Mayors Water Council

November 2018

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Mayor Jill Techel, City of Napa, CA
Co-Chair, Mayors Water Council

Water issues are always front and center for any Mayor. Having reliable safe and clean drinking water is a number one priority. Mayors deal with the day-to-day issues of water and water supplies, and what the US Mayor’s Water Council provides is a place to share our experiences and learn from others. Each state and community has different rules and regulations, but as much as we have different frameworks we have common goals. Feel free to contact us if you have a water issue you would like to discuss.

On the other side of the coin is the handing of storm water and flooding. We have just watched the Carolina’s deal with massive floods. Napa has had 22 serious floods and I understand the devastation that happens with floods and the challenge to clean up and move forward. There are ways to deal with preventing floods and cities are leading the way on creative, Continued on next page

Mayor David Berger, City of Lima OH
Co-Chair, Mayors Water Council

Just a few days ago, we had an intense cloud burst in the center of Lima. We had 4 inches of rain in 45 minutes. The result was localized flooding, safety services called in for rescues and damage to commercial and residential properties.

Of course, Lima’s experience does not begin to compare with the 30+ inches of rain in North and South Carolina from Hurricane Florence.

But these occurrences underscore the urgent needs of communities to deal with the limits of local infrastructure, systems and resources in confronting Mother Nature’s onslaughts, large and small.

The Mayors Water Council is a vehicle for assuring that Mayors have access to the expertise of lived experience and the expertise of engineers and scientists. The Council also provides a forum in which we as Mayors can engage with state and national legislators and regulators whose Continued on next page
Waiting for Congress to act with the hope that grants will be available to renew the nation’s 54,000 regulated drinking water systems, and 16,000 regulated sewer systems is risky. While increased federal aid to cities is desirable, it is not necessary to begin to improve the financial sustainability of these public utilities. Currently, underground infrastructure consists of three million plus miles of water distribution and sewer collection pipes in America. A considerable portion of pipes are aging, at or beyond their design life, and are increasingly subject to performance impairment and/or failure. Repair and replacement along with new construction is a critical (growing and recurring) cost driver. Closed procurement practices stifle competition among pipe materials and rote reliance on preferential pipe materials has the effect of raising the price point at a time when scarce public resources are available. Competitive bidding among different pipe materials has been demonstrated to yield cost-savings and meet service and safety expectations.

**Water and Sewer Infrastructure Investment Needs**

Communities struggle to raise the funds needed to provide continuous, high-quality service to the public. Utility rates have increased 5.7 per cent annually over the past five years, outpacing average annual inflation of 1.9 per cent. Rates are expected to continue falling short of reinvestment needs. Federal construction grants reached a peak of $9 billion in 1976, when local government invested an additional $11 plus billion. Today Congress grants roughly $2 billion a year to State Revolving Loan Programs which is subsequently distributed to local government in the form of low interest loans, and this low level of support forces cities to turn to tax exempt bonds for construction. In 2015 local government invested $118 billion in water and sewer. Despite ever-increasing public spending on water and sewer infrastructure the list of public safety concerns continues to grow (e.g., climate change, algal blooms, storm water control). Cost-savings, therefore, are critical to achieve sustainable systems and services.

**Efficiencies are Possible Now with Competitive Pipe Investment**

There may never be enough money available to upgrade the entire water and sewer inventory, but local government continues to invest annually using rate revenues as well as long-term borrowing. Pipe investments represent 60 percent of the total investment needed to upgrade our underground infrastructure, it is here that open procurement practices can be focused to achieve cost-savings. Competition is a critical prerequisite to achieve improved cost structures and system performance. Piping materials which meet current standards and technical specifications should be included in water and sewer projects. Alternative pipe materials have been developed to improve performance and extend system design life. Savings accrue from less replacement and repair of more resilient pipe materials. The toll in pipe breakage related to iron pipes in corrosive soils (which affect 75 percent of utilities) is driving consideration of alternative pipe materials, but, as stated in a USCM 2013 report, “Closed procurement processes lead to unnecessary costs, and may diminish the public’s confidence in a local government’s ability to provide cost-effective services.”
**Questioning Closed Procurement Policies**

Outdated procurement specifications effectively exclude safer, more durable and more affordable materials like polyvinyl chloride (PVC) pipes from participating in municipal bids. A study by the Water Research Foundation quantified the life expectancy of PVC pipe at more than 110 years – making it ideal for long-term asset management. Utah State University’s Buried Structures Laboratory reports that PVC pipe has the lowest break rate of all pipe materials and a service life in excess of 100 years. In Europe, dig ups and testing after 70 years of use confirm that PVC pipe will last in excess of 170 years. In US Mayor former USCM Water Council Co-Chair, Pleasanton (CA) Mayor Jennifer Hosterman wrote that her community not only found PVC pipe more durable but also 70 percent less expensive than ductile iron pipe.

Livermore (CA) Mayor John Marchand, a former drinking water chemist, not only praises the performance benefits of PVC pipe, but also lauds its ability to better protect water quality compared to other materials. Dr. Lok Pokhrel, Toxicologist at Temple University in Philadelphia, PA says that the best way to avoid Legionella outbreaks is for utilities to switch to PVC pipes, which don’t release iron (which provides a food source for pathogens) when exposed to corrosive water. It makes little sense for cities to deny their residents the health benefits open bidding can deliver. And competition drives down costs. A recent report by Massachusetts-based BCC Research compared the cost of pipe replacement in cities with open bidding processes versus cities with closed competition. The study found that communities with open competition enjoyed lower pipe cost, on average, for water main installation or replacement projects, reaching average savings of 27% for 8-inch pipe and 34% for 12-inch pipe, or up to $114,000 per mile of pipe, compared with municipalities with closed competition. Significantly, the researchers found that competitive bidding lowers the cost for ductile iron pipe by up to 30 percent.

Sixty-six percent of water supply pipes in the U.S. are 8-inches or smaller. Nationally, using PVC instead of ductile iron pipe in this size range could save $21 billion in pumping costs over 100 years. If PVC were used instead of HDPE pipe, $37 billion could be saved.

Based on all the available evidence, PVC pipe provides affordability as well as environmental and public health benefits for use in a variety of underground infrastructure applications, including life cycle cost advantages and the opportunity to substantially reduce GHGs compared to other materials, enabling communities to more effectively meet their sustainable infrastructure goals.

*Bruce Hollands, Executive Director, Uni-Bell PVC Pipe Association*

*The Uni-Bell PVC Pipe Association, a non-profit organization that serves the engineering, regulatory, public health and standardization communities.*