



Newsletter of the Mayors Water Council of The United States Conference of Mayors

Message from the Co-Chairs

The Mayors Water Council (MWC) has worked directly with the U.S. Environmental Protection Agency (EPA) and the Department of Justice (DOJ) since 2009 to address concerns expressed by mayors across the country about the high cost of reinvesting in aging water and wastewater infrastructure and the added financial challenge of complying with increasing federal and state regulations. The widespread financial impacts of addressing wastewater and stormwater controls is felt by many local governments, and during this period of 'Dialogue' with EPA and DOJ we were joined in our efforts to seek greater flexibility by the National Association of Counties (NACo) and the National League of Cities (NLC). Together,

counties, municipalities and townships are responsible for over 70% of all local government investment in public water systems and services.

EPA is to be recognized and commended for their high level and sustained involvement in this 'Dialogue'; including - Deputy Administrator Bob Perciasepe; Assistant Administrator Cynthia Giles; and, Acting Assistant Administrator Nancy Stoner. Through their leadership they were able to bring a framework for change to the way the Agency works with local government on water issues. To date, the effort has resulted in a Green Infrastructure (GI) Memorandum and an Integrated Planning Memorandum sent from HQ to

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*Co-Chair, Mayor Gregory A. Ballard,
City of Indianapolis, IN*



*Co-Chair, Mayor Stephanie Rawlings-
Blake, City of Baltimore, MD*

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the EPA Regional Offices- and that is where local government says the flexibility is most needed. Both of these memorandums provide guidance to the Regions to promote GI, and be receptive to the need for local government to prioritize water related investments. Both of the Memorandums makes possible the opportunity for local government to save money, and pass the savings and/or cost containment benefits to our citizens, especially low and fixed income households.

The third anticipated product of the 'Dialogue' is a clarification Memorandum to the Regions on how they can incorporate flexibility in the Financial Capability Assessment (FCA) process

first adopted by EPA in 1997. The rigidity in which the 1997 Guidance was being implemented in the Regions is largely the reason why the Conference of Mayors, NACo and NLC joined together in the 'Dialogue' with EPA and DOJ. We maintain that flexibility can provide some relief from financial burdens related to compliance costs without compromising on safe and clean water. This Memorandum is expected to be complete this summer.

We requested that MWC staff work with our local government partners to help EPA draft expansions to the 1997 Guidance to incorporate a greater number of relevant factors that better characterize the unique economic situation of any community. The modi-

fications are intended to clarify what additional local economic information should be considered by the EPA Regional staff, and how more flexibility in terms of compliance timeframes can be incorporated into the process. The MWC has also requested that EPA establish a process whereby local government can appeal to a review panel when they determine that the consent decree or permit process results in overly costly requirements. While not every local concern can or will be addressed through these Memorandums they do open the door to redefining the federal-state-local intergovernmental partnership, and the opportunity to align local public water investments with national clean and safe water goals.



THE UNITED STATES CONFERENCE OF MAYORS

***Kevin Johnson
Mayor of Sacramento
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***Stephanie Rawlings-Blake
Mayor of Baltimore
Vice President***

***Tom Cochran
CEO and Executive Director***



THE UNITED STATES CONFERENCE OF MAYORS

Mayors Water Council Spring 2014 Meeting

Mayors Convene in Washington DC to Learn How Integrated Planning and New Affordability Criteria Can Help Cities Make Smart Water Investments

By Rich Anderson

Monrovia (CA) Mayor Mary Ann Lutz welcomed mayors to the Mayors Water Council (MWC) meeting on March 27, 2014 in Washington, DC. Baltimore (MD) Mayor Stephanie Rawlings-Blake, and Indianapolis (IN) Mayor Greg Ballard, Co-Chairs of the Mayors Water Council (MWC) then led discussions involving water resources policy, Public-Private Partnerships, updates on city green infrastructure programs, and the state-of-the-art utility automation and integration. Mayors also discussed progress in the Integrated Planning and Affordability Dialogue with EPA.



l. to r.: Ed Pawlowski, Allentown, PA; David Berger, Lima, OH; Stephanie Rawlings-Blake, Baltimore, MD; Gregory A. Ballard, Indianapolis, IN; Bridget Donnell Newton, Rockville, MD; Beth Van Duyne, Irving, TX; John Dickert, Racine, WI; Mary Ann Lutz, Monrovia, CA; Joy Cooper, Hallandale Beach, FL

Integrated Planning and Affordability Dialogue

EPA established an Integrated Planning Framework (IPF) in 2011 to provide an opportunity for communities “... ***to utilize comprehensive integrated planning to prioritize its waste- and storm-water investments.***” Cities are beginning to take advantage of this new approach by developing integrated plans to submit to EPA. Ideally, the process encourages cities (permittees) to array their water investment priorities and identify those with the greatest benefits, then work with regulators and stakeholders to generate a consensus on compliance timeframes. A team of experts presented information on integrated plans they developed for several USCM member cities that are starting to define the elements of integrated plans, a methodology to apply it to a community, and it has

been demonstrated to result in better environmental outcomes at a great discounts from consent decree-driven long term control plans.

David Sherman, Michael Musgrave and Greg Baird, consultants with Montgomery Watson & Harza and Adrienne Nemura, a scientist with Geosyntec, presented information on one, if not the first, Integrated Planning submission to EPA Region 3 from the City of Baltimore. Mr. Sherman emphasized that the technical reviews of plant and collection system should be viewed through water quality review and the affordability assessment. Mr. Musgrave and Mr. Baird each stated that finding the limits of residential and utility affordability at the outset will help to identify which investments should take priority. Mr. Musgrave

suggested that the communications element in an integrated plan is critical to its success. Working with local stakeholders to generate a consensus on an affordable plan that responds to local priorities is important.

Ms. Nemura of Geosyntec emphasized that cities pay special attention to the water quality review portion of the integrated plan. She stated that watershed information is useful to fill data gaps and as an alternative to modeled data inputs. Ms. Nemura said that rainfall data during seasonal conditions provides greater certainty in data review. Sourcing the pollutants is also important, agricultural, septic, sewers, etc. Sampling of streams and lakes can make an enormous difference in design costs as compared to template approaches based on crude models.

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She stated that cities will be required to spend money on non-water priorities as well as new water mandates, so it is important for cities to develop good science to prioritize and support investments.

Judy Sheahan, Assistant Executive Director for the Conference of Mayors reported on progress on the Affordability Dialogue between the Conference of Mayors, National Association of Counties and National League of Cities. She said that the continued engagement with EPA has resulted in a new policy on Green Infrastructure, a new policy on Integrated Planning, and now we are on the verge of an accord on affordability. The last meeting with EPA (December 13, 2013) ended with agreement to revise the Affordability framework document. EPA has done so and has "...vastly improved the document." She said that there are some minor issues to address, but that the big remaining issues are use of 2% Median Household Income (MHI), and how do we create certainty that EPA Regional offices will implement the new affordability framework in a cooperative spirit with local government. She stated that the NACo and NLC, as well as the Conference of Mayors membership is generating responses to the revised framework in order to communicate local feedback to EPA.

Lima, OH Mayor David Berger led a discussion on a legislative proposal to address the need to make Integrated Planning voluntary for cities but required for EPA if a city requests it. He compared the Water Quality Improvement Act of 2013, a bill fashioned after a policy on water mandates adopted by the Conference of Mayors. He stated that the proposed legislation would "...allow a rebalancing

of the relationship [between EPA and cities]. It would allow us to deal with other requirements and re-establish our priorities...under a framework of affordability." There may be a hearing in the House on this topic in the next few months.

Monrovia, CA Mayor Mary Ann Lutz said that her city and surrounding cities are beginning to coordinate establishing baseline costs for water resource management against which to compare compliance based rate increments caused by unfunded mandates such as (limits on total maximum daily loads, (TMDLs). The cities are planning to use this information in discussions on implementing Clean Water Act (CWA) in conjunction with enforcement actions and permit renewals, as well as water related legislation.

Securing Water Supply for Our Cities

Irving, TX Mayor Beth Van Duyne presented information on how Irving has a history of drought episodes, and the projected population explosion in the Metroplex area is driving communities to take action on securing future

water supplies. Mayor Van Duyne stated that cities should have a vision about their water resources and a plan to realize that vision. In the last several years she has been working to coordinate regional water supply needs.

The Mayor called attention to a proposed resolution sponsored by Mayor Mark Burroughs and other mayors that is planned to be submitted for consideration at the Conference of Mayors Annual Meeting in Dallas. The resolution would help the regional needs in the Texas Metroplex area, but would have direct benefits for all local government. The resolution has five major components that are "Environmentally safe, efficient, practical methods" to help cities create certainty over water supply. The five components include:

1. Recharging of freshwater aquifers;
2. Silt removal from freshwater reservoirs;
3. High-volume inter-basin freshwater transfer;
4. Streamlined process for developing new surface water reservoirs; and,
5. Desalinization and other purification of saltwater, brackish water or other currently non-potable ground and surface water sources.



l. to r.: Mayor John Dickert, City of Racine, WI "Winner of the United States Conference of Mayors 2011 Best Tasting City Water in America"; Mayor Beth Van Duyn, City of Irving, TX, recipient of the "2012 Malcolm Baldrige National Quality Award"

Mayors Water Council Spring 2014 Meeting

Editor's Note: At the March 27, 2014 meeting of the USCM's Mayors Water Council several mayors requested that Jeff McIntyre, President of West Virginia American, memorialize his presentation and helpful advice on drinking water emergency response protocols to share with USCM mayor members.



Lessons from Responding To the Elk River WVA Chemical Spill

By Jeff McIntyre, President, West Virginia American Water

Photo: l. to r.: Jeff McIntyre, President, West Virginia American Water; Tom Curtis, Deputy Executive Director, American Water Works Association

On January 9, 2014 West Virginia American Water was notified that a chemical named MCHM (4-Methylcyclohexanemethanol) had leaked into the Elk River from a facility owned by Freedom Industries, a storage facility about 1.5 miles above our Kanawha Valley treatment plant. Twelve days later, Freedom Industries revealed that another product – a combination of glycol ethers (PPh/DiPPh) was also spilled with MCHM on the 9th. On January 27, the West Virginia Department of Environmental Protection stated that Freedom Industries had revised their estimated total leak release from 7,500 gallons to 10,000 gallons.

The chemical spill into the Elk River in West Virginia was a continuously evolving situation. It challenged emergency responders, public health agencies and West Virginia American Water. Our company's water quality personnel reacted quickly upon being informed of the spill by evaluating the situation in the water treatment plant itself, and then went to the location of the spill to learn what they could about the nature and extent of the spilled chemical. As an added precaution, the treatment plant operators took steps to augment normal treatment methods,

including the addition of powdered activated carbon (PAC), and stepped up their testing and monitoring of the water from intake to exit in order to assure that the spilled chemical was being effectively removed. There was no indication that any MCHM was getting past the water treatment filters until around 4:00 p.m. the day of the spill.

Additionally, as of January 9th, the Kanawha Valley system had experienced a significant number of line breaks caused by extreme cold associated with the polar vortex followed by warming weather. Because of the line breaks and customers running their tap to prevent freezing, system storage was low and losing water even though the water treatment plant was running at near full capacity.

Based on these circumstances, shutting down the plant would have quickly resulted in the loss of the entire distribution system, meaning no water would have been available for any purposes. This would mean no water for firefighting or basic sanitation for a community of 300,000 people. Further, starting the plant back up after the chemical leak was stopped

or contained, then replenishing and re-pressurizing the entire Kanawha Valley distribution system would have taken more than one month even under optimum conditions. After considering the existing circumstances and potential options, we and the West Virginia Bureau for Public Health determined that the best course of action was to keep the water treatment plant running and institute a "Do Not Use" order until the MCHM was below health-protective standards determined by public health officials.

While lessons from this incident will continue to be learned by all involved, there are a few key areas that I feel are important for any water company to note if faced with a similar situation.

A critical aspect of any response is to immediately establish an incident command structure with all involved agencies. In our case, the incident command was co-led by WVAW and the National Guard with the participation of many interagency partners including local and state emergency management, and state and federal public health agencies. Leveraging this management system allowed each agency to focus on their

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tasks and expertise, while responding in a coordinated manner.

Local, state and national communications are critical and should be ongoing throughout the event and post-event. The spill was an incredibly emotional event for our community. Almost immediately, comments from those not involved in the event or the response received attention in traditional and social media which created confusion and concern among the public. It was important for the interagency team to present situation updates at joint press conferences, allowing the community to receive all available, factual information directly from the experts actually managing the event. We had to ensure that science-based facts were presented to the community and work to quickly address rumors and inaccurate information. I should also note that monitoring and using social media was an important aspect of all our communications and one that should be given increased focus by all agencies in any future event.

Access to significant resources is critical to managing the event successfully. Having the size and scope of our American Water corporate operations was a valuable asset in our capacity to respond quickly and appropriately to the emergency incident. We were able to immediately activate our corporate supply chain to secure additional water treatment chemicals and other needed supplies. We assisted customers and local support agencies by moving tankers of treated water from our other facilities in nearby states, as well as tractor-trailer loads of bottled water, into the Charleston region. More than 40 water quality personnel from various American Water state companies responded directly to WV customers

calls. I recommend that any water system establish mutual aid agreements with other nearby systems for such support if they do not have the size and scope to quickly expand their own capabilities.

Customer outreach and communications are essential. An additional 38 personnel from American Water units in Kentucky, Pennsylvania, Indiana and Illinois responded to assist in flushing the distribution system and overall recovery. We were also able to quickly expand our 24/7 call center capabilities to prioritize response to West Virginia customer calls. A local hotline was created and staffed 24/7

Access to significant resources is critical to managing the event successfully.

by 20 workers in our Charleston office to answer specific questions regarding “Do Not Use” zone lifting status.

Work closely with local, state and federal policymakers. Events like the Freedom Industries chemical spill galvanize policymakers at all levels. Constant communications outreach, and providing clear and factual information helped support policymakers in their efforts during and after the event.

GIS technology proved to be another vital asset. Using GIS, we were able to create water system maps to explain the complexities of the Kanawha Valley distribution system -- 1,900 miles of distribution lines, 179 pressure zones, spanning 3,000 square miles. This enabled the creation of online interactive maps for customers to view and determine the status of the water

in their neighborhoods as the “Do Not Use” order was lifted. It also assisted us in working with the WV Bureau for Public Health and the National Guard as they supported water sampling throughout the system.

Finally, the question is always – “what do we do now?” This event has created great public awareness about the value of water and potential threats to its safety. The broader lesson of the Freedom Industries spill is that those who store, transport and handle chemicals must keep water companies and public health officials informed about the nature of the chemicals they are storing, their safety procedures and their plans for mitigating spills. While earlier notice would not have changed the specific actions West Virginia American Water took in response to the Freedom spill due to the circumstances at that time, having earlier and more accurate information would help WVAW and governmental agencies communicate with customers and the public during and after a spill event. West Virginia American Water has provided high quality, safe, reliable drinking water to West Virginians for nearly 130 years. Our primary focus has always been the safety of our customers. I am proud of the response of our employees and our interagency partners during this crisis. Our company and our employees are partners with the communities where we live, work, and play. Our responsibility, which we take very seriously, is to deliver water to customers’ homes and businesses that meets or exceeds all regulatory standards. As steward of water systems that serves more than 300,000 people in the Kanawha Valley and approximately 550,000 West Virginians statewide, providing clean, safe water is our number one priority in every decision we make.

Public Water Infrastructure Financing

Mayors Cite Action on Water Affordability, Concern over Dwindling Water Supply, and recent Success in Attracting Private Financing for Water Utility Upgrades

By Rich Anderson

Stephanie Rawlings-Blake, Mayor of Baltimore (MD) and Gregory A. Ballard, Mayor of Indianapolis (IN) co-chaired a meeting of the Mayors Water Council at the 82nd winter Meeting of the Conference of Mayors in Washington, DC on January 22. Three topics dominated the agenda: a briefing on results of the December 13, 2013 meeting with EPA on water affordability; a discussion of how Rialto (CA) successfully integrated private pension fund financing to upgrade their water and wastewater utilities; and, a mayoral effort to generate Conference policy on national water supply issues.

Affordability Dialogue with EPA

Mayor Stephanie Rawlings-Blake invited mayors to comment on the December 13, 2013 meeting between EPA and the Conference of Mayors, National League of Cities and National Association of Counties. Indianapolis Mayor Greg Ballard reported that the elected officials and EPA are very close to agreeing on clarifications to the existing 1997 Guidance used to assess financial capability that would provide greater flexibility in the process of determining compliance with obligations related to the Clean Water Act (CWA).

Lima (OH) Mayor Dave Berger indicated that EPA headquarters is working diligently to provide cit-

ies with flexibility, but he stated that working with EPA's regional offices may require legislative guidance. He emphasized that mayors should stay "...focused on the bottom line – relief". He said that legislation is needed "...in a form that no longer leaves it totally within the Agency's discretion which they have refused repeatedly to exercise to provide us with relief. Instead mandates should be based upon the demographics, the economic circumstances and the water quality challenges that each of us has in our communities."

Monrovia (CA) Mayor Mary Ann Lutz stated it was "A very productive meeting." She reiterated that the "...integrated planning [framework] is vital to all of our cities." A second component to integrated planning is matching what a community can afford with "...investments that make compliance decisions and priorities that EPA will bless as well." Lutz stated that the meeting was also important because the NLC, NACo and USCM spoke with one voice on the need for flexibility."

Baltimore Mayor Rawlings-Blake stated that over the last several years we have been "...working around the table with EPA, and we all want the same thing, but how do we get there?" the mayor said that "Our biggest challenge is getting the Regions to treat every jurisdiction as unique; and unique circumstances require unique solutions."

Judy Sheahan, Assistant Executive Director of the Conference, said, that the expected timeframe to come up with new drafts to the 1997 Guidance as an EPA memorandum to the Regions would be in February and March

Private Financing of Public Water Utilities – Rialto (CA)

Rialto (CA) Mayor Deborah Robertson presented information on a public-private partnership (P3) involving the water and wastewater utilities in Rialto. A special feature of the P3 project is the unique financing arrangement with a public pension fund.

George Harris, Rialto's Director of Finance reviewed the transaction to make sure the deal was the most affordable and sustainable for the residents. Mr. Harris indicated that the



Mayor Deborah Robertson



Public Water Infrastructure Financing

city had concerns about human capital since the city conducted some recent public employee lay-offs and some of the water and wastewater employees retired. These events left the city under-staffed in the water utilities, accompanied by a loss of institutional knowledge.

Harris stated that the city sought a concession approach to raise the finances to upgrade the utilities without conceding ownership of the utilities or the authority to control rate structures. He said the P3 involved a \$172 million concession to the city, with \$41 million marked for immediate capital improvements that would create 445 jobs in the community.

Harris said that in addition to financing upgrades, the city wanted system reliability and got a proven operator and professional management (Veolia Water North America) that the city could not guarantee even with their own training system. And that brought the city managers “peace of mind.”

Peter Luchetti, Managing Partner of Table Rock Capital, commented that the Rialto Water Services was created to be a partner in the P3. Table Rock contracts with Veolia Water North America to provide the operations and maintenance portion of the project. He said that in Rialto you have “...aging infrastructure reaching the end of its useful life at the same time the workforce that supports it is retiring from the city”, and that influenced the city to “...integrate private capital to satisfy public infrastructure needs.”

A third partner is Union Labor Life Insurance, Co. or ULLICO. Ed Smith,

speaking for Ullico, said that the company is owned by large labor unions and the workers in the unions, and its mission is to invest pension funds and ensure that worker’s pensions are paid when they retire. He said that the ULLICO Board created an infrastructure fund because the current Wall Street model of financing involves fees that are too high and investors have no control over where the investments would occur (domestic or international). The ULLICO infrastructure fund “...is based on low fees and long term investments that would enable us to fill our pension obligations for private sector pensions.” ULLICO looked at the double-bottom line (or collateral benefit of job creation). The Fund is intended to invest labor’s dollars back in communities that have thousands of union members that live in that community.

David Gadis, Executive Vice President of Veolia Water emphasized defined success in Rialto (and other cities they serve) as “When the city, the utility and the ratepayers all benefit from what we are doing”. Gadis said that a key to success is to implement asset management techniques that identify and act on system maintenance to avoid the “operate to the breaking point” practice that usually ends up costing cities more than they should. Veolia Water brings global expertise to asset management in Rialto.

Gadis also said that the initial \$35 million and annual \$2 million transferred to the city helps it close their budget gap- an important public benefit often overlooked in P3 projects. He also stated that Veolia took on many existing city employees with a 3-year

guarantee not to let any go. Veolia integrates the city workers and creates a transformative process whereby the employees learn to take ownership (responsibility/accountability) of the utility.

National Water Supply Policy

Mark Burroughs, Mayor of Denton (TX) brought up for discussion a proposed resolution that would help to bring recognition to long term water supply challenges in America. Mayor Burroughs said that when he took office he directed staff to conduct a 50 year projections for Denton’s basic infrastructure. Water, he stated, was almost non-existent because the city is dependent on others for water and does not own its water supply. “Very few cities have control over their water supplies but still have to deal with the consequences of the dwindling supply”, stated Burroughs.

He mentioned that much of American farm productivity is dependent on the Ogallala aquifer, and that source is drying up. He also stated that north Texas (and many other areas) is estimated to double in population in the next 35 years spur growth in water demand. There is, however, no national policy on water supply because it has been historically widely available. He said that efforts to conserve and reuse water are necessary, but are not sufficient to provide the water supply needed in the future. If water supplies shrink cities cannot sustain the current standard of living. Mayor Burroughs urged mayors to join him in cosponsoring the resolution.

Public Water Infrastructure Financing

Water Sector Experts Identify City Water Infrastructure Financing Opportunities and Impediments

By Rich Anderson

Several water sector experts joined in a panel discussion at the March 27, 2014 meeting of the U.S. Conference of Mayors (USCM) Water Council Meeting in Washington, DC. The experts were invited to share their perspectives on how public water infrastructure development and financing are beginning to change in American cities. What makes their remarks valuable is the fact that they have nearly 100 years of combined experience between them in working in multiple communities throughout the nation. Their remarks suggest that cities are starting to work with the private sector to deliver water and wastewater infrastructure and services, but legacy issues continue to impede this progress.

Traditional Public Water Delivery Models and Alternatives

Bill Stannard, President of Raftelis Financial Consultants remarked that water consumption levels and rates have been changing, sometimes dramatically, over the last 20 years. Raftelis Financial has 50 consultants in 9 states advising public sector clients for over 21 years on water and wastewater issues. Raftelis Financial is also widely known and respected for their national water and wastewater rate surveys. Stannard stated that water and wastewater rate increases have been averaging about 4 to 6 percent per year higher than the consumer price index over the last 20 years. Changes in the demographics of the customer base



l. to r.: Michael Deane, Executive Director of the National Association of Water Companies; Tom Brown, Vice President, United Water; Bill Stannard, President, Raftelis Financial Consultants

have resulted in a reduction in large volume manufacturing customers, and an increase in the high efficiency appliances and fixtures that are the result of several energy and water policies. He said that water consumption on a per capita basis is dropping about 3 percent per year, and this creates a challenge in recovering revenues to cover the cost of operating and maintaining the system.

Despite all the changes and growing challenge to find enough money to invest in water and wastewater municipalities in the US continue to rely on traditional models of city owned and operated utilities, and are slow to look at alternative service delivery, even though it may "...provide the greatest value for our citizens."

Stannard cited the Pima County/Tucson, AZ public-private partnership project that has demonstrated success in bringing real value to the customer base. Instead of relying on the pre-determined traditional solution, the public and private parties took advantage of the opportunity to collaborate. Essentially, according to Stannard, the public partners looked at an outcome based process to determine how to get the best value for the water investment, rather than a pre-determined traditional design-bid-build model. Private financing is sometimes an attractive alternative to traditional project financing with 30-year bonds. If properly structured, suggested Stannard, cities can look to private capital to leverage how much debt they might assume to secure better value for the customers.



Public Water Infrastructure Financing

Local Economic Drivers are Important

Tom Brown, Vice President of United Water, remarked on the nexus between local government pension liabilities and water utility modernization. Brown stated that the recent public-to-public wastewater partnership between Allentown and Lehigh Valley in Pennsylvania illustrates how one particular local economic driver – city pension liability – led Allentown (PA) Mayor Ed Pawlowski to address the city’s pension liabilities through an arrangement that also modernizes the wastewater assets. Brown said that the Mayor’s actions were bold and demonstrates leadership. This leadership matters because city employees depend on the planned retirement income, but at the same time pension contributions by cities compete with capital investment (such as modernizing the aging city wastewater infrastructure) and other programs. Mayor Ed Pawlowski commented that the Allentown lease-concession arrangement brought the city’s pension from 50% to 100% funded. The alternative was to raise taxes 150%.

Allentown’s challenge in contributing to public pension funds while expected to continue to reinvest in infrastructure is widespread. Brown cited a 2009 Pew Foundation study that looked at local government pension liabilities. He said that “...the Pew Foundation findings stated that as the recession ended 61 key cities across America—the most populous one in each state plus all others with more than 500,000 people—emerged with a gap of more than \$217 billion between what they had promised their workers in pensions and retiree health care and what

they had saved to pay that bill.”

Brown remarked that Allentown monetized the value of their wastewater system and entered into a long-term concession with another public agency that involved a cash transfer to the city that was used to satisfy pension contribution obligations, and also be used to finance some of the wastewater system modernization needs. This model is now being used by other communities. In particular, Brown talked about Bayonne (NJ) where the Mayor Smith structured a public-private partnership (P3) with private capital providing the concession amount, and private operators who are under contract to contain or reduce costs over a 40 year partnership term. He also cited the Rialto (CA) P3 example where the majority investor in that utility modernization is a private pension fund ULLICO.

As Congress and the Administration continue with austerity plans and discretionary domestic spending cuts/limitations, “...the total value of the assets held by the world’s 300 largest pension funds increased by 1.9% last year to reach a new record high of \$12.7 trillion”, said Brown. The US remains the largest country in terms of the total value of pension fund assets under management – amounting to 34% of the total or about \$4.2 trillion.

Legacy Issues Impede P3 Progress

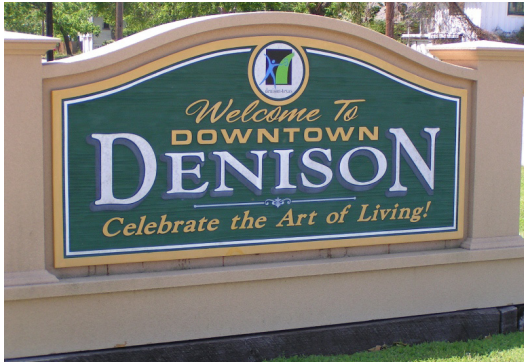
Michael Deane, Executive Director of the National Association of Water Companies (NAWC), also a former EPA senior official, stated, “The legacy of water infrastructure development is driven both by greater capacity needs to serve a growing population

and ...by a regulatory regime pursuing fishable and swimmable water, and safe drinking water, and has become a legacy issue that can impede changing how society uses and pays for water and wastewater services in the United States”. Deane said that these drivers create “artificial obstacles” to local water investment decisions preventing consideration of, “the best mix of public and private sector that can address a community’s needs”.

Deane stated “What we are truly missing in this Country is a realization, understanding and acceptance that to meet the water infrastructure challenges that we face today we need to change the institutional construct under which we address them in.” He called for cities to challenge the relevance of the traditional public water investment model that ignores the contributions of private capital and cost savings derived from private sector operators.

P3s have been very successful in the transportation area, where states Departments of Transportation (DOTs) have seen that addressing the challenges won’t be met by one-off projects; it needs to be part of the solutions thinking. Integrating partnerships in public water investment have lagged. But in other countries it is normal to consider P3s to satisfy infrastructure investment needs. He advised mayors to see first if a P3 approach makes sense, and then make investment decisions. Deane also stated that state volume caps on private activity bonds (PABs) in the public water sector, along with requirements to defease existing public debt (debt on existing bonds) are additional and long-standing legacy impediments.

Public Water Infrastructure Modernization



City of Denison, TX, Preserves Historic Charm with Facility Retrofits

By Tammy Fulop, Vice President, Energy Solutions for Schneider Electric

Founded in 1872, the city of Denison, Texas, is located just 75 miles north of Dallas and is home to 24,000 residents. Its charming downtown area was listed on the National Register of Historic Places in 1989. However in 2012, many of the city's municipal facilities were in need of substantial renovations, particularly the city's wastewater plant. Aware of energy savings performance contracts (ESPCs) as an effective way to fund necessary renovations through energy savings, decision-makers began talk-

ing with Schneider Electric about the city's current and future needs.

An ESPC leverages the flexibility and resources of the private sector to pay for energy saving capital upgrades using the future energy savings. The initial capital investment required to do the work is provided by the private financial community and the actual services, such as energy equipment retrofits, are delivered by an Energy Services Company (ESCO). The financier is paid out of the accrued energy

savings, with the ESCO providing a financial guarantee of those savings.

ESPCs typically bundle a variety of capital upgrades into one project, creating a significant guaranteed annuity that is financed over a 10- to 20-year period. Energy retrofits can easily achieve up to 30 percent energy savings and additional operational savings, while reducing greenhouse gas emissions.

Ultimately, Denison city officials brought Schneider Electric on board to



Public Water Infrastructure Modernization

implement a \$7.9 million ESPC to upgrade and retrofit existing equipment and reduce operational costs in the city's wastewater treatment plant and other municipal buildings. Construction now complete, the project enabled the city to implement long-term energy efficient solutions in its facilities while saving approximately 20 percent of its annual energy costs over the 15-year term of the contract.

The performance contract started with city building improvements, including the addition of a central energy management system (EMS) in 11 buildings including city hall, the community center, the city library, a city pool, service center, police station, three fire stations and an

indoor batting facility. Other changes made throughout the city buildings include upgrades to aging HVAC equipment and retrofits to lighting fixtures. The ESPC is enabling Denison to reduce its energy use by 2.1 million kilowatt hours, which is equivalent to taking 240 cars off the road annually.

At first, Denison city staff was hesitant to move forward on a project at the city's only treatment plant as prolonged downtime was out of the question. Officials knew the updates were

needed as the facility was challenged to operate at peak efficiency levels due to outdated equipment. After the energy retrofits to the city buildings were successfully completed and savings were evident, city officials had added confidence moving forward with the wastewater treatment plant.

The Denison Wastewater Treatment

been possible for 15 years – as well as increasing the overall dependability of the plant. The wastewater treatment plant now has a capacity to treat 6 million gallons per day, but is able to operate efficiently at much lower flows. Prior to the improvements, the plant operated at full capacity to maintain the integrity of the process even though it was treating just 3 million gallons per day.



In addition to utilizing the 20 percent annual energy costs savings, the city of Denison leveraged energy rebates through CLEAResult and the Government Facilities Program, as well as a \$64,109 rebate for HVAC and lighting and a \$165,000 rebate for improvements to the wastewater treatment plant, to fund the project. Schneider Electric played an integral role in

helping the city secure these rebates, and these combined with the energy savings will free up capital funds to address other city needs. Denison is on track to be financially fit and energy-efficient for years to come, which will only add to the city's historic charm.

Tammy Fulop is vice president, Energy Solutions for Schneider Electric. Since 2000, she has applied her leadership talents to driving the success of performance contracting projects for hundreds of clients in the U.S.

Public Water Infrastructure Modernization



Mayor Michael Copeland

As with all Mayors, the quality of life for our residents is my first priority in Olathe. I know that maintaining a high quality of life requires making wise decisions to improve our City's infrastructure with the latest technological advances. Companies and people alike have many choices when they are looking to relocate or expand, and I want Olathe to be their first choice.

Olathe is the fourth-largest city in Kansas, and we are still growing. In a vibrant metropolitan area rich with amenities, Olathe is one of the Midwest's most dominant business and economic centers. Our city has been aggressive in the pursuit of economic development, while making fiscally-responsible investments. We have spent the last three years implementing an improved water infrastructure to help drive business growth, and we are growing big business in Olathe!

Several years ago, I tasked our Public Works Department with setting the standard for excellence in water and wastewater infrastructure to continually improve our customer satisfaction ratings and ensure that Olathe is adequately prepared for future development. Our Public Works staff has

Great Water Grows Big Business in Olathe ***By Mayor Michael Copeland, City of Olathe,***

more than met my challenge, and their great pride in water quality, excellent customer service, and data-driven decisions are the driving force behind our success.

The City of Olathe obtains raw water from one source: The Kansas River. We have taken several measures to ensure Olathe's citizens have an uninterrupted, adequate, and safe supply of drinking water. Our 40-year Water Supply Plan has already been approved by the Kansas Department of Health and Environment (KDHE) and the Division of Water Resources (DWR), which coordinate the management, conservation and development of the state's water resources. As a member of the Kansas River Water Assurance District, Olathe has adopted an ordinance and Water Conservation Plan addressing water conservation goals and practices. We have also teamed with the U.S. Environmental Protection Agency's (EPA) WaterSense program to help consumers conserve water for future generations and reduce their water bills. Our water conservation strategies include:

- Reducing demand for water
- Improving efficiency in water use
- Engaging and educating citizens on tips for reducing water waste

In preparation for continued growth, we sought a municipal water solution to promote cost- and energy-efficiency. In 2011, we made the decision to update Olathe's water metering technology. Today, we have fully deployed new meters and real-time communications

to 35,000 homes. The new technology, Sensus AquaSense solution, consisting of smart meters, communication infrastructure and software, gave us the ability to eliminate the decreasing accuracy of water measurement due to aging water meters, lower our operational and maintenance expenditures, and provide superior customer service to our residents. This new technology allows us to better serve our water customers, while managing our water distribution systems with greater efficiency. More customer service options through technology means that Olathe residents and business owners are more aware of how much water they are using and are better able to conserve this important and limited natural resource.

Ultimately, water conservation must be a shared responsibility between the City and all residents of Olathe. By engaging our citizens in water conservation efforts, we have been much more successful. Citizen engagement and feedback are very valuable to us, and our annual DirectionFinder® Citizen Satisfaction Survey results show that we are improving each year in areas that are important to our residents. The 2013 survey shows high citizen satisfaction levels for every major category, including 91 percent satisfaction for quality of City services. Moreover, close to 80 percent of Olathe residents said they feel they are getting fair value for their tax dollars; this is nearly twice the national average.

In addition to water conservation ef-

Public Water Infrastructure Modernization

forts, Olathe also takes an active role in planning for future infrastructure needs through our Asset Management Program. The guiding principle of this program is stewardship of the City's infrastructure. We utilize Asset Management to deliver services to our citizens, provide a desirable quality of life, and commit to responsible and sustainable infrastructure planning and management for future generations.

The City also embraces new technology to communicate with residents in real-time through Twitter, Facebook, text messages, our award-winning direct mail newsletter, the Olathe Link, and new apps, such as "See, Click, Fix." This app gives our residents the ability to report non-emergency issues, while also giving the city the ability to track, manage and reply to citizen concerns -- ultimately making our community better through transparency and improved communication and collaboration.

I am reassured with each citizen survey and through interaction with our residents that we are on the right track in Olathe. By always looking to the future and choosing the newest and best technology available, Olathe is ensuring a sustainable future. We are nurturing a positive, growth-enriching economic environment, while working to achieve a balance of prudent growth that sustains our quality of life and the strong fabric of our community. We are committed to our long-term strategy and are pursuing economic viability by focusing on business recruitment and expansion. Our infrastructure enhancements have led directly to the creation of new jobs, and opportunities that would not otherwise be possible.

The Vision of the City of Olathe is "Setting the Standard for Excellence

in Public Service." Over the last decade, the City has received numerous awards, ranging from LEED certifications and Certificates of Excellence in Financial Reporting to the "Best Tasting Water in Kansas" recognition by the Kansas Rural Water Association (KRWA), the Kansas Water Environment Association (KWEA) and the Kansas Section of the American Water Works Association (KsAWWA). We are also among America's top-ranked digitally-savvy city governments, according to the 12th annual Digital Cities Survey. This is a clear reflection of what we've achieved by taking full advantage of technological advancements throughout our City organization.

The future of Olathe is brighter than ever, with many new projects on the horizon. Our residents will soon be able to enjoy a new, state-of-the-art Community Center. We broke ground in December for this 72,000 square foot facility, which will feature a pool, gym, community rooms and many other amenities. Downtown Olathe is being transformed by our new Santa Fe Streetscape project, including beautiful new park areas, street lights, and pedestrian-friendly enhancements. A new \$51 million Embassy Suites hotel and conference center is scheduled for

completion in 2015, which will meet the growing demand for a first-class conference facility in our community.

Aside from all of the awards, infrastructure improvements, technological advancements and economic growth, it is our residents who are the real winners. We value technology, but we value people more. Every person who resides in our wonderful community benefits from our success, and it is truly their strong community spirit, involvement, and support that ensure that we remain a strong leader among our nation's best cities.

As Mayors, we must often make difficult decisions today to protect the future of our City and our residents. By maintaining the highest standards in critical areas like water quality and asset management, Olathe has built a solid foundation for the future. It is my honor and responsibility to continue working with our City Council and City staff to make sound investments in the best technology available to protect and maintain our strong infrastructure, grow our businesses, save costs, and improve efficiency. Together, we will continue to lead Olathe forward and provide the best possible services to our citizens.



Public Water Infrastructure Modernization

The Evolving State of Public Water System Utility Automation: Turning Data Analytics into Operational and Capital Efficiencies

“The idea of analyzing things that are changing within a system,...the accessibility of monitoring diagnostics sensor networks, and the telecom ‘backhaul’ that brings data to centralized or distributed places that can be acted upon, is available and in use today”, says Fred Ellermeier, Vice President & Chief Operating Officer of Black & Veatch’s Smart Integrated Infrastructure. He should know; he is helping local governments upgrade their smart grids out in the field, and is working with them to expand the use of data analytics to improve asset management on a daily basis. Ellermeier and a team of experts at Black & Veatch have pooled their field information with that from an impressive survey of local water and electricity utilities to assess the state-of-the-art. Their research findings are reported in- 2014 STRATEGIC DIRECTIONS: UTILITY AUTOMATION & INTEGRATION, a Black & Veatch Report.

Ellermeier said that the smart grid concept “...was used to describe a future state of electricity distribution networks.” The business case for installing smart grid infrastructure relies on its ability to lower operational costs, increase reliability, ability to integrate multiple operations in a system, and be capable of generating critical operations and performance data.

Ellermeier stated that there are great opportunities in water utility automation, but there remain several challenges to realize the benefits. He pointed to the B&V Report (Figure 4, p. 9)

that conceptualizes a four step hierarchy suggesting that strategic impact (e.g., system efficiencies) increases as managers learn to integrate data so it is useful information that can aid investment and operations and maintenance decisions, (better asset management). The Report confirms a slow but building trend of interest in finding



Fred Ellermeier, Vice President & Chief Operating Officer of Black & Veatch's Smart Integrated Infrastructure

ways that the data collection in water utilities can push the envelope of IT and automation to the data analytics applications that hold so much promise for system efficiencies.

While more than 70% of utilities surveyed have or will upgrade their IT hardware capabilities, only 37% of surveyed utilities or less are utilizing the data for advanced analytics to optimize efficiencies, (see Figure 15 page 25). Less than 25% of utilities use their data for predictive or prescriptive analytics. Here, according to Ellermeier, is the fertile ground to expand on efficiency improvements to

save money and extend the useful life of the infrastructure. Ellermeier also said that good operations and maintenance programs have the potential to save cities from making large capital investments.

The Report also identifies some of the more familiar challenges water utilities face when they consider evolving into smart grid systems with data analytics capabilities. Nearly 64% of utilities surveyed cited budget constraints as the leading impediment. Additionally, utilities cited other reasons, including: difficulty in justifying return on investment, insufficient in-house expertise, security concerns, and lack of in-house understanding or support. Other impediments continue to cause concern, such as lack of available bandwidth, the cost to overcome interoperability, etc.

Despite the impediments, the evolution of IT and data analytics continues to take shape. Once a smart IT system is in place it is possible to customize user interfaces. Lubbock, TX, for example, worked directly with B&V to develop a customized iPad application to help the city assess their membrane treatment system. Cincinnati is installing a sensor network throughout their water system so they can monitor valves, pump stations, pipes, etc. to implement asset management objectives.

Black & Veatch’s 2014 STRATEGIC DIRECTIONS: UTILITY AUTOMATION & INTEGRATION, can be found at www.bv.com/Reports.

***Mayors Water Council
A Task Force of the United States Conference of Mayors***

The Mayors Water Council provides a forum for Mayors to discuss issues impacting how they provide safe, adequate and affordable water and wastewater services in America's Principal Cities in the 21st Century. It is open to all Mayors, focusing on water resources development, including: surface and sub-surface infrastructure financing and operations; water supply planning; watershed management; Public-Private Partnerships; water conservation; and, asset management and modernization of systems. The Mayors Water Council facilitates dissemination of information on best practices and public water policy. It acts through the U.S. Conference of Mayors Environment Committee.



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