$ 74,635	$ 62,770	$ 11,615	$ 8	$ 241	$ -
39	Demand	671,711	613,132	55,809	155	2,614	-
40	Customer	151,803	146,082	5,661	19	40	-
41	Direct Private Fire	4,694	-	-	-	-	4,694
42	Total Required Operating Income	$ 902,842	$ 821,984	$ 73,086	$ 182	$ 2,896	$ 4,694
43							
44	Weighted Cost of Debt	3.34%	3.34%	3.34%	3.34%	3.34%	3.34%
45							
46	Interest Expense						
47	Commodity	$ 27,370	$ 23,019	$ 4,260	$ 3	$ 89	$ -
48	Demand	246,334	224,851	20,467	57	959	-
49	Customer	55,670	53,572	2,076	7	15	-
50	Direct Private Fire	1,721	-	-	-	-	1,721
51	Total Interest Expense	$ 331,096	$ 301,443	$ 26,803	$ 67	$ 1,062	$ 1,721
52							
53							
54							
55							

ARIZONA WATER COMPANY
Test Year Ended December 31, 2011
Allocation of Rate Base to Classes of Service

Line No.		Verde Valley (Sedona, Pinewood, Rimrock) [A] Adjusted Total	[B] Residential	[C] Commercial	[D] Industrial	[E] Other	[F] Direct Private Fire
1	Rate Base						
2							
3	Net Utility Plant in Service						
4	Commodity	$ 3,371,417	$ 2,310,461	$ 1,060,055	$ 96	$ 806	$ -
5	Demand	30,342,755	24,216,265	6,061,851	31,519	33,119	-
6	Customer	6,222,316	5,759,759	461,760	249	548	-
7	Direct Private Fire	569,682	-	-	-	-	569,682
8	Subtotal Net Utility Plant in Service	$ 40,506,170	$ 32,286,484	$ 7,583,667	$ 31,864	$ 34,472	$ 569,682
9							
10	Deductions						
11	Commodity	1,128,253	773,201	354,750	32	270	-
12	Demand	10,154,279	8,104,034	2,028,614	10,548	11,083	-
13	Customer	3,400,002	3,147,251	252,315	136	299	-
14	Direct Private Fire	320,309	-	-	-	-	320,309
15	Subtotal Deductions	$ 15,002,843	$ 12,024,486	$ 2,635,679	$ 10,716	$ 11,652	$ 320,309
16							
17	Additions						
18	Commodity	51,821	35,514	16,294	1	12	-
19	Demand	466,391	372,223	93,175	484	509	-
20	Customer	103,588	95,887	7,687	4	9	-
21	Direct Private Fire	9,666	-	-	-	-	9,666
22	Subtotal Additions	$ 631,466	$ 503,623	$ 117,156	$ 490	$ 531	$ 9,666
23							
24	Total Rate Base	$ 26,134,793	$ 20,765,621	$ 5,065,144	$ 21,638	$ 23,350	$ 259,039
25							
26							
27							
28	Total Commodity	$ 2,294,985	$ 1,572,773	$ 721,599	$ 65	$ 548	$ -
29	Total Demand	20,654,867	16,484,454	4,126,413	21,456	22,545	-
30	Total Customer	2,925,901	2,708,395	217,132	117	257	-
31	Total Direct Private Fire	259,039	-	-	-	-	259,039
32	Total Rate Base	$ 26,134,793	$ 20,765,621	$ 5,065,144	$ 21,638	$ 23,350	$ 259,039
33							
34							
35	Required Rate of Return	9.11%	9.11%	9.11%	9.11%	9.11%	9.11%
36							
37	Required Operating Income						
38	Commodity	$ 209,061	$ 143,271	$ 65,734	$ 6	$ 50	$ -
39	Demand	1,881,545	1,501,643	375,894	1,955	2,054	-
40	Customer	266,534	246,720	19,780	11	23	-
41	Direct Private Fire	23,597	-	-	-	-	23,597
42	Total Required Operating Income	$ 2,380,736	$ 1,891,634	$ 461,407	$ 1,971	$ 2,127	$ 23,597
43							
44	Weighted Cost of Debt	3.34%	3.34%	3.34%	3.34%	3.34%	3.34%
45							
46	Interest Expense						
47	Commodity	$ 76,668	$ 52,541	$ 24,106	$ 2	$ 18	$ -
48	Demand	690,011	550,691	137,850	717	753	-
49	Customer	97,745	90,479	7,254	4	9	-
50	Direct Private Fire	8,654	-	-	-	-	8,654
51	Total Interest Expense	$ 873,077	$ 693,711	$ 169,210	$ 723	$ 780	$ 8,654
52							
53							
54							
55							

ARIZONA WATER COMPANY
Test Year Ended December 31, 2011
Allocation of Operating Expenses to Classes of Service - Summary

		Northern Group					
		[A]	[B]	[C]	[D]	[E]	[F]
Line No.	Operating Expenses at Present Rates	Adjusted Total	Residential	Commercial	Industrial	Other	Direct Private Fire
1	Operations & Maintenance Expense						
2	Commodity	$ 1,911,978	$ 1,390,530	$ 519,353	$ 95	$ 2,000	$ -
3	Demand	2,345,759	1,977,291	361,644	1,696	5,128	-
4	Customer	1,754,439	1,653,874	100,125	142	299	-
5	Direct Private Fire	93	-	-	-	-	93
6	Total Operations & Maintenance	$ 6,012,270	$ 5,021,695	$ 981,122	$ 1,933	$ 7,426	$ 93
7	Depreciation & Amortization Expenses						
8	Commodity	$ 146,018	$ 107,893	$ 37,932	$ 8	$ 185	$ -
9	Demand	1,314,164	1,100,698	209,766	1,000	2,701	-
10	Customer	356,847	336,382	20,375	29	61	-
11	Direct Private Fire	22,771	-	-	-	-	22,771
12	Total Depreciation & Amortization	$ 1,839,800	$ 1,544,972	$ 268,073	$ 1,037	$ 2,947	$ 22,771
13	Income Taxes at Present Rates						
14	Commodity	$ 59,432	$ 7,273	$ 51,652	$ 35	$ 473	$ -
15	Demand	101,425	12,411	88,148	59	807	-
16	Customer	56,274	6,886	48,907	33	448	-
17	Direct Private Fire	9,730	-	-	-	-	9,730
18	Total Income Taxes at Present Rates	$ 226,861	$ 26,571	$ 188,707	$ 127	$ 1,727	$ 9,730
19	Property Taxes						
20	Commodity	$ 28,649	$ 22,843	$ 5,744	$ 12	$ 50	$ -
21	Demand	257,843	205,589	51,693	109	451	-
22	Customer	44,048	35,122	8,831	19	77	-
23	Direct Private Fire	1,980	-	-	-	-	1,980
24	Total Property Taxes	$ 332,520	$ 263,554	$ 66,268	$ 140	$ 578	$ 1,980
25	Other Taxes						
26	Commodity	$ 46,024	$ 33,793	$ 12,174	$ 2	$ 54	$ -
27	Demand	58,025	49,261	8,589	39	135	-
28	Customer	44,104	41,663	2,429	4	8	-
29	Direct Private Fire	2	-	-	-	-	2
30	Total Other Taxes	$ 148,155	$ 124,717	$ 23,191	$ 46	$ 198	$ 2
31	Total Commodity at Present Rates	$ 2,192,101	$ 1,562,332	$ 626,854	$ 153	$ 2,762	$ -
32	Total Demand at Present Rates	4,077,216	3,345,251	719,840	2,903	9,222	-
33	Total Customer at Present Rates	2,255,713	2,073,928	180,667	226	892	-
34	Total Direct Private Fire at Present Rates	34,575	-	-	-	-	34,575
35	Total Operating Expenses at Present Rates	$ 8,559,605	$ 6,981,510	$ 1,527,361	$ 3,282	$ 12,877	$ 34,575
36							
37	Income Taxes at Proposed Rates						
38	Commodity	$ 353,881	$ 190,747	$ 161,877	$ 237	$ 1,020	$ -
39	Demand	604,344	330,881	270,858	386	2,219	-
40	Customer	335,540	186,507	147,338	204	1,492	-
41	Direct Private Fire	13,422	-	-	-	-	13,422
42	Total Income Taxes at Proposed Rates	$ 1,307,187	$ 708,136	$ 580,073	$ 826	$ 4,731	$ 13,422
43	Property Taxes at Proposed Rates						
44	Commodity	$ 31,346	$ 23,839	$ 7,431	$ 15	$ 62	$ -
45	Demand	282,116	214,547	66,877	134	557	-
46	Customer	48,033	37,265	10,633	21	114	-
47	Direct Private Fire	1,949	-	-	-	-	1,949
48	Total Property Taxes at Proposed Rates	$ 363,444	$ 275,650	$ 84,942	$ 169	$ 733	$ 1,949
49							
50	Total Commodity at Proposed Rates	$ 2,489,247	$ 1,746,801	$ 738,766	$ 358	$ 3,322	$ -
51	Total Demand at Proposed Rates	4,604,408	3,672,679	917,735	3,254	10,740	-
52	Total Customer at Proposed Rates	2,538,963	2,255,691	280,900	399	1,973	-
53	Total Direct Private Fire at Proposed Rates	38,237	-	-	-	-	38,237
54	Total Operating Expenses at Proposed Rates	$ 9,670,855	$ 7,675,171	$ 1,937,401	$ 4,011	$ 16,035	$ 38,237
55							

Line No.	Operating Expenses	Northern Group [A] Adjusted Total	[B] Residential	[C] Commercial	[D] Industrial	[E] Other	[F] Direct Private Fire
1	Operations & Maintenance Expense						
2	Source of Supply Expenses						
3	Commodity	$ 8,939	$ 6,817	$ 2,106	$ 1	$ 15	$ -
4	Demand	75,571	64,331	11,009	50	181	-
5	Customer	-	-	-	-	-	-
6	Direct Private Fire	-	-	-	-	-	-
7	Subtotal Source of Supply Expenses	$ 84,510	$ 71,148	$ 13,115	$ 51	$ 196	$ -
8	Pumping Expenses						
9	Commodity	841,582	615,107	225,492	44	939	-
10	Demand	383,815	319,090	63,685	309	731	-
11	Customer	-	-	-	-	-	-
12	Direct Private Fire	-	-	-	-	-	-
13	Subtotal Pumping Expenses	$ 1,225,397	$ 934,198	$ 289,178	$ 352	$ 1,670	$ -
14	Water Treatment Expenses						
15	Commodity	602,102	422,937	178,800	22	342	-
16	Demand	66,900	54,236	12,507	64	94	-
17	Customer	-	-	-	-	-	-
18	Direct Private Fire	-	-	-	-	-	-
19	Subtotal Water Treatment Expenses	$ 669,002	$ 477,174	$ 191,307	$ 86	$ 436	$ -
20	Transmission & Distribution Expenses						
21	Commodity	127,902	95,912	31,792	8	189	-
22	Demand	1,151,115	973,452	174,260	810	2,593	-
23	Customer	-	-	-	-	-	-
24	Direct Private Fire	-	-	-	-	-	-
25	Subtotal Trans. & Dist. Expenses	$ 1,279,017	$ 1,069,364	$ 206,052	$ 818	$ 2,783	$ -
26	Customer Accounting Expenses						
27	Commodity	-	-	-	-	-	-
28	Demand	-	-	-	-	-	-
29	Customer	1,069,078	1,008,680	60,124	89	186	-
30	Direct Private Fire	-	-	-	-	-	-
31	Subtotal Customer Accounting Exp.	$ 1,069,078	$ 1,008,680	$ 60,124	$ 89	$ 186	$ -
32	Sales Expenses						
33	Commodity	-	-	-	-	-	-
34	Demand	-	-	-	-	-	-
35	Customer	2,058	1,937	120	0	0	-
36	Direct Private Fire	-	-	-	-	-	-
37	Subtotal Sales Expenses	$ 2,058	$ 1,937	$ 120	$ 0	$ 0	$ -
38	Administrative & General Expenses						
39	Commodity	331,453	249,757	81,161	21	514	-
40	Demand	668,358	566,181	100,184	463	1,530	-
41	Customer	683,303	643,257	39,881	53	112	-
42	Direct Private Fire	93	-	-	-	-	93
43	Subtotal A&G Expenses	$ 1,683,208	$ 1,459,195	$ 221,226	$ 538	$ 2,156	$ 93
44	Depreciation & Amortization Expenses						
45	Commodity	146,018	107,893	37,932	8	185	-
46	Demand	1,314,164	1,100,698	209,766	1,000	2,701	-
47	Customer	356,847	336,382	20,375	29	61	-
48	Direct Private Fire	22,771	-	-	-	-	22,771
49	Subtotal Depreciation & Amortization	$ 1,839,800	$ 1,544,972	$ 268,073	$ 1,037	$ 2,947	$ 22,771
50	Other Taxes						
51	Commodity	47,115	33,793	12,174	2	54	-
52	Demand	57,804	49,261	8,589	39	135	-
53	Customer	43,233	41,663	2,429	4	8	-
54	Direct Private Fire	2	-	-	-	-	2
55	Subtotal Other Taxes	$ 148,155	$ 124,717	$ 23,191	$ 46	$ 198	$ 2

ARIZONA WATER COMPANY
Test Year Ended December 31, 2011
Allocation of Operating Expenses to Classes of Service - Summary

Line No.	Operating Expenses at Present Rates	Navajo [A] Adjusted Total	[B] Residential	[C] Commercial	[D] Industrial	[E] Other	[F] Direct Private Fire
1	Operations & Maintenance Expense						
2	Commodity	$ 515,256	$ 433,345	$ 80,189	$ 56	$ 1,666	$ -
3	Demand	916,837	836,882	76,176	211	3,568	-
4	Customer	814,634	783,933	30,382	104	216	-
5	Direct Private Fire	41	-	-	-	-	41
6	Total Operations & Maintenance	$ 2,246,768	$ 2,054,159	$ 186,746	$ 372	$ 5,450	$ 41
7	Depreciation & Amortization Expenses						
8	Commodity	$ 50,252	$ 42,263	$ 7,821	$ 5	$ 162	$ -
9	Demand	452,266	412,825	37,577	104	1,760	-
10	Customer	165,415	159,181	6,169	21	44	-
11	Direct Private Fire	4,908	-	-	-	-	4,908
12	Total Depreciation & Amortization	$ 672,841	$ 614,270	$ 51,566	$ 131	$ 1,967	$ 4,908
13	Income Taxes at Present Rates						
14	Commodity	$ 11,514	$ (2,142)	$ 13,395	$ (4)	$ 266	$ -
15	Demand	27,877	(5,186)	32,430	(11)	643	-
16	Customer	19,955	(3,712)	23,214	(8)	461	-
17	Direct Private Fire	3,002	-	-	-	-	3,002
18	Total Income Taxes at Present Rates	$ 62,348	$ (11,041)	$ 69,040	$ (23)	$ 1,370	$ 3,002
19	Property Taxes						
20	Commodity	$ 9,912	$ 8,589	$ 1,286	$ 1	$ 35	$ -
21	Demand	89,204	77,300	11,577	13	314	-
22	Customer	20,160	17,469	2,616	3	71	-
23	Direct Private Fire	498	-	-	-	-	498
24	Total Property Taxes	$ 119,773	$ 103,358	$ 15,479	$ 18	$ 420	$ 498
25	Other Taxes						
26	Commodity	$ 14,465	$ 12,165	$ 2,251	$ 2	$ 47	$ -
27	Demand	25,738	23,494	2,138	6	100	-
28	Customer	22,869	22,007	853	3	6	-
29	Direct Private Fire	1	-	-	-	-	1
30	Total Other Taxes	$ 63,073	$ 57,666	$ 5,242	$ 10	$ 153	$ 1
31	Total Commodity at Present Rates	$ 601,398	$ 494,220	$ 104,943	$ 60	$ 2,176	$ -
32	Total Demand at Present Rates	1,511,922	1,345,315	159,897	324	6,386	-
33	Total Customer at Present Rates	1,043,034	978,878	63,234	124	797	-
34	Total Direct Private Fire at Present Rates	8,450	-	-	-	-	8,450
35	Total Operating Expenses at Present Rates	$ 3,164,804	$ 2,818,413	$ 328,074	$ 508	$ 9,359	$ 8,450
36							
37	Income Taxes at Proposed Rates						
38	Commodity	$ 69,035	$ 43,001	$ 25,272	$ 24	$ 737	$ -
39	Demand	167,134	104,106	61,185	59	1,784	-
40	Customer	119,640	74,522	43,798	42	1,277	-
41	Direct Private Fire	3,611	-	-	-	-	3,611
42	Total Income Taxes at Proposed Rates	$ 359,420	$ 221,629	$ 130,255	$ 126	$ 3,799	$ 3,611
43	Property Taxes at Proposed Rates						
44	Commodity	$ 10,631	$ 9,054	$ 1,528	$ 2	$ 46	$ -
45	Demand	95,678	81,488	13,752	21	418	-
46	Customer	21,623	18,416	3,108	5	94	-
47	Direct Private Fire	485	-	-	-	-	485
48	Total Property Taxes at Proposed Rates	$ 128,416	$ 108,958	$ 18,387	$ 27	$ 559	$ 485
49							
50	Total Commodity at Proposed Rates	$ 659,638	$ 539,828	$ 117,061	$ 90	$ 2,659	$ -
51	Total Demand at Proposed Rates	1,657,654	1,458,795	190,827	401	7,631	-
52	Total Customer at Proposed Rates	1,144,182	1,058,059	84,309	175	1,638	-
53	Total Direct Private Fire at Proposed Rates	9,045	-	-	-	-	9,045
54	Total Operating Expenses at Proposed Rates	$ 3,470,519	$ 3,056,682	$ 392,198	$ 666	$ 11,927	$ 9,045
55							

Line No.	Operating Expenses	Navajo [A] Adjusted Total	[B] Residential	[C] Commercial	[D] Industrial	[E] Other	[F] Direct Private Fire
1	Operations & Maintenance Expense						
2	Source of Supply Expenses						
3	Commodity	$ 4,435	$ 3,730	$ 690	$ 0	$ 14	$ -
4	Demand	35,037	31,982	2,911	8	136	-
5	Customer	-	-	-	-	-	-
6	Direct Private Fire	-	-	-	-	-	-
7	Subtotal Source of Supply Expenses	$ 39,472	$ 35,712	$ 3,601	$ 9	$ 151	$ -
8	Pumping Expenses						
9	Commodity	246,365	207,200	38,342	27	797	-
10	Demand	111,342	101,632	9,251	26	433	-
11	Customer	-	-	-	-	-	-
12	Direct Private Fire	-	-	-	-	-	-
13	Subtotal Pumping Expenses	$ 357,707	$ 308,832	$ 47,593	$ 52	$ 1,230	$ -
14	Water Treatment Expenses						
15	Commodity	66,220	55,693	10,306	7	214	-
16	Demand	7,358	6,716	611	2	29	-
17	Customer	-	-	-	-	-	-
18	Direct Private Fire	-	-	-	-	-	-
19	Subtotal Water Treatment Expenses	$ 73,577	$ 62,409	$ 10,917	$ 9	$ 243	$ -
20	Transmission & Distribution Expenses						
21	Commodity	53,044	44,611	8,255	6	172	-
22	Demand	477,392	435,760	39,664	110	1,858	-
23	Customer	-	-	-	-	-	-
24	Direct Private Fire	-	-	-	-	-	-
25	Subtotal Trans. & Dist. Expenses	$ 530,435	$ 480,371	$ 47,919	$ 116	$ 2,029	$ -
26	Customer Accounting Expenses						
27	Commodity	-	-	-	-	-	-
28	Demand	-	-	-	-	-	-
29	Customer	520,456	500,841	19,410	67	138	-
30	Direct Private Fire	-	-	-	-	-	-
31	Subtotal Customer Accounting Exp.	$ 520,456	$ 500,841	$ 19,410	$ 67	$ 138	$ -
32	Sales Expenses						
33	Commodity	-	-	-	-	-	-
34	Demand	-	-	-	-	-	-
35	Customer	881	848	33	0	0	-
36	Direct Private Fire	-	-	-	-	-	-
37	Subtotal Sales Expenses	$ 881	$ 848	$ 33	$ 0	$ 0	$ -
38	Administrative & General Expenses						
39	Commodity	145,192	122,111	22,596	16	470	-
40	Demand	285,709	260,793	23,738	66	1,112	-
41	Customer	293,298	282,244	10,938	38	78	-
42	Direct Private Fire	41	-	-	-	-	41
43	Subtotal A&G Expenses	$ 724,239	$ 665,147	$ 57,273	$ 119	$ 1,659	$ 41
44	Depreciation & Amortization Expenses						
45	Commodity	50,252	42,263	7,821	5	162	-
46	Demand	452,266	412,825	37,577	104	1,760	-
47	Customer	165,415	159,181	6,169	21	44	-
48	Direct Private Fire	4,908	-	-	-	-	4,908
49	Subtotal Depreciation & Amortization	$ 672,841	$ 614,270	$ 51,566	$ 131	$ 1,967	$ 4,908
50	Other Taxes						
51	Commodity	14,465	12,165	2,251	2	47	-
52	Demand	25,738	23,494	2,138	6	100	-
53	Customer	22,869	22,007	853	3	6	-
54	Direct Private Fire	1	-	-	-	-	1
55	Subtotal Other Taxes	$ 63,073	$ 57,666	$ 5,242	$ 10	$ 153	$ 1

ARIZONA WATER COMPANY
Test Year Ended December 31, 2011
Allocation of Operating Expenses to Classes of Service - Summary

Line No.		Verde Valley (Sedona, Pinewood, Rimrock) [A] Adjusted Total	[B] Residential	[C] Commercial	[D] Industrial	[E] Other	[F] Direct Private Fire
1	Operating Expenses at Present Rates						
2	Operations & Maintenance Expense						
3	Commodity	$ 1,396,723	$ 957,186	$ 439,163	$ 40	$ 334	$ -
4	Demand	1,428,922	1,140,409	285,469	1,484	1,560	-
5	Customer	939,805	869,941	69,743	38	83	-
6	Direct Private Fire	53	-	-	-	-	53
7	Total Operations & Maintenance	$ 3,765,502	$ 2,967,536	$ 794,376	$ 1,562	$ 1,976	$ 53
8	Depreciation & Amortization Expenses						
9	Commodity	$ 95,766	$ 65,630	$ 30,111	$ 3	$ 23	$ -
10	Demand	861,898	687,873	172,189	895	941	-
11	Customer	191,431	177,201	14,206	8	17	-
12	Direct Private Fire	17,863	-	-	-	-	17,863
13	Total Depreciation & Amortization	$ 1,166,958	$ 930,703	$ 216,507	$ 906	$ 980	$ 17,863
14	Income Taxes at Present Rates						
15	Commodity	$ 47,917	$ 11,422	$ 36,341	$ 45	$ 109	$ -
16	Demand	73,548	17531.67395	55,780	70	167	-
17	Customer	36,319	8,657	27,545	34	82	-
18	Direct Private Fire	6,727	-	-	-	-	6,727
19	Total Income Taxes at Present Rates	$ 164,512	$ 37,611	$ 119,667	$ 149	$ 358	$ 6,727
20	Property Taxes						
21	Commodity	$ 18,738	$ 14,208	$ 4,505	$ 11	$ 14	$ -
22	Demand	168,638	127,874	40,541	97	127	-
23	Customer	23,889	18,114	5,743	14	18	-
24	Direct Private Fire	1,482	-	-	-	-	1,482
25	Total Property Taxes	$ 212,747	$ 160,196	$ 50,789	$ 122	$ 159	$ 1,482
26	Other Taxes						
27	Commodity	$ 31,559	$ 21,628	$ 9,923	$ 1	$ 8	$ -
28	Demand	32,287	25,768	6,450	34	35	-
29	Customer	21,235	19,656	1,576	1	2	-
30	Direct Private Fire	1	-	-	-	-	1
31	Total Other Taxes	$ 85,082	$ 67,052	$ 17,949	$ 35	$ 45	$ 1
32	Total Commodity at Present Rates	$ 1,590,703	$ 1,070,073	$ 520,044	$ 99	$ 487	$ -
33	Total Demand at Present Rates	2,565,293	1,999,454	560,430	2,580	2,829	-
34	Total Customer at Present Rates	1,212,679	1,093,570	118,813	94	202	-
35	Total Direct Private Fire at Present Rates	26,125	-	-	-	-	26,125
36	Total Operating Expenses at Present Rates	$ 5,394,801	$ 4,163,097	$ 1,199,287	$ 2,774	$ 3,517	$ 26,125
37							
38	Income Taxes at Proposed Rates						
39	Commodity	$ 284,846	$ 147,746	$ 136,604	$ 213	$ 283	$ -
40	Demand	437,210	226,775	209,674	326	434	-
41	Customer	215,900	111,985	103,540	161	215	-
42	Direct Private Fire	9,811	-	-	-	-	9,811
43	Total Income Taxes at Proposed Rates	$ 947,767	$ 486,506	$ 449,817	$ 700	$ 932	$ 9,811
44	Property Taxes at Proposed Rates						
45	Commodity	$ 20,715	$ 14,784	$ 5,903	$ 13	$ 15	$ -
46	Demand	186,438	133,059	53,126	113	139	-
47	Customer	26,410	18,849	7,526	16	20	-
48	Direct Private Fire	1,464	-	-	-	-	1,464
49	Total Property Taxes at Proposed Rates	$ 235,027	$ 166,693	$ 66,554	$ 142	$ 174	$ 1,464
50							
51	Total Commodity at Proposed Rates	$ 1,829,609	$ 1,206,974	$ 621,705	$ 268	$ 663	$ -
52	Total Demand at Proposed Rates	2,946,754	2,213,884	726,908	2,853	3,109	-
53	Total Customer at Proposed Rates	1,394,781	1,197,632	196,590	223	336	-
54	Total Direct Private Fire at Proposed Rates	29,191	-	-	-	-	29,191
55	Total Operating Expenses at Proposed Rates	$ 6,200,336	$ 4,618,489	$ 1,545,203	$ 3,345	$ 4,108	$ 29,191

Line No.	Operating Expenses	Verde Valley (Sedona, Pinewood, Rimrock) [A] Adjusted Total	[B] Residential	[C] Commercial	[D] Industrial	[E] Other	[F] Direct Private Fire
1	Operations & Maintenance Expense						
	Source of Supply Expenses						
2	Commodity	$ 4,504	$ 3,086	$ 1,416	$ 0	$ 1	$ -
3	Demand	40,534	32,350	8,098	42	44	-
4	Customer	-	-	-	-	-	-
5	Direct Private Fire	-	-	-	-	-	-
6	Subtotal Source of Supply Expenses	$ 45,038	$ 35,436	$ 9,514	$ 42	$ 45	$ -
7	Pumping Expenses						
8	Commodity	595,217	407,907	187,151	17	142	-
9	Demand	272,473	217,458	54,434	283	297	-
10	Customer	-	-	-	-	-	-
11	Direct Private Fire	-	-	-	-	-	-
12	Subtotal Pumping Expenses	$ 867,690	$ 625,366	$ 241,585	$ 300	$ 440	$ -
13	Water Treatment Expenses						
14	Commodity	535,883	367,245	168,494	15	128	-
15	Demand	59,543	47,520	11,895	62	65	-
16	Customer	-	-	-	-	-	-
17	Direct Private Fire	-	-	-	-	-	-
18	Subtotal Water Treatment Expenses	$ 595,425	$ 414,765	$ 180,390	$ 77	$ 193	$ -
19	Transmission & Distribution Expenses						
20	Commodity	74,858	51,301	23,537	2	18	-
21	Demand	673,723	537,692	134,596	700	735	-
22	Customer	-	-	-	-	-	-
23	Direct Private Fire	-	-	-	-	-	-
24	Subtotal Trans. & Dist. Expenses	$ 748,581	$ 588,993	$ 158,133	$ 702	$ 753	$ -
25	Customer Accounting Expenses						
26	Commodity	-	-	-	-	-	-
27	Demand	-	-	-	-	-	-
28	Customer	548,622	507,839	40,713	22	48	-
29	Direct Private Fire	-	-	-	-	-	-
30	Subtotal Customer Accounting Exp.	$ 548,622	$ 507,839	$ 40,713	$ 22	$ 48	$ -
31	Sales Expenses						
32	Commodity	-	-	-	-	-	-
33	Demand	-	-	-	-	-	-
34	Customer	1,177	1,090	87	0	0	-
35	Direct Private Fire	-	-	-	-	-	-
36	Subtotal Sales Expenses	$ 1,177	$ 1,090	$ 87	$ 0	$ 0	$ -
37	Administrative & General Expenses						
38	Commodity	186,261	127,646	58,565	5	45	-
39	Demand	382,649	305,389	76,445	397	418	-
40	Customer	390,006	361,013	28,942	16	34	-
41	Direct Private Fire	53	-	-	-	-	53
42	Subtotal A&G Expenses	$ 958,968	$ 794,048	$ 163,953	$ 418	$ 496	$ 53
43	Depreciation & Amortization Expenses						
44	Commodity	95,766	65,630	30,111	3	23	-
45	Demand	861,898	687,873	172,189	895	941	-
46	Customer	191,431	177,201	14,206	8	17	-
47	Direct Private Fire	17,863	-	-	-	-	17,863
48	Subtotal Depreciation & Amortization	$ 1,166,958	$ 930,703	$ 216,507	$ 906	$ 980	$ 17,863
49	Other Taxes						
50	Commodity	31,559	21,628	9,923	1	8	-
51	Demand	32,287	25,768	6,450	34	35	-
52	Customer	21,235	19,656	1,576	1	2	-
53	Direct Private Fire	1	-	-	-	-	1
54	Subtotal Other Taxes	$ 85,082	$ 67,052	$ 17,949	$ 35	$ 45	$ 1
55							

ARIZONA WATER COMPANY
Test Year Ended December 31, 2011
Distribution of Rate Base by Function

Line No.		Northern Group [A] Actual End of Test Year	[B] Total Pro Forma Adjustments	[C] Adjusted Total	[D] Commodity	[E] Demand	[F] Customer	[G] Direct Private Fire
1	Plant Classification							
2	Intangible Plant	$ 5,319	$ 2,008	$ 7,327	$ 733	$ 6,594	$ -	$ -
3	Source of Supply Plant	9,566,569	50,018	9,616,586	961,659	8,654,927	-	-
4	Pumping Plant	6,219,549	40,000	6,259,549	625,955	5,633,594	-	-
5	Water Treatment Plant	4,051,359	2,971,238	7,022,597	702,260	6,320,338	-	-
6	Transmission & Distribution Plant	56,770,161	607,273	57,377,435	4,134,025	37,206,221	15,069,727	967,463
7	General Plant	1,890,138	2,000,716	3,890,854	317,133	2,854,200	692,442	27,079
8	Subtotal Gross Utility Plant	$ 78,503,096	$ 5,671,253	$ 84,174,349	$ 6,741,764	$ 60,675,875	$ 15,762,169	$ 994,541
9								
10	Less:							
11	Accumulated Depreciation	22,655,322	508,490	23,163,812	1,829,221	16,462,990	4,594,906	276,695
12	Net Plant in Service	$ 55,847,774	$ 5,162,763	$ 61,010,537	$ 4,912,543	$ 44,212,885	$ 11,167,263	$ 717,846
13								
14	Less:							
15	Advances in Aid of Construction	7,048,087	-	7,048,087	491,472	4,423,252	2,015,719	117,643
16	Net Contributions in Aid of Construction	12,527,706	-	12,527,706	881,645	7,934,801	3,485,534	225,727
17	Deferred Income Tax	-	6,406,416	6,406,416	505,433	4,548,900	1,276,072	76,010
18	Customer Deposits	68,783	-	68,783	5,490	49,406	13,003	884
19	Subtotal Deductions	$ 19,644,575	$ 6,406,416	$ 26,050,991	$ 1,884,040	$ 16,956,358	$ 6,790,329	$ 420,264
20								
21	Add:							
22	Working Capital	1,086,298	-	1,086,298	85,791	772,117	215,406	12,984
23	Net Regulatory Asset / (Liability)	-	-	-	-	-	-	-
24	Subtotal Additions	$ 1,086,298	$ -	$ 1,086,298	$ 85,791	$ 772,117	$ 215,406	$ 12,984
25								
26	Total Rate Base	$ 37,289,496	$ (1,243,653)	$ 36,045,843	$ 3,114,294	$ 28,028,644	$ 4,592,340	$ 310,566

ARIZONA WATER COMPANY
Test Year Ended December 31, 2011
Distribution of Rate Base by Function

Line No.		Navajo [A] Actual End of Test Year	[B] Total Pro Forma Adjustments	[C] Adjusted Total	[D] Commodity	[E] Demand	[F] Customer	[G] Direct Private Fire
1	Plant Classification							
2	Intangible Plant	$ 1,946	$ 863	$ 2,809	$ 281	$ 2,528	$ -	$ -
3	Source of Supply Plant	2,289,740	50,008	2,339,748	233,975	2,105,773	-	-
4	Pumping Plant	2,890,524	40,000	2,930,524	293,052	2,637,472	-	-
5	Water Treatment Plant	148,363	50,193	198,557	19,856	178,701	-	-
6	Transmission & Distribution Plant	22,654,431	150,553	22,804,984	1,559,268	14,033,413	7,006,079	206,223
7	General Plant	1,033,523	913,236	1,946,759	160,567	1,445,105	328,250	12,836
8	Subtotal Gross Utility Plant	$ 29,018,527	$ 1,204,853	$ 30,223,380	$ 2,266,999	$ 20,402,993	$ 7,334,328	$ 219,060
9								
10	Less:							
11	Accumulated Depreciation	9,516,521	202,492	9,719,013	725,874	6,532,862	2,389,381	70,896
12	Net Plant in Service	$ 19,502,006	$ 1,002,361	$ 20,504,367	$ 1,541,126	$ 13,870,131	$ 4,944,947	$ 148,164
13								
14	Less:							
15	Advances in Aid of Construction	3,416,251	-	3,416,251	226,513	2,038,617	1,118,207	32,914
16	Net Contributions in Aid of Construction	4,858,599	-	4,858,599	322,147	2,899,326	1,590,316	46,811
17	Deferred Income Tax	-	2,752,278	2,752,278	205,556	1,850,008	676,637	20,077
18	Customer Deposits	21,020	-	21,020	1,570	14,129	5,168	153
19	Subtotal Deductions	$ 8,295,870	$ 2,752,278	$ 11,048,148	$ 755,787	$ 6,802,080	$ 3,390,327	$ 99,955
20								
21	Add:							
22	Working Capital	454,831	-	454,831	33,970	305,726	111,819	3,318
23	Net Regulatory Asset / (Liability)	-	-	-	-	-	-	-
24	Subtotal Additions	$ 454,831	$ -	$ 454,831	$ 33,970	$ 305,726	$ 111,819	$ 3,318
25								
26	Total Rate Base	$ 11,660,967	$ (1,749,917)	$ 9,911,050	$ 819,308	$ 7,373,776	$ 1,666,439	$ 51,527
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ARIZONA WATER COMPANY
Test Year Ended December 31, 2011
Distribution of Rate Base by Function

		Verde Valley (Sedona, Pinewood, Rimrock)						
		[A]	[B]	[C]	[D]	[E]	[F]	[G]
Line No.		Actual End of Test Year	Total Pro Forma Adjustments	Adjusted Total	Commodity	Demand	Customer	Direct Private Fire
1	Plant Classification							
2	Intangible Plant	$ 3,373	$ 1,145	$ 4,518	$ 452	$ 4,067	$ -	$ -
3	Source of Supply Plant	7,276,828	10	7,276,838	727,684	6,549,155	-	-
4	Pumping Plant	3,329,025	-	3,329,025	332,902	2,996,122	-	-
5	Water Treatment Plant	3,902,996	2,921,045	6,824,041	682,404	6,141,637	-	-
6	Transmission & Distribution Plant	34,115,731	456,720	34,572,451	2,574,756	23,172,807	8,063,648	761,239
7	General Plant	856,615	1,087,480	1,944,095	156,566	1,409,095	364,192	14,242
8	Subtotal Gross Utility Plant	$ 49,484,568	$ 4,466,401	$ 53,950,969	$ 4,474,765	$ 40,272,883	$ 8,427,840	$ 775,482
9								
10	Less:							
11	Accumulated Depreciation	13,138,801	305,998	13,444,799	1,103,348	9,930,128	2,205,525	205,799
12	Net Plant in Service	$ 36,345,767	$ 4,160,402	$ 40,506,170	$ 3,371,417	$ 30,342,755	$ 6,222,316	$ 569,682
13								
14	Less:							
15	Advances in Aid of Construction	3,631,836	-	3,631,836	264,959	2,384,635	897,513	84,729
16	Net Contributions in Aid of Construction	7,669,107	-	7,669,107	559,497	5,035,475	1,895,218	178,916
17	Deferred Income Tax	-	3,654,138	3,654,138	299,877	2,698,892	599,436	55,934
18	Customer Deposits	47,763	-	47,763	3,920	35,277	7,835	731
19	Subtotal Deductions	$ 11,348,705	$ 3,654,138	$ 15,002,843	$ 1,128,253	$ 10,154,279	$ 3,400,002	$ 320,309
20								
21	Add:							
22	Working Capital	631,466	-	631,466	51,821	466,391	103,588	9,666
23	Net Regulatory Asset / (Liability)	-	-	-	-	-	-	-
24	Subtotal Additions	$ 631,466	$ -	$ 631,466	$ 51,821	$ 466,391	$ 103,588	$ 9,666
25								
26	Total Rate Base	$ 25,628,528	$ 506,265	$ 26,134,793	$ 2,294,985	$ 20,654,867	$ 2,925,901	$ 259,039
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ARIZONA WATER COMPANY
Test Year Ended December 31, 2011
Distribution of Expenses by Function

Line No.		Northern Group [A] Actual End of Test Year	[B] Total Pro Forma Adjustments	[C] Adjusted Total	[D] Commodity	[E] Demand	[F] Customer	[G] Direct Private Fire
1	Operating Expenses							
2	Operations & Maintenance Expenses							
3	Source of Supply Expenses:							
4	Purchased Water	$ 610	$ -	$ 610	$ 549	$ 61	$ -	$ -
5	Other	77,884	6,016	83,900	8,390	75,510	-	-
6	*Subtotal Source of Supply Expenses*	$ 78,494	$ 6,016	$ 84,510	$ 8,939	$ 75,571	$ -	$ -
7								
8	Pumping Expenses:							
9	Purchased Power	898,352	-	898,352	808,517	89,835	-	-
10	Purchased Gas	451	-	451	406	45	-	-
11	Other	292,753	33,841	326,594	32,659	293,935	-	-
12	Subtotal Pumping Expenses	$ 1,191,556	$ 33,841	$ 1,225,397	$ 841,582	$ 383,815	$ -	$ -
13								
14	Water Treatment Expenses	567,248	101,754	669,002	602,102	66,900	-	-
15	Transmission & Distribution Expenses	1,047,823	231,194	1,279,017	127,902	1,151,115	-	-
16	Customer Accounting Expenses	974,482	94,596	1,069,078	-	-	1,069,078	-
17	Sales Expense	2,058	-	2,058	-	-	2,058	-
18	Administrative & General Expenses	1,402,373	280,835	1,683,208	331,453	668,358	683,303	93
19	Total Operations & Maintenance Expense	$ 5,264,034	$ 748,236	$ 6,012,270	$ 1,911,978	$ 2,345,759	$ 1,754,439	$ 93
20								
21	Depreciation & Amortization Expenses	1,689,546	150,254	1,839,800	146,018	1,314,164	356,847	22,771
22								
23	Taxes							
24	Income Taxes at Present Rates	812,424	(585,563)	226,861	59,432	101,425	56,274	9,730
25	Property Taxes	311,379	21,141	332,520	28,649	257,843	44,048	1,980
26	Other	1,182,063	(1,033,909)	148,155	47,115	57,804	43,233	2
27	Total Taxes	$ 2,305,867	$ (1,598,331)	$ 707,535	$ 135,196	$ 417,072	$ 143,556	$ 11,712
28								
29	Total Operating Expenses	$ 9,259,446	$ (699,841)	$ 8,559,605	$ 2,193,193	$ 4,076,995	$ 2,254,842	$ 34,575
30								
31								
32								
33				Income & Property Taxes at Proposed Rates				
34				Adjusted with Increase	Commodity	Demand	Customer	Direct Private Fire
35								
36								
37								
38	Income Taxes at Proposed Rates			$ 1,307,187	$ 353,881	$ 604,344	$ 335,540	$ 13,422
39								
40	*Property Taxes at Proposed Rates*			363,444	31,346	282,116	48,033	1,949
41								
42	Total Operating Expenses at Proposed Rates			$ 9,670,855	$ 2,490,338	$ 4,604,187	$ 2,538,092	$ 38,237
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ARIZONA WATER COMPANY
Test Year Ended December 31, 2011
Distribution of Expenses by Function

Line No.		Navajo [A] Actual End of Test Year	[B] Total Pro Forma Adjustments	[C] Adjusted Total	[D] Commodity	[E] Demand	[F] Customer	[G] Direct Private Fire
1	Operating Expenses							
2	Operations & Maintenance Expenses							
3	Source of Supply Expenses:							
4	Purchased Water	$ 610	$ -	$ 610	$ 549	$ 61	$ -	$ -
5	Other	37,983	879	38,862	3,886	34,976	-	-
6	Subtotal Source of Supply Expenses	$ 38,593	$ 879	$ 39,472	$ 4,435	$ 35,037	$ -	$ -
7								
8	Pumping Expenses:		-					
9	Purchased Power	262,792	-	262,792	236,513	26,279	-	-
10	Purchased Gas	451	-	451	406	45	-	-
11	Other	80,858	13,606	94,464	9,446	85,018	-	-
12	Subtotal Pumping Expenses	$ 344,101	$ 13,606	$ 357,707	$ 246,365	$ 111,342	$ -	$ -
13								
14	Water Treatment Expenses	76,861	(3,284)	73,577	66,220	7,358	-	-
15	Transmission & Distribution Expenses	441,848	88,587	530,435	53,044	477,392	-	-
16	*Customer Accounting Expenses*	478,844	41,612	520,456	-	-	520,456	-
17	Sales Expense	881	-	881	-	-	881	-
18	Administrative & General Expenses	609,622	114,617	724,239	145,192	285,709	293,298	41
19	Total Operations & Maintenance Expense	$ 1,990,750	$ 256,018	$ 2,246,768	$ 515,256	$ 916,837	$ 814,634	$ 41
20								
21	Depreciation & Amortization Expenses	643,577	29,264	672,841	50,252	452,266	165,415	4,908
22								
23	Taxes							
24	Income Taxes at Present Rates	226,582	(164,234)	62,348	11,514	27,877	19,955	3,002
25	Property Taxes	135,561	(15,788)	119,773	9,912	89,204	20,160	498
26	Other	345,481	(282,408)	63,073	14,465	25,738	22,869	1
27	Total Taxes	$ 707,624	$ (462,430)	$ 245,195	$ 35,891	$ 142,819	$ 62,984	$ 3,501
28								
29	Total Operating Expenses	$ 3,341,951	$ (177,147)	$ 3,164,804	$ 601,398	$ 1,511,922	$ 1,043,034	$ 8,450

	Income & Property Taxes at Proposed Rates				
	Adjusted with Increase	Commodity	Demand	Customer	Direct Private Fire
Income Taxes at Proposed Rates	$ 359,420	$ 69,035	$ 167,134	$ 119,640	$ 3,611
Property Taxes at Proposed Rates	128,416	10,631	95,678	21,623	485
Total Operating Expenses at Proposed Rates	$ 3,470,519	$ 659,638	$ 1,657,654	$ 1,144,182	$ 9,045

ARIZONA WATER COMPANY
Test Year Ended December 31, 2011
Distribution of Expenses by Function

Line No.		Verde Valley (Sedona, Pinewood, Rimrock) [A] Actual End of Test Year	[B] Total Pro Forma Adjustments	[C] Adjusted Total	[D] Commodity	[E] Demand	[F] Customer	[G] Direct Private Fire
1	Operating Expenses							
2	Operations & Maintenance Expenses							
3	Source of Supply Expenses:							
4	Purchased Water	$ -	$ -	$ -	$ -	$ -	$ -	$ -
5	Other	39,901	5,137	45,038	4,504	40,534	-	-
6	Subtotal Source of Supply Expenses	$ 39,901	$ 5,137	$ 45,038	$ 4,504	$ 40,534	$ -	$ -
7								
8	Pumping Expenses:							
9	Purchased Power	635,560	-	635,560	572,004	63,556	-	-
10	Purchased Gas	-	-	-	-	-	-	-
11	Other	211,895	20,235	232,130	23,213	208,917	-	-
12	Subtotal Pumping Expenses	$ 847,455	$ 20,235	$ 867,690	$ 595,217	$ 272,473	$ -	$ -
13								
14	Water Treatment Expenses	490,387	105,038	595,425	535,883	59,543	-	-
15	Transmission & Distribution Expenses	605,975	142,606	748,581	74,858	673,723	-	-
16	Customer Accounting Expenses	495,638	52,984	548,622	-	-	548,622	-
17	Sales Expense	1,177	-	1,177	-	-	1,177	-
18	Administrative & General Expenses	792,751	166,218	958,968	186,261	382,649	390,006	53
19	Total Operations & Maintenance Expense	$ 3,273,284	$ 492,218	$ 3,765,502	$ 1,396,723	$ 1,428,922	$ 939,805	$ 53
20								
21	Depreciation & Amortization Expenses	1,045,969	120,989	1,166,958	95,766	861,898	191,431	17,863
22								
23	Taxes							
24	Income Taxes at Present Rates	585,842	(421,330)	164,512	47,917	73,548	36,319	6,727
25	Property Taxes	175,818	36,928	212,747	18,738	168,638	23,889	1,482
26	Other	836,582	(751,500)	85,082	31,559	32,287	21,235	1
27	Total Taxes	$ 1,598,242	$ (1,135,902)	$ 462,341	$ 98,214	$ 274,473	$ 81,443	$ 8,210
28								
29	Total Operating Expenses	$ 5,917,495	$ (522,694)	$ 5,394,801	$ 1,590,703	$ 2,565,293	$ 1,212,679	$ 26,125
30								
31								
32								
33				Income & Property Taxes at Proposed Rates				
34				Adjusted with Increase	Commodity	Demand	Customer	Direct Private Fire
35								
36								
37								
38	Income Taxes at Proposed Rates			$ 947,767	$ 284,846	$ 437,210	$ 215,900	$ 9,811
39								
40	Property Taxes at Proposed Rates			235,027	20,715	186,438	26,410	1,464
41								
42	Total Operating Expenses at Proposed Rates			$ 6,200,336	$ 1,829,609	$ 2,946,754	$ 1,394,781	$ 29,191
43								
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ARIZONA WATER COMPANY
Test Year Ended December 31, 2011
Development of Allocation Factors

Line No.		Navajo [A] End of Test Year[1] 12/31/2011	[B] Commodity	[C] Demand	[D] Customer	[E] Direct Private Fire
1	Intangible Plant					
2	Organization	$ -	0.10	0.90	-	-
3	Franchises	-	0.10	0.90	-	-
4	Other Intangibles	1,946	0.10	0.90	-	-
5	Subtotal Intangible Plant	$ 1,946	0.10	0.90	-	-
6	Source of Supply Plant					
7	Water Rights	500,739	0.10	0.90	-	-
8	Other Source of Supply Land	30,155	0.10	0.90	-	-
9	Wells - Other	-	0.10	0.90	-	-
10	Wells	1,758,846	0.10	0.90	-	-
11	Subtotal Source of Supply Plant	$ 2,289,740	0.10	0.90	-	-
12	Pumping Plant					
13	Pumping Plant Land	8,553	0.10	0.90	-	-
14	Pumping Plant Structures & Improvements	149,931	0.10	0.90	-	-
15	Electtric Pumping Equipment	2,732,041	0.10	0.90	-	-
16	Gas Engine Equipment	-	0.10	0.90	-	-
17	Subtotal Pumping Plant	$ 2,890,524	0.10	0.90	-	-
18	Water Treatment Plant					
19	Water Treatment Plant Land	-	0.10	0.90	-	-
20	Water Treatment Structures & Improvements	563	0.10	0.90	-	-
21	Water Treatment Equipment	147,800	0.10	0.90	-	-
22	Subtotal Water Treatment Plant	$ 148,363	0.10	0.90	-	-
23	Transmission & Distribution Plant					
24	Transmission and Distribution Land	53,126	0.10	0.90	-	-
25	Storage Tanks	1,338,226	0.10	0.90	-	-
26	Transmission & Distribution Mains	14,098,390	0.10	0.90	-	-
27	Fire Sprinkler Taps	204,862	-	-	-	1.00
28	Services	4,978,068	-	-	1.00	-
29	Meters	574,011	-	-	1.00	-
30	Hydrants	1,407,748	-	-	1.00	-
31	Subtotal Transmission & Distribution Plant	$ 22,654,431	0.07	0.62	0.31	0.01
32	General Plant					
33	General Plant Land	1,995	0.10	0.90	-	-
34	General Plant Structures	323,670	0.10	0.90	-	-
35	Leasehold Improvements	74,227	0.07	0.67	0.25	0.01
36	Office Furniture & Equipment	219,044	0.07	0.67	0.25	0.01
37	Warehouse Equipment	3,512	0.07	0.67	0.25	0.01
38	Tools, Shop & Garage Equipment	110,115	0.07	0.67	0.25	0.01
39	Laboratory Equipment	2,690	0.07	0.67	0.25	0.01
40	Power Operated Equipment	10,462	0.07	0.67	0.25	0.01
41	Communication Equipment	250,792	0.07	0.67	0.25	0.01
42	Miscellaneous Equipment	37,015	0.07	0.67	0.25	0.01
43	Subtotal General Plant	$ 1,033,523	0.08	0.74	0.17	0.01
44						
45	Total Plant in Service	$ 29,018,527	0.07	0.67	0.25	0.01
46						
47						
48	Advances & Contributions					
49	(T&D Mains, Fire Sprinkler Taps, Services					
50	Meters, & Hydrants)	$ 21,263,078	0.07	0.60	0.33	0.01
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54						
55	[1]Excludes Phoenix office & meter shop					

ARIZONA WATER COMPANY
Test Year Ended December 31, 2011
Development of Allocation Factors

Line No.		[A] End of Test Year 12/31/2011	Navajo [B] Commodity	[C] Demand	[D] Customer	[E] Direct Private Fire
1	Operating Expenses					
2	Source of Supply Expenses:					
3	Purchased Water	$ 610	0.90	0.10	-	-
4	Other	37,983	0.10	0.90	-	-
5	Pumping Expenses:					
6	Purchased Power	262,792	0.90	0.10	-	-
7	Purchased Gas	451	0.90	0.10	-	-
8	Other	80,858	0.10	0.90	-	-
9	Water Treatment Expenses	76,861	0.90	0.10	-	-
10	Transmission & Distribution Expenses	441,848	0.10	0.90	-	-
11	Customer Accounting Expenses	478,844	-	-	1.00	-
12	Sales Expense	881	-	-	1.00	-
13	Administrative & General Expenses	609,622	0.20	0.39	0.40	0.00
14	Total Operations & Maintenance Expense	$ 1,990,750	0.24	0.39	0.36	0.00
15						
16	Depreciation & Amortization Expenses	$ 643,577	0.07	0.67	0.25	0.01
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Navajo

Line No.		[A]	[B]	[C]	[D]	[E]	[F]	[G]	[H]	[I]	[J]	
1	Commodity Allocation Factor											
2			Percent									
3		Total	of Total /									
4		M Gallons	Factor									
5	Class											
6	Residential	352,517	84.10%									
7	Commercial	65,232	15.56%									
8	Industrial	45	0.01%									
9	Other	1,355	0.32%									
10												
11	Totals	419,150	100.00%									
12												
13												
14												
15	Demand Allocation Factor											
16												Percent
17	Class	5/8-inch	1-inch	1.5-inch	2-inch	3-inch	4-inch	6-inch	8-inch	10-inch	Total	of Total / Factor
18	*Residential*											
19	Meters/Services	8,709	37	-	24	2	2	-	-	-		
20	Equivalent Weight	1.0	2.5	5.0	8.0	16.0	25.0	50.0	80.0	115.0		
21	Equivalent Meters/Services	8,709	91	-	195	28	46	-	-	-	9,069	91.28%
22	Commercial											
23	Meters/Services	230	67	-	39	2	1	1	-	-		
24	Equivalent Weight	1.0	2.5	5.0	8.0	16.0	25.0	50.0	80.0	115.0		
25	Equivalent Meters/Services	230	167	-	310	37	30	51	-	-	825	8.31%
26	Industrial											
27	Meters/Services	0	1	-	-	-	-	-	-	-		
28	Equivalent Weight	1.0	2.5	5.0	8.0	16.0	25.0	50.0	80.0	115.0		
29	Equivalent Meters/Services	0	2	-	-	-	-	-	-	-	2	0.02%
30	Other											
31	Meters/Services	-	-	-	-	2	-	-	-	-		
32	Equivalent Weight	1.0	2.5	5.0	8.0	16.0	25.0	50.0	80.0	115.0		
33	Equivalent Meters/Services	-	-	-	-	39	-	-	-	-	39	0.39%
34												
35	Totals										9,935	100.00%
36												
37												
38												
39												
40	Customer Allocation Factor											
41												
42		Meters /		Percent								
43		Services	Bills	of Total / Factor								
44	Class											
45	Residential	8,773	105,276	96.23%								
46	Commercial	340	4,080	3.73%								
47	Industrial	1	14	0.01%								
48	Other	2	29	0.03%								
49												
50		9,117	109,399	100.00%								
51												
52												
53												
54	*Allocation factors include customer growth											
55												

ARIZONA WATER COMPANY
Test Year Ended December 31, 2011
Development of Allocation Factors

Line No.		Verde Valley (Sedona, Pinewood, Rimrock) [A] End of Test Year[1] 12/31/2011	[B] Commodity	[C] Demand	[D] Customer	[E] Direct Private Fire
1	Intangible Plant					
2	Organization	$ -	0.10	0.90	-	-
3	Franchises	935	0.10	0.90	-	-
4	Other Intangibles	2,438	0.10	0.90	-	-
5	Subtotal Intangible Plant	$ 3,373	0.10	0.90	-	-
6	Source of Supply Plant					
7	Water Rights	156,158	0.10	0.90	-	-
8	Other Source of Supply Land	631,671	0.10	0.90	-	-
9	Wells - Other	-	0.10	0.90	-	-
10	Wells	6,488,999	0.10	0.90	-	-
11	Subtotal Source of Supply Plant	$ 7,276,828	0.10	0.90	-	-
12	Pumping Plant					
13	Pumping Plant Land	5,544	0.10	0.90	-	-
14	Pumping Plant Structures & Improvements	108,350	0.10	0.90	-	-
15	Electtric Pumping Equipment	3,214,908	0.10	0.90	-	-
16	Gas Engine Equipment	223	0.10	0.90	-	-
17	Subtotal Pumping Plant	$ 3,329,025	0.10	0.90	-	-
18	Water Treatment Plant					
19	*Water Treatment Plant Land*	-	0.10	0.90	-	-
20	Water Treatment Structures & Improvements	269,532	0.10	0.90	-	-
21	Water Treatment Equipment	3,633,464	0.10	0.90	-	-
22	Subtotal Water Treatment Plant	$ 3,902,996	0.10	0.90	-	-
23	Transmission & Distribution Plant					
24	Transmission and Distribution Land	134,524	0.10	0.90	-	-
25	Storage Tanks	1,782,264	0.10	0.90	-	-
26	Transmission & Distribution Mains	23,490,637	0.10	0.90	-	-
27	Fire Sprinkler Taps	751,183	-	-	-	1.00
28	Services	5,012,440	-	-	1.00	-
29	Meters	823,214	-	-	1.00	-
30	Hydrants	2,121,468	-	-	1.00	-
31	Subtotal Transmission & Distribution Plant	$ 34,115,731	0.07	0.67	0.23	0.02
32	General Plant					
33	General Plant Land	2,858	0.10	0.90	-	-
34	General Plant Structures	201,929	0.10	0.90	-	-
35	Leasehold Improvements	50,677	0.07	0.67	0.25	0.01
36	Office Furniture & Equipment	139,595	0.07	0.67	0.25	0.01
37	Warehouse Equipment	37,881	0.07	0.67	0.25	0.01
38	Tools, Shop & Garage Equipment	114,922	0.07	0.67	0.25	0.01
39	Laboratory Equipment	13,475	0.07	0.67	0.25	0.01
40	Power Operated Equipment	52,603	0.07	0.67	0.25	0.01
41	Communication Equipment	209,107	0.07	0.67	0.25	0.01
42	Miscellaneous Equipment	33,569	0.07	0.67	0.25	0.01
43	Subtotal General Plant	$ 856,615	0.08	0.72	0.19	0.01
44						
45	Total Plant in Service	$ 49,484,568	0.08	0.74	0.16	0.02
46						
47						
48	Advances & Contributions					
49	(T&D Mains, Fire Sprinkler Taps, Services					
50	Meters, & Hydrants)	$ 32,198,943	0.07	0.66	0.25	0.02
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55	[1]Excludes Phoenix office & meter shop					

ARIZONA WATER COMPANY
Test Year Ended December 31, 2011
Development of Allocation Factors

Line No.		Verde Valley (Sedona, Pinewood, Rimrock) [A] End of Test Year 12/31/2011	[B] Commodity	[C] Demand	[D] Customer	[E] Direct Private Fire
1	Operating Expenses					
2	Source of Supply Expenses:					
3	Purchased Water	$ -	0.90	0.10	-	-
4	Other	39,901	0.10	0.90	-	-
5	Pumping Expenses:					
6	Purchased Power	635,560	0.90	0.10	-	-
7	Purchased Gas	-	0.90	0.10	-	-
8	Other	211,895	0.10	0.90	-	-
9	Water Treatment Expenses	490,387	0.90	0.10	-	-
10	Transmission & Distribution Expenses	605,975	0.10	0.90	-	-
11	Customer Accounting Expenses	495,638	-	-	1.00	-
12	Sales Expense	1,177	-	-	1.00	-
13	Administrative & General Expenses	792,751	0.19	0.40	0.41	0.00
14	Total Operations & Maintenance Expense	$ 3,273,284	0.38	0.37	0.25	0.00
15						
16	Depreciation & Amortization Expenses	$ 1,045,969	0.08	0.74	0.16	0.02
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Verde Valley (Sedona, Pinewood, Rimrock)

Commodity Allocation Factor

Line No.		[A] Total M Gallons	[B] Percent of Total / Factor
5	Class		
6	Residential	816,822	68.53%
7	Commercial	374,763	31.44%
8	Industrial	34	0.00%
9	Other	285	0.02%
11	Totals	1,191,904	100.00%

Demand Allocation Factor

Line No.	Class	[C] 5/8-inch	[D] 1-inch	[E] 1.5-inch	[F] 2-inch	[G] 3-inch	[H] 4-inch	[I] 6-inch	[J] 8-inch	10-inch	Total	Percent of Total / Factor
18	Residential											
19	Meters/Services	9,074	539	-	26	-	2	1	-	-		
20	Equivalent Weight	1.0	2.5	5.0	8.0	16.0	25.0	50.0	80.0	115.0		
21	Equivalent Meters/Services	9,074	1,348	-	208	-	44	50	-	-	10,724	79.81%
22	Commercial											
23	Meters/Services	375	231	-	150	6	7	2	2	-		
24	Equivalent Weight	1.0	2.5	5.0	8.0	16.0	25.0	50.0	80.0	115.0		
25	Equivalent Meters/Services	375	577	-	1,199	98	185	102	149	-	2,684	19.98%
26	Industrial											
27	Meters/Services	-	0	-	-	-	-	-	0	-		
28	Equivalent Weight	1.0	2.5	5.0	8.0	16.0	25.0	50.0	80.0	115.0		
29	Equivalent Meters/Services	-	1	-	-	-	-	-	13	-	14	0.10%
30	Other											
31	Meters/Services	-	-	-	-	1	-	-	-	-		
32	Equivalent Weight	1.0	2.5	5.0	8.0	16.0	25.0	50.0	80.0	115.0		
33	Equivalent Meters/Services	-	-	-	-	15	-	-	-	-	15	0.11%
35	Totals										13,437	100.00%

Customer Allocation Factor

Line No.	Class	Meters / Services	Bills	Percent of Total / Factor
45	Residential	9,642	115,704	92.57%
46	Commercial	773	9,276	7.42%
47	Industrial	0	5	0.00%
48	Other	1	11	0.01%
50		10,416	124,996	100.00%

54 *Allocation factors include customer growth

H

EFFECT OF PROPOSED TARIFF SCHEDULES

H-1 SUMMARY OF REVENUES BY CUSTOMER

H-2 ANALYSIS OF REVENUES BY DETAILED CLASS

H-3 CHANGES IN REPRESENTATIVE RATE SCHEDULES

H-4 TYPICAL BILL ANALYSIS

H-5 BILL COUNT – SEPARATELY BOUND

ARIZONA WATER COMPANY
Test Year Ended December 31, 2011
Summary of Revenues by Customer
Classification - Present & Proposed Rates

Line No.	Customer Classification	Northern Group [A] Revenues in Test Year: Test Year Rates Sch. H-2 Col. E	[B] Revenues in Test Year: Proposed Rates Sch. H-2 Col. F	[C] Proposed Increase Amount	[D] %
1					
2					
3	Residential	$ 7,936,122	$ 9,717,291	$ 1,781,170	22.44%
4	Commercial	2,003,262	3,032,722	1,029,460	51.39%
5	Industrial	4,231	6,069	1,838	43.43%
6	Private Fire Service	59,816	69,420	9,604	16.06%
7	Other Water Revenues	17,270	25,172	7,903	45.76%
8					
9	Total Water Revenues	$ 10,020,701	$ 12,850,675	$ 2,829,974	28.24%
10					
11					
12	Miscellaneous Revenues	103,758	103,758	-	0.00%
13					
14	Total Operating Revenues	$ 10,124,459	$ 12,954,433	$ 2,829,974	27.95%
15					
16					
17	Pro Forma Adjustments (Sch. C-1, Ln. 10)	(1,197,683)			
18	Subtotal (Ln. 14 - Ln. 17)	$ 11,322,142			
19					
20	Total G.L. Operating Revenues				
21	Test Year Ended 12/31/10 (Sch. C-1, Ln. 10)	11,322,340			
22	Unreconciled Difference (Ln. 18 - Ln. 21)	$ (197)			
23	%	0.00%			
24					
25	Target Revenue Requirement (Sch. C-1, Ln. 10)		12,954,433		
26	Difference (Ln. 14 - Ln. 25)		$ 0		
27	Less: Consolidated Revenue Adjustment[1]		-		
28	Over/(Short)		$ 0		
29	%		0.00%		
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53	[1]Consolidated Revenue Adjustment represents				
54	*the increase/(decrease) in revenue requirement*				
55	resulting from proposed rate consolidation.				

ARIZONA WATER COMPANY
Test Year Ended December 31, 2011
Summary of Revenues by Customer
Classification - Present & Proposed Rates

Line No.	Customer Classification	Navajo [A] Revenues in Test Year: Test Year Rates Sch. H-2 Col. E	Navajo [B] Revenues in Test Year: Proposed Rates Sch. H-2 Col. F	Navajo [C] Proposed Increase: Amount	Navajo [D] Proposed Increase: %	Verde Valley (Sedona, Pinewood, Rimrock) [E] Revenues in Test Year: Test Year Rates Sch. H-2 Col. E	Verde Valley [F] Revenues in Test Year: Proposed Rates Sch. H-2 Col. F	Verde Valley [G] Proposed Increase: Amount	Verde Valley [H] Proposed Increase: %
1	Customer Classification	Sch. H-2 Col. E	Sch. H-2 Col. F	Amount	%	Sch. H-2 Col. E	Sch. H-2 Col. F	Amount	%
2									
3	Residential	$ 3,065,682	$ 3,674,671	$ 608,989	19.86%	$ 4,870,440	$ 6,042,621	$ 1,172,181	24.07%
4	Commercial	459,129	620,127	160,997	35.07%	1,544,132	2,412,595	868,463	56.24%
5	Industrial	532	925	392	73.70%	3,699	5,144	1,445	39.07%
6	Private Fire Service	14,767	16,350	1,583	10.72%	45,049	53,070	8,021	17.81%
7	Other Water Revenues	12,449	18,847	6,398	51.39%	4,820	6,325	1,505	31.21%
8									
9	Total Water Revenues	$ 3,552,561	$ 4,330,920	$ 778,359	21.91%	$ 6,468,140	$ 8,519,755	$ 2,051,615	31.72%
10									
11									
12	Miscellaneous Revenues	42,441	42,441	-	0.00%	61,317	61,317	-	0.00%
13									
14	Total Operating Revenues	$ 3,595,002	$ 4,373,361	$ 778,359	21.65%	$ 6,529,457	$ 8,581,072	$ 2,051,615	31.42%
15									
16									
17	Pro Forma Adjustments (Sch. C-1, Ln. 10)	(322,204)				(875,480)			
18	Subtotal (Ln. 14 - Ln. 17)	$ 3,917,205				$ 7,404,937			
19									
20	Total G.L. Operating Revenues								
21	Test Year Ended 12/31/10 (Sch. C-1, Ln. 10)	3,917,284				7,405,056			
22	Unreconciled Difference (Ln. 18 - Ln. 21)	$ (79)				$ (119)			
23	%	0.00%				0.00%			
24									
25	Target Revenue Requirement (Sch. C-1, Ln. 10)		4,373,361				8,581,072		
26	Difference (Ln. 14 - Ln. 25)		$ (0)				$ 0		
27	Less: Consolidated Revenue Adjustment[1]		-				-		
28	Over/(Short)		$ (0)				$ 0		
29	%		0.00%				0.00%		
30									
31									
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52									
53	[1]Consolidated Revenue Adjustment represents								
54	the *increase/(decrease)* in revenue requirement								
55	resulting from proposed rate consolidation.								

ARIZONA WATER COMPANY
Test Year Ended December 31, 2011
Detail Analysis of Revenue by Class

		Northern Group							
		[A]	[B]	[C]	[D]	[E]	[F]	[G]	[H]
				Bill Count Water Revenues					
Line No.	Detail Class of Service	Average Number of Customers	Average Consumption	Test Year Rates	Normalizing Adjustments (IS-6 & IS-7)	Adjusted T.Y. Rates [C + D]	Proposed Rates	Proposed Increase [F - E]	%
1									
2	Residential 5/8 x 3/4 -inch	17,742	4,727	$ 7,092,751	$ (105,568)	$ 6,987,183	$ 8,524,185	$ 1,537,002	22.00%
3	Residential 1-inch	577	14,214	631,030	(8,772)	622,258	788,083	165,825	26.65%
4	Residential 1.5-inch	-	-	-	-	-	-	-	0.00%
5	Residential 2-inch	50	61,988	216,509	(4,258)	212,251	254,020	41,768	19.68%
6	Residential 3-inch	2	136,990	19,800	(488)	19,312	21,043	1,731	8.96%
7	Residential 4-inch	4	189,372	52,004	(1,076)	50,929	59,946	9,017	17.71%
8	Residential 6-inch	1	1,276,575	45,280	(1,092)	44,189	70,014	25,826	58.44%
9	Residential 8-inch	-	-	-	-	-	-	-	0.00%
10	Residential 10-inch	-	-	-	-	-	-	-	0.00%
11	Commercial 5/8 x 3/4 -inch	593	10,649	362,011	6,807	368,819	548,830	180,012	48.81%
12	Commercial 1-inch	292	26,516	429,267	8,124	437,391	658,631	221,240	50.58%
13	Commercial 1.5-inch	-	-	-	-	-	-	-	0.00%
14	Commercial 2-inch	185	72,698	783,392	14,548	797,940	1,192,280	394,339	49.42%
15	Commercial 3-inch	8	443,747	138,310	2,611	140,922	233,834	92,913	65.93%
16	Commercial 4-inch	8	351,505	126,621	2,323	128,945	208,387	79,442	61.61%
17	Commercial 6-inch	3	395,267	70,884	1,440	72,324	108,399	36,075	49.88%
18	Commercial 8-inch	2	360,200	55,898	1,023	56,922	82,361	25,439	44.69%
19	Commercial 10-inch	-	-	-	-	-	-	-	0.00%
20	Industrial 5/8 x 3/4 -inch	0	6,100	187	-	187	284	97	51.85%
21	Industrial 1-inch	1	1,242	508	-	508	865	357	70.29%
22	Industrial 1.5-inch	-	-	-	-	-	-	-	0.00%
23	Industrial 2-inch	-	-	-	-	-	-	-	0.00%
24	Industrial 3-inch	-	-	-	-	-	-	-	0.00%
25	Industrial 4-inch	-	-	-	-	-	-	-	0.00%
26	Industrial 6-inch	-	-	-	-	-	-	-	0.00%
27	Industrial 8-inch	0	16,900	3,536	-	3,536	4,919	1,383	39.12%
28	Industrial 10-inch	-	-	-	-	-	-	-	0.00%
29	Private Fire Serivce	200	-	59,816	-	59,816	69,420	9,604	16.06%
30	Other Water Revenues								
31	Public Fire Hydrant	-	-	-	-	-	-	-	0.00%
32	Coin Machine	-	-	259	-	259	475	216	83.39%
33	Construction Water 2-Inch	-	-	-	-	-	-	-	0.00%
34	Construction Water 3-Inch	3	37,928	17,011	-	17,011	24,698	7,687	45.19%
35	Construction Water 4-Inch	-	-	-	-	-	-	-	0.00%
36	Sales for Resale 5/8 x 3/4-Inch	-	-	-	-	-	-	-	0.00%
37	Sales for Resale 1-Inch	-	-	-	-	-	-	-	0.00%
38	Sales for Resale 1.5-Inch	-	-	-	-	-	-	-	0.00%
39	Sales for Resale 2-Inch	-	-	-	-	-	-	-	0.00%
40	Sales for Resale 3-Inch	-	-	-	-	-	-	-	0.00%
41	Sales for Resale 4-Inch	-	-	-	-	-	-	-	0.00%
42	Sales for Resale 6-Inch	-	-	-	-	-	-	-	0.00%
43	Sales for Resale 8-Inch	-	-	-	-	-	-	-	0.00%
44	Sales for Resale 10-Inch	-	-	-	-	-	-	-	0.00%
45									
46	Totals	19,671	6,786	$ 10,105,077	$ (84,376)	$ 10,020,701	$ 12,850,675	$ 2,829,974	28.24%
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ARIZONA WATER COMPANY
Test Year Ended December 31, 2011
Summary Analysis of Revenue by Class

Northern Group

Line No.	Summary Class of Service	[A] Average Number of Customers	[B] Average Consumption	[C] Bill Count Water Revenues: Test Year Rates	[D] Normalizing Adjustments (IS-6 & IS-7)	[E] Adjusted T.Y. Rates [C + D]	[F] Proposed Rates	[G] Proposed Increase [F - E]	[H] %	[I] G.L. Water Revenues: T.Y. Ended 12/31/2011 Sch. C-2 Col. A	[J] Revenue Adjustments Sch. C-2, Col. A	[K] Adjusted G.L. Revenues [I + J]	[L] Unreconciled Difference [E - K]	[M] %
1														
2	Total Residential	18,375	5,299	$ 8,057,375	$ (121,254)	$ 7,936,122	$ 9,717,291	$ 1,781,170	22.44%	$ 8,897,832	$ (961,547)	$ 7,936,285	$ (163)	
3	Total Commercial	1,091	32,966	1,966,384	36,877	2,003,262	3,032,722	1,029,460	51.39%	2,221,794	(218,528)	2,003,266	(4)	
4	Total Industrial	2	4,168	4,231	-	4,231	6,069	1,838	43.43%	3,594	638	4,231	0	
5	Total Private Fire	200	-	59,816	-	59,816	69,420	9,604	16.06%	66,835	(7,019)	59,816	-	
6	Total Other Water Revenues	3	37,928	17,270	-	17,270	25,172	7,903	45.76%	18,845	(1,545)	17,300	(30)	
7														
8	Totals	19,671	6,786	$ 10,105,077	$ (84,376)	$ 10,020,701	$ 12,850,675	$ 2,829,974	28.24%	$ 11,208,900	$ (1,188,002)	$ 10,020,898	$ (197)	0.00%
9														
10	Miscellaneous Revenues	-	-	103,758	-	103,758	103,758	-	0.00%					
11	Total Revenue Generated						$ 12,954,433							
12														
13	Target Rev. Rqmt. (Sch. C-1)						12,954,433							
14	Difference						$ 0							
15														
16	Less: Consolidated Revenue Adj.						-							
17	Over/(Short)						$ 0							
18	%						0.00%							
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ARIZONA WATER COMPANY
Test Year Ended December 31, 2011
Detail Analysis of Revenue by Class

Navajo

Line No.	Detail Class of Service	[A] Average Number of Customers	[B] Average Consumption	[C] Test Year Rates	[D] Normalizing Adjustments (IS-6 & IS-7)	[E] Adjusted T.Y. Rates [C + D]	[F] Proposed Rates	[G] Proposed Increase [F - E]	[H] %
				Bill Count Water Revenues					
1									
2	Residential 5/8 x 3/4 -inch	8,653	3,150	$ 2,932,446	$ (46,172)	$ 2,886,274	$ 3,472,450	$ 586,176	20.31%
3	Residential 1-inch	36	17,465	58,160	(1,384)	56,776	62,627	5,851	10.31%
4	Residential 1.5-inch	-	-	-	-	-	-	-	0.00%
5	Residential 2-inch	24	27,040	71,853	(1,225)	70,628	83,001	12,373	17.52%
6	Residential 3-inch	2	136,990	19,800	(488)	19,312	21,043	1,731	8.96%
7	Residential 4-inch	2	219,500	33,531	(838)	32,692	35,550	2,858	8.74%
8	Residential 6-inch	-	-	-	-	-	-	-	0.00%
9	Residential 8-inch	-	-	-	-	-	-	-	0.00%
10	Residential 10-inch	-	-	-	-	-	-	-	0.00%
11	Commercial 5/8 x 3/4 -inch	224	6,569	125,055	3,000	128,055	174,791	46,736	36.50%
12	Commercial 1-inch	65	19,828	106,261	2,593	108,854	142,286	33,432	30.71%
13	Commercial 1.5-inch	-	-	-	-	-	-	-	0.00%
14	Commercial 2-inch	38	52,714	168,313	4,061	172,374	232,746	60,373	35.02%
15	Commercial 3-inch	2	118,730	20,894	526	21,420	28,299	6,879	32.11%
16	Commercial 4-inch	1	36,286	6,812	175	6,987	11,696	4,709	67.40%
17	Commercial 6-inch	1	232,133	20,910	530	21,440	30,308	8,868	41.36%
18	Commercial 8-inch	-	-	-	-	-	-	-	0.00%
19	Commercial 10-inch	-	-	-	-	-	-	-	0.00%
20	Industrial 5/8 x 3/4 -inch	0	6,100	187		187	284	97	51.85%
21	Industrial 1-inch	1	1,656	345		345	640	295	85.56%
22	Industrial 1.5-inch	-	-	-		-	-	-	0.00%
23	Industrial 2-inch	-	-	-		-	-	-	0.00%
24	Industrial 3-inch	-	-	-		-	-	-	0.00%
25	Industrial 4-inch	-	-	-		-	-	-	0.00%
26	Industrial 6-inch	-	-	-		-	-	-	0.00%
27	Industrial 8-inch	-	-	-		-	-	-	0.00%
28	Industrial 10-inch	-	-	-		-	-	-	0.00%
29	Private Fire Serivce	55	-	14,767		14,767	16,350	1,583	10.72%
30	Other Water Revenues								
31	Public Fire Hydrant	-	-	-		-	-	-	0.00%
32	Coin Machine	-	-	-		-	-	-	0.00%
33	Construction Water 2-Inch	-	-	-		-	-	-	0.00%
34	Construction Water 3-Inch	2	46,738	12,449		12,449	18,847	6,398	51.39%
35	Construction Water 4-Inch	-	-	-		-	-	-	0.00%
36	Sales for Resale 5/8 x 3/4-Inch	-	-	-		-	-	-	0.00%
37	Sales for Resale 1-Inch	-	-	-		-	-	-	0.00%
38	Sales for Resale 1.5-Inch	-	-	-		-	-	-	0.00%
39	Sales for Resale 2-Inch	-	-	-		-	-	-	0.00%
40	Sales for Resale 3-Inch	-	-	-		-	-	-	0.00%
41	Sales for Resale 4-Inch	-	-	-		-	-	-	0.00%
42	Sales for Resale 6-Inch	-	-	-		-	-	-	0.00%
43	Sales for Resale 8-Inch	-	-	-		-	-	-	0.00%
44	Sales for Resale 10-Inch	-	-	-		-	-	-	0.00%
45									
46	Totals	9,107	3,800	$ 3,591,784	$ (39,223)	$ 3,552,561	$ 4,330,920	$ 778,359	21.91%
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Navajo

Line No.	Summary Class of Service	[A] Average Number of Customers	[B] Average Consumption	[C] Bill Count Water Revenues: Test Year Rates	[D] Normalizing Adjustments (IS-6 & IS-7)	[E] Adjusted T.Y. Rates [C + D]	[F] Proposed Rates	[G] Proposed Increase [F - E]	[H] %	[I] G.L. Water Revenues: T.Y. Ended 12/31/2011 Sch. C-2 Col. A	[J] Revenue Adjustments Sch. C-2, Col. AI	[K] Adjusted G.L. Revenues [I + J]	[L] Unreconciled Difference [E - K]	[M] %
1														
2	Total Residential	8,717	3,349	$ 3,115,790	$ (50,108)	$ 3,065,682	$ 3,674,671	$ 608,989	19.86%	$ 3,355,969	$ (290,248)	$ 3,065,720	$ (38)	
3	Total Commercial	332	15,988	448,245	10,885	459,129	620,127	160,997	35.07%	485,813	(26,674)	459,139	(10)	
4	Total Industrial	1	3,243	532	-	532	925	392	73.70%	374	158	532	0	
5	Total Private Fire	55	-	14,767	-	14,767	16,350	1,583	10.72%	15,974	(1,207)	14,767	-	
6	Total Other Water Revenues	2	46,738	12,449	-	12,449	18,847	6,398	51.39%	13,498	(1,018)	12,480	(30)	
7														
8	Totals	9,107	3,800	$ 3,591,784	$ (39,223)	$ 3,552,561	$ 4,330,920	$ 778,359	21.91%	$ 3,871,628	$ (318,989)	$ 3,552,639	$ (79)	0.00%
9														
10	Miscellaneous Revenues	-	-	42,441	-	42,441	42,441	-	0.00%					
11	Total Revenue Generated						$ 4,373,361							
12														
13	Target Rev. Rqmt. (Sch. C-1)						$ 4,373,361							
14	Difference						$ (0)							
15														
16	Less: Consolidated Revenue Adj.						-							
17	Over/(Short)						$ (0)							
18	%						0.00%							
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ARIZONA WATER COMPANY
Test Year Ended December 31, 2011
Detail Analysis of Revenue by Class

		Verde Valley (Sedona, Pinewood, Rimrock)							
		[A]	[B]	[C]	[D]	[E]	[F]	[G]	[H]
				Bill Count Water Revenues					
Line No.	Detail Class of Service	Average Number of Customers	Average Consumption	Test Year Rates	Normalizing Adjustments (IS-6 & IS-7)	Adjusted T.Y. Rates [C + D]	Proposed Rates	Proposed Increase [F - E]	%
1									
2	Residential 5/8 x 3/4 -inch	9,089	6,229	$ 4,160,305	$ (59,396)	$ 4,100,909	$ 5,051,735	$ 950,826	23.19%
3	Residential 1-inch	540	13,996	572,870	(7,388)	565,482	725,456	159,974	28.29%
4	Residential 1.5-inch	-	-	-	-	-	-	-	0.00%
5	Residential 2-inch	26	94,367	144,656	(3,033)	141,624	171,019	29,395	20.76%
6	Residential 3-inch	-	-	-	-	-	-	-	0.00%
7	Residential 4-inch	2	157,810	18,474	(237)	18,236	24,396	6,160	33.78%
8	Residential 6-inch	1	1,276,575	45,280	(1,092)	44,189	70,014	25,826	58.44%
9	Residential 8-inch	-	-	-	-	-	-	-	0.00%
10	Residential 10-inch	-	-	-	-	-	-	-	0.00%
11	Commercial 5/8 x 3/4 -inch	369	13,129	236,956	3,808	240,763	374,039	133,276	55.36%
12	Commercial 1-inch	227	28,437	323,006	5,531	328,537	516,345	187,808	57.16%
13	Commercial 1.5-inch	-	-	-	-	-	-	-	0.00%
14	Commercial 2-inch	147	77,833	615,079	10,487	625,567	959,534	333,967	53.39%
15	Commercial 3-inch	6	565,629	117,417	2,085	119,502	205,535	86,034	71.99%
16	Commercial 4-inch	7	402,230	119,809	2,149	121,958	196,691	74,733	61.28%
17	Commercial 6-inch	2	476,833	49,975	910	50,884	78,090	27,206	53.47%
18	Commercial 8-inch	2	360,200	55,898	1,023	56,922	82,361	25,439	44.69%
19	Commercial 10-inch	-	-	-	-	-	-	-	0.00%
20	Industrial 5/8 x 3/4 -inch	-	-	-		-	-	-	0.00%
21	Industrial 1-inch	0	-	163		163	225	62	37.97%
22	Industrial 1.5-inch	-	-	-		-	-	-	0.00%
23	Industrial 2-inch	-	-	-		-	-	-	0.00%
24	Industrial 3-inch	-	-	-		-	-	-	0.00%
25	Industrial 4-inch	-	-	-		-	-	-	0.00%
26	Industrial 6-inch	-	-	-		-	-	-	0.00%
27	Industrial 8-inch	0	16,900	3,536		3,536	4,919	1,383	39.12%
28	Industrial 10-inch	-	-	-		-	-	-	0.00%
29	Private Fire Serivce	145	-	45,049		45,049	53,070	8,021	17.81%
30	Other Water Revenues								
31	Public Fire Hydrant	-	-	-		-	-	-	0.00%
32	Coin Machine	-	-	259		259	475	216	83.39%
33	Construction Water 2-Inch	-	-	-		-	-	-	0.00%
34	Construction Water 3-Inch	1	14,700	4,562		4,562	5,850	1,289	28.25%
35	Construction Water 4-Inch	-	-	-		-	-	-	0.00%
36	Sales for Resale 5/8 x 3/4-Inch	-	-	-		-	-	-	0.00%
37	Sales for Resale 1-Inch	-	-	-		-	-	-	0.00%
38	Sales for Resale 1.5-Inch	-	-	-		-	-	-	0.00%
39	Sales for Resale 2-Inch	-	-	-		-	-	-	0.00%
40	Sales for Resale 3-Inch	-	-	-		-	-	-	0.00%
41	Sales for Resale 4-Inch	-	-	-		-	-	-	0.00%
42	Sales for Resale 6-Inch	-	-	-		-	-	-	0.00%
43	Sales for Resale 8-Inch	-	-	-		-	-	-	0.00%
44	Sales for Resale 10-Inch	-	-	-		-	-	-	0.00%
45									
46	Totals	10,564	9,360	$ 6,513,293	$ (45,153)	$ 6,468,140	$ 8,519,755	$ 2,051,615	31.72%
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ARIZONA WATER COMPANY
Test Year Ended December 31, 2011
Summary Analysis of Revenue by Class

Verde Valley (Sedona, Pinewood, Rimrock)

Line No.	Summary Class of Service	[A] Average Number of Customers	[B] Average Consumption	[C] Test Year Rates	[D] Normalizing Adjustments (IS-6 & IS-7)	[E] Adjusted T.Y. Rates [C + D]	[F] Proposed Rates	[G] Proposed Increase [F - E]	[H] %	[I] T.Y. Ended 12/31/2011 Sch. C-2 Col. A	[J] Revenue Adjustments Sch. C-2, Col. AI	[K] Adjusted G.L. Revenues [I + J]	[L] Unreconciled Difference [E - K]	[M] %
				Bill Count Water Revenues						G.L. Water Revenues				
1														
2	Total Residential	9,658	7,060	$ 4,941,586	$ (71,146)	$ 4,870,440	$ 6,042,621	$ 1,172,181	24.07%	$ 5,541,864	$ (671,299)	$ 4,870,565	$ (125)	
3	Total Commercial	760	40,373	1,518,140	25,993	1,544,132	2,412,595	868,463	56.24%	1,735,981	(191,855)	1,544,126	6	
4	Total Industrial	0	6,760	3,699	-	3,699	5,144	1,445	39.07%	3,220	479	3,699	(0)	
5	Total Private Fire	145	-	45,049	-	45,049	53,070	8,021	17.81%	50,861	(5,812)	45,049	-	
6	Total Other Water Revenues	1	14,700	4,820	-	4,820	6,325	1,505	31.21%	5,347	(527)	4,820	(0)	
7														
8	Totals	10,564	9,360	$ 6,513,293	$ (45,153)	$ 6,468,140	$ 8,519,755	$ 2,051,615	31.72%	$ 7,337,272	$ (869,013)	$ 6,468,259	$ (119)	0.00%
9														
10	Miscellaneous Revenues	-	-	61,317	-	61,317	61,317	-	0.00%					
11	Total Revenue Generated						$ 8,581,072							
12														
13	Target Rev. Rqmt. (Sch. C-1)						8,581,072							
14	Difference						$ 0							
15														
16	Less: Consolidated Revenue Adj.						-							
17	Over/(Short)						$ 0							
18	%						0.00%							
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ARIZONA WATER COMPANY
Test Year Ended December 31, 2011
Detail Analysis of Revenue by Class

		Verde Valley (Sedona)							
		[A]	[B]	[C]	[D]	[E]	[F]	[G]	[H]
				Bill Count Water Revenues					
Line No.	Detail Class of Service	Average Number of Customers	Average Consumption	Test Year Rates	Normalizing Adjustments (IS-6 & IS-7)	Adjusted T.Y. Rates [C + D]	Proposed Rates	Proposed Increase [F - E]	%
1									
2	Residential 5/8 x 3/4 -inch	5,077	8,751	$ 2,459,381	$ (38,077)	$ 2,421,305	$ 3,380,910	$ 959,605	39.63%
3	Residential 1-inch	528	14,201	561,420	(7,271)	554,149	714,059	159,909	28.86%
4	Residential 1.5-inch	-	-	-	-	-	-	-	0.00%
5	Residential 2-inch	24	70,211	93,614	(1,459)	92,155	128,780	36,625	39.74%
6	Residential 3-inch	-	-	-	-	-	-	-	0.00%
7	Residential 4-inch	2	157,810	18,474	(237)	18,236	24,396	6,160	33.78%
8	Residential 6-inch	1	1,276,575	45,280	(1,092)	44,189	70,014	25,826	58.44%
9	Residential 8-inch	-	-	-	-	-	-	-	0.00%
10	Residential 10-inch	-	-	-	-	-	-	-	0.00%
11	Commercial 5/8 x 3/4 -inch	334	13,785	214,310	3,769	218,079	350,684	132,605	60.81%
12	Commercial 1-inch	222	28,863	317,643	5,522	323,164	510,334	187,170	57.92%
13	Commercial 1.5-inch	-	-	-	-	-	-	-	0.00%
14	Commercial 2-inch	141	79,817	587,902	10,438	598,341	929,960	331,619	55.42%
15	Commercial 3-inch	6	565,629	117,417	2,085	119,502	205,535	86,034	71.99%
16	Commercial 4-inch	7	402,230	119,809	2,149	121,958	196,691	74,733	61.28%
17	Commercial 6-inch	2	476,833	49,975	910	50,884	78,090	27,206	53.47%
18	Commercial 8-inch	2	360,200	55,898	1,023	56,922	82,361	25,439	44.69%
19	Commercial 10-inch	-	-	-	-	-	-	-	0.00%
20	Industrial 5/8 x 3/4 -inch	-	-	-		-	-	-	0.00%
21	Industrial 1-inch	-	-	-		-	-	-	0.00%
22	Industrial 1.5-inch	-	-	-		-	-	-	0.00%
23	Industrial 2-inch	-	-	-		-	-	-	0.00%
24	Industrial 3-inch	-	-	-		-	-	-	0.00%
25	Industrial 4-inch	-	-	-		-	-	-	0.00%
26	Industrial 6-inch	-	-	-		-	-	-	0.00%
27	Industrial 8-inch	0	16,900	3,536		3,536	4,919	1,383	39.12%
28	Industrial 10-inch	-	-	-		-	-	-	0.00%
29	Private Fire Serivce	140	-	43,495		43,495	51,240	7,745	17.81%
30	Other Water Revenues								
31	Public Fire Hydrant	-	-	-		-	-	-	0.00%
32	Coin Machine	-	-	259		259	475	216	83.39%
33	Construction Water 2-Inch	-	-	-		-	-	-	0.00%
34	Construction Water 3-Inch	0	20,375	1,635		1,635	2,208	573	35.06%
35	Construction Water 4-Inch	-	-	-		-	-	-	0.00%
36	Sales for Resale 5/8 x 3/4-Inch	-	-	-		-	-	-	0.00%
37	Sales for Resale 1-Inch	-	-	-		-	-	-	0.00%
38	Sales for Resale 1.5-Inch	-	-	-		-	-	-	0.00%
39	Sales for Resale 2-Inch	-	-	-		-	-	-	0.00%
40	Sales for Resale 3-Inch	-	-	-		-	-	-	0.00%
41	Sales for Resale 4-Inch	-	-	-		-	-	-	0.00%
42	Sales for Resale 6-Inch	-	-	-		-	-	-	0.00%
43	Sales for Resale 8-Inch	-	-	-		-	-	-	0.00%
44	Sales for Resale 10-Inch	-	-	-		-	-	-	0.00%
45									
46	Totals	6,487	13,158	$ 4,690,048	$ (22,240)	$ 4,667,808	$ 6,730,655	$ 2,062,847	44.19%
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ARIZONA WATER COMPANY
Test Year Ended December 31, 2011
Summary Analysis of Revenue by Class

Verde Valley (Sedona)

		[A]	[B]	[C]	[D]	[E]	[F]	[G]	[H]	[I]	[J]	[K]	[L]	[M]
				Bill Count Water Revenues						G.L. Water Revenues				
Line No.	Summary Class of Service	Average Number of Customers	Average Consumption	Test Year Rates	Normalizing Adjustments (IS-6 & IS-7)	Adjusted T.Y. Rates [C + D]	Proposed Rates	Proposed Increase [F - E]	%	T.Y. Ended 12/31/2011 Per G.L.	Revenue Adjustments Sch. C-2 Appdx.	Adjusted G.L. Revenues [I + J]	Unreconciled Difference [E - K]	%
1														
2	Total Residential	5,632	9,797	$ 3,178,169	$ (48,135)	$ 3,130,034	$ 4,318,159	$ 1,188,125	37.96%	$ 3,624,656	$ (494,624)	$ 3,130,032	$ 2	
3	Total Commercial	714	42,250	1,462,954	25,895	1,488,849	2,353,655	864,806	58.09%	1,676,357	(187,514)	1,488,843	6	
4	Total Industrial	0	16,900	3,536	-	3,536	4,919	1,383	39.12%	3,065	471	3,536	(0)	
5	Total Private Fire	140	-	43,495	-	43,495	51,240	7,745	17.81%	49,186	(5,691)	43,495	-	
6	Total Other Water Revenues	0	20,375	1,893	-	1,893	2,682	789	41.66%	2,190	(297)	1,893	(0)	
7														
8	Totals	6,487	13,158	$ 4,690,048	$ (22,240)	$ 4,667,808	$ 6,730,655	$ 2,062,847	44.19%	$ 5,355,454	$ (687,654)	$ 4,667,800	$ 8	0.00%
9														
10	Miscellaneous Revenues	-	-	37,669	-	37,669	37,669	-	0.00%					
11	Total Revenue Generated						See p. 6							
12														
13	Target Rev. Rqmt. (Sch. C-1)						See p. 6							
14	Difference						See p. 6							
15														
16	Less: Consolidated Revenue Adj.						See p. 6							
17	Over/(Short)						See p. 6							
18	%						See p. 6							
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ARIZONA WATER COMPANY
Test Year Ended December 31, 2011
Detail Analysis of Revenue by Class

		Verde Valley (Pinewood, Rimrock)							
		[A]	[B]	[C]	[D]	[E]	[F]	[G]	[H]
				Bill Count Water Revenues					
Line No.	Detail Class of Service	Average Number of Customers	Average Consumption	Test Year Rates	Normalizing Adjustments (IS-6 & IS-7)	Adjusted T.Y. Rates [C + D]	Proposed Rates	Proposed Increase [F - E]	%
1									
2	Residential 5/8 x 3/4 -inch	4,012	3,036	$ 1,700,924	$ (21,320)	$ 1,679,604	$ 1,670,826	$ (8,778)	-0.52%
3	Residential 1-inch	12	4,935	11,450	(118)	11,333	11,397	64	0.57%
4	Residential 1.5-inch	-	-	-	-	-	-	-	0.00%
5	Residential 2-inch	2	385,246	51,043	(1,574)	49,469	42,239	(7,230)	-14.61%
6	Residential 3-inch	-	-	-	-	-	-	-	0.00%
7	Residential 4-inch	-	-	-	-	-	-	-	0.00%
8	Residential 6-inch	-	-	-	-	-	-	-	0.00%
9	Residential 8-inch	-	-	-	-	-	-	-	0.00%
10	Residential 10-inch	-	-	-	-	-	-	-	0.00%
11	Commercial 5/8 x 3/4 -inch	35	6,773	22,646	39	22,685	23,356	671	2.96%
12	Commercial 1-inch	5	8,491	5,363	10	5,373	6,011	638	11.88%
13	Commercial 1.5-inch	-	-	-	-	-	-	-	0.00%
14	Commercial 2-inch	7	35,983	27,177	49	27,226	29,574	2,348	8.62%
15	Commercial 3-inch	-	-	-	-	-	-	-	0.00%
16	Commercial 4-inch	-	-	-	-	-	-	-	0.00%
17	Commercial 6-inch	-	-	-	-	-	-	-	0.00%
18	Commercial 8-inch	-	-	-	-	-	-	-	0.00%
19	Commercial 10-inch	-	-	-	-	-	-	-	0.00%
20	Industrial 5/8 x 3/4 -inch	-	-	-		-	-	-	0.00%
21	Industrial 1-inch	0	-	163		163	225	62	37.97%
22	Industrial 1.5-inch	-	-	-		-	-	-	0.00%
23	Industrial 2-inch	-	-	-		-	-	-	0.00%
24	Industrial 3-inch	-	-	-		-	-	-	0.00%
25	Industrial 4-inch	-	-	-		-	-	-	0.00%
26	Industrial 6-inch	-	-	-		-	-	-	0.00%
27	Industrial 8-inch	-	-	-		-	-	-	0.00%
28	Industrial 10-inch	-	-	-		-	-	-	0.00%
29	Private Fire Serivce	5	-	1,553		1,553	1,830	277	17.81%
30	Other Water Revenues								
31	Public Fire Hydrant	-	-	-		-	-	-	0.00%
32	Coin Machine	-	-	-		-	-	-	0.00%
33	Construction Water 2-Inch	-	-	-		-	-	-	0.00%
34	Construction Water 3-Inch	1	11,457	2,927		2,927	3,643	716	24.46%
35	Construction Water 4-Inch	-	-	-		-	-	-	0.00%
36	Sales for Resale 5/8 x 3/4-Inch	-	-	-		-	-	-	0.00%
37	Sales for Resale 1-Inch	-	-	-		-	-	-	0.00%
38	Sales for Resale 1.5-Inch	-	-	-		-	-	-	0.00%
39	Sales for Resale 2-Inch	-	-	-		-	-	-	0.00%
40	Sales for Resale 3-Inch	-	-	-		-	-	-	0.00%
41	Sales for Resale 4-Inch	-	-	-		-	-	-	0.00%
42	Sales for Resale 6-Inch	-	-	-		-	-	-	0.00%
43	Sales for Resale 8-Inch	-	-	-		-	-	-	0.00%
44	Sales for Resale 10-Inch	-	-	-		-	-	-	0.00%
45									
46	Totals	4,078	3,318	$ 1,823,246	$ (22,913)	$ 1,800,332	$ 1,789,100	$ (11,232)	-0.62%
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ARIZONA WATER COMPANY
Test Year Ended December 31, 2011
Summary Analysis of Revenue by Class

Verde Valley (Pinewood, Rimrock)

		[A]	[B]	[C]	[D]	[E]	[F]	[G]	[H]	[I]	[J]	[K]	[L]	[M]
				Bill Count Water Revenues						G.L. Water Revenues				
Line No.	Summary Class of Service	Average Number of Customers	Average Consumption	Test Year Rates	Normalizing Adjustments (IS-6 & IS-7)	Adjusted T.Y. Rates [C + D]	Proposed Rates	Proposed Increase [F - E]	%	T.Y. Ended 12/31/2011 Per G.L.	Revenue Adjustments Sch. C-2 Appdx.	Adjusted G.L. Revenues [I + J]	Unreconciled Difference [E - K]	%
1														
2	Total Residential	4,026	3,231	$ 1,763,417	$ (23,011)	$ 1,740,406	$ 1,724,462	$ (15,944)	-0.92%	$ 1,917,208	$ (176,675)	$ 1,740,532	$ (127)	
3	Total Commercial	46	11,192	55,185	98	55,283	58,940	3,657	6.62%	59,624	(4,341)	55,283	0	
4	Total Industrial	0	-	163	-	163	225	62	37.97%	155	8	163	-	
5	Total Private Fire	5	-	1,553	-	1,553	1,830	277	17.81%	1,675	(121)	1,553	-	
6	Total Other Water Revenues	1	11,457	2,927	-	2,927	3,643	716	24.46%	3,157	(230)	2,927	(0)	
7														
8	Totals	4,078	3,318	$ 1,823,246	$ (22,913)	$ 1,800,332	$ 1,789,100	$ (11,232)	-0.62%	$ 1,981,818	$ (181,360)	$ 1,800,459	$ (126)	-0.01%
9														
10	Miscellaneous Revenues	-	-	23,648	-	23,648	23,648	-	0.00%					
11	Total Revenue Generated						See p. 6							
12														
13	Target Rev. Rqmt. (Sch. C-1)						See p. 6							
14	Difference						See p. 6							
15														
16	Less: Consolidated Revenue Adj.						See p. 6							
17	Over/(Short)						See p. 6							
18	%						See p. 6							
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Navajo

Line No.	Class of Service	[A] Rate Block	[B] Present	[C] Proposed	[D] Basic Service Charge Present Rate	[E] Basic Service Charge Proposed Rate	[F] Basic Service Charge Change	[G] Volumetric Charge (/M Gal) Present Rate	[H] Volumetric Charge (/M Gal) Proposed Rate	[I] Volumetric Charge (/M Gal) Change
1										
2	Residential 5/8 x 3/4 -inch	Tier One Breakover (M Gal):	3	3	$ 12.64	$ 18.25	$ 5.61	$ 4.2771	$ 4.1788	$ (0.0983)
3		Tier Two Breakover (M Gal):	10	10				5.1320	5.2235	0.0915
4		Tier Three Breakover (M Gal):	99,999	99,999				6.1580	6.5294	0.3714
5										
6	Residential 1-inch	Tier One Breakover (M Gal):	10	25	$ 31.61	$ 45.63	$ 14.02	$ 5.1320	$ 5.2235	$ 0.0915
7		Tier Two Breakover (M Gal):	99,999	99,999				6.1580	6.5294	0.3714
8		Tier Three Breakover (M Gal):	99,999	99,999				6.1580	6.5294	0.3714
9										
10	Residential 1.5-inch	Tier One Breakover (M Gal):	n/a	55	n/a	$ 91.25	n/a	n/a	$ 5.2235	n/a
11		Tier Two Breakover (M Gal):	n/a	99,999				n/a	6.5294	n/a
12		Tier Three Breakover (M Gal):	n/a	99,999				n/a	6.5294	n/a
13										
14	Residential 2-inch	Tier One Breakover (M Gal):	50	90	$ 101.15	$ 146.00	$ 44.85	$ 5.1320	$ 5.2235	$ 0.0915
15		Tier Two Breakover (M Gal):	99,999	99,999				6.1580	6.5294	0.3714
16		Tier Three Breakover (M Gal):	99,999	99,999				6.1580	6.5294	0.3714
17										
18	Residential 3-inch	Tier One Breakover (M Gal):	125	175	$ 202.29	$ 292.00	$ 89.71	$ 5.1320	$ 5.2235	$ 0.0915
19		Tier Two Breakover (M Gal):	99,999	99,999				6.1580	6.5294	0.3714
20		Tier Three Breakover (M Gal):	99,999	99,999				6.1580	6.5294	0.3714
21										
22	Residential 4-inch	Tier One Breakover (M Gal):	200	275	$ 316.08	$ 456.25	$ 140.17	$ 5.1320	$ 5.2235	$ 0.0915
23		Tier Two Breakover (M Gal):	99,999	99,999				6.1580	6.5294	0.3714
24		Tier Three Breakover (M Gal):	99,999	99,999				6.1580	6.5294	0.3714
25										
26	Residential 6-inch	Tier One Breakover (M Gal):	350	550	$ 632.17	$ 912.50	$ 280.33	$ 5.1320	$ 5.2235	$ 0.0915
27		Tier Two Breakover (M Gal):	99,999	99,999				6.1580	6.5294	0.3714
28		Tier Three Breakover (M Gal):	99,999	99,999				6.1580	6.5294	0.3714
29										
30	Residential 8-inch	Tier One Breakover (M Gal):	650	925	$ 1,011.47	$ 1,460.00	$ 448.53	$ 5.1320	$ 5.2235	$ 0.0915
31		Tier Two Breakover (M Gal):	99,999	99,999				6.1580	6.5294	0.3714
32		Tier Three Breakover (M Gal):	99,999	99,999				6.1580	6.5294	0.3714
33										
34	Residential 10-inch	Tier One Breakover (M Gal):	1,080	1,300	$ 1,453.99	$ 2,098.75	$ 644.76	$ 5.1320	$ 5.2235	$ 0.0915
35		Tier Two Breakover (M Gal):	99,999	99,999				6.1580	6.5294	0.3714
36		Tier Three Breakover (M Gal):	99,999	99,999				6.1580	6.5294	0.3714
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55	**For Service Charges See Company-wide Service Charge Tariff at the end of this schedule**									

Navajo

Line No.	Class of Service	[A] Rate Block	[B] Present	[C] Proposed	[D] Basic Service Charge Present Rate	[E] Proposed Rate	[F] Change	[G] Volumetric Charge (/M Gal) Present Rate	[H] Proposed Rate	[I] Change
1										
2	Commercial 5/8 x 3/4 -inch	Tier One Breakover (M Gal):	10	10	$ 12.64	$ 25.00	$ 12.36	$ 4.6988	$ 5.2235	$ 0.5247
3		Tier Two Breakover (M Gal):	99,999	99,999				5.6386	6.5294	0.8908
4		Tier Three Breakover (M Gal):	99,999	99,999				5.6386	6.5294	0.8908
5										
6	Commercial 1-inch	Tier One Breakover (M Gal):	15	25	$ 31.61	$ 62.50	$ 30.89	$ 4.6988	$ 5.2235	$ 0.5247
7		Tier Two Breakover (M Gal):	99,999	99,999				5.6386	6.5294	0.8908
8		Tier Three Breakover (M Gal):	99,999	99,999				5.6386	6.5294	0.8908
9										
10	Commercial 1.5-inch	Tier One Breakover (M Gal):	n/a	55	n/a	$ 125.00	n/a	n/a	$ 5.2235	n/a
11		Tier Two Breakover (M Gal):	n/a	99,999				n/a	6.5294	n/a
12		Tier Three Breakover (M Gal):	n/a	99,999				n/a	6.5294	n/a
13										
14	Commercial 2-inch	Tier One Breakover (M Gal):	65	90	$ 101.15	$ 200.00	$ 98.85	$ 4.6988	$ 5.2235	$ 0.5247
15		Tier Two Breakover (M Gal):	99,999	99,999				5.6386	6.5294	0.8908
16		Tier Three Breakover (M Gal):	99,999	99,999				5.6386	6.5294	0.8908
17										
18	Commercial 3-inch	Tier One Breakover (M Gal):	125	175	$ 202.29	$ 400.00	$ 197.71	$ 4.6988	$ 5.2235	$ 0.5247
19		Tier Two Breakover (M Gal):	99,999	99,999				5.6386	6.5294	0.8908
20		Tier Three Breakover (M Gal):	99,999	99,999				5.6386	6.5294	0.8908
21										
22	Commercial 4-inch	Tier One Breakover (M Gal):	200	275	$ 316.08	$ 625.00	$ 308.92	$ 4.6988	$ 5.2235	$ 0.5247
23		Tier Two Breakover (M Gal):	99,999	99,999				5.6386	6.5294	0.8908
24		Tier Three Breakover (M Gal):	99,999	99,999				5.6386	6.5294	0.8908
25										
26	Commercial 6-inch	Tier One Breakover (M Gal):	400	550	$ 632.17	$ 1,250.00	$ 617.83	$ 4.6988	$ 5.2235	$ 0.5247
27		Tier Two Breakover (M Gal):	99,999	99,999				5.6386	6.5294	0.8908
28		Tier Three Breakover (M Gal):	99,999	99,999				5.6386	6.5294	0.8908
29										
30	Commercial 8-inch	Tier One Breakover (M Gal):	675	925	$ 1,011.47	$ 2,000.00	$ 988.53	$ 4.6988	$ 5.2235	$ 0.5247
31		Tier Two Breakover (M Gal):	99,999	99,999				5.6386	6.5294	0.8908
32		Tier Three Breakover (M Gal):	99,999	99,999				5.6386	6.5294	0.8908
33										
34	Commercial 10-inch	Tier One Breakover (M Gal):	1,080	1,300	$ 1,453.99	$ 2,875.00	$ 1,421.01	$ 4.6988	$ 5.2235	$ 0.5247
35		Tier Two Breakover (M Gal):	99,999	99,999				5.6386	6.5294	0.8908
36		Tier Three Breakover (M Gal):	99,999	99,999				5.6386	6.5294	0.8908
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54										
55	**For Service Charges See Company-wide Service Charge Tariff at the end of this schedule**									

Navajo

Line No.	Class of Service	[A] Rate Block	[B] Present	[C] Proposed	[D] Basic Service Charge Present Rate	[E] Basic Service Charge Proposed Rate	[F] Basic Service Charge Change	[G] Volumetric Charge (/M Gal) Present Rate	[H] Volumetric Charge (/M Gal) Proposed Rate	[I] Volumetric Charge (/M Gal) Change
1										
2	Industrial 5/8 x 3/4 -inch	Tier One Breakover (M Gal):	99,999	99,999	$ 12.64	$ 25.00	$ 12.36	$ 4.0667	$ 5.2235	$ 1.1568
3		Tier Two Breakover (M Gal):	99,999	99,999				4.0667	5.2235	1.1568
4		Tier Three Breakover (M Gal):	99,999	99,999				4.0667	5.2235	1.1568
5										
6	Industrial 1-inch	Tier One Breakover (M Gal):	99,999	99,999	$ 31.61	$ 62.50	$ 30.89	$ 4.0667	$ 5.2235	$ 1.1568
7		Tier Two Breakover (M Gal):	99,999	99,999				4.0667	5.2235	1.1568
8		Tier Three Breakover (M Gal):	99,999	99,999				4.0667	5.2235	1.1568
9										
10	Industrial 1.5-inch	Tier One Breakover (M Gal):	n/a	99,999	n/a	$ 125.00	n/a	n/a	$ 5.2235	n/a
11		Tier Two Breakover (M Gal):	n/a	99,999				n/a	5.2235	n/a
12		Tier Three Breakover (M Gal):	n/a	99,999				n/a	5.2235	n/a
13										
14	Industrial 2-inch	Tier One Breakover (M Gal):	99,999	99,999	$ 101.15	$ 200.00	$ 98.85	$ 4.0667	$ 5.2235	$ 1.1568
15		Tier Two Breakover (M Gal):	99,999	99,999				4.0667	5.2235	1.1568
16		Tier Three Breakover (M Gal):	99,999	99,999				4.0667	5.2235	1.1568
17										
18	Industrial 3-inch	Tier One Breakover (M Gal):	99,999	99,999	$ 202.29	$ 400.00	$ 197.71	$ 4.0667	$ 5.2235	$ 1.1568
19		Tier Two Breakover (M Gal):	99,999	99,999				4.0667	5.2235	1.1568
20		Tier Three Breakover (M Gal):	99,999	99,999				4.0667	5.2235	1.1568
21										
22	Industrial 4-inch	Tier One Breakover (M Gal):	99,999	99,999	$ 316.08	$ 625.00	$ 308.92	$ 4.0667	$ 5.2235	$ 1.1568
23		Tier Two Breakover (M Gal):	99,999	99,999				4.0667	5.2235	1.1568
24		Tier Three Breakover (M Gal):	99,999	99,999				4.0667	5.2235	1.1568
25										
26	Industrial 6-inch	Tier One Breakover (M Gal):	99,999	99,999	$ 632.17	$ 1,250.00	$ 617.83	$ 4.0667	$ 5.2235	$ 1.1568
27		Tier Two Breakover (M Gal):	99,999	99,999				4.0667	5.2235	1.1568
28		Tier Three Breakover (M Gal):	99,999	99,999				4.0667	5.2235	1.1568
29										
30	Industrial 8-inch	Tier One Breakover (M Gal):	99,999	99,999	$ 1,011.47	$ 2,000.00	$ 988.53	$ 4.0667	$ 5.2235	$ 1.1568
31		Tier Two Breakover (M Gal):	99,999	99,999				4.0667	5.2235	1.1568
32		Tier Three Breakover (M Gal):	99,999	99,999				4.0667	5.2235	1.1568
33										
34	Industrial 10-inch	Tier One Breakover (M Gal):	99,999	99,999	$ 1,453.99	$ 2,875.00	$ 1,421.01	$ 4.0667	$ 5.2235	$ 1.1568
35		Tier Two Breakover (M Gal):	99,999	99,999				4.0667	5.2235	1.1568
36		Tier Three Breakover (M Gal):	99,999	99,999				4.0667	5.2235	1.1568
37										
38										
39	Private Fire Service	All meter connection sizes:			$ 22.58	$ 25.00	$ 2.42	n/a	n/a	n/a
40										
41										
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45										
46										
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51				(Continued)						
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53										
54										
55	**For Service Charges See Company-wide Service Charge Tariff at the end of this schedule**									

Navajo

Line No.	Class of Service	[A] Rate Block	[B] Present	[C] Proposed	[D] Basic Service Charge Present Rate	[E] Proposed Rate	[F] Change	[G] Volumetric Charge (/M Gal) Present Rate	[H] Proposed Rate	[I] Change
1										
2	Public Fire Hydrant				n/a	n/a	n/a	n/a	n/a	n/a
3										
4	Coin Machine	No. Gallons / $ .25 (quarter)			n/a	n/a	n/a	n/a	n/a	n/a
5										
6	Construction Water (2-Inch)	Tier One Breakover (M Gal):	65	90	$ 101.15	$ 200.00	$ 98.85	$ 4.6988	$ 5.2235	$ 0.5247
7		Tier Two Breakover (M Gal):	99,999	99,999				5.6386	6.5294	0.8908
8		Tier Three Breakover (M Gal):	99,999	99,999				5.6386	6.5294	0.8908
9										
10	Construction Water (3-Inch)	Tier One Breakover (M Gal):	125	175	$ 202.29	$ 400.00	$ 197.71	$ 4.6988	$ 5.2235	$ 0.5247
11		Tier Two Breakover (M Gal):	99,999	99,999				5.6386	6.5294	0.8908
12		Tier Three Breakover (M Gal):	99,999	99,999				5.6386	6.5294	0.8908
13										
14	Construction Water (4-Inch)	Tier One Breakover (M Gal):	200	275	$ 316.08	$ 625.00	$ 308.92	$ 4.6988	$ 5.2235	$ 0.5247
15		Tier Two Breakover (M Gal):	99,999	99,999				5.6386	6.5294	0.8908
16		Tier Three Breakover (M Gal):	99,999	99,999				5.6386	6.5294	0.8908
17										
18	Sales for Resale (5/8-Inch)	Tier One Breakover (M Gal):	99,999	99,999	$ 12.64	$ 25.00	$ 12.36	$ 4.6988	$ 5.2235	$ 0.5247
19		Tier Two Breakover (M Gal):	99,999	99,999				4.6988	5.2235	0.5247
20		Tier Three Breakover (M Gal):	99,999	99,999				4.6988	5.2235	0.5247
21										
22	Sales for Resale (1-Inch)	Tier One Breakover (M Gal):	99,999	99,999	$ 31.61	$ 62.50	$ 30.89	$ 4.6988	$ 5.2235	$ 0.5247
23		Tier Two Breakover (M Gal):	99,999	99,999				4.6988	5.2235	0.5247
24		Tier Three Breakover (M Gal):	99,999	99,999				4.6988	5.2235	0.5247
25										
26	Sales for Resale (1.5-Inch)	Tier One Breakover (M Gal):	n/a	99,999	n/a	$ 125.00	n/a	n/a	$ 5.2235	n/a
27		Tier Two Breakover (M Gal):	n/a	99,999				n/a	5.2235	n/a
28		Tier Three Breakover (M Gal):	n/a	99,999				n/a	5.2235	n/a
29										
30	Sales for Resale (2-Inch)	Tier One Breakover (M Gal):	99,999	99,999	$ 101.15	$ 200.00	$ 98.85	$ 4.6988	$ 5.2235	$ 0.5247
31		Tier Two Breakover (M Gal):	99,999	99,999				4.6988	5.2235	0.5247
32		Tier Three Breakover (M Gal):	99,999	99,999				4.6988	5.2235	0.5247
33										
34	Sales for Resale (3-Inch)	Tier One Breakover (M Gal):	99,999	99,999	$ 202.29	$ 400.00	$ 197.71	$ 4.6988	$ 5.2235	$ 0.5247
35		Tier Two Breakover (M Gal):	99,999	99,999				4.6988	5.2235	0.5247
36		Tier Three Breakover (M Gal):	99,999	99,999				4.6988	5.2235	0.5247
37										
38	Sales for Resale (4-Inch)	Tier One Breakover (M Gal):	99,999	99,999	$ 316.08	$ 625.00	$ 308.92	$ 4.6988	$ 5.2235	$ 0.5247
39		Tier Two Breakover (M Gal):	99,999	99,999				4.6988	5.2235	0.5247
40		Tier Three Breakover (M Gal):	99,999	99,999				4.6988	5.2235	0.5247
41										
42	Sales for Resale (6-Inch)	Tier One Breakover (M Gal):	99,999	99,999	$ 632.17	$ 1,250.00	$ 617.83	$ 4.6988	$ 5.2235	$ 0.5247
43		Tier Two Breakover (M Gal):	99,999	99,999				4.6988	5.2235	0.5247
44		Tier Three Breakover (M Gal):	99,999	99,999				4.6988	5.2235	0.5247
45										
46	Sales for Resale (8-Inch)	Tier One Breakover (M Gal):	99,999	99,999	$ 1,011.47	$ 2,000.00	$ 988.53	$ 4.6988	$ 5.2235	$ 0.5247
47		Tier Two Breakover (M Gal):	99,999	99,999				4.6988	5.2235	0.5247
48		Tier Three Breakover (M Gal):	99,999	99,999				4.6988	5.2235	0.5247
49										
50	Sales for Resale (10-Inch)	Tier One Breakover (M Gal):	99,999	99,999	$ 1,453.99	$ 2,875.00	$ 1,421.01	$ 4.6988	$ 5.2235	$ 0.5247
51		Tier Two Breakover (M Gal):	99,999	99,999				4.6988	5.2235	0.5247
52		Tier Three Breakover (M Gal):	99,999	99,999				4.6988	5.2235	0.5247
53										
54										
55	**For Service Charges See Company-wide Service Charge Tariff at the end of this schedule**									

		Verde Valley (Sedona, Pinewood, Rimrock)										
		[A]	[B]	[C]	[D]	[E]	[F]	[G]	[H]	[I]
		Rate Block			Basic Service Charge			Volumetric Charge (/M Gal)		
Line No.	Class of Service		Present	Proposed	Present Rate	Proposed Rate	Change	Present Rate	Proposed Rate	Change
1										
2	Residential 5/8 x 3/4 -inch	Tier One Breakover (M Gal):	3	3	$ 23.10	$ 25.00	$ 1.90	varies	$ 2.8224	varies
3		Tier Two Breakover (M Gal):	10	10				varies	3.5280	varies
4		Tier Three Breakover (M Gal):	99,999	99,999				varies	4.4100	varies
5										
6	Residential 1-inch	Tier One Breakover (M Gal):	10	40	$ 57.75	$ 62.50	$ 4.75	varies	$ 3.5280	varies
7		Tier Two Breakover (M Gal):	99,999	99,999				varies	4.4100	varies
8		Tier Three Breakover (M Gal):	99,999	99,999				varies	4.4100	varies
9										
10	Residential 1.5-inch	Tier One Breakover (M Gal):	n/a	75	n/a	$ 125.00	n/a	n/a	$ 3.5280	n/a
11		Tier Two Breakover (M Gal):	n/a	99,999				n/a	4.4100	n/a
12		Tier Three Breakover (M Gal):	n/a	99,999				n/a	4.4100	n/a
13										
14	Residential 2-inch	Tier One Breakover (M Gal):	125	125	$ 184.81	$ 200.00	$ 15.19	varies	$ 3.5280	varies
15		Tier Two Breakover (M Gal):	99,999	99,999				varies	4.4100	varies
16		Tier Three Breakover (M Gal):	99,999	99,999				varies	4.4100	varies
17										
18	Residential 3-inch	Tier One Breakover (M Gal):	298	300	$ 369.62	$ 400.00	$ 30.38	varies	$ 3.5280	varies
19		Tier Two Breakover (M Gal):	99,999	99,999				varies	4.4100	varies
20		Tier Three Breakover (M Gal):	99,999	99,999				varies	4.4100	varies
21										
22	Residential 4-inch	Tier One Breakover (M Gal):	493	500	$ 577.54	$ 625.00	$ 47.46	varies	$ 3.5280	varies
23		Tier Two Breakover (M Gal):	99,999	99,999				varies	4.4100	varies
24		Tier Three Breakover (M Gal):	99,999	99,999				varies	4.4100	varies
25										
26	Residential 6-inch	Tier One Breakover (M Gal):	925	1,000	$ 1,155.07	$ 1,250.00	$ 94.93	varies	$ 3.5280	varies
27		Tier Two Breakover (M Gal):	99,999	99,999				varies	4.4100	varies
28		Tier Three Breakover (M Gal):	99,999	99,999				varies	4.4100	varies
29										
30	Residential 8-inch	Tier One Breakover (M Gal):	1,500	1,500	$ 1,848.12	$ 2,000.00	$ 151.88	varies	$ 3.5280	varies
31		Tier Two Breakover (M Gal):	99,999	99,999				varies	4.4100	varies
32		Tier Three Breakover (M Gal):	99,999	99,999				varies	4.4100	varies
33										
34	Residential 10-inch	Tier One Breakover (M Gal):	2,262	2,300	$ 2,656.67	$ 2,875.00	$ 218.33	varies	$ 3.5280	varies
35		Tier Two Breakover (M Gal):	99,999	99,999				varies	4.4100	varies
36		Tier Three Breakover (M Gal):	99,999	99,999				varies	4.4100	varies
37										
38										
39										
40										
41										
42										
43										
44										
45										
46										
47										
48										
49										
50										
51				(Continued)						
52										
53										
54										
55	**For Service Charges See Company-wide Service Charge Tariff at the end of this schedule**									

Line No.	Class of Service	Verde Valley (Sedona, Pinewood, Rimrock) [A] Rate Block	[B] Present	[C] Proposed	[D] Basic Service Charge Present Rate	[E] Proposed Rate	[F] Change	[G] Volumetric Charge (/M Gal) Present Rate	[H] Proposed Rate	[I] Change
1										
2	Commercial 5/8 x 3/4 -inch	Tier One Breakover (M Gal):	10	10	$ 23.10	$ 30.00	$ 6.90	varies	$ 3.5280	varies
3		Tier Two Breakover (M Gal):	99,999	99,999				varies	4.4100	varies
4		Tier Three Breakover (M Gal):	99,999	99,999				varies	4.4100	varies
5										
6	Commercial 1-inch	Tier One Breakover (M Gal):	40	40	$ 57.75	$ 75.00	$ 17.25	varies	$ 3.5280	varies
7		Tier Two Breakover (M Gal):	99,999	99,999				varies	4.4100	varies
8		Tier Three Breakover (M Gal):	99,999	99,999				varies	4.4100	varies
9										
10	Commercial 1.5-inch	Tier One Breakover (M Gal):	n/a	75	n/a	$ 150.00	n/a	n/a	$ 3.5280	n/a
11		Tier Two Breakover (M Gal):	n/a	99,999				n/a	4.4100	n/a
12		Tier Three Breakover (M Gal):	n/a	99,999				n/a	4.4100	n/a
13										
14	Commercial 2-inch	Tier One Breakover (M Gal):	125	125	$ 184.81	$ 240.00	$ 55.19	varies	$ 3.5280	varies
15		Tier Two Breakover (M Gal):	99,999	99,999				varies	4.4100	varies
16		Tier Three Breakover (M Gal):	99,999	99,999				varies	4.4100	varies
17										
18	Commercial 3-inch	Tier One Breakover (M Gal):	298	300	$ 369.62	$ 480.00	$ 110.38	varies	$ 3.5280	varies
19		Tier Two Breakover (M Gal):	99,999	99,999				varies	4.4100	varies
20		Tier Three Breakover (M Gal):	99,999	99,999				varies	4.4100	varies
21										
22	Commercial 4-inch	Tier One Breakover (M Gal):	493	500	$ 577.54	$ 750.00	$ 172.46	varies	$ 3.5280	varies
23		Tier Two Breakover (M Gal):	99,999	99,999				varies	4.4100	varies
24		Tier Three Breakover (M Gal):	99,999	99,999				varies	4.4100	varies
25										
26	Commercial 6-inch	Tier One Breakover (M Gal):	925	1,000	$ 1,155.07	$ 1,500.00	$ 344.93	varies	$ 3.5280	varies
27		Tier Two Breakover (M Gal):	99,999	99,999				varies	4.4100	varies
28		Tier Three Breakover (M Gal):	99,999	99,999				varies	4.4100	varies
29										
30	Commercial 8-inch	Tier One Breakover (M Gal):	1,500	1,500	$ 1,848.12	$ 2,400.00	$ 551.88	varies	$ 3.5280	varies
31		Tier Two Breakover (M Gal):	99,999	99,999				varies	4.4100	varies
32		Tier Three Breakover (M Gal):	99,999	99,999				varies	4.4100	varies
33										
34	Commercial 10-inch	Tier One Breakover (M Gal):	2,262	2,300	$ 2,656.67	$ 3,450.00	$ 793.33	varies	$ 3.5280	varies
35		Tier Two Breakover (M Gal):	99,999	99,999				varies	4.4100	varies
36		Tier Three Breakover (M Gal):	99,999	99,999				varies	4.4100	varies
37										
38										
39										
40										
41										
42										
43										
44										
45										
46										
47										
48										
49										
50										
51					(Continued)					
52										
53										
54										
55	**For Service Charges See Company-wide Service Charge Tariff at the end of this schedule**									

		Verde Valley (Sedona, Pinewood, Rimrock)								
		[A]	[B]	[C]	[D]	[E]	[F]	[G]	[H]	[I]
		Rate Block			Basic Service Charge			Volumetric Charge (/M Gal)		
Line No.	Class of Service		Present	Proposed	Present Rate	Proposed Rate	Change	Present Rate	Proposed Rate	Change
1										
2	Industrial 5/8 x 3/4 -inch	Tier One Breakover (M Gal):	99,999	99,999	$ 21.74	$ 30.00	$ 8.26	varies	$ 3.5280	varies
3		Tier Two Breakover (M Gal):	99,999	99,999				varies	3.5280	varies
4		Tier Three Breakover (M Gal):	99,999	99,999				varies	3.5280	varies
5										
6	Industrial 1-inch	Tier One Breakover (M Gal):	99,999	99,999	$ 54.36	$ 75.00	$ 20.64	varies	$ 3.5280	varies
7		Tier Two Breakover (M Gal):	99,999	99,999				varies	3.5280	varies
8		Tier Three Breakover (M Gal):	99,999	99,999				varies	3.5280	varies
9										
10	Industrial 1.5-inch	Tier One Breakover (M Gal):	n/a	99,999	n/a	$ 150.00	n/a	n/a	$ 3.5280	n/a
11		Tier Two Breakover (M Gal):	n/a	99,999				n/a	3.5280	n/a
12		Tier Three Breakover (M Gal):	n/a	99,999				n/a	3.5280	n/a
13										
14	Industrial 2-inch	Tier One Breakover (M Gal):	99,999	99,999	$ 173.96	$ 240.00	$ 66.04	varies	$ 3.5280	varies
15		Tier Two Breakover (M Gal):	99,999	99,999				varies	3.5280	varies
16		Tier Three Breakover (M Gal):	99,999	99,999				varies	3.5280	varies
17										
18	Industrial 3-inch	Tier One Breakover (M Gal):	99,999	99,999	$ 347.92	$ 480.00	$ 132.08	varies	$ 3.5280	varies
19		Tier Two Breakover (M Gal):	99,999	99,999				varies	3.5280	varies
20		Tier Three Breakover (M Gal):	99,999	99,999				varies	3.5280	varies
21										
22	Industrial 4-inch	Tier One Breakover (M Gal):	99,999	99,999	$ 543.62	$ 750.00	$ 206.38	varies	$ 3.5280	varies
23		Tier Two Breakover (M Gal):	99,999	99,999				varies	3.5280	varies
24		Tier Three Breakover (M Gal):	99,999	99,999				varies	3.5280	varies
25										
26	Industrial 6-inch	Tier One Breakover (M Gal):	99,999	99,999	$ 1,087.25	$ 1,500.00	$ 412.75	varies	$ 3.5280	varies
27		Tier Two Breakover (M Gal):	99,999	99,999				varies	3.5280	varies
28		Tier Three Breakover (M Gal):	99,999	99,999				varies	3.5280	varies
29										
30	Industrial 8-inch	Tier One Breakover (M Gal):	99,999	99,999	$ 1,739.60	$ 2,400.00	$ 660.40	varies	$ 3.5280	varies
31		Tier Two Breakover (M Gal):	99,999	99,999				varies	3.5280	varies
32		Tier Three Breakover (M Gal):	99,999	99,999				varies	3.5280	varies
33										
34	Industrial 10-inch	Tier One Breakover (M Gal):	99,999	99,999	$ 2,500.67	$ 3,450.00	$ 949.33	varies	$ 3.5280	varies
35		Tier Two Breakover (M Gal):	99,999	99,999				varies	3.5280	varies
36		Tier Three Breakover (M Gal):	99,999	99,999				varies	3.5280	varies
37										
38										
39	Private Fire Service	All meter connection sizes:			$ 25.89	$ 30.50	$ 4.61	n/a	n/a	n/a
40										
41										
42										
43										
44										
45										
46										
47										
48										
49										
50										
51				(Continued)						
52										
53										
54										
55	**For Service Charges See Company-wide Service Charge Tariff at the end of this schedule**									

Line No.	Class of Service	Verde Valley (Sedona, Pinewood, Rimrock) [A] Rate Block	[B] Present	[C] Proposed	[D] Basic Service Charge Present Rate	[E] Proposed Rate	[F] Change	[G] Volumetric Charge (/M Gal) Present Rate	[H] Proposed Rate	[I] Change
1										
2	Public Fire Hydrant				n/a	n/a	n/a	n/a	n/a	n/a
3										
4	Coin Machine	No. Gallons / $ .25 (quarter)			n/a	n/a	n/a	varies	65	varies
5										
6	Construction Water (2-Inch)	Tier One Breakover (M Gal):	125	125	$ 184.81	$ 240.00	$ 55.19	varies	$ 3.5280	varies
7		Tier Two Breakover (M Gal):	99,999	99,999				varies	4.4100	varies
8		Tier Three Breakover (M Gal):	99,999	99,999				varies	4.4100	varies
9										
10	Construction Water (3-Inch)	Tier One Breakover (M Gal):	varies	300	$ 369.62	$ 480.00	$ 110.38	varies	$ 3.5280	varies
11		Tier Two Breakover (M Gal):	99,999	99,999				varies	4.4100	varies
12		Tier Three Breakover (M Gal):	99,999	99,999				varies	4.4100	varies
13										
14	Construction Water (4-Inch)	Tier One Breakover (M Gal):	500	500	$ 577.54	$ 750.00	$ 172.46	varies	$ 3.5280	varies
15		Tier Two Breakover (M Gal):	99,999	99,999				varies	4.4100	varies
16		Tier Three Breakover (M Gal):	99,999	99,999				varies	4.4100	varies
17										
18	Sales for Resale (5/8-Inch)	Tier One Breakover (M Gal):	99,999	99,999	$ 23.10	$ 30.00	$ 6.90	varies	$ 3.5280	varies
19		Tier Two Breakover (M Gal):	99,999	99,999				varies	3.5280	varies
20		Tier Three Breakover (M Gal):	99,999	99,999				varies	3.5280	varies
21										
22	Sales for Resale (1-Inch)	Tier One Breakover (M Gal):	99,999	99,999	$ 57.75	$ 75.00	$ 17.25	varies	$ 3.5280	varies
23		Tier Two Breakover (M Gal):	99,999	99,999				varies	3.5280	varies
24		Tier Three Breakover (M Gal):	99,999	99,999				varies	3.5280	varies
25										
26	Sales for Resale (1.5-Inch)	Tier One Breakover (M Gal):	n/a	99,999	n/a	$ 150.00	n/a	n/a	$ 3.5280	n/a
27		Tier Two Breakover (M Gal):	n/a	99,999				n/a	3.5280	n/a
28		Tier Three Breakover (M Gal):	n/a	99,999				n/a	3.5280	n/a
29										
30	Sales for Resale (2-Inch)	Tier One Breakover (M Gal):	99,999	99,999	$ 184.81	$ 240.00	$ 55.19	varies	$ 3.5280	varies
31		Tier Two Breakover (M Gal):	99,999	99,999				varies	3.5280	varies
32		Tier Three Breakover (M Gal):	99,999	99,999				varies	3.5280	varies
33										
34	Sales for Resale (3-Inch)	Tier One Breakover (M Gal):	99,999	99,999	$ 369.62	$ 480.00	$ 110.38	varies	$ 3.5280	varies
35		Tier Two Breakover (M Gal):	99,999	99,999				varies	3.5280	varies
36		Tier Three Breakover (M Gal):	99,999	99,999				varies	3.5280	varies
37										
38	Sales for Resale (4-Inch)	Tier One Breakover (M Gal):	99,999	99,999	$ 577.54	$ 750.00	$ 172.46	varies	$ 3.5280	varies
39		Tier Two Breakover (M Gal):	99,999	99,999				varies	3.5280	varies
40		Tier Three Breakover (M Gal):	99,999	99,999				varies	3.5280	varies
41										
42	Sales for Resale (6-Inch)	Tier One Breakover (M Gal):	99,999	99,999	$ 1,155.07	$ 1,500.00	$ 344.93	varies	$ 3.5280	varies
43		Tier Two Breakover (M Gal):	99,999	99,999				varies	3.5280	varies
44		Tier Three Breakover (M Gal):	99,999	99,999				varies	3.5280	varies
45										
46	Sales for Resale (8-Inch)	Tier One Breakover (M Gal):	99,999	99,999	$ 1,848.12	$ 2,400.00	$ 551.88	varies	$ 3.5280	varies
47		Tier Two Breakover (M Gal):	99,999	99,999				varies	3.5280	varies
48		Tier Three Breakover (M Gal):	99,999	99,999				varies	3.5280	varies
49										
50	Sales for Resale (10-Inch)	Tier One Breakover (M Gal):	99,999	99,999	$ 2,656.67	$ 3,450.00	$ 793.33	varies	$ 3.5280	varies
51		Tier Two Breakover (M Gal):	99,999	99,999				varies	3.5280	varies
52		Tier Three Breakover (M Gal):	99,999	99,999				varies	3.5280	varies
53										
54										
55	**For Service Charges See Company-wide Service Charge Tariff at the end of this schedule**									

Line No.	Class of Service	Verde Valley (Sedona) [A] Rate Block	[B] Present	[C] Proposed	[D] Basic Service Charge Present Rate	[E] Proposed Rate	[F] Change	[G] Volumetric Charge (/M Gal) Present Rate	[H] Proposed Rate	[I] Change
1										
2	Residential 5/8 x 3/4 -inch	Tier One Breakover (M Gal):	3	3	$ 23.10	$ 25.00	$ 1.90	$ 1.5317	$ 2.8224	$ 1.2907
3		Tier Two Breakover (M Gal):	10	10				1.9147	3.5280	1.6133
4		Tier Three Breakover (M Gal):	99,999	99,999				2.3910	4.4100	2.0190
5										
6	Residential 1-inch	Tier One Breakover (M Gal):	10	40	$ 57.75	$ 62.50	$ 4.75	$ 1.9147	$ 3.5280	$ 1.6133
7		Tier Two Breakover (M Gal):	99,999	99,999				2.3910	4.4100	2.0190
8		Tier Three Breakover (M Gal):	99,999	99,999				2.3910	4.4100	2.0190
9										
10	Residential 1.5-inch	Tier One Breakover (M Gal):	n/a	75	n/a	$ 125.00	n/a	n/a	$ 3.5280	n/a
11		Tier Two Breakover (M Gal):	n/a	99,999				n/a	4.4100	n/a
12		Tier Three Breakover (M Gal):	n/a	99,999				n/a	4.4100	n/a
13										
14	Residential 2-inch	Tier One Breakover (M Gal):	125	125	$ 184.81	$ 200.00	$ 15.19	$ 1.9147	$ 3.5280	$ 1.6133
15		Tier Two Breakover (M Gal):	99,999	99,999				2.3910	4.4100	2.0190
16		Tier Three Breakover (M Gal):	99,999	99,999				2.3910	4.4100	2.0190
17										
18	Residential 3-inch	Tier One Breakover (M Gal):	298	300	$ 369.62	$ 400.00	$ 30.38	$ 1.9147	$ 3.5280	$ 1.6133
19		Tier Two Breakover (M Gal):	99,999	99,999				2.3910	4.4100	2.0190
20		Tier Three Breakover (M Gal):	99,999	99,999				2.3910	4.4100	2.0190
21										
22	Residential 4-inch	Tier One Breakover (M Gal):	493	500	$ 577.54	$ 625.00	$ 47.46	$ 1.9147	$ 3.5280	$ 1.6133
23		Tier Two Breakover (M Gal):	99,999	99,999				2.3910	4.4100	2.0190
24		Tier Three Breakover (M Gal):	99,999	99,999				2.3910	4.4100	2.0190
25										
26	Residential 6-inch	Tier One Breakover (M Gal):	925	1,000	$ 1,155.07	$ 1,250.00	$ 94.93	$ 1.9147	$ 3.5280	$ 1.6133
27		Tier Two Breakover (M Gal):	99,999	99,999				2.3910	4.4100	2.0190
28		Tier Three Breakover (M Gal):	99,999	99,999				2.3910	4.4100	2.0190
29										
30	Residential 8-inch	Tier One Breakover (M Gal):	1,500	1,500	$ 1,848.12	$ 2,000.00	$ 151.88	$ 1.9147	$ 3.5280	$ 1.6133
31		Tier Two Breakover (M Gal):	99,999	99,999				2.3910	4.4100	2.0190
32		Tier Three Breakover (M Gal):	99,999	99,999				2.3910	4.4100	2.0190
33										
34	Residential 10-inch	Tier One Breakover (M Gal):	2,262	2,300	$ 2,656.67	$ 2,875.00	$ 218.33	$ 1.9147	$ 3.5280	$ 1.6133
35		Tier Two Breakover (M Gal):	99,999	99,999				2.3910	4.4100	2.0190
36		Tier Three Breakover (M Gal):	99,999	99,999				2.3910	4.4100	2.0190
37										
38										
39										
40										
41										
42										
43										
44										
45										
46										
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49										
50										
51				(Continued)						
52										
53										
54										
55	**For Service Charges See Company-wide Service Charge Tariff at the end of this schedule**									

Line No.	Class of Service	Verde Valley (Sedona) [A] Rate Block	[B] Present	[C] Proposed	[D] Basic Service Charge Present Rate	[E] Proposed Rate	[F] Change	[G] Volumetric Charge (/M Gal) Present Rate	[H] Proposed Rate	[I] Change
1										
2	Commercial 5/8 x 3/4 -inch	Tier One Breakover (M Gal):	10	10	$ 23.10	$ 30.00	$ 6.90	$ 1.9147	$ 3.5280	$ 1.6133
3		Tier Two Breakover (M Gal):	99,999	99,999				2.3910	4.4100	2.0190
4		Tier Three Breakover (M Gal):	99,999	99,999				2.3910	4.4100	2.0190
5										
6	Commercial 1-inch	Tier One Breakover (M Gal):	40	40	$ 57.75	$ 75.00	$ 17.25	$ 1.9147	$ 3.5280	$ 1.6133
7		Tier Two Breakover (M Gal):	99,999	99,999				2.3910	4.4100	2.0190
8		Tier Three Breakover (M Gal):	99,999	99,999				2.3910	4.4100	2.0190
9										
10	Commercial 1.5-inch	Tier One Breakover (M Gal):	n/a	75	n/a	$ 150.00	n/a	n/a	$ 3.5280	n/a
11		Tier Two Breakover (M Gal):	n/a	99,999				n/a	4.4100	n/a
12		Tier Three Breakover (M Gal):	n/a	99,999				n/a	4.4100	n/a
13										
14	Commercial 2-inch	Tier One Breakover (M Gal):	125	125	$ 184.81	$ 240.00	$ 55.19	$ 1.9147	$ 3.5280	$ 1.6133
15		Tier Two Breakover (M Gal):	99,999	99,999				2.3910	4.4100	2.0190
16		Tier Three Breakover (M Gal):	99,999	99,999				2.3910	4.4100	2.0190
17										
18	Commercial 3-inch	Tier One Breakover (M Gal):	298	300	$ 369.62	$ 480.00	$ 110.38	$ 1.9147	$ 3.5280	$ 1.6133
19		Tier Two Breakover (M Gal):	99,999	99,999				2.3910	4.4100	2.0190
20		Tier Three Breakover (M Gal):	99,999	99,999				2.3910	4.4100	2.0190
21										
22	Commercial 4-inch	Tier One Breakover (M Gal):	493	500	$ 577.54	$ 750.00	$ 172.46	$ 1.9147	$ 3.5280	$ 1.6133
23		Tier Two Breakover (M Gal):	99,999	99,999				2.3910	4.4100	2.0190
24		Tier Three Breakover (M Gal):	99,999	99,999				2.3910	4.4100	2.0190
25										
26	Commercial 6-inch	Tier One Breakover (M Gal):	925	1,000	$ 1,155.07	$ 1,500.00	$ 344.93	$ 1.9147	$ 3.5280	$ 1.6133
27		Tier Two Breakover (M Gal):	99,999	99,999				2.3910	4.4100	2.0190
28		Tier Three Breakover (M Gal):	99,999	99,999				2.3910	4.4100	2.0190
29										
30	Commercial 8-inch	Tier One Breakover (M Gal):	1,500	1,500	$ 1,848.12	$ 2,400.00	$ 551.88	$ 1.9147	$ 3.5280	$ 1.6133
31		Tier Two Breakover (M Gal):	99,999	99,999				2.3910	4.4100	2.0190
32		Tier Three Breakover (M Gal):	99,999	99,999				2.3910	4.4100	2.0190
33										
34	Commercial 10-inch	Tier One Breakover (M Gal):	2,262	2,300	$ 2,656.67	$ 3,450.00	$ 793.33	$ 1.9147	$ 3.5280	$ 1.6133
35		Tier Two Breakover (M Gal):	99,999	99,999				2.3910	4.4100	2.0190
36		Tier Three Breakover (M Gal):	99,999	99,999				2.3910	4.4100	2.0190
37										
38										
39										
40										
41										
42										
43										
44										
45										
46										
47										
48										
49										
50										
51				(Continued)						
52										
53										
54										
55	**For Service Charges See Company-wide Service Charge Tariff at the end of this schedule**									

Line No.	Class of Service	Verde Valley (Sedona) [A] Rate Block	[B] Present	[C] Proposed	[D] Basic Service Charge Present Rate	[E] Proposed Rate	[F] Change	[G] Volumetric Charge (/M Gal) Present Rate	[H] Proposed Rate	[I] Change
1										
2	Industrial 5/8 x 3/4 -inch	Tier One Breakover (M Gal):	99,999	99,999	$ 21.74	$ 30.00	$ 8.26	$ 1.6801	$ 3.5280	$ 1.8479
3		Tier Two Breakover (M Gal):	99,999	99,999				1.6801	3.5280	1.8479
4		Tier Three Breakover (M Gal):	99,999	99,999				1.6801	3.5280	1.8479
5										
6	Industrial 1-inch	Tier One Breakover (M Gal):	99,999	99,999	$ 54.36	$ 75.00	$ 20.64	$ 1.6801	$ 3.5280	$ 1.8479
7		Tier Two Breakover (M Gal):	99,999	99,999				1.6801	3.5280	1.8479
8		Tier Three Breakover (M Gal):	99,999	99,999				1.6801	3.5280	1.8479
9										
10	Industrial 1.5-inch	Tier One Breakover (M Gal):	n/a	99,999	n/a	$ 150.00	n/a	n/a	$ 3.5280	n/a
11		Tier Two Breakover (M Gal):	n/a	99,999				n/a	3.5280	n/a
12		Tier Three Breakover (M Gal):	n/a	99,999				n/a	3.5280	n/a
13										
14	Industrial 2-inch	Tier One Breakover (M Gal):	99,999	99,999	$ 173.96	$ 240.00	$ 66.04	$ 1.6801	$ 3.5280	$ 1.8479
15		Tier Two Breakover (M Gal):	99,999	99,999				1.6801	3.5280	1.8479
16		Tier Three Breakover (M Gal):	99,999	99,999				1.6801	3.5280	1.8479
17										
18	Industrial 3-inch	Tier One Breakover (M Gal):	99,999	99,999	$ 347.92	$ 480.00	$ 132.08	$ 1.6801	$ 3.5280	$ 1.8479
19		Tier Two Breakover (M Gal):	99,999	99,999				1.6801	3.5280	1.8479
20		Tier Three Breakover (M Gal):	99,999	99,999				1.6801	3.5280	1.8479
21										
22	Industrial 4-inch	Tier One Breakover (M Gal):	99,999	99,999	$ 543.62	$ 750.00	$ 206.38	$ 1.6801	$ 3.5280	$ 1.8479
23		Tier Two Breakover (M Gal):	99,999	99,999				1.6801	3.5280	1.8479
24		Tier Three Breakover (M Gal):	99,999	99,999				1.6801	3.5280	1.8479
25										
26	Industrial 6-inch	Tier One Breakover (M Gal):	99,999	99,999	$ 1,087.25	$ 1,500.00	$ 412.75	$ 1.6801	$ 3.5280	$ 1.8479
27		Tier Two Breakover (M Gal):	99,999	99,999				1.6801	3.5280	1.8479
28		Tier Three Breakover (M Gal):	99,999	99,999				1.6801	3.5280	1.8479
29										
30	Industrial 8-inch	Tier One Breakover (M Gal):	99,999	99,999	$ 1,739.60	$ 2,400.00	$ 660.40	$ 1.6801	$ 3.5280	$ 1.8479
31		Tier Two Breakover (M Gal):	99,999	99,999				1.6801	3.5280	1.8479
32		Tier Three Breakover (M Gal):	99,999	99,999				1.6801	3.5280	1.8479
33										
34	Industrial 10-inch	Tier One Breakover (M Gal):	99,999	99,999	$ 2,500.67	$ 3,450.00	$ 949.33	$ 1.6801	$ 3.5280	$ 1.8479
35		Tier Two Breakover (M Gal):	99,999	99,999				1.6801	3.5280	1.8479
36		Tier Three Breakover (M Gal):	99,999	99,999				1.6801	3.5280	1.8479
37										
38										
39	Private Fire Service	All meter connection sizes:			$ 25.89	$ 30.50	$ 4.61	n/a	n/a	n/a
40										
41										
42										
43										
44										
45										
46										
47										
48										
49										
50										
51					(Continued)					
52										
53										
54										
55	**For Service Charges See Company-wide Service Charge Tariff at the end of this schedule**									

Line No.	Class of Service	Verde Valley (Sedona) [A] Rate Block	[B] Present	[C] Proposed	[D] Basic Service Charge Present Rate	[E] Proposed Rate	[F] Change	[G] Volumetric Charge (/M Gal) Present Rate	[H] Proposed Rate	[I] Change
1										
2	Public Fire Hydrant				n/a	n/a	n/a	n/a	n/a	n/a
3										
4	Coin Machine	No. Gallons / $ .25 (quarter)			n/a	n/a	n/a	118.94	65	0.4547
5										
6	Construction Water (2-Inch)	Tier One Breakover (M Gal):	125	125	$ 184.81	$ 240.00	$ 55.19	$ 1.9147	$ 3.5280	$ 1.6133
7		Tier Two Breakover (M Gal):	99,999	99,999				2.3910	4.4100	2.0190
8		Tier Three Breakover (M Gal):	99,999	99,999				2.3910	4.4100	2.0190
9										
10	Construction Water (3-Inch)	Tier One Breakover (M Gal):	325	300	$ 369.62	$ 480.00	$ 110.38	$ 1.9147	$ 3.5280	$ 1.6133
11		Tier Two Breakover (M Gal):	99,999	99,999				2.3910	4.4100	2.0190
12		Tier Three Breakover (M Gal):	99,999	99,999				2.3910	4.4100	2.0190
13										
14	Construction Water (4-Inch)	Tier One Breakover (M Gal):	500	500	$ 577.54	$ 750.00	$ 172.46	$ 1.9147	$ 3.5280	$ 1.6133
15		Tier Two Breakover (M Gal):	99,999	99,999				2.3910	4.4100	2.0190
16		Tier Three Breakover (M Gal):	99,999	99,999				2.3910	4.4100	2.0190
17										
18	Sales for Resale (5/8-Inch)	Tier One Breakover (M Gal):	99,999	99,999	$ 23.10	$ 30.00	$ 6.90	$ 2.2489	$ 3.5280	$ 1.2791
19		Tier Two Breakover (M Gal):	99,999	99,999				2.2489	3.5280	1.2791
20		Tier Three Breakover (M Gal):	99,999	99,999				2.2489	3.5280	1.2791
21										
22	Sales for Resale (1-Inch)	Tier One Breakover (M Gal):	99,999	99,999	$ 57.75	$ 75.00	$ 17.25	$ 2.2489	$ 3.5280	$ 1.2791
23		Tier Two Breakover (M Gal):	99,999	99,999				2.2489	3.5280	1.2791
24		Tier Three Breakover (M Gal):	99,999	99,999				2.2489	3.5280	1.2791
25										
26	Sales for Resale (1.5-Inch)	Tier One Breakover (M Gal):	n/a	99,999	n/a	$ 150.00	n/a	n/a	$ 3.5280	n/a
27		Tier Two Breakover (M Gal):	n/a	99,999				n/a	3.5280	n/a
28		Tier Three Breakover (M Gal):	n/a	99,999				n/a	3.5280	n/a
29										
30	Sales for Resale (2-Inch)	Tier One Breakover (M Gal):	99,999	99,999	$ 184.81	$ 240.00	$ 55.19	$ 2.2489	$ 3.5280	$ 1.2791
31		Tier Two Breakover (M Gal):	99,999	99,999				2.2489	3.5280	1.2791
32		Tier Three Breakover (M Gal):	99,999	99,999				2.2489	3.5280	1.2791
33										
34	Sales for Resale (3-Inch)	Tier One Breakover (M Gal):	99,999	99,999	$ 369.62	$ 480.00	$ 110.38	$ 2.2489	$ 3.5280	$ 1.2791
35		Tier Two Breakover (M Gal):	99,999	99,999				2.2489	3.5280	1.2791
36		Tier Three Breakover (M Gal):	99,999	99,999				2.2489	3.5280	1.2791
37										
38	Sales for Resale (4-Inch)	Tier One Breakover (M Gal):	99,999	99,999	$ 577.54	$ 750.00	$ 172.46	$ 2.2489	$ 3.5280	$ 1.2791
39		Tier Two Breakover (M Gal):	99,999	99,999				2.2489	3.5280	1.2791
40		Tier Three Breakover (M Gal):	99,999	99,999				2.2489	3.5280	1.2791
41										
42	Sales for Resale (6-Inch)	Tier One Breakover (M Gal):	99,999	99,999	$ 1,155.07	$ 1,500.00	$ 344.93	$ 2.2489	$ 3.5280	$ 1.2791
43		Tier Two Breakover (M Gal):	99,999	99,999				2.2489	3.5280	1.2791
44		Tier Three Breakover (M Gal):	99,999	99,999				2.2489	3.5280	1.2791
45										
46	Sales for Resale (8-Inch)	Tier One Breakover (M Gal):	99,999	99,999	$ 1,848.12	$ 2,400.00	$ 551.88	$ 2.2489	$ 3.5280	$ 1.2791
47		Tier Two Breakover (M Gal):	99,999	99,999				2.2489	3.5280	1.2791
48		Tier Three Breakover (M Gal):	99,999	99,999				2.2489	3.5280	1.2791
49										
50	Sales for Resale (10-Inch)	Tier One Breakover (M Gal):	99,999	99,999	$ 2,656.67	$ 3,450.00	$ 793.33	$ 2.2489	$ 3.5280	$ 1.2791
51		Tier Two Breakover (M Gal):	99,999	99,999				2.2489	3.5280	1.2791
52		Tier Three Breakover (M Gal):	99,999	99,999				2.2489	3.5280	1.2791
53										
54										
55	**For Service Charges See Company-wide Service Charge Tariff at the end of this schedule**									

Line No.	Class of Service	Verde Valley (Pinewood, Rimrock) [A] Rate Block	[B] Present	[C] Proposed	[D] Basic Service Charge Present Rate	[E] Proposed Rate	[F] Change	[G] Volumetric Charge (/M Gal) Present Rate	[H] Proposed Rate	[I] Change
1										
2	Residential 5/8 x 3/4 -inch	Tier One Breakover (M Gal):	3	3	$ 23.10	$ 25.00	$ 1.90	$ 3.3891	$ 2.8224	$ (0.5667)
3		Tier Two Breakover (M Gal):	10	10				4.2361	3.5280	(0.7081)
4		Tier Three Breakover (M Gal):	99,999	99,999				5.2954	4.4100	(0.8854)
5										
6	Residential 1-inch	Tier One Breakover (M Gal):	10	40	$ 57.75	$ 62.50	$ 4.75	$ 4.2361	$ 3.5280	$ (0.7081)
7		Tier Two Breakover (M Gal):	99,999	99,999				5.2954	4.4100	(0.8854)
8		Tier Three Breakover (M Gal):	99,999	99,999				5.2954	4.4100	(0.8854)
9										
10	Residential 1.5-inch	Tier One Breakover (M Gal):	n/a	75	n/a	$ 125.00	n/a	n/a	$ 3.5280	n/a
11		Tier Two Breakover (M Gal):	n/a	99,999				n/a	4.4100	n/a
12		Tier Three Breakover (M Gal):	n/a	99,999				n/a	4.4100	n/a
13										
14	Residential 2-inch	Tier One Breakover (M Gal):	125	125	$ 184.81	$ 200.00	$ 15.19	$ 4.2361	$ 3.5280	$ (0.7081)
15		Tier Two Breakover (M Gal):	99,999	99,999				5.2954	4.4100	(0.8854)
16		Tier Three Breakover (M Gal):	99,999	99,999				5.2954	4.4100	(0.8854)
17										
18	Residential 3-inch	Tier One Breakover (M Gal):	298	300	$ 369.62	$ 400.00	$ 30.38	$ 4.2361	$ 3.5280	$ (0.7081)
19		Tier Two Breakover (M Gal):	99,999	99,999				5.2954	4.4100	(0.8854)
20		Tier Three Breakover (M Gal):	99,999	99,999				5.2954	4.4100	(0.8854)
21										
22	Residential 4-inch	Tier One Breakover (M Gal):	493	500	$ 577.54	$ 625.00	$ 47.46	$ 4.2361	$ 3.5280	$ (0.7081)
23		Tier Two Breakover (M Gal):	99,999	99,999				5.2954	4.4100	(0.8854)
24		Tier Three Breakover (M Gal):	99,999	99,999				5.2954	4.4100	(0.8854)
25										
26	Residential 6-inch	Tier One Breakover (M Gal):	925	1,000	$ 1,155.07	$ 1,250.00	$ 94.93	$ 4.2361	$ 3.5280	$ (0.7081)
27		Tier Two Breakover (M Gal):	99,999	99,999				5.2954	4.4100	(0.8854)
28		Tier Three Breakover (M Gal):	99,999	99,999				5.2954	4.4100	(0.8854)
29										
30	Residential 8-inch	Tier One Breakover (M Gal):	1,500	1,500	$ 1,848.12	$ 2,000.00	$ 151.88	$ 4.2361	$ 3.5280	$ (0.7081)
31		Tier Two Breakover (M Gal):	99,999	99,999				5.2954	4.4100	(0.8854)
32		Tier Three Breakover (M Gal):	99,999	99,999				5.2954	4.4100	(0.8854)
33										
34	Residential 10-inch	Tier One Breakover (M Gal):	2,262	2,300	$ 2,656.67	$ 2,875.00	$ 218.33	$ 4.2361	$ 3.5280	$ (0.7081)
35		Tier Two Breakover (M Gal):	99,999	99,999				5.2954	4.4100	(0.8854)
36		Tier Three Breakover (M Gal):	99,999	99,999				5.2954	4.4100	(0.8854)
37										
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48										
49										
50										
51				(Continued)						
52										
53										
54										
55	**For Service Charges See Company-wide Service Charge Tariff at the end of this schedule**									

Verde Valley (Pinewood, Rimrock)

Line No.	Class of Service	[A] Rate Block	[B] Present	[C] Proposed	[D] Basic Service Charge Present Rate	[E] Basic Service Charge Proposed Rate	[F] Basic Service Charge Change	[G] Volumetric Charge (/M Gal) Present Rate	[H] Volumetric Charge (/M Gal) Proposed Rate	[I] Volumetric Charge (/M Gal) Change
1										
2	Commercial 5/8 x 3/4 -inch	Tier One Breakover (M Gal):	10	10	$ 23.10	$ 30.00	$ 6.90	$ 4.2361	$ 3.5280	$ (0.7081)
3		Tier Two Breakover (M Gal):	99,999	99,999				5.2954	4.4100	(0.8854)
4		Tier Three Breakover (M Gal):	99,999	99,999				5.2954	4.4100	(0.8854)
5										
6	Commercial 1-inch	Tier One Breakover (M Gal):	40	40	$ 57.75	$ 75.00	$ 17.25	$ 4.2361	$ 3.5280	$ (0.7081)
7		Tier Two Breakover (M Gal):	99,999	99,999				5.2954	4.4100	(0.8854)
8		Tier Three Breakover (M Gal):	99,999	99,999				5.2954	4.4100	(0.8854)
9										
10	Commercial 1.5-inch	Tier One Breakover (M Gal):	n/a	75	n/a	$ 150.00	n/a	n/a	$ 3.5280	n/a
11		Tier Two Breakover (M Gal):	n/a	99,999				n/a	4.4100	n/a
12		Tier Three Breakover (M Gal):	n/a	99,999				n/a	4.4100	n/a
13										
14	Commercial 2-inch	Tier One Breakover (M Gal):	125	125	$ 184.81	$ 240.00	$ 55.19	$ 4.2361	$ 3.5280	$ (0.7081)
15		Tier Two Breakover (M Gal):	99,999	99,999				5.2954	4.4100	(0.8854)
16		Tier Three Breakover (M Gal):	99,999	99,999				5.2954	4.4100	(0.8854)
17										
18	Commercial 3-inch	Tier One Breakover (M Gal):	298	300	$ 369.62	$ 480.00	$ 110.38	$ 4.2361	$ 3.5280	$ (0.7081)
19		Tier Two Breakover (M Gal):	99,999	99,999				5.2954	4.4100	(0.8854)
20		Tier Three Breakover (M Gal):	99,999	99,999				5.2954	4.4100	(0.8854)
21										
22	Commercial 4-inch	Tier One Breakover (M Gal):	493	500	$ 577.54	$ 750.00	$ 172.46	$ 4.2361	$ 3.5280	$ (0.7081)
23		Tier Two Breakover (M Gal):	99,999	99,999				5.2954	4.4100	(0.8854)
24		Tier Three Breakover (M Gal):	99,999	99,999				5.2954	4.4100	(0.8854)
25										
26	Commercial 6-inch	Tier One Breakover (M Gal):	925	1,000	$ 1,155.07	$ 1,500.00	$ 344.93	$ 4.2361	$ 3.5280	$ (0.7081)
27		Tier Two Breakover (M Gal):	99,999	99,999				5.2954	4.4100	(0.8854)
28		Tier Three Breakover (M Gal):	99,999	99,999				5.2954	4.4100	(0.8854)
29										
30	Commercial 8-inch	Tier One Breakover (M Gal):	1,500	1,500	$ 1,848.12	$ 2,400.00	$ 551.88	$ 4.2361	$ 3.5280	$ (0.7081)
31		Tier Two Breakover (M Gal):	99,999	99,999				5.2954	4.4100	(0.8854)
32		Tier Three Breakover (M Gal):	99,999	99,999				5.2954	4.4100	(0.8854)
33										
34	Commercial 10-inch	Tier One Breakover (M Gal):	2,262	2,300	$ 2,656.67	$ 3,450.00	$ 793.33	$ 4.2361	$ 3.5280	$ (0.7081)
35		Tier Two Breakover (M Gal):	99,999	99,999				5.2954	4.4100	(0.8854)
36		Tier Three Breakover (M Gal):	99,999	99,999				5.2954	4.4100	(0.8854)
37										
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50										
51					(Continued)					
52										
53										
54										
55	**For Service Charges See Company-wide Service Charge Tariff at the end of this schedule**									

Line No.	Class of Service	Verde Valley (Pinewood, Rimrock) [A]	[B] Rate Block Present	[C] Rate Block Proposed	[D] Basic Service Charge Present Rate	[E] Basic Service Charge Proposed Rate	[F] Basic Service Charge Change	[G] Volumetric Charge (/M Gal) Present Rate	[H] Volumetric Charge (/M Gal) Proposed Rate	[I] Volumetric Charge (/M Gal) Change
1										
2	Industrial 5/8 x 3/4 -inch	Tier One Breakover (M Gal):	99,999	99,999	$ 21.74	$ 30.00	$ 8.26	$ 3.6242	$ 3.5280	$ (0.0962)
3		Tier Two Breakover (M Gal):	99,999	99,999				3.6242	3.5280	(0.0962)
4		Tier Three Breakover (M Gal):	99,999	99,999				3.6242	3.5280	(0.0962)
5										
6	Industrial 1-inch	Tier One Breakover (M Gal):	99,999	99,999	$ 54.36	$ 75.00	$ 20.64	$ 3.6242	$ 3.5280	$ (0.0962)
7		Tier Two Breakover (M Gal):	99,999	99,999				3.6242	3.5280	(0.0962)
8		Tier Three Breakover (M Gal):	99,999	99,999				3.6242	3.5280	(0.0962)
9										
10	Industrial 1.5-inch	Tier One Breakover (M Gal):	n/a	99,999	n/a	$ 150.00	n/a	n/a	$ 3.5280	n/a
11		Tier Two Breakover (M Gal):	n/a	99,999				n/a	3.5280	n/a
12		Tier Three Breakover (M Gal):	n/a	99,999				n/a	3.5280	n/a
13										
14	Industrial 2-inch	Tier One Breakover (M Gal):	99,999	99,999	$ 173.96	$ 240.00	$ 66.04	$ 3.6242	$ 3.5280	$ (0.0962)
15		Tier Two Breakover (M Gal):	99,999	99,999				3.6242	3.5280	(0.0962)
16		Tier Three Breakover (M Gal):	99,999	99,999				3.6242	3.5280	(0.0962)
17										
18	Industrial 3-inch	Tier One Breakover (M Gal):	99,999	99,999	$ 347.92	$ 480.00	$ 132.08	$ 3.6242	$ 3.5280	$ (0.0962)
19		Tier Two Breakover (M Gal):	99,999	99,999				3.6242	3.5280	(0.0962)
20		Tier Three Breakover (M Gal):	99,999	99,999				3.6242	3.5280	(0.0962)
21										
22	Industrial 4-inch	Tier One Breakover (M Gal):	99,999	99,999	$ 543.62	$ 750.00	$ 206.38	$ 3.6242	$ 3.5280	$ (0.0962)
23		Tier Two Breakover (M Gal):	99,999	99,999				3.6242	3.5280	(0.0962)
24		Tier Three Breakover (M Gal):	99,999	99,999				3.6242	3.5280	(0.0962)
25										
26	Industrial 6-inch	Tier One Breakover (M Gal):	99,999	99,999	$ 1,087.25	$ 1,500.00	$ 412.75	$ 3.6242	$ 3.5280	$ (0.0962)
27		Tier Two Breakover (M Gal):	99,999	99,999				3.6242	3.5280	(0.0962)
28		Tier Three Breakover (M Gal):	99,999	99,999				3.6242	3.5280	(0.0962)
29										
30	Industrial 8-inch	Tier One Breakover (M Gal):	99,999	99,999	$ 1,739.60	$ 2,400.00	$ 660.40	$ 3.6242	$ 3.5280	$ (0.0962)
31		Tier Two Breakover (M Gal):	99,999	99,999				3.6242	3.5280	(0.0962)
32		Tier Three Breakover (M Gal):	99,999	99,999				3.6242	3.5280	(0.0962)
33										
34	Industrial 10-inch	Tier One Breakover (M Gal):	99,999	99,999	$ 2,500.67	$ 3,450.00	$ 949.33	$ 3.6242	$ 3.5280	$ (0.0962)
35		Tier Two Breakover (M Gal):	99,999	99,999				3.6242	3.5280	(0.0962)
36		Tier Three Breakover (M Gal):	99,999	99,999				3.6242	3.5280	(0.0962)
37										
38										
39	Private Fire Service	All meter connection sizes:			$ 25.89	$ 30.50	$ 4.61	n/a	n/a	n/a
40										
41										
42										
43										
44										
45										
46										
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50										
51				(Continued)						
52										
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54										
55	**For Service Charges See Company-wide Service Charge Tariff at the end of this schedule**									

Line No.	Class of Service	Rate Block	Present	Proposed	Basic Service Charge Present Rate	Basic Service Charge Proposed Rate	Basic Service Charge Change	Volumetric Charge (/M Gal) Present Rate	Volumetric Charge (/M Gal) Proposed Rate	Volumetric Charge (/M Gal) Change
		Verde Valley (Pinewood, Rimrock)								
		[A]	[B]	[C]	[D]	[E]	[F]	[G]	[H]	[I]
1										
2	Public Fire Hydrant				n/a	n/a	n/a	n/a	n/a	n/a
3										
4	Coin Machine	No. Gallons / $ .25 (quarter)			n/a	n/a	n/a	53.76	65	(0.2064)
5										
6	Construction Water (2-Inch)	Tier One Breakover (M Gal):	125	125	$ 184.81	$ 240.00	$ 55.19	$ 4.2361	$ 3.5280	$ (0.7081)
7		Tier Two Breakover (M Gal):	99,999	99,999				5.2954	4.4100	(0.8854)
8		Tier Three Breakover (M Gal):	99,999	99,999				5.2954	4.4100	(0.8854)
9										
10	Construction Water (3-Inch)	Tier One Breakover (M Gal):	298	300	$ 369.62	$ 480.00	$ 110.38	$ 4.2361	$ 3.5280	$ (0.7081)
11		Tier Two Breakover (M Gal):	99,999	99,999				5.2954	4.4100	(0.8854)
12		Tier Three Breakover (M Gal):	99,999	99,999				5.2954	4.4100	(0.8854)
13										
14	Construction Water (4-Inch)	Tier One Breakover (M Gal):	500	500	$ 577.54	$ 750.00	$ 172.46	$ 4.2361	$ 3.5280	$ (0.7081)
15		Tier Two Breakover (M Gal):	99,999	99,999				5.2954	4.4100	(0.8854)
16		Tier Three Breakover (M Gal):	99,999	99,999				5.2954	4.4100	(0.8854)
17										
18	Sales for Resale (5/8-Inch)	Tier One Breakover (M Gal):	99,999	99,999	$ 23.10	$ 30.00	$ 6.90	$ 4.2361	$ 3.5280	$ (0.7081)
19		Tier Two Breakover (M Gal):	99,999	99,999				4.2361	3.5280	(0.7081)
20		Tier Three Breakover (M Gal):	99,999	99,999				4.2361	3.5280	(0.7081)
21										
22	Sales for Resale (1-Inch)	Tier One Breakover (M Gal):	99,999	99,999	$ 57.75	$ 75.00	$ 17.25	$ 4.2361	$ 3.5280	$ (0.7081)
23		Tier Two Breakover (M Gal):	99,999	99,999				4.2361	3.5280	(0.7081)
24		Tier Three Breakover (M Gal):	99,999	99,999				4.2361	3.5280	(0.7081)
25										
26	Sales for Resale (1.5-Inch)	Tier One Breakover (M Gal):	n/a	99,999	n/a	$ 150.00	n/a	n/a	$ 3.5280	n/a
27		Tier Two Breakover (M Gal):	n/a	99,999				n/a	3.5280	n/a
28		Tier Three Breakover (M Gal):	n/a	99,999				n/a	3.5280	n/a
29										
30	Sales for Resale (2-Inch)	Tier One Breakover (M Gal):	99,999	99,999	$ 184.81	$ 240.00	$ 55.19	$ 4.2361	$ 3.5280	$ (0.7081)
31		Tier Two Breakover (M Gal):	99,999	99,999				4.2361	3.5280	(0.7081)
32		Tier Three Breakover (M Gal):	99,999	99,999				4.2361	3.5280	(0.7081)
33										
34	Sales for Resale (3-Inch)	Tier One Breakover (M Gal):	99,999	99,999	$ 369.62	$ 480.00	$ 110.38	$ 4.2361	$ 3.5280	$ (0.7081)
35		Tier Two Breakover (M Gal):	99,999	99,999				4.2361	3.5280	(0.7081)
36		Tier Three Breakover (M Gal):	99,999	99,999				4.2361	3.5280	(0.7081)
37										
38	Sales for Resale (4-Inch)	Tier One Breakover (M Gal):	99,999	99,999	$ 577.54	$ 750.00	$ 172.46	$ 4.2361	$ 3.5280	$ (0.7081)
39		Tier Two Breakover (M Gal):	99,999	99,999				4.2361	3.5280	(0.7081)
40		Tier Three Breakover (M Gal):	99,999	99,999				4.2361	3.5280	(0.7081)
41										
42	Sales for Resale (6-Inch)	Tier One Breakover (M Gal):	99,999	99,999	$ 1,155.07	$ 1,500.00	$ 344.93	$ 4.2361	$ 3.5280	$ (0.7081)
43		Tier Two Breakover (M Gal):	99,999	99,999				4.2361	3.5280	(0.7081)
44		Tier Three Breakover (M Gal):	99,999	99,999				4.2361	3.5280	(0.7081)
45										
46	Sales for Resale (8-Inch)	Tier One Breakover (M Gal):	99,999	99,999	$ 1,848.12	$ 2,400.00	$ 551.88	$ 4.2361	$ 3.5280	$ (0.7081)
47		Tier Two Breakover (M Gal):	99,999	99,999				4.2361	3.5280	(0.7081)
48		Tier Three Breakover (M Gal):	99,999	99,999				4.2361	3.5280	(0.7081)
49										
50	Sales for Resale (10-Inch)	Tier One Breakover (M Gal):	99,999	99,999	$ 2,656.67	$ 3,450.00	$ 793.33	$ 4.2361	$ 3.5280	$ (0.7081)
51		Tier Two Breakover (M Gal):	99,999	99,999				4.2361	3.5280	(0.7081)
52		Tier Three Breakover (M Gal):	99,999	99,999				4.2361	3.5280	(0.7081)
53										
54										
55	**For Service Charges See Company-wide Service Charge Tariff at the end of this schedule**									

Northern Group

Line No.	Service Charge	[A] Current Rate	[B] Proposed Rate
2	Establishment	$16.00	$32.00
4–6	Guarantee Deposit	Residential - maximum: Two(2) times average customer class bill. Non-Residential-maximum: Two and one-half (21/2) times that customers estimated maximum monthly bill.	No Change
8	Reconnection for Delinquency	$16.00	$32.00
13–14	Re-Establishment	Eight (8) times the customer's monthly minimum charge, or payment of the minimums since disconnection, whichever is less.	No Change
16–18	*Service Call Out*	During regular working hours - No charge. After regular working hours, on Saturdays, Sundays, or holidays - $35.00	During regular working hours - no charge. After regular working hours, on Saturdays, Sundays, or holidays - *a $35.00 After Hours Service Charge.* The current Service Call Out After Hours Charge is eliminated.
20–22	Returned Check	$25.00	No Change in rate. Change language to read "Returned payment for insufficient funds."
24–25	Meter Re-read	No charge, if done during regular working hours, otherwise, a $35.00 service call out.	All Meter Re-Reads - $25.00
27–29	Meter Test	No charge for the first test; for the second test for the same customer within any twelve (12) month period, $50.00, or actual time and material whichever is greater.	No charge for the first test; for the second test for the same customer within any twelve (12) mont period, $25.00, or actual time and material, whichever is greater.

Service Line and Meter Installation

Meter Size	Service Line	Meter	Total
5/8-inch	$ 445.00	$ 155.00	$ 600.00
1-inch	495.00	315.00	810.00
2" turbine	830.00	1,045.00	1,875.00
2" compound	830.00	1,890.00	2,720.00
3" turbine	1,045.00	1,670.00	2,715.00
3" compound	1,165.00	2,545.00	3,710.00
4" turbine	1,490.00	2,670.00	4,160.00
4" compound	1,670.00	3,645.00	5,315.00
6" turbine	2,210.00	5,025.00	7,235.00
6" compound	2,330.00	6,920.00	9,250.00
8" turbine	2,210.00	5,025.00	7,235.00
8" compound	2,330.00	6,920.00	9,250.00
10" turbine	2,210.00	5,025.00	7,235.00
10" compound	2,330.00	6,920.00	9,250.00

Meter Size	Service Line[1]	Meter	Total[1]
5/8-inch	$ 445.00	$ 155.00	$ 600.00
1-inch	495.00	315.00	810.00
2" turbine	830.00	1,045.00	1,875.00
2" compound	830.00	1,890.00	2,720.00
3" turbine	Actual Cost	Actual Cost	Actual Cost
3" compound	Actual Cost	Actual Cost	Actual Cost
4" turbine	Actual Cost	Actual Cost	Actual Cost
4" compound	Actual Cost	Actual Cost	Actual Cost
6" turbine	Actual Cost	Actual Cost	Actual Cost
6" compound	Actual Cost	Actual Cost	Actual Cost
8" turbine	Actual Cost	Actual Cost	Actual Cost
8" compound	Actual Cost	Actual Cost	Actual Cost
10" turbine	Actual Cost	Actual Cost	Actual Cost
10" compound	Actual Cost	Actual Cost	Actual Cost

[1]Actual cost of service line if boring under roadway is required.

51	Late Charge	1.5 percent after 15 days.	No Change

ARIZONA WATER COMPANY
Test Year Ended December 31, 2011
Typical Bill Analysis

Navajo

Line No.		[A] Base Rates	[B] Surcharges (ACRM/DSIC)	[C] Monthly Consumption (M Gal)	[D] Typical Bill Present Rates Base	[E] Typical Bill Present Rates Surcharge	[F] Typical Bill Present Rates Total	[G] Typical Bill Proposed Rates	[H] Increase Amount	[I] Increase Percent
1	Residential 5/8 x 3/4 -inch									
2				-	$ 12.64	$ -	$ 12.64	$ 18.25	$ 5.61	44.38%
3				5	35.74	-	35.74	41.23	5.50	15.39%
4				15	92.19	-	92.19	100.00	7.81	8.48%
5	Present Rates			20	122.98	-	122.98	132.65	9.67	7.86%
6				25	153.77	-	153.77	165.29	11.53	7.50%
7				30	184.56	-	184.56	197.94	13.38	7.25%
8	Basic Service Charge:	$ 12.64	$ -	35	215.35	-	215.35	230.59	15.24	7.08%
9				40	246.14	-	246.14	263.23	17.10	6.95%
10	Tier One Breakover (M Gal):	3		45	276.93	-	276.93	295.88	18.95	6.84%
11	Tier Two Breakover (M Gal):	10		50	307.72	-	307.72	328.53	20.81	6.76%
12	Tier Three Breakover (M Gal):	99,999		55	338.51	-	338.51	361.17	22.67	6.70%
13				60	369.30	-	369.30	393.82	24.53	6.64%
14	Tier One Rate:	$ 4.2771	$ -	65	400.09	-	400.09	426.47	26.38	6.59%
15	Tier Two Rate:	5.1320	-	70	430.88	-	430.88	459.11	28.24	6.55%
16	Tier Three Rate:	6.1580	-	75	461.67	-	461.67	491.76	30.10	6.52%
17				100	615.62	-	615.62	655.00	39.38	6.40%
18				150	923.52	-	923.52	981.47	57.95	6.28%
19	Proposed Rates			200	1,231.42	-	1,231.42	1,307.94	76.52	6.21%
20				250	1,539.32	-	1,539.32	1,634.41	95.09	6.18%
21				300	1,847.22	-	1,847.22	1,960.88	113.66	6.15%
22	Basic Service Charge:	$ 18.25	$ -	350	2,155.12	-	2,155.12	2,287.35	132.23	6.14%
23				400	2,463.02	-	2,463.02	2,613.82	150.80	6.12%
24	Tier One Breakover (M Gal):	3		450	2,770.92	-	2,770.92	2,940.28	169.37	6.11%
25	Tier Two Breakover (M Gal):	10		500	3,078.82	-	3,078.82	3,266.75	187.94	6.10%
26	Tier Three Breakover (M Gal):	99,999		550	3,386.72	-	3,386.72	3,593.22	206.51	6.10%
27				600	3,694.62	-	3,694.62	3,919.69	225.08	6.09%
28	Tier One Rate:	$ 4.1788	$ -	650	4,002.52	-	4,002.52	4,246.16	243.65	6.09%
29	Tier Two Rate:	5.2235	-	700	4,310.42	-	4,310.42	4,572.63	262.22	6.08%
30	Tier Three Rate:	6.5294	-	750	4,618.32	-	4,618.32	4,899.10	280.79	6.08%
31				800	4,926.22	-	4,926.22	5,225.57	299.36	6.08%
32				850	5,234.12	-	5,234.12	5,552.04	317.93	6.07%
33				900	5,542.02	-	5,542.02	5,878.51	336.50	6.07%
34				1,000	6,157.82	-	6,157.82	6,531.45	373.64	6.07%
35				1,500	9,236.82	-	9,236.82	9,796.15	559.33	6.06%
36				2,000	12,315.82	-	12,315.82	13,060.85	745.03	6.05%
37				2,500	15,394.82	-	15,394.82	16,325.55	930.73	6.05%
38				3,000	18,473.82	-	18,473.82	19,590.24	1,116.43	6.04%
39										
40										
41			Average Usage:	3.2	$ 26.24	$ -	$ 26.24	$ 31.57	$ 5.33	20.31%
42			Median Usage:	1.2	$ 17.73	$ -	$ 17.73	$ 23.22	$ 5.49	30.98%
43			Standardized Usage:	7.5	$ 48.57	$ -	$ 48.57	$ 54.29	$ 5.73	11.79%
44										
45					Proposed Bill at Lifeline Usage (3.0 M Gal):			$ 30.79		
46					Cost of Service at Lifeline Usage (3.0 M Gal):			$ 34.90		
47					% Cost Discount at Lifeline Usage:			11.79%		
48										
49					Cost of Service at Average Usage:			$ 35.60		
50					% Cost Discount at Average Usage:			11.32%		
51										
52										
53										
54										
55										

Verde Valley (Sedona, Pinewood, Rimrock)

Line No.		[A] Base Rates	[B] Surcharges (ACRM/DSIC)	[C] Monthly Consumption (M Gal)	[D] Typical Bill Present Rates Base	[E] Surcharge	[F] Total	[G] Proposed Rates	[H] Increase Amount	[I] Percent
1	Residential 5/8 x 3/4 -inch									
2				-	varies	$ -	varies	$ 25.00	varies	varies
3				5	varies	-	varies	40.52	varies	varies
4				15	varies	-	varies	80.21	varies	varies
5	Present Rates			20	varies	-	varies	102.26	varies	varies
6				25	varies	-	varies	124.31	varies	varies
7				30	varies	-	varies	146.36	varies	varies
8	Basic Service Charge:	$ 23.10	$ -	35	varies	-	varies	168.41	varies	varies
9				40	varies	-	varies	190.46	varies	varies
10	Tier One Breakover (M Gal):	3		45	varies	-	varies	212.51	varies	varies
11	Tier Two Breakover (M Gal):	10		50	varies	-	varies	234.56	varies	varies
12	Tier Three Breakover (M Gal):	99,999		55	varies	-	varies	256.61	varies	varies
13				60	varies	-	varies	278.66	varies	varies
14	Tier One Rate:	varies	$ -	65	varies	-	varies	300.71	varies	varies
15	Tier Two Rate:	varies	-	70	varies	-	varies	322.76	varies	varies
16	Tier Three Rate:	varies	-	75	varies	-	varies	344.81	varies	varies
17				100	varies	-	varies	455.06	varies	varies
18				150	varies	-	varies	675.56	varies	varies
19	Proposed Rates			200	varies	-	varies	896.06	varies	varies
20				250	varies	-	varies	1,116.55	varies	varies
21				300	varies	-	varies	1,337.05	varies	varies
22	Basic Service Charge:	$ 25.00	$ -	350	varies	-	varies	1,557.55	varies	varies
23				400	varies	-	varies	1,778.05	varies	varies
24	Tier One Breakover (M Gal):	3		450	varies	-	varies	1,998.55	varies	varies
25	Tier Two Breakover (M Gal):	10		500	varies	-	varies	2,219.05	varies	varies
26	Tier Three Breakover (M Gal):	99,999		550	varies	-	varies	2,439.54	varies	varies
27				600	varies	-	varies	2,660.04	varies	varies
28	Tier One Rate:	$ 2.8224	$ -	650	varies	-	varies	2,880.54	varies	varies
29	Tier Two Rate:	3.5280	-	700	varies	-	varies	3,101.04	varies	varies
30	Tier Three Rate:	4.4100	-	750	varies	-	varies	3,321.54	varies	varies
31				800	varies	-	varies	3,542.04	varies	varies
32				850	varies	-	varies	3,762.53	varies	varies
33				900	varies	-	varies	3,983.03	varies	varies
34				1,000	varies	-	varies	4,424.03	varies	varies
35				1,500	varies	-	varies	6,629.01	varies	varies
36				2,000	varies	-	varies	8,834.00	varies	varies
37				2,500	varies	-	varies	11,038.98	varies	varies
38				3,000	varies	-	varies	13,243.96	varies	varies
39										
40										
41			Average Usage:	6.2	varies	$ -	varies	$ 44.86	varies	varies
42			Median Usage:	3.3	varies	$ -	varies	$ 34.68	varies	varies
43			Standardized Usage:	7.5	varies	$ -	varies	$ 49.34	varies	varies
44										
45					Proposed Bill at Lifeline Usage (3.0 M Gal):			$ 33.47		
46					Cost of Service at Lifeline Usage (3.0 M Gal):			$ 38.70		
47					% Cost Discount at Lifeline Usage:			13.52%		
48										
49					Cost of Service at Average Usage:			$ 51.38		
50					% Cost Discount at Average Usage:			12.70%		
51										
52										
53										
54										
55										

ARIZONA WATER COMPANY
Test Year Ended December 31, 2011
Typical Bill Analysis

Verde Valley (Sedona)

Line No.		[A] Base Rates	[B] Surcharges (ACRM/DSIC)	[C] Monthly Consumption (M Gal)	[D] Typical Bill Present Rates Base	[E] Typical Bill Present Rates Surcharge	[F] Typical Bill Present Rates Total	[G] Typical Bill Proposed Rates	[H] Increase Amount	[I] Increase Percent
1	Residential 5/8 x 3/4 -inch									
2				-	$ 23.10	$ 0.40	$ 23.50	$ 25.00	$ 1.50	6.38%
3				5	31.52	0.61	32.13	40.52	8.39	26.11%
4				15	53.05	1.03	54.08	80.21	26.13	48.32%
5	Present Rates			20	65.01	1.24	66.24	102.26	36.02	54.37%
6				25	76.96	1.45	78.41	124.31	45.90	58.55%
7				30	88.92	1.65	90.57	146.36	55.79	61.60%
8	Basic Service Charge:	$ 23.10	$ 0.40	35	100.87	1.86	102.74	168.41	65.68	63.93%
9				40	112.83	2.07	114.90	190.46	75.56	65.76%
10	Tier One Breakover (M Gal):	3		45	124.78	2.28	127.06	212.51	85.45	67.25%
11	Tier Two Breakover (M Gal):	10		50	136.74	2.49	139.23	234.56	95.33	68.47%
12	Tier Three Breakover (M Gal):	99,999		55	148.69	2.70	151.39	256.61	105.22	69.50%
13				60	160.65	2.91	163.56	278.66	115.11	70.38%
14	Tier One Rate:	$ 1.5317	$ 0.0418	65	172.60	3.12	175.72	300.71	124.99	71.13%
15	Tier Two Rate:	1.9147	0.0418	70	184.56	3.33	187.88	322.76	134.88	71.79%
16	Tier Three Rate:	2.3910	0.0418	75	196.51	3.54	200.05	344.81	144.76	72.36%
17				100	256.29	4.58	260.87	455.06	194.19	74.44%
18				150	375.84	6.67	382.51	675.56	293.05	76.61%
19	Proposed Rates			200	495.39	8.76	504.15	896.06	391.91	77.74%
20				250	614.94	10.85	625.79	1,116.55	490.77	78.42%
21				300	734.49	12.94	747.43	1,337.05	589.63	78.89%
22	Basic Service Charge:	$ 25.00	$ -	350	854.04	15.03	869.07	1,557.55	688.48	79.22%
23				400	973.59	17.12	990.71	1,778.05	787.34	79.47%
24	Tier One Breakover (M Gal):	3		450	1,093.14	19.21	1,112.35	1,998.55	886.20	79.67%
25	Tier Two Breakover (M Gal):	10		500	1,212.69	21.30	1,233.99	2,219.05	985.06	79.83%
26	Tier Three Breakover (M Gal):	99,999		550	1,332.24	23.39	1,355.63	2,439.54	1,083.92	79.96%
27				600	1,451.79	25.48	1,477.27	2,660.04	1,182.78	80.07%
28	Tier One Rate:	$ 2.8224	$ -	650	1,571.34	27.57	1,598.91	2,880.54	1,281.63	80.16%
29	Tier Two Rate:	3.5280	-	700	1,690.89	29.66	1,720.55	3,101.04	1,380.49	80.24%
30	Tier Three Rate:	4.4100	-	750	1,810.44	31.75	1,842.19	3,321.54	1,479.35	80.30%
31				800	1,929.99	33.84	1,963.83	3,542.04	1,578.21	80.36%
32				850	2,049.54	35.93	2,085.47	3,762.53	1,677.07	80.42%
33				900	2,169.09	38.02	2,207.11	3,983.03	1,775.92	80.46%
34				1,000	2,408.19	42.20	2,450.39	4,424.03	1,973.64	80.54%
35				1,500	3,603.69	63.10	3,666.79	6,629.01	2,962.22	80.79%
36				2,000	4,799.19	84.00	4,883.19	8,834.00	3,950.81	80.91%
37				2,500	5,994.69	104.90	6,099.59	11,038.98	4,939.39	80.98%
38				3,000	7,190.19	125.80	7,315.99	13,243.96	5,927.97	81.03%
39										
40										
41			Average Usage:	8.8	$ 38.71	$ 0.77	$ 39.47	$ 53.76	$ 14.28	36.19%
42			Median Usage:	5.2	$ 31.96	$ 0.62	$ 32.58	$ 41.33	$ 8.75	26.86%
43			Standardized Usage:	7.5	$ 36.31	$ 0.71	$ 37.02	$ 49.34	$ 12.32	33.27%
44										
45					Proposed Bill at Lifeline Usage (3.0 M Gal):			$ 33.47		
46					Cost of Service at Lifeline Usage (3.0 M Gal):			$ 38.70		
47					% Cost Discount at Lifeline Usage:			13.52%		
48										
49					Cost of Service at Average Usage:			$ 61.29		
50					% Cost Discount at Average Usage:			12.29%		
51										
52										
53										
54										
55										

Verde Valley (Pinewood, Rimrock)

Line No.		[A] Base Rates	[B] Surcharges (ACRM/DSIC)	[C] Monthly Consumption (M Gal)	[D] Typical Bill Present Rates Base	[E] Typical Bill Present Rates Surcharge	[F] Typical Bill Present Rates Total	[G] Typical Bill Proposed Rates	[H] Increase Amount	[I] Increase Percent
1	Residential 5/8 x 3/4 -inch									
2				-	$ 23.10	$ -	$ 23.10	$ 25.00	$ 1.90	8.23%
3				5	41.74	-	41.74	40.52	(1.22)	-2.91%
4				15	89.40	-	89.40	80.21	(9.18)	-10.27%
5	Present Rates			20	115.87	-	115.87	102.26	(13.61)	-11.75%
6				25	142.35	-	142.35	124.31	(18.04)	-12.67%
7				30	168.83	-	168.83	146.36	(22.47)	-13.31%
8	Basic Service Charge:	$ 23.10	$ -	35	195.31	-	195.31	168.41	(26.89)	-13.77%
9				40	221.78	-	221.78	190.46	(31.32)	-14.12%
10	Tier One Breakover (M Gal):	3		45	248.26	-	248.26	212.51	(35.75)	-14.40%
11	Tier Two Breakover (M Gal):	10		50	274.74	-	274.74	234.56	(40.17)	-14.62%
12	Tier Three Breakover (M Gal):	99,999		55	301.21	-	301.21	256.61	(44.60)	-14.81%
13				60	327.69	-	327.69	278.66	(49.03)	-14.96%
14	Tier One Rate:	$ 3.3891	$ -	65	354.17	-	354.17	300.71	(53.46)	-15.09%
15	Tier Two Rate:	4.2361	-	70	380.64	-	380.64	322.76	(57.88)	-15.21%
16	Tier Three Rate:	5.2954	-	75	407.12	-	407.12	344.81	(62.31)	-15.31%
17				100	539.51	-	539.51	455.06	(84.45)	-15.65%
18				150	804.28	-	804.28	675.56	(128.72)	-16.00%
19	Proposed Rates			200	1,069.05	-	1,069.05	896.06	(172.99)	-16.18%
20				250	1,333.82	-	1,333.82	1,116.55	(217.26)	-16.29%
21				300	1,598.59	-	1,598.59	1,337.05	(261.53)	-16.36%
22	Basic Service Charge:	$ 25.00	$ -	350	1,863.36	-	1,863.36	1,557.55	(305.80)	-16.41%
23				400	2,128.13	-	2,128.13	1,778.05	(350.08)	-16.45%
24	Tier One Breakover (M Gal):	3		450	2,392.90	-	2,392.90	1,998.55	(394.35)	-16.48%
25	Tier Two Breakover (M Gal):	10		500	2,657.67	-	2,657.67	2,219.05	(438.62)	-16.50%
26	Tier Three Breakover (M Gal):	99,999		550	2,922.44	-	2,922.44	2,439.54	(482.89)	-16.52%
27				600	3,187.21	-	3,187.21	2,660.04	(527.16)	-16.54%
28	Tier One Rate:	$ 2.8224	$ -	650	3,451.98	-	3,451.98	2,880.54	(571.43)	-16.55%
29	Tier Two Rate:	3.5280	-	700	3,716.75	-	3,716.75	3,101.04	(615.71)	-16.57%
30	Tier Three Rate:	4.4100	-	750	3,981.52	-	3,981.52	3,321.54	(659.98)	-16.58%
31				800	4,246.29	-	4,246.29	3,542.04	(704.25)	-16.59%
32				850	4,511.06	-	4,511.06	3,762.53	(748.52)	-16.59%
33				900	4,775.83	-	4,775.83	3,983.03	(792.79)	-16.60%
34				1,000	5,305.37	-	5,305.37	4,424.03	(881.34)	-16.61%
35				1,500	7,953.07	-	7,953.07	6,629.01	(1,324.05)	-16.65%
36				2,000	10,600.77	-	10,600.77	8,834.00	(1,766.77)	-16.67%
37				2,500	13,248.47	-	13,248.47	11,038.98	(2,209.49)	-16.68%
38				3,000	15,896.17	-	15,896.17	13,243.96	(2,652.20)	-16.68%
39										
40										
41			Average Usage:	3.0	$ 33.42	$ -	$ 33.42	$ 33.59	$ 0.17	0.52%
42			Median Usage:	1.2	$ 27.22	$ -	$ 27.22	$ 28.43	$ 1.21	4.45%
43			Standardized Usage:	7.5	$ 52.33	$ -	$ 52.33	$ 49.34	$ (2.99)	-5.71%
44										
45					Proposed Bill at Lifeline Usage (3.0 M Gal):			$ 33.47		
46					Cost of Service at Lifeline Usage (3.0 M Gal):			$ 38.70		
47					% Cost Discount at Lifeline Usage:			13.52%		
48										
49					Cost of Service at Average Usage:			$ 38.84		
50					% Cost Discount at Average Usage:			13.51%		
51										
52										
53										
54										
55										