

MASSACHUSETTS WATER RESOURCES AUTHORITY
BEFORE THE
COMMITTEE ON ENERGY AND COMMERCE
U. S. HOUSE OF REPRESENTATIVES

STATEMENT ON
“ASSISTANCE, QUALITY AND AFFORDABILITY ACT OF 2010”
MAY 13, 2010

PRESENTED BY
STEPHEN ESTES-SMARGIASSI
DIRECTOR OF PLANNING
MASSACHUSETTS WATER RESOURCES AUTHORITY
BOSTON, MASSACHUSETTS

INTRODUCTION

Good morning Mr. Chairman. I am Stephen Estes-Smargiassi, Director of Planning, at the Massachusetts Water Resources Authority (MWRA), in Boston, Massachusetts. MWRA is the wholesale provider of water and wastewater services to 61 cities and towns in eastern and central Massachusetts, serving a total of about 2.8 million people and over 5,000 businesses. MWRA has a capital budget of \$1.144 billion for the current five year period covering fiscal year 2009 through 2013 and expects to spend \$250.6 million on water and wastewater infrastructure this fiscal year.

Many of you are undoubtedly aware of the water supply emergency that MWRA experienced two weeks ago. While the causes of the incident will not be known for some time, as the full scale investigation is in its infancy, I can certainly say that it galvanized public attention on the value of the water supply infrastructure. We all take for granted that when we open the tap, a plentiful supply of safe drinking water will flow; only when it stops flowing or we're told to boil it, do we stop to think about how much goes into turning rain into drinking water.

On the morning of May 1st, a major leak erupted on a 120" steel pipeline connecting two major tunnels. The pipeline was part of a new tunnel system built to enable MWRA to take the now seven-decade old Hultman Aqueduct out of service for inspection, repairs and the construction of interconnections. MWRA was able to quickly re-route water around the area of the break, and activate an emergency pump station and backup supply using facilities and plans put in place over the past decade, ensuring that adequate water pressure and flow was maintained so our customers had water for flushing toilets, fighting fires, and other uses. However, because of uncertainty as to whether the water met the same high standards, a boil order was instituted. In less than two days, repairs to the pipeline were made, and before four days had elapsed, Governor Patrick was able to lift the boil water order.

BACKGROUND

MWRA appreciates the opportunity to provide testimony here today on the “Assistance, Quality, and Affordability Act of 2010”. The proposed legislation includes a number of components that MWRA and other utilities across the nation will find valuable. Increasing the type of projects able to secure revolving loan funds will allow older metropolitan areas to leverage additional critical water system rehabilitation and improvement work while keeping costs manageable to our ratepayers.

MWRA’s water system includes its source reservoirs, treatment facilities, transmission lines, and distribution system facilities and pipelines. The system (excluding the source reservoirs) has an estimated asset replacement value of over \$6 billion. MWRA’s 2006 Water System Master Plan identified water system needs for the FY07-FY48 timeframe at approximately \$1.1 billion (in 2006 dollars).

Ongoing capital projects and identified capital needs include significant work to: improve both transmission system and localized distribution system redundancy; provide additional treatment to meet Safe Drinking Water Act requirements; construct additional distribution system storage; rehabilitate and replace old cast-iron mains; ensure system security; and, systematically upgrade and replace other water system assets including facilities, equipment, dams and support systems.

In addition, funds provided through the Massachusetts Department of Environmental Protection 2009 Intended Use Plan have allowed MWRA to expand the use of green infrastructure including the installation of a photovoltaic array at the John J. Carroll Water Treatment Plant, the construction of a 200kw hydro generation plant within the water transmission system, and a wind turbine at our Delauri pump station.

MWRA is fortunate in that the Commonwealth of Massachusetts has a forward looking environmental agency overseeing the State Revolving Fund. Our state Department of Environmental Protection has already added green infrastructure and an emphasis on rehabilitating old water and sewer assets to the program guidelines, under which MWRA has been able to fund a significant number of projects. We are here today in support of this bill because that increased funding flexibility and focus on aging water assets should be available to water systems nation-wide.

Since its creation 25 years ago, MWRA has made significant investments in the reliability of the water system. New tunnels and covered storage tanks, updated pumping stations, emergency facilities and disaster planning, and rehabilitated and interconnected water mains all provide additional flexibility to move water through the system to our customers, even under emergency conditions.

SECTION 4-USE OF FUNDS

MWRA, as is the case with many utilities, particularly those in older urban areas, has a significant amount of older distribution piping. Replacement and rehabilitation of aging facilities is critical to the proper management of all water systems and inclusion of this work as an eligible item will assist MWRA and other utilities in safeguarding the system operations, and maintaining and improving system water quality all the way to the tap while helping to control costs to ratepayers.

MWRA must note that in the development of a Water System Master Plan, it has been able to identify locations or assets in the system where there was insufficient information on asset condition and then consider the most appropriate mechanism for obtaining that information. Master planning over a longer term horizon has also allowed the MWRA to think proactively about future regulatory changes and the need for long-term asset replacement strategies. The language in Section 4 which supports the use of funds for rehabilitation and replacement of aging infrastructure is particularly valuable to those systems such as MWRA where many parts of the system were initially built over 100 years ago and where, for many years prior to MWRA's inception, system reinvestment was limited. For many utilities such as MWRA, aging facilities may contribute to degraded water quality including aesthetic concerns, problems in compliance with distribution water quality rules, and to increased frequency of leaks and pipe failures.

When MWRA was formed in 1985, nearly half of the piping network was installed prior to World War I and the median age of the distribution system was around 80 years. Nearly 20 percent of the water mains were over 100 years old. Most of these older pipes were installed during an era where the modern loads and stresses of heavy truck, bus and car traffic did not exist.

As a new agency created in 1985 to solve serious problems with the water and wastewater systems, MWRA was able to gain support for initial rate increases to rehabilitate the system. However, it is very difficult for any utility, including MWRA, to sustain support for yearly rate increases sufficient to fully cover the need to rehabilitate aging infrastructure and this legislation's support through the expansion of SRF eligibility for such rehabilitation is critical to many older systems across the country.

Although MWRA has made major system reinvestment since 1985, a continued emphasis on programs for rehabilitating or replacing assets such as unlined cast iron pipes remain a critical emphasis for the agency to ensure that catastrophic breaks do not occur but also to ensure high quality water. It is clear that many of the old cast-iron mains also can contribute to water quality degradation and diminished carrying capacities due to the build-up of tuberculation in the pipe. Between the first Water System Master Plan in 1993 and the updated Plan in 2006, MWRA constructed 22 miles of new pipeline and rehabilitated 63 miles of pipe (38 miles which were cast iron) leaving 198 miles to be rehabbed of which 70 miles of work (39 miles cast iron pipes) was either underway or recognized in the FY06 CIP. This left 128 miles of pipeline to be addressed. Of this pipe, approximately 48 miles of pipe was less than 50 years of age in 2006 and 54 miles

were between 50-100 years of age. However, 26 miles of distribution system piping was greater than 100 years old (and 25 of the 26 miles were cast iron mains). The 2006 Water System Master Plan recommended the inclusion in the CIP of an additional 51 miles of cast iron main.

The ability for MWRA and other utilities to obtain low cost financing for these rehabilitation and replacement programs is invaluable. In addition, the targeting of older cast iron pipe for rehabilitation and replacement also allow MWRA to anticipate EPA's potential regulatory direction relative to distribution systems, focusing not just on the customers aesthetic experience of the water, but how the old unlined cast iron mains may increase the public health risk. The support that this bill provides to systems wishing to think proactively about aging infrastructure needs is very encouraging.

Since 1993, MWRA has utilized the Massachusetts' State Revolving Fund (SRF) program administered by the Massachusetts Water Pollution Abatement Trust to finance critical infrastructure projects. Since that time, MWRA has accessed over \$1.3 billion in grants and low interest loans for both clean and drinking water projects. The SRF program has proven to be an important component in managing the MWRA's cost of capital and the associated rate revenue requirements to its member communities and ratepayers. Since 1993, the MWRA has realized debt service savings of over \$700 million through the SRF program, greatly improving the affordability of delivering quality water and wastewater services to 2.8 million customers.

Section 4 also authorizes the use of revolving funds for the "producing or capturing sustainable energy on site or through the transportation of water through the public water system". As the 2009 stimulus funding package illustrated, inclusion of funding for green infrastructure is tremendously valuable to utilities across the country. MWRA was able to fund a wind turbine, photovoltaic installations and a hydro generation facility as part of that program continuing our state's commitment to maximizing green technologies. While Massachusetts now allows these type projects under the SRF, the expansion nationally of eligibility under this legislation for sustainable technologies will allow other utilities to pursue low cost loan financing improving the affordability of these renewable energy projects and reducing our carbon footprint.

SECTION 7-PRIORITY AND WEIGHT OF APPLICATION

This section encourages utilities to improve the management and financial stability of their systems through such measures as development of asset inventories and condition information, asset replacement schedules, audits of water losses, and use of lifecycle cost analysis. MWRA has found these measures to be useful tools in developing long-term financial projections of system needs. The legislation also encourages utilities to undertake measures to improve system efficiency or reduce the system's environmental impact. Included under these measures are such items as increased energy efficiency and

actions to generate or capture sustainable energy on site or through the transportation of water through the system. As noted above, these types of measures have been extremely valuable to MWRA's ability to manage our costs of service and meet our commitment to green energy technologies.

Additionally under measures to improve efficiency or reduce environmental impact, the legislation also notes water efficiency or conservation, including the rehabilitation or replacement of leaking water pipes. MWRA has long had a program of leak detection and also facilitates leak detection by our 51 water system member communities. The annual goal is for staff to perform leak detection surveys of the entire MWRA system each year. From a high of 92 leaks detected in the MWRA system in 1988 when the program began, leaks have steadily decreased to a low of seven last year. Pipelines with repeated leaks have been prioritized for replacement. MWRA's long-term planning emphasizes the need to assess system piping, particularly key steel mains, to be able to proactively plan the replacement of such infrastructure.

The legislation also notes that actions to protect source water may be another means of improving system efficiency. The source reservoirs for MWRA are highly protected and unlike many systems nation-wide, the reservoirs are not impacted by upstream wastewater discharges. High quality source water means that less treatment is required; reducing the amount of chemicals we need to add to the water and lessening the amount of energy used to treat the water. Thus we can provide a higher quality product to our customers at a lower cost.

SECTION 15-REDUCING LEAD IN DRINKING WATER

I would also like to provide supporting testimony on Section 15 of the bill – Reducing Lead in Drinking Water.

Lead in drinking water is the number one water quality concern of our customers. While there is no lead in MWRA's source water it can enter our customers' water from their home plumbing. MWRA has been an aggressive and active in working to reduce the lead exposure of our own customers, and to work with EPA, Congress and others to reduce lead exposure through drinking water nationally.

After the Lead and Copper Rule was issued by EPA in 1991, MWRA moved rapidly to build modern corrosion control treatment, and as a result our lead test results have dropped by almost 90 percent. After the Washington DC water system lead issue arose in 2004, MWRA staff participated in a number of EPA workshops and working groups to identify opportunities to reduce the chance that consumers would be exposed to lead in drinking water, and one of our staff testified before the House Committee on Government Reform in March 2005 on this issue. MWRA also participated in a number of national research efforts examining causes of increased lead levels in drinking water.

A common theme which arose out of all these efforts was the fact that common household fixture such as faucets and drinking water fountains could leach excessive

amounts of lead – and still be available for sale and use under current federal law. The Safe Drinking Water Act defines lead free as up to 8 percent lead in a brass component. This is simply wrong – and should be remedied as soon as possible. In months of expert workshops and hearings after the 2004 DC incident, water suppliers, environmentalists, health professionals and parents all had a common cry – simply get the lead out.

However, to date, no federal action on the allowable amount of lead in brass has occurred, and only two states have taken the necessary action to resolve the outrage that a consumer can walk into a home improvement center and buy a fixture which may poison his or her child. California and Vermont now mandate that no more than ¼ of one percent of brass content be lead. The 12 percent of US citizens who live in California and Vermont can now purchase real lead-free faucets and other plumbing components, ensuring that the lead-free water that flows from almost all water supplies stays that way all the way to the consumer's glass.

By making the successful efforts of California and Vermont into Federal law by enacting Section 15 of the Assistance, Quality and Affordability Act of 2010, Congress can spread that successful effort nationwide, providing the same sure access to safe products, and safe water to all Americans.

Change, especially, mandated change, always brings charges that it will not work, will be unaffordable or is occurring too fast for manufactures to keep up. With a significant portion of the national plumbing market almost a half a year into implementation, it is clear that the new standards are workable, available, and affordable.

The reduction in lead content may cause a minor increase in the cost of some fixtures, at least for a time. Based on the experience in California we know that in the context of a bathroom or kitchen renovation the increase is almost unnoticeable, but the benefits are clear. Medical care, special education, and lost earnings costs associated with lead in the blood – even at low levels – are significant. Scientific studies estimate the economic and social costs of lead poisoning are almost five times the costs of childhood asthma, cancer, cardiovascular disease and neurological disorders, combined.

Another significant benefit is the potential for reducing unnecessary water wastage. If a consumer is not sure that their home plumbing is not leaching lead into the water, EPA recommends that they run the tap between one and three minutes before drinking or cooking with the water in order to flush out possible lead-contaminated stagnant water from pipes and faucets. It may not seem like much, but it can add up. In the MWRA service area, if every homeowner flushed their taps twice a day, it could add up to almost 10 million gallons of additional usage each day. Now, MWRA has plenty of water due to our aggressive conservation efforts over the past 20 years, but other systems either don't, or are adversely affecting the environment by excessive pumping. Eliminating this currently necessary waste could reduce utility costs for energy and chemicals, and reduce their impact on streams and rivers.

Regardless of the outcome of all the other sections of this Act, MWRA urges this committee to move the effort to “get the lead out” forward by taking favorable action on Section 15.

CONCLUSION

MWRA and utilities across the country are grappling with the issue of aging infrastructure. Communities must make difficult choices in determining the best ways to spend ratepayer funds because needs far exceed the ability of utilities to raise rates on an annual basis. Making additional funds available to the SRF to support replacement and rehabilitation of aging infrastructure provides an additional tool for communities to maintain their systems and act proactively before additional deterioration occurs. Utilities have spent billions of dollars to meet immediate public health priorities; the next critical need is to tackle the issue of an aging infrastructure in order to ensure reliable service and consistent water quality. For MWRA, 80% of the capital funds expended over the past 25 years for water and sewer system work have been for compliance with the regulatory mandates of the Clean Water Act and the Safe Drinking Water Act. This legislation will help MWRA and other utilities to move forward with the next level of high priority system improvements.

The unfortunate events of May 1st to 4th in the Boston area only serve to point out how critical water systems are to the regions they serve. Adequate funding and the flexibility to move forward with the critical needs of our aging systems will go a long way toward ensuring that our citizens get the safe and reliable water service they expect and deserve.

Thank you for this opportunity to testify.