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| Exhibit No.: | |
| Issues: | Rate of Return on Equity |
| | |
| Witness: | Pauline M. Ahern |
| Exhibit Type: | Direct |
| Sponsoring Party: | Missouri-American Water Company |
| Case Nos.: | WR-2011-0337 |
| | SR-2011-0338 |
| Date: | June 30, 2011 |

**PUBLIC SERVICE COMMISSION**
**OF THE STATE OF MISSOURI**

**CASE NOS. WR-2011-0337**
**SR-2011-0338**

**DIRECT TESTIMONY**

**OF**

**PAULINE M. AHERN, CRRA**

**ON BEHALF OF**

**MISSOURI-AMERICAN WATER COMPANY**

**JEFFERSON CITY, MISSOURI**

BEFORE THE PUBLIC SERVICE COMMISSION

OF THE STATE OF MISSOURI

| | | |
|---|---|---|
| IN THE MATTER OF MISSOURI-AMERICAN WATER COMPANY FOR AUTHORITY TO FILE TARIFFS REFLECTING INCREASED RATES FOR WATER AND SEWER SERVICE | ) ) ) ) ) | CASE NO. WR-2011-XXXX<br>CASE NO. SR-2011-XXXX |

**AFFIDAVIT OF PAULINE M. AHERN**

Pauline M. Ahern, being first duly sworn, deposes and says that she is the witness who sponsors the accompanying testimony entitled "Direct Testimony of Pauline M. Ahern"; that said testimony and schedules were prepared by her and/or under her direction and supervision; that if inquires were made as to the facts in said testimony and schedules, she would respond as therein set forth; and that the aforesaid testimony and schedules are true and correct to the best of her knowledge.

Pauline M Ahern

Pauline M. Ahern

**State of New Jersey**
**County of Burlington**
**SUBSCRIBED and sworn to**
**Before me this 24th day of June, 2011.**

Sharon M Keefe

**Notary Public**

**My commission expires:**

SHARON M. KEEFE
NOTARY PUBLIC OF NEW JERSEY
MY COMMISSION EXPIRES JULY 9, 2016

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**<u>Introduction</u>**

**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-six 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 in 1973. In 1991, I 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 a monthly basis, I also calculate and maintain the American Gas Association (A.G.A.) Gas Index under contract with the A.G.A., which serves as the benchmark against which the performance of the American Gas Index Fund (AGIF) is measured. 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 in this proceeding?**

A. The purpose is to provide testimony on behalf of Missouri-American Water Company (MAWC or the Company) relative to the overall rate of return including common equity cost rate, senior capital cost rates and capital structure which it should be afforded the opportunity to earn on its jurisdictional rate base.

**Q. What is your recommended overall rate of return?**

A. I recommend that the Public Service Commission of the State of Missouri (MO PSC or the Commission) authorize the Company the opportunity to earn an overall rate of return of 8.85% based upon its pro forma capital structure at December 31, 2011, consisting of 49.36% long-term debt at a 6.36% cost rate, 0.27% preferred stock at a 9.23% cost rate and 50.37% common equity at my recommended common equity cost rate of 11.30% which is summarized in Table 1 below:

Table 1

| Type of Capital | Ratios | Cost Rate | Weighted Cost Rate |
|---|---|---|---|
| Long-Term Debt | 49.36% | 6.36% | 3.14% |
| Preferred Equity | 0.27 | 9.23 | 0.02 |
| Common Equity | 50.37 | 11.30 | 5.69 |
| Total | 100.00% | | 8.85% |

**Q. Have you prepared schedules which support your recommended common equity cost rate?**

A. Yes. They are attached to my prepared direct testimony and have been marked for identification as Schedules PMA-1 through PMA-17.

**Summary**

**Q. Please summarize your recommended common equity cost rate.**

A. My recommended common equity cost rate of 11.30% is summarized on Schedule PMA-1, page 2. As a wholly-owned subsidiary of American Water Works Company, Inc. (AWK, the Parent or American Water), MAWC's common stock is not publicly traded. Thus, a market-based common equity cost rate cannot be determined directly for the Company. Consequently, 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., proxy group(s) for insight into a recommended common equity cost rate applicable to MAWC and suitable for cost of capital purposes. 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]

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

cases, adding reliability to the informed expert judgment necessary to arrive at a recommended common equity cost rate. However, no proxy group(s) can be selected to be identical in risk to MAWC. Therefore, the proxy group(s)' results must be adjusted, if necessary, to reflect the unique relative financial and/or business risk of the Company, as will be discussed in detail subsequently.

Consistent with the Efficient Market Hypothesis (EMH), which will be discussed in more detail below, my recommendation results from 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 be discussed subsequently. In addition, I also selected a group of domestic, non-price regulated companies comparable in total risk to the nine water companies, applying the DCF, RPM and CAPM to them as well as assessing projected returns on book common equity or partner's capital in accordance with the opportunity cost standards encapsulated in *Hope* and *Bluefield*.

The results derived from each are as follows:

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

Table 2

| | Proxy Group of Nine Water Companies |
|---|---|
| Discounted Cash Flow Model | 9.54% |
| Risk Premium Model | 10.40 |
| Capital Asset Pricing Model | 10.33 |
| Cost of Equity Models Applied to Comparable Risk, Non-Price Regulated Companies | 13.26 |
| Indicated Common Equity Cost Rate Before Adjustment for Financial Risk, Flotation Costs and Business Risks | 10.85 |
| Financial Risk Adjustment | (0.07) |
| Flotation Cost Adjustment | 0.12 |
| Business Risk Adjustment | 0.40 |
| 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 10.85% is indicated before any adjustment for financial and business risks related to MAWC's greater financial risk and its smaller size relative to the proxy group of nine water companies as well as flotation costs. The indicated common equity cost rate based upon the nine water companies was adjusted downward by 7 basis points (a negative 0.07%) to reflect MAWC's slightly lower financial risk relative to the nine water companies, upward by 12 basis points (0.12%) for flotation costs and upward by 40 basis points (0.40%) to reflect MAWC's increased business risk as noted above. These adjustments will be discussed subsequently. After adjustment, the financial risk-, flotation cost and business risk-adjusted common equity cost rate is 11.30%, which is also my recommended common equity cost rate for MAWC.

**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 must act as a substitute for marketplace competition. Assuring that the utility can fulfill its obligations to the public while providing safe and adequate service at all times requires a level of earnings sufficient to maintain the integrity of presently invested capital as well as permitting the attraction of needed new capital at a reasonable cost in competition with other firms of comparable risk, consistent with the fair rate of return standards established by the U.S. Supreme Court in the previously cited *Hope* and *Bluefield* cases. Consequently, marketplace data must be relied upon in assessing a common equity cost rate appropriate for ratemaking purposes. Therefore, my recommended common equity cost rate is based upon marketplace data for a proxy group of utilities as similar in risk as possible to MAWC, based upon selection criteria which will be discussed subsequently. Just as the use of the market data for the proxy group(s) adds reliability to the informed expert judgment used in arriving at a recommended common equity cost rate, the ability to use multiple common equity cost rate models also adds reliability when arriving at a company-specific common equity cost rate.

**<u>Business Risk</u>**

**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 such general business risk 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, 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 precept of risk and return.

**Q. Please discuss the business risks facing the water industry in general.**

A. Water is essential to life and unlike electricity or natural gas, water is the only utility product which is ingested. Consequently, water quality is of paramount importance to the health and well-being of customers and subject to additional health and safety regulations. In addition, unlike many electric and natural gas utilities, water companies serve a production function in addition to the delivery functions served by electric and gas utilities.

Water utilities obtain supply from wells, aquifers, surface water reservoirs, streams and rivers, or through water rights. Throughout the years, well supplies and aquifers have been environmentally threatened, with historically minor purification treatment having given way to major well rehabilitation, treatment or replacement. Simultaneously, environmental water quality standards have tightened considerably, requiring multiple treatments. In addition, drought, water source overuse, runoff, threatened species/habitat protection and other factors are limiting supply availability. As for water rights, their lives are typically finite with renewability uncertain. In the course of procuring water supplies and treating water so that it meets Safe Drinking Water Act 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 the natural resources of the United States.

Moreover, 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 sources of supply and production (wells and treatment facilities), in addition to 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:

> Water utility stocks have been met with some resistance since our January review. Indeed, all but a single issue covered in our *Survey* gave back some ground. And the exception advanced less than 10% in price. As a result, the group, as a whole, has slipped into the bottom half of the pack for Timeliness after residing in the top quartile last time around.
>
> Wall Street's apprehension is not surprising, given that most of the

[3] Value Line Investment Survey, April 22, 2011.

companies reported disappointing earnings in the fourth-quarter. (First-quarter results were not released as of the day of this report). Indeed, revenue growth, although healthy thanks to continued progress on the regulatory front, seemed to fall short of expectations. Earnings, meanwhile, were further frustrated by the increasing costs of doing business.

The group's growth prospects going forward are not overly impressive either. With the exception of *American Water Works*, not a single stock in this industry stands out for Timeliness or 3- to 5-year price appreciation potential. The companies here face stiff headwinds on the cost front, as many of the country's water systems are aging and increasing in the need for repairs and maintenance. Financial constraints are of further concern, with the financial moves that are likely to be made in order to maintain infrastructures dilutive to share-net growth.

* * *

Despite a more favorable regulatory climate, providers still have troubles facing them. Infrastructures are decaying rapidly and, in many cases, need complete overhauls. The costs to make the repairs are exorbitant many operating in this space do not have the funds on hand to foot the bill. Indeed, most are strapped for cash and will have to look to outside financiers to keep up. Although consolidation trends present unique opportunities for those with the financial capabilities to throw their hat in the ring, such as *Aqua America*, others are just trying to stay afloat. Unfortunately, the financing costs to stay in business, whether it be additional share or debt offerings, will probably drown most and dilute shareholder gains moving ahead.

* * *

The bulk of the stocks in this group have lost any luster they had from a growth perspective. Although the share-price weakness makes for more attractive entry points, only *American States Water* stands out for appreciation potential. That said, the dividends of many help make for worthwhile total return appeal in some cases. Again *American States Water*, along with the *American Water Works*, and newcomer *SJW Corp.*, top the list on this account. ….That said, we do think that there are better options out there for investors looking to add an income producing stock to the portfolios.

In addition, because the water and wastewater industry is much more capital-intensive than the electric, natural gas or telephone industries, the investment required to produce a dollar of revenue is greater. For example, as shown on page 1 of Schedule PMA-2, it took $3.83 of net utility plant on average to produce $1.00 in operating revenues in 2010 for the water utility industry as a whole. For MAWC specifically, it took $5.12 of net utility plant to produce $1.00 in operating revenues in 2010. In contrast, for the electric, combination electric and gas and natural gas utility industries, on average it took only $2.10, $1.70 and $1.27, respectively, to produce $1.00 in operating revenues in 2010. 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 2010, as shown on page 2 of Schedule PMA-2. As financing needs have increased over the last decade, the competition for capital from traditional sources has increased, making the need to maintain 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, the challenge to investor-owned water utilities is exacerbated and their access to financing is restricted, thus increasing risk.

The National Association of Regulatory Commissioners (NARUC) has 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 2006:[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)

[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, 2006.

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…

MAWC itself is facing expected significant capital investment as it projects net capital expenditures of $261,789,000 for 2011 through 2013, representing an increase of approximately 22% over 2010 net utility plant of $1,181,665,415.

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, natural gas or telephone 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 for other types of utilities. As shown on page 3 of Schedule PMA-2, water utilities experienced an average depreciation rate of 3.0% for 2010 with MAWC experiencing a much lower rate of 1.8%. In contrast, in 2010, the electric, combination electric and gas, natural gas or telephone industries, experienced average depreciation rates of 4.1%, 3.7% and 3.3%, respectively.

As with capital intensity, the lower relative depreciation rates of water and wastewater utilities is not a new phenomenon. As shown on page 4 of Schedule PMA-2, water utility depreciation rates have been consistently and much 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.

In addition, not only is the water utility industry historically capital intensive, it is expected to incur significant capital expenditure needs 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 (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

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

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.

Due to the high level of capital spending, U.S. investor-owned water utilities do not generate positive free cash flow. This, coupled with the forecast increase in capital spending over the intermediate term, will require additional access to capital markets. We expect rated water companies to have enough financial flexibility to gain that access. Ratings actions shouldn't result from this increased market activity because we expect companies to use a balanced financing approach, which should maintain debt near existing levels.

Specifically, the EPA states the following[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.

In its 2009 infrastructure Fact Sheet[7] published by the American Society of Civil Engineers (ASCE) they state:

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.

Water utility capital expenditures as large as projected by the EPA and ASCE will

[6] "Fact Sheet: "EPA's 2007 Drinking Water Infrastructure Needs Survey and Assessment", United States Environmental Protection Agency, Office of Water, February 2009, 1.

[7] 2009 American Society of Civil Engineers, Report Card for America's Infrastructure 2009.

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 ability to achieve that return. Consistent with the *Bluefield* and *Hope* decisions discussed previously, the return must be sufficient enough to maintain credit quality as well as enable the attraction of necessary new capital, be it debt or equity capital. If unable to raise debt or equity capital, the utility must turn to either 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. 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 its customers, the ratepayers. Page 5 of Schedule 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 2010. 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 will be discussed subsequently.

Consequently, as with the previously discussed capital intensity and depreciation rates, significant capital expenditures relative to net plant as well as the consistently and more significantly negative free cash flow 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 significant negative free cash flow, coupled with the need for substantial infrastructure capital spending, requires regulatory support in the form of adequate and timely rate relief, 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. Schedule 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; earned returns on common equity (ROEs) and earned v. authorized ROEs for each utility industry for the ten years ended 2010. The increasing proportion of total debt to EBITDA for the water utilities indicates significantly increasing and greater financial risk for water utilities, which began the most recent ten years below that of electric, combination electric and gas and natural gas utilities.

As noted previously, 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 Schedule PMA-3 shows that total debt / EBITDA has risen steadily for water utilities for the ten years ended 2010, dropping only slightly for 2010. Notwithstanding the decline in 2010, total debt / EBITDA is now higher than that for electric, combination electric and gas and natural gas utilities. Page 2 shows that FFO / total debt has steadily declined for water utilities over the decade ending 2010, while rising for the other utility groups. The consistently low level of FFO / total debt for the water utilities, is a further indication of the pressures upon water utility cash flows and the increased relative investment risk which the water utility industry faces.

Pages 3 and 4 of Schedule PMA-3 confirm the pressures upon both cash flows and income faced by water utilities. Page 2 shows that FFO / interest coverage for water, electric, combination electric and gas and natural gas utilities followed a similar pattern to FFO interest coverage for the ten years ended 2010. FFO interest coverage remained relative consistent for water utilities, rising and falling between 2.0 and 3.0 times during the period. A similar pattern was exhibited by electric utilities. However, FFO / total debt for combination electric and gas as well as natural gas utilities rose during the ten years, exceeding that of water utilities significantly in 2009 and dropping back somewhat in 2010. Page 4 shows that before-income tax coverage interest coverage for water utilities also remained relatively stable, falling below that of gas utilities in 2002 and below that of electric and combination electric and gas utilities between 2005 and 2006, where it remained for the remainder of the ten years. In 2010, 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 has converged at slightly lower than 3.0 times, while natural gas utilities continue to enjoy a significantly greater before-income tax interest coverage of approximately 4.25 times in 2010. Once again, the consistency and relatively low level of interest coverage ratios for water utilities are further indications 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.

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 and authorized ROEs. As shown on page 5 of Schedule PMA-3, earned ROEs, on average, for water utilities have generally been below those of electric, combination electric and gas and natural gas utilities during the ten years ended 2010. They have consistently been lower for the last five years. However, such a comparison would not be complete without a comparison of earned ROEs with authorized ROEs, as shown on pages 6 and 7 of Schedule PMA-3. The authorized ROEs are those reported in AUS Utility Reports for the last month of each year representing the authorized ROEs in effect during the previous year, rather than the outcomes of rate cases decided during the year. Hence, these authorized ROEs represent the revenue requirements of each year which give rise to the earned ROEs in each year. Water utilities generally, consistently and dramatically earned far below their authorized ROEs, while electric and combination electric and gas utilities earned above their authorized ROEs in some years and below in others. In contrast, natural gas utilities generally, consistently and dramatically earned above their authorized ROEs. Notwithstanding the closing of the gap between the average authorized ROEs for the various utility groups over the ten year period, for the majority of the period, water utilities have failed to earn their average authorized ROE with earned ROEs significantly lower than authorized, a likely contributing factor to the greater risk indicated by the previously discussed coverage metrics.

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

**Q. Does MAWC face additional extraordinary business risk?**

A. Yes. MAWC faces additional extraordinary business risk due to its smaller size relative to the proxy group as well as the unique business risks discussed by MAWC Witness Dennis R. Williams in his direct testimony. I will comment upon those risks. As discussed above, the greater the level of risk, the greater the rate of return demanded / 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 these unique risks of MAWC and will be discussed subsequently,

**Q. Please discuss MAWC's increased relative business risk due to the availability and quality of its source of supply.**

A. As Mr. Williams explains in his direct testimony, source water availability and quality impacts MAWC's ability to serve the current and future water needs of its customers. Typically, MAWC does not own the water used in its operations, with the availability of water supply established through requirements set by governmental entities and other provisions of law. Currently, there is a need to secure a new long-term source of supply in southwest Missouri which is driven in part by MAWC. Alternative water sources are being sought in four states due to rapid regional growth and the significant draw down of a primary aquifer. As a result, a study of alternatives is pointing to the development of a major reservoir and transmission system estimated to cost more than a billion dollars.

In addition, surface water supplies from the Missouri River are exposed to increased treatment costs and potential interruption of water supplies from river transportation related accidents. Also, in certain areas of Missouri, i.e., Jefferson City, St. Louis County and St. Charles, the Missouri River is an agricultural watershed where livestock grazing results in Cryptosporidium and Giardia as well as herbicide and pesticide contamination. Surface water supply facilities from the Meramec River, Shoal Creek and the Missouri River are the source of water for the St. Louis, Jefferson City and Joplin water treatment plants, making up more than 83% of MAWC's water supply capacity. Exacerbating these concerns are issues surrounding the future long-term availability of water from the Missouri River as Northern states are using more water upstream.

**Q. Please discuss how MAWC's exposure to flooding increases its business risk relative to that of the proxy group.**

A. At Mr. Williams explains in his direct testimony, surface water supplies, such as those from rivers, are at risk of flood damage, unlike groundwater supplies or surface water supplies from impoundments, such as reservoirs. As Mr. Williams notes, levees along the Missouri River and levees and dams along the Mississippi River while controlling the recurrent risk of annual flooding, also increase the potential for catastrophic failures. Although MAWC's facilities are protected against 100 year flood levels, potential flooding impacts range from interruption of service to structural and electrical damage from severe flood events. The facilities subject to flood threat represent more than 97% of MAWC's combined water supply and treatment capacity.

**Q. Please discuss how MAWC's physical composition and service territory increase its business risk relative to that of the proxy group.**

A. MAWC's service territory is non-contiguous and stretches from the far southwestern part of Missouri to its eastern border, with approximately 80% of its capital investment in and revenues derived from the St. Louis metropolitan area. As Mr. Williams discusses, this presents some unique risks for MAWC. Non-contiguous operations mean compliance with a widely ranging regulatory requirements relative to groundwater and surface water sources, expansive water main distribution systems and multiple discharge points. Simultaneously, the concentration of investment and revenues in a single metropolitan area, St. Louis, increases the potential impact of a catastrophic event such as a tornado or earthquake along the New Madrid fault.

**Q. Please discuss MAWC's specific regulatory risks.**

A. Mr. Williams, in his direct testimony, highlights some of MAWC's specific regulatory risks. These risks are related to the fact that approximately 80% of the typical MAWC bill is volumetric and more subject to fluctuation, uncertainty as well as the impact of some of the previously discussed risks. The rate design complexity of district specific pricing for twenty-three (23) separate districts creates an added risk. Because of the geographical reach of the Company, there is a greater complexity of rates as well as the likelihood of greater rate case intervention increasing rate case expense.

Finally, as Mr. William's notes, while operationally effective, MAWC has been historically unable to achieve its authorized rate of return. As shown on Schedule PMA-5, for the five years ended 2010, MAWC achieved an average 5.53% ROE significantly below its average authorized ROE for the period. In contrast, the AUS Utility Reports Water Companies also did not earn its average authorized ROE over the five years ended 2010, but never fell below an 8.00% ROE during the five years as shown on page 7 of Schedule PMA-3. As discussed previously, the inability to earn the authorized ROE puts great pressure on cash flow coverage and cash flow relative to debt metrics, increasing relative risk.

**Q. Please explain how MAWC's smaller size increases its business risk relative to the proxy groups.**

A. As will be discussed subsequently, MAWC's smaller size, $775.728 million in estimated market capitalization relative to the average market capitalization of $1.239 billion for the nine water companies, shown on page 1 of Schedule PMA-16, indicates greater relative business risk because all else equal, size has a bearing on risk. It is clear, too, that on a relative basis, water utilities on average are smaller in terms of market capitalization than electric, combination electric and gas and natural gas utilities, as demonstrated on page 5 of Schedule PMA-3, which shows the market capitalization of each utility for the ten years ended 2010.

**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, in general, 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 as well as experiencing less financial flexibility. In addition, the effect of extreme weather conditions, i.e., prolonged droughts or extremely wet weather, will have a greater affect upon a small operating water utility than upon the much larger, more geographically diverse holding 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]. Therefore, because MAWC is the regulated utility to whose jurisdictional rate base the overall cost of capital allowed by the Commission will be applied, the relevant risk reflected in the cost of capital must be that of MAWC, including the impact of its small size on common equity cost rate. As noted previously, MAWC is smaller than the average proxy group company based upon the results of a study of the market capitalization of the nine water companies as shown on Schedule PMA-17.

In addition, Brigham[9] 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)

**<u>Financial Risk</u>**

**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. They are considered senior capital because common equity is last in line in any claim on the Company's assets and earnings. The higher the proportion of senior capital in the capital structure, the higher the financial risk which must be factored into the common equity cost rate, consistent with the previously

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[8] Brealey, Richard A. and Myers, Stewart C., <u>Principles of Corporate Finance</u> (McGraw-Hill Book Company, 1988) 173 198.

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 Schedule PMA-4). 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 in November 2007. S&P then stated[10]:

> 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 Schedule 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.

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

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

As shown on Schedule PMA-10, 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. Please describe MAWC's degree of financial risk relative to the proxy group of nine water companies.**

A. Although MAWC's ratemaking capital structure ratios and hence, financial risk are similar to the nine water companies on average, MAWC's ratemaking long-term debt ratio, pro forma at December 31, 2011, of 49.36% is slightly lower than the average long-term debt ratio of the nine water companies, 50.97%, at December 31, 2010. Therefore, MAWC's financial risk, although similar, is slightly lower than that of the nine water companies. Consistent with the previously mentioned financial principle of risk and return, the lower financial risk of MAWC must be reflected in the recommended common equity cost rate. Consequently, a downward adjustment of 7 basis points (a negative 0.07%) was made to the indicated common equity cost rate of 10.85% based upon the nine water companies before adjustment for financial risk, flotation cost and business risk. The derivation of this adjustment will be discussed subsequently.

**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 Schedule PMA-4.

In summary, it is clear that S&P's bond/credit rating process encompasses a qualitative analysis of business and financial risks (see page 3 of Schedule PMA-4). While not a means by which one can 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.

**<u>Missouri-American Water Company</u>**

**Q. Have you reviewed the rate filing of MAWC?**

A. Yes. MAWC provides water and wastewater service to approximately 455,000 customers, serving over 1.5 million customers in and around 121 communities throughout Missouri. As a wholly-owned subsidiary of AWK, MAWC's common stock is not publicly traded.

As shown on Schedule PMA-5, during the five-year period ending 2010, the achieved average earnings on book common equity for MAWC was 5.53%. The five-year ending 2010 average common equity ratio based upon total permanent capital (excluding short-term debt) was 47.29%, while the five-year average dividend payout ratio was 69.95%.

Total debt as a percentage of earnings before interest, taxes, depreciation and amortization (EBITDA) for the years 2006-2010 ranged between 4.63 and 5.85 times, averaging 5.36 times during the period.

**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 (June 2011); 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 2010 or through the time of the preparation of this testimony; 6) they have 60% or greater of 2010 total operating income derived from and 60% or greater of 2010 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.

The following 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 Schedule PMA-6.**

A. Schedule PMA-6 contains comparative capitalization and financial statistics for the nine water companies for the years 2006-2010.

During the five-year period ending 2010, the historically achieved average earnings rate on book common equity for the group averaged 7.51%. The average common equity ratio based upon total permanent capital (excluding short-term debt) was 49.71%, and the average dividend payout ratio was 63.57%.

Total debt as a percent of EBITDA for the years 2006-2010 ranged between 4.56 and 9.07 times, averaging 5.90 times, while funds from operations relative to total debt ranged from 15.04% to 17.10%, averaging 16.25%.

**Capital Structure Ratios**

**Q. What capital structure ratios do you recommend be employed in developing an overall fair rate of return appropriate for the Company?**

A. I recommend that the pro forma capital structure ratios at December 31, 2011 of MAWC be adopted for ratemaking purposes in developing an overall rate of return applicable to MAWC. The capital structure and related ratios I employ represent the capital structure which is expected to finance MAWC's Missouri jurisdictional rate base in the near future. As stated previously, these ratios consists of 49.36% long-term debt, 0.37% preferred stock, and 50.37% common equity and are summarized on page 1 of Schedule PMA-6.

**Q. How did you arrive at your recommended pro forma capital structure and related ratios?**

A. As a starting point, I used MAWC's actual capital structure at December 31, 2010. I then adjusted the balances in that capital structure to reflect all changes expected to occur by December 31, 2011 which is the end of the proposed true-up period, resulting in a pro forma capital structure comprised of 49.36% long-term debt, 0.27% preferred stock and 50.37% common equity, as shown on Schedule PMA-1, page 1.

**Q. Please explain the pro forma adjustments you made to MAWC's December 31, 2010 long-term debt balance?**

A. The Company's actual December 31, 2010 long-term debt outstanding was $402,276,000. I have reflected MAWC's two expected debt issuances on November 15, 2011, one for $10 million at a coupon rate of 6.600% and one for $15 million at a coupon rate of 6.100%. I have also reflected the appropriate amortization of issuance expense associated with each issue of debt. Thus, the Company's pro forma adjusted long-term debt balance at December 31, 2011 is $423,114,710 as derived on page 1 of Schedule PMA-7.

**Q. Please explain the pro forma adjustments you made to MAWC's December 31, 2010 preferred stock balance.**

A. The Company's preferred stock balance as of December 30, 2010 was $2,596,000. I have reflected two annual sinking fund payments of $12,000 on the $96,000 December 31, 2010 balance of cumulative preferred stock and $262,000 on the $2.5 million December 31, 2010 balance of the $100 par preference stock as well as the appropriate amortization of the issuance expense associated with the preference stock. The Company's pro forma adjusted preferred stock balance at December 31, 2011 is $2,306,034 as derived on Schedule PMA-7, page 2.

**Q. Please explain the pro forma adjustments you made to MAWC's December 31, 2011 common equity balance.**

A. The Company's actual common equity balance as of December 31, 2010 was $413,407,026. To this balance, I made a pro forma adjustment to reflect MAWC's planned common equity infusion of $10,000,000 in the form of paid-in capital from its parent, AWK. This equity infusion occurred on March 31, 2011. The funds from this equity infusion will be used to finance utility property that will be placed in service and to pay down short-term debt that is expected to build up through the normal course of business. I also adjusted MAWC's December 31, 2010 retained earnings balance, which is a component of common equity, to capture the changes expected to occur before December 31, 2011, the end of the proposed true-up period. Specifically, I have added the net income and subtracted the dividend payments expected to occur which results in a net pro forma change to retained earnings of $8,334,642. Adding all these adjustments to the December 31, 2011 common adjusted equity balance produces a total pro forma common equity balance of $431,741,678 at December 31, 2011 as derived on Schedule PMA-7, page 3.

**Q. Are the pro forma capital structure ratios and embedded cost rates of senior capital at December 31, 2011 appropriate for cost of capital purposes?**

A. Yes, MAWC's pro forma capital structure ratios pro forma at December 31, 2011 are appropriate for cost of capital purposes because they are indicative of the ratios and embedded cost rates of fixed capital which MAWC will experience in the near-term future, the period of time in which new rates would be in effect. Since a water utility has an obligation to serve all of the time, it is incumbent upon the utility to maintain capital structure ratios which should enable it to attract capital when required assuming a sufficient level of earnings. MAWC's pro forma December 31, 2011 capital structure upon which its requested overall rate of return is based, accomplishes this, as it is accepted in the marketplace, is consistent with the capital structures maintained by other water utilities, is consistent with S&P's revised financial risk indicative ratios, as will be discussed below, and is thus not unduly costly to consumers, given MAWC's upcoming extensive capital expenditure program.

**Q. How does MAWC's pro forma common equity ratio of 50.37% at December 31, 2011 compare with the common equity ratios maintained by the nine water companies?**

A. MAWC's pro forma common equity ratio of 50.37% at December 31, 2010 is reasonable to use as it is consistent with the range of common equity ratios maintained, on average, by the companies in the proxy group of nine water companies upon whose market data I base my common equity cost rate. The common equity ratios of the nine water companies ranged from 42.93% to 55.70% in 2010 and averaged 48.84% as shown on page 2 of Schedule PMA-6.

**Q. How do MAWC's pro forma capital structure ratios at December 31, 2011 compare with S&P's revised financial risk indicative ratios?**

A. They are reasonable in light of S&P's revised financial risk indicative ratio of total debt to total capital for utilities with long-term debt rated in the A category and of similar business and financial risk profiles as the nine water companies upon whose market data I base my recommended common equity cost rate, i.e., "excellent" and "intermediate", respectively, as shown on page 2 of Schedule PMA-10.

As shown on page 4 of Schedule PMA-4, based upon S&P's revised financial risk indicative ratios, a utility assigned financial and business risk profiles of

"Excellent" and "Intermediate" like the nine water companies indicates a total debt to total capital ratio in the range of 35.0% to 45.0%.

MAWC's long-term/total (since there is no short-term debt expected to be outstanding) which finances MAWC's jurisdictional rate base at December 31, 2011 debt ratio is 49.36% also pro forma at December 31, 2011. Such a debt ratio is slightly lower than the average total debt ratio (including short-term debt) of the nine water companies for 2010 of 53.49% and 52.23% on average for the five years ending 2010 as shown on page 1 of Schedule PMA-6. These rates are above the high end of the range of total debt to total capital of 35.0% to 45.0% for utilities, like the nine water companies, which have been assigned an "Intermediate" financial risk profile by S&P. Nevertheless, the capital structure ratios of the nine water companies have found acceptance in the marketplace as they all maintain an average S&P bond/credit rating of A+ and A and "Excellent" and "Intermediate" business and financial risk profiles.

In view of all the foregoing, in my opinion, MAWC's pro forma capital structure at December 31, 2011 comprised of 49.36% long-term debt, 0.27% preferred stock and 50.37% common equity is reasonable.

**<u>Senior Capital Cost Rates</u>**

**Long-Term Debt Cost Rates**

**Q. What cost rate for long-term debt is most appropriate for use in a cost of capital determination for MAWC?**

A. A long-term debt cost rate of 6.36% pro forma at December 31, 2011 is the most appropriate and is derived from pro forma long-term debt expected to be outstanding at December 31, 2011 as derived on page 1 of Schedule PMA-7.

**Preferred Stock Cost Rate**

**Q. What cost rate for preferred stock is most appropriate for use in a cost of capital determination for MAWC?**

A. A preferred stock cost rate of 9.23% pro forma at December 31, 2011 is the most appropriate and is derived from the pro forma preferred stock expected to be outstanding at December 31, 2011 as derived on page 2 of Schedule PMA-7.

**<u>Common Equity Cost Rate Models</u>**

**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 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

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

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

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

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, no single common equity cost rate model should be relied upon exclusively in determining a cost rate of common equity and the results of multiple costs of common equity models should be taken into account. In addition, the academic literature provides substantial support for the need to rely upon more than one cost of common equity model 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 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. The process of selecting the comparable risk non-utility companies is market-based in that it is based upon statistics which result from

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[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,

regression analyses of market prices and reflect the market's assessment of total risk. Therefore, all the cost of common equity models I utilize are market-based models, and hence based upon the EMH.

**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. In my opinion, it is widely utilized because utilities are generally in the mature stage of their lifecycles and not transitioning from one growth stage to another. This is especially true for water utilities.

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

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2007) 332-333.

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 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, including the water utility 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 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 (June 13, 2011) indicated dividend divided by the average of closing market prices for the 60 days ending June 13, 2011 as shown in Column 1 on page 1 of Schedule PMA-8.

**Q. Please explain the adjusted dividend yield shown on page 1 of Schedule PMA-8, 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 Schedule PMA-8 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. Schedule PMA-9 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 new 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 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]:

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15 Morin 298 - 303.

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

> 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 accuracy of analysts' forecast of EPS growth, however, it does not really matter what the level of accuracy of those analysts' forecasts is well 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. Moreover, there is no empirical evidence that investors, consistent with the EMH, would disregard analysts' estimates of growth in earnings per share.[18] As stated previously, the "semistrong" form of the EMH, which is generally held to be true, 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

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

[18] Agrawal, Anup and Chen, Mark A., "Do Analysts' Conflicts Matter? Evidence from Stock Recommendations", (Journal of Law and Economics, August 2008), Vol. 51.

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.

In response to recent concern about the use of security analysts' EPS growth rate forecasts, Malkiel[19] affirmed his belief in the superiority of analysts' earnings forecasts when he testified before the Public Service Commission of South Carolina, in November 2002:

> With all the publicity given to tainted analysts' forecasts and investigations instituted by the New York Attorney General, the National Association of Securities Dealers, and the Securities & Exchange Commission, I believe the upward bias that existed in the late 1990s has indeed diminished. In summary, I believe that current analysts' forecasts are more reliable than they were during the late 1990s. Therefore, analysts' forecasts remain the proper tool to use in performing a Gordon Model DCF 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 Schedule PMA-8.

**Q. Please summarize the DCF model results.**

A. As shown on page 1 of Schedule PMA-8, the median result of the application of the single-stage DCF model is 9.54% 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

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19 Burton A. Malkiel, the Chemical Bank Chairman's Professor of Economics at Princeton University and author of the widely-read national bestselling book on investing entitled, "A Random Walk Down Wall Street: The Time-Tested Strategy for Successful Investing (Completely Revised and Updated)" (W.W. Norton & Co. 2011).

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.

**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 Schedule 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 the basis of the expected bond yield of 5.97% applicable to the proxy group of nine water companies shown on page 1 of Schedule PMA-10.**

A. The first step in the 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. Since both ratemaking and the cost of capital are prospective in nature, 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 third calendar quarter of 2012 as derived from the June 1, 2011 Blue Chip Financial Forecasts (shown on page 7 of Schedule PMA-10). As shown on Line No. 1 of page 1 of Schedule PMA-10, the average expected yield on Moody's Aaa rated corporate bonds is 5.43%. An adjustment of 40 basis points (0.40%) 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 5.43% as shown on Line No. 3.

Since the nine water companies average Moody's bond rating is A3, an adjustment of 14 basis points (0.14%) is necessary to make the prospective bond yield applicable to an A3 public utility bond, as detailed in Note 3 on page 1 of Schedule PMA-10. Therefore, the expected specific bond yield is 5.97% 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 historical equity risk premium studies, as well as Value Line's forecasted total annual market return in excess of the prospective yield on Moody's Aaa corporate bonds, as detailed on pages 5, 6 and 8 of Schedule PMA-10. As shown on Line No. 3, page 5, the mean equity risk premium is 4.43% applicable to the nine water companies. This estimate is the result of an average of a beta-derived equity risk premium as well as the mean historical equity risk premium applicable to public utilities with bonds rated A based upon holding period returns. The basis of the beta-derived equity risk premium applicable to the proxy group is shown on page 6 of Schedule PMA-10. 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 6.75% and is based upon an average of the long-term historical market risk premium and forecasted market risk premium. To derive the historical market equity risk premium, I used the most recent Morningstar[20] data on holding period returns for the S&P 500 Composite Index from the Ibbotson® SBBI® – 2011 Valuation Yearbook – Market Results for Stocks, Bonds, Bills and Inflation – 1926-2010 (SBBI – 2011) and the average historical yield on Moody's Aaa and Aa rated corporate bonds for the period 1926-2010. The use of holding period returns over a very long period of time is useful because it is consistent with the long-term investment horizon presumed by the DCF model. As the SBBI – 2011 states[21]:

> The estimate of the equity risk premium depends on the length of the data series studied. A proper estimate of the equity risk premium requires a data series long enough to give a reliable average without being unduly influenced by very good and very poor short-term returns. When calculated using a long data series, the historical equity risk premium is relatively stable.[5] Furthermore, because an average of the realized equity risk premium is quite volatile when calculated using a short history, using a long series makes it less likely that the analyst can justify any number he or she wants. The magnitude of how shorter periods can affect the result will be explored later in this chapter.
>
> Some analysts estimate the expected equity risk premium using a shorter, more recent time period on the basis that recent events are more likely to be repeated in the near future; furthermore, they believe that the 1920s, 1930s and 1940s contain too many unusual events. This view is suspect because all periods contain '"unusual" events. Some of the most unusual events of the last hundred years took place quite recently, including the

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[20] Morningstar, Inc. acquired Ibbotson Associates in 2006.

[21] Ibbotson® SBBI® – 2011 Valuation Yearbook – Market Results for Stocks, Bonds, Bills and Inflation – 1926 – 2010 (SBBI 2011) (Morningstar, Inc., 2010) 59.

> inflation of the late 1970s and early 1980s, the October 1987 stock market crash, the collapse of the high-yield bond market, the major contraction and consolidation of the thrift industry, the collapse of the Soviet Union, the development of the European Economic Community, and the attacks of September 11, 2001 and the more recent liquidity crisis of 2008 and 2009.
>
> It is even difficult for economists to predict the economic environment of the future. For example, if one were analyzing the stock market in 1987 before the crash, it would be statistically improbable to predict the impending short-term volatility without considering the stock market crash and market volatility of the 1929-1931 period.
>
> Without an appreciation of the 1920s and 1930s, no one would believe that such events could happen. The 85-year period starting with 1926 is representative of what can happen: it includes high and low returns, volatile and quiet markets, war and peace, inflation and deflation, and prosperity and depression. Restricting attention to a shorter historical period underestimates the amount of change that could occur in a long future period. Finally, because historical event-types (not specific events) tend to repeat themselves, long-run capital market return studies can reveal a great deal about the future. Investors probably expect "unusual" events to occur from time to time, and their return expectations reflect this. (footnote omitted)

Consequently, the long-term arithmetic mean total return rates on the market as a whole of 11.90% and the long-term arithmetic mean yield on corporate bonds of 6.10% were used, as shown at Line Nos. 1 and 2 of page 6 of Schedule PMA-10. As shown on Line No. 3, the resultant long-term historical equity risk premium on the market as a whole is 5.80%.

I used arithmetic mean return rates and yields (income returns) because they are appropriate for cost of capital purposes as noted in the <u>SBBI – 2011</u>. 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.[22] In addition, Weston and Brigham[23] provide the standard financial textbook definition of the riskiness of an asset when they state:

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

And Morin states[24]:

> 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[25] note:

> The proper uses of arithmetic and compound rates of return from past

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22 Brigham (1989) 639.

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

24 Morin 133.

25 Brealey and Myers 146-147.

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[26] 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 . . . 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 <u>all</u> of the returns / premiums, hence, providing meaningful insight into the variance and standard deviation of those returns / premiums.

**Q. Can it be demonstrated that the arithmetic mean takes into account all of the returns and, therefore, that the arithmetic mean is appropriate to use when estimating the opportunity cost of capital in contrast to the geometric mean?**

A. Yes. Pages 1 through 3 of Schedule PMA-11 graphically demonstrate this <u>premise</u>. It is clear from observing the year-to-year variation (the returns on large company stocks for each and every year, 1926 through 2010 on page 1), that stock market returns, and hence, equity risk premiums, vary.

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[26] Giaacchino, Leonardo R. and Lesser, Jonathan A., Principles of Utility Corporate Finance (Public Utilities

There is a clear bell-shaped pattern to the probability distribution of these returns shown on page 2, an indication that they are randomly generated and not serially correlated. The arithmetic mean of this distribution of returns considers each and every return in the distribution, taking into account the standard deviation or likely variance which may be experienced in the future when estimating the rate of return based upon such historical returns. In contrast, page 3 demonstrates that when the geometric mean is calculated, only two of the returns are considered, namely the initial and terminal years, i.e., 1926 and 2010. Based upon only those two years, a constant rate of return is calculated by the geometric average. That constant return is graphically represented by a flat line, showing no year-to-year variation, over the entire 1926 to 2010 time period, which is obviously far different from reality, based upon the probability distribution of returns shown on page 2 and demonstrated on page 1.

Consequently, only the arithmetic mean takes into account the standard deviation of returns which is critical to risk analysis. The geometric mean is appropriate only when measuring historical performance and should not be used to estimate the investors required rate of return.

**Q. How did you incorporate Value Line's forecasted total annual market return in excess of the prospective yield on high rated corporate bonds in your development of an equity risk premium for your RPM analysis?**

A. Once again, 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 basis of the forecasted or prospective market equity risk premium can be found on

Reports, Inc., 2011) 38-41 and 233-234.

Line Nos. 4 through 6 on page 6 of Schedule PMA-10. 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 June 10, 2011 3-5 year median market price appreciation potentials 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 Schedule PMA-12.

The average median expected price appreciation is 53% which translates to an 11.22% annual appreciation and, when added to the average (similarly calculated) median dividend yield of 1.90% equates to a forecasted annual total return rate on the market as a whole of 13.12%. The forecasted total market equity risk premium of 7.69% is derived by deducting the June 1, 2011 Blue Chip Financial Forecasts 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 third calendar quarter 2012 of 5.43% shown on Schedule PMA-10, page 6, Line No. 6 (7.69% = 13.12% - 5.43%).

In arriving at my conclusion of equity risk premium of 6.75% on Line No. 7 on page 6, I have given equal weight to the historical equity risk premium of 5.80% and the forecasted equity risk premium of 7.69% shown on Line Nos. 3 and 6, respectively (6.75% = (5.80% + 7.69%)/2).

**Q. What is your conclusion of an equity risk premium for use in your RPM analysis?**

A. On page 1 of Schedule 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 0.70 (consistent with my reliance upon the median DCF results as previously discussed), to the market equity risk premium of 6.75% results in a beta adjusted equity risk premium of 4.73% for the proxy group of nine water companies.

A mean equity risk premium of 4.12% applicable to utilities with A rated public utility bonds such as the proxy group of nine water companies was calculated based upon holding period returns from a study using public utilities, as shown on Line No. 2, page 5 of Schedule PMA-10 and is detailed on page 8.

The equity risk premium applicable to the proxy group of nine water companies is the average of the beta-derived premium, 4.75%, and that based upon the holding period returns of public utilities with A rated bonds, 4.12%, as summarized on Schedule PMA-10, page 5, i.e., 4.43% (4.43% = (4.75% + 4.12%)/2).

**Q. What is the indicated RPM common equity cost rate?**

A. It is 10.40% for the nine water companies as shown on Schedule PMA-10, page 1.

**Q. Some critics of the RPM model claim that its weakness is that it presumes a constant equity risk premium. Is such a claim valid?**

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[27] 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 previously.

**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

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[27] Morin 256.

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 |
| | $\beta$ | = | 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[28] 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:

[28] Morin 175.

$$K = R_F + 0.25(R_M - R_F) + 0.75\ \beta(R_M - R_F)$$[29]

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 Schedule PMA-12, the risk-free rate adopted for both applications of the CAPM is 4.78%. Again, because both ratemaking and the cost of capital, including common equity, are prospective, the risk-free rate for my CAPM analysis is based upon the average consensus forecast of the reporting economists in the June 1, 2011 Blue Chip Financial Forecasts as shown in Note 2, page 2, of the expected yields on 30-year U.S. Treasury bonds for the six quarters ending with the third calendar quarter 2012.

**Q. Why is the prospective 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.

[29] Morin 190.

In addition, noted in the SBBI - 2011[30]:

> 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 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 Schedule PMA-12. It is derived from an average of the most recent thirteen weeks ending June 10, 2011 3-5 year median total market price appreciation projects from Value Line, resulting in a total annual return of 13.12% as discussed previously, and the long-term historical arithmetic mean total returns for the years 1926 – 2010 on large company stocks from the SBBI - 2011 of 11.90%. From these returns, the appropriate projected and historical risk-free rates are subtracted to arrive at a projected and historical equity risk premium for the market.

For example, the forecasted total market equity risk premium is derived by deducting the June 1, 2011 Blue Chip Financial Forecasts consensus estimate of about 50 economists of the expected yield on U.S. Treasury Notes of 4.78% from the Value Line projected total annual market return of 13.12%, resulting in a forecasted total market equity risk premium of 8.34%. From SBBI – 2011 historical total market return of 11.90%, the long-term income return on U.S. Government Securities of 5.20% was deducted resulting in an historical equity risk premium of 6.70% which results in an

[30] SBBI 2011 55.

average total market equity risk premium of 7.52% (7.52% = (8.34% + 6.70%)/2).

**Q. What are the results of your application of the traditional and empirical CAPM to the proxy group?**

A. As shown on Schedule PMA-12, page 1, the median traditional CAPM cost rate is 10.04% for the nine water companies and the median ECAPM cost rate is 10.61%. Consistent with my reliance upon the median DCF results discussed previously, 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 10.33% based upon an average of the traditional CAPM and ECAPM results for the proxy group.

**Q. Some critics of the ECAPM model claim that using adjusted betas in a traditional CAPM amounts to using an ECAPM. Is such a claim valid?**

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 <u>over time</u>, i.e., over successive calculations of beta. As noted above, numerous studies have determined that the SML described by the CAPM formula at <u>any given moment</u> in time is not as steeply sloped as the predicted SML. Morin[31] states:

> Some have argued that the use of the ECAPM is inconsistent with the use of adjusted betas, such as those supplied by Value Line and Bloomberg. This is because the reason for using the ECAPM is to allow for the tendency of betas to regress toward the mean value of 1.00 over time, and, since Value Line betas are already adjusted for such trend [sic], an ECAPM analysis results in double-counting. This argument is erroneous. Fundamentally, the ECAPM is not an adjustment, increase or decrease, in beta. This is obvious from the fact that the expected return on high beta securities is actually lower than that produced by the CAPM estimate.

[31] Morin 191.

> The ECAPM is a formal recognition that the observed risk-return tradeoff is flatter than predicted by the CAPM based on myriad empirical evidence. The ECAPM and the use of adjusted betas comprised two separate features of asset pricing. Even if a company's beta is estimated accurately, the CAPM still understates the return for low-beta stocks. Even if the ECAPM is used, the return for low-beta securities is understated if the betas are understated. Referring back to Figure 6-1, the ECAPM is a return (vertical axis) adjustment and not a beta (horizontal axis) adjustment. Both adjustments are necessary.

Moreover, the slope of the SML should not be confused with beta. As Brigham states[32] :

> The slope of the SML reflects the degree of risk aversion in the economy – the greater the average investor's aversion to risk, then (1) the steeper is the slope of the line, (2) the greater is the risk premium for any risky asset, and (3) the higher is the required rate of return on risky assets.[12]
>
> [12]Students sometimes confuse beta with the slope of the SML. This is a mistake. As we saw earlier in connection with Figure 6-8, and as is developed further in Appendix 6A, beta does represent the slope of a line, but *not* the Security Market Line. This confusion arises partly because the SML equation is generally written, in this book and throughout the finance literature, as $k_i = R_F + b_i(k_M - R_F)$, and in this form $b_i$ looks like the slope coefficient and $(k_M - R_F)$ the variable. It would perhaps be less confusing if the second term were written $(k_M - R_F)b_i$, but this is not generally done.

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[33]:

> 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

[32] Brigham and Gapenski 203.

[33] 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).

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 not 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.

**Cost of Common Equity Models Applied to Comparable, Domestic, Non-Price Regulated Companies**

**Q. Please describe the basis of applying cost of common equity models to comparable risk, non-price regulated companies?**

A. Applying cost of equity models to non-price regulated companies, comparable in total risk, is derived from the *"corresponding risk" standard* of the landmark cases of the U.S. Supreme Court, i.e., *Hope* and *Bluefield*, previously discussed. Therefore, it is consistent with the *Hope* doctrine that the return to the equity investor should be commensurate with returns on investments in other firms having corresponding risks based upon the fundamental economic concept of opportunity cost which maintains that the true cost of an investment is equal to the cost of the best available alternative use of the funds to be invested. The opportunity cost principle is also consistent with one of the fundamental principles upon which regulation rests: that regulation is intended to act as a surrogate for competition and to provide a fair rate of return to investors.

The first step in determining such an opportunity cost of common equity based upon the non-price regulated companies comparable in total risk to the nine water companies is to choose an appropriate proxy group(s) of non-price regulated firms comparable in total risk to the proxy group(s) of price-regulated utilities. The proxy group(s) should be broad-based in order to obviate any company-specific aberrations and should exclude utilities to avoid circularity since the achieved returns on book common equity of utilities, being a function of the regulatory process, are substantially influenced by regulatory awards.

As stated previously, my selection criteria for the non-price regulated firms of comparable risk are based upon statistics derived from the market prices paid by investors. Value Line betas were used as a measure of systematic risk. The standard error of the regression was used as a measure of each firm's unsystematic or specific risk with the standard error of the regression reflecting the extent to which events specific to a company's operations affect its stock price. In essence, companies which have similar betas and standard errors of the regressions, have similar total investment risk, i.e., the sum of systematic (market) risk as reflected by beta and unsystematic (business and financial) risk, as reflected by the standard error of the regression. These statistics are derived from regression analyses using market prices which, under the EMH, reflect all relevant risks. An additional criterion used in the selection of these proxy companies were that they be domestic non-utility companies. The application of these criteria results in a proxy group of non-price regulated firms comparable in total risk to the average utility in the proxy group of water companies. The proxy group of forty-one non-utility companies comparable in total investment risk to the nine water companies is listed on page 3 of Schedule PMA-13.

Using a Value Line, Inc. proprietary database dated March 15, 2011, a proxy group of forty-one non-price regulated companies was chosen based upon ranges of unadjusted beta and standard error of the regression shown on page 2 of Schedule PMA-13. The ranges were based upon the standard deviations of the unadjusted beta and the average standard error of the regression for the proxy group of nine water companies as explained on page 4 of Schedule PMA-13.

This selection criteria are meaningful and effectively respond to the criticisms normally associated with the selection of non-regulated firms presumed to be comparable in total risk. The criteria do so because the selection of non-price regulated companies comparable in total risk is based upon regression analyses of market prices which reflect investors' assessment of all risks, diversifiable and non-diversifiable, and is thus market-based.

The first method of measuring such an opportunity cost is shown in Schedule PMA-14. It measures the returns expected to be earned on the book common equity, net worth, or partner’s capital of non-price regulated enterprises of comparable total risk as the nine water companies. The second method is to apply the DCF, RPM and CAPM to the same non-price regulated companies comparable in total risk to the nine water companies as shown on Schedule PMA-15.

**Expected Return On Book Equity For The Proxy Group Of Domestic, Non-Price Regulated Companies**

**Q. Did you evaluate the expected return on book common equity, net worth, or partner’s capital for the proxy group of domestic, non-price regulated companies that are comparable in total risk to the utility proxy group?**

A. Yes. Measuring the expected return on book common equity, net worth, or partner’s capital provides a direct measure of return, since it translates into practice the competitive principle upon which regulation rests. In my opinion, it is inappropriate to use the achieved returns of regulated utilities of similar risk because to do so would be circular, as achieved returns are a function of authorized ROEs, i.e., the regulatory process itself, and inconsistent with the principle of equality of risk with non-price regulated firms. As shown on Schedule PMA-14, the expected rate of return on book equity, net worth, or partner's capital was gathered from Value Line's Standard Edition (various issues). After applying a test of significance (Student's t-statistic) to determine whether any of the projected returns are significantly different from the mean at the 95% confidence level, the projected return of one company has been excluded. After excluding this outlier, my conclusion of the expected return on book common equity net worth or partner's capital is 15.00%.

**Cost Rates For The Proxy Group Of Domestic, Non-Price Regulated Companies Based Upon the DCF, RPM and CAPM**

**Q. Did you calculate common equity cost rates using the DCF, RPM and CAPM for the proxy group of domestic, non-price regulated companies that are comparable in total risk to the utility proxy group?**

A. Yes. Because the DCF, RPM and CAPM have been applied in an identical manner as described previously relative to the market data of the nine water companies, I will not repeat the details of the rationale and application of each model shown in Schedule PMA-15. The only exception is that, in the application of the RPM, I did not use public utility-specific equity risk premiums.

Page 1 of Schedule PMA-15 contains the derivation of the DCF cost rates. As shown, the median DCF cost rate for the proxy group of forty-one non-price regulated companies comparable in total risk to the proxy group of nine water companies, is 12.48%.

Pages 2 through 4 contain information relating to the 11.39% RPM cost rate for the proxy group of forty-one non-price regulated companies summarized on page 2. As shown on Line 1 of page 2 of Schedule PMA-15, the consensus prospective yield on Moody's Baa rated corporate bonds for the six quarters ending with the third quarter of 2012 from the June 1, 2011 Blue Chip Financial Forecasts is 6.33%, which is appropriate since the average Moody's bond rating of the proxy group of forty-one non-price regulated companies is Baa2. When the risk premium of 5.06% derived on page 4 is added to the prospective Baa rated corporate bond yield of 6.33%, the indicated RPM cost rate is 11.39%. The average estimated equity risk premium is based upon the average of the historical and projected market risk premiums of 6.75%, adjusted by the group's median beta of 0.75, resulting in an equity risk premium of 5.06% as shown on Line 9, page 4 of Schedule PMA-15.

Page 5 contains the details of the application of the traditional CAPM and ECAPM to the forty-one non-price regulated companies comparable in total risk to the nine water companies. As shown, the median cost rates are 10.42% and 10.89%, respectively which, when averaged, results in an indicated CAPM cost rate of 10.66%.

**Q. What are the cost rates, based upon the DCF, RPM and CAPM, related to the domestic, non-price regulated proxy group comparable in total risk to the utility proxy group?**

A. The cost rates based upon application of the DCF, RPM and CAPM/ECAPM models to the non-utility group are 12.48%, 11.39% and 10.66%, respectively, averaging 11.51% as summarized on page 1 of Schedule PMA-13.

**Q. What is your conclusion of the cost rate of common equity based upon the proxy group of forty-one non-price regulated companies comparable in total risk to the nine water companies?**

A. As shown on page 1 of Schedule PMA-13, my conclusion of the projected return on book equity, partner's capital or net worth of the comparable group is 15.00% and my conclusion is 11.51% for the results of the DCF, RPM and CAPM applied to the comparable group. Based upon these results, I conclude a cost of common equity of 13.26% for the non-price regulated companies.

**<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 well as a proxy group of non-utility companies comparable in total risk to the nine water companies, as adjusted for financial and business risks due to MAWC's greater financial risk and smaller relative size, as well as flotation costs.

As discussed previously, reliance upon multiple models is consistent with the EMH, upon which all of my models are premised. I employ all of my 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 be relied upon solely to the exclusion of other theoretically sound models; 2) all of my models have application problems associated with them; 3) all of my models are based upon the Efficient Market

Hypothesis (EMH); and 4) as demonstrated previously, the prudence of using multiple cost of common equity models is supported in both the financial literature and regulatory precedent. Therefore, none 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 Schedule PMA-1, page 2 and summarized below:

Table 3

| | Proxy Group of Nine Water Companies |
|---|---|
| Discounted Cash Flow Model | 9.54% |
| Risk Premium Model | 10.40 |
| Capital Asset Pricing Model | 10.33 |
| Cost of Equity Models Applied to Comparable Risk, Non-Price Regulated Companies | 13.26 |
| Indicated Common Equity Cost Rate Before Adjustment for Financial Risk, Flotation Costs and Business Risks | 10.85 |
| Financial Risk Adjustment | (0.07) |
| Flotation Cost Adjustment | 0.12 |
| Business Risk Adjustment | 0.40 |
| Recommended Common Equity Cost Rate | 11.30% |

Based upon these common equity cost rate results, I conclude that a common equity cost rate of 10.85% is indicated for the nine water companies before the financial and business risk adjustments previously discussed, shown on Line Nos. 6, 7 and 8 on page 2 of Schedule PMA-1.

**Financial Risk Adjustment**

**Q. Is there a way to quantify a financial risk adjustment due to MAWC's previously discussed lower financial risk relative to the proxy group?**

A. Yes. As shown on page 1 of Schedule PMA-1, the Company's ratemaking total equity ratio (common equity plus preferred stock) is 50.64% based upon MAWC's pro forma capital structure at December 31, 2011 which is slightly higher than the average 2010 total equity ratio maintained, on average, by the nine water companies, 49.03%. Conversely, MAWC's ratemaking long-term debt ratio pro forma at December 31, 2011, 49.36% is somewhat lower than the average 2010 long-term debt ratio of the proxy group, 50.97%. Thus, MAWC has somewhat lower financial risk than the companies in the proxy group. Because investors require a higher return in exchange for bearing higher risk, a downward adjustment to the common equity cost rate derived from the market data of the proxy group companies which have a somewhat higher degree of financial risk than MAWC is necessary.

An indication of the magnitude of the necessary financial risk adjustment is given by the Hamada equation[34], which un-levers and then re-levers betas based upon changes in capital structure.

The Hamada equation un-levers the median beta of the proxy group of nine water companies of 0.70 with an average December 31, 2010 total equity ratio of 49.03% to 0.42 when applied to a 100% common equity ratio and then levers the beta to 0.69 using

[34] Brigham and Daves 533.

MAWC's pro forma total equity ratio of 50.64% at December 31, 2011. The re-levered beta, applied to a 7.52% market risk premium and a 4.78% risk-free rate translates to a 9.97%[35] common equity cost rate. The difference between the 9.97% relevered beta common equity cost rate and the result of the traditional CAPM for the proxy group with a median beta of 0.70, 10.04%[36] is a negative 7 basis points (-0.07%). A downward financial adjustment of 7 basis points (0.07%), reflects the somewhat lower financial risk of MAWC attributable to its higher pro forma total equity ratio of 50.64% compared with the proxy group's average total equity ratio of 49.03% at December 31, 2010. The Hamada Equation and calculations are as follows:

$$b_l = b_u[1 + (1 - T)(D/S)]$$

Where $b_l$ = Levered beta

$b_u$ = Un-levered beta

$T$ = Tax Rate

$(D/S)$ = Debt to Common Equity Ratio

To un-lever the beta from a 49.03% average proxy group total equity ratio, the following equation is used:

$$0.70 = b_u [1 + (1 – 0.35) (50.97\%/49.03\%)]$$

When solved for $b_u$, $b_u$ = 0.42, indicating that the beta for the proxy group of nine water companies would be 0.42 if their average capital structure contained 100% total equity.

To re-lever the beta relative to MAWC's 50.64% for December 31, 2011 pro forma total equity ratio, the following equation is used:

$$b_l = 0.42 [1 + (1 - 0.35) (49.36\%/50.64\%)]$$

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35 9.97% = (0.69 x 7.52%) + 4.78%.

36 10.04% = (0.70 x 7.52%) + 4.78%.

When solved for $b_l$, $b_l$ = 0.69, indicating that the beta for the proxy group of nine water companies would be 0.69, if their average capital structure contained 50.64% total equity.

**Flotation Cost Adjustment**

**Q. What are flotation costs?**

A. Flotation costs are those costs associated with the sale of new issuances of common stock. They include market pressure and the essential costs of issuance, e.g., underwriting fees and out-of-pocket costs for printing, legal, registration, etc.

**Q. Why is it important to recognize flotation costs in the allowed common equity cost rate?**

A. It is important because there is no other mechanism in the ratemaking paradigm with which such costs can be recovered. Because these costs are real and legitimate, recovery of these costs should be permitted. As noted by Morin:

> The costs of issuing these securities are just as real as operating and maintenance expenses or costs incurred to build utility plants, and fair regulatory treatment must permit recovery of these costs….
>
> The simple fact of the matter is that common equity capital is not free….[Flotation costs] must be recovered through a rate of return adjustment[37]

**Q. Should flotation costs be recognized only when there was an issuance during the test year or there is an imminent post-test year issuance of additional common stock?**

A. No. As noted above, there is no mechanism to recapture such costs in the ratemaking paradigm other than an adjustment to the allowed common equity cost rate. Flotation costs are charged to capital accounts and are not expensed on a utility's income

[37] Morin 321.

statement. As such, flotation costs are analogous to capital investments reflected on the balance sheet. Recovery of capital investments relates to the expected useful lives of the investment. Since common equity has a very long and indefinite life (assumed to be infinity in the standard regulatory DCF model), flotation costs should be recovered through an adjustment to common equity cost rate even when there has not been an issuance during the test year or in the absence of an expected imminent issuance of additional shares of common stock.

**Q. MAWC is a wholly-owned subsidiary of American Water Works Company, Inc. Is there a need to reflect flotation costs in this situation?**

A. Yes. With the exception of retained earnings, MAWC receives common equity capital from American Water, raised in the capital markets through public offerings of its common stock, incurring issuance costs to do so. Denying recovery of the issuance costs associated with the common equity capital that is invested in MAWC would penalize investors, making it more difficult to raise new equity capital at a reasonable cost.

**Q. Do the common equity cost rate models you have used already reflect investors' anticipation of flotation costs?**

A. No. All of these models assume no transaction costs. The literature is quite clear that these costs are not reflected in market prices paid for common stocks. For example, Brigham and Daves confirm this and provide the methodology utilized to calculate the flotation adjustment which will be discussed subsequently[38] and shown on pages 1 and 2 of Schedule PMA-16. In addition, Morin confirms this as well including the need for

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[38] Brigham and Daves 342.

such an adjustment even when no new issue is imminent as previously noted.[39] Consequently, it is proper to include a flotation cost adjustment when using cost of common equity models to estimate the common equity cost rate.

**Q. How did you calculate the flotation cost allowance?**

A. I modified the DCF calculation to provide a dividend yield that would reimburse investors for issuance costs in accordance with the previously cited literature by Brigham and Daves as well as Morin. The flotation cost adjustment recognizes the costs of issuing equity that were incurred by AWK since 2008. Based upon the issuance costs shown on page 1 of Schedule PMA-16, an adjustment of 12 basis points (0.12%), is required to reflect the flotation costs applicable to the proxy group as shown on Line No. 7 on Schedule PMA-1, page 1.

**Business Risk Adjustment**

**Q. Is there a way to quantify a business risk adjustment due to MAWC's small size relative to the proxy group?**

A. Yes.

**Q. Is there a way to quantify a business risk adjustment due to MAWC's greater business risk relative to the proxy group?**

A. Although there is no way to directly quantify a business risk adjustment due to MAWC's unique business risks discussed above and in Mr. Williams' direct testimony, i.e., availability / quality of supply; flood exposure; service territory issues; and, regulatory risks, an indication of an adjustment is given by Ibbotson Associates size premium study discussed below.

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[39] Morin 327-30.

As discussed previously, the Company has greater business risk than the average company in the proxy group because of its smaller size relative to the group, measured by either book capitalization or the market capitalization of common equity (estimated market capitalization for MAWC, whose common stock is not traded).

Table 4

| | Market Capitalization(1) ($ Millions) | Times Greater than the Company |
|---|---|---|
| MAWC | $775.728 | |
| Proxy Group of Nine Water Companies | 1,239.192 | 1.6x |

(1) From page 1 of Schedule PMA-17.

Because the Company's common stock is not publicly traded, I have assumed that if it were, the common shares would be selling at the same market-to-book ratio as the average market-to-book ratio for the proxy group, 186.6%, on June 13, 2011 as shown on page 2 of Schedule PMA-17. Since my recommended common equity cost rate is based upon the market data of the proxy group, it is reasonable to use the market-to-book ratios of the proxy group to estimate MAWC's market capitalization. Hence, the Company's market capitalization is estimated at $775.728 million based upon the average market-to-book ratio of the proxy group. In contrast, the market capitalization of the average water company was $1.239 billion on June 13, 2011, or 1.6 times the size of MAWC's estimated market capitalization.

Therefore, it is necessary to upwardly adjust the common equity cost rate of 10.85% based upon the nine water companies to reflect MAWC's greater risk due to its smaller relative size. The determination is based upon the size premiums for decile portfolios of New York Stock Exchange (NYSE), American Stock Exchange (AMEX) and NASDAQ listed companies for the 1926-2010 period and related data from SBBI-2011. The average size premium for the decile in which the proxy group falls has been compared with the average size premium for the decile in which the market capitalization of MAWC would fall if its stock were traded and sold at the June 13, 2011 average market/book ratio of 186.6% experienced by the proxy group. As shown on page 1, because MAWC falls between the 7th and 8th deciles and the nine water companies fall between the 6th and 7th deciles, the size premium spread between the Company and the nine water companies is 42 basis points (0.42%).

In view of the foregoing, an upward adjustment of 40 basis points (0.40%) to reflect MAWC's greater relative business risk due to its smaller size, as well as issues surrounding the availability and quality of its water supply, its flood exposure, service territory issues and regulatory risks as discussed in Mr. Williams' direct testimony is warranted. A business risk adjustment of 40 basis points (0.40%), coupled with the previously discussed financial risk adjustment of a negative 7 basis points (a negative 0.07%) and flotation cost adjustment of 12 basis points (0.12%), when added to the 10.85% indicated common equity cost rate based upon the nine water companies before adjustment, results in a financial risk; flotation cost and business risk-adjusted common equity cost rate of 11.30%[40] which is my recommendation.

A common equity cost rate of 11.30%, when applied to the pro forma common

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[40] 11.30% = 10.85% - 0.07% + 0.12% + 0.40%.

equity ratio of 50.37% at December 31, 2011, results in an overall rate of return of 8.85%. In my opinion, this overall rate of return is both reasonable and conservative, providing MAWC with sufficient earnings to enable it to attract necessary new capital.

**Q. Does that conclude your direct testimony?**

A. Yes.

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

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 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 Virginia, Inc.
Aquarion Water Company
Artesian 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-American Water Company
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 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

(Testimony on Rate of Return Clients Continued)

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

Algonquin Gas Transmission Company
Anadarko Petroleum Corporation
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.

(Rate of Return Study Clients Continued)

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.
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:

"Public Utility Betas and the Cost of Capital", (co-presenter with Richard A. Michelfelder, Ph.D.) – 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.) – 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.) 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.) – 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.) – 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.) - 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:

"Public Utility Beta Adjustment and the Cost of Capital", co-authored with Richard A. Michelfelder, Ph.D. and Panayiotis Theodossiou, Ph.D. (under review at The Journal of Regulatory Economics).

"A New Approach for Estimating the Equity Risk Premium for Public Utilities", co-authored with Frank J. Hanley and Richard A. Michelfelder, Ph.D. (conditionally accepted for publication in The Journal of Regulatory Economics).

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

| | |
|---|---|
| Exhibit No.: | |
| Issues: | Rate of Return on Equity |
| Witness: | Pauline M. Ahern |
| Exhibit Type: | Direct Schedules |
| Sponsoring Party: | Missouri-American Water Company |
| Case Nos.: | WR-2011-XXXX |
| | SR-2011-XXXX |
| Date: | __________ __, 2011 |

**PUBLIC SERVICE COMMISSION**
**OF THE STATE OF MISSOURI**

**CASE NOS. WR-2011-XXXX**
**SR-2011-XXXX**

**EXHIBIT**

**TO ACCOMPANY THE**

**DIRECT TESTIMONY**

**OF**

**PAULINE M. AHERN, CRRA**

**ON BEHALF OF**

**MISSOURI-AMERICAN WATER COMPANY**

**JEFFERSON CITY, MISSOURI**

Table of Contents
to the Financial Supporting Exhibit
of Pauline M. Ahern, CRRA

Missouri-American Water Company
Summary of Cost of Capital and Fair Rate of Return
Based upon the Consolidated Capital Structure Pro Forma at December 31, 2011

| Type of Capital | Amounts(1) | Ratios (1) | Cost Rate | Weighted Cost Rate |
|---|---|---|---|---|
| Long-Term Debt | $ 423,114,710 | 49.36% | 6.36% (2) | 3.14% |
| Preferred Stock | $ 2,306,034 | 0.27% | 9.23% (2) | 0.02% |
| Common Equity | $ 431,741,678 | 50.37% | 11.30% (3) | 5.69% |
| Total | $ 857,162,422 | 100.00% | | 8.85% |

Notes:
(1) Company-provided.
(2) From Schedule PMA-7.
(3) Based upon informed judgment from the entire study, the principal results of which are summarized on page 2.

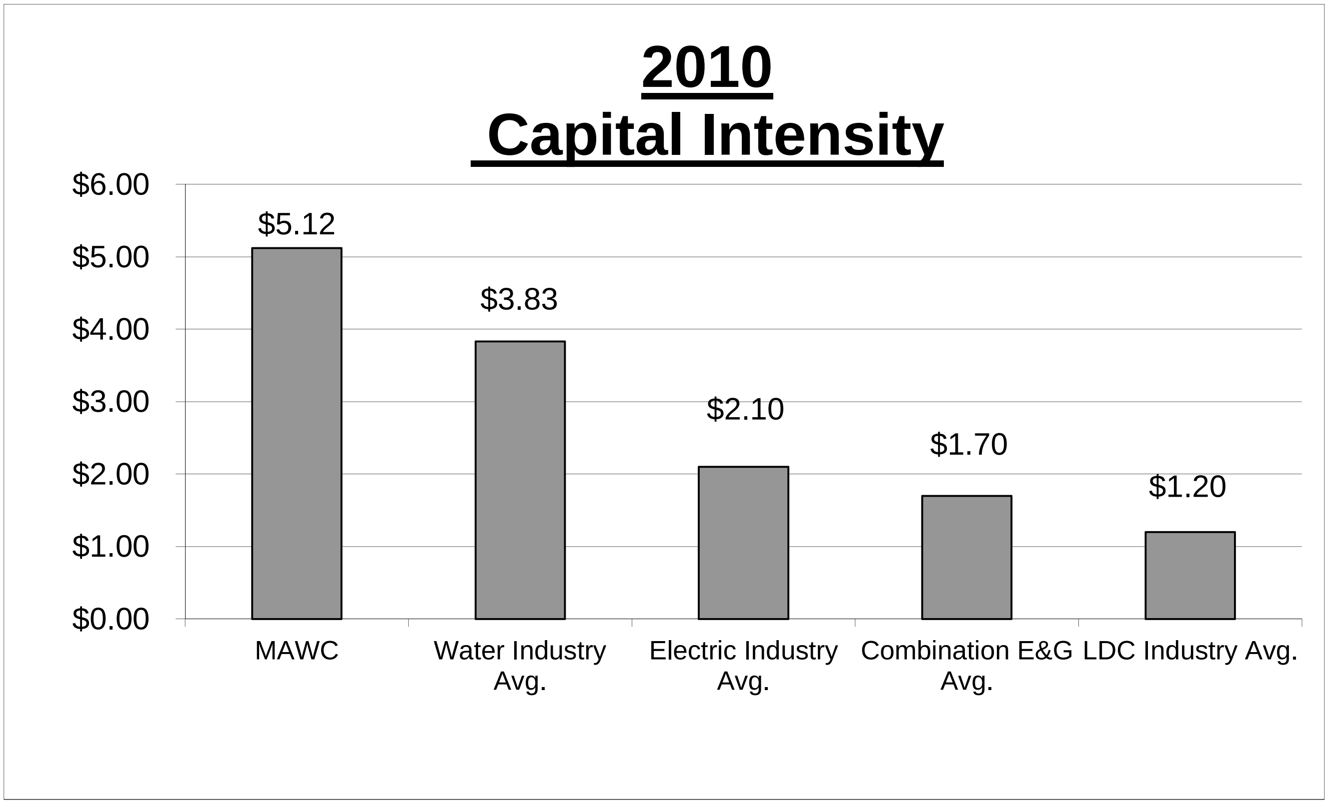
Missouri-American Water Company
Brief Summary of Common Equity Cost Rate

| No. | Principal Methods | Proxy Group of Nine Water Companies |
|---|---|---|
| 1. | Discounted Cash Flow Model (DCF) (1) | 9.54 % |
| 2. | Risk Premium Model (RPM) (2) | 10.40 |
| 3. | Capital Asset Pricing Model (CAPM) (3) | 10.33 |
| 4. | Market Models Applied to Comparable Risk, Non-Price Regulated Companies (4) | 13.26 |
| 5. | Indicated Common Equity Cost Rate before Adjustments for Financial Risk, Flotation Cost and Business Risks | 10.85 % |
| 6. | Financial Risk Adjustment (5) | (0.07) |
| 7. | Flotation Cost Adjustment (6) | 0.12 |
| 8. | Business Risk Adjustment (7) | 0.40 |
| 9. | Recommended Common Equity Cost Rate | 11.30 % |

Notes:
(1) From Schedule PMA-8.
(2) From page 1 of Schedule PMA-10.
(3) From page 1 of Schedule PMA-12.
(4) From page 2 of Schedule PMA-13.
(5) Financial risk adjustment to reflect the financial risk of the capital structure employed by Missouri-American Water Company relative to the proxy group as detailed in Ms. Ahern's accompanying direct testimony.
(6) From Schedule PMA-16.
(7) Business risk adjustment to reflect Missouri-American Water Company's greater business risk relative to the proxy group as detailed in Ms. Ahern's accompanying direct testimony.

Missouri-American Water Company
2010 Capital Intensity of Missouri-American Water Company and
AUS Utility Reports Utility Companies Industry Averages

| | Average Net Plant ($ mill) | Average Operating Revenue ($ mill) | Capital Intensity ($) | Capital Intensity of MAWC v. Other Industries ( times ) |
|---|---|---|---|---|
| Missouri-American Water Company | $ 1,149.95 | $ 224.61 | $ 5.12 | - - |
| Water Industry Average | $ 1,844.30 | $ 482.13 | $ 3.83 | 133.68% |
| Electric Industry Average | $ 11,842.72 | $ 5,632.21 | $ 2.10 | 243.81% |
| Combination Elec. & Gas Industry Average | $ 10,560.09 | $ 6,201.97 | $ 1.70 | 301.18% |
| Gas Distribution Average | $ 29,105.65 | $ 24,236.06 | $ 1.20 | 426.67% |



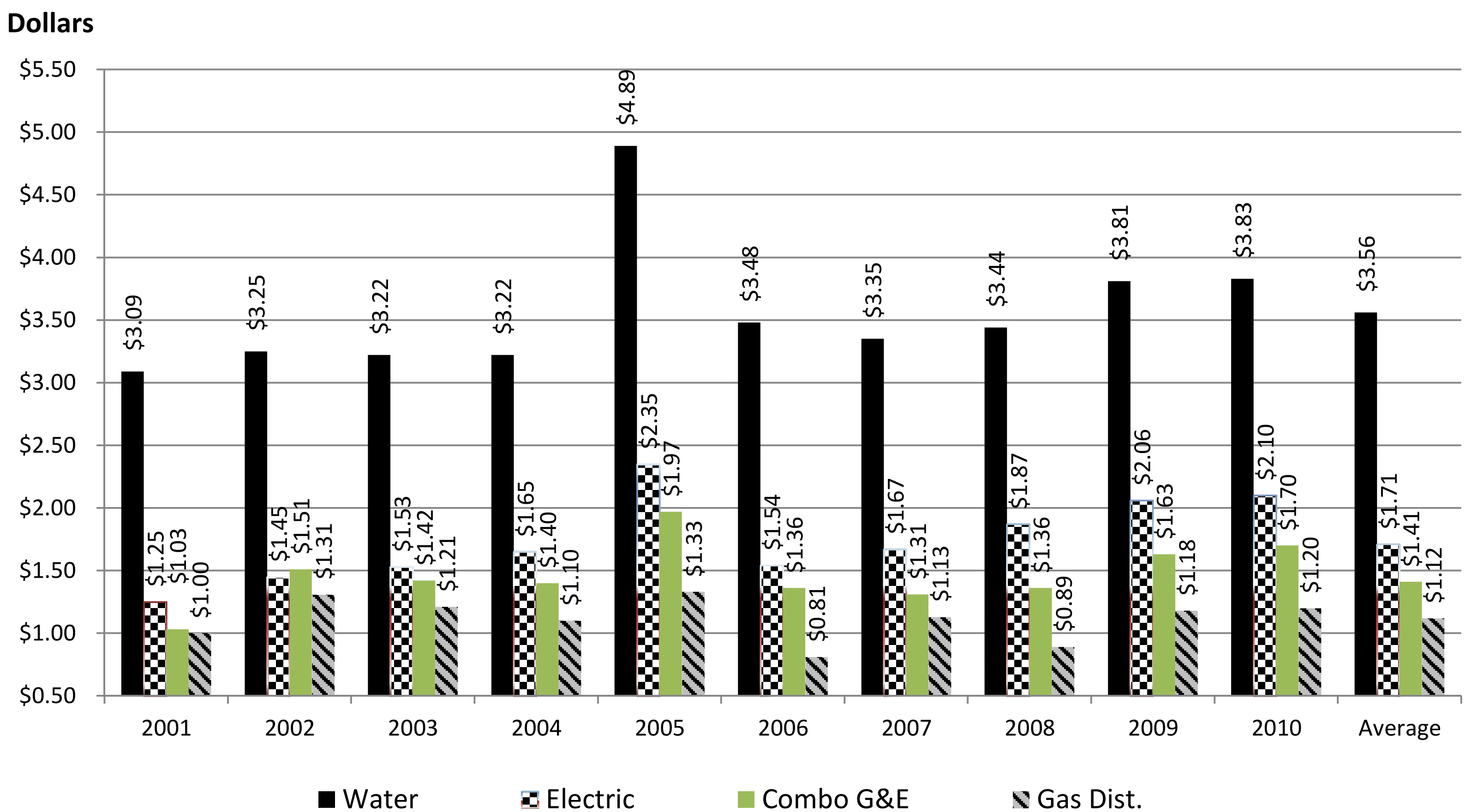

Notes:
Capital Intensity is equal to Net Plant divided by Total Operating Revenue.

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

AUS Utility Reports - March 2011
Published By AUS Consultants

Company Provided Information

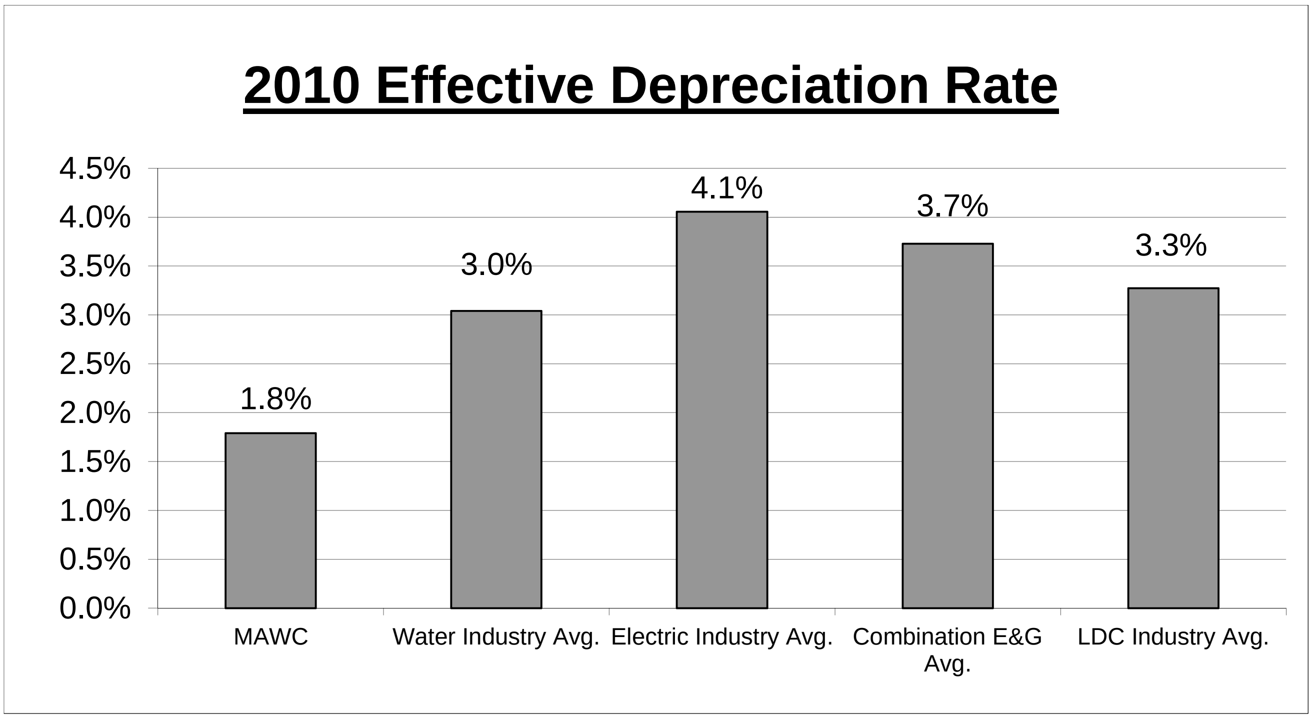
# Capital Intensity of the AUS Utility Reports Companies
## 2001 - 2010




Source of Information: SEC Edgar I-Metrix Online Database

Missouri-American Water Company
2010 Depreciation Rate of Missouri-American 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 of MAWC v. Other Industries ( times ) |
|---|---|---|---|---|
| Iowa-American Water Company | $ 26.65 | $ 1,489.54 | 1.8% | - - |
| Water Industry Average | $ 61.69 | $ 2,028.31 | 3.0% | 60.00% |
| Electric Industry Average | $ 581.88 | $ 14,344.68 | 4.1% | 43.90% |
| Combination Elec. & Gas Industry Average | $ 541.94 | $ 14,532.61 | 3.7% | 48.65% |
| LDC Gas Distribution Industry Average | $ 139.87 | $ 4,271.77 | 3.3% | 54.55% |



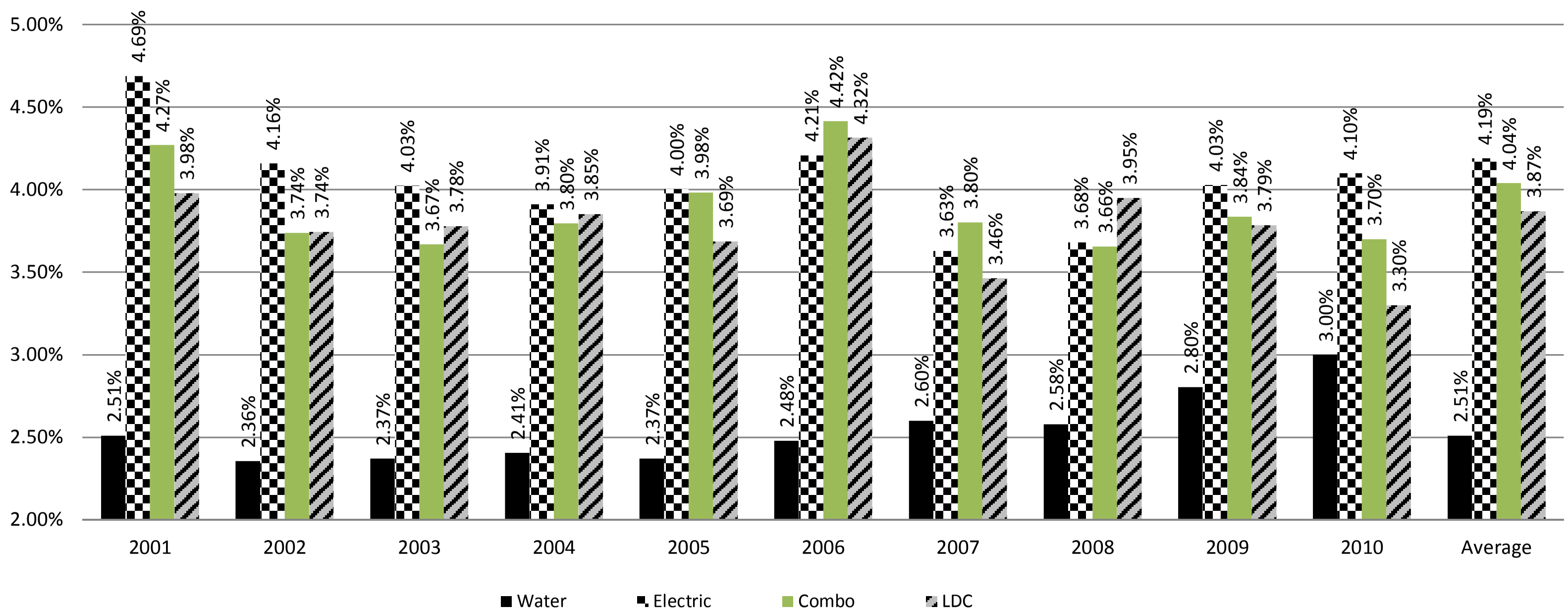

Notes:
Effective Depreciation Rate is equal to Depreciation, Depletion and Amortization Expense divided by average beginning and ending year's Gross Plant minus Construction Work in Progress.

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

AUS Utility Rpeort - March 2011
Published by AUS Consultants

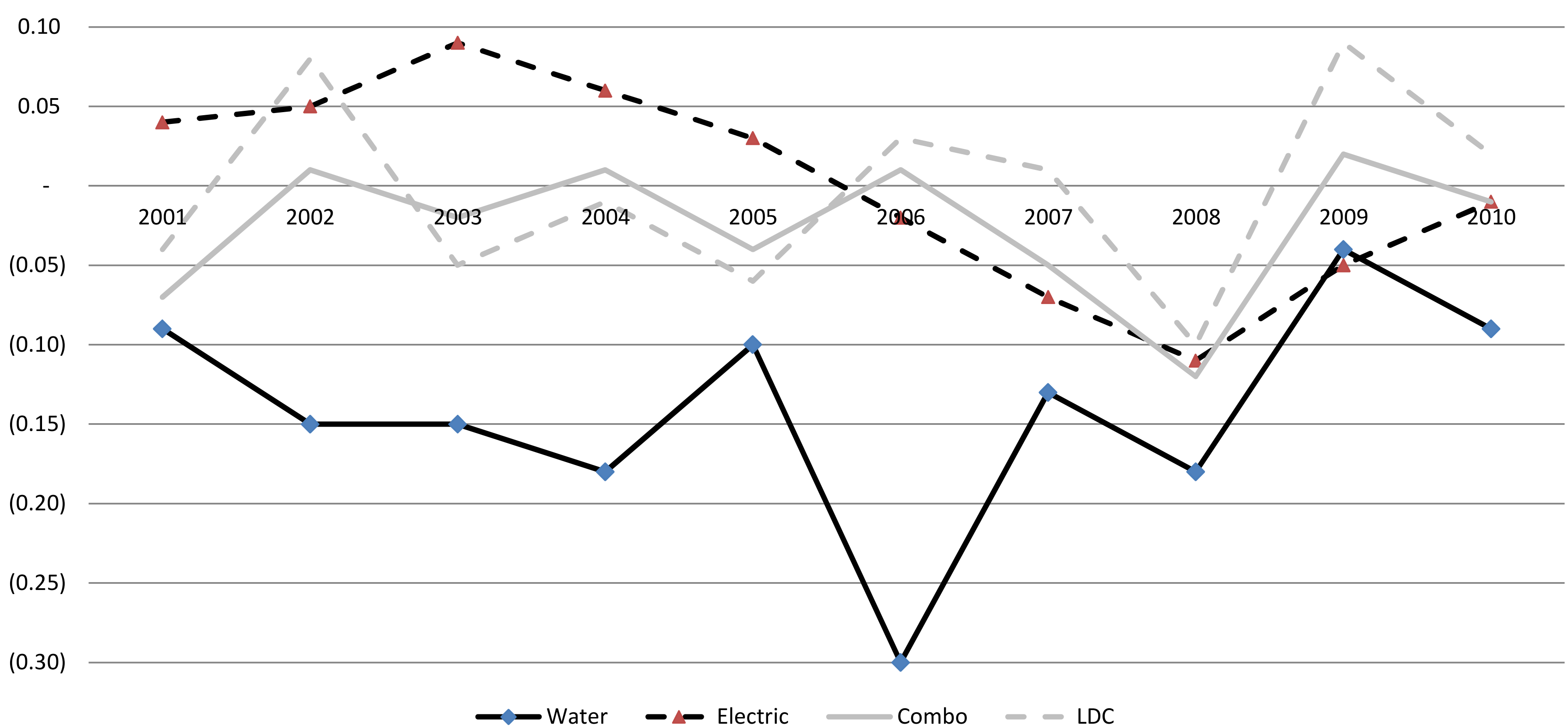
Company Provided Information

## Depreciation Rates for the AUS Utility Reports Companies 2001-2010



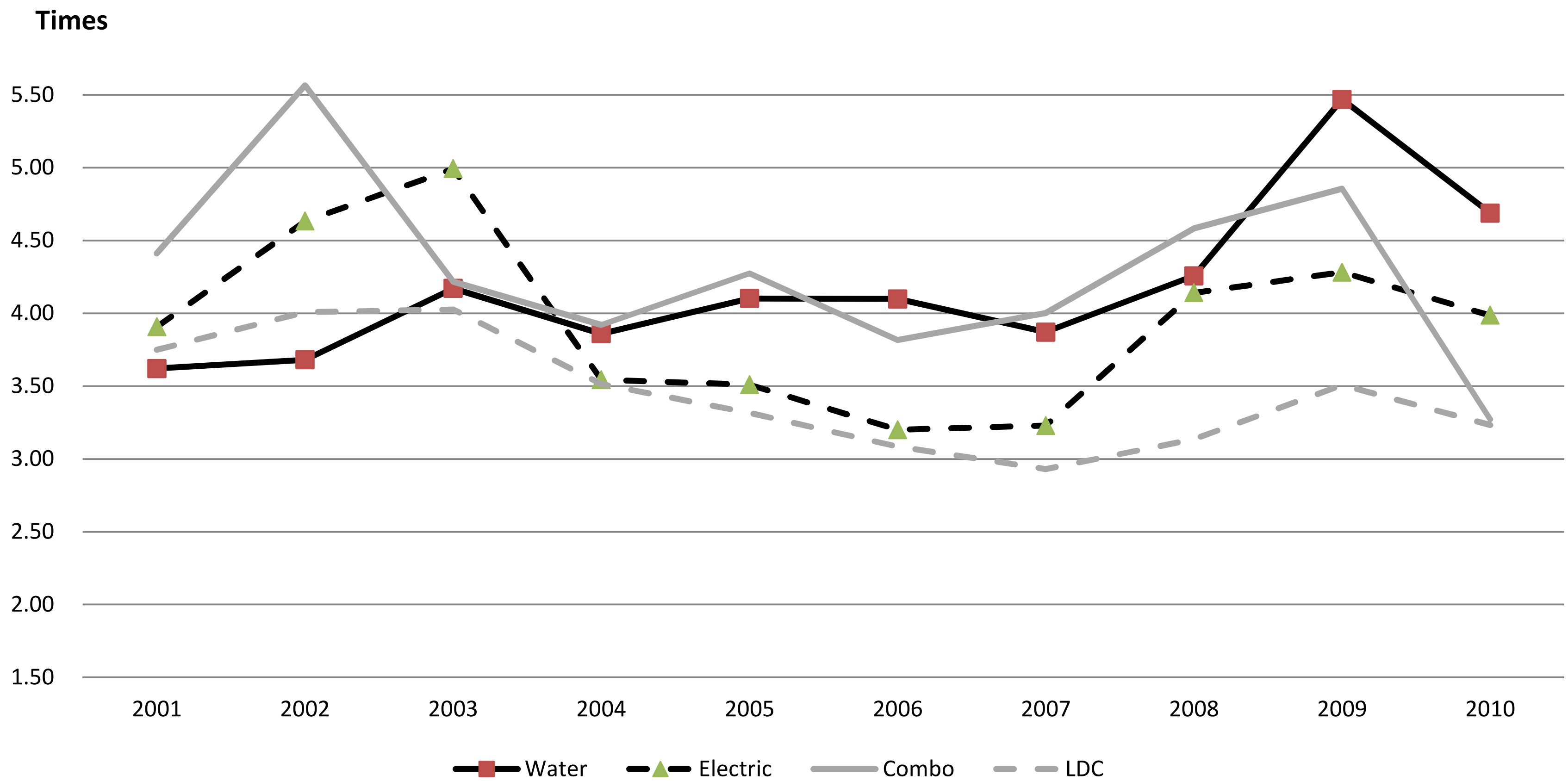

Source of Information: SEC Edgar I-Metrix Online Database

# Free Cash Flow / Operating Revenues
# for the AUS Utility Reports Companies
# 2001 - 2010



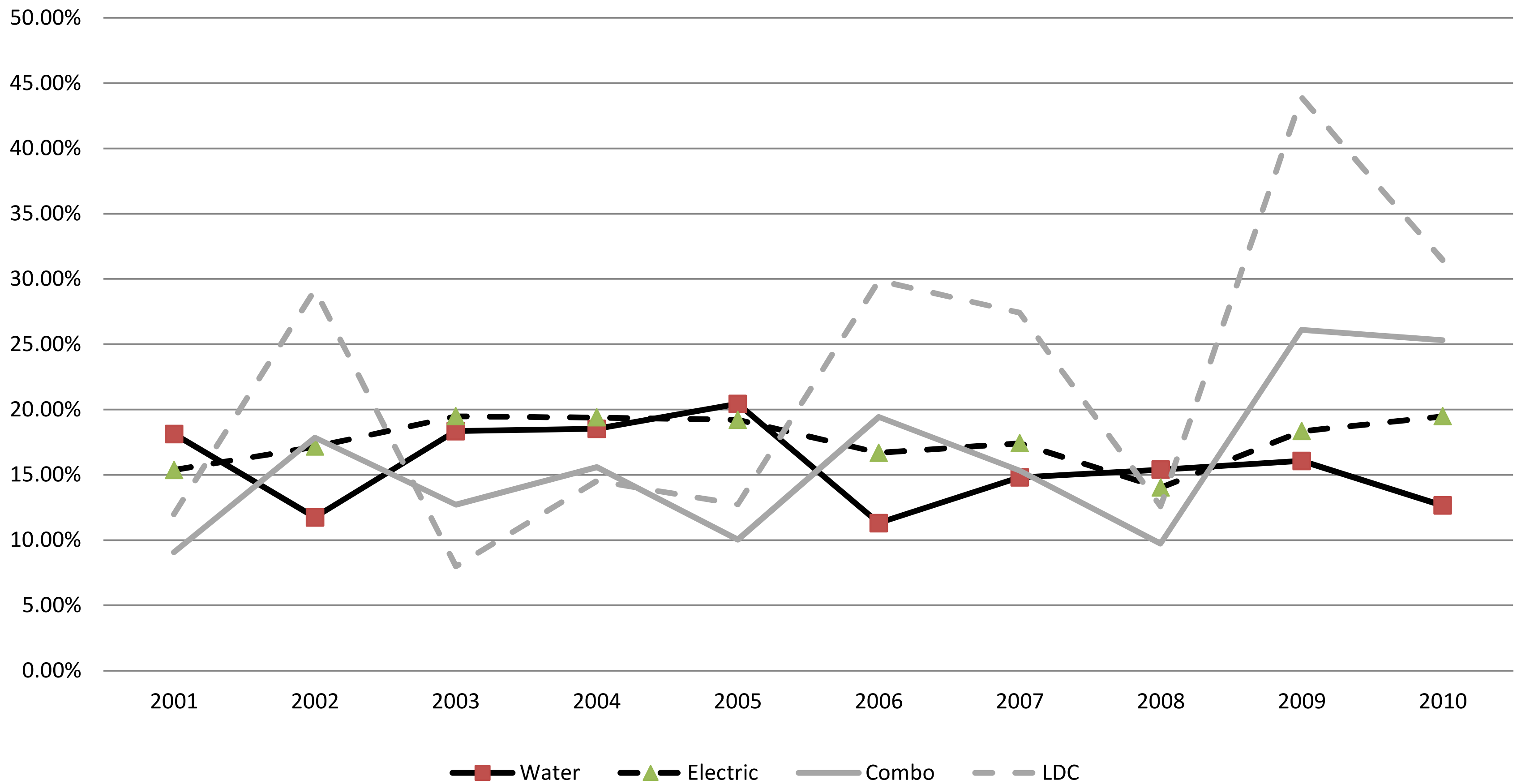

Source of Information: SEC Edgar I-Metrix Online Database

# Total Debt / EBITDA for the AUS Utility Reports Companies
# 2001 - 2010



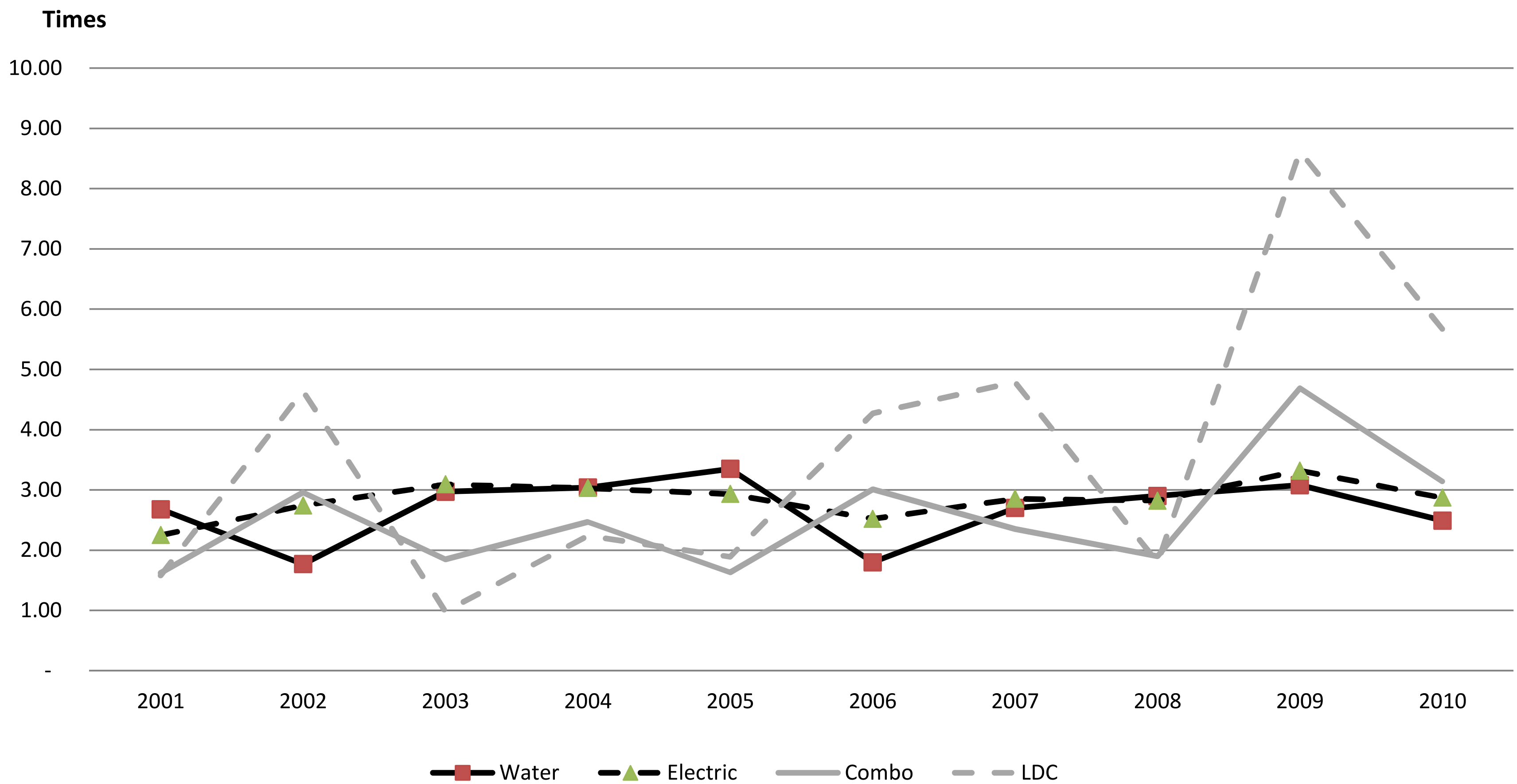

Source of Information: SEC Edgar I-Metrix Online Database

# Funds From Ops / Total Debt for the AUS Utility Reports Cos.
# 2001- 2010



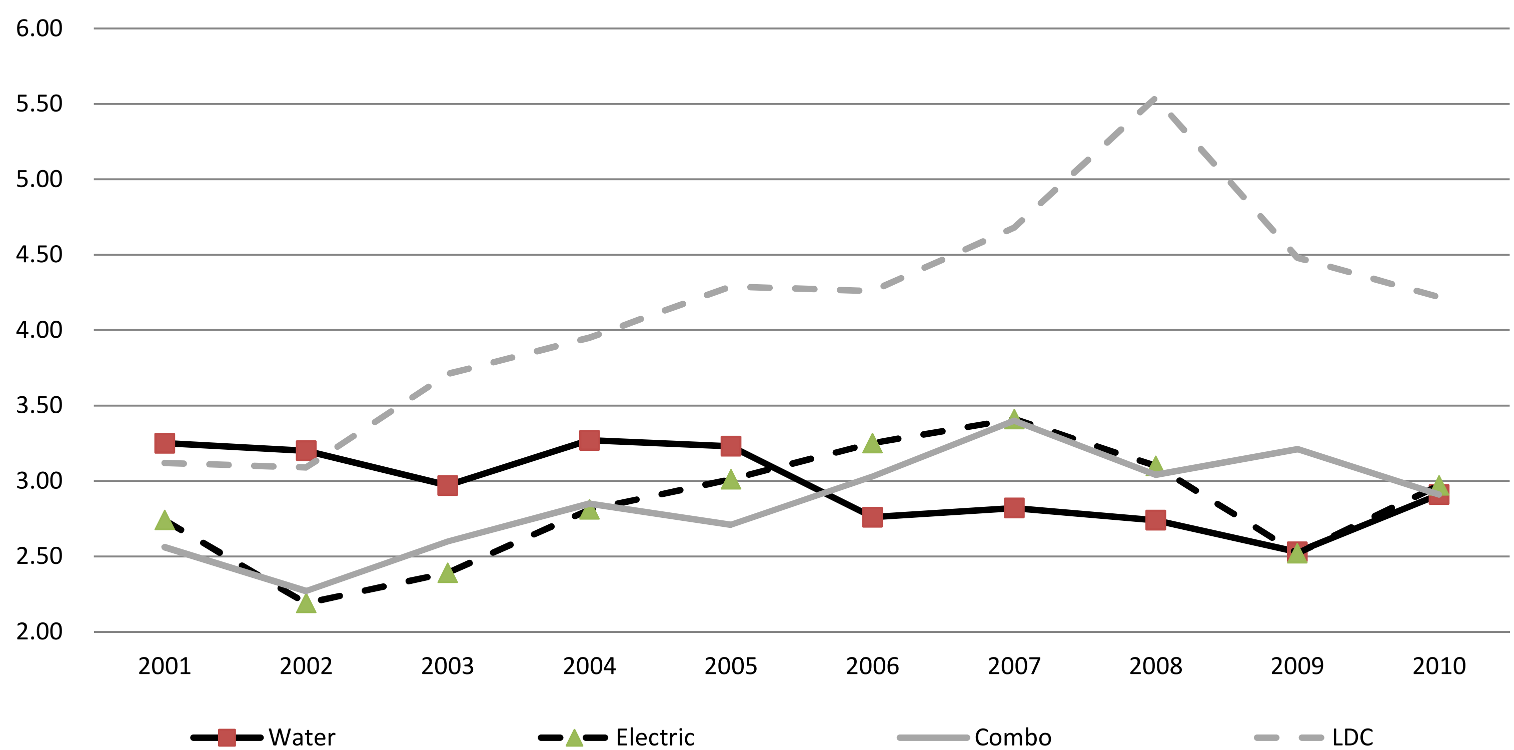

Source of Information: SEC Edgar I-Metrix Online Database

# Funds From Ops / Interest Cov. for the AUS Utility Reports Cos. 2001 - 2010



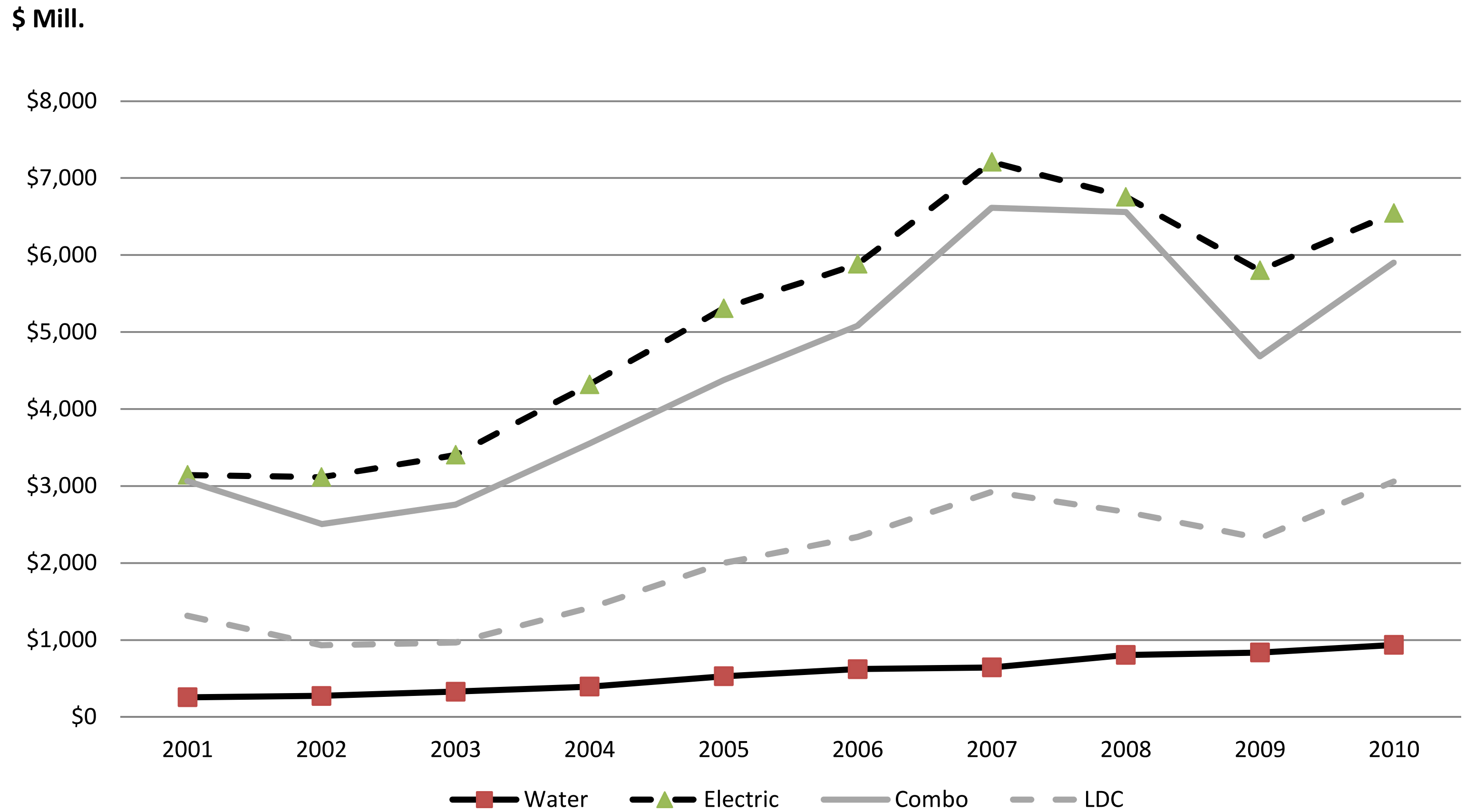

Source of Information: SEC Edgar I-Metrix Online Database

# Before-Inc. Tax / Interest Cov. for the AUS Utility Reports Cos.
## 2001 - 2010



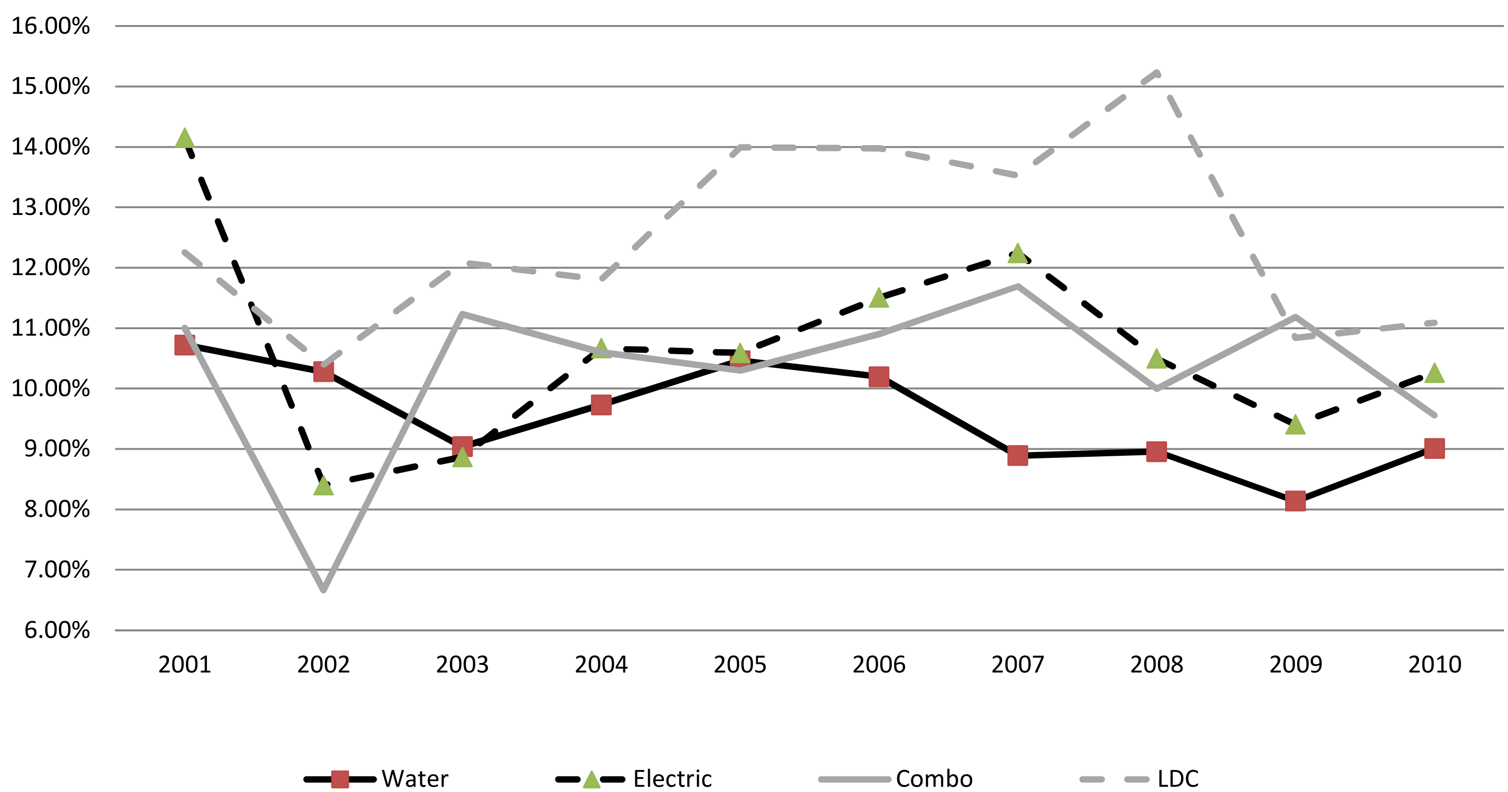

Source of Information: SEC Edgar I-Metrix Online Databae

# Market Capitalization for the AUS Utility Reports Companies
# 2001 - 2010



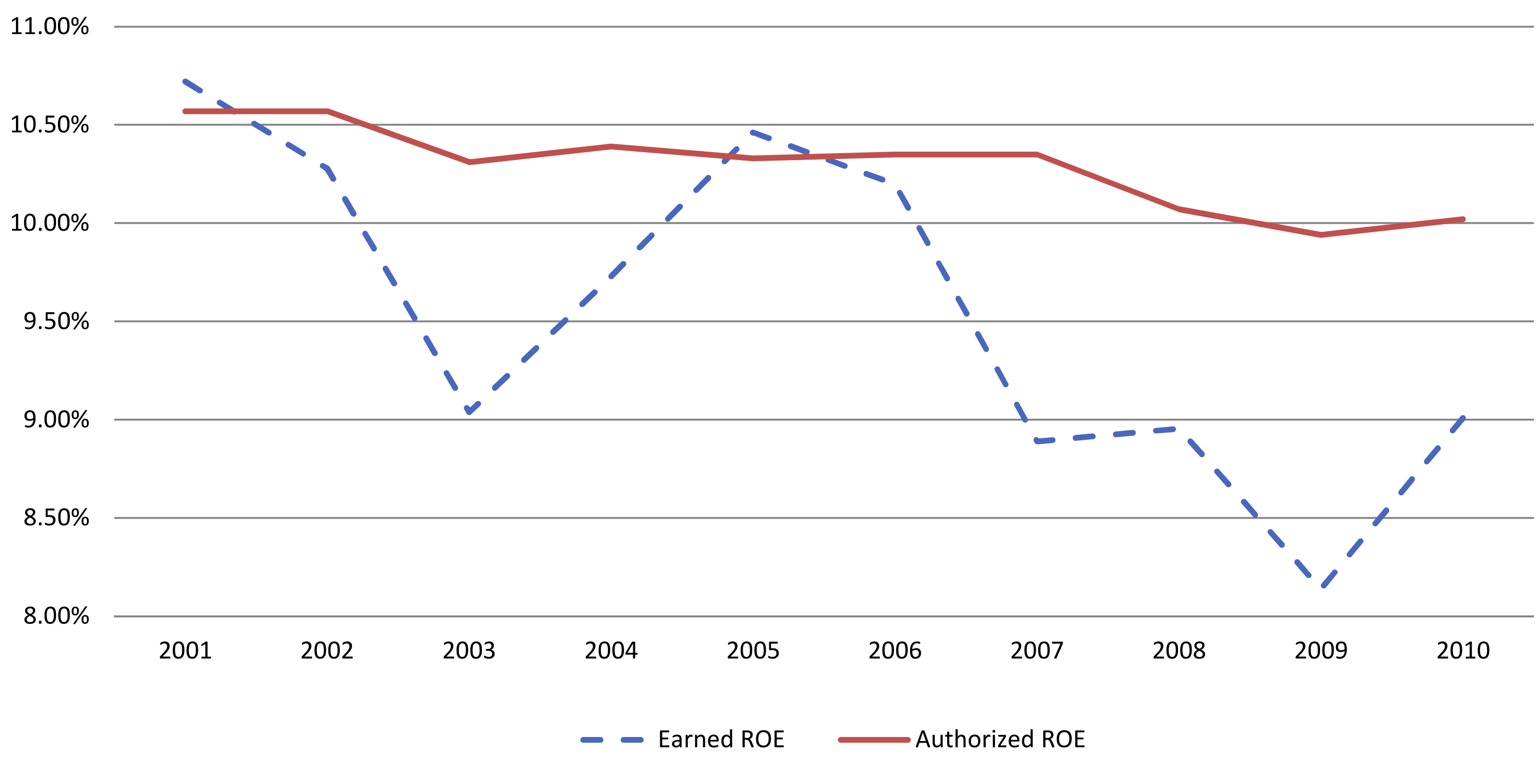

Source of Information: SEC Edgar I-Metrix Online Database

## Earned Returns on Common Equity for the AUS Utility Reports Cos.
## 2001 - 2010



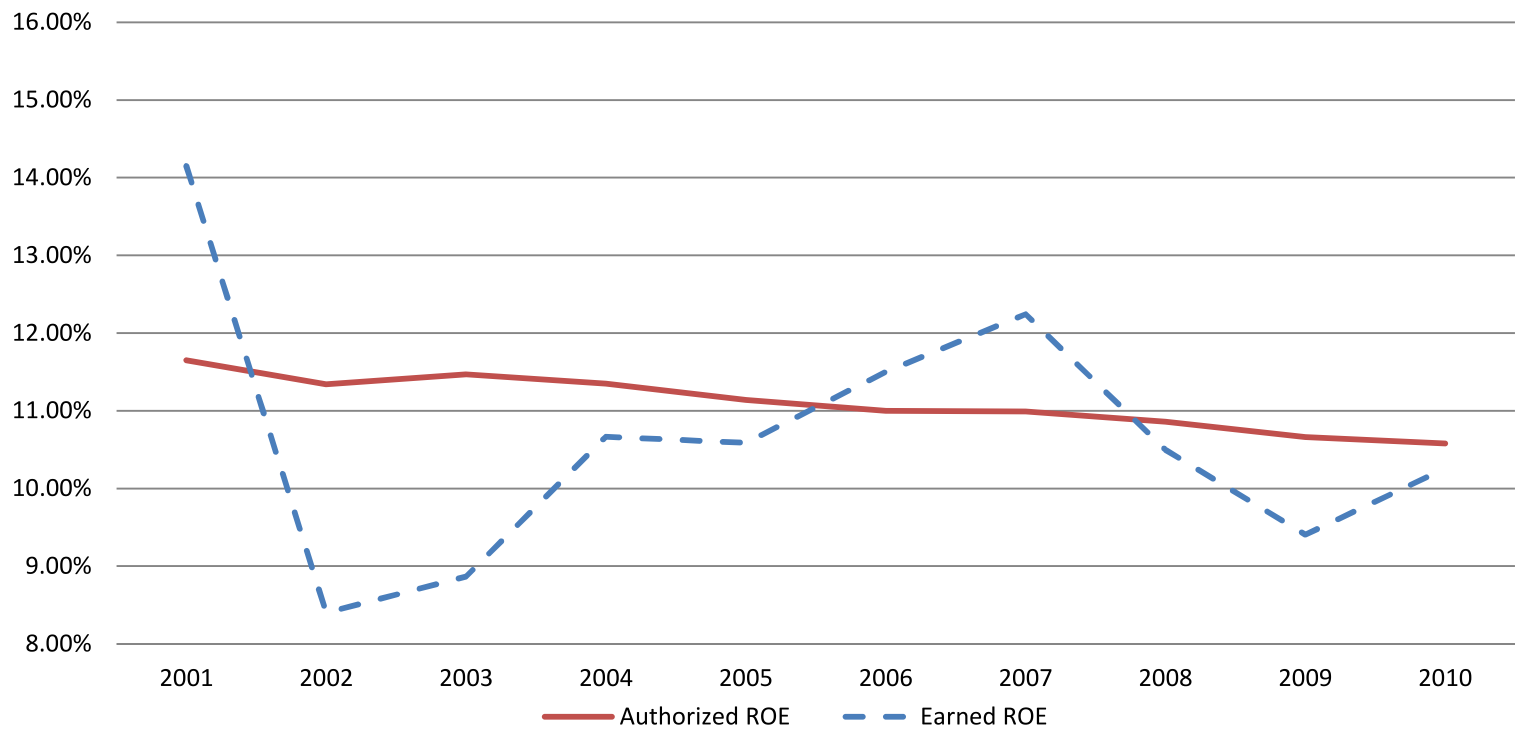

Source of Information: SEC Edgar I-Metrix Online Database

# Earned ROE v Authorized ROE for the AUS Utility Reports Water Companies 2001 - 2010



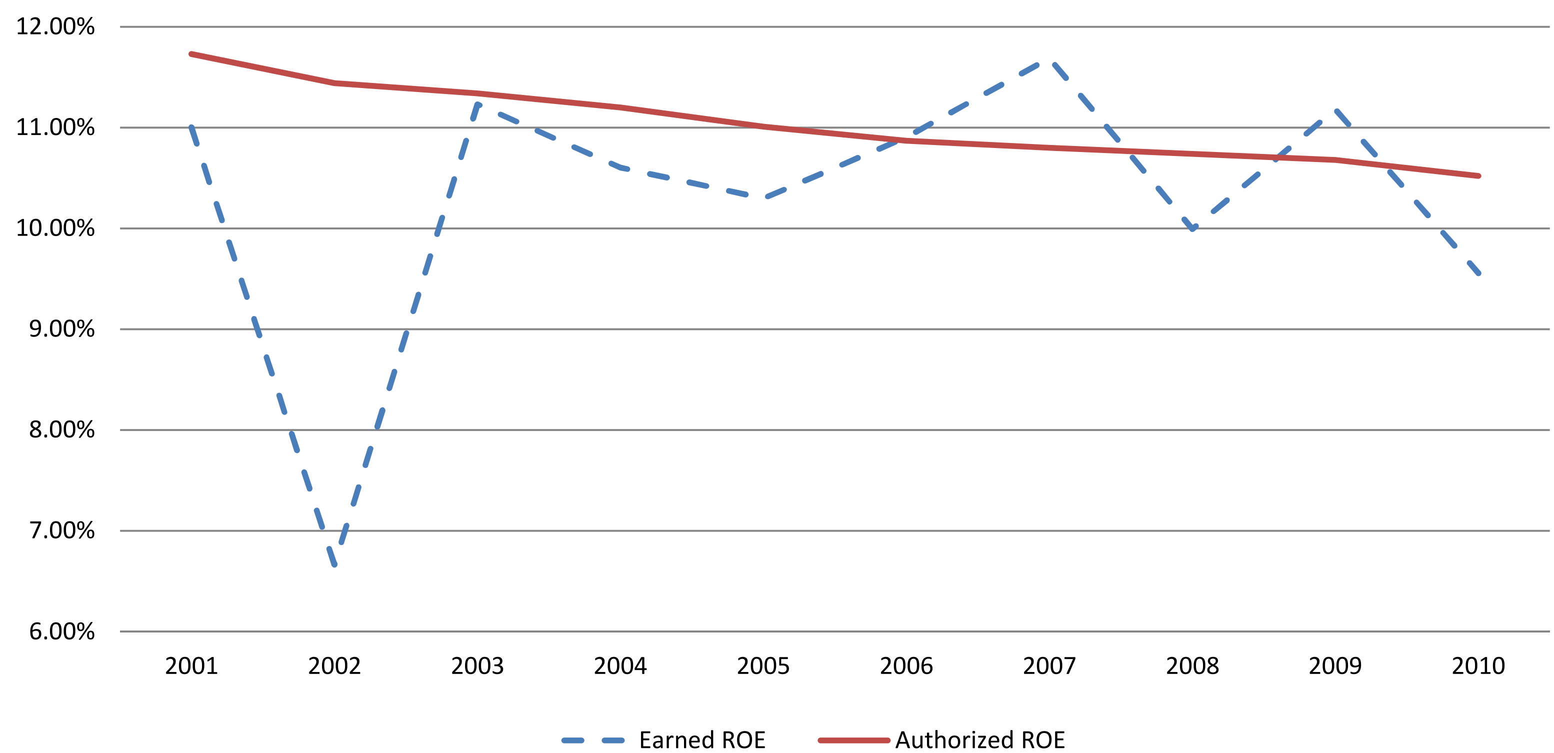

Source of Information: SEC Edgar I-Metrix Online Database & AUS Utility Reports

# Earned ROE v Authorized ROE for the AUS Utility Reports Electric Companies
# 2001 - 2010



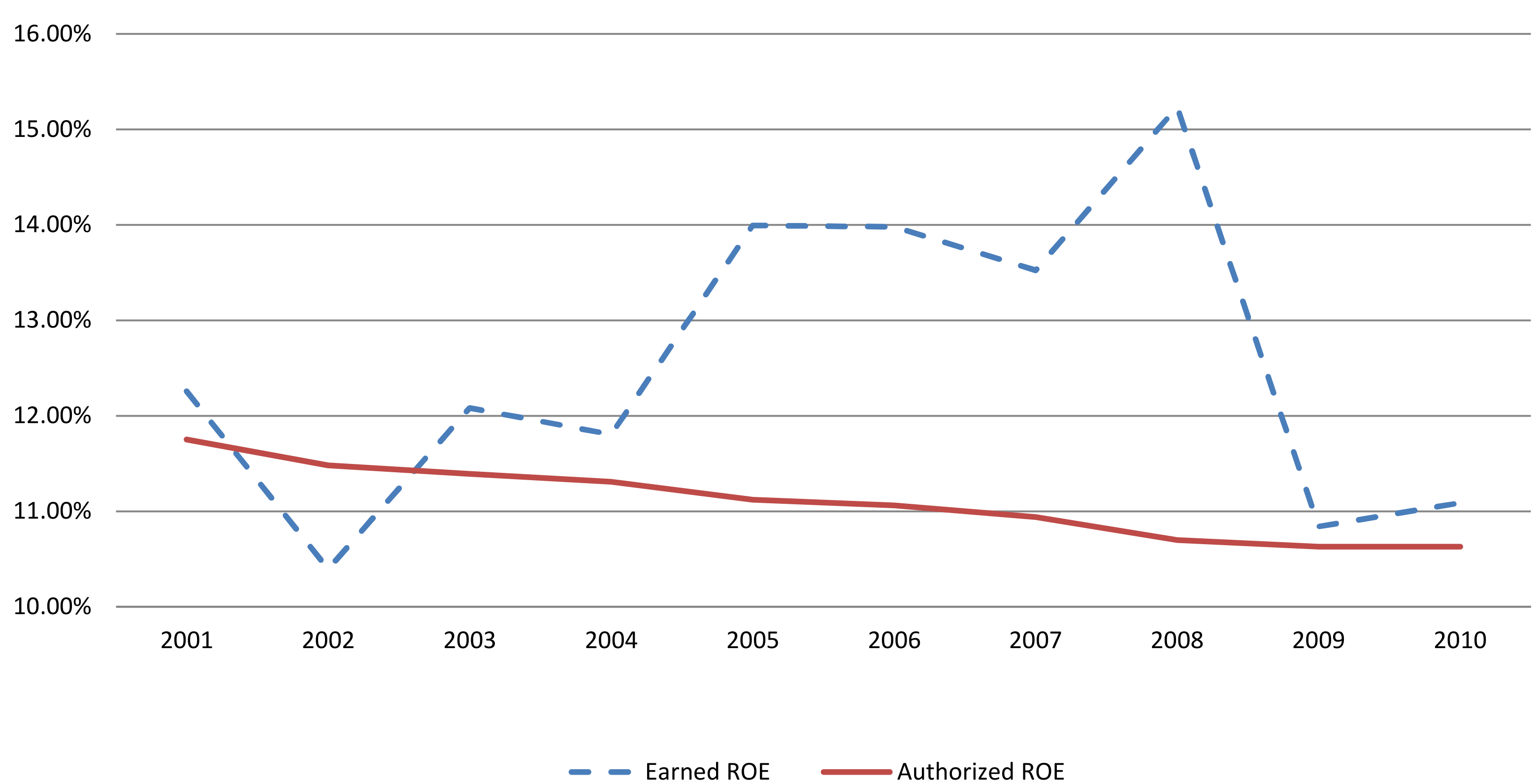

Source of Information: SEC Edgar I-Metrix Online Database & AUS Utility Reports

# Earned ROE v Authorized ROE for the AUS Utility Reports Combination Companies
## 2001 - 2010




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

# Earned ROE v Authorized ROE for the AUS Utility Reports LDC Companies
## 2001 - 2010




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

STANDARD
&POOR'S

RATINGSDIRECT®

May 27, 2009

**Criteria | Corporates | General:**

# Criteria Methodology: Business Risk/Financial Risk Matrix Expanded

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## Table Of Contents

**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.

## 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

**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.

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.

Missouri-American Water Company
CAPITALIZATION AND FINANCIAL STATISTICS (1)
2006 - 2010, INCLUSIVE

| | 2010 | 2009 | 2008 | 2007 | 2006 | 5 YEAR AVERAGE |
|---|---|---|---|---|---|---|
| | (MILLIONS OF DOLLARS) | | | | | |
| CAPITALIZATION STATISTICS | | | | | | |
| AMOUNT OF CAPITAL EMPLOYED | | | | | | |
| TOTAL PERMANENT CAPITAL | $ 824.993 | $ 789.862 | $ 725.243 | $ 617.550 | $ 510.163 | |
| SHORT-TERM DEBT | - | - | 54.280 | 66.810 | 62.875 | |
| TOTAL-CAPITAL EMPLOYED | $ 824.993 | $ 789.862 | $ 779.523 | $ 684.360 | $ 573.038 | |
| INDICATED AVERAGE CAPITAL COST RATES (2) | | | | | | |
| TOTAL DEBT | 6.18 % | 5.96 % | 5.50 % | 5.44 % | 5.80 % | |
| PREFERRED STOCK | 9.06 | 9.07 | 9.03 | 9.00 | 8.34 | |
| CAPITAL STRUCTURE RATIOS | | | | | | |
| BASED ON TOTAL PERMANENT CAPITAL: | | | | | | |
| LONG-TERM DEBT | 49.61 % | 51.93 % | 53.21 % | 51.17 % | 55.70 % | 52.32 % |
| PREFERRED STOCK | 0.31 | 0.33 | 0.36 | 0.43 | 0.52 | 0.39 |
| COMMON EQUITY | 50.08 | 47.74 | 46.43 | 48.40 | 43.78 | 47.29 |
| TOTAL | 100.00 % | 100.00 % | 100.00 % | 100.00 % | 100.00 % | 100.00 % |
| BASED ON TOTAL CAPITAL: | | | | | | |
| TOTAL DEBT, INCLUDING SHORT-TERM | 49.61 % | 51.93 % | 56.46 % | 55.94 % | 60.56 % | 54.90 % |
| PREFERRED STOCK | 0.31 | 0.33 | 0.34 | 0.38 | 0.46 | 0.36 |
| COMMON EQUITY | 50.08 | 47.74 | 43.20 | 43.68 | 38.98 | 44.74 |
| TOTAL | 100.00 % | 100.00 % | 100.00 % | 100.00 % | 100.00 % | 100.00 % |
| DIVIDEND PAYOUT RATIO | 72.53 % | 70.17 % | 72.50 % | 55.05 % | 79.49 % | 69.95 % |
| RATE OF RETURN ON AVERAGE COMMON EQUITY | 5.52 % | 4.99 % | 3.13 % | 6.28 % | 7.71 % | 5.53 % |
| TOTAL DEBT / EBITDA (3) | 4.63 x | 5.14 x | 5.58 x | 5.85 x | 5.58 x | 5.36 x |
| TOTAL DEBT / TOTAL CAPITAL | 49.61 % | 51.93 % | 56.46 % | 55.94 % | 60.56 % | 54.90 % |

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)

Source of Information: Missouri-American Water Company's Annual Reports to the Missouri Public Service Commission

Proxy Group of Nine Water Companies
CAPITALIZATION AND FINANCIAL STATISTICS (1)
2006 - 2010, Inclusive

| | 2010 | 2009 | 2008 | 2007 | 2006 | |
|---|---|---|---|---|---|---|
| | | | (MILLIONS OF DOLLARS) | | | |
| CAPITALIZATION STATISTICS | | | | | | |
| AMOUNT OF CAPITAL EMPLOYED | | | | | | |
| TOTAL PERMANENT CAPITAL | $1,712.951 | $1,641.561 | $1,537.371 | $1,561.064 | $1,274.261 | |
| SHORT-TERM DEBT | $53.463 | $31.243 | $84.104 | $37.360 | $100.228 | |
| TOTAL CAPITAL EMPLOYED | $1,766.414 | $1,672.804 | $1,621.475 | $1,598.424 | $1,374.489 | |
| INDICATED AVERAGE CAPITAL COST RATES (2) | | | | | | |
| TOTAL DEBT | 5.37 % | 5.31 % | 5.58 % | 6.08 % | 6.62 % | |
| PREFERRED STOCK | 5.54 | 5.54 | 5.75 | 4.36 | 4.07 | |
| CAPITAL STRUCTURE RATIOS | | | | | | 5 YEAR AVERAGE |
| BASED ON TOTAL PERMANENT CAPITAL: | | | | | | |
| LONG-TERM DEBT | 50.97 % | 50.80 % | 50.35 % | 49.46 % | 48.48 % | 50.01 % |
| PREFERRED STOCK | 0.19 | 0.21 | 0.22 | 0.31 | 0.46 | 0.28 |
| COMMON EQUITY | 48.84 | 48.99 | 49.43 | 50.23 | 51.06 | 49.71 |
| TOTAL | 100.00 % | 100.00 % | 100.00 % | 100.00 % | 100.00 % | 100.00 % |
| BASED ON TOTAL CAPITAL: | | | | | | |
| TOTAL DEBT, INCLUDING SHORT-TERM | 53.49 % | 53.33 % | 53.43 % | 50.59 % | 50.32 % | 52.23 % |
| PREFERRED STOCK | 0.18 | 0.19 | 0.21 | 0.31 | 0.45 | 0.27 |
| COMMON EQUITY | 46.33 | 46.48 | 46.36 | 49.10 | 49.23 | 47.50 |
| TOTAL | 100.00 % | 100.00 % | 100.00 % | 100.00 % | 100.00 % | 100.00 % |
| FINANCIAL STATISTICS | | | | | | |
| FINANCIAL RATIOS - MARKET BASED | | | | | | |
| EARNINGS / PRICE RATIO | 5.35 % | 3.74 % | 2.30 % | 4.41 % | 4.79 % | 4.12 % |
| MARKET / AVERAGE BOOK RATIO | 171.30 | 158.51 | 166.65 | 210.86 | 218.62 | 185.19 |
| DIVIDEND YIELD | 3.62 | 4.02 | 3.84 | 3.30 | 3.30 | 3.62 |
| DIVIDEND PAYOUT RATIO | 66.67 | 60.06 | 64.23 | 63.89 | 63.02 | 63.57 |
| RATE OF RETURN ON AVERAGE BOOK COMMON EQUITY | 8.98 % | 6.99 % | 6.39 % | 7.09 % | 8.09 % | 7.51 % |
| TOTAL DEBT / EBITDA (3) | 4.75 X | 5.53 X | 9.07 X | 5.59 X | 4.56 X | 5.90 X |
| FUNDS FROM OPERATIONS / TOTAL DEBT (4) | 17.10 % | 16.41 % | 16.14 % | 15.04 % | 16.58 % | 16.25 % |
| TOTAL DEBT / TOTAL CAPITAL | 53.49 % | 53.33 % | 53.43 % | 50.59 % | 50.32 % | 52.23 % |

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: I-Metrix Database
Company SEC Form 10-K

Capital Structure Based upon Total Permanent Capital for the
Proxy Group of Nine Water Companies
2006 - 2010, Inclusive

| | 2010 | 2009 | 2008 | 2007 | 2006 | 5 YEAR AVERAGE |
|---|---|---|---|---|---|---|
| American States Water Co. | | | | | | |
| Long-Term Debt | 44.30 % | 46.95 % | 46.25 % | 46.99 % | 48.61 % | 46.62 % |
| Preferred Stock | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Common Equity | 55.70 | 53.05 | 53.75 | 53.01 | 51.39 | 53.38 |
| Total Capital | 100.00 % | 100.00 % | 100.00 % | 100.00 % | 100.00 % | 100.00 % |
| American Water Works Co., Inc. | | | | | | |
| Long-Term Debt | 56.73 % | 56.98 % | 53.75 % | 51.05 % | 46.93 % | 53.08 % |
| Preferred Stock | 0.29 | 0.30 | 0.32 | 0.31 | 0.06 | 0.26 |
| Common Equity | 42.98 | 42.72 | 45.93 | 48.64 | 53.01 | 46.66 |
| Total Capital | 100.00 % | 100.00 % | 100.00 % | 100.00 % | 100.00 % | 100.00 % |
| Aqua America, Inc. | | | | | | |
| Long-Term Debt | 57.05 % | 56.59 % | 54.21 % | 55.88 % | 51.55 % | 55.06 % |
| Preferred Stock | 0.02 | 0.02 | 0.09 | 0.09 | 0.10 | 0.06 |
| Common Equity | 42.93 | 43.39 | 45.70 | 44.03 | 48.35 | 44.88 |
| Total Capital | 100.00 % | 100.00 % | 100.00 % | 100.00 % | 100.00 % | 100.00 % |
| Artesian Resources Corp. | | | | | | |
| Long-Term Debt | 52.84 % | 54.12 % | 59.57 % | 52.20 % | 61.87 % | 56.12 % |
| Preferred Stock | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Common Equity | 47.16 | 45.88 | 40.43 | 47.80 | 38.13 | 43.88 |
| Total Capital | 100.00 % | 100.00 % | 100.00 % | 100.00 % | 100.00 % | 100.00 % |
| California Water Service Group | | | | | | |
| Long-Term Debt | 52.51 % | 47.93 % | 41.88 % | 42.86 % | 43.47 % | 45.73 % |
| Preferred Stock | 0.00 | 0.00 | 0.00 | 0.51 | 0.51 | 0.20 |
| Common Equity | 47.49 | 52.07 | 58.12 | 56.63 | 56.02 | 54.07 |
| Total Capital | 100.00 % | 100.00 % | 100.00 % | 100.00 % | 100.00 % | 100.00 % |
| Connecticut Water Service, Inc. | | | | | | |
| Long-Term Debt | 49.32 % | 50.59 % | 46.94 % | 47.76 % | 44.42 % | 47.81 % |
| Preferred Stock | 0.34 | 0.35 | 0.39 | 0.44 | 0.49 | 0.40 |
| Common Equity | 50.34 | 49.06 | 52.67 | 51.80 | 55.09 | 51.79 |
| Total Capital | 100.00 % | 100.00 % | 100.00 % | 100.00 % | 100.00 % | 100.00 % |
| Middlesex Water Company | | | | | | |
| Long-Term Debt | 43.91 % | 47.35 % | 49.10 % | 49.48 % | 48.78 % | 47.72 % |
| Preferred Stock | 1.07 | 1.24 | 1.22 | 1.46 | 2.95 | 1.59 |
| Common Equity | 55.02 | 51.41 | 49.68 | 49.06 | 48.27 | 50.69 |
| Total Capital | 100.00 % | 100.00 % | 100.00 % | 100.00 % | 100.00 % | 100.00 % |
| SJW Corporation | | | | | | |
| Long-Term Debt | 53.79 % | 49.52 % | 46.08 % | 47.79 % | 41.83 % | 47.80 % |
| Preferred Stock | 0.00 | 0.00 | 0.00 | 0.01 | 0.01 | 0.00 |
| Common Equity | 46.21 | 50.48 | 53.92 | 52.20 | 58.16 | 52.20 |
| Total Capital | 100.00 % | 100.00 % | 100.00 % | 100.00 % | 100.00 % | 100.00 % |
| York Water Company | | | | | | |
| Long-Term Debt | 48.28 % | 47.16 % | 55.31 % | 51.17 % | 48.82 % | 50.15 % |
| Preferred Stock | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Common Equity | 51.72 | 52.84 | 44.69 | 48.83 | 51.18 | 49.85 |
| Total Capital | 100.00 % | 100.00 % | 100.00 % | 100.00 % | 100.00 % | 100.00 % |
| Proxy Group of Nine Water Companies | | | | | | |
| Long-Term Debt | 50.97 % | 50.80 % | 50.35 % | 49.46 % | 48.48 % | 50.01 % |
| Preferred Stock | 0.19 | 0.21 | 0.22 | 0.31 | 0.46 | 0.28 |
| Common Equity | 48.84 | 48.99 | 49.43 | 50.23 | 51.06 | 49.71 |
| 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

Missouri-American Water Company
Pro Forma Cost of Long-Term Debt
at December 31, 2011

Column No.

| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Coupon Rate | Issuance Date | Maturity Date | Principal Amount | Amount Outstanding at 12/31/10 | Pro Forma Adjustments | Pro Forma Amount Outstanding at 12/31/11 | Unamortized Issuance Expense at 12/31/10 | Pro Forma Adjustments | Monthly Amortization Debt Expense | Pro Forma Unamortized Issuance Expense at 12/31/11 | Pro Forma Carrying Value at 12/31/11 (1) | Annual Amortization Debt Expense (2) | Annual Interest Expense (3) | Total Cost (4) |
| 6.600% | 11/15/11 | 11/15/41 | | | $ 10,000,000 | $ 10,000,000 | $ - | | $361 | $ 129,458 | $ 9,870,542 | $ 4,333 | $ 660,000 | $ 664,333 |
| 6.100% | 11/15/11 | 11/15/41 | | | 15,000,000 | 15,000,000 | - | | 1,250 | 448,125 | 14,551,875 | 15,000 | 915,000 | 930,000 |
| 7.790% | 06/01/97 | 06/01/27 | 8,000,000 | 8,000,000 | | 8,000,000 | 62,379 | | 317 | 58,579 | 7,941,421 | 3,799.68 | 623,200 | 627,000 |
| 8.580% | 04/21/95 | 03/01/25 | 3,000,000 | 3,000,000 | | 3,000,000 | 36,757 | | 216 | 34,163 | 2,965,837 | 2,594.64 | 257,400 | 259,995 |
| 7.140% | 03/16/94 | 03/01/34 | 12,500,000 | 12,500,000 | | 12,500,000 | 193,959 | | 698 | 185,587 | 12,314,413 | 8,372 | 892,500 | 900,872 |
| 5.500% | 05/18/93 | 01/01/23 | 4,950,000 | - | | - | 155,768 | | 1,082 | 142,787 | (142,787) | 12,981 | - | 12,981 |
| 5.000% | 02/01/98 | 02/01/28 | 4,500,000 | 4,455,000 | | 4,455,000 | 202,109 | | 986 | 190,278 | 4,264,722 | 11,831 | 222,750 | 234,581 |
| 5.850% | 07/26/96 | 07/01/26 | 6,000,000 | - | | - | 230,771 | | 1,241 | 215,882 | (215,882) | 14,889 | - | 14,889 |
| 5.000% | 11/01/98 | 11/30/28 | 19,000,000 | 18,405,000 | | 18,405,000 | 748,814 | | 3,499 | 706,824 | 17,698,176 | 41,990 | 920,250 | 962,240 |
| 5.900% | 03/01/00 | 03/01/30 | 29,000,000 | 28,820,000 | | 28,820,000 | 947,213 | | 4,118 | 897,794 | 27,922,206 | 49,420 | 1,700,380 | 1,749,800 |
| 5.200% | 04/01/02 | 04/01/32 | 15,000,000 | 14,810,000 | | 14,810,000 | 638,786 | | 2,505 | 608,726 | 14,201,274 | 30,061 | 770,120 | 800,181 |
| 4.600% | 12/20/06 | 12/01/36 | 57,480,000 | 57,480,000 | | 57,480,000 | 1,318,915 | | 4,241 | 1,268,025 | 56,211,975 | 50,891 | 2,644,080 | 2,694,971 |
| 6.593% | 10/22/07 | 10/15/37 | 103,000,000 | 103,000,000 | | 103,000,000 | 928,462 | | 2,883 | 893,861 | 102,106,139 | 34,601 | 6,790,790 | 6,825,391 |
| 6.550% | 8/1/08 (5) | 05/31/23 | 70,000,000 | 70,000,000 | | 70,000,000 | 217,961 | | 1,463 | 200,407 | 69,799,593 | 17,554 | 4,585,000 | 4,602,554 |
| 8.250% | 02/04/09 | 12/01/38 | 25,000,000 | 24,951,000 | | 24,951,000 | 930,162 | | 2,777 | 896,843 | 24,054,157 | 33,319 | 2,058,458 | 2,091,777 |
| | | | - | - | | - | 539,125 | | 2,375 | 510,625 | (510,625) | 28,500 | - | 28,500 |
| | | | - | - | | - | 667,678 | | 5,518 | 601,457 | (601,457) | 66,221 | - | 66,221 |
| | | | - | - | | - | 721,259 | | 5,423 | 656,183 | (656,183) | 65,076 | - | 65,076 |
| 5.500% | 02/01/93 | 02/01/23 | 15,000,000 | | | - | 314,207 | | 2,167 | 288,204 | (288,204) | 26,003 | - | 26,003 |
| 5.700% | 06/01/95 | 06/01/25 | 12,000,000 | | | - | 284,499 | | 1,645 | 264,765 | (264,765) | 19,734 | - | 19,734 |
| 5.500% | 11/01/96 | 11/01/26 | 19,900,000 | | | - | 502,757 | | 2,646 | 471,004 | (471,004) | 31,753 | - | 31,753 |
| 5.100% | 03/01/98 | 03/01/28 | 25,000,000 | 24,660,000 | | 24,660,000 | 580,770 | | 2,819 | 546,939 | 24,113,061 | 33,831 | 1,257,660 | 1,291,491 |
| 5.000% | 03/01/99 | 03/01/29 | 40,000,000 | 39,195,000 | | 39,195,000 | 999,810 | | 4,586 | 944,774 | 38,250,226 | 55,035 | 1,959,750 | 2,014,785 |
| | | | $ 469,330,000 | $ 409,276,000 | $ 25,000,000 | $ 434,276,000 | $ 11,222,162 | $ - | $ 54,816 | $ 11,161,290 | $ 423,114,710 | $ 657,789 | $ 26,257,338 | $ 26,915,126 |
| | | | | | | | | | | | | | | 6.36% (6) |

Notes:
(1) Column 7 - Column 11.
(2) Column 10 x 12.
(3) Column 7 x Column 1.
(4) Column 14 + Column 15.
(5) Original issuance date was 5/15/08 and held by American Water Works Co., Inc awaiting Board Approval until 8/1/08.
(6) Cost of Long-Term Debt = [Total Cost / Carrying Value].

Source of Information: Company-Provided

Missouri-American Water Company
Pro Forma Cost of Preferred Stock
at December 31, 2011

Column No.

| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Type, Par Value | Dividend Rate | Date Issued | Amount Outstanding at 12/31/11 | Adjustments | Amount Outstanding at 12/31/11 | Unamortized Issuance Expense at 12/31/11 | Adjustments | Pro Forma Unamortized Issuance Expense at 12/31/11 | Pro Forma Carrying Value at 12/31/11 (1) | Annual Amortization | Annual Dividends | Total Annual Cost (2) |
| Cumulative Preferred Stock $100 Par Value | 5.875% | 10/11/66 | $ 96,000 | $ (12,000) | $ 84,000 | $ - | $ - | $ - | $ 84,000 | $ - | $ 4,935 | $ 4,935 |
| Preference Stock $100 Par Value | 9.18% | 10/3/91 | 2,500,000 | (250,000) | 2,250,000 | 29,388 | (1,422) | 27,966 | 2,222,034 | 1,422 | 206,550 | 207,972 |
| Total Preferred Stock | | | $ 2,596,000 | $ (262,000) | $ 2,334,000 | $ 29,388 | $ (1,422) | $ 27,966 | $ 2,306,034 | $ 1,422 | $ 211,485 | $ 212,907 |
| | | | | | | | | | | | | 9.23% (3) |

Notes:
(1) Column 5 - Column 8.
(2) Column 10 + Column 11.
(3) Total Cost of Preferred Stock = [Total Annual Cost/Carrying Value].

Source of Information: Company-Provided

Missouri-American Water Company
Pro Forma Common Equity
at December 31, 2011

| | Balance at 12/31/10 | Adjustments: Equity Infusion | Adjustments: Net Income | Adjustments: Dividends Paid | Balance at 12/31/11 |
|---|---|---|---|---|---|
| Common Stock | 95,994,075 | | - | - | 95,994,075 |
| Paid-in Capital | 170,954,064 | 10,000,000 | - | - | 180,954,064 |
| Retained Earnings | 146,458,887 | - | 30,594,253 | (22,259,600) | 154,793,539 |
| Total Common Equity | 413,407,026 | 10,000,000 | 30,594,253 | (22,259,600) | 431,741,678 |

Pro-Forma Adjustments

| | | | | |
|---|---|---|---|---|
| **Additional Paid-in Capital** | | 10,000,000 | | |
| **Retained Earnings** | | | | |
| Add: Net Income Available to Common | | | | |
| ABP Jan - Dec 11 | 30,594,253 | | 30,594,253 | |
| Less: Common Stock Dividends | | | | |
| ABP Jan - Dec 11 | 22,259,600 | | | (22,259,600) |
| Total Pro Forma Retained Earnings Adjustment | | | | 8,334,652 |

Source of Information: Company-Provided.

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

| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|---|
| Proxy Group of Nine Water Companies | Average Dividend Yield (1) | Value Line Projected Five Year Growth in EPS (2) | Reuters Mean Consensus Projected Five Year Growth Rate in EPS | Zack's Five Year Projected Growth Rate in EPS | Yahoo! Finance Projected Five Year Growth in EPS | Average Projected Five Year Growth in EPS (3) | Adjusted Dividend Yield (4) | Indicated Common Equity Cost Rate (5) |
| American States Water Co. | 3.27 % | 8.00 % | 5.50 % | NA % | 5.50 % | 6.33 % | 3.37 % | 9.70 % |
| American Water Works Co., Inc. | 3.06 | 8.50 | 11.00 | 8.70 | 8.70 | 9.23 | 3.20 | 12.43 |
| Aqua America, Inc. | 2.78 | 10.00 | 7.20 | 6.50 | 6.00 | 7.43 | 2.88 | 10.31 |
| Artesian Resources Corp. | 3.93 | 3.60 | 4.50 | 3.60 | 4.53 | 4.06 | 4.01 | 8.07 |
| California Water Service Group | 3.34 | 3.00 | 6.30 | NA | 9.00 | 6.10 | 3.44 | 9.54 |
| Connecticut Water Service, Inc. | 3.70 | 4.00 | 5.50 | 4.00 | 3.00 | 4.13 | 3.78 | 7.91 |
| Middlesex Water Company | 4.00 | 3.00 | (1.00) | 3.00 | 3.00 | 3.00 | 4.06 | 7.06 |
| SJW Corporation | 3.04 | 9.00 | 14.00 | NA | 14.00 | 12.33 | 3.23 | 15.56 |
| York Water Company | 3.09 | 6.00 | 6.00 | 6.00 | 6.00 | 6.00 | 3.18 | 9.18 |
| Average | | | | | | | | 9.97 % |
| Median | | | | | | | | 9.54 % |

NA= Not Available

Notes:
(1) Indicated dividend at 6/13/2011 divided by the average closing price of the last 60 trading days ending 6/13/2011 for each company.
(2) From pages 2 through 10 of this Schedule.
(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. , 3.27% x (1+( 1/2 x 6.33%) ) = 3.37%.
(5) Column 6 + column 7.

Source of Information:
Value Line Investment Survey: April 22, 2011
www.reuters.com Downloaded on 06/14/2011
www.zacks.com Downloaded on 06/14/2011
www.yahoo.com Downloaded on 06/14/2011

# AMER. STATES WATER NYSE-AWR

| RECENT PRICE | 34.33 | P/E RATIO | 14.5 (Trailing: 18.0 / Median: 22.0) | RELATIVE P/E RATIO | 0.87 | DIV'D YLD | 3.0% | VALUE LINE |
|---|---|---|---|---|---|---|---|---|

TIMELINESS **3** Raised 11/19/10
SAFETY **3** New 2/4/00
TECHNICAL **2** Raised 4/8/11
BETA .75 (1.00 = Market)

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| High: | 25.3 | 26.4 | 29.0 | 29.0 | 26.8 | 34.6 | 43.8 | 46.1 | 42.0 | 38.8 | 39.6 | 36.4 |
| Low: | 16.7 | 19.0 | 20.3 | 21.6 | 20.8 | 24.3 | 30.3 | 33.6 | 27.0 | 29.8 | 31.2 | 32.7 |

**2014-16 PROJECTIONS**

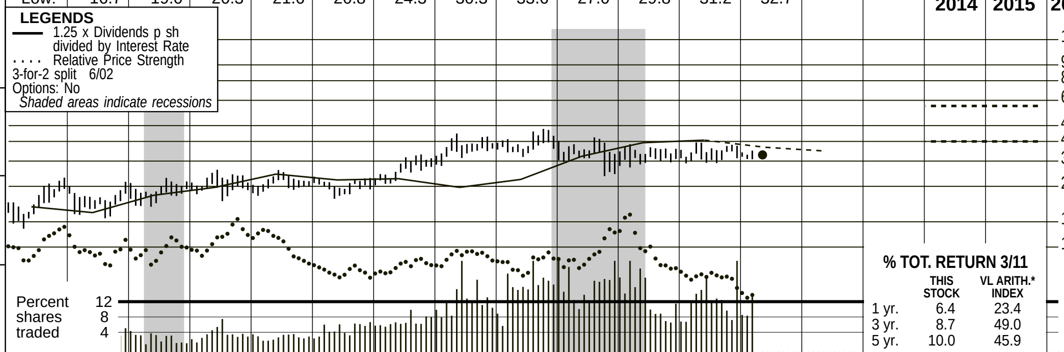
| | Price | Gain | Ann'l Total Return |
|---|---|---|---|
| High | 60 | (+75%) | 17% |
| Low | 40 | (+15%) | 7% |

**Insider Decisions**

| | M | J | J | A | S | O | N | D | J |
|---|---|---|---|---|---|---|---|---|---|
| to Buy | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 0 |
| Options | 1 | 0 | 0 | 0 | 0 | 1 | 2 | 1 | 0 |
| to Sell | 1 | 0 | 0 | 0 | 1 | 1 | 2 | 0 | 0 |

**Institutional Decisions**

| | 2Q2010 | 3Q2010 | 4Q2010 |
|---|---|---|---|
| to Buy | 46 | 53 | 59 |
| to Sell | 55 | 47 | 51 |
| Hld's(000) | 10863 | 11195 | 11086 |




Target Price Range
2014 | 2015 | 2016

**% TOT. RETURN 3/11**

| | THIS STOCK | VL ARITH.* INDEX |
|---|---|---|
| 1 yr. | 6.4 | 23.4 |
| 3 yr. | 8.7 | 49.0 |
| 5 yr. | 10.0 | 45.9 |

| 1995 | 1996 | 1997 | 1998 | 1999 | 2000 | 2001 | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | © VALUE LINE PUB. LLC | 14-16 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 11.03 | 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 | **21.05** | **22.05** | Revenues per sh | **25.00** |
| 1.75 | 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 | 4.34 | **4.15** | **4.35** | "Cash Flow" per sh | **4.85** |
| 1.03 | 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 | 2.25 | **2.10** | **2.20** | Earnings per sh A | **2.60** |
| .81 | .82 | .83 | .84 | .85 | .86 | .87 | .87 | .88 | .89 | .90 | .91 | .96 | 1.00 | 1.01 | 1.04 | **1.08** | **1.12** | Div'd Decl'd per sh B■ | **1.25** |
| 2.19 | 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 | **4.15** | **4.35** | Cap'l Spending per sh | **5.00** |
| 10.29 | 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 | **20.80** | **20.50** | Book Value per sh | **20.75** |
| 11.77 | 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 | **19.25** | **19.50** | Common Shs Outst'g C | **20.00** |
| 11.6 | 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 | 15.5 | *Bold figures are* | *Value Line estimates* | Avg Ann'l P/E Ratio | **19.0** |
| .78 | .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 | | | Relative P/E Ratio | **1.25** |
| 6.7% | 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% | | | Avg Ann'l Div'd Yield | **2.5%** |

**CAPITAL STRUCTURE as of 12/31/10**
**Total Debt** $361.2 mill. **Due in 5 Yrs** $296.9 mill.
**LT Debt** $299.8 mill. **LT Interest** $21.6 mill.
(LT interest earned: 4.9x: total interest coverage: 4.4x) (44% of Cap'l)

**Leases, Uncapitalized:** Annual rentals $3.3 mill.

**Pension Assets-12/10** $90.2 mill. **Oblig.** $118.8 mill.

**Pfd Stock** None.

**Common Stock** 18,654,106 shs. **as of 3/9/11**
**MARKET CAP: $650 million (Small Cap)**

| 2001 | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | | 14-16 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 197.5 | 209.2 | 212.7 | 228.0 | 236.2 | 268.6 | 301.4 | 318.7 | 361.0 | 398.9 | **405** | **430** | Revenues ($mill) | **500** |
| 20.4 | 20.3 | 11.9 | 16.5 | 22.5 | 23.1 | 28.0 | 26.8 | 29.5 | 42.7 | **40.0** | **43.0** | Net Profit ($mill) | **52.0** |
| 43.0% | 38.9% | 43.5% | 37.4% | 47.0% | 40.5% | 42.6% | 37.8% | 38.9% | 42.6% | **42.0%** | **40.0%** | Income Tax Rate | **40.0%** |
| -- | -- | -- | -- | -- | 12.2% | 8.5% | 6.9% | 3.2% | 5.0% | **5.0%** | **5.0%** | AFUDC % to Net Profit | **5.0%** |
| 54.9% | 52.0% | 52.0% | 47.7% | 50.4% | 48.6% | 46.9% | 46.2% | 45.9% | 44.3% | **43.0%** | **45.0%** | Long-Term Debt Ratio | **49.5%** |
| 44.7% | 48.0% | 48.0% | 52.3% | 49.6% | 51.4% | 53.1% | 53.8% | 54.1% | 55.7% | **57.0%** | **55.0%** | Common Equity Ratio | **50.5%** |
| 447.6 | 444.4 | 442.3 | 480.4 | 532.5 | 551.6 | 569.4 | 577.0 | 665.0 | 677.4 | **700** | **725** | Total Capital ($mill) | **825** |
| 539.8 | 563.3 | 602.3 | 664.2 | 713.2 | 750.6 | 776.4 | 825.3 | 866.4 | 905.2 | **950** | **1000** | Net Plant ($mill) | **1150** |
| 6.1% | 6.5% | 4.6% | 5.2% | 5.4% | 6.0% | 6.7% | 6.4% | 5.9% | 7.5% | **7.5%** | **7.5%** | Return on Total Cap'l | **8.0%** |
| 10.1% | 9.5% | 5.6% | 6.6% | 8.5% | 8.1% | 9.3% | 8.6% | 8.2% | 11.3% | **11.0%** | **11.0%** | Return on Shr. Equity | **12.5%** |
| 10.1% | 9.5% | 5.6% | 6.6% | 8.5% | 8.1% | 9.3% | 8.6% | 8.2% | 11.3% | **11.0%** | **11.0%** | Return on Com Equity | **12.5%** |
| 3.6% | 3.3% | NMF | 1.0% | 2.8% | 2.7% | 3.9% | 3.1% | 3.2% | 6.2% | **5.0%** | **5.5%** | Retained to Com Eq | **6.5%** |
| 65% | 65% | 113% | 84% | 67% | 67% | 58% | 64% | 61% | 45% | **52%** | **51%** | All Div'ds to Net Prof | **48%** |

| CURRENT POSITION ($MILL.) | 2008 | 2009 | 12/31/10 |
|---|---|---|---|
| Cash Assets | 7.3 | 1.7 | 4.2 |
| Other | 83.3 | 94.3 | 200.8 |
| Current Assets | 90.6 | 96.0 | 205.0 |
| Accts Payable | 36.6 | 33.9 | 36.2 |
| Debt Due | 75.3 | 18.1 | 61.4 |
| Other | 25.5 | 47.7 | 81.2 |
| Current Liab. | 137.4 | 99.7 | 178.8 |
| Fix. Chg. Cov. | 293% | 352% | *441%* |

| ANNUAL RATES of change (per sh) | Past 10 Yrs. | Past 5 Yrs. | Est'd '08-'10 to '14-'16 |
|---|---|---|---|
| Revenues | 4.5% | 6.0% | *4.5%* |
| "Cash Flow" | 5.0% | 8.0% | *5.5%* |
| Earnings | 4.0% | 8.5% | *8.0%* |
| Dividends | 1.5% | 2.5% | *3.5%* |
| Book Value | 4.5% | 5.0% | *3.0%* |

| Cal-endar | QUARTERLY REVENUES ($ mill.) Mar.31 | Jun. 30 | Sep. 30 | Dec. 31 | Full Year |
|---|---|---|---|---|---|
| 2008 | 68.9 | 80.3 | 85.3 | 84.2 | 318.7 |
| 2009 | 79.6 | 93.6 | 101.5 | 86.3 | 361.0 |
| 2010 | 88.4 | 95.5 | 111.3 | 103.7 | 398.9 |
| 2011 | ***93.0*** | ***102*** | ***115*** | ***95.0*** | ***405*** |
| 2012 | ***95.0*** | ***110*** | ***125*** | ***100*** | ***430*** |

| Cal-endar | EARNINGS PER SHARE A Mar.31 | Jun. 30 | Sep. 30 | Dec. 31 | Full Year |
|---|---|---|---|---|---|
| 2008 | .30 | .53 | .26 | .43 | 1.55 |
| 2009 | .28 | .64 | .52 | .18 | 1.62 |
| 2010 | .45 | .47 | .62 | .71 | 2.25 |
| 2011 | ***.45*** | ***.55*** | ***.65*** | ***.45*** | ***2.10*** |
| 2012 | ***.47*** | ***.58*** | ***.69*** | ***.46*** | ***2.20*** |

| Cal-endar | QUARTERLY DIVIDENDS PAID B■ Mar.31 | Jun.30 | Sep.30 | Dec.31 | Full Year |
|---|---|---|---|---|---|
| 2007 | .235 | .235 | .235 | .250 | .96 |
| 2008 | .250 | .250 | .250 | .250 | 1.00 |
| 2009 | .250 | .250 | .250 | .260 | 1.01 |
| 2010 | .260 | .260 | .260 | .260 | 1.04 |
| 2011 | .260 | | | | |

**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. Acquired Chaparral City Water of Arizona (10/00). Has 703 employees. Officers & directors own 2.6% of common stock (4/10 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.

**Favorable regulatory backing enabled American States Water to have a blowout fourth quarter.** Indeed, the water utility posted earnings of $0.71 a share, nearly four times the year-before tally. Revenues jumped 20%, to $103.7 million, thanks to the recognition of retroactive revenues from earlier in the year associated with rate increases handed down by the California Public Utilities Commission (CPUC) in regard to general rate cases for Regions II and III.

**Growth will be tough to come by this year due to the stiffer comparisons . . .** Although the benefits were all realized in the final quarter of the year, the CPUC's ruling added $0.30 a share to the bottom line for the full-year 2010. AWR is subject to regulatory rulings so the gain is considered typical and not looked at as a nonrecurring. But we do not expect a similar occurrence this year.

**. . . as well as the continued escalation of infrastructure costs.** AWR's operating costs remain on the rise and are not likely to slow anytime soon, given that its water systems are growing older and require attention. Its pockets are all but empty, however, and the company will have to continue to seek outside financiers to stay afloat. Debt and equity issuances have become commonplace, and will likely remain a drag on earnings growth going forward. As a result, we look for share earnings to take a step back this year and to show modest improvement in 2012. That said, the company is slated to file a general rate case for all three regions in July of this year. A ruling is expected to take 18 months. A favorable verdict could prove our 2012 estimate conservative.

**Capital projects are likely to remain a longer-term concern too.** There is no end in sight to the infrastructure investment that is necessary. This industry is capital intensive, but unfortunately AWR is cash-strapped. As a result, the stock does not stand out for price appreciation potential for the coming six to 12 months or the 3 to 5 years ahead. The financial constraints lead to concerns about the company's dividend, which despite being above the average offering in our *Survey*, loses some luster when compared to other utilities.

*Andre J. Costanza* *April 22, 2011*

(A) Primary earnings. Excludes nonrecurring gains/(losses): '04, 14¢; '05, 25¢; '06, 6¢; '08, (27¢); '10, (55¢). Next earnings report due early May. 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 | 85 |
| Price Growth Persistence | 70 |
| Earnings Predictability | 85 |

# AMERICAN WATER NYSE-AWK

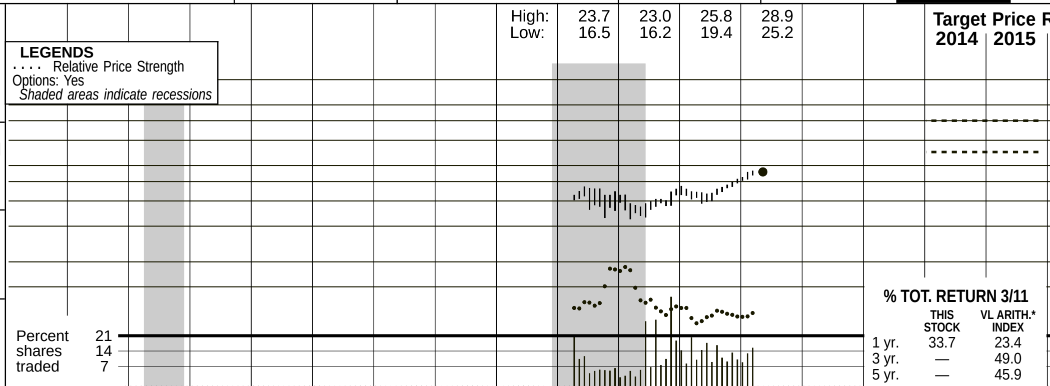
RECENT PRICE **27.90** | P/E RATIO **16.8** (Trailing: 18.1 / Median: NMF) | RELATIVE P/E RATIO **1.01** | DIV'D YLD **3.2%** | VALUE LINE

**TIMELINESS** 1 New 10/22/10
**SAFETY** 3 New 7/25/08
**TECHNICAL** 4 Lowered 3/11/11
**BETA** .65 (1.00 = Market)

| | 2008 | 2009 | 2010 | 2011 |
|---|---|---|---|---|
| High: | 23.7 | 23.0 | 25.8 | 28.9 |
| Low: | 16.5 | 16.2 | 19.4 | 25.2 |

**Target Price Range**
2014 | 2015 | 2016

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



**2014-16 PROJECTIONS**

| | Price | Gain | Ann'l Total Return |
|---|---|---|---|
| High | 50 | (+80%) | 18% |
| Low | 35 | (+25%) | 9% |

**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 | 0 | 0 | 0 |
| to Sell | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

**Institutional Decisions**

| | 2Q2010 | 3Q2010 | 4Q2010 |
|---|---|---|---|
| to Buy | 134 | 146 | 145 |
| to Sell | 107 | 93 | 119 |
| Hld's(000) | 154379 | 149349 | 145430 |

Percent shares traded 21 / 14 / 7

**% TOT. RETURN 3/11**

| | THIS STOCK | VL ARITH.* INDEX |
|---|---|---|
| 1 yr. | 33.7 | 23.4 |
| 3 yr. | — | 49.0 |
| 5 yr. | — | 45.9 |

| 1995 | 1996 | 1997 | 1998 | 1999 | 2000 | 2001 | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | © VALUE LINE PUB. LLC | 14-16 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 13.08 | 13.84 | 14.61 | 13.98 | 15.49 | *16.10* | *16.35* | Revenues per sh | *17.95* |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | .65 | d.47 | 2.87 | 2.89 | 3.56 | *3.50* | *3.80* | "Cash Flow" per sh | *4.10* |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | d.97 | d2.14 | 1.10 | 1.25 | 1.53 | *1.70* | *1.80* | Earnings per sh A | *2.10* |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | .40 | .82 | .86 | *.90* | *.94* | Div'd Decl'd per sh B | *1.10* |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 4.31 | 4.74 | 6.31 | 4.50 | 4.38 | *4.30* | *4.25* | Cap'l Spending per sh | *4.20* |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 23.86 | 28.39 | 25.64 | 22.91 | 23.59 | *23.60* | *23.40* | Book Value per sh D | *23.60* |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 160.00 | 160.00 | 160.00 | 174.63 | 175.00 | *180.00* | *185.00* | Common Shs Outst'g C | *195.00* |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 18.9 | 15.6 | 14.6 | Bold figures are | | Avg Ann'l P/E Ratio | *20.0* |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 1.14 | 1.04 | .94 | Value Line | estimates | Relative P/E Ratio | *1.35* |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 1.9% | 4.2% | 3.8% | | | Avg Ann'l Div'd Yield | *2.6%* |

**CAPITAL STRUCTURE as of 12/31/10**
**Total Debt** $5478.3 mill. **Due in 5 Yrs** $201.9 mill.
**LT Debt** $5433.5 mill. **LT Interest** $315.0 mill.
(Total interest coverage: 2.4x) (57% of Cap'l)

**Leases, Uncapitalized:** Annual rentals $25.7 mill.
**Pension Assets-12/10** $861.0 mill **Oblig.** $1285.5 mill.
**Pfd Stock** $23.9 mill. **Pfd Div'd** NMF

**Common Stock** 175,211,592 shs.
**as of 2/22/11**

**MARKET CAP: $4.9 billion (Mid Cap)**

| 2001 | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | | 14-16 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| -- | -- | -- | -- | -- | 2093.1 | 2214.2 | 2336.9 | 2440.7 | 2710.7 | *2875* | *3025* | Revenues ($mill) | *3500* |
| -- | -- | -- | -- | -- | d155.8 | d342.3 | 187.2 | 209.9 | 267.8 | *300* | *330* | Net Profit ($mill) | *410* |
| -- | -- | -- | -- | -- | -- | -- | 37.4% | 37.9% | 40.4% | *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% | *56.5%* | *56.5%* | Long-Term Debt Ratio | *56.5%* |
| -- | -- | -- | -- | -- | 43.9% | 49.1% | 46.9% | 43.1% | 43.2% | *43.5%* | *43.5%* | Common Equity Ratio | *43.5%* |
| -- | -- | -- | -- | -- | 8692.8 | 9245.7 | 8750.2 | 9289.0 | 9561.3 | *9850* | *10100* | Total Capital ($mill) | *10600* |
| -- | -- | -- | -- | -- | 8720.6 | 9318.0 | 9991.8 | 10524 | 11059 | *11450* | *11875* | Net Plant ($mill) | *13150* |
| -- | -- | -- | -- | -- | NMF | NMF | 3.7% | 3.8% | 4.4% | *4.5%* | *5.0%* | Return on Total Cap'l | *5.5%* |
| -- | -- | -- | -- | -- | NMF | NMF | 4.6% | 5.2% | 6.5% | *7.0%* | *7.5%* | Return on Shr. Equity | *9.0%* |
| -- | -- | -- | -- | -- | NMF | NMF | 4.6% | 5.2% | 6.5% | *7.0%* | *7.5%* | Return on Com Equity | *9.0%* |
| -- | -- | -- | -- | -- | NMF | NMF | 3.0% | 1.8% | 2.8% | *3.5%* | *3.5%* | Retained to Com Eq | *4.5%* |
| -- | -- | -- | -- | -- | -- | -- | 34% | 65% | 56% | *54%* | *53%* | All Div'ds to Net Prof | *52%* |

**CURRENT POSITION ($MILL.)**

| | 2008 | 2009 | 12/31/10 |
|---|---|---|---|
| Cash Assets | 9.5 | 22.3 | 13.1 |
| Other | 408.2 | 476.8 | 521.2 |
| Current Assets | 417.7 | 499.1 | 534.3 |
| Accts Payable | 149.8 | 138.6 | 199.2 |
| Debt Due | 654.8 | 173.6 | 44.8 |
| Other | 300.2 | 295.2 | 530.5 |
| Current Liab. | 1104.8 | 607.4 | 774.5 |
| Fix. Chg. Cov. | 197% | 210% | 237% |

| ANNUAL RATES of change (per sh) | Past 10 Yrs. | Past 5 Yrs. | Est'd '08-'10 to '14-'16 |
|---|---|---|---|
| Revenues | -- | -- | 3.5% |
| "Cash Flow" | -- | -- | 5.0% |
| Earnings | -- | -- | 8.5% |
| Dividends | -- | -- | 8.0% |
| Book Value | -- | -- | -.5% |

| Cal-endar | QUARTERLY REVENUES ($ mill.) Mar.31 | Jun. 30 | Sep. 30 | Dec. 31 | Full Year |
|---|---|---|---|---|---|
| 2008 | 506.8 | 589.4 | 672.2 | 568.5 | 2336.9 |
| 2009 | 550.2 | 612.7 | 680.0 | 597.8 | 2440.7 |
| 2010 | 588.1 | 671.2 | 786.9 | 664.5 | 2710.7 |
| 2011 | *620* | *715* | *820* | *725* | *2875* |
| 2012 | *650* | *750* | *865* | *760* | *3025* |

| Cal-endar | EARNINGS PER SHARE A Mar.31 | Jun. 30 | Sep. 30 | Dec. 31 | Full Year |
|---|---|---|---|---|---|
| 2008 | .04 | .28 | .55 | .23 | 1.10 |
| 2009 | .19 | .32 | .52 | .21 | 1.25 |
| 2010 | .18 | .42 | .71 | .23 | 1.53 |
| 2011 | *.22* | *.46* | *.75* | *.27* | *1.70* |
| 2012 | *.24* | *.49* | *.79* | *.28* | *1.80* |

| Cal-endar | QUARTERLY DIVIDENDS PAID B■ Mar.31 | Jun.30 | Sep.30 | Dec.31 | Full Year |
|---|---|---|---|---|---|
| 2007 | -- | -- | -- | -- | -- |
| 2008 | -- | -- | .20 | .20 | .40 |
| 2009 | .20 | .20 | .21 | .21 | .82 |
| 2010 | .21 | .21 | .22 | .22 | .86 |
| 2011 | .22 | | | | |

**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 over 89% of 2010 revenues. New Jersey is its biggest market accounting for over 19% of revenues. Has roughly 7,000 employees. Depreciation rate, 2.5% in '10. BlackRock, Inc., owns 6.9% of the common stock outstanding. Off. & dir. own less than 1%. President & CEO; Jeffrey Sterba. Chairman; George Mackenzie. Address: 1025 Laurel Oak Road, Voorhees, NJ 08043. Telephone: 856-346-8200. Internet: www.amwater.com.

**American Water Works closed out a healthy 2010 campaign in solid, albeit not as strong as we predicted, fashion.** The country's biggest water utility posted share earnings of $0.23, 10% better than the year before, but half of what we were anticipating. Revenues advanced a slower-than-expected 11%, to roughly $665 million, benefiting from new rate awards and greater military demand.

**We look for growth to continue slowing this year.** The high end of management's earnings guidance ($1.65 to $1.75 a share) appears a little too bullish in our opinion, given the tough comparisons and the continuously rising costs of doing business in this space. Indeed, infrastructure expenses are likely to remain on an upswing, as many systems are decaying and in need of significant, if not complete, overhauls. American is not exactly flush with cash though and will need to look to outside financiers to foot the bill. The increased debt load and/or higher share count will dilute share-net gains.

**We have introduced our 2012 estimates with similar trends in mind.** True, American continues to make inroads with military bases, and these nonregulated ventures should remain profitable, but the company remains for all intents and purposes, a heavily regulated business. Although regulatory commissions have been far more-business friendly of late, there is no way of getting around the need to maintain the nation's waterways and pipelines. These infrastructure costs, and the associated financing expenses, ought to keep share-earnings growth in single-digit territory next year and thereafter out to mid-decade.

**These shares are ranked 1 (Highest) for Timeliness, thanks to recent share-price momentum.** They have been on a steady climb upward since last summer, and are up nearly 30% in all.

**This issue looks to be undervalued according to our projections.** Despite the financial constraints we envision, price appreciation potential out to mid-decade is on par with the *Value Line* average. Traction in nonregulated areas ought to help pick up some of the slack. Meanwhile, the dividend adds to the issue's 3- to 5-year total-return appeal.

*Andre J. Costanza* *April 22, 2011*

(A) Diluted earnings. Excludes nonrecurring gains (losses): '08, ($4.62); '09, ($2.63). Discontinued operations: '06, (4¢). 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 2010: $1.251 billion, $7.15/share.

| | |
|---|---|
| Company's Financial Strength | B |
| Stock's Price Stability | 85 |
| Price Growth Persistence | NMF |
| Earnings Predictability | 10 |

# AQUA AMERICA NYSE-WTR

RECENT PRICE 21.94 | P/E RATIO 23.8 (Trailing: 24.4 Median: 25.0) | RELATIVE P/E RATIO 1.43 | DIV'D YLD 2.8% | VALUE LINE

TIMELINESS 3 Lowered 1/21/11
SAFETY 3 Lowered 8/1/03
TECHNICAL 3 Raised 4/8/11
BETA .65 (1.00 = Market)

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| High: | 12.0 | 14.8 | 15.0 | 16.8 | 18.5 | 29.2 | 29.8 | 26.6 | 22.0 | 21.5 | 23.0 | 23.8 |
| Low: | 6.3 | 9.4 | 9.6 | 11.8 | 14.2 | 17.5 | 20.1 | 18.9 | 12.2 | 15.4 | 16.5 | 21.6 |

**2014-16 PROJECTIONS**

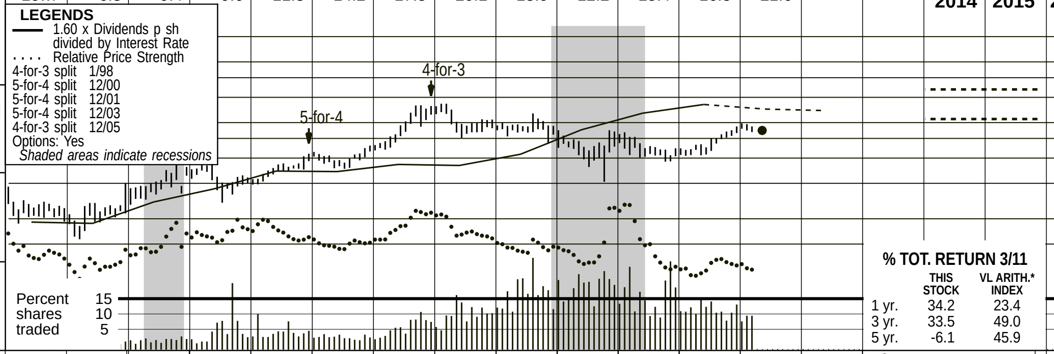
| | Price | Gain | Ann'l Total Return |
|---|---|---|---|
| High | 35 | (+60%) | 15% |
| Low | 25 | (+15%) | 3% |

**Insider Decisions**

| | M | J | J | A | S | O | N | D | J |
|---|---|---|---|---|---|---|---|---|---|
| to Buy | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| Options | 0 | 0 | 0 | 0 | 2 | 1 | 0 | 1 | 1 |
| to Sell | 0 | 0 | 3 | 0 | 2 | 1 | 1 | 1 | 0 |

**Institutional Decisions**

| | 2Q2010 | 3Q2010 | 4Q2010 |
|---|---|---|---|
| to Buy | 92 | 90 | 101 |
| to Sell | 119 | 101 | 94 |
| Hld's(000) | 60654 | 59791 | 55463 |




**Target Price Range**
2014 | 2015 | 2016

**% TOT. RETURN 3/11**

| | THIS STOCK | VL ARITH.* INDEX |
|---|---|---|
| 1 yr. | 34.2 | 23.4 |
| 3 yr. | 33.5 | 49.0 |
| 5 yr. | -6.1 | 45.9 |

| 1995 | 1996 | 1997 | 1998 | 1999 | 2000 | 2001 | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | © VALUE LINE PUB. LLC | 14-16 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1.84 | 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 | ***5.60*** | ***5.90*** | Revenues per sh | ***6.80*** |
| .47 | .50 | .56 | .61 | .72 | .76 | .86 | .94 | .96 | 1.09 | 1.21 | 1.26 | 1.37 | 1.42 | 1.61 | 1.78 | ***1.85*** | ***1.95*** | "Cash Flow" per sh | ***2.35*** |
| .29 | .30 | .34 | .40 | .42 | .47 | .51 | .54 | .57 | .64 | .71 | .70 | .71 | .73 | .77 | .90 | ***.95*** | ***1.05*** | Earnings per sh A | ***1.35*** |
| .22 | .23 | .24 | .26 | .27 | .28 | .30 | .32 | .35 | .37 | .40 | .44 | .48 | .51 | .55 | .59 | ***.63*** | ***.67*** | Div'd Decl'd per sh B■ | ***.79*** |
| .52 | .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 | ***2.45*** | ***1.55*** | Cap'l Spending per sh | ***2.80*** |
| 2.46 | 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 | ***8.75*** | ***9.10*** | Book Value per sh | ***10.50*** |
| 63.74 | 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 | ***138.90*** | ***139.90*** | Common Shs Outst'g C | ***142.90*** |
| 12.0 | 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 | *Bold figures are* | *Value Line* | Avg Ann'l P/E Ratio | ***21.0*** |
| .80 | .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 | 1.36 | *estimates* | | Relative P/E Ratio | ***1.40*** |
| 6.2% | 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% | | | Avg Ann'l Div'd Yield | ***2.5%*** |

**CAPITAL STRUCTURE as of 12/31/10**
**Total Debt** $1560.4 mill. **Due in 5 Yrs** $316 mill.
**LT Debt** $1531.9 mill. **LT Interest** $70.6 mill.
(LT interest earned: 4.5x; total interest coverage: 4.5x) (57% of Cap'l)

**Pension Assets-12/10** $159.2 mill. **Oblig.** $234.9 mill.

**Pfd Stock** None

**Common Stock** 137,968,188 shares **as of 2/11/11**

**MARKET CAP: $3.0 billion (Mid Cap)**

| 2001 | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | | 14-16 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 307.3 | 322.0 | 367.2 | 442.0 | 496.8 | 533.5 | 602.5 | 627.0 | 670.5 | 726.1 | ***775*** | ***825*** | Revenues ($mill) | ***975*** |
| 58.5 | 62.7 | 67.3 | 80.0 | 91.2 | 92.0 | 95.0 | 97.9 | 104.4 | 124.0 | ***130*** | ***145*** | Net Profit ($mill) | ***190*** |
| 39.3% | 38.5% | 39.3% | 39.4% | 38.4% | 39.6% | 38.9% | 39.7% | 39.4% | 39.2% | ***40.0%*** | ***40.0%*** | Income Tax Rate | ***40.0%*** |
| - - | - - | - - | - - | - - | - - | - - | - - | 2.9% | 3.1% | ***2.5%*** | ***2.5%*** | AFUDC % to Net Profit | ***1.5%*** |
| 52.2% | 54.2% | 51.4% | 50.0% | 52.0% | 51.6% | 55.4% | 54.1% | 55.6% | 56.6% | ***56.0%*** | ***56.0%*** | Long-Term Debt Ratio | ***54.0%*** |
| 47.7% | 45.8% | 48.6% | 50.0% | 48.0% | 48.4% | 44.6% | 45.9% | 44.4% | 43.4% | ***44.0%*** | ***44.0%*** | Common Equity Ratio | ***46.0%*** |
| 990.4 | 1076.2 | 1355.7 | 1497.3 | 1690.4 | 1904.4 | 2191.4 | 2306.6 | 2495.5 | 2706.2 | ***2790*** | ***2880*** | Total Capital ($mill) | ***3210*** |
| 1368.1 | 1490.8 | 1824.3 | 2069.8 | 2280.0 | 2506.0 | 2792.8 | 2997.4 | 3227.3 | 3469.3 | ***3640*** | ***3815*** | Net Plant ($mill) | ***4395*** |
| 7.8% | 7.6% | 6.4% | 6.7% | 6.9% | 6.4% | 5.9% | 5.7% | 5.6% | 5.9% | ***6.0%*** | ***6.5%*** | Return on Total Cap'l | ***7.5%*** |
| 12.3% | 12.7% | 10.2% | 10.7% | 11.2% | 10.0% | 9.7% | 9.3% | 9.4% | 10.6% | ***11.0%*** | ***11.5%*** | Return on Shr. Equity | ***13.0%*** |
| 12.4% | 12.7% | 10.2% | 10.7% | 11.2% | 10.0% | 9.7% | 9.3% | 9.4% | 10.6% | ***11.0%*** | ***11.5%*** | Return on Com Equity | ***13.0%*** |
| 5.1% | 5.2% | 4.2% | 4.6% | 4.9% | 3.7% | 3.2% | 2.8% | 2.7% | 3.7% | ***3.5%*** | ***4.0%*** | Retained to Com Eq | ***5.5%*** |
| 59% | 59% | 59% | 57% | 56% | 63% | 67% | 70% | 72% | 65% | ***67%*** | ***64%*** | All Div'ds to Net Prof | ***59%*** |

| CURRENT POSITION ($MILL.) | 2008 | 2009 | 12/31/10 |
|---|---|---|---|
| Cash Assets | 14.9 | 21.9 | 5.9 |
| Receivables | 84.5 | 78.7 | 85.9 |
| Inventory (AvgCst) | 9.8 | 9.5 | 9.2 |
| Other | 11.8 | 11.5 | 44.4 |
| Current Assets | 121.0 | 121.6 | 145.4 |
| Accts Payable | 50.0 | 57.9 | 45.3 |
| Debt Due | 87.9 | 87.0 | 28.5 |
| Other | 55.3 | 56.1 | 149.9 |
| Current Liab. | 193.2 | 201.0 | 223.7 |
| Fix. Chg. Cov. | 329% | 346% | 290% |

| ANNUAL RATES of change (per sh) | Past 10 Yrs. | Past 5 Yrs. | Est'd '08-'10 to '14-'16 |
|---|---|---|---|
| Revenues | 8.0% | 7.5% | *6.5%* |
| "Cash Flow" | 8.5% | 8.0% | *8.0%* |
| Earnings | 6.5% | 4.5% | *10.0%* |
| Dividends | 7.5% | 8.0% | *6.0%* |
| Book Value | 9.0% | 7.0% | *5.0%* |

| Cal-endar | QUARTERLY REVENUES ($ mill.) Mar.31 | Jun.30 | Sep.30 | Dec.31 | Full Year |
|---|---|---|---|---|---|
| 2008 | 139.3 | 151.0 | 177.1 | 159.6 | 627.0 |
| 2009 | 154.5 | 167.3 | 180.8 | 167.9 | 670.5 |
| 2010 | 160.5 | 178.4 | 207.8 | 179.3 | 726.0 |
| 2011 | ***180*** | ***185*** | ***215*** | ***195*** | ***775*** |
| 2012 | ***195*** | ***200*** | ***230*** | ***200*** | ***825*** |

| Cal-endar | EARNINGS PER SHARE A Mar.31 | Jun.30 | Sep.30 | Dec.31 | Full Year |
|---|---|---|---|---|---|
| 2008 | .11 | .17 | .26 | .19 | .73 |
| 2009 | .14 | .19 | .25 | .20 | .77 |
| 2010 | .16 | .22 | .32 | .20 | .90 |
| 2011 | ***.16*** | ***.22*** | ***.34*** | ***.23*** | ***.95*** |
| 2012 | ***.18*** | ***.24*** | ***.36*** | ***.27*** | ***1.05*** |

| Cal-endar | QUARTERLY DIVIDENDS PAID B ■ Mar.31 | Jun.30 | Sep.30 | Dec.31 | Full Year |
|---|---|---|---|---|---|
| 2007 | .115 | .115 | .125 | .125 | .48 |
| 2008 | .125 | .125 | .125 | .135 | .51 |
| 2009 | .135 | .135 | .135 | .145 | .55 |
| 2010 | .145 | .145 | .145 | .155 | .59 |
| 2011 | .155 | | | | |

**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, 59.4%; 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 is slated to improve steadily in 2011.** Earnings growth is likely to be driven by purchases, as well as future favorable rate rulings.

**Acquisitions remain the backbone of growth.** With its strong balance sheet, Aqua America is poised to continue growth via purchases this year. Though no concrete details are known at this time, we do anticipate seeing a string of transactions, similar to the previous year.

**Rate rulings should provide an additional boost to the bottom line.** The company has implemented a rate recovery program, with most of its rate cases likely to receive favorable rulings. It already has several major cases on the horizon, though there have not been any filings. States that the company plans to file in include Pennsylvania, New Jersey, Ohio, Illinois, and Texas. In the best-case scenario, the increase in revenues should boost the bottom lines from 2012 onward.

**The Marcellus Shale project provides many growth opportunities.** The company has already implemented a new program of "water stations" to fill the trucks that service the drillers in Marcellus Shale. As the drilling requires significant water use, we expect drilling-related water consumption to increase in the future, adding to the revenue stream. Furthermore as the Marcellus Shale is set to provide impetus to many states that the company serves, we anticipate organic growth to increase over the next few years.

**Long-term prospects look bright for Aqua America.** It looks ever likely that the company will benefit both from acquisition-driven growth and organic growth. Finally, Aqua America's diversification into other sectors continues. It is looking at three to four more solar operations this year, and is quite likely to ramp up production from 2012 onward, as these projects are turning out to be quite profitable in the near and long term. The company is also cutting down on costs, which should aid in boosting the bottom line over the next few years.

**Income investors should find this issue of interest.** This equity's dividend yield is well above the industry average. Furthermore, the company has a history of steady dividend increases.

*Sahana Zutshi* *April 22, 2011*

(A) Diluted egs. Excl. nonrec. gains (losses): '99, (11¢); '00, 2¢; '01, 2¢; '02, 5¢; '03, 4¢. Excl. gain from disc. operations: '96, 2¢. Earnings may not add due to rounding. Next earnings report due mid-May.
(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 |

# ARTESIAN RES. CORP. NDQ--ARTNA

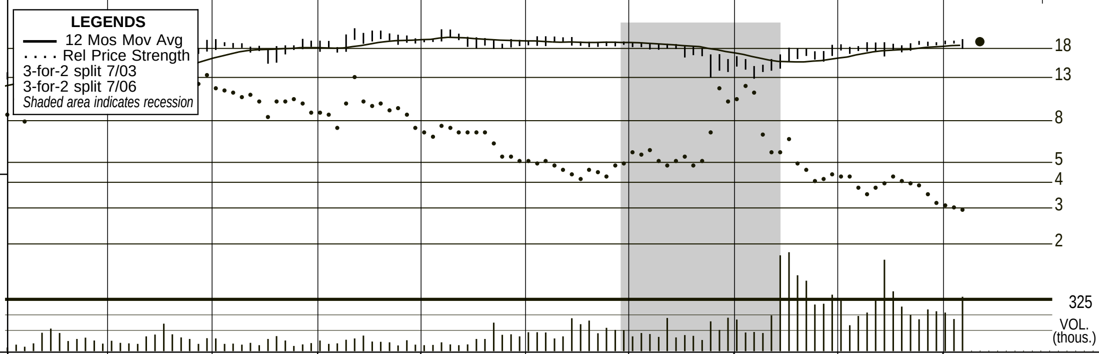
RECENT PRICE **19.42** | TRAILING P/E RATIO **19.4** | RELATIVE P/E RATIO **1.06** | DIV'D YLD **3.9%** | VALUE LINE

| | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| High | 15.38 | 19.83 | 20.04 | 22.62 | 22.33 | 20.67 | 19.31 | 18.73 | 19.59 | 19.99 | High |
| Low | 11.00 | 13.08 | 15.18 | 17.20 | 17.90 | 18.26 | 13.00 | 12.81 | 16.43 | 17.88 | Low |

## RANKS

**PERFORMANCE** 3 *Average*
Technical 3 *Average*
**SAFETY** 2 *Above Average*
**BETA** .60 (1.00 = Market)

**Financial Strength** B+
**Price Stability** 100
**Price Growth Persistence** 45
**Earnings Predictability** 90




| © VALUE LINE PUBLISHING LLC | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011/2012 |
|---|---|---|---|---|---|---|---|---|---|---|
| SALES PER SH | 5.97 | 6.20 | 6.67 | 7.52 | 7.77 | 7.20 | 7.59 | 8.11 | 8.48 | |
| "CASH FLOW" PER SH | 1.27 | 1.28 | 1.42 | 1.56 | 1.75 | 1.57 | 1.65 | 1.84 | 1.92 | |
| EARNINGS PER SH | .76 | .64 | .72 | .84 | .97 | .90 | .86 | .97 | 1.00 | ***1.07*** [A,B]***/1.15*** [C] |
| DIV'DS DECL'D PER SH | .52 | 1.06 | 1.11 | 1.16 | .61 | .66 | .71 | .72 | .75 | |
| CAP'L SPENDING PER SH | 3.18 | 4.20 | 4.82 | 3.35 | 5.08 | 3.66 | 6.09 | 2.32 | 2.57 | |
| BOOK VALUE PER SH | 8.84 | 9.01 | 9.26 | 9.60 | 10.15 | 11.66 | 11.86 | 12.15 | 12.44 | |
| COMMON SHS OUTST'G (MILL) | 5.79 | 5.85 | 5.93 | 6.02 | 6.09 | 7.30 | 7.40 | 7.51 | 7.65 | |
| AVG ANN'L P/E RATIO | 17.3 | 24.7 | 25.4 | 23.5 | 20.3 | 21.5 | 20.1 | 16.4 | 18.2 | ***18.1/16.9*** |
| RELATIVE P/E RATIO | .94 | 1.41 | 1.34 | 1.24 | 1.10 | 1.14 | 1.21 | 1.09 | 1.17 | |
| AVG ANN'L DIV'D YIELD | 3.9% | 6.7% | 6.1% | 5.9% | 3.1% | 3.4% | 4.1% | 4.5% | 4.1% | |
| SALES ($MILL) | 34.6 | 36.3 | 39.6 | 45.3 | 47.3 | 52.5 | 56.2 | 60.9 | 64.9 | ***Bold figures are consensus earnings estimates and, using the recent prices, P/E ratios.*** |
| OPERATING MARGIN | 99.6% | -- | -- | 100.0% | 45.6% | 45.6% | 45.1% | 46.9% | 46.5% | |
| DEPRECIATION ($MILL) | 3.2 | 3.6 | 4.0 | 4.4 | 4.6 | 5.2 | 5.8 | 6.6 | 7.0 | |
| NET PROFIT ($MILL) | 4.2 | 3.9 | 4.4 | 5.0 | 6.1 | 6.3 | 6.4 | 7.3 | 7.6 | |
| INCOME TAX RATE | 40.4% | 37.9% | 39.6% | 39.9% | 39.0% | 39.8% | 40.8% | 40.1% | 40.0% | |
| NET PROFIT MARGIN | 12.0% | 10.8% | 11.1% | 11.1% | 12.8% | 11.9% | 11.4% | 11.9% | 11.7% | |
| WORKING CAP'L ($MILL) | 2.4 | d10.5 | d8.7 | d1.8 | d8.8 | 2.5 | d20.9 | d23.3 | d27.9 | |
| LONG-TERM DEBT ($MILL) | 64.0 | 80.6 | 82.4 | 92.4 | 92.1 | 91.8 | 107.6 | 106.0 | 105.1 | |
| SHR. EQUITY ($MILL) | 51.3 | 52.7 | 54.9 | 57.8 | 61.8 | 85.1 | 87.8 | 91.2 | 95.1 | |
| RETURN ON TOTAL CAP'L | 5.6% | 4.5% | 5.1% | 5.3% | 5.8% | 5.3% | 4.7% | 5.2% | 5.6% | |
| RETURN ON SHR. EQUITY | 8.1% | 7.4% | 8.0% | 8.7% | 9.8% | 7.4% | 7.3% | 8.0% | 8.0% | |
| RETAINED TO COM EQ | 2.8% | 1.4% | 2.1% | 2.7% | 3.8% | 2.1% | 1.4% | 2.1% | 2.0% | |
| ALL DIV'DS TO NET PROF | 65% | 81% | 74% | 69% | 61% | 71% | 81% | 74% | 75% | |

*[A]No. of analysts changing earn. est. in last 9 days: 0 up, 0 down, consensus 5-year earnings growth 3.6% per year. [B]Based upon 3 analysts' estimates. [C]Based upon 3 analysts' estimates.*

### ANNUAL RATES

| *of change (per share)* | 5 Yrs. | 1 Yr. |
|---|---|---|
| Sales | 3.5% | 4.5% |
| "Cash Flow" | 5.0% | 4.0% |
| Earnings | 5.0% | 3.0% |
| Dividends | -8.0% | 4.5% |
| Book Value | 5.5% | 2.5% |

| Fiscal Year | QUARTERLY SALES ($mill.) 1Q | 2Q | 3Q | 4Q | Full Year |
|---|---|---|---|---|---|
| 12/31/08 | 12.3 | 13.9 | 15.7 | 14.3 | 56.2 |
| 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 | | | | | |

| Fiscal Year | EARNINGS PER SHARE 1Q | 2Q | 3Q | 4Q | Full Year |
|---|---|---|---|---|---|
| 12/31/07 | .18 | .19 | .37 | .14 | .90 |
| 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 | ***.21*** | ***.25*** | ***.37*** | | |

| Cal-endar | QUARTERLY DIVIDENDS PAID 1Q | 2Q | 3Q | 4Q | Full Year |
|---|---|---|---|---|---|
| 2008 | .172 | .178 | .178 | .178 | .71 |
| 2009 | .178 | .178 | .178 | .187 | .72 |
| 2010 | .187 | .188 | .188 | .189 | .75 |
| 2011 | .197 | | | | |

### INSTITUTIONAL DECISIONS

| | 2Q'10 | 3Q'10 | 4Q'10 |
|---|---|---|---|
| to Buy | 26 | 17 | 23 |
| to Sell | 15 | 20 | 21 |
| Hld's(000) | 2151 | 2148 | 2190 |

| ASSETS ($mill.) | 2008 | 2009 | 12/31/10 |
|---|---|---|---|
| Cash Assets | 2.9 | .5 | .2 |
| Receivables | 7.8 | 9.0 | 5.1 |
| Inventory | 1.1 | 1.2 | 1.2 |
| Other | 1.7 | 2.5 | 7.5 |
| Current Assets | 13.5 | 13.2 | 14.0 |
| Property, Plant & Equip, at cost | 386.5 | 403.0 | 414.6 |
| Accum Depreciation | 58.8 | 64.9 | 69.2 |
| Net Property | 327.7 | 338.1 | 345.4 |
| Other | 7.5 | 7.6 | 12.1 |
| Total Assets | 348.7 | 358.9 | 371.5 |
| **LIABILITIES ($mill.)** | | | |
| Accts Payable | 4.6 | 3.7 | 3.4 |
| Debt Due | 22.6 | 27.7 | 30.6 |
| Other | 7.2 | 5.1 | 7.9 |
| Current Liab | 34.4 | 36.5 | 41.9 |

**LONG-TERM DEBT AND EQUITY as of 12/31/10**

**Total Debt** $135.7 mill. **Due in 5 Yrs.** $35.3 mill.
**LT Debt** $105.1 mill.
**Including Cap. Leases** None
(52% of Cap'l)

**Leases, Uncapitalized** Annual rentals $.1 mill.

**Pension Liability** $.5 mill. in '10 vs. $.7 mill. in '09

**Pfd Stock** None **Pfd Div'd Paid** None

**Common Stock** 7,649,435 shares
(48% 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 the states of Delaware, Maryland and Pennsylvania. It also provides wastewater services to customers in Delaware and has entered into purchase agreements to provide wastewater services in the State of 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 238 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. *W.T.*

*April 22, 2011*

### TOTAL SHAREHOLDER RETURN

*Dividends plus appreciation as of 3/31/2011*

| 3 Mos. | 6 Mos. | 1 Yr. | 3 Yrs. | 5 Yrs. |
|---|---|---|---|---|
| 3.86% | 4.22% | 14.86% | 19.74% | 6.44% |

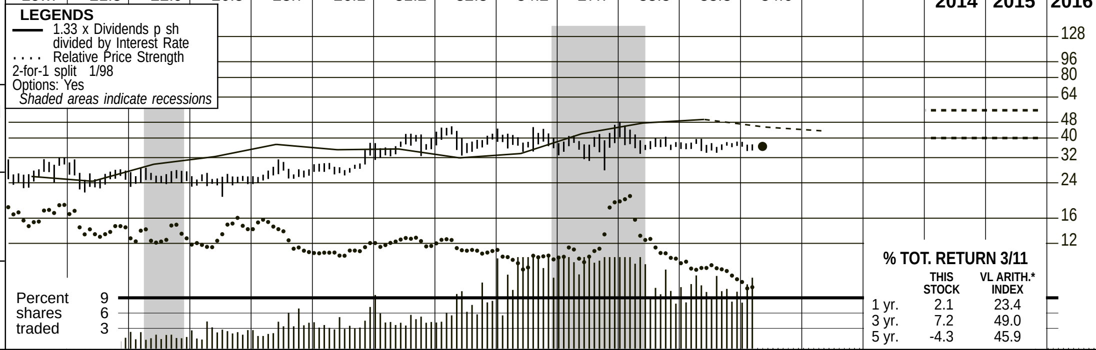
# CALIFORNIA WATER NYSE-CWT

RECENT PRICE **36.39** | P/E RATIO **18.8** (Trailing: 20.1 Median: 22.0) | RELATIVE P/E RATIO **1.12** | DIV'D YLD **3.4%** | VALUE LINE

TIMELINESS **4** Lowered 3/4/11
SAFETY **3** Lowered 7/27/07
TECHNICAL **3** Lowered 11/12/10
BETA .70 (1.00 = Market)

| | 2000 | 2001 | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| High: | 31.4 | 28.6 | 26.9 | 31.4 | 37.9 | 42.1 | 45.8 | 45.4 | 46.6 | 48.3 | 39.7 | 38.3 |
| Low: | 21.5 | 22.9 | 20.5 | 23.7 | 26.1 | 31.2 | 32.8 | 34.2 | 27.7 | 33.5 | 33.8 | 34.6 |

**LEGENDS**
— 1.33 x Dividends p sh divided by Interest Rate
.... Relative Price Strength
2-for-1 split 1/98
Options: Yes
*Shaded areas indicate recessions*



Target Price Range 2014 | 2015 | 2016

**2014-16 PROJECTIONS**

| | Price | Gain | Ann'l Total Return |
|---|---|---|---|
| High | 55 | (+50%) | *14%* |
| Low | 40 | (10%) | *6%* |

**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 | 2 | 0 | 1 | 0 | 0 |
| to Sell | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 |

**Institutional Decisions**

| | 2Q2010 | 3Q2010 | 4Q2010 |
|---|---|---|---|
| to Buy | 43 | 53 | 62 |
| to Sell | 72 | 53 | 48 |
| Hld's(000) | 8640 | 9706 | 10125 |

Percent shares traded 9 6 3

**% TOT. RETURN 3/11**

| | THIS STOCK | VL ARITH.* INDEX |
|---|---|---|
| 1 yr. | 2.1 | 23.4 |
| 3 yr. | 7.2 | 49.0 |
| 5 yr. | -4.3 | 45.9 |

| 1995 | 1996 | 1997 | 1998 | 1999 | 2000 | 2001 | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | © VALUE LINE PUB. LLC | 14-16 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 13.17 | 14.48 | 15.48 | 14.76 | 15.96 | 16.16 | 16.26 | 17.33 | 16.37 | 17.18 | 17.44 | 16.20 | 17.76 | 19.80 | 21.64 | 22.10 | *21.75* | *21.00* | Revenues per sh | *23.15* |
| 2.07 | 2.50 | 2.92 | 2.60 | 2.75 | 2.52 | 2.20 | 2.65 | 2.51 | 2.83 | 3.03 | 2.71 | 3.12 | 3.72 | 3.87 | 3.86 | *4.00* | *3.90* | "Cash Flow" per sh | *4.05* |
| 1.17 | 1.51 | 1.83 | 1.45 | 1.53 | 1.31 | .94 | 1.25 | 1.21 | 1.46 | 1.47 | 1.34 | 1.50 | 1.90 | 1.95 | 1.81 | *2.00* | *2.15* | Earnings per sh A | *2.35* |
| 1.02 | 1.04 | 1.06 | 1.07 | 1.09 | 1.10 | 1.12 | 1.12 | 1.12 | 1.13 | 1.14 | 1.15 | 1.16 | 1.17 | 1.18 | 1.19 | *1.23* | *1.27* | Div'd Decl'd per sh B ■ | *1.38* |
| 2.17 | 2.83 | 2.61 | 2.74 | 3.44 | 2.45 | 4.09 | 5.82 | 4.39 | 3.73 | 4.01 | 4.28 | 3.68 | 4.82 | 5.33 | 5.95 | *5.55* | *5.20* | Cap'l Spending per sh | *5.55* |
| 11.72 | 12.22 | 13.00 | 13.38 | 13.43 | 12.90 | 12.95 | 13.12 | 14.44 | 15.66 | 15.79 | 18.15 | 18.50 | 19.44 | 20.26 | 20.91 | *20.85* | *22.80* | Book Value per sh C | *23.70* |
| 12.54 | 12.62 | 12.62 | 12.62 | 12.94 | 15.15 | 15.18 | 15.18 | 16.93 | 18.37 | 18.39 | 20.66 | 20.67 | 20.72 | 20.77 | 20.83 | *23.00* | *25.00* | Common Shs Outst'g D | *27.00* |
| 13.7 | 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 | *Bold figures are* | | Avg Ann'l P/E Ratio | *20.0* |
| .92 | .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 | 1.30 | *Value Line* | | Relative P/E Ratio | *1.35* |
| 6.4% | 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% | *estimates* | | Avg Ann'l Div'd Yield | *2.9%* |

**CAPITAL STRUCTURE as of 12/31/10**
**Total Debt** $505.3 mill. **Due in 5 Yrs** $43.9 mill.
**LT Debt** $479.2 mill. **LT Interest** $27.9 mill.

(LT interest earned: 3.4x; total int. cov.: 3.2x)

**Pension Assets-12/10** $139.0 mill.
**Oblig.** $269.9 mill.

**Pfd Stock** None

**Common Stock** 20,833,303 shs.
**as of 2/24/11**

**MARKET CAP: $750 million (Small Cap)**

| 2001 | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | | 14-16 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 246.8 | 263.2 | 277.1 | 315.6 | 320.7 | 334.7 | 367.1 | 410.3 | 449.4 | 460.4 | *500* | *525* | Revenues ($mill) E | *650* |
| 14.4 | 19.1 | 19.4 | 26.0 | 27.2 | 25.6 | 31.2 | 39.8 | 40.6 | 37.7 | *47.5* | *52.0* | Net Profit ($mill) | *63.0* |
| 39.4% | 39.7% | 39.9% | 39.6% | 42.4% | 37.4% | 39.9% | 37.7% | 40.3% | 39.5% | *39.0%* | *39.0%* | Income Tax Rate | *39.0%* |
| - - | - - | 10.3% | 3.2% | 3.3% | 10.6% | 8.3% | 8.6% | 7.6% | 4.2% | *10.0%* | *10.0%* | AFUDC % to Net Profit | *10.0%* |
| 50.3% | 55.3% | 50.2% | 48.6% | 48.3% | 43.5% | 42.9% | 41.6% | 47.1% | 52.4% | *50.0%* | *47.0%* | Long-Term Debt Ratio | *49.0%* |
| 48.8% | 44.0% | 49.1% | 50.8% | 51.1% | 55.9% | 56.6% | 58.4% | 52.9% | 47.6% | *50.0%* | *53.0%* | Common Equity Ratio | *51.0%* |
| 402.7 | 453.1 | 498.4 | 565.9 | 568.1 | 670.1 | 674.9 | 690.4 | 794.9 | 914.7 | *975* | *1070* | Total Capital ($mill) | *1250* |
| 624.3 | 697.0 | 759.5 | 800.3 | 862.7 | 941.5 | 1010.2 | 1112.4 | 1198.1 | 1294.3 | *1370* | *1350* | Net Plant ($mill) | *1625* |
| 5.3% | 5.9% | 5.6% | 6.1% | 6.3% | 5.2% | 5.9% | 7.1% | 6.5% | 5.5% | *6.5%* | *6.5%* | Return on Total Cap'l | *7.0%* |
| 7.2% | 9.4% | 7.8% | 8.9% | 9.3% | 6.8% | 8.1% | 9.9% | 9.6% | 8.6% | *10.0%* | *9.0%* | Return on Shr. Equity | *10.0%* |
| 7.2% | 9.5% | 7.9% | 9.0% | 9.3% | 6.8% | 8.1% | 9.9% | 9.6% | 8.6% | *10.0%* | *9.0%* | Return on Com Equity | *10.0%* |
| NMF | 1.0% | .7% | 2.1% | 2.1% | 1.0% | 1.8% | 3.8% | 3.8% | 3.0% | *4.5%* | *3.5%* | Retained to Com Eq | *4.0%* |
| 119% | 90% | 91% | 77% | 78% | 86% | 77% | 61% | 60% | 66% | *57%* | *61%* | All Div'ds to Net Prof | *59%* |

| CURRENT POSITION ($MILL.) | 2008 | 2009 | 12/31/10 |
|---|---|---|---|
| Cash Assets | 13.9 | 9.9 | 42.3 |
| Other | 65.9 | 82.3 | 83.9 |
| Current Assets | 79.8 | 92.2 | 126.2 |
| Accts Payable | 45.1 | 43.7 | 39.5 |
| Debt Due | 42.8 | 25.0 | 26.1 |
| Other | 35.3 | 41.7 | 41.7 |
| Current Liab. | 123.2 | 110.4 | 107.3 |
| Fix. Chg. Cov. | 398% | 430% | *390%* |

| ANNUAL RATES of change (per sh) | Past 10 Yrs. | Past 5 Yrs. | Est'd '08-'10 to '14-'16 |
|---|---|---|---|
| Revenues | 3.0% | 4.5% | *1.5%* |
| "Cash Flow" | 4.0% | 6.5% | *1.0%* |
| Earnings | 3.0% | 6.5% | *3.0%* |
| Dividends | 1.0% | 1.0% | *2.5%* |
| Book Value | 4.5% | 5.5% | *2.5%* |

| Cal-endar | QUARTERLY REVENUES ($ mill.)E Mar.31 | Jun.30 | Sep.30 | Dec.31 | Full Year |
|---|---|---|---|---|---|
| 2008 | 72.9 | 105.6 | 131.7 | 100.1 | 410.3 |
| 2009 | 86.6 | 116.7 | 139.2 | 106.9 | 449.4 |
| 2010 | 90.3 | 118.3 | 146.3 | 105.5 | 460.4 |
| 2011 | *95.0* | *130* | *160* | *115* | *500* |
| 2012 | *100* | *135* | *170* | *120* | *525* |

| Cal-endar | EARNINGS PER SHARE A Mar.31 | Jun.30 | Sep.30 | Dec.31 | Full Year |
|---|---|---|---|---|---|
| 2008 | .01 | .48 | 1.06 | .35 | 1.90 |
| 2009 | .12 | .58 | .94 | .31 | 1.95 |
| 2010 | .10 | .50 | .98 | .23 | 1.81 |
| 2011 | *.11* | *.55* | *1.05* | *.29* | *2.00* |
| 2012 | *.12* | *.60* | *1.11* | *.32* | *2.15* |

| Cal-endar | QUARTERLY DIVIDENDS PAID B ■ Mar.31 | Jun.30 | Sep.30 | Dec.31 | Full Year |
|---|---|---|---|---|---|
| 2007 | .290 | .290 | .290 | .290 | 1.16 |
| 2008 | .293 | .293 | .293 | .293 | 1.17 |
| 2009 | .295 | .295 | .295 | .295 | 1.18 |
| 2010 | .2975 | .2975 | .2975 | .2975 | 1.19 |
| 2011 | .3075 | | | | |

**BUSINESS:** California Water Service Group provides regulated and nonregulated water service to roughly 470,200 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, '10: residential, 72%; business, 20%; public authorities, 4%; industrial, 4%. '10 reported depreciation rate: 2.3%. Has roughly 1,127 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.

**We look for California Water Service Group to bounce back nicely this year.** The water utility disappointed in the fourth quarter of 2010, reporting earnings of $0.23 a share, well below the year-earlier mark and estimates. The top line dipped 1%, as the net effect of WRAM and the MCBA resulted in a decrease of $2.9 million in revenue. These usage of these methodologies added $5.2 million to the books in the same period last year. But there should not be any lagging effects with the transition to a three year general rate case cycle in California now in the rear view mirror. In fact, the regulatory landscape ought to be complementary after the California Public Utilities Commission recently approved CWT's rate case authorizing the company to recognize an additional $25 million in annualized revenues and another $8 million in funds to be obtained at the conclusion of certain projects. With that, we look for a 10% share-net advance in 2011, despite the rising costs of doing business (see below).

**Growth will likely taper off in 2012 and thereafter, however.** U.S. water infrastructures are extremely capital-intensive. Costs of maintenance are adding up as many systems require significant investment. CWT is reasonably cash-strapped, though, and will probably have to continue seeking outside financing. Though necessary, such ventures come at a price, and the initiatives will probably cause earnings growth to begin slowing.

**We do not recommend this issue to most.** The financing costs should weigh on shareholder gains for the foreseeable future. Although the steadily increasing dividend is a boon, it is not enough to make up for the lack of earnings power in our opinion. There are better income vehicles out there, especially in the Electric Utilities Industry. We also worry that the dearth of cash on hand could potentially affect the dividend payout if the operating environment remains so capital intensive. It should be noted that CWT announced a 2-for-1 stock split and a stock offering that looks to be contingent upon approval of the former action. If granted shareholder approval, both are slated to go through in June. Our presentation does not account for the split at this time.

*Andre J. Costanza* *April 22, 2011*

(A) Basic EPS. Excl. nonrecurring gain (loss): '00, (7¢); '01, 4¢; '02, 8¢. Next earnings report due April 28th.
(B) Dividends historically paid in early Feb., May, Aug., and Nov. ■ Div'd reinvestment plan available.
(C) Incl. deferred charges. In '10: $2.2 mill., $0.11/sh.
(D) In millions, adjusted for split.
(E) Excludes non-reg. rev.

| | |
|---|---|
| Company's Financial Strength | B+ |
| Stock's Price Stability | 90 |
| Price Growth Persistence | 70 |
| Earnings Predictability | 85 |

# CONN. WATER SERVICES NDQ--CTWS

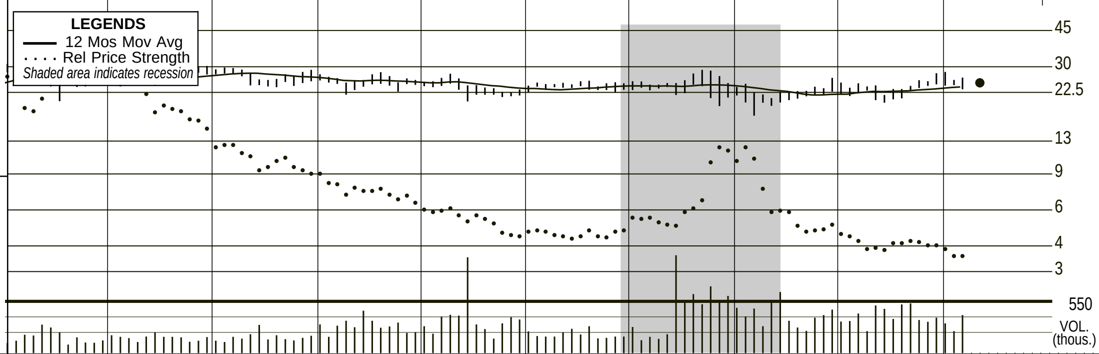
| RECENT PRICE | TRAILING P/E RATIO | RELATIVE P/E RATIO | DIV'D YLD | VALUE LINE |
|---|---|---|---|---|
| 25.01 | 22.1 | 1.21 | 3.7% | |

## RANKS

| | | |
|---|---|---|
| PERFORMANCE | 3 | Average |
| Technical | 3 | Average |
| SAFETY | 2 | Above Average |
| BETA .80 | | (1.00 = Market) |

| | |
|---|---|
| Financial Strength | B+ |
| Price Stability | 95 |
| Price Growth Persistence | 25 |
| Earnings Predictability | 80 |

| | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011/2012 |
|---|---|---|---|---|---|---|---|---|---|---|
| High | 31.09 | 30.41 | 29.76 | 28.17 | 27.71 | 25.61 | 28.95 | 26.44 | 27.90 | 28.27 |
| Low | 20.35 | 24.00 | 23.83 | 21.91 | 20.29 | 22.40 | 19.26 | 17.31 | 20.00 | 23.27 |




| © VALUE LINE PUBLISHING LLC | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011/2012 |
|---|---|---|---|---|---|---|---|---|---|---|
| SALES PER SH | 5.77 | 5.91 | 6.04 | 5.81 | 5.68 | 7.05 | 7.24 | 6.93 | 7.65 | |
| "CASH FLOW" PER SH | 1.78 | 1.89 | 1.91 | 1.62 | 1.52 | 1.90 | 1.95 | 1.93 | 2.04 | |
| EARNINGS PER SH | 1.12 | 1.15 | 1.16 | .88 | .81 | 1.05 | 1.11 | 1.19 | 1.13 | ***1.20*** [A,B]***/1.24*** [C] |
| DIV'DS DECL'D PER SH | .81 | .83 | .84 | .85 | .86 | .87 | .88 | .90 | .92 | |
| CAP'L SPENDING PER SH | 1.98 | 1.49 | 1.58 | 1.96 | 1.96 | 2.24 | 2.44 | 3.28 | 3.06 | |
| BOOK VALUE PER SH | 10.06 | 10.46 | 10.94 | 11.52 | 11.60 | 11.95 | 12.23 | 12.67 | 13.05 | |
| COMMON SHS OUTST'G (MILL) | 7.94 | 7.97 | 8.04 | 8.17 | 8.27 | 8.38 | 8.46 | 8.57 | 8.68 | |
| AVG ANN'L P/E RATIO | 24.3 | 23.5 | 22.9 | 28.6 | 29.0 | 23.0 | 22.2 | 18.4 | 20.7 | ***20.8/20.2*** |
| RELATIVE P/E RATIO | 1.33 | 1.34 | 1.21 | 1.51 | 1.57 | 1.22 | 1.34 | 1.22 | 1.33 | |
| AVG ANN'L DIV'D YIELD | 3.0% | 3.0% | 3.1% | 3.4% | 3.6% | 3.6% | 3.6% | 4.1% | 3.9% | |
| SALES ($MILL) | 45.8 | 47.1 | 48.5 | 47.5 | 46.9 | 59.0 | 61.3 | 59.4 | 66.4 | ***Bold figures are consensus earnings estimates and, using the recent prices, P/E ratios.*** |
| OPERATING MARGIN | 57.7% | 52.1% | 51.0% | 48.3% | 43.7% | 40.8% | 49.0% | 35.8% | 40.7% | |
| DEPRECIATION ($MILL) | 5.4 | 5.9 | 6.0 | 6.1 | 5.9 | 7.2 | 7.1 | 6.4 | 7.9 | |
| NET PROFIT ($MILL) | 8.8 | 9.2 | 9.4 | 7.2 | 6.7 | 8.8 | 9.4 | 10.2 | 9.8 | |
| INCOME TAX RATE | 33.8% | 17.9% | 22.9% | -- | 23.5% | 32.4% | 27.2% | 19.5% | 35.2% | |
| NET PROFIT MARGIN | 19.2% | 19.5% | 19.4% | 15.1% | 14.3% | 14.9% | 15.4% | 17.2% | 14.8% | |
| WORKING CAP'L ($MILL) | d5.1 | d3.9 | d.7 | 13.0 | 1.2 | 8.1 | d3.3 | d13.1 | d14.7 | |
| LONG-TERM DEBT ($MILL) | 64.8 | 64.8 | 66.4 | 77.4 | 77.3 | 92.3 | 92.2 | 112.0 | 111.7 | |
| SHR. EQUITY ($MILL) | 80.7 | 84.2 | 88.7 | 94.9 | 96.7 | 100.9 | 104.2 | 109.3 | 114.0 | |
| RETURN ON TOTAL CAP'L | 7.4% | 7.5% | 7.0% | 5.0% | 4.9% | 5.5% | 5.9% | 5.5% | 5.4% | |
| RETURN ON SHR. EQUITY | 10.9% | 10.9% | 10.6% | 7.5% | 6.9% | 8.7% | 9.0% | 9.3% | 8.6% | |
| RETAINED TO COM EQ | 3.1% | 3.2% | 3.1% | .3% | NMF | 1.6% | 1.9% | 2.3% | 1.6% | |
| ALL DIV'DS TO NET PROF | 72% | 71% | 71% | 95% | 105% | 82% | 79% | 76% | 81% | |

*[A]No. of analysts changing earn. est. in last 9 days: 0 up, 0 down, consensus 5-year earnings growth 4.0% per year. [B]Based upon 3 analysts' estimates. [C]Based upon 3 analysts' estimates.*

### ANNUAL RATES

| of change (per share) | 5 Yrs. | 1 Yr. |
|---|---|---|
| Sales | 4.0% | 10.5% |
| "Cash Flow" | 2.0% | 5.5% |
| Earnings | 1.5% | -5.0% |
| Dividends | 1.5% | 2.0% |
| Book Value | 3.0% | 3.0% |

| Fiscal Year | QUARTERLY SALES ($mill.) 1Q | 2Q | 3Q | 4Q | Full Year |
|---|---|---|---|---|---|
| 12/31/08 | 13.6 | 16.0 | 17.0 | 14.7 | 61.3 |
| 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 | | | | | |

| Fiscal Year | EARNINGS PER SHARE 1Q | 2Q | 3Q | 4Q | Full Year |
|---|---|---|---|---|---|
| 12/31/07 | .18 | .22 | .46 | .19 | 1.05 |
| 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 | ***.16*** | ***.31*** | ***.55*** | | |

| Cal-endar | QUARTERLY DIVIDENDS PAID 1Q | 2Q | 3Q | 4Q | Full Year |
|---|---|---|---|---|---|
| 2008 | .218 | .218 | .222 | .222 | .88 |
| 2009 | .222 | .222 | .228 | .228 | .90 |
| 2010 | .228 | .228 | .233 | .233 | .92 |
| 2011 | .233 | | | | |

### INSTITUTIONAL DECISIONS

| | 2Q'10 | 3Q'10 | 4Q'10 |
|---|---|---|---|
| to Buy | 30 | 21 | 27 |
| to Sell | 23 | 21 | 19 |
| Hld's(000) | 2790 | 2747 | 2764 |

| ASSETS ($mill.) | 2008 | 2009 | 12/31/10 |
|---|---|---|---|
| Cash Assets | .7 | 5.4 | 1.0 |
| Receivables | 12.0 | 6.5 | 10.1 |
| Inventory (Avg cost) | 1.1 | 1.1 | 1.7 |
| Other | 2.0 | 7.0 | 7.6 |
| Current Assets | 15.8 | 20.0 | 20.4 |
| Property, Plant & Equip, at cost | 418.1 | 448.2 | 471.6 |
| Accum Depreciation | 115.8 | 123.0 | 127.4 |
| Net Property | 302.3 | 325.2 | 344.2 |
| Other | 54.3 | 70.1 | 60.6 |
| Total Assets | 372.4 | 415.3 | 425.2 |
| **LIABILITIES ($mill.)** | | | |
| Accts Payable | 5.7 | 6.5 | 6.6 |
| Debt Due | 12.1 | 25.0 | 26.3 |
| Other | 1.3 | 1.6 | 2.2 |
| Current Liab | 19.1 | 33.1 | 35.1 |

**LONG-TERM DEBT AND EQUITY as of 12/31/10**

**Total Debt** $138.0 mill. **Due in 5 Yrs.** $26.3 mill.
**LT Debt** $111.7 mill.
**Including Cap. Leases** None
(49% of Cap'l)

**Leases, Uncapitalized** Annual rentals $.3 mill.

**Pension Liability** $16.7 mill. in '10 vs. $14.9 mill. in '09

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

**Common Stock** 8,676,849 shares
(51% of Cap'l)

## INDUSTRY: Water Utility

**BUSINESS:** Connecticut Water Service, 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 involves 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 December 31, 2010, Connecticut Water Service provided water to approximately 90,000 customers in 55 towns throughout Connecticut. Has 225 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. *W.T.*

*April 22, 2011*

### TOTAL SHAREHOLDER RETURN

*Dividends plus appreciation as of 3/31/2011*

| 3 Mos. | 6 Mos. | 1 Yr. | 3 Yrs. | 5 Yrs. |
|---|---|---|---|---|
| -4.61% | 12.06% | 17.78% | 25.16% | 21.46% |

# MIDDLESEX WATER NDQ--MSEX

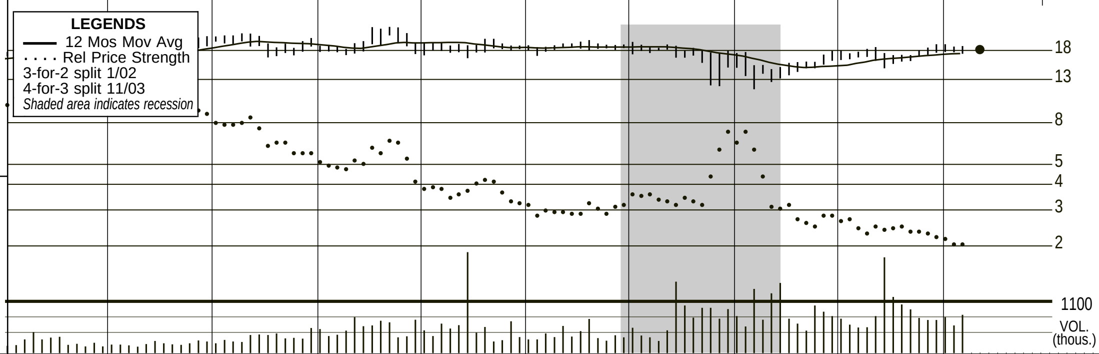
| RECENT PRICE | TRAILING P/E RATIO | RELATIVE P/E RATIO | DIV'D YLD | VALUE LINE |
|---|---|---|---|---|
| 18.14 | 18.9 | 1.04 | 4.0% | |

## 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 | 90 |

| | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 |
|---|---|---|---|---|---|---|---|---|---|---|
| High | 20.04 | 21.23 | 21.81 | 23.47 | 20.50 | 20.24 | 19.83 | 17.91 | 19.31 | 19.31 |
| Low | 13.73 | 15.77 | 16.65 | 17.07 | 16.50 | 16.93 | 12.05 | 11.64 | 14.74 | 17.35 |




| © VALUE LINE PUBLISHING LLC | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011/2012 |
|---|---|---|---|---|---|---|---|---|---|---|
| SALES PER SH | 5.98 | 6.12 | 6.25 | 6.44 | 6.16 | 6.50 | 6.79 | 6.75 | 6.60 | |
| "CASH FLOW" PER SH | 1.20 | 1.15 | 1.28 | 1.33 | 1.33 | 1.49 | 1.53 | 1.40 | 1.55 | |
| EARNINGS PER SH | .73 | .61 | .73 | .71 | .82 | .87 | .89 | .72 | .96 | ***.95*** [A,B]***/.99*** [C] |
| DIV'DS DECL'D PER SH | .63 | .65 | .66 | .67 | .68 | .69 | .70 | .71 | .72 | |
| CAP'L SPENDING PER SH | 1.59 | 1.87 | 2.54 | 2.18 | 2.31 | 1.66 | 2.12 | 1.49 | 1.90 | |
| BOOK VALUE PER SH | 7.39 | 7.60 | 8.02 | 8.26 | 9.52 | 10.05 | 10.03 | 10.33 | 11.13 | |
| COMMON SHS OUTST'G (MILL) | 10.36 | 10.48 | 11.36 | 11.58 | 13.17 | 13.25 | 13.40 | 13.52 | 15.57 | |
| AVG ANN'L P/E RATIO | 23.5 | 30.0 | 26.4 | 27.4 | 22.7 | 21.6 | 19.8 | 21.0 | 17.8 | ***19.1/18.3*** |
| RELATIVE P/E RATIO | 1.28 | 1.71 | 1.39 | 1.45 | 1.23 | 1.15 | 1.19 | 1.40 | 1.14 | |
| AVG ANN'L DIV'D YIELD | 3.7% | 3.5% | 3.4% | 3.5% | 3.7% | 3.7% | 4.0% | 4.7% | 4.2% | |
| SALES ($MILL) | 61.9 | 64.1 | 71.0 | 74.6 | 81.1 | 86.1 | 91.0 | 91.2 | 102.7 | ***Bold figures are consensus earnings estimates and, using the recent prices, P/E ratios.*** |
| OPERATING MARGIN | 47.1% | 44.0% | 44.4% | 44.4% | 47.4% | 47.0% | 46.9% | 42.6% | 46.7% | |
| DEPRECIATION ($MILL) | 5.0 | 5.6 | 6.4 | 7.2 | 7.8 | 8.2 | 8.5 | 9.2 | 10.0 | |
| NET PROFIT ($MILL) | 7.8 | 6.6 | 8.4 | 8.5 | 10.0 | 11.8 | 12.2 | 10.0 | 14.3 | |
| INCOME TAX RATE | 33.3% | 32.8% | 31.1% | 27.6% | 33.4% | 32.6% | 33.2% | 34.1% | 32.1% | |
| NET PROFIT MARGIN | 12.5% | 10.3% | 11.9% | 11.4% | 12.4% | 13.8% | 13.4% | 10.9% | 13.9% | |
| WORKING CAP'L ($MILL) | d9.3 | d13.3 | d11.8 | d4.5 | 2.8 | d9.6 | d40.9 | d38.6 | d17.9 | |
| LONG-TERM DEBT ($MILL) | 87.5 | 97.4 | 115.3 | 128.2 | 130.7 | 131.6 | 118.2 | 124.9 | 133.8 | |
| SHR. EQUITY ($MILL) | 80.6 | 83.7 | 99.2 | 103.6 | 133.3 | 137.1 | 141.2 | 143.0 | 176.6 | |
| RETURN ON TOTAL CAP'L | 6.0% | 5.0% | 5.1% | 5.0% | 5.1% | 5.6% | 5.8% | 5.0% | 5.7% | |
| RETURN ON SHR. EQUITY | 9.6% | 7.9% | 8.5% | 8.2% | 7.5% | 8.6% | 8.6% | 7.0% | 8.1% | |
| RETAINED TO COM EQ | 1.3% | NMF | .9% | .6% | 1.3% | 1.8% | 2.0% | .1% | 2.1% | |
| ALL DIV'DS TO NET PROF | 87% | 106% | 90% | 94% | 84% | 79% | 78% | 98% | 75% | |

*[A]No. of analysts changing earn. est. in last 9 days: 0 up, 0 down, consensus 5-year earnings growth 3.0% per year. [B]Based upon 2 analysts' estimates. [C]Based upon 2 analysts' estimates.*

### ANNUAL RATES

| of change (per share) | 5 Yrs. | 1 Yr. |
|---|---|---|
| Sales | 1.5% | -2.0% |
| "Cash Flow" | 3.5% | 10.0% |
| Earnings | 4.5% | 33.5% |
| Dividends | 1.5% | 1.5% |
| Book Value | 5.5% | 8.0% |

| Fiscal Year | QUARTERLY SALES ($mill.) 1Q | 2Q | 3Q | 4Q | Full Year |
|---|---|---|---|---|---|
| 12/31/08 | 20.8 | 23.0 | 25.7 | 21.5 | 91.0 |
| 12/31/09 | 20.6 | 23.1 | 25.5 | 22.0 | 91.2 |
| 12/31/10 | 21.6 | 26.5 | 29.6 | 25.0 | 102.7 |
| 12/31/11 | | | | | |

| Fiscal Year | EARNINGS PER SHARE 1Q | 2Q | 3Q | 4Q | Full Year |
|---|---|---|---|---|---|
| 12/31/07 | .13 | .24 | .31 | .19 | .87 |
| 12/31/08 | .15 | .26 | .35 | .13 | .89 |
| 12/31/09 | .10 | .21 | .29 | .12 | .72 |
| 12/31/10 | .11 | .31 | .37 | .17 | .96 |
| 12/31/11 | ***.11*** | ***.29*** | ***.34*** | | |

| Cal-endar | QUARTERLY DIVIDENDS PAID 1Q | 2Q | 3Q | 4Q | Full Year |
|---|---|---|---|---|---|
| 2008 | .175 | .175 | .175 | .178 | .70 |
| 2009 | .178 | .178 | .178 | .18 | .71 |
| 2010 | .18 | .18 | .18 | .183 | .72 |
| 2011 | .183 | | | | |

### INSTITUTIONAL DECISIONS

| | 2Q'10 | 3Q'10 | 4Q'10 |
|---|---|---|---|
| to Buy | 40 | 30 | 39 |
| to Sell | 21 | 24 | 21 |
| Hld's(000) | 5706 | 5930 | 6031 |

| ASSETS ($mill.) | 2008 | 2009 | 12/31/10 |
|---|---|---|---|
| Cash Assets | 3.3 | 4.3 | 2.5 |
| Receivables | 14.3 | 10.6 | 16.7 |
| Inventory (Avg cost) | 1.5 | 1.6 | 2.2 |
| Other | 1.5 | 5.5 | 1.4 |
| Current Assets | 20.6 | 22.0 | 22.8 |
| Property, Plant & Equip, at cost | 436.8 | 453.6 | 490.6 |
| Accum Depreciation | 70.5 | 77.1 | 84.7 |
| Net Property | 366.3 | 376.5 | 405.9 |
| Other | 53.1 | 59.6 | 60.5 |
| Total Assets | 440.0 | 458.1 | 489.2 |
| **LIABILITIES ($mill.)** | | | |
| Accts Payable | 5.7 | 4.3 | 6.4 |
| Debt Due | 43.9 | 46.6 | 21.4 |
| Other | 11.9 | 9.8 | 12.9 |
| Current Liab | 61.5 | 60.7 | 40.7 |

**LONG-TERM DEBT AND EQUITY as of 12/31/10**

**Total Debt** $155.3 mill. **Due in 5 Yrs.** $40.1 mill.
**LT Debt** $133.8 mill.
**Including Cap. Leases** None
(43% of Cap'l)
**Leases, Uncapitalized** Annual rentals None

**Pension Liability** $28.6 mill. in '10 vs. $25.7 mill. in '09

**Pfd Stock** $3.4 mill. **Pfd Div'd Paid** $.2 mill.
(1% of Cap'l)

**Common Stock** 15,566,000 shares
(56% of Cap'l)

## INDUSTRY: Water Utility

**BUSINESS:** Middlesex Water Company engages in the ownership and operation of regulated water utility systems in New Jersey and Delaware, and a regulated wastewater utility in NJ. The company offers contract operations services and a service line maintenance program through its nonregulated subsidiary, Utility Service Affiliates, Inc. Its water utility system treats, stores, and distributes water for residential, commercial, industrial, and fire prevention purposes. It also provides water treatment and pumping services to the Township of East Brunswick, as well as water and wastewater services to residents in Southampton Township. Middlesex Water's Delaware subsidiaries provide water services to retail customers in New Castle, Kent, and Sussex counties. In February, Middlesex Water announced the retirement of J. Richard Tompkins, who will not seek re-election when his term expires in May 2011. Has 285 employees. Chairman: Dennis W. Doll. Address: 1500 Ronson Rd, P.O. BOX 1500, Iselin, NJ 08830. Tel.: 732-634-1500. Internet: http://www.middlesexwater.com.

*W.T.*

*April 22, 2011*

### TOTAL SHAREHOLDER RETURN

*Dividends plus appreciation as of 3/31/2011*

| 3 Mos. | 6 Mos. | 1 Yr. | 3 Yrs. | 5 Yrs. |
|---|---|---|---|---|
| 0.10% | 10.18% | 11.08% | 13.92% | 16.41% |

# SJW CORP. NYSE-SJW

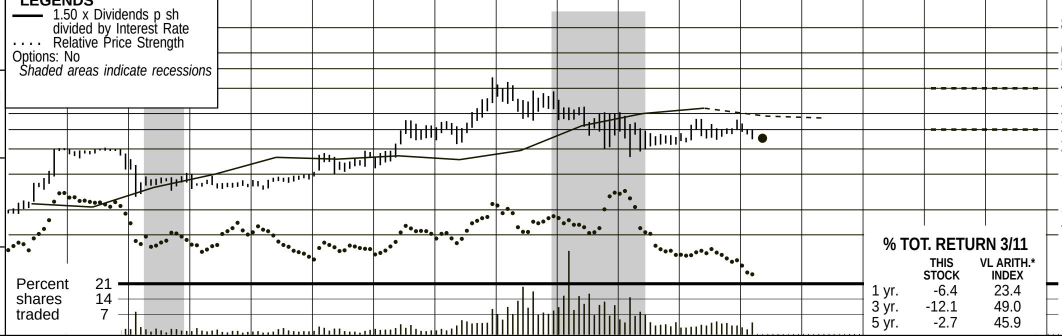
| RECENT PRICE | 22.65 | P/E RATIO | NMF (Trailing: 27.0 / Median: 22.0) | RELATIVE P/E RATIO | NMF | DIV'D YLD | 3.0% | VALUE LINE |
|---|---|---|---|---|---|---|---|---|

TIMELINESS 4 New 4/22/11
SAFETY 3 New 4/22/11
TECHNICAL 3 New 4/22/11
BETA .90 (1.00 = Market)

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| High: | 20.3 | 17.8 | 15.1 | 15.0 | 19.6 | 27.8 | 45.3 | 43.0 | 35.1 | 30.4 | 28.2 | 26.8 |
| Low: | 15.8 | 11.6 | 12.7 | 12.6 | 14.6 | 16.1 | 21.2 | 27.7 | 20.0 | 18.2 | 21.6 | 22.3 |

Target Price Range
2014 | 2015 | 2016

LEGENDS
—— 1.50 x Dividends p sh divided by Interest Rate
.... Relative Price Strength
Options: No
Shaded areas indicate recessions




**2014-16 PROJECTIONS**

| | Price | Gain | Ann'l Total Return |
|---|---|---|---|
| High | 40 | (+75%) | 17% |
| Low | 25 | (+10%) | 6% |

**Insider Decisions**

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

**Institutional Decisions**

| | 2Q2010 | 3Q2010 | 4Q2010 |
|---|---|---|---|
| to Buy | 31 | 26 | 34 |
| to Sell | 32 | 28 | 26 |
| Hld's(000) | 8930 | 8969 | 8640 |

**% TOT. RETURN 3/11**

| | THIS STOCK | VL ARITH.* INDEX |
|---|---|---|
| 1 yr. | -6.4 | 23.4 |
| 3 yr. | -12.1 | 49.0 |
| 5 yr. | -2.7 | 45.9 |

| 1995 | 1996 | 1997 | 1998 | 1999 | 2000 | 2001 | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | © VALUE LINE PUB. LLC | 14-16 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 4.99 | 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 | *11.20* | *11.35* | Revenues per sh | *12.00* |
| .98 | 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 | 2.37 | *2.40* | *2.40* | "Cash Flow" per sh | *2.60* |
| .59 | .96 | .80 | .76 | .87 | .58 | .77 | .78 | .91 | .87 | 1.12 | 1.19 | 1.04 | 1.08 | .81 | .84 | *.90* | *1.00* | Earnings per sh A | *1.30* |
| .35 | .37 | .38 | .39 | .40 | .41 | .43 | .46 | .49 | .51 | .53 | .57 | .61 | .65 | .66 | .68 | *.69* | *.74* | Div'd Decl'd per sh B■ | *.82* |
| .96 | 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 | *5.15* | *5.00* | Cap'l Spending per sh | *4.80* |
| 5.58 | 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 | *14.90* | *15.70* | Book Value per sh | *17.00* |
| 19.50 | 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 | *20.50* | *22.00* | Common Shs Outst'g C | *25.00* |
| 9.9 | 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 | 29.5 | *Bold figures are* | | Avg Ann'l P/E Ratio | *25.0* |
| .66 | .43 | .65 | .68 | .88 | 2.15 | .95 | .94 | .88 | 1.04 | 1.05 | 1.27 | 1.77 | 1.58 | 1.91 | 1.89 | *Value Line* | | Relative P/E Ratio | *1.65* |
| 6.0% | 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% | *estimates* | | Avg Ann'l Div'd Yield | *2.5%* |

**CAPITAL STRUCTURE as of 12/31/10**
**Total Debt** $300.8 mill. **Due in 5 Yrs** $12.4 mill.
**LT Debt** $295.7 mill. **LT Interest** $15.9 mill.
(LT interest earned: 2.7x: total interest coverage: 2.6x) (54% of Cap'l)

**Leases, Uncapitalized:** Annual rentals $4.2 mill.

**Pension Assets-12/10** $10.8 mill. **Oblig.** $58.8 mill.

**Pfd Stock** None.

**Common Stock** 18,577,012 shs. as of 2/8/11
**MARKET CAP: $425 million (Small Cap)**

| 2001 | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | | 14-16 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 136.1 | 145.7 | 149.7 | 166.9 | 180.1 | 189.2 | 206.6 | 220.3 | 216.1 | 215.6 | *230* | *250* | Revenues ($mill) | *300* |
| 14.0 | 14.2 | 16.7 | 16.0 | 20.7 | 22.2 | 19.3 | 20.2 | 15.2 | 15.6 | *18.0* | *22.0* | Net Profit ($mill) | *32.0* |
| 34.5% | 40.4% | 36.2% | 42.1% | 41.6% | 40.8% | 39.4% | 39.5% | 40.4% | 39.7% | *40.0%* | *40.0%* | Income Tax Rate | *39.0%* |
| 4.4% | 4.2% | 1.6% | 2.1% | 1.6% | 2.1% | 2.7% | 2.3% | 2.0% | 3.6% | *5.0%* | *5.0%* | AFUDC % to Net Profit | *5.0%* |
| 42.4% | 41.7% | 45.6% | 43.7% | 42.6% | 41.8% | 47.7% | 46.0% | 49.4% | 53.7% | *51.0%* | *50.0%* | Long-Term Debt Ratio | *47.0%* |
| 57.6% | 58.3% | 54.4% | 56.3% | 57.4% | 58.2% | 52.3% | 54.0% | 50.6% | 46.3% | *49.0%* | *50.0%* | Common Equity Ratio | *53.0%* |
| 259.4 | 263.5 | 306.0 | 328.3 | 341.2 | 391.8 | 453.2 | 470.9 | 499.6 | 550.7 | *625* | *700* | Total Capital ($mill) | *900* |
| 367.8 | 390.8 | 428.5 | 456.8 | 484.8 | 541.7 | 645.5 | 684.2 | 718.5 | 785.5 | *850* | *930* | Net Plant ($mill) | *1175* |
| 6.7% | 6.9% | 6.9% | 6.5% | 7.6% | 7.0% | 5.7% | 5.8% | 4.4% | 4.2% | *4.5%* | *4.5%* | Return on Total Cap'l | *6.0%* |
| 9.4% | 9.3% | 10.0% | 8.7% | 10.6% | 9.7% | 8.2% | 8.0% | 6.0% | 6.1% | *6.0%* | *6.5%* | Return on Shr. Equity | *7.5%* |
| 9.4% | 9.3% | 10.0% | 8.7% | 10.6% | 9.7% | 8.2% | 8.0% | 6.0% | 6.1% | *6.0%* | *6.5%* | Return on Com Equity | *7.5%* |
| 4.1% | 3.8% | 4.7% | 3.6% | 5.6% | 5.2% | 3.5% | 3.3% | 1.2% | 1.2% | *1.5%* | *2.0%* | Retained to Com Eq | *2.5%* |
| 56% | 59% | 53% | 58% | 47% | 46% | 57% | 59% | 80% | 81% | *74%* | *74%* | All Div'ds to Net Prof | *67%* |

| CURRENT POSITION ($MILL.) | 2008 | 2009 | 12/31/10 |
|---|---|---|---|
| Cash Assets | 3.4 | 1.4 | 1.7 |
| Other | 28.6 | 26.6 | 36.3 |
| Current Assets | 32.0 | 28.0 | 38.0 |
| Accts Payable | 5.8 | 6.6 | 5.5 |
| Debt Due | 19.1 | 6.9 | 5.1 |
| Other | 18.4 | 18.5 | 18.6 |
| Current Liab. | 43.3 | 32.0 | 29.2 |
| Fix. Chg. Cov. | 293% | 352% | *400%* |

| ANNUAL RATES of change (per sh) | Past 10 Yrs. | Past 5 Yrs. | Est'd '08-'10 to '14-'16 |
|---|---|---|---|
| Revenues | 6.5% | 5.5% | *5.0%* |
| "Cash Flow" | 6.0% | 3.5% | *6.5%* |
| Earnings | 2.0% | -1.5% | *9.0%* |
| Dividends | 5.0% | 5.5% | *4.0%* |
| Book Value | 6.0% | 6.5% | *3.5%* |

| Cal-endar | QUARTERLY REVENUES ($ mill.) Mar.31 | Jun. 30 | Sep. 30 | Dec. 31 | Full Year |
|---|---|---|---|---|---|
| 2008 | 41.3 | 60.0 | 69.5 | 49.5 | 220.3 |
| 2009 | 40.0 | 58.2 | 69.3 | 48.6 | 216.1 |
| 2010 | 40.4 | 54.1 | 70.3 | 50.8 | 215.6 |
| 2011 | *43.0* | *58.0* | *75.0* | *54.0* | *230* |
| 2012 | *47.0* | *63.0* | *81.0* | *59.0* | *250* |

| Cal-endar | EARNINGS PER SHARE A Mar.31 | Jun. 30 | Sep. 30 | Dec. 31 | Full Year |
|---|---|---|---|---|---|
| 2008 | .15 | .34 | .44 | .15 | 1.08 |
| 2009 | .01 | .23 | .43 | .14 | .81 |
| 2010 | .05 | .24 | .44 | .11 | .84 |
| 2011 | *.05* | *.25* | *.47* | *.13* | *.90* |
| 2012 | *.07* | *.28* | *.50* | *.15* | *1.00* |

| Cal-endar | QUARTERLY DIVIDENDS PAID B■ Mar.31 | Jun.30 | Sep.30 | Dec.31 | Full Year |
|---|---|---|---|---|---|
| 2007 | .15 | .15 | .15 | .15 | .60 |
| 2008 | .16 | .16 | .16 | .16 | .64 |
| 2009 | .165 | .165 | .165 | .165 | .66 |
| 2010 | .17 | .17 | .17 | .17 | .68 |
| 2011 | .173 | | | | |

**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.

**We welcome newcomer SJW Corp to *The Value Line Investment Survey* in this issue.** Although it dabbles in commercial property, the company, for all intents and purposes, is a water utility, engaging in the production, purchase, storage, purification, distribution, and sale of water. It offers nonregulated services via agreements with municipalities and other utilities, but the bulk of its business is regulated. Operations are centered around San Jose, California, where it provides more than 225,000 connections that serve population of roughly one million people. Services are not exclusive to the Golden State, however, with another 8,700 connections serving 36,000 residents in the state of Texas.

**The company's inaugural appearance is forgettable.** It posted earnings of $0.11 in the fourth quarter of 2010 (March-period results are due out next week), a few pennies below the prior year's tally, after stripping out gains we deem as nonrecurring in nature. Sales inched up modestly in the quarter, but the costs of doing business in this capital-intensive industry continued to take a toll.

**We are a little wary of the company's near-term prospects.** Operating costs are likely to remain on the rise, given the shape that many water systems appear to be in across the United States. That said, SJW, like many of its bedfellows, is not exactly flush with cash and will probably have to turn to outside financing to make the improvements. The costs associated with additional debt or share offerings, however, will be dilutive, likely keeping growth under wraps going forward. Note, however, that growth may look decent against depressed 2010 comparisons.

**We advise investors to take a pass on this issue.** SJW is ranked 4 (Below Average) for Timeliness and lacks 3- to 5-year appreciation potential, as well. Meanwhile, the balance sheet is highly leveraged, adding some skepticism about the sustainability of the stock's only saving grace at this time, its dividend. Although the steady stream of income is not likely to dry up completely, the financial constraints alluded to above could prompt the company to use the funds to make capital improvements instead.

*Andre J. Costanza* *April 22, 2011*

(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 due April 28th. 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 | 70 |
| Price Growth Persistence | 80 |
| Earnings Predictability | 85 |

# YORK WATER CO NDQ--YORW

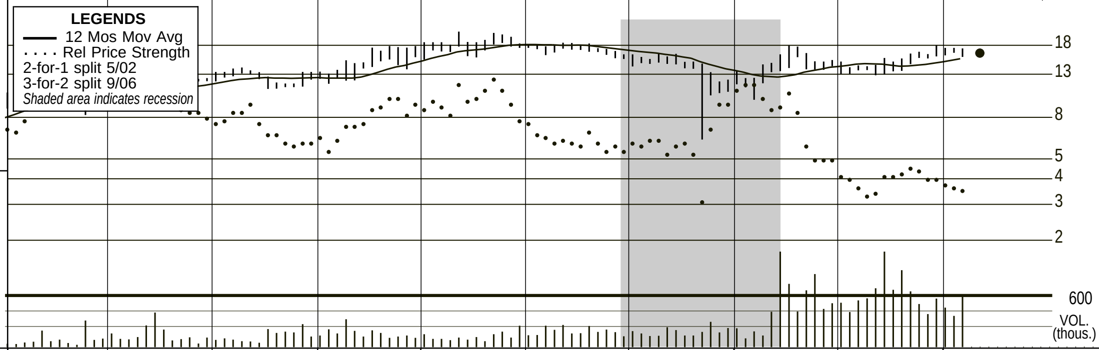
| RECENT PRICE | TRAILING P/E RATIO | RELATIVE P/E RATIO | DIV'D YLD | |
|---|---|---|---|---|
| 16.52 | 23.3 | 1.27 | 3.2% | VALUE LINE |

| | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 |
|---|---|---|---|---|---|---|---|---|---|---|
| High | 13.45 | 13.49 | 14.03 | 17.87 | 20.99 | 18.55 | 16.50 | 17.95 | 18.00 | 17.60 |
| Low | 8.20 | 9.33 | 11.00 | 11.67 | 15.33 | 15.45 | 6.23 | 9.74 | 12.83 | 15.81 |

## RANKS

| | | |
|---|---|---|
| PERFORMANCE | 4 | Below Average |
| Technical | 4 | Below Average |
| SAFETY | 2 | Above Average |
| BETA .70 | | (1.00 = Market) |

| | |
|---|---|
| Financial Strength | B++ |
| Price Stability | 90 |
| Price Growth Persistence | 60 |
| Earnings Predictability | 100 |




| © VALUE LINE PUBLISHING LLC | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011/2012 |
|---|---|---|---|---|---|---|---|---|---|---|
| REVENUES PER SH | 2.05 | 2.17 | 2.18 | 2.58 | 2.56 | 2.79 | 2.89 | 2.95 | 3.07 | |
| "CASH FLOW" PER SH | .57 | .65 | .65 | .79 | .77 | .86 | .88 | .95 | 1.07 | |
| EARNINGS PER SH | .40 | .47 | .49 | .56 | .58 | .57 | .57 | .64 | .71 | ***.77*** [A,B]***/.80*** [C] |
| DIV'D DECL'D PER SH | .35 | .37 | .39 | .42 | .45 | .48 | .49 | .51 | .52 | |
| CAP'L SPENDING PER SH | .66 | 1.07 | 2.50 | 1.69 | 1.85 | 1.69 | 2.17 | 1.18 | .83 | |
| BOOK VALUE PER SH | 3.90 | 4.06 | 4.65 | 4.85 | 5.84 | 5.97 | 6.14 | 6.92 | 7.19 | |
| COMMON SHS OUTST'G (MILL) | 9.55 | 9.63 | 10.33 | 10.40 | 11.20 | 11.27 | 11.37 | 12.56 | 12.69 | |
| AVG ANN'L P/E RATIO | 26.9 | 24.5 | 25.7 | 26.3 | 31.2 | 30.3 | 24.6 | 21.9 | 20.7 | ***21.5/20.7*** |
| RELATIVE P/E RATIO | 1.47 | 1.40 | 1.36 | 1.39 | 1.68 | 1.61 | 1.48 | 1.46 | 1.33 | |
| AVG ANN'L DIV'D YIELD | 3.3% | 3.2% | 3.1% | 2.9% | 2.5% | 2.8% | 3.5% | 3.6% | 3.5% | |
| REVENUES ($MILL) | 19.6 | 20.9 | 22.5 | 26.8 | 28.7 | 31.4 | 32.8 | 37.0 | 39.0 | ***Bold figures*** |
| NET PROFIT ($MILL) | 3.8 | 4.4 | 4.8 | 5.8 | 6.1 | 6.4 | 6.4 | 7.5 | 8.9 | ***are consensus*** |
| INCOME TAX RATE | 34.9% | 34.8% | 36.7% | 36.7% | 34.4% | 36.5% | 36.1% | 37.9% | 38.5% | ***earnings*** |
| AFUDC % TO NET PROFIT | 3.7% | -- | -- | -- | 7.2% | 3.6% | 10.1% | -- | 1.2% | ***estimates*** |
| LONG-TERM DEBT RATIO | 46.7% | 43.4% | 42.5% | 44.1% | 48.3% | 46.5% | 54.5% | 45.7% | 48.3% | ***and, using the*** |
| COMMON EQUITY RATIO | 53.3% | 56.6% | 57.5% | 55.9% | 51.7% | 53.5% | 45.5% | 54.3% | 51.7% | ***recent prices,*** |
| TOTAL CAPITAL ($MILL) | 69.9 | 69.0 | 83.6 | 90.3 | 126.5 | 125.7 | 153.4 | 160.1 | 176.4 | ***P/E ratios.*** |
| NET PLANT ($MILL) | 106.7 | 116.5 | 140.0 | 155.3 | 174.4 | 191.6 | 211.4 | 222.0 | 228.4 | |
| RETURN ON TOTAL CAP'L | 7.4% | 8.5% | 7.6% | 8.4% | 6.2% | 6.7% | 5.7% | 6.2% | 6.5% | |
| RETURN ON SHR. EQUITY | 10.2% | 11.4% | 10.0% | 11.6% | 9.3% | 9.5% | 9.2% | 8.6% | 9.8% | |
| RETURN ON COM EQUITY | 10.2% | 11.4% | 10.0% | 11.6% | 9.3% | 9.5% | 9.2% | 8.6% | 9.8% | |
| RETAINED TO COM EQ | 1.3% | 2.6% | 2.1% | 3.0% | 2.2% | 1.7% | 1.4% | 1.9% | 2.7% | |
| ALL DIV'DS TO NET PROF | 88% | 77% | 79% | 74% | 77% | 82% | 85% | 78% | 72% | |

[A]*No. of analysts changing earn. est. in last 9 days: 0 up, 0 down, consensus 5-year earnings growth 6.0% per year.* [B]*Based upon 4 analysts' estimates.* [C]*Based upon 4 analysts' estimates.*

### ANNUAL RATES

| *of change (per share)* | 5 Yrs. | 1 Yr. |
|---|---|---|
| Revenues | 5.0% | 4.0% |
| "Cash Flow" | 7.0% | 12.0% |
| Earnings | 5.0% | 11.0% |
| Dividends | 5.0% | 2.0% |
| Book Value | 8.5% | 4.0% |

| Fiscal Year | QUARTERLY SALES ($mill.) 1Q | 2Q | 3Q | 4Q | Full Year |
|---|---|---|---|---|---|
| 12/31/08 | 7.5 | 7.8 | 8.6 | 8.9 | 32.8 |
| 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 | | | | | |

| Fiscal Year | EARNINGS PER SHARE 1Q | 2Q | 3Q | 4Q | Full Year |
|---|---|---|---|---|---|
| 12/31/07 | .12 | .15 | .15 | .15 | .57 |
| 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*** | ***.20*** | ***.22*** | | |

| Cal-endar | QUARTERLY DIVIDENDS PAID 1Q | 2Q | 3Q | 4Q | Full Year |
|---|---|---|---|---|---|
| 2008 | .121 | .121 | .121 | .121 | .48 |
| 2009 | .126 | .126 | .126 | .126 | .50 |
| 2010 | .128 | .128 | .128 | .128 | .51 |
| 2011 | .131 | .13 | | | |

### INSTITUTIONAL DECISIONS

| | 2Q'10 | 3Q'10 | 4Q'10 |
|---|---|---|---|
| to Buy | 29 | 21 | 25 |
| to Sell | 19 | 18 | 16 |
| Hld's(000) | 2811 | 3078 | 3107 |

| ASSETS ($mill.) | 2008 | 2009 | 12/31/10 |
|---|---|---|---|
| Cash Assets | .0 | .0 | 1.3 |
| Receivables | 5.9 | 5.4 | 6.3 |
| Inventory (Avg cost) | .7 | .7 | .6 |
| Other | .7 | 1.0 | .6 |
| Current Assets | 7.3 | 7.1 | 8.8 |
| Property, Plant & Equip, at cost | 246.0 | 260.4 | 270.8 |
| Accum Depreciation | 34.6 | 38.4 | 42.4 |
| Net Property | 211.4 | 222.0 | 228.4 |
| Other | 21.7 | 19.7 | 22.7 |
| Total Assets | 240.4 | 248.8 | 259.9 |
| **LIABILITIES ($mill.)** | | | |
| Accts Payable | 1.6 | 1.4 | 1.2 |
| Debt Due | 9.1 | 9.3 | .0 |
| Other | 3.5 | 3.9 | 4.1 |
| Current Liab | 14.2 | 14.6 | 5.3 |

**LONG-TERM DEBT AND EQUITY as of 12/31/10**

**Total Debt** $85.2 mill. **Due in 5 Yrs.** $12.2 mill.
**LT Debt** $85.1 mill.
**Including Cap. Leases** None
(48% of Cap'l)
**Leases, Uncapitalized** Annual rentals None

**Pension Liability** $9.8 mill. in '10 vs. $8.8 mill. in '09

**Pfd Stock** None **Pfd Div'd Paid** None

**Common Stock** 12,692,000 shares
(52% 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 and creates a reservoir covering approximately 290 acres containing 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, 2010, York Water served approximately 182,000 residential, commercial, industrial, and other customers in 39 municipalities in York County and seven municipalities in Adams County. Has 111 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.

*W.T.*

*April 22, 2011*

### TOTAL SHAREHOLDER RETURN

*Dividends plus appreciation as of 3/31/2011*

| 3 Mos. | 6 Mos. | 1 Yr. | 3 Yrs. | 5 Yrs. |
|---|---|---|---|---|
| 1.47% | 10.26% | 30.68% | 28.75% | 16.25% |

Missouri-American Water Company
Current Institutional Holdings and Individual Holdings
the Proxy Group of Nine Water Companies

| Proxy Group of Nine Water Companies | 1<br>June 13, 2011<br>Percentage of<br>Institutional<br>Holdings | 2<br>June 13, 2011<br>Percentage of<br>Individual<br>Holdings (1) |
|---|---|---|
| American States Water Co. | 62.43 % | 37.57 % |
| American Water Works Co., Inc. | 84.22 | 15.78 |
| Aqua America, Inc. | 41.63 | 58.37 |
| Artesian Resources Corp. | 34.02 | 65.98 |
| California Water Service Group | 52.87 | 47.13 |
| Connecticut Water Service, Inc. | 32.93 | 67.07 |
| Middlesex Water Company | 39.97 | 60.03 |
| SJW Corporation | 47.11 | 52.89 |
| York Water Company | 24.26 | 75.74 |
| Average | 46.60 % | 53.40 % |

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

Source of Information: pro.edgar-online.com, June 13, 2011

Missouri-American Water Company
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) | 5.43 | % |
| 2. | Adjustment to Reflect Yield Spread Between Aaa Rated Corporate Bonds and A Rated Public Utility Bonds | 0.40 | (2) |
| 3. | Adjusted Prospective Yield on A Rated Public Utility Bonds | 5.83 | % |
| 4. | Adjustment to Reflect Bond Rating Difference of Proxy Group | 0.14 | (3) |
| 5. | Adjusted Prospective Bond Yield | 5.97 | |
| 6. | Equity Risk Premium (5) | 4.43 | |
| 7. | Risk Premium Derived Common Equity Cost Rate | 10.40 | % |

Notes:
(1) Derived in Note (4) on page 6 of this Schedule.
(2) The average yield spread of A rated public utility bonds over Aaa rated corporate bonds of 0.40% from page 4 of this Schedule.
(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 Schedule. The 14 basis point adjustment is derived by taking 1/3 of the spread between Baa2 and A2 Public Utility Bonds (1/3 * 0.42% = 0.14%).
(4) From page 5 of this Schedule.

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

| | Moody's | | Standard & Poor's | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Bond Rating May 2011 | | Bond Rating May 2011 | | | | | | | |
| 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 | A+ | 5.0 | Excellent | 1.0 | Intermediate | 3.0 |
| American Water Works Co., Inc. (4) | Baa1 | 8.0 | A+ | 5.0 | BBB+ | 8.0 | Excellent | 1.0 | Aggressive | 5.0 |
| 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 | Intermediate | 3.0 |
| Middlesex Water Company | NR | - - | A | 6.0 | A- | 7.0 | Excellent | 1.0 | Intermediate | 3.0 |
| 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 | Intermediate | 3.0 |
| Average | A3 | 7.0 | A+ | 5.4 | A | 6.1 | Excellent | 1.0 | Intermediate | 3.3 |

Notes: (1) From page 3 of this Schedule.
(2) From Standard & Poor's Issuer Ranking: U.S. Investor-Owned Water Utilities, Strongest to Weakest, April 21, 2011.
(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.

Source Information: Moody's Investors Service
Standard & Poor's Global Utilities Rating Service

Missouri-American Water Company
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 May 2011 (1)

| | Corporate Bonds | Public Utility Bonds | | | Spread - Corporate v. Public Utility Bonds | | | Spread - Public Utility Bonds | |
|---|---|---|---|---|---|---|---|---|---|
| Months | Aaa Rated | Aa Rated | A Rated | Baa Rated | Aa (Pub. Util.) over Aaa (Corp.) | A (Pub. Util.) over Aaa (Corp.) | Baa (Pub. Util.) over Aaa (Corp.) | A over Aa | Baa over A |
| May-11 | 4.96 % | 5.08 % | 5.32 % | 5.74 % | | | | | |
| Apr-11 | 5.16 | 5.32 | 5.55 | 5.98 | | | | | |
| Mar-11 | 5.13 | 5.33 | 5.56 | 5.97 | | | | | |
| Average of Last 3 Months | 5.08 % | 5.24 % | 5.48 % | 5.90 % | 0.16 % | 0.40 % | 0.82 % | 0.24 % | 0.42 % |

Notes: (1) All yields are distributed yields.

Source of Information: Mergent Bond Record, June 2011, Vol. 78, No. 6.

Missouri-American Water Company
Judgment of Equity Risk Premium 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) | 4.73 |
| 2. | Mean equity risk premium based on a study using the holding period returns of public utilities with A rated bonds (2) | 4.12 |
| 3. | Average equity risk premium | 4.43 % |

Notes: (1) From page 6 of this Schedule.
(2) From page 8 of this Schedule.

Missouri-American Water Company
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 |
|---|---|---|
| 1. | Arithmetic mean total return rate on the Standard & Poor's 500 Composite Index - 1926-2010 (1) | 11.90 % |
| 2. | Arithmetic mean yield on Aaa and Aa Corporate Bonds 1926-2010 (2) | (6.10) |
| 3. | Historical Equity Risk Premium | 5.80 % |
| 4. | Forecasted 3-5 year Total Annual Market Return (3) | 13.12 % |
| 5. | Prospective Yield an Aaa Rated Corporate Bonds (4) | (5.43) |
| 6. | Forecasted Equity Risk Premium | 7.69 % |
| 7. | Conclusion of Equity Risk Premium (5) | 6.75 % |
| 8. | Adjusted Value Line Beta (6) | 0.70 |
| 9. | Beta Adjusted Equity Risk Premium | 4.73 % |

Notes:
(1) Stocks, Bonds, Bills, and Inflation - Market Results for 1926-2010 Yearbook Valuation Edition, Morningstar, Inc., 2011 Chicago, IL.

(2) From Moody's Industrial Manual and Mergent Bond Record Monthly Update.

(3) From page 2 of Schedule PMA-12.

(4) Average forecast based upon six quarterly estimates of Aaa rated corporate bonds per the consensus of nearly 50 economists reported in Blue Chip Financial Forecasts dated June 1, 2010 (see page 7 of this Schedule). The estimates are detailed below.

| | |
|---|---|
| Second Quarter 2011 | 5.00 % |
| Third Quarter 2011 | 5.20 |
| Fourth Quarter 2011 | 5.40 |
| First Quarter 2012 | 5.50 |
| Second Quarter 2012 | 5.70 |
| Third Quarter 2012 | 5.80 |
| Average | 5.43 % |

(5) The average of the historical equity risk premium of 5.80% from Line No. 3 and the forecasted equity risk premium of 7.69% from Line No. 6 ((5.80% + 7.69%) / 2 = 6.75%.

(6) From page 1 of Schedule PMA-12.

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

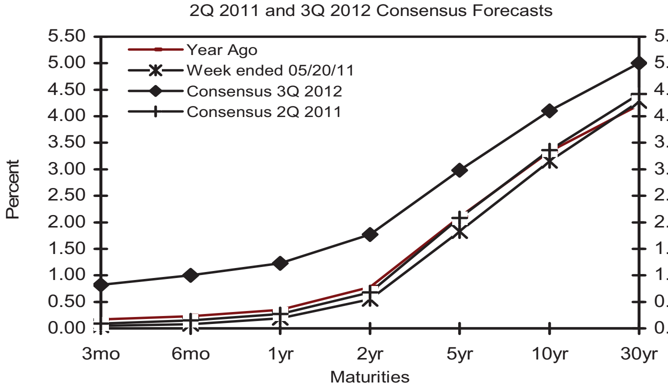
| | History | | | | | | | | Consensus Forecasts-Quarterly Avg. | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Average For Week End | | | | Average For Month | | | Latest Q | | | | | | |
| Interest Rates | May 20 | May 13 | May 6 | Apr. 29 | Apr. | Mar. | Feb. | 1Q 2011 | 2Q 2011 | 3Q 2011 | 4Q 2011 | 1Q 2012 | 2Q 2012 | 3Q 2012 |
| Federal Funds Rate | 0.09 | 0.09 | 0.09 | 0.10 | 0.10 | 0.14 | 0.16 | 0.16 | **0.1** | **0.2** | **0.2** | **0.4** | **0.8** | **1.2** |
| Prime Rate | 3.25 | 3.25 | 3.25 | 3.25 | 3.25 | 3.25 | 3.25 | 3.25 | **3.3** | **3.3** | **3.3** | **3.5** | **3.8** | **4.2** |
| LIBOR, 3-mo. | 0.26 | 0.27 | 0.27 | 0.27 | 0.28 | 0.31 | 0.31 | 0.31 | **0.3** | **0.4** | **0.4** | **0.7** | **1.0** | **1.4** |
| Commercial Paper, 1-mo. | 0.10 | 0.12 | 0.11 | 0.12 | 0.14 | 0.17 | 0.19 | 0.18 | **0.2** | **0.2** | **0.3** | **0.6** | **0.9** | **1.4** |
| Treasury bill, 3-mo. | 0.05 | 0.03 | 0.03 | 0.06 | 0.06 | 0.10 | 0.13 | 0.13 | **0.1** | **0.1** | **0.2** | **0.5** | **0.8** | **1.2** |
| Treasury bill, 6-mo. | 0.08 | 0.07 | 0.08 | 0.11 | 0.12 | 0.16 | 0.17 | 0.17 | **0.1** | **0.2** | **0.4** | **0.6** | **1.0** | **1.4** |
| Treasury bill, 1 yr. | 0.19 | 0.18 | 0.20 | 0.22 | 0.25 | 0.26 | 0.29 | 0.27 | **0.3** | **0.4** | **0.6** | **0.9** | **1.2** | **1.6** |
| Treasury note, 2 yr. | 0.55 | 0.57 | 0.59 | 0.64 | 0.73 | 0.70 | 0.77 | 0.69 | **0.7** | **0.9** | **1.1** | **1.4** | **1.8** | **2.1** |
| Treasury note, 5 yr. | 1.83 | 1.87 | 1.92 | 2.04 | 2.17 | 2.11 | 2.26 | 2.12 | **2.1** | **2.3** | **2.5** | **2.8** | **3.0** | **3.3** |
| Treasury note, 10 yr. | 3.15 | 3.20 | 3.24 | 3.36 | 3.46 | 3.41 | 3.58 | 3.46 | **3.4** | **3.5** | **3.7** | **3.9** | **4.1** | **4.3** |
| Treasury note, 30 yr. | 4.28 | 4.33 | 4.32 | 4.42 | 4.50 | 4.51 | 4.65 | 4.56 | **4.4** | **4.6** | **4.7** | **4.8** | **5.0** | **5.2** |
| Corporate Aaa bond | 4.93 | 4.98 | 5.00 | 5.13 | 5.16 | 5.13 | 5.22 | 5.13 | **5.0** | **5.2** | **5.4** | **5.5** | **5.7** | **5.8** |
| Corporate Baa bond | 5.76 | 5.83 | 5.82 | 5.93 | 6.02 | 6.03 | 6.15 | 6.09 | **5.9** | **6.1** | **6.2** | **6.4** | **6.6** | **6.8** |
| State & Local bonds | 4.55 | 4.61 | 4.69 | 4.86 | 4.99 | 4.92 | 5.15 | 5.12 | **4.8** | **4.9** | **5.1** | **5.2** | **5.3** | **5.4** |
| Home mortgage rate | 4.61 | 4.63 | 4.71 | 4.78 | 4.84 | 4.84 | 4.95 | 4.85 | **4.8** | **4.9** | **5.1** | **5.3** | **5.5** | **5.7** |

| | History | | | | | | | | Consensus Forecasts-Quarterly | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Key Assumptions | 2Q 2009 | 3Q 2009 | 4Q 2009 | 1Q 2010 | 2Q 2010 | 3Q 2010 | 4Q 2010 | 1Q 2011 | 2Q 2011 | 3Q 2011 | 4Q 2011 | 1Q 2012 | 2Q 2012 | 3Q 2012 |
| Major Currency Index | 79.6 | 76.4 | 72.8 | 74.8 | 77.6 | 75.9 | 73.0 | 71.9 | **70.4** | **70.3** | **70.5** | **70.8** | **71.1** | **71.4** |
| Real GDP | -0.7 | 1.6 | 5.0 | 3.7 | 1.7 | 2.6 | 3.1 | 1.8 | **3.0** | **3.3** | **3.3** | **3.0** | **3.2** | **3.2** |
| GDP Price Index | 0.3 | 0.7 | -0.2 | 1.0 | 1.9 | 2.1 | 0.4 | 1.9 | **2.2** | **1.8** | **1.7** | **2.0** | **2.0** | **2.0** |
| Consumer Price Index | 1.9 | 3.7 | 2.7 | 1.3 | -0.5 | 1.4 | 2.6 | 5.2 | **3.6** | **2.1** | **2.0** | **2.2** | **2.3** | **2.3** |

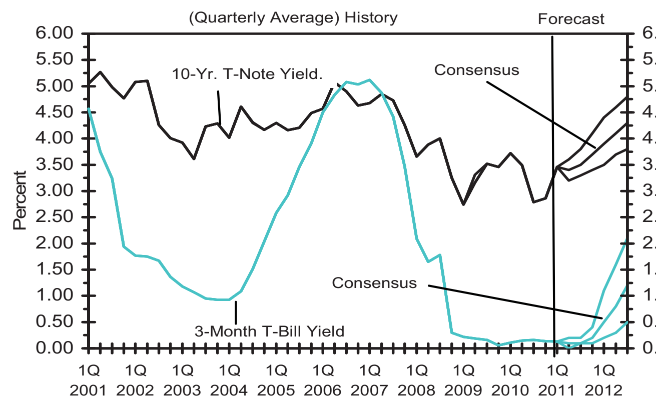
Forecasts for interest rates and the Federal Reserve's Major Currency Index represent averages for the quarter. Forecasts for Real GDP, GDP Price Index and Consumer Price Index are seasonally-adjusted annual rates of change (saar). Individual panel members' forecasts are on pages 4 through 9. Historical 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).

### U.S. Treasury Yield Curve

Week ended May 20, 2011 and Year Ago vs.
2Q 2011 and 3Q 2012 Consensus Forecasts

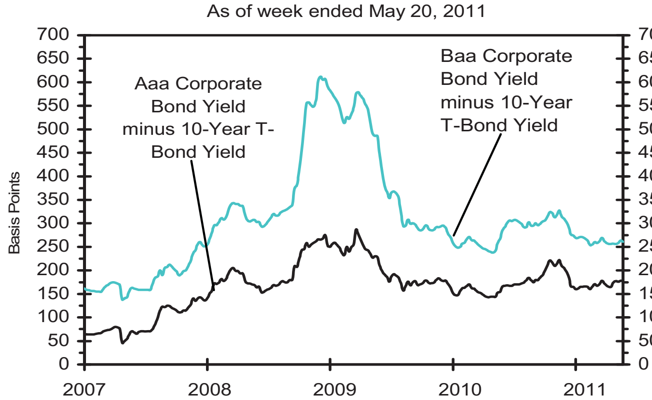



### U.S. 3-Mo. T-Bills & 10-Yr. T-Note Yield



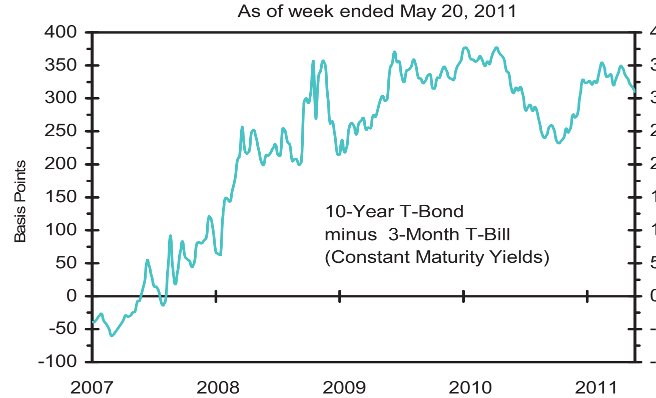

### Corporate Bond Spreads

As of week ended May 20, 2011




### U.S. Treasury Yield Curve

As of week ended May 20, 2011



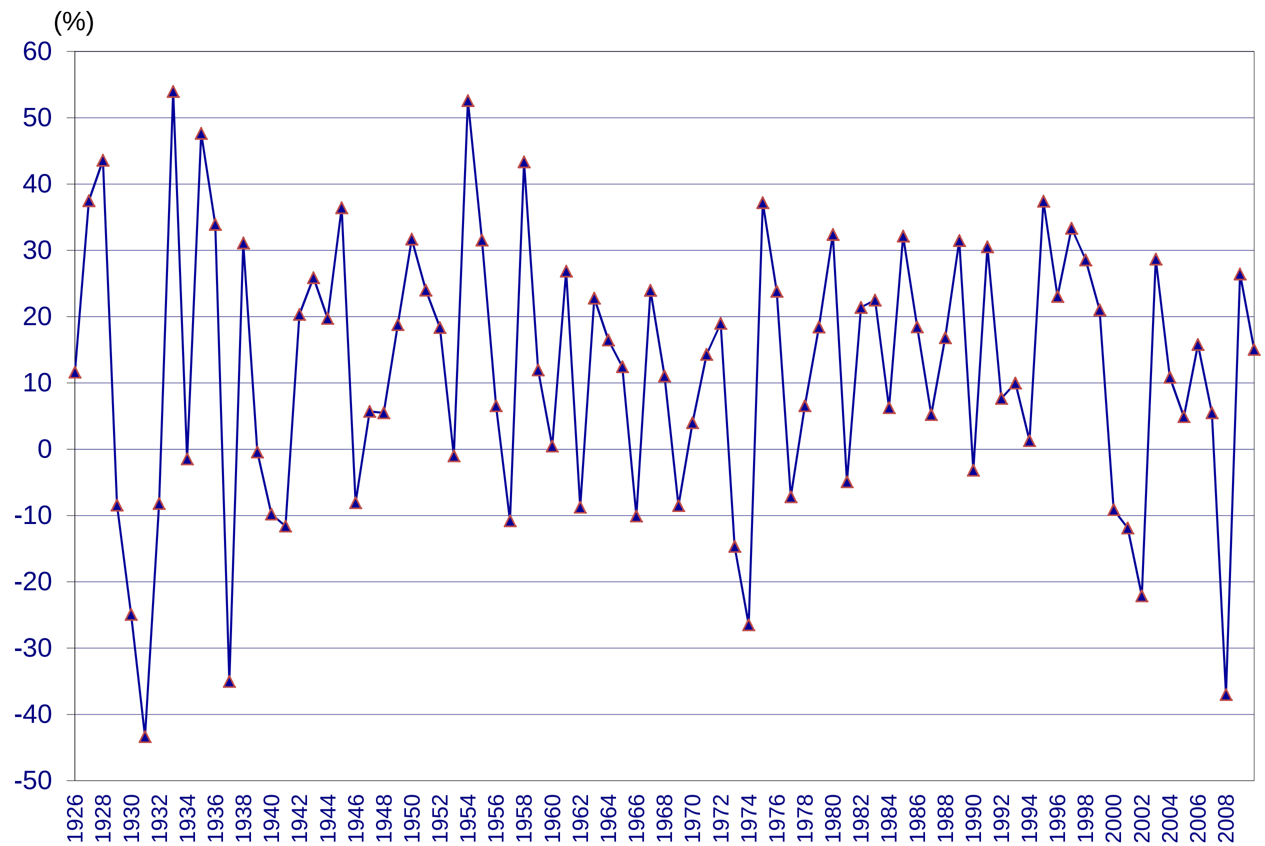
Missouri-American Water Company
Derivation of Mean Equity Risk Premium Based on a Study
Using Holding Period Returns of Public Utilities

| 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 1926-2010 (2): | 10.69 % |
| 2. | Arithmetic Mean Yield on Moody's A Rated Public Utility Yields 1926-2010 | (6.57) |
| 3. | Equity Risk Premium | 4.12 % |

Notes: (1) S&P Public Utility Index and Moody's Public Utility Bond Average Annual Yields 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.

# Large Company Stock Returns
## From 1926 to 2010




Source of Information:
Ibbotson® SBBI® - 2011 Valuation Yearbook - Market Results for Stocks Bonds Bills and Inflation - 1926-2010, Morningstar, Inc., 2011 Chicago, IL.

# Total Returns on Large Company Stocks
# 1926 to 2010

**Large Company Stocks**

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | **2010** | | | | |
| | | | | | | 2006 | | | | |
| | | | | | | 2004 | 2009 | | | |
| | | | | | 2007 | 1988 | 2003 | 1997 | | |
| | | | | 1990 | 2005 | 1986 | 1999 | 1995 | | |
| | | | | 1981 | 1994 | 1979 | 1998 | 1991 | | |
| | | | | 1977 | 1993 | 1972 | 1996 | 1989 | | |
| | | | | 1969 | 1992 | 1971 | 1983 | 1985 | | |
| | | | | 1962 | 1987 | 1968 | 1982 | 1980 | | |
| | | | | 1953 | 1984 | 1965 | 1976 | 1975 | | |
| | | | 2001 | 1946 | 1978 | 1964 | 1967 | 1955 | | |
| | | | 2000 | 1940 | 1970 | 1959 | 1963 | 1950 | | |
| | | | 1973 | 1939 | 1960 | 1952 | 1961 | 1945 | | |
| | | 2002 | 1966 | 1934 | 1956 | 1949 | 1951 | 1938 | 1958 | |
| | 2008 | 1974 | 1957 | 1932 | 1948 | 1944 | 1943 | 1936 | 1935 | 1954 |
| 1931 | 1937 | 1930 | 1941 | 1929 | 1947 | **1926** | 1942 | 1927 | 1928 | 1933 |

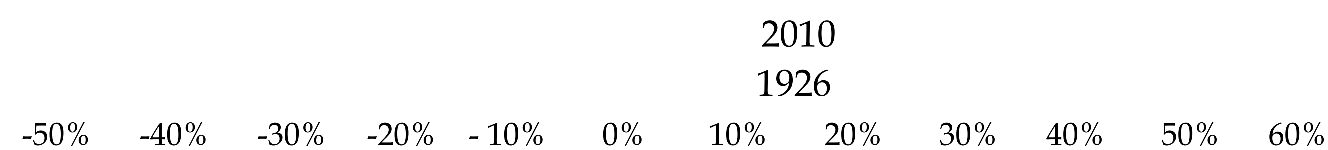
-50% -40% -30% -20% - 10% 0% 10% 20% 30% 40% 50% 60%

Arithmetic Mean: $r_A = \sum_{t=1}^{n} r_t \,/\, n$

Source : Ibbotson® SBBI ® – 2011 Valuation Yearbook – Market Results for Stocks, Bonds, Bills, and Inflation –1926-2010
Morningstar, Inc., 2011 Chicago, IL

# Total Returns on Large Company Stocks
# 1926 to 2010

**Large Company Stocks**




Geometric Mean: $r_G = \left[ V_n \,/\, V_0 \right]^{1/n} - 1$

Source : Ibbotson® SBBI ® – 2011 Valuation Yearbook – Market Results for Stocks, Bonds, Bills, and Inflation –1926-2010
Morningstar, Inc., 2011 Chicago, IL

Missouri-American Water Company
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. | 0.75 | 7.52 % | 4.78 % | 10.42 % | 10.89 % | |
| American Water Works Co., Inc. | 0.65 | 7.52 | 4.78 | 9.67 | 10.33 | |
| Aqua America, Inc. | 0.65 | 7.52 | 4.78 | 9.67 | 10.33 | |
| Artesian Resources Corp. | 0.60 | 7.52 | 4.78 | 9.29 | 10.04 | |
| California Water Service Group | 0.70 | 7.52 | 4.78 | 10.04 | 10.61 | |
| Connecticut Water Service, Inc. | 0.80 | 7.52 | 4.78 | 10.80 | 11.17 | |
| Middlesex Water Company | 0.75 | 7.52 | 4.78 | 10.42 | 10.89 | |
| SJW Corporation | 0.90 | 7.52 | 4.78 | 11.55 | 11.74 | |
| York Water Company | 0.70 | 7.52 | 4.78 | 10.04 | 10.61 | |
| Average | | | | 10.21 % | 10.73 % | 10.47 % |
| Median | | | | 10.04 % | 10.61 % | 10.33 % |

See page 2 for notes.

Missouri-American Water Company
Development of the Market-Required Rate of Return on Common Equity Using
the Capital Asset Pricing Model for
the Proxy Group of Nine AUS Utility Reports 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 thirteen weeks ending June 10, 2011, Value Line Summary & Index, a forecasted 3-5 year total annual market return of 13.12% can be derived by averaging the thirteen weeks ended June 10, 2011 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 53% produces a four-year average annual return of 11.22% $((1.53^{.25}) - 1)$. When the average annual forecasted dividend yield of 1.90% is added, a total average market return of 13.12% (1.90% + 11.22%) is derived.

The thirteen week forecasted total market return of 13.12% minus the forecasted risk-free rate of 4.78% (developed in Note 2) is 8.34% (13.12% - 4.78%). The Morningstar, Inc. (Ibbotson Associates) calculated market premium of 6.70% for the period 1926-2010 results from a total market return of 11.90% less the average income return on long-term U.S. Government Securities of 5.20% (11.90% - 5.20% = 6.70%). This is then averaged with the 8.34% Value Line market premium resulting in a 7.52% market premium. The 7.52% market premium is then multiplied by the beta in column 1 of this Schedule.

(2) 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 June 1, 2011 (see page 7 of Schedule PMA-10). The estimates are detailed below:

| | 30-Year Treasury Note Yield |
|---|---|
| Second Quarter 2011 | 4.40 |
| Third Quarter 2011 | 4.60 |
| Fourth Quarter 2011 | 4.70 |
| First Quarter 2012 | 4.80 |
| Second Quarter 2012 | 5.00 |
| Third Quarter 2012 | 5.20 |
| Average | 4.78% |

(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
$\beta$ = Value Line Adjusted Beta
$R_M$ = Return on the market as a whole

(4) The empirical CAPM (ECAPM) 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
$\beta$ = Value Line Adjusted Beta
$R_M$ = Return on the market as a whole

Source of Information: Value Line Summary & Index
Blue Chip Financial Forecasts, June 1, 2011
Value Line Investment Survey, April 22, 2011
Standard Edition and Small and Mid-Cap Edition
Ibbotson® SBBI® 2011 Valuation Yearbook – Market Results for Stocks, Bonds, Bills, and Inflation – 1926 – 2010, Morningstar, Inc., 2011 Chicago, IL

Missouri-American Water Company
Summary of Cost of Equity Models Applied to the
Proxy Group of Forty-One Non-Utility Companies
Comparable in Total Risk to
the Proxy Group of Nine Water Companies

| Principal Methods | | Proxy Group of Forty-One Non-Utility Companies |
|---|---|---|
| Projected Return on Book Common Equity (1) | | 15.00 % |
| Average of Market-Based Models (2) | | 11.51 % |
| | Average | 13.26 % |

Notes:
(1) From Schedule PMA-14.
(2) Average of the results of the DCF (12.48%), RPM (11.39%), and CAPM / ECAPM (10.66%) analyses as shown on pages 1, 2, and 5 of Schedule PMA-15 respectively.

Missouri-American Water Company
Basis of Selection of Comparable Risk
Domestic Non-Price Regulated Companies

| Proxy Group of Nine Water Companies | Value Line Adjusted Beta | Unadjusted Beta | Residual Standard Error of the Regression |
|---|---|---|---|
| American States Water Co. | 0.75 | 0.59 | 3.6645 |
| American Water Works Co., Inc. | 0.65 | 0.42 | 3.6242 |
| Aqua America, Inc. | 0.65 | 0.40 | 2.8525 |
| Artesian Resources Corp. | 0.60 | 0.33 | 2.5273 |
| California Water Service Group | 0.70 | 0.51 | 3.5171 |
| Connecticut Water Service, Inc. | 0.80 | 0.63 | 2.8968 |
| Middlesex Water Company | 0.75 | 0.57 | 2.7504 |
| SJW Corporation | 0.90 | 0.83 | 4.3743 |
| York Water Company | 0.70 | 0.48 | 3.3493 |
| Average | 0.72 | 0.53 | 3.2840 |

| | | |
|---|---|---|
| Beta Range (+/- 2 std. Devs. of Beta) | 0.39 | 0.67 |
| 2 std. Devs. of Beta | 0.14 | |
| Residual Std. Err. Range (+/- 2 std. Devs. of the Residual Std. Err.) | 2.9954 | 3.5726 |
| Std. dev. of the Res. Std. Err. | 0.1443 | |
| 2 std. devs. of the Res. Std. Err. | 0.2886 | |

Missouri-American Water Company
Domestic, Non-Price Regulated Companies Comparable in Total Risk to the
Proxy Group of Nine Water Companies

| Proxy Group of Forty-One Non-Utility Companies | VL Adjusted Beta | Unadjusted Beta | Residual Standard Error of the Regression |
|---|---|---|---|
| Gallagher (Arthur J.) | 0.70 | 0.54 | 3.0490 |
| Amgen | 0.65 | 0.43 | 3.5693 |
| AutoZone Inc. | 0.70 | 0.52 | 3.3634 |
| Bristol-Myers Squibb | 0.75 | 0.57 | 3.1127 |
| Brown & Brown | 0.70 | 0.48 | 3.1156 |
| Capitol Fed. Finl | 0.65 | 0.44 | 3.2656 |
| CVS Caremark Corp. | 0.80 | 0.66 | 3.0153 |
| Forest Labs. | 0.80 | 0.63 | 3.3086 |
| Hasbro, Inc. | 0.75 | 0.59 | 3.4132 |
| Hudson City Bancorp | 0.80 | 0.67 | 3.1736 |
| IAC/InterActiveCorp | 0.70 | 0.47 | 3.2320 |
| Investors Bancorp | 0.75 | 0.55 | 3.4197 |
| J&J Snack Foods | 0.70 | 0.49 | 3.4412 |
| Kroger Co. | 0.60 | 0.39 | 3.0187 |
| Lancaster Colony | 0.75 | 0.56 | 3.3353 |
| Lincare Holdings | 0.65 | 0.44 | 3.5440 |
| McKesson Corp. | 0.75 | 0.57 | 3.3442 |
| Medtronic, Inc. | 0.80 | 0.67 | 3.5188 |
| Medco Health Solutions | 0.70 | 0.51 | 3.5319 |
| Marsh & McLennan | 0.75 | 0.59 | 2.9981 |
| MAXIMUS Inc. | 0.75 | 0.62 | 3.4728 |
| Owens & Minor | 0.65 | 0.46 | 3.3797 |
| OReilly Automotive | 0.80 | 0.62 | 3.5701 |
| Peoples United Finl | 0.65 | 0.40 | 3.0990 |
| Ruddick Corp. | 0.60 | 0.39 | 3.5204 |
| Rollins, Inc. | 0.80 | 0.65 | 3.0560 |
| Sherwin-Williams | 0.70 | 0.51 | 3.3866 |
| Smucker (J.M.) | 0.70 | 0.48 | 3.0520 |
| Sara Lee Corp. | 0.80 | 0.66 | 3.2503 |
| Stericycle Inc. | 0.65 | 0.46 | 3.1729 |
| Safeway Inc. | 0.70 | 0.49 | 3.1427 |
| Stryker Corp. | 0.80 | 0.66 | 3.1615 |
| TJX Companies | 0.80 | 0.65 | 3.0480 |
| Walgreen Co. | 0.75 | 0.61 | 3.2371 |
| WD-40 Co. | 0.75 | 0.56 | 3.4945 |
| Weis Markets | 0.65 | 0.45 | 3.0521 |
| Watson Pharmac. | 0.75 | 0.56 | 3.1513 |
| Berkley (W.R.) | 0.70 | 0.50 | 3.0820 |
| West Pharmac. Svcs. | 0.80 | 0.63 | 3.5242 |
| World Wrestling Ent. | 0.80 | 0.64 | 3.4439 |
| Alleghany Corp. | 0.80 | 0.66 | 3.2303 |
| Average | 0.73 | 0.55 | 3.2800 |
| Proxy Group of Nine Water Companies | 0.72 | 0.53 | 3.2840 |

Missouri-American Water Company
Basis of Selection of Groups of Domestic, Non-Price Regulated Companies
Comparable in Total Risk to the Proxy Group of Nine Water Companies

(1) The proxy group of forty-one non-utility companies was selected based upon the proxy group of nine water companies unadjusted beta range of 0.39 – 0.67 and standard error of the regression range of 2.9954 – 3.5726. These ranges are based upon plus or minus three standard deviations of the unadjusted beta and standard error of the regression as detailed in Ms. Ahern's direct testimony. Plus or minus three standard deviations captures 95.50% of the distribution of unadjusted betas and standard errors of the regression.

(2) The standard deviation of group of nine water companies' standard error of the regression is 0.1443. The standard deviation of the standard error of the regression is calculated as follows:

$$\text{Standard Deviation of the Std. Err. of the Regr.} = \frac{\text{Standard Error of the Regression}}{\sqrt{2N}}$$

where: N = number of observations. Since Value Line betas are derived from weekly price change observations over a period of five years, N = 259

$$\text{Thus, } 0.1443 = \frac{3.2840}{\sqrt{518}} = \frac{3.2840}{22.7596}$$

Source of Information: Value Line, Inc., Proprietary Database, March 15, 2010
Value Line Investment Survey (Standard Edition)

Missouri-American Water Company
Comparable Earnings Analysis
for a Proxy Group of Forty-One Non-Utility Companies Comparable in Total Risk to the
Proxy Group of Nine Water Companies(1)

| Company Name | VL Adjusted Beta | Unadjusted Beta | Residual Standard Error of the Regression | Standard Deviation of Beta | Rate of Return on Book Common Equity, Net Worth, or Partner's Capital 5-Year Projected (2): 5 Year Projection | Student's T Statistic |
|---|---|---|---|---|---|---|
| Gallagher (Arthur J.) | 0.70 | 0.54 | 3.0490 | 0.0629 | 9.50 % | (0.6) |
| Amgen | 0.65 | 0.43 | 3.5693 | 0.0737 | 14.00 | (0.3) |
| AutoZone Inc. | 0.70 | 0.52 | 3.3634 | 0.0694 | NMF | (1.2) |
| Bristol-Myers Squibb | 0.75 | 0.57 | 3.1127 | 0.0642 | 20.00 | 0.1 |
| Brown & Brown | 0.70 | 0.48 | 3.1156 | 0.0643 | 12.00 | (0.4) |
| Capitol Fed. Finl | 0.65 | 0.44 | 3.2656 | 0.0674 | 3.50 | (1.0) |
| CVS Caremark Corp. | 0.80 | 0.66 | 3.0153 | 0.0622 | 11.00 | (0.5) |
| Forest Labs. | 0.80 | 0.63 | 3.3086 | 0.0683 | 28.00 | 0.7 |
| Hasbro, Inc. | 0.75 | 0.59 | 3.4132 | 0.0705 | 10.00 | (0.6) |
| Hudson City Bancorp | 0.80 | 0.67 | 3.1736 | 0.0655 | 4.50 | (0.9) |
| IAC/InterActiveCorp | 0.70 | 0.47 | 3.2320 | 0.0755 | 9.50 | (0.6) |
| Investors Bancorp | 0.75 | 0.55 | 3.4197 | 0.0706 | 13.00 | (0.4) |
| J&J Snack Foods | 0.70 | 0.49 | 3.4412 | 0.0710 | 20.00 | 0.1 |
| Kroger Co. | 0.60 | 0.39 | 3.0187 | 0.0623 | 20.00 | 0.1 |
| Lancaster Colony | 0.75 | 0.56 | 3.3353 | 0.0688 | 17.50 | (0.0) |
| Lincare Holdings | 0.65 | 0.44 | 3.5440 | 0.0732 | 23.00 | 0.3 |
| McKesson Corp. | 0.75 | 0.57 | 3.3442 | 0.0690 | 14.50 | (0.3) |
| Medtronic, Inc. | 0.80 | 0.67 | 3.5188 | 0.0726 | 16.00 | (0.1) |
| Medco Health Solutions | 0.70 | 0.51 | 3.5319 | 0.0729 | 20.50 | 0.2 |
| Marsh & McLennan | 0.75 | 0.59 | 2.9981 | 0.0619 | 15.00 | (0.2) |
| MAXIMUS Inc. | 0.75 | 0.62 | 3.4728 | 0.0717 | 35.00 | 1.2 |
| Owens & Minor | 0.65 | 0.46 | 3.3797 | 0.0698 | 16.00 | (0.1) |
| OReilly Automotive | 0.80 | 0.62 | 3.5701 | 0.0737 | 11.50 | (0.5) |
| Peoples United Finl | 0.65 | 0.40 | 3.0990 | 0.0640 | 5.00 | (0.9) |
| Ruddick Corp. | 0.60 | 0.39 | 3.5204 | 0.0727 | 11.50 | (0.5) |
| Rollins, Inc. | 0.80 | 0.65 | 3.0560 | 0.0631 | 32.00 | 0.9 |
| Sherwin-Williams | 0.70 | 0.51 | 3.3866 | 0.0699 | 24.50 | 0.4 |
| Smucker (J.M.) | 0.70 | 0.48 | 3.0520 | 0.0630 | 11.50 | (0.5) |
| Sara Lee Corp. | 0.80 | 0.66 | 3.2503 | 0.0671 | 94.00 (3) | 5.2 |
| Stericycle Inc. | 0.65 | 0.46 | 3.1729 | 0.0655 | 15.50 | (0.2) |
| Safeway Inc. | 0.70 | 0.49 | 3.1427 | 0.0649 | 17.00 | (0.1) |
| Stryker Corp. | 0.80 | 0.66 | 3.1615 | 0.0653 | 19.50 | 0.1 |
| TJX Companies | 0.80 | 0.65 | 3.0480 | 0.0629 | 44.00 | 1.8 |
| Walgreen Co. | 0.75 | 0.61 | 3.2371 | 0.0668 | 18.00 | (0.0) |
| WD-40 Co. | 0.75 | 0.56 | 3.4945 | 0.0721 | 15.50 | (0.2) |
| Weis Markets | 0.65 | 0.45 | 3.0521 | 0.0630 | 9.00 | (0.6) |
| Watson Pharmac. | 0.75 | 0.56 | 3.1513 | 0.0650 | 13.50 | (0.3) |
| Berkley (W.R.) | 0.70 | 0.50 | 3.0820 | 0.0636 | 13.00 | (0.4) |
| West Pharmac. Svcs. | 0.80 | 0.63 | 3.5242 | 0.0727 | 14.50 | (0.3) |
| World Wrestling Ent. | 0.80 | 0.64 | 3.4439 | 0.0711 | 16.50 | (0.1) |
| Alleghany Corp. | 0.80 | 0.66 | 3.2303 | 0.0667 | 6.50 | (0.8) |
| Average | 0.73 | 0.55 | 3.2756 | 0.0678 | | |
| Average for the Proxy Group of Nine Water Companies | 0.72 | 0.53 | 3.2840 (1) | 0.0687 | | |
| Median (4) | | | | | 15.25% | |
| Conservative Median (5) | | | | | 15.00% | |

Notes:
(1) See page 4 of Schedule PMA-13.
(2) From Value Line Investment Survey, various issues for the years 2013 - 2015 / 2014 - 2016.
(3) The student's T statistic associated with these returns exceeds 1.96 at the 95% level of confidence. Therefore, they have been excluded, as outliers, to arrive at proper projected returns as fully explained in Ms. Ahern's testimony.
(4) Median five year projected rate of return on book common equity, shareholders' equity, net worth, or partners' capital including returns identified as outliers as outlined in note (3) above.
(5) Median five year projected rate of return on book common equity, shareholders' equity, net worth, or partners' capital excluding returns identified as outliers as outlined in note (3) above.

Missouri-American Water Company
DCF Results for theProxy Group of Forty-One Non-Utility Companies Comparable in Total Risk to the
Proxy Group of Nine Water Companies (1)

| Proxy Group of Forty-One Non-Utility Companies | Average Dividend Yield | Value Line Projected Five Year Growth in EPS | Reuters Mean Consensus Projected Five Year Growth Rate in EPS | Zack's Five Year Projected Growth Rate in EPS | Yahoo! Finance Projected Five Year Growth in EPS | Average Projected Five Year Growth Rate in EPS | Adjusted Dividend Yield | Indicated Common Equity Cost Rate |
|---|---|---|---|---|---|---|---|---|
| Gallagher (Arthur J. | 4.47 % | 8.50 % | 9.00 % | 9.80 % | 9.00 % | 9.08 % | 4.68 % | 13.76 % |
| Amgen | - | 7.00 | 7.00 | 8.20 | 7.44 | 7.41 | - | NA |
| AutoZone Inc. | - | 14.50 | 14.00 | 13.50 | 14.35 | 14.09 | - | NA |
| Bristol-Myers Squibb | 4.75 | 7.50 | 0.80 | 1.20 | (1.12) | 2.39 | 4.81 | 7.20 |
| Brown & Brown | 1.25 | 7.00 | 11.00 | 13.30 | 11.60 | 10.73 | 1.31 | 12.04 |
| Capitol Fed. Finl | 2.63 | 12.00 | NA | NA | 0.00 | 6.00 | 2.71 | 8.71 |
| CVS Caremark Corp. | 1.37 | 9.00 | 11.00 | 11.20 | 10.89 | 10.52 | 1.44 | 11.96 |
| Forest Labs. | - | NMF | 3.30 | (1.20) | (1.14) | 3.30 | - | NA |
| Hasbro, Inc. | 2.60 | 10.00 | 12.00 | 10.00 | 13.55 | 11.39 | 2.74 | 14.13 |
| Hudson City Bancorp | 3.41 | 3.50 | 4.50 | 4.50 | 5.00 | 4.38 | 3.48 | 7.86 |
| IAC/InterActiveCorp | - | 22.50 | (35.00) | 25.00 | (25.40) | 23.75 | - | NA |
| Investors Bancorp In | - | NMF | 15.00 | 15.00 | 15.00 | 15.00 | - | NA |
| J&J Snack Foods | 0.97 | 10.50 | NA | NA | 0.00 | 5.25 | 0.99 | 6.24 |
| Kroger Co. | 1.73 | 7.50 | 9.10 | 8.60 | 9.18 | 8.60 | 1.81 | 10.41 |
| Lancaster Colony | 2.18 | 9.00 | NA | NA | 10.00 | 9.50 | 2.29 | 11.79 |
| Lincare Holdings | 2.66 | 11.00 | 15.00 | 17.50 | 15.67 | 14.79 | 2.85 | 17.64 |
| McKesson Corp. | 0.97 | 9.50 | 10.00 | 10.50 | 13.57 | 10.89 | 1.03 | 11.92 |
| Medtronic, Inc. | 2.23 | 6.50 | 8.00 | 7.60 | 8.26 | 7.59 | 2.31 | 9.90 |
| Medco Health Solutio | 0.00 | 15.50 | 16.00 | 14.30 | 15.66 | 15.37 | - | NA |
| Marsh & McLennan | 2.81 | 28.50 | 8.50 | 10.70 | 8.54 | 14.06 | 3.00 | 17.06 |
| MAXIMUS Inc. | 0.75 | 18.00 | 10.00 | NA | 10.00 | 12.67 | 0.80 | 13.47 |
| Owens & Minor | 2.40 | 11.00 | 10.00 | 11.50 | 10.07 | 10.64 | 2.53 | 13.17 |
| OReilly Automotive | - | 15.50 | 15.00 | 16.80 | 16.23 | 15.88 | - | NA |
| Peoples United Fin | 4.85 | 13.00 | 7.60 | 7.50 | 7.67 | 8.94 | 5.06 | 14.00 |
| Ruddick Corp. | 1.28 | 8.50 | 12.00 | 12.00 | 12.00 | 11.13 | 1.35 | 12.48 |
| Rollins, Inc. | 1.40 | 14.50 | NA | NA | 10.00 | 12.25 | 1.49 | 13.74 |
| Sherwin-Williams | 1.73 | 11.00 | 11.00 | 10.40 | 11.70 | 11.03 | 1.83 | 12.86 |
| Smucker (J.M.) | 2.35 | 10.50 | 7.50 | 8.00 | 7.53 | 8.38 | 2.45 | 10.83 |
| Sara Lee Corp. | 2.46 | 6.00 | 8.70 | 6.00 | 9.48 | 7.55 | 2.55 | 10.10 |
| Stericycle Inc. | - | 14.50 | 17.00 | 16.70 | 15.00 | 15.80 | - | NA |
| Safeway Inc. | 2.01 | 6.50 | 10.00 | 10.70 | 10.43 | 9.41 | 2.10 | 11.51 |
| Stryker Corp. | 1.19 | 13.00 | 11.00 | 11.20 | 10.55 | 11.44 | 1.25 | 12.69 |
| TJX Companies | 1.47 | 13.50 | 14.00 | 14.60 | 14.06 | 14.04 | 1.57 | 15.61 |
| Walgreen Co. | 1.65 | 12.00 | 13.00 | 13.00 | 13.60 | 12.90 | 1.76 | 14.66 |
| WD-40 Co. | 2.62 | 9.00 | 12.00 | 12.00 | 12.00 | 11.25 | 2.77 | 14.02 |
| Weis Markets | 2.89 | 6.50 | NA | NA | 0.00 | 3.25 | 2.94 | 6.19 |
| Watson Pharmac. | - | 11.50 | 10.00 | 12.00 | 10.31 | 10.95 | - | NA |
| Berkley (W.R.) | 1.00 | 7.50 | 11.00 | 11.30 | 9.67 | 9.87 | 1.05 | 10.92 |
| West Pharmac. Svcs. | 1.50 | 8.50 | 20.00 | NA | 15.00 | 14.50 | 1.61 | 16.11 |
| World Wrestling Ent. | 13.00 | 5.00 | 9.40 | 8.60 | 8.56 | 7.89 | 13.51 | 21.40 |
| Alleghany Corp. | - | 13.00 | NA | NA | 0.00 | 6.50 | - | NA |
| Average | | | | | | | | 12.40 % |
| Median | | | | | | | | 12.48 % |

NA= Not Available
NMF= Not Meaningful Figure

(1) Ms. Ahern's application of the DCF model to the domestic, non-price regluated comparable risk companies is identical to the application of the DCF to her proxy group of water companies. She uses the 60 day average price and the spot indicated dividend as of 6/13/2011 for her dividend yield and then adjusts that yield for 1/2 the average projected growth rate in EPS, which is calculated by averaging the long-term projected growth in EPS provided by Value Line, www.reuters.com, www.zacks.com, and www.yahoo.com (excluding any negative growth rates) and then adding that growth rate to the adjusted dividend yield.

Source of Information: Value Line Investment Survey:
www.reuters.com Downloaded on 06/14/2011
www.zacks.com Downloaded on 06/14/2011
www.yahoo.com Downloaded on 06/14/2011

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

| Line No. | | Proxy Group of Forty-One Non-Utility Companies |
|---|---|---|
| 1. | Prospective Yield on Baa Rated Corporate Bonds (1) | 6.33 % |
| 2. | Equity Risk Premium (2) | 5.06 |
| 3. | Risk Premium Derived Common Equity Cost Rate | 11.39 % |

Notes: (1) Average forecast based upon six quarterly estimates of Baa rated corporate bonds per the consensus of nearly 50 economists reported in Blue Chip Financial Forecasts dated June 1, 2011 (see page 7 of Schedule PMA-9). The estimates are detailed below.

| | |
|---|---|
| Second Quarter 2011 | 5.90 % |
| Third Quarter 2011 | 6.10 |
| Fourth Quarter 2011 | 6.20 |
| First Quarter 2012 | 6.40 |
| Second Quarter 2012 | 6.60 |
| Third Quarter 2012 | 6.80 |
| Average | 6.33 % |

(2) From page 4 of this Schedule.

Missouri-American Water Company
Comparison of Bond Ratings for the
Proxy Group of Forty-One Non-Utility Companies Comparable in Total Risk to the
Proxy Group of Nine Water Companies

| | Moody's Bond Rating May 2011 | | Standard & Poor's Bond Rating May 2011 | |
|---|---|---|---|---|
| Proxy Group of Forty-One Non-Utility Companies | Bond Rating | Numerical Weighting (1) | Bond Rating | Numerical Weighting (1) |
| Gallagher (Arthur J.) | NR | - - | NR | - - |
| Amgen | A3 | 7.0 | A+ | 5.0 |
| AutoZone Inc. | Baa2 | 9.0 | BBB | 9.0 |
| Bristol-Myers Squibb | A2 | 6.0 | A+ | 5.0 |
| Brown & Brown | NR | - - | NR | - - |
| Capitol Fed. Finl | NR | - - | NR | - - |
| CVS Caremark Corp. | Baa2 | 9.0 | BBB+ | 8.0 |
| Forest Labs. | NR | - - | NR | - - |
| Hasbro, Inc. | Baa2 | 9.0 | BBB | 9.0 |
| Hudson City Bancorp | NR | - - | NR | - - |
| IAC/InterActiveCorp | Ba2 | 12.0 | NR | - - |
| Investors Bancorp | NR | - - | NR | - - |
| J&J Snack Foods | NR | - - | NR | - - |
| Kroger Co. | Baa2 | 9.0 | BBB | 9.0 |
| Lancaster Colony | NR | - - | NR | - - |
| Lincare Holdings | NR | - - | NR | - - |
| McKesson Corp. | Baa2 | 9.0 | A- | 7.0 |
| Medtronic, Inc. | A1 | 5.0 | NR | - - |
| Medco Health Solutions | Baa3 | 10.0 | NR | - - |
| Marsh & McLennan | Baa2 | 9.0 | BBB- | 9.0 |
| MAXIMUS Inc. | NR | - - | NR | - - |
| Owens & Minor | Ba2 | 12.0 | BBB- | 10.0 |
| OReilly Automotive | Baa3 | 10.0 | NR | - - |
| Peoples United Finl | A3 | 7.0 | NR | - - |
| Ruddick Corp. | NR | - - | NR | - - |
| Rollins, Inc. | NR | - - | NR | - - |
| Sherwin-Williams | A3 | 7.0 | A | 6.0 |
| Smucker (J.M.) | NR | - - | NR | - - |
| Sara Lee Corp. | Baa1 | 8.0 | BBB | 9.0 |
| Stericycle Inc. | NR | - - | NR | - - |
| Safeway Inc. | Baa2 | 9.0 | BBB | 9.0 |
| Stryker Corp. | A3 | 7.0 | NR | - - |
| TJX Companies | A3 | 7.0 | NR | - - |
| Walgreen Co. | A2 | 6.0 | A | 6.0 |
| WD-40 Co. | NR | - - | NR | - - |
| Weis Markets | NR | - - | NR | - - |
| Watson Pharmac. | Baa3 | 10.0 | NR | - - |
| Berkley (W.R.) | Baa2 | 9.0 | BBB+ | 8.0 |
| West Pharmac. Svcs. | NR | - - | NR | - - |
| World Wrestling Ent. | NR | - - | NR | - - |
| Alleghany Corp. | Baa2 | 9.0 | NR | - - |
| Average | Baa2 | 8.5 | BBB | 7.8 |

Notes:
(1) From page 3 of Schedule PMA-9.

Source of Information:
Standard & Poor's Bond Guide June 2011
www.moodys.com; downloaded 6/1/2011

Missouri-American Water Company
Derivation of Equity Risk Premium Based on the Total Market Approach
Using the Beta for
the Proxy Group of Forty-One Non-Utility Companies
Comparable in Total Risk to the Proxy Group of Nine Water Companies

| Line No. | | Proxy Group of Forty-One Non-Utility Companies |
|---|---|---|
| 1. | Arithmetic mean total return rate on the Standard & Poor's 500 Composite Index - 1926-2010 (1) | 11.90 % |
| 2. | Arithmetic mean yield on Aaa and Aa Corporate Bonds 1926-2010 (2) | (6.10) |
| 3. | Historical Equity Risk Premium | 5.80 % |
| 4. | Forecasted 3-5 year Total Annual Market Return (3) | 13.12 % |
| 5. | Prospective Yield an Aaa Rated Corporate Bonds (4) | (5.43) |
| 6. | Forecasted Equity Risk Premium | 7.69 % |
| 7. | Conclusion of Equity Risk Premium (5) | 6.75 % |
| 8. | Adjusted Value Line Beta (6) | 0.75 |
| 9. | Beta Adjusted Equity Risk Premium | 5.06 % |

Notes:
(1) Ibbotson Associates 2011 Valuation Yearbook - Market Results for 1926-2010, Morningstar, Inc., 2011 Chicago, IL.
(2) From Moody's Industrial Manual and Mergent Bond Record Monthly Update.
(3) From page 2 of Schedule PMA-12.
(4) Average forecast based upon six quarterly estimates of Aaa rated corporate bonds per the consensus of nearly 50 economists reported in Blue Chip Financial Forecasts dated June 1, 2011 (see page 7 of Schedule PMA-10). The estimates are detailed below.

| | |
|---|---|
| Second Quarter 2011 | 5.00 % |
| Third Quarter 2011 | 5.20 |
| Fourth Quarter 2011 | 5.40 |
| First Quarter 2012 | 5.50 |
| Second Quarter 2012 | 5.70 |
| Third Quarter 2012 | 5.80 |
| Average | 5.43 % |

(5) The average of the historical equity risk premium of 5.80% from Line No. 3 and the forecasted equity risk premium of 7.69% from Line No. 6 ((5.80% + 7.69%) / 2 = 6.75%.
(6) Median beta from page 5 of this Schedule.

Missouri-American Water Company
Traditional CAPM and ECAPM Results for the Proxy Group of Forty-One Non-Utility Companies Comparable in Total Risk to the
Proxy Group of Nine Water Companies

| Proxy Group of Forty-One Non-Utility 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) |
|---|---|---|---|---|---|---|
| Gallagher (Arthur J.) | 0.70 | 7.52 | 4.78 | 10.04 | 10.61 | |
| Amgen | 0.65 | 7.52 | 4.78 | 9.67 | 10.33 | |
| AutoZone Inc. | 0.70 | 7.52 | 4.78 | 10.04 | 10.61 | |
| Bristol-Myers Squibb | 0.75 | 7.52 | 4.78 | 10.42 | 10.89 | |
| Brown & Brown | 0.70 | 7.52 | 4.78 | 10.04 | 10.61 | |
| Capitol Fed. Finl | 0.65 | 7.52 | 4.78 | 9.67 | 10.33 | |
| CVS Caremark Corp. | 0.80 | 7.52 | 4.78 | 10.80 | 11.17 | |
| Forest Labs. | 0.80 | 7.52 | 4.78 | 10.80 | 11.17 | |
| Hasbro, Inc. | 0.75 | 7.52 | 4.78 | 10.42 | 10.89 | |
| Hudson City Bancorp | 0.80 | 7.52 | 4.78 | 10.80 | 11.17 | |
| IAC/InterActiveCorp | 0.65 | 7.52 | 4.78 | 9.67 | 10.33 | |
| Investors Bancorp | 0.75 | 7.52 | 4.78 | 10.42 | 10.89 | |
| J&J Snack Foods | 0.70 | 7.52 | 4.78 | 10.04 | 10.61 | |
| Kroger Co. | 0.65 | 7.52 | 4.78 | 9.67 | 10.33 | |
| Lancaster Colony | 0.75 | 7.52 | 4.78 | 10.42 | 10.89 | |
| Lincare Holdings | 0.65 | 7.52 | 4.78 | 9.67 | 10.33 | |
| McKesson Corp. | 0.75 | 7.52 | 4.78 | 10.42 | 10.89 | |
| Medtronic, Inc. | 0.80 | 7.52 | 4.78 | 10.80 | 11.17 | |
| Medco Health Solutions | 0.70 | 7.52 | 4.78 | 10.04 | 10.61 | |
| Marsh & McLennan | 0.75 | 7.52 | 4.78 | 10.42 | 10.89 | |
| MAXIMUS Inc. | 0.75 | 7.52 | 4.78 | 10.42 | 10.89 | |
| Owens & Minor | 0.65 | 7.52 | 4.78 | 9.67 | 10.33 | |
| OReilly Automotive | 0.80 | 7.52 | 4.78 | 10.80 | 11.17 | |
| Peoples United Finl | 0.65 | 7.52 | 4.78 | 9.67 | 10.33 | |
| Ruddick Corp. | 0.60 | 7.52 | 4.78 | 9.29 | 10.04 | |
| Rollins, Inc. | 0.80 | 7.52 | 4.78 | 10.80 | 11.17 | |
| Sherwin-Williams | 0.70 | 7.52 | 4.78 | 10.04 | 10.61 | |
| Smucker (J.M.) | 0.70 | 7.52 | 4.78 | 10.04 | 10.61 | |
| Sara Lee Corp. | 0.80 | 7.52 | 4.78 | 10.80 | 11.17 | |
| Stericycle Inc. | 0.65 | 7.52 | 4.78 | 9.67 | 10.33 | |
| Safeway Inc. | 0.70 | 7.52 | 4.78 | 10.04 | 10.61 | |
| Stryker Corp. | 0.80 | 7.52 | 4.78 | 10.80 | 11.17 | |
| TJX Companies | 0.80 | 7.52 | 4.78 | 10.80 | 11.17 | |
| Walgreen Co. | 0.75 | 7.52 | 4.78 | 10.42 | 10.89 | |
| WD-40 Co. | 0.75 | 7.52 | 4.78 | 10.42 | 10.89 | |
| Weis Markets | 0.65 | 7.52 | 4.78 | 9.67 | 10.33 | |
| Watson Pharmac. | 0.75 | 7.52 | 4.78 | 10.42 | 10.89 | |
| Berkley (W.R.) | 0.70 | 7.52 | 4.78 | 10.04 | 10.61 | |
| West Pharmac. Svcs. | 0.80 | 7.52 | 4.78 | 10.80 | 11.17 | |
| World Wrestling Ent. | 0.80 | 7.52 | 4.78 | 10.80 | 11.17 | |
| Alleghany Corp. | 0.80 | 7.52 | 4.78 | 10.80 | 11.17 | |
| Average | | | | 10.25 % | 10.77 % | 10.51 % |
| Median | | | | 10.42 % | 10.89 % | 10.66 % |

Notes:
(1) From Schedule PMA-12, page 2, note 1.
(2) From Schedule PMA-12, page 2, note 2.
(3) Derived from the model shown on Schedule PMA-12, page 2, note 3.
(4) Derived from the model shown on Schedule PMA-12, page 2, note 4.
(5) Average of CAPM and ECAPM cost rates.

Missouri-American Water Company
Derivation of the Floatation Cost Adjustment to the Cost of Common Equity

Equity Issuances and Floatation Costs of American Water Works Co., Inc. Since 2008

| Date | Transaction (1) | [Column 1] Shares Issued | [Column 2] Market Price per Share | [Column 3] Offering Price per Share | [Column 4] Market Pressure (2) | [Column 5] Underwriting Discount | [Column 6] Net Proceeds per Share (3) | [Column 7] Gross Equity Issue before Costs (4) | [Column 8] Total Net Proceeds (5) | [Column 9] Total Floatation Costs (6) | [Column 10] Flotation Cost Perecentage (7) |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 04/28/08 | Secondary Equity Offering | 63,173,300 | $ 21.5000 | $ 21.5000 | $ - | $ 0.6450 | $ 20.8550 | $ 1,358,225,950 | $ 1,317,479,172 | $ 40,746,779 | 3.00% |
| 06/10/09 | Primary Equity Offering | 11,500,000 | $ 17.4900 | $ 17.2500 | $ 0.2400 | $ 0.5180 | $ 16.7320 | $ 201,135,000 | $ 192,418,000 | $ 8,717,000 | 4.33% |
| 06/10/09 | Secondary Equity Offering | 18,400,000 | $ 17.4900 | $ 17.2500 | $ 0.2400 | $ 0.5180 | $ 16.7320 | $ 321,816,000 | $ 307,868,800 | $ 13,947,200 | 4.33% |
| 08/18/09 | Secondary Equity Offering | 35,000,000 | $ 19.3400 | $19.2500 | $ 0.0900 | $ 0.5780 | $ 18.6720 | $ 676,900,000 | $ 653,520,000 | $ 23,380,000 | 3.45% |
| 11/23/09 | Secondary Equity Offering | 37,351,617 | $ 21.6300 | $21.6300 | $ - | $ 0.6489 | $ 20.9811 | $ 807,915,476 | $ 783,678,011 | $ 24,237,464 | 3.00% |
| | | | | | | | | $ 3,365,992,426 | $ 3,254,963,983 | $ 111,028,443 | 3.30% |

Flotation Cost Adjustment

| | Average Dividend Yield | Average Projected EPS Growth Rate | Adjusted Dividend Yield | Average DCF Cost Rate Unadjusted for Flotation (8) | DCF Cost Rate Adjusted for Flotation (9) | Flotation Cost Adjustment (10) |
|---|---|---|---|---|---|---|
| Proxy Group of Nine Water Companies | 3.36 % | 6.51 % | 3.47 % | 9.98 % | 10.10 % | 0.12 % |

Notes are on page 2 of this Schedule.

Missouri-American Water Company
Notes to Accompany the
Derivation of the Floatation Cost Adjustment to the Cost of Common Equity

(1) Company-provided.

(2) Column 2 – Column 3.

(3) Column 2 – the sum of columns 4 and 5.

(4) Column 1 * Column 2.

(5) Column1 * Column 6.

(6) Column1 * (the sum of columns 4 and 5).

(7) (Column 7 – Column 8) divided by Column 7.

(8) Using the average growth rate from Schedule 7.

(9) Adjustment for flotation costs based on adjusting the average DCF constant growth cost rate in accordance with the following:

$$K = \frac{D(1+0.5g)}{P(1-F)} + g \text{ ,}$$

where $g$ is the growth factor and $F$ is the percentage of flotation costs.

(10) Flotation cost adjustment of 0.12% equals the difference between the flotation adjusted average DCF cost rate of 10.11% and the unadjusted average DCF cost rate of 9.99% of the proxy group of nine water companies.

Source of Information:

Company provided information

Missouri-American Water Company
Derivation of Investment Risk Adjustment Based upon
Ibbotson Associates' Size Premia for the Decile Portfolios of the NYSE/AMEX/NASDAQ

| Line No. | | 1 | | 2 | 3 | 4 |
|---|---|---|---|---|---|---|
| | | Market Capitalization on June 13, 2011 (1) ( millions ) | (times larger) | Applicable Decile of the NYSE/AMEX/ NASDAQ (2) | Applicable Size Premium (3) | Spread from Applicable Size Premium for (4) |
| 1. | Missouri-American Water Company | | | | | |
| a. | Based Upon the Proxy Group of Nine Water Companies | $ 775.728 | | 7-8 | 2.27% | |
| 2. | Proxy Group of Nine Water Companies | $ 1,239.192 | 1.6 x | 6-7 | 1.85% | 0.42% |

| | (A) | (B) | (C ) | (D) | (E) |
|---|---|---|---|---|---|
| | Decile | Number of Companies ( millions ) | Recent Total Market Capitalization ( millions ) | Recent Average Market Capitalization ( millions ) | Size Premium (Return in Excess of CAPM) (2) |
| Largest | 1 | 168 | $ 8,586,385.656 | $ 51,109.438 | -0.38% |
| | 2 | 181 | 1,873,378.709 | $ 10,350.159 | 0.81% |
| | 3 | 187 | 1,022,604.243 | $ 5,468.472 | 1.01% |
| | 4 | 185 | 594,702.185 | $ 3,214.606 | 1.20% |
| | 5 | 213 | 482,327.242 | $ 2,264.447 | 1.81% |
| | 6 | 230 | 360,140.550 | $ 1,565.828 | 1.82% |
| | 7 | 287 | 304,948.414 | $ 1,062.538 | 1.88% |
| | 8 | 361 | 239,018.595 | $ 662.101 | 2.65% |
| | 9 | 491 | 181,744.805 | $ 370.152 | 2.94% |
| Smallest | 10 | 1320 | 136,119.075 | $ 103.121 | 6.36% |

*From Ibbotson 2011 Yearbook

Notes:
(1) From Page 2 of this Schedule.
(2) Gleaned from Column (D) on the bottom of this page. The appropriate decile (Column (A)) corresponds to the market capitalization of the proxy group, which is found in Column 1.
(3) Corresponding risk premium to the decile is provided on Column (E) on the bottom of this page.
(4) Line No. 1a Column 3 – Line No. 2 Column 3 and Line No. 1b, Column 3 – Line No. 3 of Column 3 etc.. For example, the 0.0045% in Column 4, Line No. 2 is derived as follows 0.0045% = 2.265% - 1.85%.

Missouri-American Water Company
Market Capitalization of Missouri-American Water Company and
the Proxy Group of Nine Water Companies

| | | 1 | 2 | 3 | 4 | 5 | 6 |
|---|---|---|---|---|---|---|---|
| Company | Exchange | Common Stock Shares Outstanding at Fiscal Year End 2010 ( millions ) | Book Value per Share at Fiscal Year End 2010 (1) | Total Common Equity at Fiscal Year End 2010 ( millions ) | Closing Stock Market Price on June 13, 2011 | Market-to-Book Ratio on June 13, 2011 (2) | Market Capitalization on June 13, 2011 (3) ( millions ) |
| Missouri-American Water Company | | NA | NA | $ 415.717 (4) | NA | | |
| Based Upon the Proxy Group of Nine Water Companies | | | | | | 186.6 % (5) | $ 775.728 (6) |
| Proxy Group of Nine Water Companies | | | | | | | |
| American States Water Co. | NYSE | 18.631 | $ 20.264 | $ 377.541 | $ 34.580 | 170.6 % | $ 644.255 |
| American Water Works Co., Inc. | NYSE | 174.996 | $ 23.614 | $ 4,132.272 | $ 30.010 | 127.1 | $ 5,251.630 |
| Aqua America, Inc. | NYSE | 138.449 | $ 8.481 | $ 1,174.254 | $ 22.770 | 268.5 | $ 3,152.485 |
| Artesian Resources Corp. | NASDAQ | 7.637 | $ 12.459 | $ 95.146 | $ 19.660 | 157.8 | $ 150.143 |
| California Water Service Group | NYSE | 41.666 (7) | $ 10.453 | $ 435.526 | $ 18.920 | 181.0 | $ 788.321 |
| Connecticut Water Service, Inc. | NASDAQ | 8.677 | $ 13.134 | $ 113.963 | $ 25.210 | 191.9 | $ 218.743 |
| Middlesex Water Company | NASDAQ | 15.566 | $ 11.132 | $ 173.279 | $ 18.760 | 168.5 | $ 292.018 |
| SJW Corporation | NYSE | 18.552 | $ 13.747 | $ 255.032 | $ 23.280 | 169.3 | $ 431.880 |
| York Water Company | NASDAQ | 12.692 | $ 7.190 | $ 91.257 | $ 17.590 | 244.6 | $ 223.253 |
| Average | | 48.541 | $ 13.386 | $ 760.919 | $ 23.420 | 186.6 % | $ 1,239.192 |

NA= Not Available

Notes:
(1) Column 3 / Column 1.
(2) Column 4 / Column 2.
(3) Column 5 * Column 3.
(4) From Financial Statements of Missouri-American Water Company for Fiscal Year End 2010.
(5) The market-to-book ratio of Missouri-American Water Company on June 13, 2011 is assumed to be equal to the market-to-book ratio of the Proxy Group of Nine Water Companies at June 13, 2011.
(6) Missouri-American Water Company's common stock, if traded, would trade at a market-to-book ratio equal to the average market-to-book ratio at June 13, 2011 of the Proxy Group of Nine Water Companies, 186.6%, and Missouri-American Water Company's market capitalization on June 13, 2011 would therefore have been $775.728 million.
(7) Adjusted for 2-for-1 stock split on June 13, 2011.

Source of Information: 2010 Annual Forms 10K
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