

Surviving or Thriving in Economic Recession:

Strategies of Water Utility Leaders

 Subject Area: Management and Customer Relations



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About the Water Research Foundation

The Water Research Foundation (formerly Awwa Research Foundation or AwwaRF) is a member-supported, international, 501(c)3 nonprofit organization that sponsors research to enable water utilities, public health agencies, and other professionals to provide safe and affordable drinking water to consumers.

The Foundation's mission is to advance the science of water to improve the quality of life. To achieve this mission, the Foundation sponsors studies on all aspects of drinking water, including resources, treatment, distribution, and health effects. Funding for research is provided primarily by subscription payments from close to 1,000 water utilities, consulting firms, and manufacturers in North America and abroad. Additional funding comes from collaborative partnerships with other national and international organizations and the U.S. federal government, allowing for resources to be leveraged, expertise to be shared, and broad-based knowledge to be developed and disseminated.

From its headquarters in Denver, Colorado, the Foundation's staff directs and supports the efforts of more than 800 volunteers who serve on the board of trustees and various committees. These volunteers represent many facets of the water industry, and contribute their expertise to select and monitor research studies that benefit the entire drinking water community.

The results of research are disseminated through a number of channels, including reports, the Web site, Webcasts, conferences, and periodicals.

For its subscribers, the Foundation serves as a cooperative program in which water suppliers unite to pool their resources. By applying Foundation research findings, these water suppliers can save substantial costs and stay on the leading edge of drinking water science and technology. Since its inception, the Foundation has supplied the water community with more than \$460 million in applied research value.

More information about the Foundation and how to become a subscriber is available on the Web at www.WaterResearchFoundation.org.

Surviving or Thriving in Economic Recession: Strategies of Water Utility Leaders

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Foreword

The Water Research Foundation (Foundation) is a nonprofit corporation that is dedicated to the implementation of a research effort to help utilities respond to regulatory requirements and traditional high-priority concerns of the industry. The research agenda is developed through a process of consultation with subscribers and drinking water professionals. Under the umbrella of a Strategic Research Plan, the Research Advisory Council prioritizes the suggested projects based upon current and future needs, applicability, and past work; the recommendations are forwarded to the Board of Trustees for final selection. The Foundation also sponsors research projects through the unsolicited proposal process; the Collaborative Research, Research Applications, and Tailored Collaboration programs; and various joint research efforts with organizations such as the U.S. Environmental Protection Agency, the U.S. Bureau of Reclamation, and the Association of California Water Agencies.

This publication is a result of one of these sponsored studies, and it is hoped that its findings will be applied in communities throughout the world. The following report serves not only as a means of communicating the results of the water industry's centralized research program but also as a tool to enlist the further support of the nonmember utilities and individuals.

Projects are managed closely from their inception to the final report by the Foundation's staff and large cadre of volunteers who willingly contribute their time and expertise. The Foundation serves a planning and management function and awards contracts to other institutions such as water utilities, universities, and engineering firms. The funding for this research effort comes primarily from the Subscription Program, through which water utilities subscribe to the research program and make an annual payment proportionate to the volume of water they deliver and consultants and manufacturers subscribe based on their annual billings. The program offers a cost-effective and fair method for funding research in the public interest.

A broad spectrum of water supply issues is addressed by the Foundation's research agenda: resources, treatment and operations, distribution and storage, water quality and analysis, toxicology, economics, and management. The ultimate purpose of the coordinated effort is to assist water suppliers to provide the highest possible quality of water economically and reliably. The true benefits are realized when the results are implemented at the utility level. The Foundation's trustees are pleased to offer this publication as a contribution toward that end.

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Water Research Foundation

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Executive Director
Water Research Foundation

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The forum planning team consisted of Jeff Hughes of the University of North Carolina, Scott Haskins of CH2M Hill, and Susan Turnquist of the Water Research Foundation. For forum implementation the team expanded to Mary Tiger of the University of North Carolina, David LaFrance of Denver Water, and Linda Reekie of the Water Research Foundation. David LaFrance provided key reviews of advance materials and the draft report, in addition to facilitating small group discussions during the forum. The final report was prepared by the authors, who wish to thank the Foundation's publications staff for their special attention.

In addition, the forum team would like to thank Betsy Carr, Gladys Preston, and Ginnie Harrington of the Water Research Foundation for their assistance prior to and during the forum event. Susan Turnquist of the Water Research Foundation also served as project manager.

Executive Summary

The recession that began in 2008 has taken a toll across all sectors of the global economy, and water utilities have not been spared. The Water Research Foundation convened a forum of water utility leaders in September 2009 to discuss how they had acted to mitigate the recession's impacts and adapt to a changed financial and economic environment. This report describes how the forum was organized, summarizes all major areas of discussion, provides details on successful strategies implemented by water utilities, and suggests several areas for research to strengthen financial resilience in the sector.

Highlights of the discussions included the following:

The downturn has not treated all water utilities equally. External sources of stress are not evenly distributed throughout the country. In many areas, foreclosures and business contractions reduced water demand and revenues. Utilities were positioned for different degrees of resilience by variations in utility policies, practices, rate structures, revenue streams, and whether they had initiated changes before the recession's impacts began to grow.

Utilities have employed a wide range of strategies. Some strategies were included strictly for the short term and others could be continued indefinitely. Strategies described include reductions and management of operating expenditures (labor, energy, chemicals, and fleet), reduction and deferral of capital expenditures, revenue enhancements, and communicating with customers, boards, and other stakeholders.

The recession offered opportunities. Utilities could implement needed changes or experiment with new ideas that could be more difficult to embrace in less stressful times, such as "limited duration employees," greater use of cross-training of employees, and using contractors to staff peak service demands.

Other opportunities have been a boon to utilities that are able to make use of them. The recession brought a greater supply of high quality labor, lower cost of capital, and lower construction costs. Utilities with strong credit ratings and sufficient capital reserves were better positioned to take advantage of these. Maintaining a strong credit rating was an incentive to avoid some otherwise attractive short-term fixes. Some utilities jumped at the chance to hire talented staff from a larger pool of skilled job-seekers.

Successful approaches offer ideas that should be customized. If implemented by other utilities, successful approaches should be customized based on such factors as type of governance, past actions, and local environment. Different forms of governance (municipal authority, financial autonomy) enabled some strategies and constrained others.

Utilities with long-term plans in place were a bit more resilient. The discussion reinforced benefits of long term approaches and policies, such as maintaining a strong credit rating, employee training and accreditation programs, and investing in new IT and energy technologies. Utilities with strong credit ratings were able to restructure debt to lower financing costs.

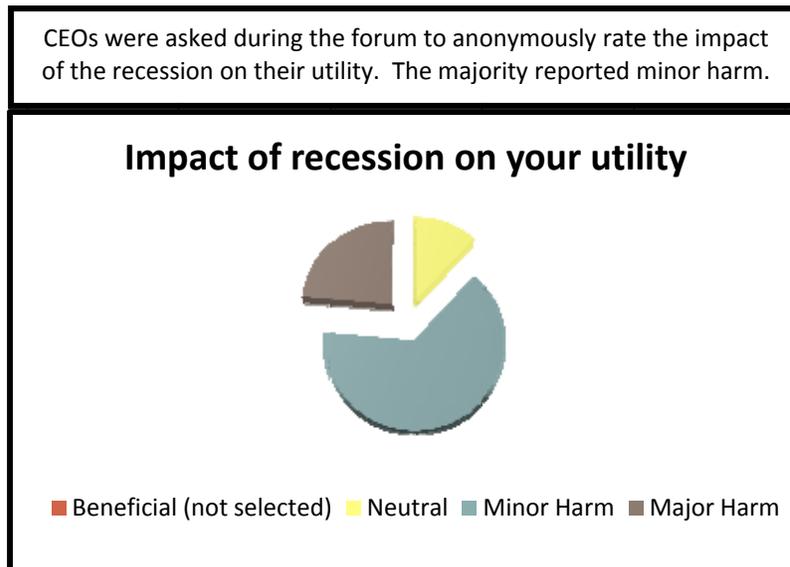
Vulnerabilities became more visible compared to more affluent times. Vulnerabilities can be addressed by future research and changes in practice. Some vulnerabilities identified and discussed included employee pension plans, greater instability in energy costs and financial markets, and the long-term impacts of water rates that do not adequately fund capital needs.

1. Water Utilities and Recession

The recession of 2008 and 2009 has spared few. Families, factories, restaurants and governments alike are feeling financial stress. The recession has even impacted water utilities, as monopolies that sell a product with relatively inelastic demand.

Revenues are down. Home foreclosures and shuttered businesses have altered water demand in many neighborhoods, and many customers are unable to pay their bill when it comes due. Utilities are experiencing increases in payment delinquencies as their customers (residential and non-residential) deal with their own financial hardships. Revenues from growth-based fees have declined, or even come to a standstill. Entire divisions of utilities dedicated to service expansion have much less to do in a slow economy.

The financial market has also created uncertainty for utilities' capital programs and financing mechanisms. As an example, some with outstanding debt in instruments such as auction rate securities (ARS) have seen interest rates climb. In addition, the substantial drop in the stock market has been especially troubling for utilities that are responsible for their own pension plans and had invested pension plans in the stock market.



The circumstances of the recession, combined with rising costs of energy, water treatment chemicals, employee benefits, stringent federal regulations, and general trends of decreasing water use, are challenging many utilities' traditional business models and assumptions.

Of course, each utility has a unique set of circumstances and tools available in dealing with the recession. Governance structures are significant factors for water utilities in both impacts of and responses to economic stress. In some cases, utility enterprise funds are actually managing the recession impacts relatively well, but their larger government organizations are not. In these utilities, executives are forced to respond to expectations and pressure from the "parent" government to institute across-the-board cuts or blunt strategies. There are expectations and pressure from the community as well. Customers are requesting relief as they experience layoffs in their own households and businesses. Utilities are struggling to balance their own financial needs with the importance of showing understanding to their residential, commercial and wholesale customers.

On the other hand, utilities have recognized beneficial impacts as well. The federal government introduced new financing mechanisms, such as Build America Bonds and American Recovery and Reinvestment Act of 2009 funds. Utilities stand to benefit from the competitive construction market. And, as noted later in this report, some have used the challenge of the recession as an opportunity to introduce needed long-term changes that in normal circumstances would be more difficult.

This report attempts to summarize and profile the various strategies and approaches implemented to work through, with and beyond the challenges and opportunities of the recession.

The report is founded in a forum of water utility Chief Executive Officers (CEOs) and was initiated by the Water Research Foundation at the suggestion of several leaders in 2009. The forum was designed to provide an opportunity for leaders to share their approaches, report on how these have worked, and identify opportunities made possible by the downturn for longer-term policies and practices that strengthen utilities.

The primary objectives of this research project were to:

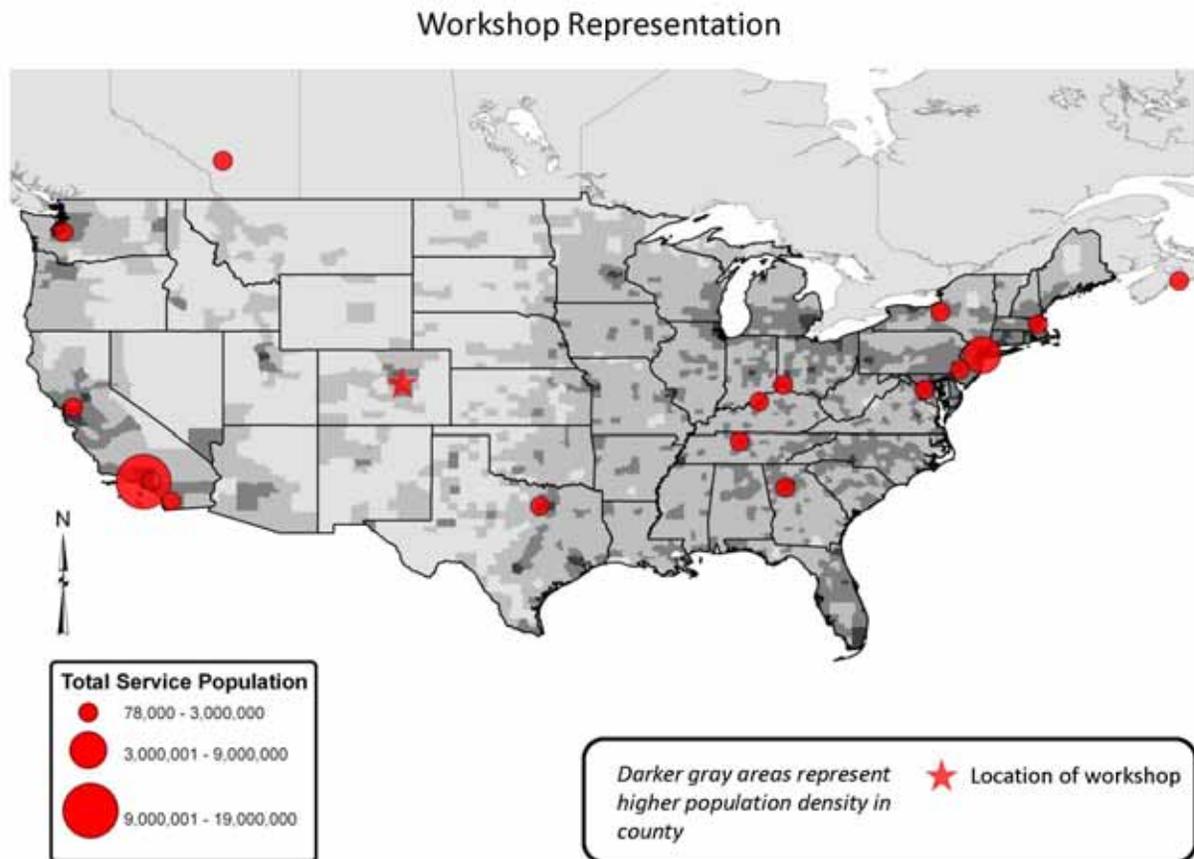
- Bring utility leaders and decision-makers together to share experiences and successful practices for coping with the current economy and its associated pressures,
- Identify and compile best practices that utilities are employing to respond to the current economy, and
- Share this information in a timely manner with utilities.

A secondary objective was to identify potential ideas for research to help position drinking water utilities to better respond to future economic challenges.

This report summarizes the discussion that took place during the forum. Section 2 describes how the forum was planned and implemented to maximize opportunity for substantive sharing of CEOs' strategies, specific actions, opinions and views. Section 3 summarizes some of the noteworthy approaches identified and discussed during the event. Section 4 describes some of the factors influencing utility approaches and the implementation of specific strategies. The sustainability of the approaches are analyzed and categorized in Section 5, followed by outstanding research questions in Section 6. The appendix includes self-reported profiles of recession approaches, which were submitted in advance of the forum by participating utilities.

2. Creating a Forum for Discourse

In September 2009, the Water Research Foundation convened a facilitated workshop in Denver of 17 Chief Executive Officers (CEOs) from the Foundation's largest water utility subscribers across the United States and Canada. The executives' utilities represented various business models, from private wholesale water providers to governmental water and wastewater utilities. The graphic below shows the areas represented in the workshop. Prior to the session, the CEOs were asked to submit their own strategies and approaches for dealing with the impacts of the current recession. When submitting, the leaders were asked to categorize their approaches into one or more areas (operating, capital program, financial/investment, revenue enhancement, communication/outreach, risk management/control or other). Participants' utilities submitted more than fifty unique approaches (included in the Appendix), many of which were cross-listed into two or more topic areas. The forum allowed CEOs to expand and discuss submitted approaches, as well as to introduce additional strategies.



Seventeen participants, three facilitators, three note takers and a speaker from the financial sector convened for an eight-hour work session spread over two days. On day one, the speaker provided context by updating the CEOs on economic trends and forecasts and their potential implications for water utilities. To set the scene for information sharing, the President and CEO of Louisville Water Company introduced a suite of examples utilized in Louisville. The facilitators oriented the CEOs to the next day's work sessions and asked participants to review the submitted strategies and approaches prior to the next day. Orientation included some ground rules, including:

- Everyone is encouraged to participate
- Strong opinions, interesting insight and frank assessments are welcome
- Polite disagreements encouraged

During day two, the CEOs participated in two rounds of workgroup discussions. In the first round, all three workgroups discussed approaches self-categorized as “Operating Strategies.” In the second round, the CEOs were assigned to one of the following groups based on personal preference:

1. Capital Program and Risk Management Strategies
2. Financial and Investment Strategies
3. Communication/Outreach and Revenue Enhancement Strategies

Each workgroup consisted of five to six CEOs, a facilitator and a note taker, and lasted an hour and fifteen minutes. Workgroup members each briefly introduced some of the recession approaches that his/her utility undertook as related to the given topic category. Others were invited to question and discuss these approaches and then asked to select which strategies best met the criteria listed below (one strategy per criterion).

- What was the easiest, most meaningful approach to implement?
- What was the most difficult, meaningful approach to implement?
- What approach has the highest long-term payback?

In the concluding plenary session a representative from each workgroup reviewed the major points of their discussion, individuals noted which single most useful issue/strategy/piece-of-information they were taking away from the session. This methodology was used to prompt discussion and focus the group on the most noteworthy approaches that should be addressed in this report.

3. Recession Strategies, Actions, and Approaches

Collectively, the executives introduced over 50 strategies and actions they undertook in response to the recent economic downturn. Participants viewed many of the strategies as cross-cutting, in that they impacted their day-to-day operations, as well as their longer term goals related to sustainability, capital investment, revenue generation and communication. Despite the cross-cutting nature of the strategies, most of the identified practices primarily impacted a utility's budget in one of three areas: operating expenditures, capital expenditures or revenues.

Strategies are organized and discussed below based on their primary impact on a utility's budget, with the exception of several broader strategies described at the end. These broader strategies evaded narrower budget classifications and were more central in nature, meaning that they were designed to cut across all aspects of utility operations and management, and in many cases prepare a utility for future challenges.

Reduction and Management of Operating Expenditures

Reductions in operating and maintenance costs were identified as the quickest to produce and that had the greatest impact on current cash expenditures. Additionally, directors and managers typically have authority to manage these costs autonomously. They were the most commonly cited approach. These approaches helped utilities control their budgets by addressing labor, power, fleet, chemical and communication costs.

Some approaches focused more on long-term operating savings that might have required an initial investment but that paid itself back in the long-run. Other savings came from attention to efficiency, efforts to maintain service levels using less. Still other approaches were implemented as very short-term stopgaps, and if sustained, they would have resulted in serious service diminution.

Labor

As the largest component of most utilities' operating budgets, labor was a common focus of recession efforts to curtail spending. Of course, many utilities implemented salary freezes (Strategy 10), hiring freezes (Strategies 4 & 11) and in some cases, even layoffs (Strategy 12). Memberships, training and travel budgets were reduced and even eliminated (Strategy 16). Payments to pension funds were delayed and other benefits were reduced. In most cases, the CEOs recognized that these approaches were not sustainable, but that they were necessary to liberate cash quickly. Many times decline in employee morale was reported to accompany such approaches. These types of approaches also had the potential to increase backlogs of work and decrease service levels. On the other hand, at least one executive reported that the recession provided him with an opportunity to lay off employees who had been underperforming over time, but who under normal circumstances would have been very difficult to terminate.

In order to prevent declines in morale and service levels, utility directors reported taking mitigating steps and providing alternatives. One utility implemented a voluntary furlough program (Strategy 13), responding to employee requests to resolve family care issues. Another utility installed 19 video conferencing systems in lieu of spending on a travel budget. As a result, this particular utility saved \$400,000 in travel costs and theoretically much more in salary costs. Yet another executive reported using reduced staffing levels to promote cross-divisional work to allow employees to gain new skills and the utility to maintain service levels with reduced staff.

In other cases, utilities reassessed current staffing and allocation practices to do the same job more efficiently. An approach referred to as "better job planning" involved adjusting work schedules to reduce overtime and scrutinizing call-out for crews in off-hours. Many utilities took a slower approach of reducing staff levels through attrition to obtain a core of essential employees. To maintain service levels and peaks in service demands, they used contractors, part time workers or "limited duration employees."

These approaches were reported to have the added benefit of creating a pool of candidates the utility could use later to fill potential full-time core positions.

Other CEOs came from an entirely different perspective regarding human resources and used this time to build their staffs, both in number and skill. These utilities were using the job market to their advantage to hire talented employees at bargain prices. The CEOs recognized that hiring staff in an extremely competitive job market had two additional advantages. New employees would likely be grateful for being hired and loyal to their new employer. Additionally, new hires could inspire a better work ethic in current employees by relaying their struggle for employment “around the water cooler.”

One leader reported that his utility’s journeyman program had already begun to prepare his workforce for reduction prior to the recession. This program was implemented to develop the skills of existing staff and reduce the size of crews, and the transition just happened to be occurring during the recession. The program will take time (three to five years) to produce savings, but ultimately will do so by having no unskilled workers. The employees benefit from higher salaries. The operating budget benefits with less staff. Other utilities had similar, but less formalized and proactive approaches (Strategy 2).

Energy

As many other industries in the country are realizing, energy costs are unpredictable in many ways, except for the fact that they most likely be on the rise. For water utilities, this is a costly uncertainty. The Environmental Protection Agency estimates that 3% of national energy consumption, equivalent to approximately 56 billion kilowatt hours (kWh), is used for drinking water and wastewater services at a cost of \$4 billion annually. As such, energy costs were a prominent focus for operational savings.

In order to reduce the use of electricity, utilities reported to be making operational changes, such as reducing the temperatures of heat loops at wastewater treatment facilities and seasonally shutting down boilers (Strategy 9). Some installed variable-frequency drives on pump motors and replaced lighting in buildings to optimize energy use.

One utility replaced its physical information technology servers with virtual software technology. The old physical servers required maintenance, climate control, replacement and a lot of power. As of August 30, 2009, 74 virtual servers had replaced older, physical servers, and are anticipated to save the utility \$115,000 per year in power and cooling requirements plus the \$740,000 required for replacement and maintenance of the physical servers (Strategy 21).

Utilities implemented approaches that optimize the rates they are paying for energy. Bulk fuel purchases, rate negotiations and off-peak pumping (Strategy 7) have saved utilities thousands of dollars with little change in service.

Another approach exploited the connection between water and energy use to achieve energy savings and incentivized employees to identify water loss. This approach reduced non-revenue water consumption (unmetered, cross-connection, fire hydrant, and other uses) and improved employee morale. It will also save the utility in treatment chemical costs.

Chemicals and water

Many CEOs reported efforts to optimize their pricing for chemicals and other supplies by re-bidding contracts or piggybacking on other agencies’ contracts. Through these arrangements, utilities were seeking alternatives that would provide the same level of public safety at a lower cost (Strategy 31). One utility opted out of purchasing water from their wholesaler because it cost more than double of what it took for them to treat their own water (Strategy 5). Before the recession, this utility comprised 98% of the wholesaler’s revenue. As a result, the CEO of this utility recognized that although this approach saved cash in the short-term, ultimately, its wholesale rates would increase to compensate for this purchase aversion.

Fleet management

Utilities implemented anti-idling policies and had even removed unnecessary tools, supplies and materials from maintenance vehicles to improve gas mileage (Strategy 7, Strategy 8) and save on fleet costs. Many utilities agreed that financial savings could further be achieved by “right sizing” the fleet. “Right sizing” approaches included eliminating take-home vehicles, scrutinizing fleet additions and replacements (Strategy 8), and extending the life of the current vehicles with predictive and preventive maintenance. In some cases, alternatives, like bicycles, had been identified and used instead of expensive replacements. This scrutiny and maintenance was also applied to other types of large equipment.

Management of Capital Expenditures

The recent Water Research Foundation report “Improving Water Utility Capital Efficiency” (91257) highlighted the capital intensity of the water industry and the variety of capital planning and financing approaches used by utilities. It is not surprising that many of the CEOs used the downturn as an opportunity to reexamine how their organizations plan for, acquire and finance capital projects.

Project Selection, prioritization, and scoping

One of the first things many of the utilities did as the economy deteriorated was review their capital project selection and prioritization system with a number of goals and objectives in mind. Some utilities with short- and medium-term revenue shortfalls rescheduled or delayed projects in order to reduce capital expenditures (Strategies 2, 8, 36, 39). For one large system, a systematic and careful examination its capital improvement plan led to a reduction in their next fiscal year’s capital budget by 15% (Strategy 20).

Other utilities focused on modifying the scope of approved projects to address changing conditions. For example, one utility that began adding complementary construction tasks on top of base projects to take advantage of unusually low construction bids. Another utility recounted that the downturn reinforced their efforts to coordinate bidding of major projects with other communities and departments by working together to space the initiation of major projects throughout the year. This attention to timing ensured that more companies could bid on more projects and resulted in more competitive pricing.

Some utilities “rediscovered” or expanded the use of best practices such as value engineering (VE). During discussions, value engineering (the process of having a project design reviewed by an independent multi-disciplinary team of experts) surfaced as one of the most high-impact strategies for optimizing capital expenditures. One utility cited VE as responsible for \$31 million in project cost savings during the previous fiscal year (Strategy 24). Another utility turned to contractors to review their design by holding a voluntary meeting of interested contractors and soliciting ideas for repackaging a major project in a way that would lead to savings without impacting project quality (Strategy 34).

Many CEOs raised concern over the potential long-term impact of capital project delays initiated to reduce short-term expenditures. Delaying an essential project a few years would result in negligible cash flow savings because of financing considerations. At the same time, the lost benefits of delaying projects and missing out on a period of favorable construction prices was seen as significant. For those utilities operating with long-term financial and capital plans, capital projects were actually accelerated to take advantage of relatively low construction bids and interest rates. Although this acceleration increased spending initially, utilities with longer-time horizons recognized the considerable long-term savings gained by being so opportunistic with the current market.

Financing

While reports of unusually low construction costs and consistently lower-than-estimated bids seemed the norm among participants, views about the impact of the downturn on the costs and availability of financing were much more mixed. Many of the participants commented on the impact of the “roller coaster ride” the financial markets had taken over the last few years. As with other sectors, utilities with

solid credit ratings reported being able to take advantage of favorable financing terms to lower their costs of borrowing. Several of the utilities with access to favorable financing described their approaches of “fixing” or restructuring older unfavorable or volatile debt such as Auction Rate Securities (ARS). A utility that refunded \$500 million in ARS estimated reducing future debt service costs on the issue by approximately \$4.4 million per year. On the other hand, utilities with more internal financial challenges and lower natural credit ratings reported high borrowing costs, and less accessible, more expensive credit insurance due to the turmoil in the municipal insurance market.

Several utilities reported being able to reduce the cost of capital by tapping into grants or subsidized funding that in the past was either less available or desirable due to the administrative costs. At least one utility reported taking advantage of Build America Bonds (BABs) and estimated saving approximately \$2.1 million dollars per year for 30 years in debt service costs on a \$329 million issue (CP-17). BABs, a new lending instrument created by the American Recovery and Reinvestment Act (ARRA) allows utilities to issue taxable debt which the federal government sponsors by returning subsidies equal to the 35% of the insurance payments related to the debt.

Almost every utility reexamined the percentage of new capital expenditures funded by debt, reserves and current revenue/ PAYGO. Utilities that had developed a financing plan that incorporated significant use of PAYGO had an important additional short-term tool available. One utility made a conscious decision to reduce their use of PAYGO in favor of debt in the short term (while committing to reinstate it in the future) and was able to reduce their revenue needs for the next year by \$65 million (Strategy 41). Another utility described its use of capital appreciation bonds (CABs) to fund \$80 million in capital expenditures that were planned to be funded by revenues and reserves (Strategy 37). CABs are bonds in which debt service payments are deferred into the future to better match revenue streams related to project. The impact of this strategy was an \$80 million reduction in reserve use and \$8 million in interest income during their 2010-2019 Ten-Year Financial Plan (Strategy 37).

While not cited as a direct response to the downturn, many of the participants described the importance of maintaining a solid credit rating on their overall business strategy. As the meeting progressed, it was clear that a utility’s credit rating and goals related to their credit rating influenced their approaches during the recession. A number of utilities refrained from some actions, such as tapping into their reserves, in order to comply with their internal finance policies. The favorable treatment highly rated utilities were receiving from the capital markets helped avoid the temptation for short-term fixes that would jeopardize their rating.

Revenue Enhancement

The downturn impacted many utilities’ views about their revenues in several important ways. For some utilities, the downturn reminded them of the volatility of their revenue stream and led to an examination of everything from revising their established rate structure to adjusting their collection policies. Other utilities (in areas of the country with higher than average unemployment and/or already high utility rates) increased their hunt for alternative revenue sources as a way to reduce their reliability on water consumption from their current customers.

The “obvious” strategy for many utilities involved the affirmation of resolve to reduce non-revenue water and expand their customer base for core services (retail or wholesale drinking water). Many utilities discussed their efforts to provide water to smaller systems in their area. In a lighter moment, two utilities that were hundreds of miles apart joked how their expansion programs met in the middle. Utilities with the capacity to provide reclaimed water to customers saw this service as both a potential source of additional revenues and as a potential disruption of their traditional business model (selling treated water).

The recession caused some utilities to restudy the potential revenue generation capacity of underused or differently used assets. This reassessment led some into the business of providing billing services and

others into the business of providing construction services. Some utilities reported using land holdings for additional revenue by leasing property for grazing permits, telecommunication towers and even renewable energy generation (Strategies 46 and 48).

During the forum, participants were particularly interested in some of the more innovative revenue strategies employed or being considered by their peers. Revenue innovation was one of the areas of the discussion where participants had very different views about what strategies were feasible or advisable in their areas. Strategies ranged from partnering with an insurance company to offer insurance on water lines running from a utility's meter onto private property, to having utility crews provide their own plumbing services to customers.

Despite the interest in innovative revenue sources, at the end of the day (literally in terms of the workshop), participants fell back on the overarching importance of traditional pricing issues in assuring the fiscal health of their enterprises before, during and after financial downturns. The small workgroup that discussed capital strategies identified full cost of service pricing as the strategy that had the most impact during the recession. A representative of the workgroup supported their claim with the anecdote that utilities without adequate pricing in place before the recession were likely to fall farther and farther behind. Another workgroup charged with discussing revenue enhancement strategies believed the strategy with highest payback to be taking steps to improve the reliability and predictability of water sales revenues. Specific steps in this strategy included an increase of reliance on base charges and more use of long-term, wholesale contracts.

No discussion of rates went far without one of the executives quickly recounting an experience or opinion related to customer education. Most all agreed that customer perceptions of the value of water services were paramount, and the need to price services sustainably was also incredibly difficult. Along those lines, when asked to identify the most meaningful "difficult" strategy related to revenue generation, one of the small groups proposed: *Communicating to customers that utility costs are relatively fixed, and customer conservation will result in higher rates.*

Communication

While the majority of strategies discussed during the forum could be easily categorized by short term budgetary impact, some of the most interesting discussions revolved around approaches as part of an integrated strategy for the future. Customer support and opinions was such a theme that recurred throughout the forum. Leaders continually stressed that a utility's ultimate success, as well as the success of many of the short-term initiatives, depended on how the community, governing board and customers viewed its services.

For the most part, communication strategies were integrated efforts targeted at three categories of stakeholders: staff, customers/community and governing boards.

Internal staff communication strategies included efforts to convey budget challenges to the entire workforce through a variety of techniques including, but not limited to, full staff meetings. In such a dialogue, the leaders said that they invited and empowered staff to contribute to the solution.

In external communications with customers and the community, the CEOs acknowledged that the recession increased some challenges with customer interaction, but also appreciated the opportunity it presented to connect with their customers. One leader, who believed strongly that the recession was just the beginning of a more difficult utility management period (rather than a single, isolated event to muddle through), described his utility's comprehensive community outreach strategy that took advantage of the existing widespread involvement of utility staff in community organizations. In his approach, utility staff was encouraged to be active throughout their community, but to also use their interactions as an opportunity to educate their community about the essential health and security aspects of water services.

The program's goal was to assure that the utility is viewed throughout the community as, first and foremost, a provider of health and security.

Several executives could not stress enough how important they felt it was to educate their governing board. Some viewed their board's actions during the recession almost as a barometer of their success in conveying essential messages to their board. This perception was founded in the assumption that a thorough understanding of financial sustainability helps a board resist implementing appealing short-term responses that might bring potential long-term negative consequences.

4. Implementation Considerations

When discussing the merits of utility strategies and practices, there is the temptation to search for universal “best practices” – measures that are so positive that they should be embraced and implemented by all utilities. Early on during the forum, it became clear that many of the recession approaches adopted throughout the country could not be considered true “best practices” since many were described by their employers as unsustainable, but necessary short-term concessions to address extraordinary conditions. It was also apparent that the circumstances and operating environments of each utility were incredibly different and shaped the response in that utility. As such, many of the approaches discussed were not universally applicable. A good idea for one utility may have been inappropriate or impossible for another utility. Some of the key factors influencing the choice and implementation for recession measures included urgency of response utility autonomy and existing plans.

Urgency of Response

While everyone in the room had encountered some type of financial hardship due to the recession, local conditions varied among participants. Some utilities reported revenue deficits in the millions of dollars or the sudden loss of what had been thought to be secure financing. For example, one utility discovered that \$11.25 million in committed funds from a state-wide debt service assistance program was eliminated mid-year (Strategy 9). Utilities facing these types of challenges were more likely to feel pressure to implement stopgap strategies than utilities with larger reserves or in areas with less economic trouble.

Autonomy

For some organizations, certain options and strategies implemented by their peers were not possible in their utility due to a lack of organizational autonomy. In some cases, union contracts limited actions related to personnel. All of the creative options for modifying debt were “off the table” for the participating utility that was required by law to fund all of their capital investments with cash, as well as for the utility that was required to fund all of their capital with a centralized state level loan program. Federal regulations and consent decrees also limited the independence of some utilities.

Governance and Ownership Structures

The governance structures that control major policy and financial decisions had an enormous impact on how utilities responded to economic conditions. The key decision-making bodies overseeing the executives’ organizations came in all shapes and sizes, including:

- A city council led by a strong veteran mayor with years of experience
- A 40-person general government (city council) elected board
- A five-member single purpose appointed board, and
- An eight-member board of directors for an investor owned utility.

Utilities that were part of a city or county government felt pressure to follow the same policies that were implemented for other city departments regardless of the financial health of their own funds. The executives that reported directly to elected boards expressed a heightened awareness of the short-term political impact of different strategies, especially during election cycles.

Existing Plans

The plans and preparation that utilities took prior to the economic downturn impacted the tools that they had available to manage the recession. Some utilities found that plans created for other purposes could be applied during the recession. For example, one utility found that their pandemic plan provided a thoughtful resource for how the utility could operate with a 30% reduction in the workforce. Another

utility found that its plan implemented prior to the recession to operate with a lean staff actually handicapped the utility's ability to cut costs during the recession. "We had already sucked out the savings," the CEO explained. "There were no hidden pots of money."

CEOs reported that their financial condition going into the recession affected their ability to take advantage of opportunities, such as low interest rates for highly rated utilities. One executive cited his long-term approach focused on rate stability as a foundation to mitigate against short-term downfalls.

5. Sustainability of Approach

As described in the sections above, the utilities' recession approaches varied widely in their scope and development. But even those comparable in their impact on the budget could diverge greatly when the broader, long-term impact was considered. CEOs were quick to point out that there are "more ways than one way to skin a cat," recognizing and respecting the residual impacts of different decisions. Moreover, many of them acknowledged the opportunity presented by the recession to implement good management practices that could sustain the organization well beyond the economic downturn. Regardless, utilities still carried out approaches that were not sustainable or even desirable, either because they needed quick cash or to respond to public expectations. Approaches spanned the spectrum of sustainability, and it would be remiss to not recognize the difference between them.

Symbolic

Utility directors recognized that some approaches were taken for symbolic purposes only. Freezing only senior management salaries and eliminating take-home vehicles only for senior management did not have a great impact on the budget. These approaches were admittedly adopted to show comradery and leadership and to raise awareness about the severity of the recession.

Stopgap

Many approaches, especially those that impacted the operating budget, were recognized as unsustainable "band-aid" approaches meant to stop financial bleeding. They were designed to give utilities a bit of a financial buffer. Some of the approaches were designed to be temporary, anticipating only a brief economic downturn. For example, a long-term and permanent delay of payments into a pension plan would break social and legal contracts, and end up costing the utility more than it saves. In the short-term, though, it released some cash. Many of these approaches were also easy in the sense that they did not involve stakeholder negotiations, and the CEOs had the autonomy to make quick decisions.

Utility directors recognized that in the long-run, these stopgap approaches had a strong potential to cause more harm than good. Take for example the utility that was opting to treat all of its water rather than purchase it (Strategy 5), knowing full well that this decision would result in higher rates in the future. In a sense, this utility was borrowing from the future to pay the bills today. Stopgap approaches, by nature, were short-sighted.

Silver Linings

Many CEOs discussed leveraging the downturn to make significant changes in their business models, with approaches like consolidation. In consolidation, wholesalers and retailers take advantage of economies of scale together. Some utilities noted that smaller neighboring utilities were struggling financially, and that the recession had created an atmosphere for them to consider consolidation with a larger utility. The recession provided the opening and impetus to move forward with a project that might have been good idea all along.

The recession created another silver lining for utilities. The downturn in the economy created a financially advantageous environment to pursue construction projects. While in the short-run accelerating the capital program increased immediate costs, many utilities expedited construction projects to take advantage of low interest rates (particularly for those utilities with good bond ratings) and a competitive construction market. Others were a little more cautious, warning that low bids today may mean management challenges tomorrow. These hesitant utilities anticipated defaults on bids as some contractors would not be able to get the project done for what they bid. Defaults require oversight, management and additional costs in the future.

Finally, while some utilities were implementing hiring freezes to wait out the recession (Strategies 1, 4, 11, 12), others thought more long-term. For these utilities, the recession provided an incredible labor pool from which to hire. Quite a few CEOs recognized the opportunity to hire “excellent talent” at lower costs. Moreover, after struggling in a challenging job market, once hired, these employees were likely to be grateful and loyal to the hiring utility.

Best Management Practices

The recession demanded that utilities take an introspective look into their business decisions, such as project management and cost accounting. For many utilities, when they took this look, they found things that they should have been doing differently all along. They reviewed contracts of different shapes and sizes and rebid them for better prices and terms; they emphasized “value engineering” to scrutinize the purpose, function and design of proposed capital projects (Strategy 24); and they conducted communication, technology and energy audits. In one utility, a review of time allocation revealed that a lot of staff time was being mischarged to the operating budget, when their time would more accurately have been allocated to the capital budget.

Other results of this scrutiny included the adoption of approaches like “staffing for the valleys, and contracting for the peaks (Strategy 2).” One such program utilized part-time or limited duration employees, to cover times of high demand. (This program had also benefited the utility by providing a way to evaluate potential full-time employees without full-time commitment.) A value engineering program identified cost savings of tens of millions of dollars, in addition to exposing staff to new ideas and ensuring optimal design. A transition from bi-monthly to monthly billing increased cash flow and improved customer communication, and operational audits identified savings that will reduce costs during the recession and beyond.

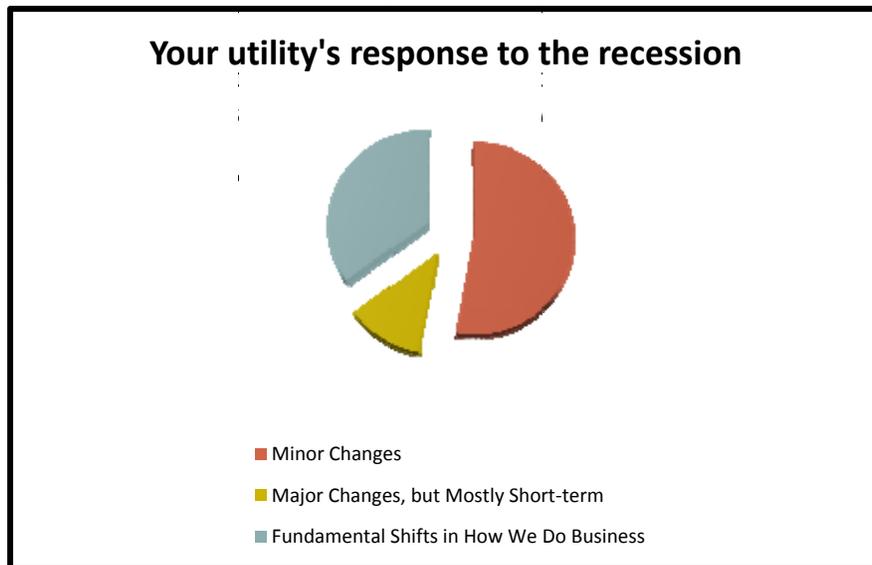
Many utilities also realized that the recession provided a valuable opportunity to initiate green projects, protecting both the environment and the budget. Recognizing that water loss results not only in lost water and unnecessary expense, but lost revenue, a few utilities adopted aggressive water loss control programs (Strategy 33). One utility combined this program with an employee incentive program and rewarded employees that identify non-revenue water consumption. The use of videoconferencing and fleet anti-idling policies reduced expenses and carbon emissions. And some utilities found that utilizing renewable energy had fiscal benefits as well. One utility planned to receive \$5 million in rebates and offset 25% of their water treatment plant’s energy use with a 1-MW solar generating facility. Moreover, utilities that had already initiated programs for environmental reasons realized that these decisions had another type of “green” benefit on the bottom line.

Sustainable Businesses Need Business Plans

One of the recurring conversations throughout the two-day forum involved the importance of comprehensive business planning documents and tools to prepare for downturns and ride out downturns. One executive felt strongly that focusing on individual discrete strategies, instead of looking at a holistic business approach, was counterproductive, especially if it further postponed the development of a more integrated approach. Executives who had integrated plans in place prior to the recession referred to their plans throughout their recession responses. For those with integrated long-term plans, there was almost a sense that the plan was strong enough to see them through the recession and for some that appeared to indeed be the case as they described the series of plan modifications and the measured impact of each revision.

Springboard for the Future

In addition to incremental changes and efficiency improvements, some utilities reported significant changes to their business and used the recession as a springboard for change. These utilities did not necessarily think that things will return to “normal,” and believed that some of the approaches they implemented to deal with the recession would be permanent changes needed to prosper in a new economy. For example, those utilities that experienced decreases in residential and commercial water use because of cost savings did not always expect a bounce back in water use. Some utilities saw the recession as an opportunity to work with public awareness around utility financial sustainability and prepare the community for a new utility business model. This new business model could include new services, like home plumbing warranties, or increased utility rates. For these utilities, the recession was a conversation starter for utilities to discuss their customers’ willingness-to-pay for service levels. Most utilities had always assumed that their customers demanded the highest quality of service, but perhaps, some CEOs recognized, that was a faulty assumption. The recession provided the initial forum for utilities to consider how they would operate in the future with an eye on costs and the other on service.



6. Research Needs for the Future

The responses of utility leaders to unanticipated and unprecedented stress of the recession drew upon experience, careful assessments, recognition of opportunity and the availability of tools. While this forum was designed to provide a rapid snapshot of effective utility responses to recession, it also offered suggested areas for research to help utilities in the future. Although the intuitions and circumstances of the participating leaders resulted in millions, or even billions, of dollars saved, a more thorough and academic investigation could produce more founded and broadly-applicable conclusions. This section on research needs is based largely on the report authors' post-forum discussion of research implications suggested by the discussion.

How is resilience strengthened by long-term plans? The stories recounted and strategies described suggest that utilities with holistic, long-term plans may have been impacted less by the recession than those without such plans. An empirical investigation to characterize the differences between utilities with and without significant long-term plans could result in valuable and significant conclusions. In addition, financial benchmarks specific to the water utility industry could be developed to identify areas where utilities may target efforts to improve resilience under conditions of wide-ranging economic stress.

Long term impacts of short-term strategies. It would be instructive to investigate the repercussions of the short-term and long-term tradeoffs of some of the "stopgap" approaches. Just how much of the future did utilities have to sacrifice to get through the recession?

Newly emerging vulnerabilities. In their discussion of recession approaches, the executives identified a few outstanding issues needing their attention but requiring more data and analysis before they can act. For example, employee benefits, particularly pension plans, are falling under more scrutiny and will require significant resources in the future. Utilities are finding they are not as well prepared as they'd thought for funding generous pension plans. Another example is the possibly new norm of greater instability in energy costs and financial markets, and how water utilities will adapt their business models to take these into account?

The forum reinforced the need for other research efforts under discussion elsewhere to evaluate how well current financial architecture and practices are meeting water utilities' needs. Specific topics in this area include:

Evaluate financial external environment and internal architecture in water utilities. Identify and document key problems challenging the effectiveness of traditional financial functions, models and systems in the water utility industry. Examine opportunities, threats and impacts on financial functions and practices of utilities, including requirements to effect considerations in short and long term revenue requirements, cost of service, and rate design. These should apply to different demographic, regulatory and local circumstances.

Address Financial Management Practices. Analyze utility business processes, tools and practice from a financial performance perspective, and identify key challenges for utility revenues and costs posed by major changes in customer usage patterns. These should support sound management and planning; address barriers such as organizational or process silos and fragmented information management; and offer step changes to incorporate utility-wide approaches such as asset management, "effective utility management", improved rate and cost of service strategies, and new drivers of capital costs.

Offer New Financial Management Paradigm. Propose a new framework and approach to support desired or expected water utilities of the future, possibly describing a paradigm shift, that will better serve water utilities' efforts to fulfill their mission, control costs, generate sustainable levels of revenue, and maintain

the support of their stakeholders. Such frameworks will incorporate concepts of system integration; long term financial planning and optimization; and linkage to strategic planning, budgets and capital plans, sustainability, life cycle and triple bottom line decision-making, levels of service, performance management, finance and rate setting, affordability and equity, cost-benefit analysis, and regional and organizational efficiency.

Appendix: Recession Strategies

Strategy #	Discussion Category					
	Operating	Capital & Risk Mgmt	Financial	Revenue Enhancement	Communication & Outreach	Other
1	X					
2	X	X				
3	X	X				
4	X					
5	X					
6	X	X	X			
7	X					
8	X	X				
9	X	X	X	X	X	
10	X					
11	X					
12	X					
13	X					
14	X				X	
15	X					
16	X				X	X
17	X	X				
18	X	X				
19	X					
20	X	X	X			
21	X	X	X			
22	X					
23	X	X			X	X
24	X	X				X
25	X	X				
26	X					
27	X	X	X			
28	X		X			
29	X		X			
30	X		X			
31	X					
32	X	X				X
33	X	X				
34		X				
35		X	X			
36		X				
37		X	X	X		
38		X	X	X		
39		X				
40		X		X		
41		X	X			
42			X			
43			X	X	X	
44			X	X	X	
45		X		X		
46				X		
47					X	
48				X		

**Water Research Foundation
September 2009
Recession Strategy 1**

Name of the strategy: Hiring Freezes, Reduced Work Weeks, Unpaid Holidays, Paid OT reduction and lowering consumers expectation of services

Which strategy area (underline all that apply):

Operating

Capital Program

Financial/Investment

Revenue Enhancement

Communication/Outreach

Risk Management/Control

Other

Purpose and duration of strategy: To reduce operating cost and maintain trained workforce – two years

Business case: 10 unpaid holidays each year, 12 unpaid furlough days (which employees can pick like vacation days), 3 city shutdown days, OT not to be paid out in cash (employees able to earn time additional time off only), as well as hiring freezes for further savings.

Risk factors: Less crews available for emergencies and properly maintained aging infrastructure

Savings generated: 20 million per year

Other performance outcomes:

Lessons learned: Process only started July 15, 2009, but moral has substantially lowered, having difficulties with getting employees to work overtime, as well as key employees that are close to retirement age are retiring versus staying and taking pay cuts.

Water Research Foundation
September 2009
Recession Strategy 2

Name of the strategy: Sustain and Improve Capability of the Workforce

Which strategy area (underline all that apply):

Operating

Risk Management/Control

Purpose and duration of strategy: Operate at the lowest possible staffing while improving staff capabilities and retaining the experienced and highly motivated individuals. 2008 forward

Business case: Given the large percentage of total costs that are related to personnel and direction from our wholesale customers to limit personnel growth – even in light of new missions, we have made a conscious effort to work with the existing workforce to better meet their personal and professional expectations in the workplace.

Risk factors: Turnover of highly skilled and experienced employees who are not retiring puts reliability of day to day operations at risk.

Savings generated:

Other performance outcomes:

Lessons learned:

1. As a wholesaler, even though our daily production is xxx million gallons per day, our authorized strength is only xxx individuals. Position management has been a key to our operations. Before any vacancy is filled, a careful analysis of that position, whether it is a laborer or a laboratory scientist, is conducted to determine what can be done with that position to make the organization better. Where we knew there were no internal candidates, we have used temporary agencies such as Kelley Services to “try out” employees before announcing a job vacancy for competitive fill.
2. While we are limited travel and off-site training expenses, we have increased the use of Internet based training and are bringing trainers on site to conduct group training thereby reducing travel and per-diem for our employees.
3. We have a very well structured, volunteer-based “activities association” that provides opportunities for our employees to relax in a casual environment at planned events throughout the year. It also provides condolence expressions when a staff’s family member suffers a major tragedy. The objective of this is to create a “family environment” within the organization that invokes a sense of loyalty beyond the expectations of job satisfaction from doing challenging work.

**Water Research Foundation
September 2009
Recession Strategy 3**

Name of the strategy: Capital Project Review and Prioritization (approval of projects within changing budgetary constraints).

Which strategy area (underline all that apply):

Operating

Capital Program

Financial/Investment

Revenue Enhancement

Communication/Outreach

Risk Management/Control

Other

Purpose and duration of strategy: Spend money utility has on most critical projects or projects that generate savings. Will last until economy improves and utility budget strengthens.

Business case: Less money on hand but capital improvement needs remain.

Risk factors: Critical project may be passed over lending itself to bad media coverage if something goes wrong.

Savings generated: No real savings, just delay in expenditure

Other performance outcomes: Staff gets better at identifying and prioritizing capital projects and generating business case to support them going forward.

Lessons learned: Pay me now or pay me later, either way you are still going to pay.

Water Research Foundation
September 2009
Recession Strategy 4

Name of the strategy: Hiring Freeze (implemented in 1st quarter of 2008)

Which strategy area (underline all that apply):

Operating

Capital Program

Financial/Investment

Revenue Enhancement

Communication/Outreach

Risk Management/Control

Other

Purpose and duration of strategy: Save money. Will continue until convinced economy has turned around and budgets stabilize.

Business case: Easy to do when started early enough and accomplished through attrition (benefit of aging workforce). In addition to salaries, cost of all associated benefits are saved as well.

Risk factors: May not have adequate staff on hand should economy turn around quickly and work load ramps up fast.

Savings generated: Most of the savings was generated in 2008 (as compared to budget) however 2009 YTD we have saved an additional \$153,000.

Other performance outcomes: Remaining staff kept busy and learns new duties. Avoid need for lay-offs and or furloughs.

Lessons learned: Nothing new, has been employed before, although some staff members recognize and appreciate the effort to keep them working.

**Water Research Foundation
September 2009
Recession Strategy 5**

Name of the strategy: Maximize use of lowest cost water

Which strategy area (underline all that apply):

Operating

Capital Program

Financial/Investment

Revenue Enhancement

Communication/Outreach

Risk Management/Control

Other

Purpose and duration of strategy: Reduce cost to purchase water from wholesaler

Business case: Our treated water costs half of that of purchased water. Maximizing its use saves considerable amount of dollars

Risk factors: Purchased water costs will most likely be increased in subsequent years to compensate for loss of income due to action.

Savings generated: \$612,872 through the end of August 2009

Other performance outcomes: Operators and plant personnel communications improved. Operators more astute at fine tuning movement of utility water to far reaches of system.

Lessons learned: Water wholesaler has no money for capital improvements and is not very happy.

**Water Research Foundation
September 2009
Recession Strategy 6**

Name of the strategy: Stepped up effort with respect to Safety and Risk Reduction

Which strategy area (underline all that apply):

Operating

Capital Program

Financial/Investment

Revenue Enhancement

Communication/Outreach

Risk Management/Control

Other

Purpose and duration of strategy: Keep staff, equipment and facilities safe and whole.

Business case: Savings can be obtained through lower deductible payments, lower insurance fees, lower loss time and lower loss of facilities use.

Risk factors: none

Savings generated: Workers Comp savings \$27,326 (\$14,870 for safety dividend and \$ 12,456 in lower premiums for safety factor improvement). Additionally, aggregate premium reduction for all other lines of insurance totaled \$23, 381 (a 6.5% reduction).

Other performance outcomes: Increase employee safety awareness, better care of equipment, better care of facilities. Lower employee loss time

Lessons learned: Even a good existing safety program can be improved and additional saving can be generated.

Water Research Foundation
September 2009
Recession Strategy 7

Name of the strategy: Expenditure Control

Which strategy area (underline all that apply):

Operating

Capital Program

Financial/Investment

Revenue Enhancement

Communication/Outreach

Risk Management/Control

Other

Purpose and duration of strategy: Control operating expenditures to avoid impacting rates during the drought and economic downturn. This strategy is being implemented during the District's 2010-2019 Ten-Year Financial Plan, with primary focus on FY09 (just completed) and FY10 (current fiscal year).

Business case: The District's 2010-2019 Ten-Year Financial Plan identifies a potential \$100 million financial impact associated with the drought and economic downturn. While the capital financing strategy is the most significant strategy being deployed to address these financial impacts, expenditure control is an additional effective strategy. In deploying this strategy, it is important to distinguish between controlling expenditures and deferring maintenance. The focus must be on reducing controllable expenditures and not on deferring maintenance. Deferring maintenance can impact operational reliability and may result in more costly repairs in the future. In deploying this strategy, the District is focusing on the following areas:

- Ensure annual operations and maintenance service contracts have clearly defined scopes of work and are broadly advertised and bid to achieve the lowest possible annual costs.
- Optimize pumping operations to pump water during non-peak energy periods to reduce energy costs.
- Review fleet operations to eliminate unnecessary driving and idling of vehicles and equipment. Remove unnecessary tools, supplies and materials from maintenance vehicles to improve gas mileage.
- Effectively manage and control administrative and overhead expenditures.

Risk factors: Unintended deferral of maintenance items. The District avoided this risk by reinforcing its corporate mantra of sound maintenance practices to ensure system reliability and facility longevity.

Savings generated: The District achieved seven percent (7%) savings in operating expenditures in FY09.

Other performance outcomes: The review of operating expenditures resulted in a heightened awareness and improved understanding regarding the importance and responsibility for controlling expenditures across all levels of the organization, which will provide ongoing financial benefits to the District.

Lessons learned: None, this strategy has been successfully implemented.

Water Research Foundation
September 2009
Recession Strategy 8

Name of the strategy: Fleet Management

Which strategy area (underline all that apply):

Operating

Capital Program

Financial/Investment

Revenue Enhancement

Communication/Outreach

Risk Management/Control

Other

Purpose and duration of strategy:

- To right size fleet for current reduced operational levels
- Increase fleet utilization
- Realize environmental benefits
- Reduce operational costs

Strategy is ongoing

Business case:

Fleet costs (\$29M) are a large component of operating expenses and therefore provides many opportunities for cost management. Owned fleet in the city is provided by central Fleet Services. We are on the trailing edge of our major reorganization and fleet management business processes were being mapped and streamlined.

Some of the key components of our fleet strategy include;

- Extending the life of some fleet vehicles that were due for replacement.
- Operational areas now have an increased focus on repair and maintenance planning. This has reduced the amount of contracted vehicles that were being used.
- The business case for fleet additions and replacements is under more scrutiny and at a higher level in the business. Features like 4WD, size of vehicle, all being reviewed.
- Continue to look for more opportunities for fleet/pool car sharing. Some people put on car allowance, trying to change the “entitlement” culture etc.
- Policy changes on items like anti-idling being enforced. Use of procurement cards to be reduced. More of our fleet fueling to be done at central yards where price is cheaper.
- Several pool cars proposed to be eliminated and replaced by bicycles (for short commute to downtown municipal building). We operate a shuttle from the light rail system to our office to encourage use of public transit. We will be looking at using the shuttle to deliver people downtown for meetings etc.

Risk factors:

- Aligning fleet goals with operational efficiency
- Operational experience with green fleet (maintenance expenses)
- Operational acceptance of revised policies

Savings generated:

- Leased fleet (\$1.1 to \$1.6 M, ~8-10percent of 2009 budget) (about 120 new vehicles better sized for operational needs and increased fuel efficiency)
- Hired equipment (\$1.0 M, ~8.5% of 2009 budget) (Through better job planning, reduced last minute rentals and optimized planning for main replacements, 11 tandems were eliminated for savings of \$1 M).
- Anticipate that a further \$300 - \$400 K in 2010.

Other performance outcomes:

- There should be better environmental performance for our overall fleet. This hasn't been calculated yet.

Lessons learned:

- Can't turn around fleet changes immediately – requires a longer term view
- Understanding fleet processes through mapping provides large benefits.

**Water Research Foundation
September 2009
Recession Strategy 9**

Name of the strategy: Three Prong Approach: Reduce expenses, streamline operations, and maximize revenues and financing savings

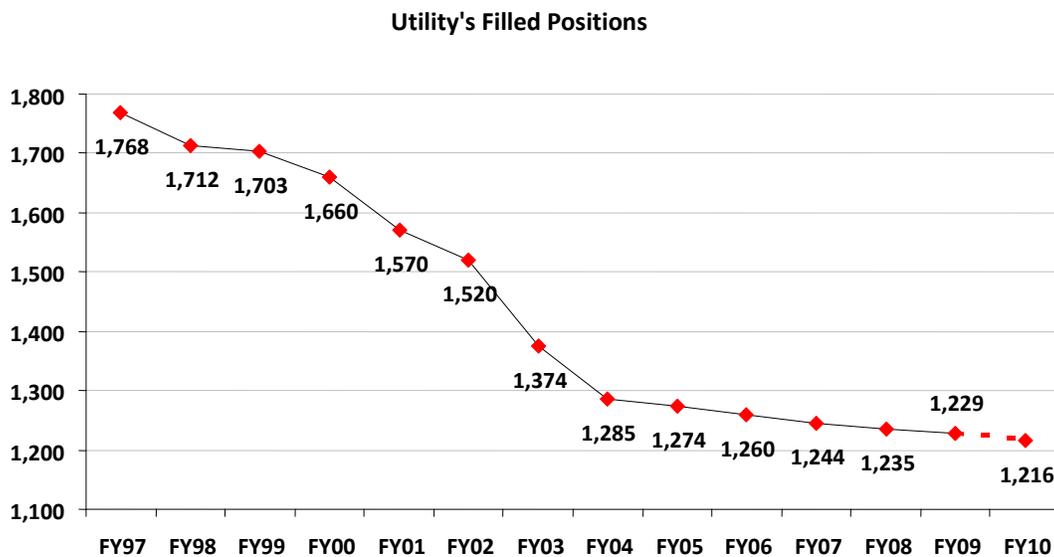
Which strategy areas: Operating, Capital, Financial, Revenue Enhancement, Communications, Risk Management

Operating Strategies

Beyond declining interest rates and other economic impacts, the utility learned in October 2008 that the state-wide Debt Service Assistance appropriation, which was budgeted to provide \$11.25 million in funding to the utility in FY09, had been eliminated. As a result, the utility undertook a rigorous review of the FY09 budget and year-to-date spending to identify opportunities for savings and spending reductions to offset the loss of Debt Service Assistance as well as better position itself to withstand continued economic pressures in FY10 and FY11.

This process involved a detailed line item review of the budget in all divisions. Staff reviewed potential cuts, assessed their impact going forward, and analyzed spending trends. The outcome was a mid-year FY09 Budget Amendment that represented widespread reductions to allow the utility to absorb the \$11.25 million loss without a mid-year rate revenue increase to our member communities. Staff continued to monitor new developments, analyze trends and cut spending to ensure maximum savings in FY09 to generate a surplus that could be used for a defeasance for debt service relief in FY10 and FY11. As a result of extensive spending reductions and operational modifications, the utility managed to rollout a FY10 budget which level funded direct expenses.

The areas of reductions and/or streamlining included:



- Continued long standing efforts to reduce staffing levels annually - for a total reduction of 552 positions or 31% since 1997.
- No salary increases for non-union managers
- Reduced temporary staff funding
- Operations Control Center (OCC) shift staffing changes
- Reduced dry weather minimal staffing at headworks
- Reduced optional pension payments to pay down unfunded liabilities
- Reduced trainings and meetings budget by 44% allowing for only job required trainings and licensing programs
- Eliminated domicile vehicles
- Reduced vehicle replacement budget by 50%
- Postponed lab equipment purchases and computer replacements
- Reduced gasoline budget
- Reduced memberships significantly, including two major research organizations
- Reduced security guard contracts
- Reduced police details
- Reduced professional services spending
- Reduced utilities spending to reflect current market conditions, new electricity procurements, and impacts of energy initiatives, such as:
 - Lighting improvements at the utility's largest facilities
 - Changed wet weather CTG use threshold at DI Wastewater Facility
 - Reduced temperature of heat loop at DI Wastewater Facility
 - Increased N.I. shaft elevations
 - Discontinued use of soda ash mixers at C. Water Treatment Plant
 - Seasonal shutdown of boilers at C. Water Treatment Plant
 - Improved pumping efficiency at 5 water pump stations
 - Self generation initiatives including wind turbines and photovoltaic installations

Capital Program

- As part of the FY10 Capital Budget process, staff initiated a revised methodology with respect to cost estimating such that no estimate would be older than 5 years. This will result in decreased amounts of inflation carried in the Capital Budget.
- Authority is evaluating whether to accelerate some projects to take advantage of the favorable contract pricing the utility is currently experiencing. While initiating such a strategy may increase spending initially, the long term savings could be considerable.

Financial/Investment

- Upon the bankruptcy of Lehman Brothers, managed to terminate and replace two swaps for a financially favorable outcome for the utility
- Controlled FY09 spending to allow for a defeasance that produced sizable debt service savings in FY10 and in FY11
- The Utility continuously monitors refunding opportunities. In February 2009 as part of its planned annual new money issuance, the utility executed a refunding for savings that produced debt service savings in FY10
- Reinvested Debt Service Reserve funds for longer terms to increase investment income
- Diversified portfolio across remarketing agents and liquidity facilities to limit exposure to any one entity

Revenue Enhancement

- Reevaluated all other revenue programs including fees and fines to maximize revenue - without deterring compliance
- Continued to encourage system expansion

- Raised annual rate revenue requirement for communities

Communication/Outreach

- Advocate for new legislation that would provide alternative revenue streams and/or produce savings, such as a bill that would dedicate a portion of revenue from water bottle deposit returns to the utility, as well as tort reform which would limit the utility's liability to \$100,000 which would result in significant insurance premium savings

Risk Management/Control

- Continuously monitor market conditions and assess contingencies to best respond to market events such as institutional bankruptcies, market exits and bank credit downgrades
- Preserve adequate reserve funding

Purpose and duration of strategy:

The Utility has always employed a multi-year rates management strategy and many of the actions detailed above have been utilized by the utility throughout the years to streamline operations and cut costs. However, the more dramatic spending reductions commencing in FY09 are part of a new 18-24 month budgeting strategy.

Business case:

Risk factors: In connection with or in addition to these reductions, the utility has assumed some significant risk in its FY10 budget. Some areas of note are:

- Pension liability
- Exposure to market conditions for interest rates for both variable rate debt and investments
- Utility pricing
- Chemical pricing
- Regulatory changes or new mandates
- OPEB liability

Savings generated: From mid FY09 through FY11, projected savings are in the range of \$35 - \$40 million.

Lessons learned: The Utility's conservative approach to financing and investments as well as its on-going efforts to continuously streamline operations has better positioned the utility to withstand these very difficult economic conditions.

Water Research Foundation
September 2009
Recession Strategy 10

Name of the strategy: Reduce labor costs by eliminating employee cost-of-living adjustment (COLA) resulting in a \$4.2 million reduction as compared to prior year 2% COLA.

Which strategy area (underline all that apply):
Operating

Purpose and duration of strategy: Mitigate cost increases while reducing the risk of impact to core mission. Smooth out rate impacts to avoid peak rate increases that could negatively impact local economy.

Business Case: Labor costs are the single largest component of the organization's operations and maintenance cost. The significant cost pressures being faced could not be effectively addressed without considering labor costs. Given the short term nature of the economic climate and the desire to minimize the effect on employee morale and productivity, this approach was considered viable and productive, especially in light of upcoming labor negotiations with bargaining units, which permitted a frank discussion of the issues.

Risk factors: No risk since ultimately management was successful in interest-based negotiation of bargaining unit agreements that had no COLA.

Savings generated: About \$4.2 million dollars in avoided costs as compared to the most recent 2% COLA.

Other performance outcomes: Interest based negotiation process permitted favorable terms to all parties while achieving these savings.

Lessons learned: N/A

Water Research Foundation
September 2009
Recession Strategy 11

Name of the strategy: Reduce labor cost by implementing a hiring freeze to maintain a 5.5% vacancy rate among budgeted positions, prioritizing critical positions for filling and deferring other less critical positions.

Which strategy area (underline all that apply):

Operating

Purpose and duration of strategy: Mitigate cost increases while reducing the risk of impact to core mission. Smooth out rate impacts to avoid peak rate increases that could negatively impact local economy.

Business Case: Labor costs are the single largest component of the organization's operations and maintenance cost. This approach promised immediate cost savings while preserving the ability to return to a normal and required staffing complement in a relatively short period of time, assuming the economic climate permitted it.

Risk factors: Reduced morale, increased maintenance backlog, reduced / delayed response in completing key initiatives, loss of capacity to ensure competent workforce / succession planning, including:

- Low priority maintenance work orders will not be completed. Examples:
 - Experimental Water Quality instruments
 - Secondary sample tap pumps at Water Treatment plants.
 - Automatic door operations
- Fewer Colorado River tours
- Reduced plant engineering support and increased response times (infrastructure protection and documentation of O&M processes)
- Reduced engineering and IT support of Geographical Information Systems work for the water resource management side
- Reduced engineering hydraulics and design support for the operations side
- Delayed processing of encroachments and requests for use of real property
- Reduced ability to develop and build new staff capabilities for the future due to reduced positions and vacancy rate

Savings generated: Keeps about 84 O&M positions vacant resulting in an \$11.1 million reduction total in labor costs based on an average FTE cost of \$132K w/benefits.

Other performance outcomes: N/A

Lessons learned: Over the long term, this may negatively impact workforce development and succession plans with staff "doing more with less" and not having the opportunity to cross-train and develop skills in addition to not having entry-level staff ready to step in for seasoned staff who are ready to retire.

Water Research Foundation
September 2009
Recession Strategy 12

Name of the strategy: Reduce labor costs by eliminating 32 positions (\$1.6 million)

Which strategy area (underline all that apply):
Operating

Purpose and duration of strategy: This strategy was implemented for FY 2009/10 budget. It mitigates cost increases while reducing the risk of impact to core mission. Smooth out rate impacts to avoid peak rate increases that could negatively impact local economy.

Business Case: Labor costs are the single largest component of the organization's operations and maintenance cost. Management had to consider basic, structural changes resulting in long term savings, in many cases through reprioritizing initiatives and reallocating staff, and restructuring business processes.

Risk factors: Reduced morale, increased maintenance backlog, reduced/delayed response in completing key initiatives, loss of capacity to ensure competent workforce/succession planning, including:

- Low priority maintenance work orders will not be completed. Examples:
 - Experimental Water Quality instruments
 - Secondary sample tap pumps at Water Treatment plants.
 - Automatic door operations
- No bi-lingual spokesperson
- Fewer Colorado River tours
- Reduced plant engineering support and response times (infrastructure protection and documentation of O&M processes)
- Reduced support of Geographical Information Systems work for the water resource management side
- Reduced engineering hydraulic and design support for the operations side
- Delayed processing of encroachments and requests for use of real property
- Reduced ability to develop and build new staff capabilities for the future due to reduced positions and vacancy rate

Savings generated: About \$1.6 million in savings were realized after allowing for the impact of the vacancy rate allotted to these 32 positions in the 2008/09 budget. Otherwise, those 32 positions represented a potential labor and benefits cost of over \$3.8 million.

Other performance outcomes: N/A

Lessons learned: Over the long term, this may negatively impact workforce development and succession plans with staff "doing more with less" and not having the opportunity to cross-train and develop skills in addition to not having entry-level staff ready to step in for seasoned staff who are ready to retire.

Water Research Foundation
September 2009
Recession Strategy 13

Name of the strategy: Reduce labor costs by implementing a Voluntary Furlough Program for employees wishing to reduce their working hours.

Which strategy area (underline all that apply):
Operating

Purpose and duration of strategy: Mitigate cost increases while reducing the risk of impact to core mission. The approach was actually requested by some employees as a way to resolve family care issues. As a result, it promised real savings while having the potential of improving employee morale.

Business Case: If employees and managers could mutually agree on situations where an employee could voluntarily reduce working hours, the organization would realize cost savings, the employee would realize a benefit, and work impact would be minimized.

Risk factors: May be welcomed by some employees. Not every employee's job responsibilities will permit them to participate. It might be in the organization's best interests to deny the request based on business need. If that is the case, there may be a negative impact to employee morale. There is also the risk that insufficient participation by employees will make it difficult to reach \$1 million target. If offered to exempt employees, they could be considered non-exempt and thus, become eligible for overtime pay.

Savings generated: Assuming about 75 employees agree to 2, 8-hour furlough days per month, the organization could save \$1 million. This is just under 8 FTE's.

Other performance outcomes: N/A

Lessons learned: N/A

Water Research Foundation
September 2009
Recession Strategy 14

Name of the strategy: Reduce conservation outreach and program expenditures.

Which strategy area (underline all that apply):

Operating

Communication/Outreach

Purpose and duration of strategy: Reduce overall operating costs by reducing incentives for implementing conservation initiatives and reduce the advertising campaigns used to increase public awareness of drought and the need for water conservation.

Business Case: Given the existing water supply conditions, earned media could provide a significant conservation message over the fiscal year and, when combined with increasing water rates, could motivate water users to implement conservation initiatives even with reduced incentives.

Risk factors: Risks reduced public awareness of water issues and the need for conservation. That could lead to reduced regional water savings through conservation and potentially reduced local and political support for needed legislative actions.

Savings generated: Savings of \$1.1 million in advertising costs and \$20 million in conservation incentives and administrative expenses.

Other performance outcomes: May lose momentum on implementing innovative conservation programs as community support and/or awareness wanes in the absence of promotions.

Lessons learned: N/A

Water Research Foundation
September 2009
Recession Strategy 15

Name of the strategy: Reduce equipment purchases.

Which strategy area (underline all that apply):
Operating

Purpose and duration of strategy: Limit operating equipment purchases to critical equipment, deferring some purchases for at least one year.

Business Case: The organization has established criteria for replacement of equipment to ensure reliability on a least cost basis. Equipment is reviewed annually on a number of criteria including age, condition, utilization, maintenance cost history, reliability, and emergency repair readiness. Staff will work to critically evaluate need and maximize use of equipment with lower utilization and stretch the criteria used to identify equipment needing to be replaced so as to ensure that only the oldest, least reliable equipment is replaced.

Risk factors: Some equipment that might have otherwise been replaced will instead be kept in service, increasing the likelihood of failure, potentially impacting the organization's efficiency and driving up maintenance and equipment rental costs.

Savings generated: A total of 42% was eliminated or deferred from the 2008/09 budget for equipment purchases.

Other performance outcomes: N/A

Lessons learned: N/A

Water Research Foundation
September 2009
Recession Strategy 16

Name of the strategy: Reduce “discretionary” expenses such as travel, training, conferences, etc.

Which strategy area (underline all that apply):

Operating

Communication/Outreach

Other

Purpose and duration of strategy: Limit all “discretionary” expenditures to only the most critical.

Business Case: The organization strives to make sure that staff and the Board of Directors are kept up to date on important issues in the industry and also invests in outreach activities to key constituents as a way to further Board Policy Principles. These activities must be more tightly controlled to make the best use of the limited resources available in this economic climate. Staff also maximizes the use of videoconferencing and webinars to minimize outside travel.

Risk factors: Staff development may be negatively impacted. Exposure of the organization’s views on important issues to our region may be limited. Furtherance of Board Policy Principles may be compromised affecting our ability to advocate.

Savings generated: A total of twenty percent (20%) was eliminated. Reductions to travel, training, and conferences account for about 80% of the reduction. The remaining 20% of the savings came from reductions in the Board inspection trip program, a constituent outreach program.

Other performance outcomes: N/A

Lessons learned: N/A

Water Research Foundation
September 2009
Recession Strategy 17

Name of the strategy: Eliminate budget contingency.

Which strategy area (underline all that apply):

Operating

Risk Management/Control

Purpose and duration of strategy: Reduce upward pressure on rates by assuming more short term cost risk for unanticipated expenditures.

Business Case: The organization has tried to include a contingency equal to 1% of the operations and maintenance budget as a prudent hedge against unplanned and unavoidable costs including emergencies. Given the uncertainty of those expenses as well as the economic pressures, an alternative is to assume more financial risk by eliminating that contingency.

Risk factors: The organization may not be able to respond as quickly to unplanned events or opportunities.

Savings generated: A total of \$3.5 million was eliminated.

Other performance outcomes: N/A

Lessons learned: N/A

**Water Research Foundation
September 2009
Recession Strategy 18**

Name of the strategy: Reduce insurance premium costs.

Which strategy area (underline all that apply):

Operating

Risk Management/Control

Purpose and duration of strategy: Reduce costs by assuming more short term risk and negotiating for reduced premiums.

Business Case: The organization is largely self-insured but does maintain corporate insurance policies to mitigate some risks. Recently, the Board of Directors authorized purchase of employment practices liability insurance. Continuing without that insurance for one more year was deemed as a prudent way to reduce costs. In addition, some savings were realized on renewal of existing policies.

Risk factors: The organization assumes the risk that would otherwise have been covered by the insurance.

Savings generated: A total of \$0.3 million was eliminated.

Other performance outcomes: N/A

Lessons learned: N/A

**Water Research Foundation
September 2009
Recession Strategy 19**

Name of the strategy: Reduce outside service contract utilization.

Which strategy area (underline all that apply):

Operating

Purpose and duration of strategy: Reduce costs by deferring non-critical work and renegotiating contracts for outside services.

Business Case: The organization supplements internal staff skills and workload peaks with strategic utilization of outside contractors. These contractors provide value added services where internal staff is either not available, the expertise required is not a strategic core competency of the organization, or where workload peaks exceed the ability of internal resources to manage. Reprioritization of this work and renegotiation of some contracts would lead to reduced costs. As a part of the overall capital staffing plan, the organization optimizes utilization of regular staff for valleys and consultants for peak workload.

Risk factors: Some projects or maintenance may be delayed or deferred. Staff may incur additional overtime or have to juggle existing workload. The organization's efficiency may be reduced and additional start-up costs may be incurred upon subsequent renewal of eliminated contracts.

Savings generated: A total of \$2.2 million was eliminated.

Other performance outcomes: N/A

Lessons learned: N/A

**Water Research Foundation
September 2009
Recession Strategy 20**

Name of the strategy: Rescheduled CIP for FY 2008/09 and from FY 2009/10 to FY 2011/12

Which strategy area (underline all that apply):

Operating

Capital Program

Financial/Investment

Purpose and duration of strategy: The purpose of this strategy was to reschedule CIP projects using objective reprioritization criteria in response to the recession and challenging credit market. This strategy enabled the organization to delay the issuance of high interest bonds to finance these capital projects, while also utilizing the current level of funding for high-priority capital projects, including several with construction contracts already in progress. This strategy was then extended to the next three fiscal years - FY 2009/10 to FY 2011/2012 - due to the anticipated and continuing economic slowdown.

Business Case: Overall, this strategy enabled the organization to reduce its capital budget for FY 2008/09 by fifteen percent (15%) and avoid issuing bonds at an unreasonably high rate due to the tight credit market to fund all the work originally planned for the fiscal year. In response to the economy and challenging credit market, staff examined the timing and urgency of capital projects with the consideration of optimizing the sale of bonds for program funding. This examination was especially important as existing construction funds were anticipated to be exhausted by the end of December 2008 for previously authorized projects that were already in construction. Overall, this effort involved categorizing capital projects according to the following criteria to prioritize projects and categorize the actions as either a “Go, Rescheduled, or Deferred”: (1) Environmental Regulation Compliance; (2) Urgent Health/Safety Concern; (3) Water Quality Regulation Compliance; (4) Augmenting Source of Supply; (5) Critical Facility/Component Failure; (6) Opportunity to Save Costs; (7) Legal or Other Commitment; and (8) Energy Management/Benefit.

For the long-term, the rescheduling of capital projects from FY 2009/10 through FY 2011/2012, thereby deferring \$236 million of expenditures, enables the organization to continue to meet all service demands at minimal risk and avoid incurring additional financing debt.

Risk factors: Potential risks include possible increases in construction costs due to changed conditions in the future, as well as the possibility of the credit market worsening, and general delays to infrastructure improvements over time if this economic slowdown continues. Overall, the credit market is very complex.

Savings generated: This strategy facilitated the reduction of the capital budget for FY08/09 by fifteen percent (15%) for the near-term and the reduction of capital budgets for FY 2009/10-2011/2012 by \$236 million for the long-term. Deferring bond sales avoids incurring debt sooner than necessary.

Other performance outcomes: This strategy enabled the organization to reassign work to its staff and avoid the extra effort needed to retain consultants and/or hire additional personnel.

Lessons learned: In order to continue to offset increasing costs and project needs, new and innovative approaches to project delivery are required especially amidst the current economic climate. It is more important today to apply new technologies and continue to utilize, for instance, value engineering as a standard component in helping to generate capital project cost savings.

Water Research Foundation
September 2009
Recession Strategy 21

Name of the strategy: Information Technology Server Consolidation

Which strategy area (underline all that apply):

Operating

Capital Program

Financial/Investment

Purpose and duration of strategy: The purpose of the strategy is to take advantage of advances in server consolidation (virtualization) software technology to significantly reduce the number of physical servers that are required to run the organization's computer systems. The strategy consists of an initial 18-month project to design and implement server virtualization software.

Business Case: This new technology will enable the organization to reduce the forecasted number of servers by 59% to be purchased over the next five years from 210 to 86. It is forecasted that by employing this new technology, the organization will reduce its expenditures for servers and associated disk drives over the next five years from \$4.5 million to \$1.7 million, a reduction of 62% or \$2.8 million. In addition, this change in approach will avoid \$500,000 in facility upgrades that would otherwise be needed in the organization's data center to accommodate the increased number of equipment items. This new approach is also projected to reduce expenditures by \$1.1 million in electrical power and cooling costs over a five-year period. In total, the five-year cost avoidance is forecasted to be \$4.4 million. To achieve these cost-avoidance benefits, an investment of \$1.59 million was made for the new "virtualization" software, storage hardware, consulting assistance, and staff training.

Risk factors: As this technology is relatively proven at this time and its implementation is transparent to the business users, the risk factors are considered to be low. Risks associated with technical problems during implementation are being addressed by careful planning and testing of applications as they are migrated.

Savings generated: As of August 30, 2009, 74 virtual servers have been implemented to service new requirements and to replace older physical servers that had reached the end of their useful life, avoiding the need to spend \$740K. In addition, reduced power and cooling requirements are saving an estimated \$115K per year.

Other performance outcomes: In addition to the cost savings, IT staff is now able to be much more timely and responsive to the needs for new servers to support business objectives.

Lessons learned: Virtualization technologies are now mature, stable, and ready for wide deployment in the organization.

Water Research Foundation
September 2009
Recession Strategy 22

Name of the strategy: Reduced operating costs by implementing Telecommunication Audit 2004-06

Which strategy area (underline all that apply):

Operating Strategies

Purpose and duration of strategy: In on-going efforts to proactively reduce operating costs, eliminate redundancy, and increase efficiency, an internal study was conducted to review annual telecommunications expenses. During the years between 2004 and 2006, we hired an outside company to assist staff in the review, given the complexity of the tariff cost structure. This company was compensated through the cost savings realized in the effort. In sum, there is no cost to the organization for this service and represents shared savings.

In sum, the review identified the following items:

- Billing errors by Telephone Companies
- City taxes charged to the organization
- Alternate voice & data services
- Renegotiation of service provider contracts
- Removal of unneeded telephone and video communication lines

Savings generated: The review yielded annual savings of \$1,002,000 and one-time credits and refunds of \$435,000.

Business Case: This telecommunications audit provided an opportunity for us to ultimately reduce overall operating costs on an ongoing basis.

Risk factors: None

Other performance outcomes: As an associated task, billing practices were reviewed, recommendations were implemented, and 225 separate carrier invoices that were processed by the Accounts Payable Department were eliminated and consolidated. This effort resulted in 2,700 invoices per year that no longer needed to be processed.

Lessons learned: This review illustrates that with relatively low cost investment, self-directed communication cost reviews can yield efficiencies and significant cost reductions.

Water Research Foundation
September 2009
Recession Strategy 23

Name of the strategy: Automation with Information Technology Systems - Business, Finance & HR Applications

Which strategy area (underline all that apply):

Operating

Capital Program

Communication/Outreach

Risk Management/Control

Other: Water Planning, Customer and Customer Support

Purpose and duration of strategy: This strategy is designed to ensure regulatory adherence, improved customer service, cost efficiency, productivity increase, risk management and reliability of the organization's Business, Finance and Human Resources applications. It also reinforces the organization's commitment that providing self-service functionality is an ongoing corporate strategy.

This strategy includes the following five major projects:

- Purchasing Self-Service functionality
- Fuel management system
- Human Resources Self-Service functionality
- Automatic Meter Reading system
- Information Security Software Administration Tools

For example, in the Purchasing Self-Service Functionality project which realized the most savings, the upgrade to the existing procurement system streamlined the procurement process to increase purchases made from pre-negotiated discounted contracts. In addition, the upgrade simplified the system so that staff training requirement was reduced due to the web-based interface and self-service capabilities.

In the case of the Fuel Management System, users and vehicles fueling at any of the 74 fuel tanks at the various facilities will be authenticated in real time and will provide management with timely and reliable information such as vehicle fuel consumption, mileage and engine hours. The new fuel system will significantly reduce the amount of administrative labor that is currently used to track fuel inventory.

The Human Resources project allows employee self-service capabilities in the following areas: annual benefits open enrollment; maintenance of personal data and on-line review of payroll information. Future upgrades will allow manager self-service capabilities in the following areas: personnel actions (e.g. transfers, merit increases); generation of custom reports; and streamlined recruitment process through automation.

Business Case: These efforts have increased productivity due to staff's ability to focus on higher value activities while reducing training requirements and improved accuracy while reducing administrative labor. For the Automatic Meter Reading project, the new system was primarily needed due to obsolescence of the original system and communications providers dropping analog transmissions in favor of digital. In addition, wherever needed, such as the Fuel Management system, we have added improved business processes, improved data flows (near real-time vs. nightly download) and integration with other data users. We have also improved security, redundancy, and system monitoring capabilities, while reducing help desk calls by providing self-service for password reset management and other services.

Risk factors: Any organization may not readily accept the “change” to a self-service model. Employees may make errors in updating information. Staff productivity may not increase as much or as fast as projected. Self service systems may be mal-configured or incorrectly deployed which could result in unauthorized access to key business applications. Close attention must be given to the highly congested communications traffic, making wireless communications for the Automatic Meter Reading, for example, over parts of the service area extremely challenging.

Savings generated: The Purchasing Self-Service project will easily generate \$3.2 million in savings over four years. The other four projects realized a total of \$115K to \$268K average annual savings.

Other performance outcomes: For instance, the Purchasing Self-Service upgrade yielded improved management and reordering of commodities, as well as enhanced compliance with management policies and regulatory requirements. It also ensured that goods are consistently purchased through approved vendors at pre-negotiated discount prices.

In the case of the fuel management system, we saw an improved control of fuel inventories over old manual systems. Excessive vehicle maintenance based on time, not usage was virtually eliminated. In all Self-Service upgrades, we saw a substantial reduction of Help Desk calls.

Lessons learned: In all cases, preparing the organization for change before implementation is critical. It is recommended that organizations review current business practices to ensure a “fit” to the software. More user training in the front end would have been very helpful, along with easing the staff resistance to the new web interfaces. Users should get involved early in the design process and utilize all the training provided from the vendor to get users on board on using a self-service system. External consultants should be utilized during implementation when internal skills are not available, and then internal training (train-the-trainer) should be provided for ongoing management and support.

Water Research Foundation
September 2009
Recession Strategy 24

Name of the strategy: Reduce capital project costs by implementing various initiatives including the Value Engineering (VE) Program, Multi-Agency Benchmarking Program, performance metrics effort, and Student Intern Program

Which strategy area (underline all that apply):

Operating

Capital Program

Other – future entry-level workforce

Purpose and duration of strategy: To reduce capital project costs, the organization implemented various initiatives including the Value Engineering Program, Multi-Agency Benchmarking Program, performance metrics effort, and Student Intern Program. All of these efforts are ongoing.

Value Engineering Program - This is a process to reduce costs and identify project enhancements by having the project reviewed for purpose, function, and design by an independent, multi-disciplinary team of experts. We began using VE in the early 1990's, and the program has now grown to where all engineering projects with construction costs over \$2 million are considered for VE. This program has especially benefitted the organization during the current economic crisis, and is now being considered for other business disciplines such as the information technology area.

Multi-Agency Benchmarking Program - This program's objectives are to analyze and improve the project delivery cost efficiency of large water infrastructure, establish a performance baseline (standard) for project delivery, determine how to evaluate (measure) performance relative to the baseline, identify key activities that drive performance, and identify "Best Practices" relative to performance drivers. This effort was established in 2004 and involves 11 participants across several states.

Performance Metrics – As a part of the corporate strategy since 2002, we began measuring design costs and construction inspections costs separately as a percentage of a project's construction costs. Targets for each category are tracked and reported on a quarterly basis. Over time, this effort has benefitted the organization with improvements and enhancements to the design and construction processes, thereby reducing capital project costs.

Engineering Student Intern Program – Under this program as a part of its overall staffing strategy, engineering students are recruited to participate in the summer and year-round Cooperative Education Program, which is designed to provide college undergraduate students the opportunity to augment their studies with practical work experience in the water industry. The student interns assist with the short- and long-range capital staffing needs that benefit organization by:

- Freeing up seasoned professionals to perform higher level work;
- Providing work experience to participants, some of whom become future Regular Employees; and
- Offering the opportunity to observe potential employees under working conditions rather than solely through the interview process.

Business Case:

VE Program - While the annual total cost of VE reviews may be less than \$250K, the cost savings identified by the program is in the tens of millions of dollars. The Return on Investment is over 30 to 1 on average, and is considered an excellent rate of return. In sum, the VE Program benefits the organization as it significantly reduces capital project costs as it helps to realize project cost savings while also achieving cost avoidance.

Multi-Agency Benchmarking Program - The overall benefits include providing participants with tools and information to improve their project delivery performance, a reference to establish performance measures as a part of an overall improvement program, and a compilation of best management practices utilized in the delivery of capital water infrastructure projects.

Performance Metrics - Since 2002, design and construction inspection costs have been steadily reduced due to the implementation of best management practices in engineering. The overall metrics have facilitated improvements to the average design and construction inspection range of 9 to 15 percent.

Student Intern Program - This program is beneficial as engineering student interns provide cost-effective, short-term engineering support to capital projects, while also freeing up more seasoned regular engineering staff to perform higher level work. This is a part of the overall staffing strategy to hire student interns and consultants to supplement the workforce during peak capital workloads and hiring regular staff only for the base workload levels.

Risk factors: There are no known risks associated with these programs.

Savings generated: Overall, we have realized labor cost savings on average of \$19 million due to improvements from performance metrics efforts, realized \$31 million this past FY 2008/09 in significant project cost savings under the VE Program, and realized capital labor costs savings of \$400,000 by utilizing student interns as opposed to junior and assistant engineers for lower level assignments.

Other performance outcomes: In sum, there are a number of benefits from these efforts, including the following:

- VE Program exposes staff to new ideas, technologies, and innovations currently practiced in the industry;
- VE Program helps to reduce construction risks and claims as the capital projects undergo a rigorous peer review guaranteeing that the optimum design solutions are implemented;
- Multi-Agency Benchmarking Program has benefitted the organization in implementing best management practices that were developed by consensus of leading water utility partners, justifying the appropriateness of the benchmark standards being used, and continuing dialogue with industry leaders to remain current on recent industry innovations; and
- Engineering Student Intern Program has helped to attract future recruits for potential candidates for entry-level Jr. Engineer positions

Lessons learned: For these efforts, there are a number of lessons learned, as follows:

- For each capital project reviewed under VE, there are numerous alternatives and approaches offered even if they are not all adopted by the stakeholders involved.
- We have learned that performance metrics based on complexity of each project rather than by total construction cost ranges may better reflect actual performance. This is being evaluated currently to develop new metrics.
- We continue to refine benchmark standards, seeking to develop benchmarks that are relevant and challenging to increase workforce productivity.

We have learned more about where the water industry is today and in the future with each focus area (e.g., cost estimating, etc.). It has also learned about the track record of utilizing partnering sessions and whether it is still proven to be useful in the industry.

Water Research Foundation
September 2009
Recession Strategy 25

Name of the strategy: Offset capital project costs by applying for state and federal grants

Which strategy area (underline all that apply):

Operating

Capital Program

Purpose and duration of strategy: The purpose of this strategy is to offset costs for construction, procurement of required equipment, and engineering for the organization's capital projects. In this case, applications were submitted for a state grant in 2004 for partial funding of the Oxidation Retrofit Program for three plants, and subsequently we were awarded the grant funds in 2006. With the economic crisis within the state, the organization continues to seek grant funding opportunities to offset its overall operating and capital costs. With the federal American Recovery and Reinvestment Act (ARRA) signed into law in February 2009, the organization pursued this opportunity to apply for up to \$30 million in grant funding under the ARRA for construction of seven Capital Investment Plan (CIP) projects that are "shovel ready" in addition to five conservation-related (non-CIP) projects. The organization is awaiting the federal government's decision. The duration of this strategy is ongoing as the opportunities arise.

Business Case: The pursuit of the state and federal grant funding is a highly beneficial opportunity to help offset its operating and capital costs, especially in the face of this economic crisis. It also has helped to mitigate costs for its member agency customers.

Risk factors: There are no known risk factors for implementing this strategy.

Savings generated: To date, \$40 million under the state grant program has been received for the Oxidation Retrofit Program (ORP) at the two plants. An additional \$20 million under that grant program is anticipated for the ORP at an additional plant and an application for \$30 million federal grant funding under ARRA is still under review.

Other performance outcomes: The pursuit of state and federal grant funds to offset our operating and capital costs ultimately benefits our stakeholders. This strategy also has helped to motivate the organization in continuously achieving our mission and constantly seeking opportunities to implement new technologies or cost-cutting measures for the benefit of our customers.

Lessons learned: We have learned that state and federal grant funding programs require constant monitoring during the application, review, and award process. For the state grant program, we have also learned that it can be a challenge to rely on a third party to administer the labor compliance program which is a requirement under the provisions of the Proposition 50 grant program. In this case, a local Unified School District, as a certified labor compliance administrator, was hired to oversee the labor compliance program for two ORP Programs; however, that local school district ceased its program recently due to the economic crisis affecting its core educational programs. For future projects that are funded by similar grants, we may have to consider other options.

Water Research Foundation
September 2009
Recession Strategy 26

Name of the strategy: Reduce operating costs each year by implementing a combination of procurement savings strategies

Which strategy area (underline all that apply):

Operating

Purpose and duration of strategy: To reduce the cost of the goods and services the organization purchases, it employs a combination of procurement savings strategies. These include the following:

- Using Best Value negotiated procurements where appropriate and where savings are possible through negotiation strategies;
- Using piggyback contracts (contracts established by other public agencies) and negotiating price reductions as permitted;
- Negotiating reductions during contract renewal periods; and
- Reviewing specifications and scopes of work during contract renewal periods to look for areas which can be modified to result in price reductions without impacting the overall level of service or product quality.

The organization also developed a metric to track monthly and annual savings to ensure meeting the goal to reduce nonprofessional expenditures by one percent each year. In the area of professional services, the goal is to negotiate a 4% savings on 25% of its contracts.

Business Case: The contracting goals include achieving the following results for its internal customers:

- Getting the needed goods and services when they are needed;
- Getting goods and services of appropriate quality; and
- Getting goods and services at the best prices for the organization.

Tracking savings is a way of assuring that goals are being met as a part of its mission. It also helps us develop a database of those companies who are providing maximum benefit to the organization.

Risk factors: The major risk factors would be the sacrifice of quality for any reduction in price. Our specifications and contract administration programs help mitigate that risk. Vigilant contract monitoring saves money in terms of cost avoidance. Effective contract administration reduces the need for change orders, catches performance problems early so that costly corrective action does not need to be taken, and also scrutinizes invoices to avoid over payments

Savings generated: In the last fiscal year (2008-2009), we achieved 101.1 million in savings against a total purchasing expenditure of about \$88 million. This exceeded the target of 1% by about \$300,000. We also achieved an average of a 5% reduction on 16% of its consulting agreements.

Other performance outcomes: The outcome of the program is that we get the intended value from the contracts, develop an accurate record of contractor performance to assist with contractor selection for future contracts, and can deal with contractor problems early, minimizing their effect.

Lessons learned: Vigilant administration and preventive action is more effective than corrective action when it comes to contracts. Also, where possible and practicable, we negotiate fixed price contracts. These types of contracts place the burden on the contractor to control cost. It is imperative, however, that any fixed price contract be carefully monitored to ensure that all goods and services are being performed per the contract requirements.

Water Research Foundation
September 2009
Recession Strategy 27

Name of the strategy: Reduced debt service costs by approximately \$2.1 million per year through 2039 by issuing \$329 million of taxable “Build America Bonds”.

Which strategy area (underline all that apply):

Operating

Capital Program

Financial/Investment

Purpose and duration of strategy: The organization took advantage of the federal government’s “Build America Bonds” program issuing \$329 million of these taxable bonds. Taking into account the 35 percent interest subsidy from the federal government for the payments on the bonds, we reduced debt service costs by approximately \$2.1 million per year through 2039.

Business Case: The organization reduced its debt service costs by approximately \$2.1 million per year thru 2039 when compared to the cost of tax-exempt municipal bonds for the same amount of bonds.

Risk factors: The primary risk to the organization is the Federal Government electing or deciding not to pay the 35 percent semi-annual interest payment subsidy over any period during the life of the bonds.

Savings generated: \$2.1 million per year will have been saved

Other performance outcomes: N/A

Lessons learned: The organization’s strong credit rating and prudent financial management provided the opportunity to take advantage of the Federal Government’s Build America Bonds program and access the taxable market to realize cost savings for the CIP.

Water Research Foundation
September 2009
Recession Strategy 28

Name of the strategy: Realized cost savings and eliminated interest rate risks by refunding approximately \$500 million of variable rate demand obligations supported by standby bond purchase agreements

Which strategy area (underline all that apply):

Operating

Financial/Investment

Purpose and duration of strategy: During FY 2008/09 and FY 2009/10, as economic conditions continued to impact the banking industry throughout the world, we refunded approximately \$500 million of variable rate demand obligations supported by standby bond purchase agreements with a number of European banks in order to (a) realize cost savings; (b) eliminate higher interest rates due to any future credit downgrades of the banks; (c) eliminate the need and exposure to rising cost for liquidity facilities; and (d) eliminate “put” risk which would lead to higher costing bank bonds.

Business Case: Same as above under “Purpose and duration of strategy”.

Risk factors: None; this action helped to eliminate interest rate risks and other investment related risks.

Savings generated: Eliminated interest rate risk and liquidity bank risks.

Other performance outcomes: N/A

Lessons learned: A strong credit rating, through prudent financial management, provided an option to refund the variable rate bonds resulting in savings and elimination of variable rate bond risk and liquidity bank risks.

**Water Research Foundation
September 2009
Recession Strategy 29**

Name of the strategy: Refunded a series of variable rate bonds with fixed rate bonds, thereby reducing future debt service costs by about \$700,000 per year through 2023.

Which strategy area (underline all that apply):

Operating

Financial/Investment

Purpose and duration of strategy: In July 2009, we decided to refund the variable rate bonds with fixed rate bonds, taking advantage of reduced interest rates, thereby reducing future debt service costs by about \$700,000 per year through 2023.

Business Case: Due to investor concerns over a municipal bond insurer, our remarketing agent for a series of variable rate bonds was unable to remarket the bonds and "put" the bonds to the liquidity bank, thereby increasing the cost of the bonds to the organization. In addition, we had originally swapped the bonds to a fixed rate with AIG as the swap counterparty. However, once the bonds were "put" to the liquidity bank, our payment from AIG no longer covered the payment on the variable rate bonds. We decided to refund the bonds with fixed rate bonds, thereby reducing future debt service costs by about \$700,000 per year through 2023.

Risk factors: None; financing risks were eliminated with this action.

Savings generated: \$700K in debt service costs each year will be realized through 2023.

Other performance outcomes: N/A

Lessons learned: A strong credit rating, through prudent financial management, provided an option to refund the variable rate bonds resulting in savings and elimination of cash flow risk. Financial risks no matter how unlikely (such as the credit downgrade of "AAA" rated municipal bond insurers in a short period of time) may materialize, thereby validating the importance and need for a strong credit rating.

Water Research Foundation
September 2009
Recession Strategy 30

Name of the strategy: Refunded all \$500 million of its auction rate securities (ARS) with variable rate demand obligations thereby reducing future costs of servicing the debt by approximately \$4.4 million per year through 2037.

Which strategy area (underline all that apply):

Operating

Financial/Investment

Purpose and duration of strategy: During FY 2008/09, we refunded all \$500 million of its ARS with variable rate demand obligations thereby reducing future costs of servicing the debt by approximately \$4.4 million per year through 2037.

Business Case: In early 2008, as the credit ratings of municipal bond insurers began to erode due to their exposure to structured financial products, investors and municipalities throughout the country (including our organization) were negatively affected. Primarily due to our high credit ratings ("AAA / Aa2 / AA+"), we had not had to rely on municipal bond insurance as much as other municipalities throughout the country. However, we did use municipal bond insurance for its ARS program. As a result of the credit downgrades to the insurer of our ARS and the liquidity positions of auction rate broker dealers, our costs for ARS increased significantly. We decided to refund all \$500 million of its ARS with variable rate demand obligations thereby reducing future costs of servicing the debt by approximately \$4.4 million per year through 2037.

Risk factors: Risks for ARS were eliminated with this action, but we increased its variable rate debt market risk and risks associated with bank liquidity facilities.

Savings generated: Reducing future costs of servicing debt by approximately \$4.4 million per year through 2037

Other performance outcomes: N/A

Lessons learned: A strong credit rating, through prudent financial management, provided an option to refund ARS resulting in savings and elimination of ARS financing risk. Financial risks no matter how unlikely (such as the credit downgrade of "AAA" rated municipal bond insurers in a short period of time) may materialize, thereby validating the importance and need for a strong credit rating.

**Water Research Foundation
September 2009
Recession Strategy 31**

Name of the strategy: Optimized chemical usage at the treatment plants to reduce operating costs

Which strategy area (underline all that apply): Operating

Purpose and duration of strategy: The purpose of this strategy is to implement actions to control chemical costs which have increased rapidly in the past two years. Historically, our chemical budget has been increasing at an average annualized rate of 16 percent. For instance, in FY 2007/08, our chemical budget was \$28.532 million, whereas in FY 2008/09, it was \$31.625 million. The current FY 2009/10 chemical budget at \$30.648 million would have been \$17 million more if we had not been proactive in controlling water treatment chemical costs via pursuit of treatment optimization with emphasized ozone process optimization, finalizing bromate control alternatives, and modified procurement strategies. Key actions for the modified procurement strategies included the following:

- Continuing index- and commodity-based pricing to share risks;
- Pursuing cooperative purchasing power with other agencies;
- Continuing longer-term contracts when appropriate;
- Competitively bidding alternative coagulants; and
- Procuring chlorine.

Duration of this strategy is ongoing with next steps including ongoing pursuit of treatment optimization, implementing modified purchasing strategies, and examining longer-term strategy to switch to alternate chemicals.

Business Case: This strategy was implemented to control water treatment chemical costs, while also reducing overall operations and maintenance costs especially amidst the state's economic crisis. For the long-term, we strive to sustain essential treatment processes by seeking, for instance, alternative chemicals that can be used to lessen its dependence on fluctuating commodity and chemical markets.

Risk factors: The quality of water may be affected if alternative chemicals are used to treat water such as the taste/odor portion. Since treatment optimization was implemented and alternative chemicals were not yet introduced, there is no risk to the quality of water at this time.

Savings generated: Realized total cost savings of \$1.72 million by optimizing chemical usage at our water treatment plants. This included using less aggressive DBP precursor removal with cost savings of \$750K, less aggressive arsenic control with cost savings of \$470K, less aggressive bromated control with cost savings of \$300K, staged chlorination for quagga mussel control, and reduced solids dewatering costs with cost savings of \$200K. Additionally, this strategy helped to offset more than \$17 million in anticipated chemical costs, especially for our FY 2009/10 budget.

Other performance outcomes: Pursuit of ozone optimization is considered an efficiency that takes advantage of technology that has been in place.

Lessons learned: Together with other water utilities, we have gained a better understanding now on how best to control costs. One way is to have utilities track chemical markets (prices and availability) over time more systematically and invest in planning that can help manage risk associated with future water treatment market volatility. This may require chemical information sharing between utilities.

Water Research Foundation
September 2009
Recession Strategy 32

Name of the strategy: Workforce Development and Succession Planning

Which strategy area (underline all that apply): Operating, Capital Program , Other - Workforce

Purpose and duration of strategy: The purpose of this strategy is to ensure a high performance workplace that is prepared for the future with talented and engaged employees delivering value, excellent leadership practices, and cost-effective processes in addition to proactively preparing the next generation of staff to step in when seasoned staff retire and transferring significant institutional knowledge necessary to continue the mission of the organization. This is an ongoing effort.

Business Case: It is essential for us to develop the capabilities of staff to meet future water resource management and system operations needs, take advantage of new technologies while keeping pace with changing workplace demographics, new business requirements and increased for cost-containment. It is also essential for the next generation of staff to be ready to step in when seasoned staff retire resulting in a smooth transition, especially with the average age of staff at 49 years old. To address both of these challenges, a number of programs and activities have been put in place and include the following.

- Pre-Management training, also known as “Moving into Management”, which has been attended by staff interested in becoming managers in the future
- Leadership Academy for pre-management leading
- Internal Training including classroom and online courses on ethics training, business processes, safety/environmental, etc.
- External Training including outside technical conferences and seminars conducted by organizations such as American Water Works Association, American Society of Civil Engineers, and other technical groups
- Tuition Reimbursement Program
- Executive coaching offered to line managers and beyond
- Brown Bag Technical Lunch Meetings to enhance staff’s knowledge of engineering and related technical areas
- Other training media such as webinars
- Piloting competency-based assessments in recruitment and selection
- Instituting the state- certified Apprenticeship Program for maintenance and electrical skilled craftspeople
- Administering the year-round Engineering’s Student Intern Program
- Utilizing web-sourcing tools to reach a wider array of potential job candidate
- Peer-to-peer networking is highly encouraged with participation in professional and technical organizations
- Interest-based bargaining training for key managers and staff in preparation for current labor negotiations

Risk factors: None have been identified

Savings generated: While this is challenging to quantify, a number of benefits of this workforce and succession planning approach include the following:

- Ensures fluidity in the organization as managers can quickly identify key people to fill critical work functions and easily move resources within the organization
- Facilitates knowledge transfer from senior-level staff to entry-level staff
- Encourages diversity
- Is relatively inexpensive and simple with optimal utilization of in-house resources

Other performance outcomes: Overall, this effort also benefits the organization in the long-term by retaining staff with its intellectual investment in staff, while also attracting new employees.

Lessons learned: Each organizational unit has to be proactive in developing its workforce and future leadership as well as preparing for the next generation of staff. This often involves informal programs such as cross-training, mentoring, and other simple methods. While a centralized leadership model or more formalized programs may benefit any given large organization, it is each organizational unit's responsibility in the end to initiate actions and avoid waiting for more formalized corporate action in order to ensure a high performance workforce and future generation of leaders and staff.

**Water Research Foundation
September 2009
Recession Strategy 33**

Name of the strategy: Water Loss Control

Which strategy area (underline all that apply):

Operating

Capital Program

Financial/Investment

Revenue Enhancement

Communication/Outreach

Risk Management/Control

Other

Purpose and duration of strategy: Efficiency gains through leakage reduction in distribution system – ongoing

Business case: Reduction in operating costs, reduced liability and improved customer service

Risk factors: Some capital investment required and strong interdepartmental co-operation

Savings generated: \$600,000/year

Other performance outcomes:

Significant operational knowledge of system obtained through program and ties between departments strengthened.

Lessons learned:

- Don't skimp on training [min. annual workshops with front line staff; semi-annual in first two years]
- Make the economic argument for the program first, but recognize other benefits
- Tie program to corporate direction
- Measure performance; celebrate and reward success

Water Research Foundation
September 2009
Recession Strategy 34

Name of the strategy: Reduce Costs Associated with Capital Improvements

Which strategy area (underline all that apply):

Operating
Capital Program
Financial/Investment
Revenue Enhancement
Communication/Outreach
Risk Management/Control
Other

Purpose and duration of strategy:

2008 and forward to be adjusted as appropriate.

To slow the growth of annual required inputs of capital improvement funding from Wholesale Customers

Business case: The Utility has an EPA permit compliance requirement to recover water treatment residuals. Also, we had previously made a decision to eliminate gaseous chlorine and replace it with sodium hypochlorite. These projects along with essential infrastructure revitalization to ensure operational reliability needed to proceed. Wholesale customers are source of capital funding in our business model; therefore we needed to find ways to do these projects at the lowest possible costs to align with their diminished ability to generate cash.

Risk factors: Compliance projects must be accomplished, but this puts strain on customer resources. Risk of deferring other infrastructure rejuvenation projects is acceptable.

Savings generated:

Other performance outcomes:

Lessons learned:

1. We believe we have obtained a better bidding climate and better pricing by aggressively soliciting contactors to bid and conducting on-site walk-throughs as a group to allow the best possible understanding of the nature of our overall operations and how the projects may be constrained by other operations.
2. We had a major compliance project bid set come in above the percentage of our independent estimate that would allow us to award the project. We then called all the contractors to a meeting (voluntary) and asked them to advise us how to repackage the project so that when we asked for another round of bids that we might find savings. This resulted in a 5 percent savings on a \$97 million project.

Water Research Foundation
September 2009
Recession Strategy 35

Name of the strategy: Review alternative financing options and solutions for capital projects (No stone left unturned).

Which strategy area (underline all that apply):

Operating
Capital Program
Financial/Investment
Revenue Enhancement
Communication/Outreach
Risk Management/Control
Other

Purpose and duration of strategy: Lower cost of financing projects (interest rates and cost of issuance)

Business case: Traditional methods of financing were increasing and drying up. Needed to find new sources of capital with lower costs.

Risk factors: Timing. If alternatives failed could have lead to higher costs from traditional path due to delays.

Savings generated:

For Water Plant expansion project obtained 1/3 interest subsidy for \$14.2 million project resulting in \$2.4 million savings over 20 year life of bond.

For covered storage project to replace open reservoirs (\$33 million project for one 30 MG concrete tank and one 20 MG concrete tank): obtained lower cost of issuance and lower interest rate (6/10ths of one percent reduction) by obtaining financing through new program sponsored by (state) Environmental Facilities Corporation. Resulting in savings of \$4.3 million over 30-year bond life. It is also worth noting that due to timing of the bids (late 2008 early 2009, coupled with tight design specs, the project came in \$22 million lower than the consulting engineer's original estimates. Further, this is a project that we took over from the County in the middle of the design process.

Other performance outcomes: Staff now more comfortable at aggressively investigating and pursuing legitimate alternative means of financing.

Lessons learned: Never say no and continually look for new partners.

Water Research Foundation
September 2009
Recession Strategy 36

Name of the strategy: Capital Plan Reduction

Which strategy area (underline all that apply):

Operating
Capital Program
Financial/Investment
Revenue Enhancement
Communication/Outreach
Risk Management/Control
Other

Purpose and duration of strategy: Reduced our 4-year capital budget by 20% last year, followed by an additional 10% reduction this year.

Business case: We reduced our 4-year program by 20% by stretching the four years into a fifth year. This was followed by a further 10% reduction. Debt service comprises nearly 50% of the total costs of the water utility. This reduction in the capital plan slows the growth in our debt service and marginally reduced the pressure on rates for the next few years.

Risk factors: The capital plan reduction required deferral of many projects that would have upgraded old infrastructure to a state of good repair or that would have provided additional stormwater capacity and reduced flooding. There is now a greater risk of component failures and of flooding in prone areas.

Savings generated: Peak savings of \$150 million annually, or 6 points on the water/wastewater rate.

Other performance outcomes:

Lessons learned:

**Water Research Foundation
September 2009
Recession Strategy 37**

Name of the strategy: Capital Financing

Which strategy area (underline all that apply):

Operating

Capital Program

Financial/Investment

Revenue Enhancement

Communication/Outreach

Risk Management/Control

Other

Purpose and duration of strategy: Leverage reserves by debt financing \$80 million in revenue-funded capital project expenditures to avoid impacting rates during drought and economic downturn. This strategy is being implemented during the District's 2010-2019 Ten-Year Financial Plan.

Business case: The District's 2010-2019 Ten-Year Financial Plan identifies a potential \$100 million financial impact associated with the drought and economic downturn. In response, the District has implemented a strategy to debt finance \$80 million of previously revenue-funded capital expenditures. The debt financing will be accomplished using Capital Appreciation Bonds that are structured to defer capital and interest repayment until 2022. The combination of higher than previously planned reserve balances and associated increased interest income on the higher reserves mitigates for reduced revenues resulting from the drought and economic downturn, and ensures compliance with the District's rate policy that limits annual rate increases to no higher than the rate of inflation.

Risk factors: CABs market could disappear or become prohibitively expensive prior to planned bond sale in 2011.

Savings generated: \$80 million reduction in reserve use and approximately \$8 million of additional interest income during 2010-2019 Ten-Year Financial Plan.

Other performance outcomes: Use of CABs allows scheduling of debt payments to coincide with debt retirement of other bonds, and retains debt capacity and flexibility for financing future capital projects not yet identified in the Financial Plan.

Lessons learned: This strategy is still early in implementation.

Water Research Foundation
September 2009
Recession Strategy 38

Name of the strategy: Capital Project Cash Flow Management

Which strategy area (underline all that apply):

Operating

Capital Program

Financial/Investment

Revenue Enhancement

Communication/Outreach

Risk Management/Control

Purpose and duration of strategy: Leverage reserves by cash flowing revenue-funded capital project expenditures to avoid impacting rates during the drought and economic downturn. This strategy builds off of the District's existing commercial paper program, and continues to be implemented during the District's 2010-2019 Ten-Year Financial Plan.

Business case: The District implemented a \$100 million commercial paper program in 1997 to cash flow major construction projects during construction. Cash flowing capital project expenditures with commercial paper generates financial plan benefits by enhancing interest earnings on District reserves, given that the interest rate and fees paid on the commercial paper are less than the interest rate earned on reserves. The flexibility provided by the commercial paper program has allowed the District to cash flow revenue-funded capital projects and effectively manage reserve use during the drought and economic downturn.

Risk factors: Commercial paper fees and interest costs can rise and reduce or eliminate the benefits of additional interest earnings on reserves. The District manages this risk by retaining sufficient reserve liquidity to retire commercial paper if needed. Even under current market conditions, the commercial paper program is still advantages. As shown below, the District generated \$1.6 million in interest income in FY09 (net of fees and interest costs) because the increase in commercial paper fees, which have risen to 95 basis points and higher, are offset by historically low commercial paper interest rates of 0.25%, making the net costs of the program favorable compared reserve portfolio earnings. The District is currently earning 3.4% on its reserves.

Savings generated: \$1.6 million of additional interest income (net of fees and interest costs) in FY09, and projected \$10.2 million of additional interest income during 2010-2019 Ten-Year Financial Plan.

Other performance outcomes: Use of commercial paper to fund project construction costs preserves the option for long-term financing upon project completion, versus use of reserves, which provides Financial Plan flexibility.

Lessons learned: Although not a lesson learned, it is worth stressing the importance of maintaining or improving credit ratings for your agency. The District's strong credit rating allowed it to renew its commercial paper revolving line of credit during very tumultuous credit market conditions.

**Water Research Foundation
September 2009
Recession Strategy 39**

Name of the strategy: Capital Budget Restatement

Which strategy area (underline all that apply):

Operating
Capital Program
Financial/Investment
Revenue Enhancement
Communication/Outreach
Risk Management/Control
Other

Purpose and duration of strategy: Restate 10 year capital budget to reflect current economic conditions. Ongoing

Business case:

The City uses 3 year budget cycles. The current cycle is 2009- 11. The capital budget and subsequent rates were approved prior to the downturn taking effect. There were issues with the current staffing levels and capabilities to spend the capital budget as planned.

Restatement of the capital budget was a major effort within our Infrastructure Planning group. Key elements of the restatement included

1. Review all long range capital plans (water, wastewater and storm) to ensure the individual business case for each project was still valid.
2. Restate the long range plan by primarily moving projects out of the 10 year capital window
3. Readjust all project estimates using current inflation and reduced expected tendered costs.
4. Move towards cash flow budgeting from project budgeting. We had large amounts of carry-forwards inherent in our capital budget. We couldn't spend all the money budgeted in any given year.
5. Collaborated with other levels of government as well as industry groups like (state/province) Roadbuilders to refine construction estimates and ensure that any messaging to politicians was consistent across the state/province.
6. Some issues of moving from annual budgets and project specific approvals to three year budget and cash flow approvals were also addressed through this review. Cash flow budgeting was a new way of working.
7. In some cases, project budgets weren't reduced; more units were done. A good example of this was water main replacement.

Risk factors:

- Historically, easier gains on rates can be achieved from capital related budget components (Debt Interest) from reduction of capital spending
- Cash Flow approach will make future budget changes more complicated / more difficult to achieve
- Understanding your budgets becomes a higher priority and part of accountability expectations.
- Revenue requirements drive the ability to spend and the 2009 picture to date shows a balanced budget. If all budget spending would occur, reserve draws would be required. This could lead to tough decisions such as earlier layoffs.
- Returning money previously approved may be more difficult to gain back if conditions change.
- Matching project budgeting to cash flow budgeting is a complicated change to reconcile.

Savings generated:

Old Approved Capital Budget (\$ Millions)

	2009	2010	2011	Total
Water	\$217	\$157	\$131	\$505
Wastewater	\$283	\$136	\$151	\$570
Drainage	\$127	\$57	\$51	\$235
TOTAL	\$627	\$350	\$333	\$1,310

Proposed Revised Capital Budget (Not the final chart)

	2009	2010	2011	Total
Water	\$189	\$156	\$95	\$440
Wastewater	\$199	\$151	\$148	\$498
Drainage	\$73	\$94	\$54	\$221
TOTAL	\$461	\$401	\$297	\$1,159

Proposing to reduce capital budget by \$151 million in the next three years.

Other performance outcomes:

The reduction in capital budget could (subject to City Council approval) also result in a reduction in proposed rate increases for customer.

Water; three year rate increase of 5.8% per year (2009, 2010 and 2011) should now be 4.3% in 2010 and 2011

Wastewater; three rate increase of 5.0% per year (2009, 2010 and 2011) should now be 3.5% in 2010 and 2011

Drainage; three year rate increase of 5.0% per year (2009, 2010 and 2011) will be 4.0% in 2010 and 2011

NOTE: Rate changes also based on Operating Expenditures amendments

Lessons learned:

- Growth projections dropped quickly and this had a major impact on capital expenditures. Many different opinions on where growth will occur, rates of growth are a challenge to reconcile among all the stakeholders.
- Reduced pace of capital expenditures provides more time for value engineering initiatives.

Water Research Foundation
September 2009
Recession Strategy 40

Name of the strategy: Revenue Diversification

Which strategy area (underline all that apply):

Operating
Capital Program
Financial/Investment
Revenue Enhancement
Communication/Outreach
Risk Management/Control
Other

Purpose and duration of strategy: Identify and obtain outside revenue sources to reduce expenditures funded by customers. This is an ongoing annual strategy that has helped the District mitigate the impacts of the drought and economic downturn on its customers.

Business case: The District uses a three-pronged approach to identify and obtain outside sources of revenue:

- The District actively pursues State and Federal funding for its capital improvement program through grants and cooperative agreements, primarily with the U.S. Bureau of Reclamation and the State Department of Water Resources. This approach is typically used to obtain partial funding of large infrastructure projects such as the District's main diversion and distribution system (Canal Replacement and Alternative Intake Project), and water supply reservoir (LV Reservoir Expansion Project). The District obtains \$5 million - \$8 million annually through State and Federal awards.
- The District requires that infrastructure investments needed to serve growth within its service area be funded by developers. This is in keeping with the business philosophy that "growth pays for growth", and is not subsidized by existing customers. This is accomplished by having the developers pay a system connection charge, known as a Facility Reserve Charge, for connecting to the District storage and delivery system. Additionally, developers are required to fully fund the installation of the localized distribution system needed to serve the particular development. The District obtains \$12 million - \$16 million annually through developer funding.
- The District actively pursues other non-operating revenues sources by maximizing utilization of District assets, primarily its watershed lands. Examples include long-term grazing leases at the LV Reservoir, which not only generate additional income but also help control vegetation and reduce fire danger, and long-term leases with the major mobile communications providers to place cell phone towers on watershed lands. The District obtains \$5 million to \$7 million annually in non-operating revenues.

Risk factors: Revenue sources may be impacted by events external to the District. The District mitigates for this risk through proactive participation at the State and Federal agency and political levels.

Savings generated: See annual savings under Business Case section above. The District currently funds 30% of its total annual expenditures with outside revenue compared to only 17% back in 1997. Revenue diversification has allowed the District to help fund \$25 - \$80 million in capital expenditures annually while keeping rate increases at or below the rate of inflation.

Other performance outcomes: None

Lessons learned: State and Federal agencies can be slow to pay on amounts owed under grants and cooperative agreements. Proactive follow-up is required to ensure timely payment.

Water Research Foundation
September 2009
Recession Strategy 41

Name of the strategy: Reduced cash financing of the Capital Investment Plan (CIP), also referred to as Pay-As-You-Go (PAYGO) funding.

Which strategy area (underline all that apply):

Capital Program

Financial/Investment

Purpose and duration of strategy: The purpose of this approach is to reduce near-term revenue requirements in order to provide budget and water rate relief. The decision on the appropriate level of PAYGO is made on an annual basis as a part of the budget process.

Business Case: We fund the CIP in two ways: 1) Financing through bonds, which leads to long-term debt service payments; and 2) Annual cash funding of programs through PAYGO. Typically, we fund \$95 million of the annual CIP through PAYGO. These funds must come from revenues generated by water rates each year. By reducing the PAYGO funding, we are reducing the need for revenues in a given year, but increasing the amount of the CIP that is debt-financed. This leads to a near-term reduction in costs, but a long-term increase in debt service payments. This strategy is useful for the organization to reduce the annual revenue requirement in times of fiscal strain, as long as PAYGO levels are restored in future years.

Risk factors: Reducing PAYGO is a short-term strategy to reduce costs. In the long-term, it can lead to higher debt service payments and a reduced capacity to borrow from the bond markets (due to higher debt levels). It is important for this strategy to be viewed as a short-term one, with a long-term commitment to increase PAYGO back to normal levels.

Savings generated: In the 2009/10 budget, we have reduced PAYGO from \$95M to about \$30M, saving approximately \$65M. This action will result in somewhat higher debt service levels due to the fact that an additional \$65 million has been debt-financed through bonds.

Other performance outcomes: N/A

Lessons learned: We have executed this strategy in the past to save money during constrained financial times. It is important to have Board commitment to return to previous PAYGO levels as conditions improve.

Water Research Foundation
September 2009
Recession Strategy 42

Name of the strategy: Review of Financial Institution Management and Transaction Fees

Which strategy area (underline all that apply):

Operating
Capital Program
Financial/Investment
Revenue Enhancement
Communication/Outreach
Risk Management/Control
Other

Purpose and duration of strategy: Lower fees when dealing with banks and bank cards. Adopted as ongoing process.

Business case: Banks have shown willingness to negotiate on flat fees and credit card use transaction fees.

Risk factors: none

Savings generated: Reduced credit card transaction fees by 1/3 of one percent or roughly 13% for each transaction. Also got banks to hold the line on banking fees at 2008 rates.

Other performance outcomes: Reduced management fees for bank and investment accounts. Lower percent charge for credit card payments by customers.

Lessons learned: Ask the question, the worst answer is no and then you are still left with other institutions that may want your business.

**Water Research Foundation
September 2009
Recession Strategy 43**

Name of the strategy: Aggressive Enforcement of Revenue Collection

Which strategy area (underline all that apply):

Operating
Capital Program
Financial/Investment
Revenue Enhancement
Communication/Outreach
Risk Management/Control
Other

Purpose and duration of strategy: Improve revenue collection through enforcement programs. The multi-family program expires this fiscal year while the single-family program has no expiration.

Business case: Two mutually exclusive enforcement programs: Service terminations for single-family homes and selling liens for delinquent water charges on multi-family buildings. The lien sale occurs annually in May, while service terminations are continuous throughout the year except for the winter heating season. These two programs are supplemented by inserts in bills, separate mailings to customers, and automated outbound calling to delinquent customers. Authority for the lien sale came from local legislation and expires in June 2010.

Risk factors: Terminating service for tenants of the delinquent property owner. Potential for negative press or pressure from elected officials for terminating service or selling liens while many property owners are at risk of foreclosure.

Savings generated: Approximately \$150 million in delinquent revenue collected in the last fiscal year.

Other performance outcomes: Developed a network of communications with elected officials and community leaders in the months leading up to the lien sale. Achieved a reduction in the number of seriously delinquent customers, although that was partially offset by an increase in short-term (30 – 90 day) delinquencies.

Lessons learned: Need local legislation this year to extend the lien sale beyond its June 2010 expiration.

**Water Research Foundation
September 2009
Recession Strategy 44**

Name of the strategy: Rate Structure Study

Which strategy area (underline all that apply):

Operating
Capital Program
Financial/Investment
Revenue Enhancement
Communication/Outreach
Risk Management/Control
Other

Purpose and duration of strategy: Engaged consultants to benchmark our structure against other water/wastewater utilities and analyze alternative structures. Study duration is 15 months.

Business case: Analyzing alternative structures to generate additional revenue from additional sources and/or to protect the utility from decreasing water consumption.

Risk factors: Resistance from customers and elected officials to changes in the rate structure. Difficulty in implementing structural changes and in quantifying both projected and actual revenue effects from implementing structural changes.

Savings generated: Potential additional revenue on the order of 2% to 4% of the existing revenue base. Additional potential for cushioning the utility against revenue losses associated with consumption declines.

Other performance outcomes:

Lessons learned: There are not a lot of untapped revenue sources.

Water Research Foundation
September 2009
Recession Strategy 45

Name of the strategy: Revenue Oversight

Which strategy area (underline all that apply):

Operating
Capital Program
Financial/Investment
Revenue Enhancement
Communication/Outreach
Risk Management/Control

Purpose and duration of strategy:

- Switching to new billing system in the middle of recession without full capabilities of reporting during critical period.
- Enhancing revenue streams through the creation of a reclaimed water line of business.

Business case: Billing system is outsourced to the corporatized power utility owned and operated by the city. Water Services pays for this service and our billing is provided on the same bill.

The billing switchover project started before the recession and we were in the middle of the recession as accounts were being moved from Banner to SAP. To ensure revenue continued to be billed and collected the following strategies were used:

- More scrutiny on billing revenue, collections and receivables.
- Tighter tie to demand forecasts and projected water sales and converted to expected sales.
- Put in place more revenue audits.

To enhance our revenue streams, we also developed a business case for a reclaimed water line of business. Water from wastewater plant upgrades (tertiary and filtration with additional chlorination) can provide water that meets quality standards for power plants and possible fire fighting purposes. (Standards for reclaimed water do not exist in our state so we are building business case on other benchmarks)

We are adding reclaimed water processes to wastewater treatment upgrades. We have found a customer for 15 ML/day and developing a rate that can be applied for this service.

Risk factors: Reconciling money not being billed with lost revenue due to recessionary factors.

Savings generated: This new line of business when operational should increase revenue by \$5 M/year.

Other performance outcomes:

There is an environmental benefit to a reclaimed water line of business. We are matching water quality to the intended use. We are in area of limited water resources and reclaimed water is a secure source.

Lessons learned: tbd

Water Research Foundation
September 2009
Recession Strategy 46

Name of the strategy: Selling personal surplus property via the web

Which strategy area (underline all that apply):

Revenue Enhancement

Purpose and duration of strategy: The purpose of this strategy was to increase revenue by selling personal surplus property via the internet using an on-line, surplus property dealer.

Business Case: Selling surplus property using an on-site auction company involves shipping property to the auction company's place of business, advertising the sale in the newspaper, having employees present on auction day (normally a week-end which involves overtime), paying a significant commission, plus a shipping fees and storage fee for items that do not sell. On line auctions do not require the transfer of property to another site, do not require a newspaper advertisement, and eliminate the need for employees to work overtime for sale purposes.

Risk factors: The biggest risk factor involved in on-line sales is the possibility that the buyer will not show up to pick up the property. Since there is no deposit typically required, some people bid and then change their mind. However, there are only a few incidences of this. Typically, this does not occur in live auctions where people are required to submit a deposit.

Savings generated: The generated savings have been primarily in two areas – cost of shipping and storage for those items which we sell on the web - since these two items have been eliminated from the process. Shipping charges were \$65 per hour to load the equipment, and storage varied depending on the items. Additionally, the overall commission per sale dropped from 12% of gross sales to 7.25% of gross sales.

Other performance outcomes: We have experienced greater participation in web sales since they are broadcast all over the country and do not require the physical presence of a bidder. We have also sold things that would have been considered scrap.

Lessons learned: Some types of property, such as automobiles, are better sold at a live auction. People like to inspect automobiles before they buy them and transferring the titles requires administrative processing which on-line companies typically do not do.

Water Research Foundation
September 2009
Recession Strategy 47

Name of the strategy: Honest communication helps region accept supply cuts and rate hikes

Which strategy area (underline all that apply): Communication/Outreach

Purpose and duration of strategy: Enhance public awareness and acceptance across the service area of an upcoming water supply cut and a significant hike in water rates due to growing water supply challenges and economic downturn in (state).

Duration: January 2009- July 2009

Business case: At the beginning of 2009, the utility faced an unprecedented set of challenges. Regulatory restrictions on imported water supplies, coupled with drought and low storage levels, were making mandatory water supply cutbacks very likely by summer. At the same time, rapidly rising costs for purchasing imported water soon would require the utility to pass along those costs via a significant increase in wholesale water rates in the midst of a growing recession. The Utility needed to shape public sentiment so that its Board members would be able to make these vital but difficult decisions without the distraction and pressure created by political or public ire.

The Utility responded with a concentrated public outreach campaign that carried a frank, honest message that difficult times lay ahead in terms of supply and rates. It conveyed the causes of the current challenges and the utility's plan of action to minimize vulnerability to future supply shortages and rate hikes through supply diversification efforts.

The campaign focused on reaching as many high-profile organizations and community influencers as possible prior to the Board making these key decisions. Board members and senior staff were mobilized to help execute an aggressive speaker's bureau program that reached more than 115 groups and organizations over the campaign period.

Supporting tactics included media relations to generate a flow of stories and op-eds on supply and rate issues, and grass-roots outreach at dozens of community events. A suite of communication materials, from PowerPoints to fliers and fact sheets, tied the supply and rate issues together in the simplest possible terms and emphasized how the diversification strategy addressed these challenges in the long term.

Risk factors: There was risk that an aggressive campaign that carried so much pending "bad news" to community leaders, residents and businesses might stir up community protest that otherwise could be avoided.

In addition, board members from 24 very different member agencies were involved in the outreach effort. There was risk that the community might receive conflicting views rather than a singular, cohesive message platform, thus creating greater confusion instead of clarity.

The Utility decided the benefits of aggressive communications outweighed the risks. Board members received speaker training in small groups from Utility staff to ensure they stayed on target with the spirit and facts of the message platform.

Savings generated: The campaign itself was not designed to save money. But it was planned and executed with in-house communications and management resources. This saved the utility tens of thousands of dollars had it used an outside consultant to manage the campaign.

Other performance outcomes:

The campaign, building upon previous community outreach efforts, was very successful in raising public awareness and readiness for prudent Board actions to manage water supplies and rates.

A countywide public opinion poll conducted during the campaign period showed virtually the entire region (95 percent) was aware the region faced significant supply challenges. Survey respondents indicated they agreed with government action to mandate restrictions in household water use by a 2:1 margin. During the same time period, traffic to the utility's conservation web site more than doubled. Influential business and civic groups acutely interested in the impact of water rates, such as the Regional Chamber of Commerce and the County Taxpayers Association, indicated their acceptance of the utility's near-term supply and rate actions, as well as support for long-term diversification strategy.

Most importantly, the utility's Board approved an 8 percent mandatory water supply cut in April 2009 and an 18.1 percent treated water rate increase in June 2009. In both cases there was not a single protest from the community at large at either meeting.

Lessons learned:

Some initial presentations and communication materials were too long and complicated. They were shortened and simplified with more easy-to-understand graphics to increase their effectiveness and to better fit into packed meeting agendas. Different editions of presentations were pre-packaged to fit speaking engagements of varying lengths.

The Utility did not present to the full boards or memberships of some key groups as quickly as desired because it had to present to one or more subcommittees first. Future speaker's bureau activities will plan to reach these subcommittees sooner to ensure access to full boards or memberships is more timely.

**Water Research Foundation
September 2009
Recession Strategy 48**

Name of the strategy: Lease Land for Telecomm Towers

Which strategy area (underline all that apply):

Operating
Capital Program
Financial/Investment
Revenue Enhancement
Communication/Outreach
Risk Management/Control
Other

Purpose and duration of strategy: Additional revenue through leasing of land to telecommunication companies for tower installations.

Business case: Enhanced revenue.

Risk factors: Public relations with impacted neighborhoods.

Revenue generated: \$100,000/year

Other performance outcomes: Space on towers for water utility telecommunications equipment at no charge (built into lease).

Lessons learned:

- Easy money; take it.
- Adopt a standard lease for all companies for administrative efficiency.



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Surviving or Thriving in Economic Recession: Strategies of Water Utility Leaders

