TABLE OF CONTENTS

I. ACKNOWLEDGEMENTS ................................................................................................................................. 3
II. PREFACE ......................................................................................................................................................... 4
III. FORUM PARTICIPANTS .............................................................................................................................. 5
IV. THE FUNDAMENTALS OF THE PRIVATE WATER INDUSTRY ................................................................. 6
   A. The Regulatory Compact .............................................................................................................................. 6
   B. The Industry is Fragmented ......................................................................................................................... 6
   C. Capital Intensive Industry ........................................................................................................................ 7
   D. Alternative Regulation ............................................................................................................................... 9
   E. The National Association of Regulatory Utility Commissioners (NARUC)'s Best Practices Resolutions ... 10
V. ADAPTING REGULATION TO CURRENT CHALLENGES ......................................................................... 12
   A. Water Industry Challenges....................................................................................................................... 12
       1. Aging Infrastructure .............................................................................................................................. 12
       2. Limited Water Supply, the Requirement to Maintain Quality, and Declining Water Usage ................ 12
   B. Opportunities: Alternative Rate Making Mechanisms ......................................................................... 13
       1. Implementation of DSIC ....................................................................................................................... 16
       2. Future Test Year .................................................................................................................................. 16
       3. Revenue Stabilization Mechanism (RSM) .......................................................................................... 16
   C. The Water-Energy Nexus ......................................................................................................................... 17
   D. A Regulator’s Perspective – Pennsylvania ............................................................................................ 18
   E. A Consumer Advocate’s Perspective ...................................................................................................... 20
VI. COMMUNICATING VALUE OF THE “SILENT SERVICE” ...................................................................... 24
   A. Infographics ........................................................................................................................................... 24
   B. Social Media .......................................................................................................................................... 24
   C. Mobile Applications ............................................................................................................................... 25
VII. COSTS OF COMPLIANCE AND STRATEGIES FOR NEW ENVIRONMENTAL REGULATIONS ......... 26
   A. Expected Research and Cost Impact of Regulation ............................................................................... 26
   B. Example of Costs From Environmental Regulations ............................................................................ 27
VIII. New Realities for System Sustainability and Resource Planning for Long-Term Reliability ............. 30
   A. Arizona’s Current Situation .................................................................................................................... 30
   B. Actions to Address Current Situation .................................................................................................... 30
   C. Role of the Arizona Corporation Commission ....................................................................................... 31
   D. Looking to the Future - Strategic Priorities for Moving Arizona Forward .............................................. 31
   E. A Company’s Perspective – EPCOR Water USA (EPCOR) .................................................................. 31
   F. Solutions and Opportunities .................................................................................................................. 32
IX. Funding Future Investment and the Role of Regulation ......................................................................... 34
   A. Why Wall Street Likes Water Utilities ................................................................................................... 34
   B. Why Wall Street Fears Water Utilities .................................................................................................. 34
   C. A Balanced Approach is Necessary ..................................................................................................... 35
X. SMALL WATER COMPANY CHALLENGES AND CONSOLIDATION .............................................. 37
   A. A Repeating Cycle ................................................................................................................................. 37
   B. Regulatory Challenges for Small Systems ............................................................................................ 37
   C. Best Practices for Small Systems: Recent Developments .................................................................. 38
   D. Consolidation Policies and Practices ................................................................................................... 39
   E. A Best Practice State: Arizona ............................................................................................................... 39
XI. NARUC RESOLUTIONS ......................................................................................................................... 41
I. ACKNOWLEDGEMENTS

The National Association of Water Companies (NAWC) extends its sincere appreciation to all of the participants and presenters at the NAWC 2014 Staff Water Policy Forum. NAWC wishes to thank National Association of Regulatory Utility Commissioners (NARUC) leadership for their ongoing support of these informative education forums.
II. PREFACE

The 2014 NAWC Staff Water Policy Forum was held December 10-12, 2014, in Scottsdale, Arizona. Participants in this Forum represent the water industry, research foundations, capital market analysts, state economic and environmental regulators, and consumer advocates.

The purpose of the Forum is not to reach consensus amongst the participants, but rather to share thoughts, information, and ideas in the form of effective regulatory practices that can be used to build a common understanding of the issues that impact water companies, the customers they serve, and the respective regulatory agencies. The ultimate goal is that each state adopts or promotes those effective regulatory practices. Therefore, this report provides a summary of the topics discussed at the Water Policy Forum in hopes that it will facilitate additional discussion on these issues, a greater understanding of the importance of effective regulatory practices, and action by states to implement and apply effective regulatory practices.

By all counts, the NAWC Water Policy Forums are very useful in promoting education and dialogue amongst the industry stakeholders. The Forum provides the industry participants an opportunity to gain perspective from regulators and consumer advocates about a number of issues including the role of consumer education, challenges in regulation, and potential for collaboration. Over the years, it has become abundantly clear that more needs to be done in assisting state commissions with navigating the process of implementing regulatory practices required to facilitate capital attraction at cost effective rates. Stakeholders that have participated in past opportunities with NAWC and have implemented these regulatory practices have benefitted from a more constructive regulatory environment for infrastructure improvements and quality service.
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Arizona Corporation Commission

The Honorable Susan Bitter Smith  
Commissioner  
Arizona Corporation Commission

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President & CEO  
Middlesex Water Company

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Supervisor, Fixed Utility Valuation Engineer  
Pennsylvania Public Utility Commission

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President  
EPCOR U.S.

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Aqua America

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Director of Communications
IV. THE FUNDAMENTALS OF THE PRIVATE WATER INDUSTRY

A necessity of life, water is the only utility service that is physically ingested. There is no substitute. Therefore, regardless of cost, water service provided by a utility company must be safe to consume. Not only is the water subject to increasingly stringent standards of quality by regulators, but customers demand a high level of reliability. In this overview, Walton Hill provides insight into the fundamentals of the private water industry. The essential nature of water service is intrinsically related to quality and reliability. As water plays a critical role in health, sanitation, and fire protection, the adequate delivery of water is a 24 hours, 7 days a week customer demand.

The discussion that follows outlines the fundamentals of water from the importance of quality of service to the requirement of cost recovery. In that regard, the discussion must begin with the fundamentals of regulation still applicable and relevant today.

A. The Regulatory Compact

The need to reconcile the competing interests of the consuming public and investor-owned utilities is "The Regulatory Compact" policy that is well-articulated in case law and state commission regulations. Customers and regulated industries benefit from the application and adherence to the Regulatory Compact - utilities rely on consistent effective ratemaking to achieve adequate capital and consumers are protected by regulators who ensure essential services are provided at just, fair, and reasonable rates. The Regulatory Compact remains in place today. Simply stated by Forum Participant Hill, a fair return should be allowed, as should the opportunity to earn it, so the industry has the ability to attract capital. By the same token, the industry should ensure a long-term quality water supply to existing and new customers by maintaining and replacing aging infrastructure. The industry should also comply with quality water standards and extend water service to those who need it.  

…the return to the equity owner should be commensurate with returns on investments in other enterprises having corresponding risks. That return, moreover, should be sufficient to assure confidence in the financial integrity of the enterprise, so as to maintain its credit and attract capital.

B. The Industry is Fragmented

The private water industry is a fragmented industry. With more than 52,000 community water systems in operation and 83% of the water systems serving less than 3,300 people, Forum Participant Hill notes that there are too many water systems, that they are too small, and too inefficient. Compare, for example, that there are 1,200 and 3,000 natural

---

2 Hope at 591.
gas and electric companies, respectively. As further demonstration of fragmentation, less than 1% of the water systems serve more than 100,000 people and over 80% of the market share is controlled by the government.

Compared to some other utility industries, the water industry is the only utility that has not been “deregulated.” In fact, the water industry is heavily regulated by environmental and economic regulators. Contrary to the belief that water is “free” or not expensive to provide, the water industry is a rising cost industry with high capital needs, the longest capital recovery period, and declining per capita revenue. These factors contribute to the industry’s negative cash flow making the industry less attractive to investors. Yet, as indicated below, compared to electric and telephone, water continues to be the least amount of consumer expenditure for a four-person household.³

![Pie chart showing consumer expenditures on utilities for a four-person household in 2013.](image)

C. Capital Intensive Industry

According to the United States Environmental Protection Agency (EPA), it is now estimated that $384.2 billion are needed over the next 20 years for water infrastructure-related expenses.⁴ This cost does not include dollars associated with wastewater improvements. The cost drivers and risk considerations include infrastructure replacement needs (supply, treatment, and distribution), increasingly stringent Safe Drinking Water Act (SDWA) requirements, increasing testing sensitivity, tort liability, rising costs of production and declining per capita revenue (conservation efforts are working), growth-related needs, pressure on critical water supplies, rising security concerns, and regulatory lag.

³ Institute for Public Utilities, Consumer Expenditures on Utilities Through 2013, Janice A. Beecher, Ph.D., IPU-MSU, February 2015 ipu.msu.edu
⁴ EPA Drinking Water Infrastructure Needs Survey and Assessment, Fifth Report to Congress, April 2013
While the cost drivers and risk considerations will be discussed in greater detail later in the Forum Report, the charts immediately below demonstrate the differences between the regulated industries as it relates to capital investment and recovery. For example, it was noted that ROEs tend to be higher in the electric and gas industries even though water is a rising cost, essential service industry. Regulatory practices significantly impact long-term investment potential. On the other hand, Forum Participant Hill notes that consistency of earned return improves access to capital and lowers costs to customers.

Source of Information: SEC Edgar I-Metrix Online Database
Water utilities require more capital invested per dollar of revenue than any other regulated industries. To complicate the economics further, thus making it more difficult to attract capital, the water industry has the lowest depreciation rates. These characteristics negatively influence the industry’s ability to attract capital because low depreciation rates and long recovery periods are viewed negatively by capital market analysts.

D. Alternative Regulation

As noted by Forum Participant Hill, many states have some form of alternative regulation for electric and/or gas. Alternative regulation mechanisms include cost trackers, multiyear plans, revenue decoupling, formula rates, and forward test years. By comparison, in water, the state commissions have not adopted many forms of alternative regulation. Forum Participant Hill believes that the water industry should consider additional forms of alternative regulation. For example, the water industry has had some level of success with DSIC and many states have embraced one or more of the NARUC Best Practices. With that said, much less of water opex and capex is subject to cost trackers or expedited
adjustments. The Brattle Report, a study commissioned in 2013 by NAWC, made significant findings in this regard. A synopsis of the Executive Summary follows:

### BRATTLE REPORT BASIC FINDINGS

**Executive Summary**

<table>
<thead>
<tr>
<th></th>
<th>Electricity</th>
<th>Natural Gas</th>
<th>Water</th>
</tr>
</thead>
</table>
| Revenue
Distribution/Reduction | 27          | 30          | 1      |
| Conservation
Adjustments/Decoupling |             |             |       |
| Comprehensive
Alternative Rate Making and
Timely Recovery | 34          | 18          | 4     |
| Examples: Future rates, multi-year rate mechanisms. |
| Alternative Rate Making for Capital Expenditures | 17          | 22          | 14    |
| Mechanisms designed to fund capital investments to maintain the integrity of distribution systems. Examples: CEC and Contingency rates. |

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**E. The National Association of Regulatory Utility Commissioners (NARUC)'s Best Practices Resolutions**

As stated earlier, the purpose of the Water Policy Forum is to bring stakeholders together to share effective regulatory practices with one another. Indeed, it is the hope of NAWC and its member companies that the Forum discussion encourages state commissions to take action in implementing effective regulatory practices that enhance returns to promote and facilitate capital for necessary improvements. Several important regulatory tools are increasingly used by regulators to address the previously discussed unique needs of the regulated water industry.

NARUC has long recognized a leadership role for it to promote regulatory practices and facilitate the use of effective regulatory practices. In July 27, 2005, the NARUC Board of Directors passed a Resolution, sponsored by the NARUC Water Committee, supporting consideration of those regulatory policies considered to be “Best Practices.” The Resolution identified many of the practices discussed in this Summary Report (DSIC, the use of future and/or hybrid test years, interim rates, pass through mechanisms, cost recovery clauses, and wise use water policies). In encouraging the implementation of effective regulatory practices, NARUC has adopted additional resolutions that address: effective practices for small systems and the widening gap between approved and actual returns on equity.

Copies of these resolutions are attached and are also available on the NAWC website: [http://www.nawc.com](http://www.nawc.com). Some will be discussed in greater detail below.

**Participant Reaction**
As mentioned previously, the challenges of infrastructure replacement and compliance with both the Safe Drinking Water and Clean Water Acts are increasing. Forum Participant Hill noted there are added challenges to the industry from: 1) increased tort liability with a growing number of class action suits; 2) rising costs of operation and production (labor, power, chemicals, and taxes); 3) declining per capita revenue because conservation efforts are working; 4) increased pressure on critical water supplies; 5) rising security concerns and regulations; and 6) increased regulatory lag. If these challenges are to be met in a cost effective manner, it is incumbent upon utilities and their regulators to identify and implement, as appropriate, regulatory practices designed to facilitate capital attraction, economies of scale, and efficient operations. Major capital investment and rising costs of water will lead to more rate cases and greater need for efficiency. Participants recognized that communicating the value of water will continue to be critical. As Forum Participant Hill continues to note, many have reached the conclusion that regulatory and structural changes can help assure quality service at a reasonable price. Regulatory practices and policies, the regulatory compact, and a competitive capital market all influence the ability to attract capital on reasonable terms.
V. ADAPTING REGULATION TO CURRENT CHALLENGES: ALTERNATIVE REGULATION, RISK, AND CONTINUED INVESTMENT

As previously mentioned, the water industry faces challenges and opportunities associated with aging infrastructure, limited water supply, and the need to maintain water quality. Additionally, declining water usage and the interrelationship between energy-water needs create challenges to revenue growth. With that said industry participants believe that opportunities exist to implement additional alternative rate mechanisms that allow the water systems to be maintained and further developed to meet these challenges.

On these issues, the Forum Participants heard the perspective of a utility representative, an economic regulator, and a consumer advocate. We begin with Forum Participant Jenkins representing the utility industry. Forum Participant Jenkins notes the existence of regulatory mechanisms that, if implemented, allow the companies to meet the challenges and capture the opportunities. Therefore, there is no need to reinvent the wheel in this regard. He also notes that the public interest is best served by finding common solutions that benefit our customers.

A. Water Industry Challenges

1. Aging Infrastructure

The American Society of Civil Engineers gave a “D” grade to the water industry in their 2013 Report Card and estimates that replacing infrastructure will cost $1 trillion over 25 years. The EPA estimated that $384 billion of new capital over the next 20 years will be needed just to keep the water system operating.

Mr. Jenkins notes that somewhere in the United States, a major main breaks every two minutes, accounting for about 240,000 breaks a year, costing utilities and consumers about $2.6 billion in lost water. One such break occurred recently in Los Angeles destroying a portion of Sunset Boulevard. It “washed out” a large portion of the surrounding area including the UCLA campus. These types of breaks do not help the state’s existing drought conditions. This one occurred in July [2014], not long after the state passed statewide watering restrictions. The water main that burst was a 93-year-old pipe. Authorities estimate 20 million gallons of water spilled, as fast as 75,000 gallons per minute.

2. Limited Water Supply, the Requirement to Maintain Quality, and Declining Water Usage

Water scarcity is an issue that exists beyond just the desert Southwest. Nearly one in ten United States watersheds is stressed, with demand exceeding supply. Forty out of fifty state water managers expect water shortages in some portion of their state over the next decade. Over 80% of the more than 50,000 public drinking water systems in the United States are classified by the EPA as “small.” Many of the challenges facing the industry
are particularly difficult for these small, older systems to address. Lack of adequate supply and the removal of contaminants, such as pesticides, industrial chemicals, and arsenic can be complex and expensive.

According to the Water Research Foundation’s Report on North America residential water usage trends since 1992, a pervasive decline in household consumption has been determined at the national and regional levels. Many water utilities across the United States and elsewhere are experiencing declining water sales among households.

### B. Opportunities: Alternative Ratemaking Mechanisms

For companies like American Water, the lack of regulatory mechanisms that provide timely cost recovery allowing infrastructure replacement without regulatory lag can be a real issue in addressing aging infrastructure issues similar to those discussed above.

**At American Water: Pipe Replacement Life is Shortening**

![American Water Pipe Replacement Life](chart.png)

Current mechanisms have incentivized companies like American Water to get below the national average, but some companies are still replacing pipe over 150 years.

The chart below demonstrates the mechanisms that have been created and permitted in all industries. As the chart indicates, compared to the electric and gas sectors, the water sector is far behind in terms of regulatory mechanisms.

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Recognizing challenges faced by the water industry, NAWC has sought to close the ROE gap, reduce regulatory lag, and promote consistent cost recovery. In doing so, in some states, the industry has proposed, and some regulators have implemented, alternative regulation methods to supplement traditional cost of service regulation. As mentioned earlier, to capture as many of the alternative regulatory approaches as possible, NAWC requested that The Brattle Group (Brattle) research that information and prepare an analysis report of alternative regulation used across all industries.\footnote{Alternative Regulation and Ratemaking Approaches for Water Companies: Supporting the Capital Investment Needs of the 21st Century, Prepared by the Brattle Group for the National Association of Water Companies.}

As the map below indicates, 44 states have some form of regulation of private water companies.
In the traditional regulatory approach for setting prices -- cost of service regulation -- rates are established by the regulatory commission generally in rate cases. Regulatory lag can occur between those rate cases unless rates are forward looking. Rate cases are detailed and time intensive, lasting between six to twelve months. Regulatory lag can be measured as the number of months between the last month of the test period for which the data used in the general rate case was collected, and the first month that the new rates actually go into effect. Consequently, if a utility investing substantially in new infrastructure has increasing expenses, a longer regulatory lag makes it difficult to recover costs and earn the allowed rate of return. The ability of a utility to earn the allowed rate of return involves a balance between growth in billing units, cost inflation, and increase in productivity.

The Brattle Report notes that today’s traditional cost of service regulation is not well designed to meet the future needs of the water industry. Alternative regulation comprises a variety of techniques for adjusting rates that: 1) support specific investment and depreciation expenses and costs; 2) reduce earnings volatility and attrition; and 3) supplement revenues lost to conservation and efficiency efforts. The principles of alternative regulation appropriately recognize that six to twelve-month long rate cases can lead to earning attrition and that some costs are outside the control of management. There are a variety of alternative regulatory policies that have been developed to phase-in rate increases, assist utilities in meeting financial obligations, and reduce the regulatory burden. In its Report, Brattle addresses three classes of alternative mechanisms:

1. Revenue stabilization mechanisms;

2. Comprehensive regulatory approaches that establish rates outside the single general rate cases; and

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3. Specific techniques for capital investment like the DSIC or CWIP or riders.

Forum Participant Jenkins addresses some of these alternative mechanisms in greater detail below.

1. Implementation of DSIC

American Water’s Water DSIC program operates in 7 States, for example, receiving widespread customer acceptance. The benefits have included economic growth (job creation); significant progress in replacing aging infrastructure; enhanced service quality; reduction of water lost through leaks; and avoidance of rate shock. American Water supports expansion of the DSIC into the wastewater sector as well. Pennsylvania has implemented the DSIC for wastewater systems. This will be discussed in greater detail below by Mr. Rendina.

2. Future Test Year

American Water has implemented the future test year in 9 of their 16 states. Forum Participant Jenkins believes that the use of a future test year more accurately estimates expenses, revenues, and capital additions to the 12-month period. The company is able to more appropriately address water usage, revenue and costing trends using a future test year, thereby resulting in less rate case filings. More on this later in the Forum Report.

3. Revenue Stabilization Mechanism (RSM)

Among the greatest challenges facing the water industry today is the need to implement sustainable conservation programs without negatively impacting the financial viability of the utility. The water industry has been forced to make the shift towards promoting water use efficiency as population growth, drought, and environmental concerns impact water supply availability. Increased conservation efforts coupled with declining sales can lead to negative impacts on revenue. Revenue stability is a constant concern for water utilities who must balance fair and equitable rate structures against the need to cover increasing infrastructure and supply costs. As demand lowers, the difficulty in covering fixed costs increases, and, short of innovative revenue recovery mechanisms, utilities may not meet their revenue requirement.

Therefore, between rate cases, revenue stabilization mechanisms can be used to adjust base revenues without addressing costs. Examples of revenue stabilization mechanisms include conservation adjustments or decoupling. Revenue decoupling is a rate adjustment mechanism that separates (or “decouples”) a utility cost recovery from the amount of water it sells.

Mr. Jenkins notes that customers should be rewarded for using water efficiently. This practice would establish a regulatory climate that aligns the utility’s interests with the
State’s interest in water efficiency – it’s a win/win in his opinion. Decoupling removes the utility’s incentive to promote sales, allowing management to refocus on least-cost investment decisions. Other benefits of decoupling include: a better alignment between revenue recovery and corresponding costs, less frequent and less contentious rate cases, and better forecasting of revenues and declining consumption.

C. The Water-Energy Nexus

The companies are seizing the win-win-win opportunity of the collaborations that can occur between the energy and water providers. Several organizations, including American Water, as well as the NAWC and the American Waterworks Association (AWWA), have submitted letters to the EPA urging the inclusion of water efficiency measures be explicitly encouraged to be part of state energy efficiency plans adopted to comply with the EPA’s proposed 111d rules. Consumers benefit from lower prices, more efficient service, and a smaller carbon footprint. Utilities benefit from energy savings, greater efficiencies, and updated regulatory mechanisms. States will benefit from the facilitation of delivery of better, more affordable, and more reliable utility service constituents.

To continue with these benefits, Mr. Jenkins believes that the antiquated pricing mechanisms must be removed. At American Water, over 90% of the operating costs of the regulated business are fixed, yet only about 30% of the revenue is recovered through fixed charges. With traditional rate structures designed for recovery of consumption rather than fixed costs, utilities are left with little incentive to promote water and energy efficiency to customers. Pricing mechanisms have essentially been the same for decades. He believes that the use of alternative mechanisms will encourage water-energy nexus benefits that lower energy usage, lower the industry’s carbon footprint, reduce cost of water for consumers, and drive innovation.
D. A Regulator’s Perspective – Pennsylvania

Pennsylvania has long been touted as a state with effective regulatory practices. Most believe that regulation in Pennsylvania is historically solid and conducive to meeting today’s industry challenges. State legislation has given the Pennsylvania Commission the authority to approve ratemaking methods that will better address the challenges the utility industry faces today.9 As already mentioned, those methods include the allowance of: 1) DSIC; 2) a fully-projected future test year; and 3) combined revenue requirements for water and wastewater.

Subsequent to the initial DSIC legislation, the Pennsylvania Legislature extended the use of the DSIC mechanism to wastewater, gas, and electric companies. The Pennsylvania Commission supported this legislation as they believe it will encourage investment in the state, accelerate aging infrastructure replacement, and result in greater rate stability for customers. Similar programs have now been implemented for water in at least eight other states (Illinois, Missouri (St. Louis County), Ohio, Delaware, Indiana, New Hampshire, New York, and Connecticut.

Forum Participant Rendina elaborated on Pennsylvania’s best practices.


In considering the needs of the utility, state commissions have to remember that companies need timely access to capital with minimal regulatory lag. Mechanisms to accelerate infrastructure replacement and mechanisms to provide flexibility to address challenges all further an opportunity to earn a reasonable authorized return. These things have to be considered and balanced with the needs of customers to have reasonable rates, and quality service. Therefore, the Pennsylvania Commission has recognized the economic challenges that some customers face in this economy and they have implemented rate mechanisms that allow for a gradual increase where appropriate.

   a. Distribution System Improvement Charge

A nationally recognized best practice in the industry, a DSIC mechanism allows for rate increases, outside of a general rate proceeding, for non-revenue producing investments to replace aging infrastructure. Surcharges are placed on customer bills to recover fixed costs of eligible plant. According to Forum Participant Rendina, the DSIC has proven to be a valuable tool for Pennsylvania utilities and their customers in that there has been:

9Act 11 of 2012, Pennsylvania Statutes
• Improved service quality;
• Accelerated replacement of aging infrastructure;
• Timely recovery of fixed costs;
• Rate gradualism as opposed to rate shock;
• Proactive planning by utilities;
• Attraction of lower cost capital; and
• State economic development.

In Pennsylvania, 13 utilities have an approved DSIC. As Mr. Rendina states, the customer safeguards are a critical component to the success the state has seen with the use of DSIC. Those safeguards include that a company may not seek a DSIC if it has not had a rate case within the previous 5 years. As part of the DSIC application, the company must submit very detailed information including:

• A long-term Infrastructure Improvement Plan;
• A schedule of planned replacement;
• A description and location of property;
• Projected annual expenditures;
• The manner of acceleration of improvements;
• An annual Asset Optimization Plan; and
• A description of the DSIC tariff protections.

The DSIC tariff customer safeguards will include a number of things. For example, a cap on the DSIC rate billed to customers, an annual hearing and reconciliation process, as well as a customer notice. After the approval process, the Commission performs earnings tests and has ongoing oversight and audit processes. The Commission imposes limitations on eligible plant and resets to zero for new base rates.

b. Fully Projected Future Test Year

From a regulatory and public policy perspective, the selection of a test year should be determined by whether they produce rates that are prospectively relevant; that is, that the rates most accurately reflect the costs during the period the rates are most likely to be effective.

In a rising cost industry with heavy capital investment requirements, the use of historic test years assures there will be no return on or recovery of capital that is invested during the test year and thereafter, until the utility files another rate case. This practice discourages necessary investment during these periods and skews construction and investment timing based on artificial test year issues rather than system needs and efficient construction planning processes. Therefore, states like Pennsylvania and Florida have allowed the use of fully projected future test years. Proponents of fully projected future test years believe that they ensure that a utility’s rates and costs match the first year new rates are in effect. Relying on fully projected future test years reduces regulatory lag and encourages fewer rate case filings, saving utilities and customers millions of dollars in rate case expense.
As can be seen from the maps below that are included in the Brattle Report, there are a considerable number of states that rely on a future test year. In addition, some states use a hybrid test year.\textsuperscript{10}

\begin{center}
\begin{tabular}{c|c}
\textbf{Electric utilities} & \textbf{Water utilities} \\
\end{tabular}
\end{center}

\subsection*{c. Combined Revenue Requirements for Water and Wastewater}

In combining revenue requirements for water and wastewater, the Pennsylvania Commission is able to spread increasing wastewater costs across a larger customer base. This acts to mitigate otherwise dramatic rate increases for wastewater customers. Thus far, two companies have been able to use this process in Pennsylvania.

\section*{E. A Consumer Advocate’s Perspective}

Forum Participant Satter provided her insight into the issues heard by consumer advocates. Ultimately, Ms. Satter’s position is that water, as an essential service supplied by a single supplier, must be affordable for all members of the service area. While median income has stagnated or fallen in many parts of the country, some water prices have risen. The feedback received from consumers about the affordability of water provides the foundation for many of Ms. Satter’s observations.

As it relates to the conversation about adapting regulation to current challenges, Forum Participant Satter notes that challenges should be evaluated and tailored to protect customer expectations. To drill down on the issues, she notes that the current challenges are: 1) infrastructure investment; 2) access to capital; 3) stable or declining use; 4) small system viability and the need for economies of scale; 5) growing rate case expense; and 5) rising prices and lack of low-income assistance programs.

Ms. Satter takes the position that while companies would like to do better in the regulatory arena, their financial performance is healthy. For example, Ms. Satter points to American

\textsuperscript{10} Arkansas, Colorado, Delaware, District of Columbia, Idaho, Illinois, Kentucky, Louisiana, Maryland, Mississippi, Missouri, New Jersey, New Mexico, North Dakota, Ohio, Pennsylvania, Utah, and Wyoming.
Water’s dividends which have increased; and therefore, she believes American Water has no trouble obtaining access to capital. American Water represents that it will be Free Cash Flow positive by 2017. She also noted that while ROEs for Aqua America have declined, its dividends have increased. Aqua achieved its 14th straight record year of net income, continued growth of its asset base, and had its 23rd dividend increase in 22 years. In September of 2013, Aqua increased its dividend 9% which marked the 69th consecutive year paying quarterly dividends. At its meeting October 29, 2014, the California Water Service Group (NYSE: CWT) declared the company’s 279th consecutive quarterly dividend in the amount of $0.1625 per common share.

As it relates to infrastructure riders, Ms. Satter cautions regulators to ensure adequate protections are in place. For example, she believes that DSIC mechanisms should incorporate the matching principle, be tailored to address a specific need, and protect customer expectations. She believes that riders and some alternative rate mechanisms may undermine utility incentives to control costs, and therefore, insulate shareholders from the effect of rising prices on customer usage. She cautions against the use of multiple riders as she opines that may have overlapping impacts and inhibit or complicate review.

As prices rise, she believes that consumers are at increased risk of late payment and shut-offs which increases the uncollectible charge. In her opinion, there are few, if any, low-income assistance programs for water and wastewater.

With regard to the utility arguments on declining usage and decoupling, Forum Participant Satter believes that decoupling insulates a company from the effect of price increases and therefore, eliminates the incentive to keep prices affordable. She further posits that decoupling violates single issue ratemaking and the matching principle. She cautions that regulators should ensure that decoupling does not shift revenue recovery among customer classes and that any adjustment should be combined with a viable conservation program.

Consumer Advocate Satter is not a proponent for the use of future test years. A future test year is speculative by its very nature. Forum Participant Satter believes that the industry’s underlying assumptions are not adequately explained or documented. In her opinion, future test years:

- Place a burden on regulators to validate assumptions;
- Fail in applying the matching principle;
- Give utilities incentive to over-estimate costs and under-estimate revenues;

If Commissions use future test years, Forum Participant Satter believes that maintaining a standard of review is necessary. They need an objective baseline and should use three-year averages. There should be a comparison of budget to actual expenditures and
updates as cases progress. There should be limits on how far in the future the test year can be.

Forum Participant Satter believes there are rate design options. She believes that companies can take advantage of economies of scale through consolidated ratemaking; recognize some location specific costs to reflect cost causation. She thinks that high customer charges may provide revenue stability for the utility, but they undercut social value to promote efficiency and is viewed by many consumers as inequitable.

Ms. Satter believes there are existing regulatory resources to adequately address declining use, company investment, and poor returns. She believes that existing rates include non-cash expenses like depreciation expense that provide money for ongoing investment. She believes that a company’s need to access capital markets can be minimized by use of customer supplied funds or low cost debt. She challenged the industry to pace investment to avoid rate shock. For the larger utilities, she believes they can manage major investments to take advantage of economies of scale. For small utilities, she cautions that they need to avoid “lumpy” investments when possible through smaller ongoing investment and maintenance, utilize depreciation reserve, and ADIT to limit the need to go to capital markets.

As it relates to smaller companies, Ms. Satter observes that new regulatory tools do not substitute for basic attention to rates. The smaller utilities are responsible for requesting rate changes. She suggests that absence of rate increase requests can mean the company revenues are sufficient. Therefore, the lack of responsible management and operational action by the company and the absence of timely rate increase requests do not justify sudden, large rate increases.

Participant Reaction

The industry participants remind the regulators and consumer advocates that adequate timely cost recovery helps the industry attract capital. In reaction to the comment that dividends in the industry are healthy, the industry notes that the interrelationship between shareholder returns and adequate rates is important. Investors will continue to invest in an industry that is healthy. By the same token, adequate cost recovery will enable further investment to accommodate growth and infrastructure replacement.

On the topic of future test years, all noted the need to be accurate in projections and budgeted amounts. Forum Participant Hill noted that a company’s regulatory credibility is an asset on these issues. Trust and collaboration with commission staff are critical components to an efficient timely process.

As it relates to more effective communication on the value of water, Forum Participant Kaufman reminded the Forum that a pre-filing communication with the consumer advocates is a best practice. More often than not, Mr. Kaufmann notes that consumer
advocates just need to understand the details of the request so that their participation is refined and/or eliminated, if possible and appropriate.

The Forum Participants discussed that any future long-term policies addressing the value of water and/or regulation of water will necessarily include more discussion of the water-energy nexus. In addition, the best practices in energy, such as smart meters or other technologies that have been used to capture energy loss may be replicated in water. Forum Participant Jim Jenkins mentioned that American Water is in the preliminary stages of reviewing some of these topics.
VI. COMMUNICATING VALUE OF THE “SILENT SERVICE”

All Forum Participants note that effective communication with consumers, regulators, consumer advocates, and public officials, is a best practice. Justin Pizzi with Aqua America presented examples of effective communication practices. In today’s social media-friendly environment, Aqua America has embraced all social media outlets to communicate with its customers. Additionally, the company uses infographics and mobile applications to capture attention and maximize participation.

A. Infographics

Infographics, similar to those shown below, can be used to communicate, educate, and inform consumers about all issues. Forum Participant Pizzi notes that infographics that are colorful, bright, and eye-catching, can be effectively used to capture attention and maximize customer engagement.

![Infographics Example](image1)

B. Social Media

With so many customers on social media, the industry has begun to use Facebook and Twitter, for example as a mode of communication. Some larger companies use social media to communicate outages and storm-related issues. Mr. Pizzi notes that he can measure results of communication via social media. The chart below demonstrates how many followers his company's efforts have achieved.
While they are of a smaller scale in size and finances, smaller companies can and should also use social media to communicate with customers. Mr. Pizzi notes that a small one-man operation can easily and efficiently use social media to inform, educate, and receive feedback from customers. Community engagement of this kind can happen at any scale.

### C. Mobile Applications

Aqua America has created a WaterSmart mobile application that informs customers and the community on different ways to conserve water. This is just one example of how a mobile application can be designed and implemented. The WaterSmart mobile application also includes infographics that tell the story and educate the customer using easy to follow charts and pictures.

### Participant Reaction

Forum Participant McNeil observed that communicating the value of water to the youngest generation, school children, is an effective best practice. She and other participants encouraged the industry to go into the schools with water-related messages, for example, water conversation. Forum Participant Rendina noted the partnership and collaboration that all stakeholders have in the process. Pennsylvania has taken the “we are ALL in it together” view and that has included the state’s participation in community events where the commission can also participate in the conversation with customers.
VII. COSTS OF COMPLIANCE AND STRATEGIES FOR NEW ENVIRONMENTAL REGULATIONS

The Water Research Foundation is a cooperative that sponsors research and communicates its findings to over 1,000 subscribers. Incorporated in 1966, the Water Research Foundation was launched by leaders from the American Water Works Association. Rob Renner with the Water Research Foundation addressed the Forum.

The 1974 Safe Drinking Water Act (SDWA) established the federal standard-setting process and in 1986, the EPA established a prescriptive rate schedule. The 1996 SDWA amendments require the EPA to publish a list of unregulated contaminants that may require regulation and are known or anticipated to occur in public water supplies. Nineteen (19) regulations for 91 contaminants have been put in place between 1975-2013. Nine (9) were implemented prior to the 1996 SDWA amendments and ten (10) after the 1996 SDWA amendments. The chart below indicates the additional regulatory activity on EPA’s horizon.

The complexity of this chart provides a small sense of what water utilities might have to address in the years ahead. The chart only highlights the SDWA implications and does not include Clean Water Act requirements and/or proceedings. Environmental regulations, which must be implemented by the industry, have a cost to the industry that is ultimately borne by the ratepayers. In that regard, state commissions have to take these considerations into account in establishing rates for utilities.

A. Expected Research and Cost Impact of Regulation
The Water Research Foundation has begun more extensive research on the costs of the existing environmental regulations, and expects that the research will be submitted for peer review in 2015. As discussed in greater detail below, Mr. Renner shared the cost information known to date with the Forum.

The EPA does collect data and makes a Regulatory Impact Assessments (RIAs) prior to its implementation of regulations. The EPA presents a detailed study of the quantified and unquantified benefits and costs of a national regulation at multiple MCLs, or regulatory alternatives. Information such as the occurrence, treatment options, and health risks are explained and used to estimate the number of systems out of compliance, population exposed, and number of cases or fatalities avoided. This document is then used to assist EPA in deciding on a final regulation to promulgate in a Federal Register notices of final rules. The EPA uses occurrence data to determine the population exposed to a contaminant and the corresponding cases of illness and death, attributed to the exposure. The subsequent population with reduced exposure, and cases of illness and death avoided, as a result of water systems complying with a regulatory limit is also estimated. The USEPA valuates the cases of illness and deaths avoided, the quantified benefits of a regulation.

B. Example of Costs From Environmental Regulations

The cost to implement “significant” environmental regulations is always a concern and consideration for the industry and for the regulators who have to approve these costs to be borne by the ratepayers. A “significant” regulatory action is considered a regulation that imposes an annual cost to the economy of $100 million or more at the time of promulgation. Forum Participant Renner shared what some of these costs can be. In 1991, one of the most expensive regulations, the Lead and Copper Rule (LCR), was promulgated. That regulation cost $19 billion to implement. It required an extensive new monitoring program for all systems and the installation of corrosion control treatment at 40,000 treatment plants.

Lead and Copper Rule Compliance Costs

Forum Participant Renner noted that the Lead and Copper Rule Long-Term Revisions will likely address:
- Partial Lead Service Line Replacement;
- Optimized corrosion control and water quality parameters;
- Changes in sample site selection criteria;
- Changes in sampling protocol;
- Tap sampling and sampling protocol issues; and
- National costs implications too difficult to assess due to the breadth and depth of the issues being discussed.

With all of the issues, EPA has organized a stakeholder approach to discuss the broad range of issues being addressed and the potential recommendations.

The Surface Water Treatment Rule (SWTR), another expensive regulation, resulted in the construction of several hundred filtration plants for previously unfiltered surface water systems. Surface systems are generally larger than ground water systems which lead to a high national compliance cost.

The Disinfection ByProduct Rule (S1DBPR) simultaneously tightened the DBP standards, as well required compliance for systems serving less than 10,000 people that were not previously covered by the 1989 Total Trihalomethane (TTHM) Rule. Eight (8) out of 19 regulations, encompassing approximately 88 percent of the total costs of all drinking water regulations, are due to economically significant regulations.

As the chart reflects below, three of the significant regulations alone (SWTR, LCR, and S1DBPR) account for 64 percent of the costs, all three of which were promulgated prior to the 1996 SDWA amendments.
EPA has additional proceedings on the horizon. In 2015 and beyond, Mr. Renner notes that EPA will have the cyclical reviews again: the second round of LT2 monitoring, the third six-year review (2016, and the final UCMR4 (late 2016).
VIII. New Realities for System Sustainability and Resource Planning for Long-Term Reliability

Arizona has a long history of confronting its water supply challenges. The state has demonstrated its resolve to take actions needed to ensure long-term sufficient and dependable water supply. Forum Participant Olea provided the historical context of Arizona’s sustainability efforts and educated the Forum Participants on recent developments.

To address system sustainability and resource planning for long-term reliability, Arizona implemented a strategic vision to build on historic accomplishments. That Strategic Vision has included:

- The Salt River Project;
- The Colorado River Compact and Law of the River;
- The Central Arizona Project;
- The Resolution of Tribal Water Rights Claims;
- The 1980 Groundwater Management Act making Arizona a national leader in water conservation and water reuse programs within the five Active Management Areas; and
- The creation of the Arizona Water Banking Authority with 8.5 million acre-feet in storage for future use.

A. Arizona’s Current Situation

A Drought Emergency Declaration, PCA 99006, has been in effect since June 1999. That declaration affords the state the ability to provide emergency response if needed. Arizona has many challenges to resource planning. The state has a very complex water supply system and 69% of Arizona land is federally owned and managed. Complicating a water rights system even further are outstanding tribal water rights claims. Consequently, Arizona has taken some actions to mitigate the complexities and address water sustainability for the long-term.

B. Actions to Address Current Situation

Executive Order 2003-12 was issued in March 2003 to establish the Governor's Drought Task Force which has led to the creation of a State Drought Plan. Executive Order 2007-10 was issued in May 2007 to raise awareness of Arizona’s continuing long-term drought and encourage conservation. The Arizona Department of Water Resources (ADWR) has been designated the lead agency for statewide planning for drought. House Bill 2661 (2010) created the Water Resources Development Commission to assess the current and future water needs of Arizona. The Water Resources Development Commission has concluded that total statewide demand will range from a low of 8.1 MAF in 2035 to a high of 10.6 MAF in 2110 (current demands are 6.9 MAF). They concluded that without proactive and localized water management strategies future water supply and demand imbalances may exist.
formed comprised of state, federal, tribal, and nongovernmental organizations to provide policy guidance for Drought Plan implementation, agency emergency response options, and to plan review and modification, if necessary.

Forum Participant Olea noted the various reports that have been released as a result of these efforts to implement a strategic vision for Arizona's water needs. For example, the Arizona Drought Preparedness Plan, the Arizona Drought Preparedness Annual Reports, and Arizona’s Next Century: A Strategic Vision for Water Supply Sustainability. Too lengthy to include here, these reports can be found on the various agency websites. In addition, Mr. Olea noted that in Arizona's Active Management Areas, water providers regulated under the Modified Non-Per Capita Conservation Program are required to provide basic water conservation education programs for their customers. These water providers must also select and implement best management practices related to their service area characteristics.

C. Role of the Arizona Corporation Commission

From an economic regulation perspective, the Arizona Commission has a critical role to promote rate structures that facilitate conservation, to encourage best management practices, and to implement a system infrastructure benefit mechanism to foster infrastructure replacement and development. Both Commissioner Susan Bitter Smith and Forum Participant Olea noted that these best practices have already created a more effective constructive regulatory environment. Other effective regulatory changes in Arizona include a reclassification of smaller water companies so that more companies can take advantage for a streamlined rate application process. Now, for example, “Class D and E” companies can use a streamlined rate application filing that results in fewer schedules and no hearing. This process lends itself to a shorter timeframe for approval – 120 days versus 270 days for a full rate case.

D. Looking to the Future - Strategic Priorities for Moving Arizona Forward

Mr. Olea notes that much remains in Arizona to arrive at a long-term sustainability solution for the State’s water issues. They must resolve the Federal and Non-Federal Water Rights Claims along with the Indian Water Rights Settlements. The state must continue its commitment to water conservation and reuse. They must identify the role of in-state water transfers and consider desalination.

E. A Company’s Perspective – EPCOR Water USA (EPCOR)

With operations in British Columbia, Canada, and New Mexico, EPCOR also has water and wastewater facilities in Arizona. Forum Participant Joe Gysel, EPCOR Water USA’s President, discussed the challenges his company faces in meeting the customer needs in Arizona. Arizona’s water and wastewater infrastructure requires $12.8 billion over the next 20 years. EPCOR Water USA plans to invest over $150 million in the next five years.

throughout the state, and therefore, there is a need to acquire additional water supplies and develop infrastructure to access new and existing unused water supplies.
The State’s aging water systems have created water loss and other system reliability issues. In addressing the future issues, EPCOR must consider how to make all of the required improvements in the current regulatory model which does not accurately allow for recovery of the true cost of water. As the charts below reflect, there are challenges in doing so.

Forum Participant Gysel notes that the challenges between rates and pricing are partly a result of:

1. Bundled tariffs that cloud conservation initiatives;
2. New water supplies, like desalination, that are available at higher costs;
3. Capital needs are great in a rising cost industry regardless of system size leading to customer confusion and frustration;
4. Depreciation is not sufficient to meet the reinvestment needs of the older water systems;
5. Higher risk to the water utilities in that revenue requirements are not guaranteed; and
6. Effective conservation efforts have led to declining usage and therefore, declining revenues.

As discussed earlier, the continued reliance on a historical test year creates a regulatory lag that further exacerbates the inability to address increasing supply and treatment costs. Mr. Gysel notes that the inability to address these issues creates increased risk for the utility thereby jeopardizing the utility’s ability to obtain capital.

F. Solutions and Opportunities

Forum Participant Gysel offers some potential solutions to the concerns he has outlined above. First, he maintains, as do the other industry participants, that state commissions
must begin to align rate structure with the true cost of service. That can be done in a number of ways including the use of decoupling. Second, some state commissions may want or need to establish a price for water that accounts for the scarcity of the resource. Third, state commissions can align conservation objectives with adequate cost recovery; this is similar to the California WRAM model or deferral accounting. Fourth, state commissions should consider improving the infrastructure cost recovery mechanisms.

Participant Reaction

As new Commissioners begin their service, it is paramount that they understand that large rate increases are sometimes necessary to adequately address infrastructure and sustainability issues. Forum Participant Olea noted the difficulty in establishing rates based on the true value of water. In Arizona, for example, rates must be adequate to allow companies to provide sufficient service in a high growth, stretched water supply region. Customers do not always understand that the cost of service is not equal to the value of the water. Forum Participant Gysel made the observation that the industry has not done a sufficient job in communicating the value of water. It is always challenging to explain rates versus pricing. The conversations about price of water are critical as the industry collectively begins to address growing risk, declining usage, and rising costs.
IX. Funding Future Investment and the Role of Regulation

Richard Verdi with Ladenburg Thalmann presented to the Forum.

An abundance of investment opportunities exist. According to the World Federation of Exchanges, the worldwide equity capitalization is approximately $70 trillion. The global utility sector is about $2.5 trillion. Therefore, utility stocks appeal to only certain investors. With that said, these investors have choices and therefore, utility stocks must compete for capital with other income generating equities, such as master limited partnerships, real estate investment trusts, and telecommunications. Certain developments and conditions in the water industry have resulted in some gravitation to the water industry by Wall Street.

With 2.5 billion people at risk because of non-sustainable water use, Mr. Verdi believes that demand for water will overshoot supply by 40% and half of the world’s population will be living under conditions of water stress. These factors are triggering significant spend in the water space. Moreover, there are currently more than 50,000 municipal water systems and they have capital investment needs and/or are taking part in various consolidation efforts. Just these reasons alone explain some of Wall Street’s attraction to water utilities. But there are additional reasons.

A. Why Wall Street Likes Water Utilities

Water utilities have a solid potential for growth. First, there are no substitute products. Second, as regulated monopolies, their investment is included into rate base and therefore, has an opportunity for cost recovery, thereby lowering the risk with that investment. Third, water companies are considering and making investment in other new projects: their contributions to shale gas development and military water operations, for example. Nevertheless, Wall Street also has certain fears as it relates to the water industry.

B. Why Wall Street Fears Water Utilities

Regulation also means that cost recovery is very dependent upon a constructive regulatory environment. By comparison, electric and gas utilities capture higher returns on equity. There is also a concern over the liquidity of water companies, with less than a dozen publicly-traded domestic water utilities, and low average daily trading volumes. Water companies have historically slower organic growth and water consumption continues to decline due to effective conservation efforts and efficiencies in system and technologies. Of course, lower usage translates into lower revenues. With an increasing capital intensive industry and declining revenues, regulatory lag becomes a major issue. The decision focal point for a utility then becomes a comparison of needs of the utility with the constructiveness of the public utility commission.
Wall Street analysts know that different regulatory programs impact earned returns. Therefore, analysts look favorably upon effective practices in rate case procedure that reduces regulatory lag. For example, Wall Street analysts consider effective regulatory policies to include: mandatory rate case timelines for both historic and future test years, interim rate relief, step increases, and retroactive effective dates. Mechanisms, like decoupling and single tariff pricing, are also viewed favorably as effective practices in rate design. Cost recovery mechanisms that are used between rate cases are also viewed favorably by Wall Street analysts. Examples would include the previously-mentioned DSIC mechanism, as well as the implementation of cost riders or surcharge mechanisms.

Reducing regulatory lag is viewed favorably by Wall Street as infrastructure investment velocity increases, helping to enhance access to capital at a favorable cost keeping customer costs as low as possible.

C. A Balanced Approach is Necessary
Constructive regulatory commissions translate into a favorable earned return on equity (ROE) environment. Investors insist that the water utility captures a fair ROE. In Wall Street’s analysis, the following can prevent the desired outcome: inflation, historic test years, capital markets issuances, and elevated capital budgets. These factors can contribute to regulatory lag. Instead, Wall Street prefers more easily understood programs, transparency and clarity, streamlined rate case approaches, and predictability.

Forum Participant Verdi also makes the observation that large water companies - geographically diverse water utilities - will invest their money into states with favorable regulatory environments. From a smart business perspective, they have to avoid less constructive business footprints. He notes that robust profile water utilities that generate higher multiples are primarily located in favorable business footprints and lackluster water utilities that have lower multiples are primarily located in unfavorable business footprints.

All stakeholders can come together to address these financial concerns. A balance approach is vital to the water industry and it is what Wall Street expects. For their part, state commissions can implement alternative rate mechanisms like infrastructure surcharges, a repair tax, decoupling, and allow CWIP recovery. Working together with all of the stakeholders, water utilities have a role as well in ensuring a balanced approach. Water utilities should continue to concentrate on the core utility operations and allocate capital and make further investment into the core business. Forum Participant Verdi suggests that the industry continue to foster strong relationships with regulators and the customers.
X. SMALL WATER COMPANY CHALLENGES AND CONSOLIDATION

A. A Repeating Cycle

NAWC, an association that includes both members of the water and wastewater industries, is dedicated to helping close the information gap by serving as a credible resource for anyone seeking information about the water issues facing our nation today and in the foreseeable future. Together with its members, NAWC engages with others looking for new solutions to water-related challenges, including aging water infrastructure, limited water supply, and budget deficits that are preventing much-needed investment in the people, technology, and facilities required to help ensure reliable water and wastewater services across the country from all sizes of water companies. Some of the largest, hardest challenges in the industry are faced by small water companies that have the same responsibility as their larger counterparts to deliver quality service at affordable prices. Matt McCaffree with NAWC presented to the Forum and discussed these challenges and the potential solutions.

The challenges that small water systems have to address are not new; unfortunately, there is a repeating cycle. Some of the solutions are also not new.12 For example, in a report by NRRI, recommendations to address small water company challenges include: the implementation of simplified rate procedures, modified rate designs, and consolidation and/or regionalization.

B. Regulatory Challenges for Small Systems

As stated earlier, regardless of size of facility or number of customers served, all water companies are held to the same standard for quality service. In addition, all companies need access to capital. Financing for small water companies may be different than that for large utilities, but nevertheless, it is obtainable. The difference is that some small companies might have to rely on owner financing or small bank loans for their capital. But like the larger companies, the likelihood of achieving affordable access to capital is greater with adequate rates and regulatory stability. Therefore, the use of effective regulatory practices in the regulation of small water companies is critical. Regulatory challenges do exist in this regard.

Traditional rate applications are very expensive per customer because they can be complicated and time-intensive. Some regulatory processes limit filings or have a lengthy process that creates regulatory lag. These regulatory hurdles prevent the company from obtaining timely revenue increases, and lack of revenue growth prevents necessary investment to address infrastructure-related issues. Consequently, Forum Participant McCaffree notes that the first objective to address the challenges the small water companies face is to break the cycle of underinvestment.

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12 NRRI (1984): Commission Regulation of Small Water Utilities: Outside Resources & Their Effective Uses
Objective #1: Breaking the Cycle of Underinvestment

He notes that existing practices, if they are effective regulatory practices, can break this cycle of underinvestment. In reaching out to the water and wastewater industries, NAWC notes the industry needs direct engagement, simplified rate applications, rate of return mechanisms, and cost of living adjustments.

C. Best Practices for Small Systems: Recent Developments

In the regulation of small water systems, some state commissions now recognize that rate application processes and mechanisms that reduce or remove the need for use of outside counsel or consulting services, thus reducing rate application duration and costs, should be encouraged. In addition, to meet the challenges of environmental compliance and continued capital investment required to deliver safe and reliable service to the customers served by regulated small water systems, some effective best practices have been identified as means to improve sustainable and continued investment in small water system infrastructure at cost-effective rates. To assist in the education effort and to ensure consistent application of effective regulatory practices on a larger scale, NARUC has worked diligently to capture some of these regulatory practices in the form of a Resolution to be shared with all state commissions.

Passed by NARUC in July 2013, the Resolution lists just some of the best practices recognized by state commissions:

- Simplified rate applications using electronic filing;
- Use of Annual Reports for cost recovery determination in lieu of lengthy rate cases;
- Use of the Staff Assisted Rate Case Process;
• Reliance on a simplified rate of return calculation;
• Allowance of periodic cost of living adjustments;
• Use of emergency fund mechanisms; and
• Limitation of CIAC so rates are sustainable.

The Small System NARUC Resolution, included in the end of this Forum Report, identifies 10 core regulatory practices and 3 general management practices. All mechanisms and policies referenced in the resolution are in place in at least one state. The primary aim is to alter the ratemaking effort to match the scope of the impact.

D. Consolidation Policies and Practices

As Forum Participant McCaffree explained, most consolidation policies address non-compliant and failing systems first and healthy systems as a distant second, if at all. On the other hand, effective statutes and laws usually include: acquisition adjustments, independent valuation or appraisal processes, return on equity premiums, rate consolidation, and direct engagement of unsustainable small systems. States with effective consolidation policies include Pennsylvania, Missouri, and Illinois.13

The industry has discovered that there are three ways to address small water system challenges: 1) “hyper” consolidation which is unrealistic and unnecessary; 2) continued awareness, capacity building, and vigilance that the mechanisms are being employed; and 3) continued education on best practices and consolidation policies that address all types of systems. The third approach is the preferred, more effective, realistic approach.

E. A Best Practice State: Arizona

As Forum Participant McCaffree discussed the challenges the small water companies face, he also pointed to the number of states that have implemented effective solutions to these challenges. For example, California has implemented a staff assisted rate case process and a simplified rate procedure form. Virginia has implemented an automatic rate increase process. Pennsylvania, Missouri, and Illinois have all implemented policies encouraging consolidation. The Arizona Commission has also put effective practices in place that have afforded growth opportunities for the water providers doing business in Arizona.

Forum Participant Armstrong discussed the practices implemented by the Arizona Corporation Commission. He began by noting that many small water companies confront significant challenges in keeping accurate and verifiable books and records. The lack of record keeping can be a hurdle in obtaining timely accurate rate relief. Arizona has worked diligently with these small water providers to encourage accurate books and records. He believes that delivering actual increased cash flows to small utilities is a must as Arizona companies need to upgrade systems to improve service reliability. By the

13 Pennsylvania law, Section 69.711), Missouri law, Ch. 393), and Illinois Public Act 098-0213)
same token, all stakeholders will have to work collaboratively to ensure effective customer education as it relates to the necessity to increase rates.

Arizona has taken a number of steps to begin the process of addressing the challenges in the water industry.

On June 20, 2014, Commissioner Susan Bitter-Smith raised water and wastewater system consolidation as a topic of discussion during a Commission Staff meeting. The discussion lead to the formal opening of a generic Commission Inquiry to look into possible development of a regulatory policy related to the encouragement of such system consolidation. Forum Participant Armstrong issued an invitation to the stakeholders to actively participate in this Docket so that the Commission can make the most informed decision on the regulatory practices required to address some of the challenges discussed herein.

Additionally, Commission Staff is currently drafting a second Regulatory Policy-White Paper that would complement the underlying system consolidation issue while also raising the possibility of non-traditional ratemaking strategies in Arizona. As Mr. Armstrong notes, six ratemaking alternatives are under consideration. The Commission Staff will be responsible for developing the alternative ratemaking options selected by the Commission. Forum Participant Armstrong used the Forum to reiterate the need that utility representatives should take the lead in developing the measures of utility management performance that will be utilized to gauge the success of management in putting additional cash flows to work to address system problems and improve customer service.

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14 Arizona Docket No. WS.00000A-14-0198
XI. NARUC RESOLUTIONS

Resolution Supporting Consideration of Regulatory Policies Deemed as “Best Practices”

WHEREAS, A number of innovative regulatory policies and mechanisms have been implemented by public utility commissions throughout the United States which have contributed to the ability of the water industry to effectively meet water quality and infrastructure challenges; and

WHEREAS, The capacity of such policies and mechanism to facilitate resolution of these challenges in appropriate circumstances supports identification of such policies and mechanisms as “best practices”; and

WHEREAS, During a recent educational dialogue, the “2005 NAWC Water Policy Forum,” held among representatives from the water industry, State economic regulators, and State and federal drinking water program administrators, participants discussed (consensus was not sought nor determined) and identified over 30 innovative policies and mechanisms that have been summarized in a report of the Forum to be available on the website of the Committee on Water at www.naruc.org; and

WHEREAS, As public utility commissions continue to grapple with finding solutions to meet the myriad water and wastewater industry challenges, the Committee on Water hereby acknowledges the Forum’s Summary Report as a starting point in a commission's review of available and proven regulatory mechanisms whenever additional regulatory policies and mechanisms are being considered; and

WHEREAS, To meet the challenges of the water and wastewater industry which may face a combined capital investment requirement nearing one trillion dollars over a 20-year period, the following policies and mechanisms were identified to help ensure sustainable practices in promoting needed capital investment and cost-effective rates: a) the use of prospectively relevant test years; b) the distribution system improvement charge; c) construction work in progress; d) pass-through adjustments; e) staff-assisted rate cases; f) consolidation to achieve economies of scale; g) acquisition adjustment policies to promote consolidation and elimination of non-viable systems; h) a streamlined rate case process; i) mediation and settlement procedures; j) defined timeframes for rate cases; k) integrated water resource management; l) a fair return on capital investment; and m) improved communications with ratepayers and stakeholders; and

WHEREAS, Due to the massive capital investment required to meet current and future water quality and infrastructure requirements, adequately adjusting allowed equity returns to recognize industry risk in order to provide a fair return on invested capital was recognized as crucial; and

WHEREAS, In light of the possibility that rate increases necessary to remediate aging infrastructure to comply with increasing water quality standards could adversely affect the
affordability of water service to some customers, the following were identified as best practices to address these concerns: a) rate case phase-ins; b) innovative payment arrangements; c) allowing the consolidation of rates (“Single Tariff Pricing”) of a multi-divisional water utility to spread capital costs over a larger base of customers; and d) targeted customer assistance programs; and

WHEREAS, Small water company viability issues continue to be a challenge for regulators, drinking water program administrators and the water industry; best practices identified by Forum participants include: a) stakeholder collaboration; b) a memorandum of understanding among relevant State agencies and health departments; c) condemnation and receivership authority; and d) capacity development planning; and

WHEREAS, The U.S. Environmental Protection Agency’s “Four-Pillar Approach” was discussed as yet another best practice essential for water and wastewater systems to sustain a robust and sustainable infrastructure to comprehensively ensure safe drinking water and clean wastewater, including: a) better management at the local or facility level; b) full-cost pricing; c) water efficiency or water conservation; and d) adopting the watershed approach, all of which economic regulators can help promote; and

WHEREAS, State drinking water program administrators emphasized the following mechanisms which Forum participants identified as best practices: a) active and effective security programs; b) interagency coordination to assist with new water quality regulation development and implementation, such as a memorandum of understanding; c) expanded technical assistance for small water systems; d) data system modernization to improve data reliability; e) effective administration and oversight of the Drinking Water State Revolving Fund to maximize infrastructure remediation, along with permitting investor owned water companies access in all States; f) the move from source water assessment to actual protection; and g) providing State drinking water programs with adequate resources to carry out their mandates; now therefore be it

RESOLVED, That the National Association of Regulatory Utility Commissioners (NARUC), convened in its July 2005 Summer Meetings in Austin, Texas, conceptually supports review and consideration of the innovative regulatory policies and practices identified herein as “best practices;” and be it further

RESOLVED, That NARUC recommends that economic regulators consider and adopt as many as appropriate of the regulatory mechanisms identified herein as best practices; and be it further

RESOLVED, That the Committee on Water stands ready to assist economic regulators with implementation of any of the best practices set forth within this Resolution.

*Sponsored by the Committee on Water
Adopted by the NARUC Board of Directors July 27, 2005*
WA-1 Resolution Endorsing Consideration of Alternative Regulation that Supports Capital Investment in the 21st Century for Water and Wastewater Utilities

WHEREAS, Through the Resolution Supporting Consideration of Regulatory Policies Deemed as “Best Practices” (2005), the National Association of Regulatory Utility Commissioners (NARUC) has previously recognized the important role of innovative regulatory policies and mechanisms in facilitating the efforts of water and wastewater utilities to address their significant infrastructure investment challenges; and

WHEREAS, Traditional cost of service ratemaking, which has worked reasonably well in the past for water and wastewater utilities, no longer adequately addresses the challenges of today and tomorrow. Revenue, driven by declining use per customer, is flat to decreasing, while the nature of investment (rate base) has shifted largely from plant needed for serving new customers to non-revenue producing infrastructure replacement and compliance with new drinking water standards; and

WHEREAS, The traditional cost of service model is not well adapted to a no/low growth, high investment utility environment and is unlikely to encourage the necessary future investment in infrastructure replacement; and

WHEREAS, Compared to the water and wastewater industry, the electric and natural gas delivery industries have in place a larger number and a greater variety of alternative regulation policies, such as multiyear rate plans and rate stabilization programs, and those set forth in the 2005 Resolution; and

WHEREAS, The U.S. water industry is the most capital intensive sector of regulated utilities and faces critical investment needs that are expected to total $335 billion to $1 trillion over the next quarter century, as noted in the American Society of Civil Engineers 2013 Report Card for America’s Infrastructure; and

WHEREAS, Tap water is physically ingested and the quality of the service must be maintained to protect the health and economic well-being of communities across our Nation and comply with current and future regulations covering the control of a number of contaminants from nitrosamines to chromium, at a cost estimated at $42 billion by the EPA as part of their April 2013 Report to Congress; and

WHEREAS, Alternative regulatory mechanisms can enhance the efficiency and effectiveness of water and wastewater utility regulation by reducing regulatory costs, increasing rates for customers, when necessary, on a more gradual basis; and providing the predictability and regulatory certainty that supports the attraction of debt and equity capital at reasonable costs and maintains that access at all times; now, therefore be it

RESOLVED, That the National Association of Regulatory Utility Commissioners, convened at its 125th Annual Meeting in Orlando, Florida, supports consideration of alternative regulation plans and mechanisms along with and in addition to the policies and mechanisms outlined in the 22
Resolution Supporting Consideration of Regulatory Policies Deemed as “Best Practices” adopted by the NARUC Board of Directors on July 27, 2005; and be it further

RESOLVED, That the Committee on Water stands ready to assist economic regulators with implementation of alternative regulatory approaches that support water companies' capital investment needs of the 21st century.

Sponsored by the Committee on Water
Recommended by the NARUC Board of Directors November 19, 2013
Adopted by the NARUC Committee of the Whole November 20, 2013.
WA-2 Resolution Supporting the Consideration of Regulatory Mechanisms and Policies Deemed “Best Practices” for the Regulation of Small Water Systems

WHEREAS, The United States Environmental Protection Agency estimates that more than eighty percent of the total water systems in the United States serve fewer than 3,300 people per system; and

WHEREAS, The NARUC Water Committee recognized that “small water company viability issues continue to be a challenge for regulators” in the Resolution Supporting Consideration of Regulatory Best Policies Deemed as Best Practices (2005); and

WHEREAS, It is acknowledged that the traditional cost-of-service regulatory model as applied to small water systems may result in regulatory costs that are disproportionately high on a per-customer basis, which ultimately impacts customers served by those systems; and

WHEREAS, A number of regulatory policies and mechanisms have been implemented by public utility commissions throughout the United States to specifically address the challenges of regulating small water systems; and

WHEREAS, In the regulation of small water systems, it is recognized that rate application processes and mechanisms that reduce or remove the need for use of outside counsel or consulting services, thus reducing rate application duration and costs, should be encouraged; and

WHEREAS, To meet the challenges of environmental compliance and continued capital investment required to deliver safe and reliable service to the customers served by regulated small water systems, the following practices have been identified as means to improve sustainable and continued investment in small water system infrastructure at cost-effective rates: a) simplified rate applications for small water systems; b) electronic filing procedures; c) use of the annual report provided by the utility to the public utility commission to provide a significant portion of the rate application; d) commission staff assisted rate cases including both direct commission staff involvement in the rate application process and site visits to reduce the need for formal discovery; f) simplified rate of return mechanisms that may include formulaic rate of return calculations or percentage increases in authorized returns indexed to recent water cases in the same jurisdiction; g) cost of living adjustments; h) rate mechanisms to facilitate emergency infrastructure funds; i) operating ratio rate mechanisms where there is very limited rate base; j) limiting the use of Contributions In Aid of Construction in situations where unsustainably low rates may be instituted as a result; and k) combining water and wastewater revenue requirements for purposes of rate cases, as appropriate, if the water and wastewater utilities are under the same ownership, which will reduce rate case expense and offer rate increase mitigation options driven by economies of scale that would be unavailable otherwise; and

WHEREAS, It is further recognized that there are regulatory policies and mechanisms that address the viability of newly operating small water systems, including: a) enforcing
the technical, managerial, and financial requirements as defined by the United States Environmental Protection Agency; b) where applicable and beneficial to the customer, encouraging consolidation with a nearby water system; and c) in the case where the new system provides the 30 most benefit to the consumers, assuring adequate rates for infrastructure sustainability and emergency funding; and

WHEREAS, It is recommended that jurisdictions periodically evaluate classification criteria for defining which water systems qualify as small water systems; now, therefore be it

RESOLVED, That the National Association of Regulatory Utility Commissioners, convened in its 2013 Summer Meetings in Denver, Colorado, conceptually supports review and consideration of the innovative regulatory policies and practices identified herein as “best practices” in the regulation of small water systems; and be it further

RESOLVED, That NARUC recommends that economic regulators consider and adopt as many as appropriate of the regulatory mechanisms identified herein as best practices; and be it further

RESOLVED, That the Committee on Water stands ready to assist economic regulators with implementation of any of the best practices set forth within this Resolution.

Sponsored by the Committee on Water
Adopted by the NARUC Board of Directors, July 24, 2013
WA-3 Resolution Addressing Gap Between Authorized Versus Actual Returns on Equity in Regulation of Water and Wastewater Utilities

WHEREAS, There is both a constitutional basis and judicial precedent allowing investor owned public water and wastewater utilities the opportunity to earn a rate of return that is reasonably sufficient to assure confidence in the financial soundness of the utility and its ability to provide quality service; and

WHEREAS, Through the Resolution Supporting Consideration of Regulatory Policies Deemed as “Best Practices” (2005), the National Association of Regulatory Utility Commissioners has previously recognized the role of innovative regulatory policies and mechanisms in the ability for public water and wastewater utilities to address significant infrastructure investment challenges facing water and wastewater system operators; and

WHEREAS, Public utilities carry the responsibility to invest prudently, provide safe and reliable service, and take reasonable action to take precautionary measures to address business risk and economic forces, as necessary; and

WHEREAS, Recent analysis shows that as compared to other regulated utility sectors, significant and widespread discrepancies continue to be observed between commission authorized returns on equity and observed actual returns on equity among regulated water and wastewater utilities; and

WHEREAS, The extent of such discrepancies suggests the existence of challenges unique to the regulation of water and wastewater utilities; and

WHEREAS, Ratemaking that has worked reasonably well in the past for water and wastewater utilities no longer addresses the challenges of today and tomorrow. Revenue, driven by declining use per customer, is flat to decreasing while the nature of investment (rate base) has shifted largely from plant needed to serve new customers to non-revenue producing infrastructure replacement; and

WHEREAS, Deficient returns present a clear challenge to the ability of the water and wastewater industry to attract the capital necessary to address future infrastructure investment requirements necessary to provide safe and reliable service, which could exceed one trillion dollars over a 20-year period; and

WHEREAS, The NARUC Committee on Water recognizes the critical role of the implementation and the effective use of sound regulatory practice and the innovative regulatory policies identified in the Resolution Supporting Consideration of Regulatory Policies Deemed as “Best Practices” (2005); and

WHEREAS, It is recognized that State legislative bodies play a significant and important role in considering and addressing the challenges present in the regulation of water and wastewater utilities; therefore, it is critical that economic regulators strive to continue to foster an environment of cooperation and open communication between themselves,
legislative bodies, 32 and other State agencies involved in the oversight of water and wastewater utilities such that implementation and effective use of sound regulatory practice and the innovative regulatory policies identified in the Resolution Supporting Consideration of Regulatory Policies Deemed as “Best Practices” (2005) is both possible and effective; and

WHEREAS, A number of issues have been identified that if addressed may assist in lessening the discrepancy between authorized and actual returns, including: a) reducing, where appropriate, the length of time between rate cases and/or the length of time to process rate cases for regulated water and wastewater utilities; b) reducing rate case expense relative to requested revenue increases through the encouragement of mediation and settlement as appropriate; and c) examining the rate of infrastructure replacement and system improvements among regulated water and wastewater utilities; now, therefore be it

RESOLVED, That the Board of Directors of the National Association of Regulatory Utility Commissioners, convened at its 2013 Summer Meeting in Denver, Colorado, identifies the implementation and effective use of sound regulatory practice and the innovative regulatory policies identified in the Resolution Supporting Consideration of Regulatory Policies Deemed as “Best Practices” (2005) as a critical component of a water and/or wastewater utility's reasonable ability to earn its authorized return; and be it further

RESOLVED, That NARUC recommends that economic regulators carefully consider and implement appropriate ratemaking measures as needed so that water and wastewater utilities have a reasonable opportunity to earn their authorized returns within their jurisdictions; and be it further

RESOLVED, That the Committee on Water stands ready to assist economic regulators with the execution of a sound regulatory environment for regulated water utilities, and will continue to monitor progress on this issue at future national committee meetings until satisfactorily improved.

Sponsored by the Committee on Water
Adopted by the NARUC Board of Directors, July 24, 2013
The National Association of Water Companies is the voice of the private water industry and the only organization that represents this group of quality water service providers, innovation drivers and responsible partners.

In conjunction with our members, we engage with others looking for fresh and powerful solutions to water-related challenges such as aging water infrastructure, increasing pressure on existing sources of water supply, and economic shortfalls that are preventing much-needed investment in the people, tools and facilities required to help ensure reliable water and wastewater service.

Together, we are moving water forward.