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THE FEDERAL ROLE IN KEEPING WATER AND WASTEWATER INFRASTRUCTURE AFFORDABLE

UNITED STATES SENATE COMMITTEE ON ENVIRONMENT AND PUBLIC WORKS

ONE HUNDRED FOURTEENTH CONGRESS, SECOND SESSION

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**Written Testimony of Mayor Dave Berger
Senate Environment and Public Works Committee**

Introductions

Good morning Chairman Inhofe, Ranking Member Boxer, and members of the Committee. I wish to thank you for this invitation to give mine and the Conference of Mayors' perspective on water and wastewater issues in the United States.

I also want to thank this committee for its bipartisan work on trying to provide some relief to Flint, Michigan. The Conference of Mayors sent you a bipartisan letter, signed by over 170 Mayors, asking Congress and the Administration to provide aid to the City of Flint. On behalf of myself and my fellow Mayors, I hope you can succeed in this important and critical endeavor.

My name is David Berger and I am in my 27th year serving as the Mayor of Lima, Ohio. I also spent nearly 20 years in negotiations with Ohio EPA and USEPA over Long Term Control Plans to solve combined and sanitary sewer overflow problems. As Vice-Chair for Water and as a member of the Conference's Water Council, I have participated in over 5 years of discussions with EPA Headquarters on the issues of Integrated Planning, green infrastructure and affordability. So a significant portion of my professional and elected life over the past quarter century has been spent on this and related matters. I would guess this makes me a reluctant expert in this field.

And my message to you is this – we are on a dangerously unsustainable path when it comes to providing water and wastewater services in an affordable manner.

- Local governments are stuck on an unsustainable financial treadmill when it comes to providing water and wastewater services; decisions made by Congress and the Administration to eliminate or reduce financial assistance without restricting costly mandates has placed a severe financial burden on our nation's cities and our citizens.
- The combination of federal water policy mandates that force aggressive, and in many cases unachievable, goals, coupled with the high cost of building, maintaining and operating the necessary infrastructure to provide core city services that comply with water laws is now beyond the means of half the populations of our cities. This is an artifact of federal policy that forces the lower half of the income strata to afford the same rates as the upper half of household incomes.
- The net effect of mandates and infrastructure investment (both capital and operations) puts cities in increasingly higher long term debt with accompanying rate hikes that has the effect of raising basic service rates to levels that are unaffordable to a growing percent of the 80% of Americans served by these systems.

USCM Policy – Give Us Money or Give Us Relief

Local government -- not the federal government -- is where the job of providing water and wastewater services gets done and is paid for. But here's the conundrum: Congress eliminated the CWA construction grants program in the late 1980s by stating that water and sewer are local concerns. The EPA, however, continued to issue an unending number of new and revised mandates for which cities were responsible. Illustrative of this attitude, in 2009 the then EPA Administrator told a meeting of mayors in Washington, DC that EPA staff advised that cities don't want to spend the money on improving water quality. But contrary to this it should be known that local government has invested over \$2 trillion in water and sewer infrastructure and services since the early 1970s. In 2013 Bureau of Census data report local government spent \$117 billion a year to provide services to 80% or more of American households. With this investment, local governments have substantially improved drinking water and water quality: reducing acute microbial infections by 90% or more; and, vastly increasing monitoring and treatment of metals and organic contaminants that are associated with long-term chronic diseases.

But, public water infrastructure and services are ultimately paid for by customers, many of which are residential households. The cumulative costs of unfunded federal mandates on public water infrastructure and services that are paid by customers have reached or exceeded thresholds of clear economic burden on low and fixed income households.

I put this question to the Chairman and Committee Members, all whom are elected and accountable like Mayors for how federal agencies interact with our local constituents -- how much of a community's resources should be dedicated to sustaining the health and environmental benefits we have achieved versus how much more should be directed by EPA to achieve national water goals if the federal government provides negligible financial assistance or regulatory flexibility?

At the Conference of Mayors, we have unanimously passed a number of policies dealing with this issue. One is a simple message to the Congress and the Administration, "Give us money, or give us relief." The Mayors of this nation would be happy to implement any rule or regulation you or EPA comes up with but you have to provide at least half of the money. And I'm talking real money, not authorization levels that never get funded. And ideally, I'm also talking about grants and not loans that need to eventually be paid back and only add to our debt burden. (Attachment)

For too long, local governments have had to deal with the heavy hand of EPA; and our residents, particularly our poorest residents, have been left to pay a disproportionate burden of the costs.

Let me give you a few examples of what I mean.

Lima

Lima is a proud community of modest financial means. We have shrunk from roughly 52,000 to 38,000, as more affluent households have moved to the suburbs. Our annual median household income is \$26,943 with nearly 1/3 living under the poverty threshold.

The City had a \$60 million agreement with Ohio to fix our combined sewer overflow problem. However, the federal EPA intervened, effectively halting any progress and contravening the control plan agreed to by the state regulators. I spent over 10 years and \$10 million on engineers and lawyers which did nothing to improve water quality. EPA demanded that I spend \$150 million and pay a civil penalty. Remember, my community only has 38,000 residents. In order to implement EPA's Long Term Control Plan, the projected average sewer bill will be \$871.62. This means that 47% of my households would be spending more than 4% of their household income on just their sewer bills with nearly 17% of my residents spending nearly 9% of their income.

Despite being one of the first communities in this country to have an approved Integrated Plan as the basis of our consent decree, it still is a frustrating process that is costly, drawn out and requiring special interventions by Headquarters. In this regard, we have talked with other communities about their experiences, and we have found that they are dealing with similar challenges. EPA staff stipulates deadlines to turn around information and then does not respond in similar timely ways. While Headquarters prioritizes Integrated Planning, the Regional Offices actively resist proposals that incorporate flexibility, longer implementation timetables, and priority setting, and focus instead on high cost approaches, fixed deadlines, and penalties. While Headquarters acknowledges that cities and their citizens have financial constraints, the Regional Offices minimize the arguments about burdensome costs and unrealistic time tables. While Headquarters embraces the idea that cities have shared stewardship roles for improving the environment, the regional EPA offices along with DOJ staff sometimes use bullying tactics and threats of near term federal court actions. And without help and intervention from EPA headquarters, I'm not sure if we would have gotten an approved Integrated Plan from the Regional Office.

The Lima experience is not unique. Cities around the nation are finding that little or no change has occurred in the regional offices in dealing with the challenges of the Clean Water Act. While we applaud the continuing engagement and good faith efforts of EPA headquarters, we must report that the message is not getting through to the regional offices.

Other Communities

Mayors have lost elections or faced recalls because they raised their water and sewer rates to pay for these mandates. This includes in Chicopee, Massachusetts where water and sewer rates were raised by 134%; Omaha, Nebraska which faced a \$1.5 billion consent decree; Akron, Ohio whose costs went from a \$350 million fix to a still not agreed upon figure of \$1.4 billion; and Chattanooga, Tennessee which faced a costly consent decree while the surrounding communities did not share in the cost even though they contributed to the problem.

In California, cities must comply with Total Maximum Daily Loads (TMDLs) which are estimated to cost cities in the Los Angeles County alone upwards of \$140 billion to comply. In USCM's study of current cost per household for water, sewer and flood control, of just 33 California cities that were studied, 24 cities reported that more than 10% of their households were paying more than 4.5% of their income on water, sewer and flood control costs with 10 of those cities having more than 20% of their households spending 4.5%. Please keep in mind that for many of these cities, they have not yet factored in the cost for TMDL controls. (Attachment)

Reality vs. Affordability

How did we get here? When the Clean Water and Safe Drinking Water Acts (CWA/SDWA) were first established, Congress set lofty, aspirational goals. A practical intergovernmental partnership with local, state, and federal governments was established, each playing a significant role. Congress provided CWA construction grants to local government, and that investment, that skin in the game on the part of the federal government, created a reasonable attitude about how we could accomplish those goals together.

That is not the case now. Congress retreated from the grants program primarily because of the anticipated high cost to the Treasury; but the implementation of the water policies by successive Administrations did not move in concert with Congress' decline in financial assistance. Quite the contrary, the Administration advanced then-goals to compliance status as permit requirements in the CWA, and drinking water standards under the SDWA. Now, local governments with state water permits are being punished by being held accountable to pay for reducing pollution from other non-urban sources, or for design limitations that make controlling natural forces (stormwaters) difficult to manage.

Let me give you a few examples –

- In a typical CSO consent decree, cities are held to an arbitrary number of no more than 4 overflows per year. However, there is no science that substantiates that as a magic number for all receiving water bodies. So, in some cases, cities are allowed 14 while in another case, 0 overflows. I'm sorry, but to try to engineer anything that could handle any and all types of storm with zero overflows is almost impossible and needlessly expensive. Attached is a sample list of communities and the number of overflows that are allowed.(1)
- In Iowa, fertilizer runoff from farms upstream has caused nitrate levels to exceed EPA's Drinking Water standards for the City of Des Moines. The city was forced to build a special facility 20 years ago to extract the pollutant. In 2013, the city spent \$900,000 just on nitrate removal and Des Moines' customers are facing a 10% rate hike. This facility will need to be replaced at a cost over \$100 million.
- In my own city, I have a river that is labeled as "fishable and swimmable". That particular river dries up in the summer time with water pooling and stagnating in only 4 inch depths. I can safely say that no one is ever going to swim in it and yet, I'm held to that standard of compliance.

As a result, EPA is dictating our priorities and where our taxpayer money is being spent. And, in many Mayors' opinions, they are diverting money that could be spent on not only our fundamental responsibilities of providing safe drinking water and proper handling of wastewater, but other core services as well such as education, safety services, and economic development.

Solutions

I do not want to give you the impression that Mayors do not care about clean water. We do. We care passionately about it and our actions and investments speak loudly. Local governments are the primary water quality steward of the nation, investing \$117 billion a year, employing nearly 300,000 people to provide the services; and, in the 30 years since Congress retreated from providing meaningful financial assistance we are the only level of government that actually provides water and sanitation services. It is no little irony that in dealing with EPA mandates we are offered loans to pay back with interest and promises from Congressional authorizers that fail to produce appropriations!

If federal policy continues to isolate local government as the remaining, and single-most, important player in this field, and our households and businesses are to shoulder the cost burden by themselves, then local government should have a greater voice in setting and achieving goals.

- The Mayors believe that future investments should be prioritized to first ensure the sustainability of existing public water infrastructure and associated public health, economic and environmental benefits.
- Additional improvements that will achieve additional benefits should be prioritized second.
- Investments that do not have commensurate public health, economic and environmental benefits do not belong on the priority list.

As I mentioned in the beginning, we need the federal and state government to be our partners, not our prosecutors. We either need real money or we need regulatory relief. And when we talk about regulatory relief, we are not talking about "turning the Clean Water or Safe Drinking Water acts on their ear" but we must ask for the following:

- Codify Integrated Planning to allow cities to develop comprehensive plans for their water, sewer, and stormwater needs;
- Define Affordability and stop the use of Median Household Income (MHI) as the critical metric for determining investment level. It puts 50% of households on an unfair and burdensome financial impact;
- Develop Reasonable and Sustainable Goals. Whether that means relooking at use attainability or allowing variances until a goal can be reasonably reached;
- Allow for Substantial Additional Time to reach these goals. I know we all want all of our lakes and streams to be perfect overnight but we can't get there if that means bankrupting our most vulnerable citizens;

- Eliminate civil penalties for local governments who develop an integrated plan and put good faith efforts into improving their water. We are not x-Chemical company where penalties impact our profit margin - Civil penalties only hurt the citizens, the customers of our communities; and
- Establish a review process to appeal decisions made at the regional level and allow for more transparency.

I have attached the Conference's legislative proposal that outlines in more detail on the type of solutions we are looking to accomplish along with excerpts from my testimony before the House Transportation and Infrastructure Subcommittee on Water and the Environment outlining this subject.

Conclusion

Cities are stewards of the public trust, a responsibility that we share with the state and federal governments and should be accorded the respect of a shared stewardship of our environment.

We need Congress to provide relief. We need Congress to provide oversight and to remember that EPA has its authority because of the way the Clean Water Act was written and enacted by the Congress. We need Congress to act.

Thank you again for this opportunity to address you.

(1) List of Local Governments with consent decrees, administrative orders, or in process. The number of annual overflows specified in long term control plans.

Akron OH – 0	Anderson IN – 8
Elkhart IN – 9	Evansville IN – 4
Fitchburg MA – 0	Ft. Wayne IN – 4
Henderson KY – 85% capture	Hammond Sanitary District IN – 0
Indianapolis IN – 4/2	Kansas City MO – 12
Lima OH – 5	Mishawaka IN – 0
Nashua NH – 0	New Bedford MA – 0
Newport RI – 0	Northeast Ohio Regional Sewer District OH
– 4	
Omaha NE – 4	Oswego NY – 0
Philadelphia PA – 80% capture	South Bend IN – 4
St. Louis MO – 4 for non Miss. River; no restriction on Miss. River discharges (target 10% volume reduction)	
Terre Haute IN – 7	

**Testimony of
Mr. Rudolph S. Chow, P.E.
on behalf of
The City of Baltimore, Maryland,
and
The Water Environment Federation,
and
The WateReuse Association
before the
Committee on Environment & Public Works
United States Senate**

Hearing: "The Federal Role in Keeping Water and
Wastewater Infrastructure Affordable"
Thursday, April 7, 2016

Chairman Inhofe, Ranking Member Boxer, and Members of the Committee:

My name is Rudy Chow and I am the Director of the Department of Public Works for Baltimore City¹. It is my honor to be here today on behalf of the City of Baltimore, the Water Environment Federation (WEF)² and the WateReuse Association to discuss the importance of the federal role in keeping water and wastewater infrastructure affordable. My testimony will focus upon three significant issues affecting water and wastewater infrastructure:

- *Affordability* – The challenges communities are having with meeting their regulatory requirements with limited funds is a national problem.
- *Federal Funding of Infrastructure* – Congress should provide robust support for existing and proposed federal funding and financing programs.
- *Economic Benefits of SRF Funding* – WEF and the WateReuse Association³ recently conducted an analysis of the estimated economic impact generated by SRF spending in four

¹ Rudolph S. Chow, P.E., has been the Director of the Baltimore City Department of Public Works since February 1, 2014. Prior to his appointment as director he served as Deputy Director and was its Bureau Head for Water and Wastewater for three years. Prior to his arrival in Baltimore Mr. Chow spent 27 years with the Washington Suburban Sanitary Commission in Laurel, Maryland. He has a Bachelor's degree in Civil Engineering from George Washington University and a Master's Degree in Environmental and Water Resources Engineering from the University of Maryland College Park. He is a registered Professional Engineer in the States of Maryland and Delaware. He is an active member in ASCE, WEF, AWWA, and APWA. The City of Baltimore is one of 24 jurisdictions in the State of Maryland with a diverse population of 626,644 people. The Baltimore City water and wastewater utilities are regional systems serving nearly 2 million people living in Baltimore and the surrounding counties.

² The Water Environment Federation (WEF) is a not-for-profit technical and educational organization of 33,000 individual members and 75 affiliated Member Associations representing water quality professional around the world. Since 1928 WEF and its members have protected public health and the environment. As a global water sector leader, WEF's mission is to connect water professionals; enrich the expertise of water professionals; increase the awareness of the impact and value of water; and provide a platform for water sector innovation.

³ The WateReuse Association is a not-for-profit organization that educates the public on the importance of water reuse and advocates for policy, laws and funding to increase alternative water supply development in communities across the

example states, including taxes that return to the federal government and the employment and output from that spending.

Introduction

You are examining a very important national issue today that is near to my heart – how we can address the burgeoning need for investment in our water infrastructure. Baltimore’s Mayor Stephanie Rawlings Blake appeared before this Committee’s Subcommittee on Water and Wildlife in February of 2012 to testify on the challenges of financing water infrastructure, using our Baltimore experiences to illustrate the need and to advocate for funding initiatives to address the growing problem of crumbling infrastructure and declining sources of funding. I would like to be able to state that progress is being made by communities in mitigating the impact of old and failing water infrastructure, but that is just not the case. These needs are an increasing burden on our citizens, particularly our most vulnerable populations.

To give you a sense of the magnitude of the problem our Nation is facing, consider the statistics supporting the American Society of Civil Engineers (ASCE) Report Card issued in 2013⁴ that resulted in a D rating for water and for wastewater and stormwater infrastructure.

- There are 170,000 drinking water systems in the U.S., with 54,000 of those systems serving more than 264 million people.
- It is estimated that there are more than 1 million miles of water mains in the U.S. and over 75% of these pipes are in need of repair.
- An estimated 240,000 water main breaks occur each year. If the Nation’s most urgent replacement needs were spread over 25 years, the cost would be an estimated \$1 trillion.⁵
- Furthermore, the ASCE estimates the infrastructure needs for the Far West, Great Lakes, Mid-Atlantic, Plains, and Southwest regions would cost *each person* living in those regions more than \$1,000.
- There are an estimated 700,000 to 800,000 wastewater pipes in the U.S., many of which were built after WWII and are at the end of their useful life.
- According to an EPA Clean Watersheds Needs Survey *conducted in 2012*, the capital investment need for wastewater for the Nation will need \$271 billion over the next 20 years, but the report states that the data underestimates stormwater infrastructure needs by roughly \$100 billion.
- These needs are largely to address pipes, treatment systems, and federal stormwater requirements.

United States. Our membership of water utilities, businesses, government agencies and not-for-profit organizations is dedicated to recycling water to ensure communities have a safe, reliable and cost-effective supply of water, which is necessary to sustain a high standard of living and robust economy.

⁴ The full ASCE Report Card can be found at the following link: <http://www.infrastructurereportcard.org/grades/>

⁵ Source: American Water Works Association

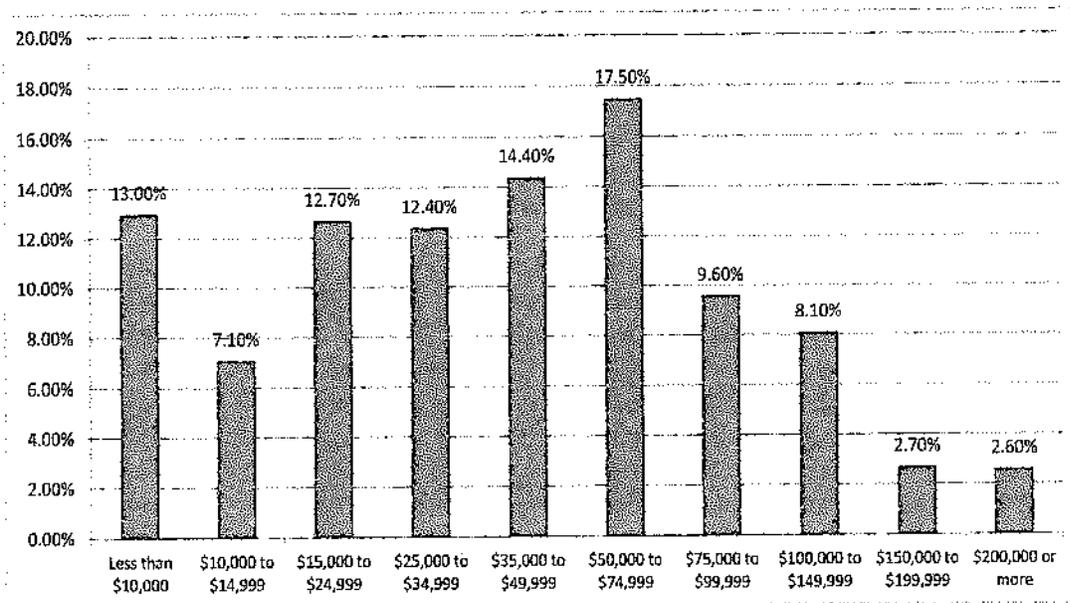
I have been in the public water infrastructure business for more than 30 years so these statistics do not surprise me. Environmental obligations are competing with the maintenance of critical infrastructure for capital funds. But these underground systems have been kept in service well beyond their useful lives and have literally reached the breaking point – and emergency repairs cost more than planned replacement, not to mention the loss of treated water, customers and businesses without water, and the resulting property damage from breaks.

My own City of Baltimore is faced with massive costs of more than \$1.5 billion to comply with a Wet Weather Consent Decree, just under a billion dollars in nutrient removal facilities at our two wastewater treatment plants to help meet the Chesapeake Bay TMDL, an MS4 permit expected to cost us \$200 million in stormwater improvements over the 5 year permit period, and more than \$350 million to cover open finished water reservoirs. This is just a snapshot of the projects we must undertake to remain in compliance with some of Baltimore's environmental obligations and does not include our efforts to extend the life of our underground systems. We consider ourselves good stewards of the environment and public health of our community and the Chesapeake Bay watershed, and take these obligations seriously. We are also tasked with maintaining and improving a large and aging system, which is equally important in many regards because if we do not maintain and improve the system, there may be eventual negative impacts upon our community's public health and environment.

As active members of the U.S. Conference of Mayors, we know the story is the same whether you live in Baltimore, Maryland; Lima, Ohio; or New York City. When it comes to the financial pressures of running modern water, wastewater and stormwater systems, Baltimore is not alone, but every community is on its own when it comes to financing the solutions. It is hard to convince your citizens and ratepayers to accept annual increases in water and sewer rates to comply with federal requirements when basic infrastructure is crumbling. We need to be able to prioritize and balance our investments.

Affordability

To say that Baltimore is not a wealthy city is a gross understatement. The Median Household Income (MHI) of Baltimore, a key indicator in how EPA looks at a community's affordability, is \$39,386. But if you examine the income distribution at the Census tract level, the income distribution of Baltimore is disproportionately skewed low, with MHI within these tracts well below the Citywide MHI. Twenty percent of households and 15 percent of families make less than \$10,000 per year; 33 percent of households and 27 percent of families make less than \$20,000 per year; and 45 percent of households and 39 percent of families make less than \$30,000 per year.



To add to these statistics, 26 percent of our population is living below the poverty line and 12 percent is living at less than 50 percent of the poverty line.

While these statistics are striking, the way that EPA has viewed affordability when considering enforcement initiatives since 1997 focused solely on a simple calculation based on MHI. In 2014 EPA issued new guidance to the Regions which permitted regional staff to consider other relevant economic factors such as demographics, income distribution, and the holistic Clean Water Act and Safe Drinking Water Act needs of the jurisdiction. This guidance has opened the door for rational discussion about affordability and prioritization, with the potential to make sure we are doing what is best for our citizens, our infrastructure, and the environment. The true test now is making sure that jurisdictions and EPA walk through that door together. Change is always difficult and after decades of working within the same affordability framework, some regions are finding the change to the new approach challenging and preferring to return to the standard 1997 financial capability analysis. It is vital that all of the relevant data are considered regarding a jurisdiction's ability to pay for projects is considered in enforcement actions and compliance timeframes.

Pressures on ratepayers to support increased investments in wastewater infrastructure to meet regulatory obligations have lead WEF and other water associations to call upon the EPA to reassess its definition of affordability and allow for communities to have greater flexibility in their planning and funding priorities. WEF has taken a number of steps to assist communities with this problem. In 2014, WEF, AWWA and the US Conference of Mayors produced the "Assessing the Affordability of Federal Water Mandates" report in 2013 that recommended a number of policy changes to the EPA when assessing affordability capabilities for communities. The report recommended that the EPA should not solely focus upon MHI when assessing affordability, but should focus on households at the lower end of the income spectrum. The report also urged that other financial and budget liability pressures on the community should be factored into the EPA's affordability assessment.

WEF, AWWA and the US Conference of Mayors also released the Affordability Assessment Tool for Federal Water Mandates to help communities consider factors affecting affordability and understand the implications of federal water mandates. The tool includes worksheets to help

communities accurately discern the burden of higher water bills on households at different income levels and with various demographic characteristics.

Additionally, WEF, Associations of Metropolitan Water Agencies (AMWA), National Association of Clean Water Agencies (NACWA), National Association of Water Companies (NAWC), and Water Environment Research Foundation (WERF) are collaborating on a resource guide that examines ratepayer subsidy program models in use today with a specific focus on the constitutional, statutory, regulatory, and policy underpinning of these various models at the state and local levels. The report will provide state-by-state analysis of various subsidy programs available, the legal framework that support them, and the specific legal or regulatory barriers to the use of alternative rate structures that may be in existence. The resource guide will be published the by association to assist with the development of local, state, or federal assistance programs.

In Baltimore, our poorer citizens are already feeling the strain of their water bills and with each passing year that stress is working its way into the pockets of our moderate income families. Our citizens cannot continue to sustain this trajectory of increases without some help. Several Members of Congress and water organizations, including WEF, have begun to consider the creation of a new ratepayer assistance program modeled after the successful Low Income Home Energy Assistance Program (LIHEAP). The conceived water bill assistance program would provide support to eligible low-income households similar to the way the LIHEAP program helps low-income households with their heating and cooling energy costs. This program concept warrants further examination by Congress as a potential tool to helping low-income ratepayers.

WEF and WaterReuse Association are supportive of the EPA's efforts to address financing challenges for communities dealing with affordability issues. The EPA's Water Infrastructure Resilience and Finance Center (WIRFC) is compiling a compendium of successful ratepayer assistance programs across the country. WIRFC is providing technical assistance directly and through the EPA supported Environment Finance Centers to communities. WIRFC's WaterCARE technical assistance grants to mid-sized communities to help them address local challenges they are having with financing infrastructure investments, including affordability and financing.

Another relatively new innovation is the integrated planning framework. First introduced by EPA in 2012, integrated planning, in theory, gives jurisdictions the ability to look holistically at their Clean Water Act obligations and evaluate them in terms of the environmental, social, and public health benefits that they provide, then prioritize the highest value projects. This systematic evaluation and prioritization allows a jurisdiction to weigh competing system needs, like aging infrastructure and the new regulatory requirements, to come up with the best possible schedule to meet their needs.

Since the beginning of the integrated planning idea, jurisdictions like Baltimore have been asking EPA to allow us to include drinking water projects into this prioritization. EPA has been resistant to this idea, arguing that mandates based off of the Safe Drinking Water Act, in particular, should not be subject to prioritization because their public health impacts are too important to be weighed against anything else. However, as was most dramatically shown in Flint, Michigan recently, jurisdictions are forced every day to make decisions that balance affordability against system needs. Without a framework that gives appropriate weight to the public health considerations of drinking water projects, it is all too easy for things that are "out of sight, out of mind" to get pushed to the back of the list. I am happy to state that WEF and WaterReuse Association support funding for the EPA's Integrated Municipal Stormwater and Wastewater Planning Approach to help communities address affordability challenges. The President's FY17 Budget request includes \$6.5 million to support Integrated Planning pilot projects through this effort by the EPA. WEF is very supportive

of funding for pilot projects in the FY17 budget and similar efforts by the EPA to support integrated planning.

Local jurisdictions understand their holistic system needs better than anyone, and I can confidently say that none of us are asking the federal government to come in and prioritize our projects for us. What we are asking is that EPA engage with us in a fact-based dialogue about all of our affordability issues, system needs, and public health priorities whenever we are discussing a new regulatory mandate or enforcement action. Every year science and technology advance to continually show us new things that we could be doing. While keeping up with the newest standards is important, new mandates, particularly new underfunded mandates, should be appropriately weighed against ongoing infrastructure needs like keeping pipes and plants in working order. While it is truer of some jurisdictions than others, no one ever has all of the money to do everything our engineers and planners would like us to do to keep our systems at their peak. In order to do the best we can with a financial burden our citizens can afford, we need EPA to engage with us in a dialogue about all of our competing priorities, not just hand out mandates. As our Mayor is fond of saying: "When everything is a priority, nothing is a priority."

Federal Funding for Infrastructure

I cannot think of a more important investment to be made than in our drinking water, our wastewater, and our stormwater systems. We sometimes forget that, even in their current state, many countries would love to have the water systems we enjoy. We established these systems many years ago to protect our people from outbreaks of cholera and other waterborne diseases. But a lot has happened since sanitary engineering first began shaping our water infrastructure. We know much more about the effects we humans and our activities have on our waterways and on public health.

WEF's members are the water professionals that run the wastewater and stormwater infrastructure in communities across the country and around the globe. WEF has long been supportive of federal funding to assist communities with maintaining and modernizing their wastewater and stormwater infrastructure. WEF's members have made addressing our nation's infrastructure funding challenges a top priority for the association.

WEF and WaterReuse Association is very supportive of full funding for existing infrastructure funding programs. The Clean Water SRF program is one of the most successful federal infrastructure funding programs ever and Congress must reauthorize it and increase the authorized fund levels to help address our national needs. Over the last three fiscal years, Baltimore has obtained \$168,566,000 in low-interest loans through the Maryland SRF loan program, as well as \$4,500,000 in Principal Forgiveness loans. Below market interest rate loans and Principal Forgiveness loans help make water and sewer rates more affordable for our City residents, many of whom are low-income.

WEF and WaterReuse Association recently joined with the American Public Works Association, Associations of Metropolitan Water Agencies, National Association of Clean Water Agencies, National Association of Counties, National League of Cities, National Association of Water Companies, U.S. Conference of Mayors, and Water Environment Research Foundations, on a letter to the House and Senate Appropriations Committees requesting that the FY17 Budget fund the Clean Water SRF and Drinking Water SRF at \$2 billion each. The EPA's recent Clean Water Needs Surveys estimated that the nation will need \$271 billion over the next 20 years, but the report

states that the data underestimates stormwater infrastructure needs by roughly \$100 billion. The EPA's recent Drinking Water Needs Surveys estimated that the nation will need \$384 billion over the next 20 years. Combined, the two surveys call for \$655 billion over the next 20 years, which make the requested increase for the Clean Water SRF from \$1.39 billion in FY16 to \$2 billion in FY17 warranted and a justifiable increase by Congress.

Additionally, Congress should pass legislation to reauthorize the Clean Water and Drinking Water SRF programs and increase the authorized funding levels. WEF and WaterReuse Association support passage of S. 2583 by Sen. Ben Cardin to reauthorize the programs and increase their funding levels. A later portion of testimony includes further justification for increased funding.

The Water Infrastructure Finance & Innovation Act (WIFIA) is another financing tool that Congress should provide significant funding for and support the full authorization of. WEF is extremely grateful to Chairman Inhofe and Ranking Member Boxer for their leadership in creating WIFIA in 2014, and the amendments to the program in 2015. To be clear, WEF and WaterReuse Association are opposed to reducing funding for the SRF programs to fund the WIFIA program. Both programs are vital and must be fully funded.

The FY17 Budget request letter that WEF co-signed with the other major water and municipal associations also requested that the WIFIA program be funded at the authorized level of \$35 million. The EPA has calculated a leveraging ratio of 1:60 for the WIFIA programs, which means that for every \$1 in appropriation for the WIFIA program, the Treasury Departments will be able to loan \$60 for infrastructure projects. A \$35 million appropriation would equal \$2,100,000,000 in loans and loan guarantees from the Treasury. Under the WIFIA program statute, the federal share of a project cannot exceed 49%, which means the combined federally backed loans and the local cost share will equal over \$4.2 billion in infrastructure investments.

While the WIFIA program has yet to begin making loans and loan guarantees, WEF has received word of strong interest in the program for potential applicants. The program that Congress authorized in 2014 is a pilot program set to sunset after FY19, which means that if Congress appropriates funding for the program in FY17, there will only be three fiscal years to provided funding for infrastructure investments and for Congress to evaluate the effectiveness of the program. WEF urges Congress to make permanent the WIFIA program and authorize appropriations for the program at the authorized FY19 level of \$50 million going forward.

Additionally, other important existing federal funding programs should continue to provide support for water and wastewater infrastructure investments. The United States Department of Agriculture Rural Assistance Programs, particularly the Water and Waste Disposal Loan and Grant Program, is an important source of funding and financing for rural communities.

The Bureau of Reclamation Title XVI program identifies and investigates opportunities to reclaim and reuse wastewaters and naturally impaired ground and surface water in the 17 Western States and Hawaii. Title XVI includes funding for the planning, design, and construction of water recycling and reuse projects, on a project specific basis, in partnership with local government entities. Since 1992, approximately \$639 million in Federal cost-share has been leveraged with more than \$2.4 billion in non-Federal funding to design and construct water recycling projects. In 2014, an estimated 378,000 acre-feet of water was recycled through Title XVI projects. WEF, WaterReuse, and the other water and municipal associations that signed onto the FY17 Budget request letter to Congress referred to earlier in this testimony, have requested that the Title XVI program be funded at \$23.365 million in FY17.

WEF and WaterReuse Association are strongly opposed to any efforts to change tax deductibility levels that may affect tax-exempt municipal bonds. Proposals in Congress and in the President's FY17 Budget proposal would have extremely harmful impacts upon the appeal and issuance of tax-exempt municipal bonds. Tax-exempt municipal bonds fund over 80% of water infrastructure investments, of which approximate 50% of the bonds are purchased by individuals directly or through mutual funds⁶. Any efforts to change the way tax-exempt municipal bonds work should be rejected by Congress.

Recent Findings of Economic Benefits Analysis of Federal SRF Funding

Note that when I speak about water infrastructure I use the word "investment" because smart, prioritized capital projects and asset management foster a healthy and sustainable environment AND economy. It has long been debated on Capitol Hill and among supporters of the SRF programs that the scoring for the programs do not fully reflect the complete economic benefits of federal funding of the programs. This Committee recognized this inconsistency in the budget scoring of the SRF programs, and asked WEF and WaterReuse Association to look into a more accurate calculation of the tax revenues generated by federal SRF funding as it passes through the economy. For this hearing, WEF and the WaterReuse Association contracted a team of economists to conduct a quick analysis of the economic benefits. Although the time to complete the analysis was very limited, the findings are significant. The full analysis is still being completed and will be submitted to the Committee for the record.

The analysis estimated economic impact of SRF spending in four example states, including taxes that return to the Federal government, and employment and output that the spending generates. The four states chosen were California, Maryland, Ohio, and Oklahoma, which represent a good cross section of states across the nation, representative of geographic size and population size, cost of living, rural and urban populations, and general age of infrastructure.

The model for the analysis was based upon the IMPLAN⁷ economic model to estimate the impact of SRF spending on output, labor income, jobs and Federal tax revenues in the four states. IMPLAN captures the effect of spending as it ripples through the economy, and is very commonly used economic model across all sectors of the economy. For example, utility spending of SRF funds results in direct spending on construction contractors (known as the direct effect). The construction contractor then re-spends this money on goods and services in the economy that it needs to operate its business (the indirect effect). Direct and indirect spending generate employment, creating additional income for households that generates even more spending (the induced effect). The total economic impact is the sum of direct, indirect and induced effects. This generates federal, state and local tax revenues.

To model SRF spending in IMPLAN, the analysis used recent total state SRF spending in each state averaged over 2012-2014. This is equivalent of modeling a doubling of current level of SRF expenditures in each state. The data was obtained from EPA's National Information Management System Performance Reports for clean water and drinking water infrastructure needs. The EPA's

⁶ The Impacts of Proposals to Scale Back or Eliminate Tax-Exempt Municipal Bond Financing On Public Drinking Water & Wastewater Systems, NACWA & AMWA, July 2013

⁷ The IMPLAN economic model was originally developed by the U.S. Forest Service in 1972. It is used by thousands of federal, state and local government agencies to help make informed decisions and assess the potential impacts of policy and tax decisions on the economy.

National Information Management System Performance Reports is the data source for the Clean Water Needs Survey and Assessment and Drinking Water Needs Survey and Assessment reports.

For this analysis, the data was used to allocate the total SRF spending in each state across different project types based on the level of need in each needs category in the 2011 Clean Water and Drinking Water needs survey. The analysis then mapped the spending associated with the different needs categories into IMPLAN sectors. For example, for each needs category, a percentage of spending was allocated to IMPLAN sectors such as construction, heavy equipment, pipe, engineering and design services, local government/water utilities, and other categories.

The results of the analysis were significant and show that federal investments in water and wastewater infrastructure through the SRF programs have meaningful benefits to the economy, U.S. Treasury, and households across the nation.

Results

SRF spending generates Federal tax revenues.

- Total (state and federal) annual SRF spending in the four states has averaged \$1.46 billion. This generated \$234 million of Federal tax revenues. **Therefore, every million of SRF spending is estimated to generate \$160,000 in Federal taxes from those states.** This does not include tax revenues generated by indirect spending by firms in other states (other than CA, OH, MD and OK). The model is not able to capture indirect spending that a contractor and firm may take out of CA, OH, MD or OK, and spend in a way that would generate more Federal taxes.
- When compared only to the federal portion of SRF spending, which accounts for 23% of total spending, **every \$1 million of federal spending generates \$695,000 in Federal taxes from those states.**⁸

In addition to tax revenues, spending results in increased in employment and labor income in the four states.

- On average, **14 jobs are generated** in these four states for each million dollars in SRF spending. Plus, additional jobs are likely created by indirect spending in other states.
- SRF spending generates high paying jobs – each job is estimated to bring about *\$60,000 in labor income*.

SRF spending generates output in the state economies.

- **Every million dollars of SRF spending results in \$2.25 million dollars in output for the states' economies, on average.**

Conclusion

I have touched upon just some of the water infrastructure challenges we at the local government level are faced with, and some of the remedies we believe will help lessen the financial impact on

⁸ This view compares the same amount of taxes generated from SRF spending but compares it only to the federal portion of the total spending.

our citizens, particularly those who have so little income to spare. Full federal funding for this infrastructure through such programs as the SRFs and WIFIA will help us begin to make inroads in our water and wastewater needs. As shown in the WEF and WateReuse study, these program investments should not be seen as just another item on the expense side of the federal government ledger. Investing in water infrastructure delivers environmental, public health and economic benefits critical to the health and safety of our country.

Thank you Mr. Chairman and Committee Members for your kind attention. I would be happy to answer any questions you may have.



Marshall County Water Corporation

Committed to Providing Clean, Safe Water for All Our Residents



TESTIMONY OF
ROBERT MOORE
GENERAL MANAGER
MARSHALL COUNTY WATER CORPORATION (OKLAHOMA)
ON BEHALF OF THE
OKLAHOMA RURAL WATER ASSOCIATION
AND THE
NATIONAL RURAL WATER ASSOCIATION
BEFORE THE U.S. SENATE
COMMITTEE ON ENVIRONMENT AND PUBLIC WORKS
APRIL 7, 2016

"The Federal Role in Keeping Water and Wastewater Infrastructure Affordable"

Good morning Senator Inhofe and Members of the Committee. I am Robert Moore from rural Oklahoma. I am the general manager of the Marshall County Water Corporation. We are a non-profit drinking water supply organization providing drinking water to all of Marshall County and portions of Johnson, Carter, and Love counties. We have two surface water treatment facilities that service a population of approximately 15,000 people.

I am representing all small and rural community water and wastewater supplies today through my association with both the Oklahoma and National Rural Water Associations. Our member communities have the very important public responsibility of complying with all applicable regulations and for supplying the public with safe drinking water and sanitation every second of every day. Most all water supplies in the U.S. are small; 94% of the country's 51,651 drinking water supplies serve communities with fewer than 10,000 persons, and 80% of the country's 16,255 wastewater supplies serve fewer than 10,000 persons.

I want to acknowledge that rural America is very appreciative to you, Senator Inhofe, for standing up for rural communities on environmental issues. Your actions have improved the lives of all rural families and also led to improvements in the environment and public health in rural USA. Specifically, your leadership on critical water funding has ensured that federal regulations don't have an adverse impact on people, that technical assistance is provided to allow compliance with EPA rules, and that on-site education is available to show how to protect the safety of the public's water throughout rural and small towns in every state.

The small community paradox in federal water policy is that while we supply water to a minority of the country's population, small and rural communities often have more difficulty providing safe, affordable drinking water and sanitation due to limited economies of scale and lack of technical expertise. Also, that while we have fewer resources; we are regulated in the exact same manner as a large community, we outnumber large communities by a magnitude of 10-fold, and federal compliance and water service is often a much higher cost per household. In 2016, there are rural communities in the country that still do not have access to safe drinking water or sanitation due to the lack or density or lack of funding. Included with my written testimony are recent news profiles of communities that lack basic drinking water access (Appendix A). Our association's mission has been to expand water service to these communities and to assist existing water utilities with compliance and maintain safe and clean water service.

In addition to the management, finances and governance of the utility, I am what could be called a "*working*" general manager. Much of my day is spent in the field boring and trenching water lines, operating the loader and dump truck or conducting all the routine maintenance on the distribution system. If someone in my community loses water service from some emergency situation in the middle of the night, the emergency call gets forwarded to my house. When that occurs, and it does, I have to wake up my operators and we go out and fix the problem. That means we have to operate the backhoes, dig up the broken lines, get in the trench and repair the break and back-fill and fix the excavation.

Marshall County Water has a similar story to many other rural and small town water supplies. We were started to provide the first water service to rural communities that had limited access to water or marginal well water. In 1972, we were started to supply water to about 800 farms and ranches. My grandfather's ranch was one of those first 800 ranches that got water in 1972. Like many of first 800 users, my grandfather was Choctaw and was granted a small amount of land to farm as part of the 1907 Oklahoma Enabling Act. Before 1972 and the availability of public water service, he and everyone else in rural Marshall County relied on limited well water that contained high concentrations of sulfur for their livelihood. The federal government provided the funding to begin and later expand our water service through low interest loans from the U.S. Department of Agriculture (USDA). This assistance has resulted in a great improvement in public health, quality of life, and economic development in the area. The citizens of Marshall County are grateful for this assistance. But we are currently indebted to USDA for approximately 12 million dollars. Marshall County Water currently needs additional water infrastructure funding. We need three million dollars for a new 15 mile raw water pipeline that will allow us to meet our demand. Marshall County Water is governed by a seven member board of volunteer directors that consist of four farmers/ranchers, a banker, a state government employee, and a preacher.

Like my community, many small and large communities in the country are in need of water infrastructure funding. However, before making recommendations on federal infrastructure funding policies, it should be clear that lack of funding is no excuse for poor governance or management of a public water supply. Much of the national focus on water is currently viewed through the crisis in Flint, Michigan. In that case, there was no call for funding to prevent the specific lead contamination that occurred before it happened. Whoever was in charge of making those decisions in Flint believed the water was going to be safe. That turned out to be wrong, but it was those management and governance decisions that led to the current situation, not any identified lack of funding. No matter how dire our funding situation, we would never knowingly allow for unsafe drinking water to be provided to the public. In the aftermath of the Flint crisis, the public should know that they are the guarantor of the safety of their public

drinking water through their local governments. The public owns and operates their public drinking water supply and is responsible for its safety. Every day, someone who works for your local community is making second-to-second decisions about adding essential purifying chemicals, killing pathogens, watching for changes in complex water delivery systems, and keeping your family's drinking water safe because that is what they want to do. Local government only exists to protect the public and it is the most accountable and representative body to (and of) the public. Flint should serve as a wake-up call for the public to support and participate in their local government and accept responsibility for its operation.

We can't advise Congress on what is the appropriate amount of federal financial aid for water infrastructure in the context of the current federal budget constraints. However, there is currently more demand for federal water infrastructure funding than supply. Much of the demand is created by the financial burden of federal unfunded mandates. In crafting federal water infrastructure funding policy, small and rural communities urge Congress to consider the following four policy principles - and two observations - based on their merit.

First, local communities have an obligation to pay for their water infrastructure and the federal government should only subsidize water infrastructure when the local community can't afford it and there is a compelling federal interest such as public health, compliance or economic development. I mentioned earlier that my community is in need of a three million dollar funding package to build a transmission line. We have been denied a federally subsidized loan because the federal agency determined that we could afford to obtain a commercial loan from a bank and did not need the federal taxpayer to subsidize our water infrastructure. We are currently in the process of obtaining a commercial loan from our local banker to complete the project. This loan will have a 4.9 percent interest rate. We would have preferred a federally subsidized loan with a lower interest rate, but we understand that if we can afford the project on our own, the rest of the county should not subsidize our water system.

Some federal programs like the U.S. Department of Agriculture water infrastructure program contain this needs-based criterion. USDA calls this the "credit elsewhere" criterion. The state revolving loans achieve this principled objective by requiring that federal subsidies be targeted to the communities most in need based on their economic challenges combined with the public health necessity of the project. One of our concerns with the new Water Infrastructure Finance and Innovation Act (WIFIA) is that it lacks any needs-based targeting, credit elsewhere means-testing, or focus on improving public health or compliance. In fact, WIFIA subsidies are limited to communities that have good credit (33 USC § 3907), thus precluding WIFIA subsidies from addressing the country's most needy water problems including Flint, border colonias, and other low-income communities with contaminated drinking water (Appendix A). This year's EPA budget request has a precipitously decreased funding request for the state revolving funds (SRFs) and a substantially increased funding request for the WIFIA program. Could the funding for WIFIA have been dedicated to the SRFs? This analysis answers the question of competition between the two water funding programs. Also, this gives the appearance that limited federal water subsidies are moving from programs targeted to the neediest communities to communities with less need.

Example: *The WIFIA program can only subsidize water projects (including corporately owned water companies) that can "demonstrate an investment-grade rating," (33 USC § 3907). Flint has "no current ratings for the City. Prior ratings were withdrawn as the City's financial position led to consideration of the City being placed into receivership," according to the City's Annual Financial Report 6/30/2015.*

Second, all U.S. Environmental Protection Agency (EPA) water funding programs should be primarily dedicated to compliance with EPA's federal mandates or standards. Currently, the Safe Drinking Water Act and Clean Water Act are creating a tremendous financial burden on small and rural communities. The funds provided by Congress, however, are not consistently applied to communities that are experiencing the greatest burden as a result of federal compliance. Much of the current and acute unfunded mandate burden is a result of the EPA's implementation of their Total Maximum Daily Load (TMDL) program that is causing reductions in wastewater nutrient permit limitations and corollary expensive wastewater treatment plant upgrades. These communities should be a priority in targeting all EPA wastewater funding subsidies, and in many cases they are not.

***Example:** The Lake Onondaga TMDL is estimated to cost the Village of Marcellus, New York over \$5,500,000 for compliance. The Village of Marcellus has 1,300 users and is currently deeply indebted for previous compliance. It is desperately seeking financial assistance from the EPA clean water SRF and has not been able to secure any financial assistance. However, much of the EPA funding has been used for non-compliance related projects - and much of the funding has been for grants. According to the New York state government, from fiscal year 2012 through 2014, the state "used 100% of our authority for additional subsidization to fund grants through our Green Innovation Grant Program." It appears none of these grants were for compliance with federal clean water regulations (Appendix B). It is not clear if any economic needs assessment was used in awarding these grants. EPA clean water SRF funding allowed for a set-aside of not less than 20 percent but not more than 30 percent of the funds to be used for grants. Recent EPA clean water funding grants to New York include \$147,369,000 for fiscal year 2013 and \$154,748,000 for fiscal year 2014.*

Third, a small percentage of water funding programs should be set-aside for technical assistance and training. Small communities often lack the technical and administrative resources to achieve compliance and complete the necessary applications to access the federal funding programs. Providing these small communities with shared technical resources allows small communities access to technical resources that large common communities have and are needed to operate and maintain water infrastructure, comply with standards in the most economical way, and obtain assistance in applying for state revolving loan funds. Often this assistance saves thousands of dollars for the community and keeps the systems in long-term compliance with EPA rules.

Fourth, regarding privatization of water infrastructure and public-private partnerships, NRWA has not opposed water supply privatization in principle. However, corporate water (profit generating companies or companies paying profits to shareholders/investors) should not be eligible for federal taxpayer subsidies. Private companies argue that they have to comply with the same regulations. However, the distinction in mission between public and private is the core principle that should be considered. Public water utilities were and are created to provide for public welfare (the reason why public water continues to expand to underserved and non-profitable populations). Any federal subsidy that is provided to a corporate water utility can't be separated from subsidizing that company's profits.

There is a current misconception among some stakeholders that the SRFs have a limitation on size or scope of a water project and don't leverage federal dollars. States **can** currently leverage a smaller amount of water funding to create a much larger available loan portfolio. In 2012, Oklahoma passed a statewide referendum to create our Water Infrastructure Credit Enhancement Reserve Fund. This fund allows Oklahoma to issue bonds to fund water

and sewer infrastructure by leveraging \$300 million of general obligation bonds to leverage \$3 billion in new financing for water projects. This leveraging is occurring with no federal subsidy. Similarly, states can use their federal SRF grants to leverage larger loan portfolios. According to the U.S. EPA, State SRF programs can increase funds through different types of leveraging such as:

- Using fund assets as collateral to issue tax-exempt revenue bonds;
- Using funds from one SRF program to secure the other SRF program against default through cross-collateralization;
- Using funds from one SRF program to help cure a default in the other SRF program through a short-term cross-investment; and
- Increasing disbursements to incrementally fund multiple projects within a capital improvement plan.

A 2015, Government Accountability Office (GAO) report on the state revolving funds found: *“EPA tracks the amount of additional loans that are made because of leveraged bonds. States’ Clean Water SRF programs have issued approximately \$31.8 billion in loans with leveraged bonds, and states’ Drinking Water SRF programs have made approximately \$5.3 billion in additional loans with leveraged bonds...”* [Source: State Revolving Funds, August 2015 GAO-15-567]

Regarding the misconception some stakeholders are advancing that the SRFs have a limitation on size or scope of a water project, there is no size or scope limitation for water projects under the state revolving funds. According EPA, most SRF funding is allocated to large communities.

- Approximately **72 percent of clean water SRF funding** is awarded to large communities (EPA Clean Water State Revolving Fund Annual Review).
- Approximately **62 percent of drinking water SRF funding** is awarded to large communities (<http://www.epa.gov/ogwdw/dwsrf/nims1/dwcsizes.pdf>).

A simple review of projects funded the SRFs show numerous projects funded that cost over 50 million dollars (Appendix C). It appears that the SRFs are used in every large water project in the country. This assertion should be verified by the EPA. The state of New York lists multiple projects funded by the drinking water SRF that cost over one billion dollars (Appendix C).

Consolidation and Regionalization

Rural Water supports consolidation and regionalization; it has been our core mission in expanding water service to deliver water to more rural families and enhance economic development. We have consolidated/regionalized many smaller communities and extended new water service to many rural families, communities, underserved areas, farms and businesses. This has been a great benefit to these rural households and small communities. However, the key ingredient in any successful consolidation is local support for the consolidation – and local control of when and how they choose consolidation. Rural Water has led or assisted in more communities consolidating their water supplies than any program, policy or organization. Again, when communities believe consolidation will benefit them, they eagerly agree. However, if communities are coerced to consolidate, one can almost guarantee future controversy.

In Marshall County, we have regionalized in a voluntary partnership with three small water systems that had been operating independently. By combining our four water utilities, we have achieved a greater economy of scale and have eliminated some redundancies like each of us having a separate office, board of directors, compliance regimes, financials, etc. People will regionalize if they can see the benefit. Our regionalization efforts have occurred over the last four years with one homeowners association of approximately 200 users and two privately operated small utilities of approximately 400 users each becoming part of Marshall County Water. As part of the transfer of these smaller systems, Marshall County invested 700,000 dollars in new water lines and a new water tower. While there was an initial cost to regionalize, the long-term benefit of an increased economy of scale will result in a cost savings to everyone in the entire water supply.

Local communities need to be planning long-term in making these decisions. By regionalizing our four small water utilities, we are all now in a better situation for the next 20 years. We will be better able to comply with additional regulations, meet the needs of future growth, and have the greatest abundance of shared expertise in our operators and management.

Federal Regulatory Standards

The federal drinking water program can't clearly tell the public the one thing it wants to know -- how much of a substance in drinking water is unsafe? This problem is currently dramatized in Flint with lead, in New England with perfluorooctanoic acid (PFOA), and my community with trihalomethanes (TTHMs). Instead, the federal agencies say the obvious, that no amount of lead in your water is good and they impose a highly convoluted standard of 15 parts per billion on a certain percentage of the homes tested by the city. Is 15 parts per billion safe? Is 15.5 parts per billion unsafe? Should your family feel safe with water at 14.9 parts per billion? The Virginia Tech water group says 5 parts per billion is the level of concern. The World Health Organization says over 10 parts per billion is unsafe. What level of lead in drinking water relates to a commensurate level of lead in the body, and what level of lead in the body results in adverse health effects? This is what the public wants to know. In 2001, when arsenic was the focus of nation's attention, the EPA was asked what level of arsenic in drinking water is a risk to health. They couldn't answer the question, claiming it was a "complex issue."

Last year, Marshall County Water violated the EPA Total Trihalomethanes (TTHMs) regulation. We were required to write a letter to every home telling them we have a federal "health based violation" for a contaminant that may cause "cancer and central nervous problems." The federal standard for this chemical that results from our adding disinfectant to the water to make it safe to drink is 80 parts per billion. Our water had a temporary level of 84 parts per billion. Many interpret this "violation" to mean the water is unsafe, but is four parts per billion the difference between safe water and unsafe water? This is what the public wants to know. Some states have been compelled to issue additional public notices to warn consumers of the EPA mandated warning (Appendix D).

Currently, there are numerous communities in violation of various federal standards for naturally occurring elements in groundwater where the violation is of no public health consequence relative to the standard. Nobody thinks it would be good public health policy to force these families to face extreme financial burden for less than a one part per billion difference of, for example, naturally occurring fluoride in their water.

Drinking Water and Wastewater Regulatory Reform

On October 2, 2015, NRWA forwarded to the EPA a number of federal regulations that could be modified or reformed to improve and enhance federal water regulations for small and rural communities. We are including this memorandum to the EPA and urge your consideration of any of these reforms (Appendix E). An additional issue is attached as an addendum. We hope you can implement modifications to current EPA regulatory policy to improve the national water program, enhance public health and better protect the environment. We look forward to working with you on these suggestions.

In closing, I respectfully urge you to consider the unique needs and concerns facing our rural and small town water and wastewater systems and incorporate these as priorities in future federal water funding programs and policies – and ensure that the neediest communities are prioritized in federal funding initiatives.

Thank you all for your assistance and for this opportunity.



The American Neighborhoods Without Water, Sewers, or Building Codes

Low-income residents bought cheap land outside of border cities decades ago. But the promised infrastructure never came.



A boy in Los Fresnos colonia in Texas (Jessica Rindaldi / Reuters)

ALANA SEMUELS

MAR 3, 2016

MONTANA VISTA, Tex.—No one objected when developers bought up dusty vacant land here in the 1950s and 1960s and turned it into unincorporated subdivisions—areas outside city limits where no one had authority to enforce building standards.

Neither the state nor the county stepped in when the developers turned around and sold that land—making empty promises to later add running water and sewer systems—to low-income immigrants who wanted, more than anything, to own a home of their own. And no one batted an eyelash when low-income landowners in these unincorporated border subdivisions, called colonias, started building homes from scratch without building plans or codes, or when they started adding additions to those homes as their families grew, molding structures together with nails and extension cords and duct tape.

That's because, in Texas, all of these actions were perfectly legal. Texas prides itself on its low taxes and lack of regulation, but it's possible that decades of turning a blind eye to

unregulated building is starting to catch up with the state. Today, around 500,000 people live in 2,294 colonias, and many still lack access to basic services, such as running water or sewer systems. Lots of residents live in dilapidated homes with shoddy plumbing and electrical wiring that they've cobbled together themselves to save money on contractors. And now, they want the state to pay to extend basic services in their homes. Water, for instance, should be a human right in America, they say.

“You have families that live in third world conditions in the state of Texas with a modern city just miles away,” said Veronica Escobar, the County Judge of El Paso, who functions as a county chief executive. “But the state of Texas has essentially put counties in charge of health, safety and welfare, at the same time they give us very limited authority.”

Alejandra Fierra lives with her husband in the Hueco Tanks colonia, where they bought land in 1987. They still don't have access to running water or a sewer system. When her children were growing up, she would pour water from a well into a tub and wash them, one, two, three, in the same water. She does the same for her dishes. She gets a delivery of a 2,500 gallon water tank for bathing and washing, and buys bottled water from Walmart for drinking and cooking.

In Montana Vista, a colonia some 22 miles east of El Paso, the septic tanks of the 2,400 families who live there frequently overflow, creating rivers of sewage in their backyards. In the summer, the smell can be horrific. Tina Silva, a resident and activist, lives here in a spacious one-story adobe house surrounded by a stone wall. She raises chickens and a giant pig in her backyard, where a rusted out car sits, half painted, in the sun. She loves her home and her neighborhood, but she doesn't understand why it has taken so long to put in a sewer system. “We're human beings. We pay taxes. Somebody needs to listen to us,” she says. Various politicians have promised her they'd help get the money to install services, but it's never actually happened, Silva told me.



Tina Silva feeds the chickens in her backyard at Montana Vista (Alana Semuels / The Atlantic)

Part of the problem is that no one wants to take responsibility for paying to install these services. The developers who sold the land promising water and sewers are long gone. And for many the thinking—at least according to Escobar—is that if the homeowners wanted to buy land without access to running water, that's their problem.

It may seem obvious that the homeowners who bought cheap land without access to water and sewers should be responsible for installing access to services. But that isn't realistic either. More than 40 percent of colonia residents live below the poverty line, according to a [2015 report](#) from the Federal Reserve Bank of Dallas. The median household income in colonias is less than \$30,000 per year. And the conditions in the colonias are troubling. There are water and mosquito-borne illnesses, high rates of asthma, lice, and rashes. One doctor *Tribune* that rates of tuberculosis in the colonias are two times the state average and that there is a lingering presence of leprosy.

In 2012, the Texas Department of State Health Services issued a nuisance determination in Montana Vista documenting the health problems the septic tanks were causing, which meant the El Paso Water Utility could receive a grant for more than half of the project costs. In December, the Texas Water Development Board agreed to provide a \$2.8 million grant to El Paso Water Utilities so that the utility could start designing the sewer system. But it will cost an estimated \$33 million to build the system, and that money has not yet been secured. "It's getting there, unfortunately, it's taking a lot of time," said Munzer Alsarraj, the infrastructure program manager for El Paso County.

The state is stepping in to upgrade some of the colonias, too. Between 2006 and 2014, 286 more colonias, were linked to drinking water, drainage, wastewater disposal, paved roads, and legal plats, according to the Federal Reserve report. In 2006, 443 colonias had access to no basic infrastructure, by 2014, that number had dropped to 337. But it's slow going.

It's not easy to install infrastructure in areas that are far from the main water and sewer lines and in places that have grown with no central plan. It was not until 1989 that the Texas legislature even asked state agencies to [come up with rules](#) that would ensure new residential developments had access to water and sewer services. Now, cities can regulate development in Texas, but in unincorporated areas, counties have little regulatory power. Zoning regulations that would limit the size of buildings or of lots in cities don't exist for the colonias. In some instances, the county can't install infrastructure to homes because they're not up to code. Because people building on unincorporated land don't have to follow many rules, there are odd constructions in the colonias, including units that combine two RVs, homes with rooms tacked onto the side standing on cinder blocks, homes with extension cords that run outside, wooden planks as sidewalks. This makeshift construction can lead to roof collapses and electrical fires, said Irene Valenzuela, the interim director of community services for El Paso County.



A home in a Texas colonia consists of a trailer and a house (Eric Gay / AP)

The county is giving grants out to people interested in bringing their homes up to code, but people are often hesitant, she said. “I think the majority of them are afraid,” she said. “They say, ‘This is a takeover. What are you going to ask for next? If you assist me, are you going to take my property away when I pass away?’” Alsarraj, with the county, added.

Then there’s the cost. The county is trying to install sewer lines in the Square Dance colonia. That colonia is located just a few blocks from established subdivisions that are part of the county’s water and sewer system. But the price of adding those services to the colonia’s 264 homes is \$8.5 million. Installing water and sewers in another colonia, called Hillcrest, would cost about \$120,000 per home, Alsarraj said. But the homes are worth just \$20,000 to \$30,000 each.

It’s ironic, too, that the county is trying to extend water and sewers to far-off subdivisions as it also tries to [execute a vision](#) that cuts down on sprawl. “For 30, 40 years, we’ve continued to sprawl out to the edges of the earth and it was costing us more than we were making as a community,” Beto O’Rourke, a U.S. Congressman who led the charge to cut down on new subdivisions, told me.

But El Paso has had little success regulating far flung subdivisions, even when they are incorporated.

Perhaps most worrying to Escobar and others is that [new colonias](#) are still being built across the state. This time around, they have basic water and sewer hookups, but don’t have paved roads or streetlights, according to the Federal Reserve. Plots cost as little as \$25,000, and developers offer 20-year financing at a 12 percent interest rate and just \$500 down, according to [Bloomberg News](#).

It’s proof to Escobar that developers will always be willing to sell substandard plots of land to people desperate to own a home. But she had hoped Texas would step in and regulate. Two sessions ago, the county tried to get permission for zoning authority over 60 square miles near a border crossing south of El Paso. But the state legislature refused to grant it , in part because real-estate agents objected to the bill, said Escobar, the judge. Legislators also didn’t believe that government should trump property rights, she said. But perhaps that’s because they don’t have to deal directly with the after-effects.

“We are having to fix the problems caused by unregulated government,” Escobar said. “There are innumerable examples and costs associated with fixing problems that could have been prevented. There’s just a fundamental belief in Texas—if you own property, you can do what you want with it.”

Like Flint, water in California's Central Valley unsafe, causing health problems

By [Rebekah Sager](#) [Fox News Latino](#)
Published March 08, 2016



(Photo by Justin Sullivan/Getty Images) (2015 GETTY IMAGES)

While the water crisis in [Flint, Michigan](#), made headlines around the country when the city's leaders exposed residents to a tainted water supply for almost two years, families living in the Central Valley of California have been struggling without clean drinking water for decades.

The population of the Central Valley, a basin surrounded by mountains that once offered hope to migrants like the fictional Joads in the “The Grapes of Wrath,” today is about 80 percent Latino, and 92 percent of the migrant farm workers in the Valley are Latino.

There are vast dairy farms reeking of manure, highways lined with fast-food restaurants, liquor stores, prisons and numerous dialysis centers.

Much of fruits and vegetables consumed in the U.S. are grown here, and the soil has been decimated by agricultural activity – overuse of fertilizers and pesticides, manure from livestock. One result is a toxic soup of nitrates in the area's drinking water.

Residents in towns along the San Joaquin Valley rely predominantly on pumps and ground water – which is not effectively regulated for contamination.

When pumped up into people’s homes, the nitrates are so dangerous that people are known to get rashes when they shower. The presence of nitrates in the water supply also has been linked to “blue baby syndrome,” which is caused by the decreased ability of blood to carry oxygen – one of the most common causes is nitrate in drinking water.

People turn to buying five gallon jugs to shower with and using 300-gallon tanks of non-potable water for basic needs.

“Generations of people who live here know not to drink the water,” Susana De Anda, a clean-water advocate and the co-executive director and co-founder of the Community Water Center NGO, told

“People pay more for this ‘toxic water’ – sometimes as much as \$100 a month for water just to shower with. On top of that they’re paying for drinking water,” De Anda said.

According to the Environmental Justice Coalition for Clean Water, rural Central Valley communities pay the highest drinking water rates in the state, with some families shelling out as much as 2 to 6 percent of their income for water that they can’t drink.

According to a [Pacific Institute report](#), nitrate exposure's health impacts in the Central Valley fall disproportionately on poor Latino communities.

Due to the state's severe drought, new wells have to be dug more deeply, demand is high and the cost is between \$1 million and \$2 million dollars.

"The drought actually causes the pollutants in the soil to be more concentrated and levels of contaminants such as nitrates to rise. Also, when deeper wells are dug, and that would be by maybe wealthier farmers, they actually end up syphoning water away from poor communities," Genoveva Islas – program director at Cultiva la Salud ("Cultivate Health"), a non-profit health advocacy organization in the Central Valley – told Fox News Latino. "And it creates a real inequity." Most people in the area live a large distance from the closest big grocery store. Liquor and convenience stores become the default place to buy food and produce, and, all too often, sugary drinks are less expensive than drinking water.

"We're in a food desert. People would buy water in bulk, but big stores are often very far outside of communities, and so families make a tough trade-off. Soda might be more affordable," De Anda said. In addition to other factors, the consumption of soda vs. water is one of the leading reasons for the severe health problems in the Valley. The region has big problems with obesity and the highest rate of Type 2 diabetes in the state.

An analysis of state's death records by the [Fresno Bee](#) and the Center for California Health Care Journalism at the University of Southern California paints a vivid picture of the disproportionate toll diabetes has taken in the Valley.

At least 19 people die from diabetes-related complications in the eight San Joaquin Valley counties every day, the highest rate in the state.

"I've lived here all my life, and not until I was an adult was really aware of dialysis clinics. Now, I have an aunt and a close family friend who are both on dialysis. I'm seeing a number of these [places] pop up. More than ever before," Islas says.

The Central Valley may be the fruit and veggie center of the country, but for poor people healthy food is still significantly more costly than food sold in bulk, such as beans, rice, tortillas, white bread, ground beef and large bottles of soda. Many of the stores in the Valley offer free soda with groceries, and a small bottle of water runs about \$1.69 versus a large soda at .99 cents.

In the last three years, the state has paid to retrofit water filters on drinking fountains in some pockets of schools and daycare centers, and provided filtered bottle stations, where people can fill-up containers. But Islas says it's not universal.

"There's still a lot of marketing of sugary drinks to kids, which in addition to diabetes and obesity, dental health problems. In Flint, the Governor has set aside money for the kids impacted by the lead, but in the Central Valley, we have the same issues of long term health problems for impoverished kids. We use education as a pathway out, but if you're thirsty or you have health concerns, it's pretty hard to learn," Islas says.

The drought in California may be shining a light on the region and its water supply, but the issues in the Valley have been left largely unaddressed.

"All these are interim solutions, but we also need to create water awareness. The water may look clean, but that doesn't make it safe. It shouldn't matter who you are or where you live, clean drinking water is a basic human right," De Anda says.

**New York State Environmental Facilities Corporation
Green Innovation Grant Program (GIGP) Grantees for Federal Fiscal Year 2013**

Albany University Center Expansion Green Infrastructure, install pervious pavement, rain gardens, and a green roof as part of their Campus Center Expansion Project. \$607,847

Broome County Green Stormwater Infrastructure, install pervious pavement, rain gardens, bioretention, and convert an existing stormwater detention pond into a functional stormwater wetland. \$1,008,090

Dutchess Bard College, implement green infrastructure practices that slow the speed of stormwater, clean it, and infiltrate it. \$732,728

Erie Village of Williamsville Spring Street Green Reconstruction, install bioretention, rain gardens, and a green wall as part of the reconstruction of Spring Street. \$799,160

Essex Town of Ticonderoga Stream Daylighting, constructed wetland adjacent to Bicentennial Park. \$539,103

Kings Blumenfeld Development Group Brooklyn Navy Yard, install a green roof above "Building C" in the Brooklyn Navy Yard. \$275,778

Kings Marine Park Seaside Links Rainwater Harvesting, install a rainwater harvesting and reuse system at the Marine Park Golf Course in Brooklyn. \$502,900

Monroe I-Square, support rainwater harvesting and reuse, pervious pavement, rain gardens and green roofs as part of a larger redevelopment project. \$393,000

Monroe Rochester Museum & Science Center, to install a rainwater harvesting system, a green roof, bioretention practices provide a highly visible and educational resource. \$724,374

Nassau Planting Fields Arboretum, redevelopment of the main parking area at Planting Fields Arboretum and State Historic Site using green infrastructure. \$800,000

Oneida City of Rome Capitol Steps, install pervious pavement, stormwater street trees, and bioretention to revitalize the West Dominick Street arts and cultural district. \$230,900

Onondaga Village of Fayetteville, install pervious pavement, rain gardens, bioretention, and stormwater street trees to improve safety for pedestrians and beautify corridors. \$557,100

Rockland Town of Clarkstown, naturalize channelized streams, reconnect their flow to the adjacent regulated wetlands, educational kiosks and a small educational trail. \$1,000,000

Suffolk Suffolk County Community College, install a rainwater harvesting system, pervious pavement, and rain gardens at various locations on campus. \$393,043

Tompkins Taughannock Falls Park Green Infrastructure, installation of pervious pavement as part of a complete renovation of the Taughannock Falls State Park overlook, one of the most visited locations in the region. \$320,000

Ulster County Campus Green Retrofit, install pervious pavement, rain gardens, bioretention areas, and green walls at the recently relocated SUNY Ulster Extension Center. \$439,000

Westchester City of Yonkers Saw Mill River, continue the process of daylighting the Saw Mill River, with dramatic views upon entering downtown from the east. \$1,076,977

SRF Projects Funded Costing Over \$50 Million

Clean Water Financing Proposed Priority System (FY2016)**New Jersey Department of Environmental Protection**

http://www.nj.gov/dep/dwq/pdf/cwf_2016P_cwpl.pdf

CAMDEN CITY	\$58,648,000
CAMDEN COUNTY	\$50,664,000
MIDDLESEX COUNTY	\$363,247,000
JERSEY CITY MUA	\$47,046,000
BAYSHORE RSA	\$5,894,000
PASSAIC VALLEY SC	\$134,646,000
PASSAIC VALLEY SC	\$58,205,000
PASSAIC VALLEY SC	\$60,117,000
BERGEN COUNTY UA	\$54,172,000
PASSAIC VALLEY SC	\$63,223,000
MIDDLESEX COUNTY	\$111,313,000
PASSAIC VALLEY SC	\$132,505,000
PASSAIC VALLEY	\$63,223,000
BELLMAWR BOROUGH	\$66,350,000
EDISON TOWNSHIP	\$55,475,000
CAMDEN RED AGENCY	\$172,309,000
KEARNY TOWN	\$107,557,000
PENNSAUKEN TWNP	\$55,431,000
SAYREVILLE ERA	\$50,664,000

State Revolving Fund for Water Pollution Control Federal Fiscal Year 2016**New York State Department of Environmental Conservation**

<http://www.efc.ny.gov/Default.aspx?tabid=112>

GREENWOOD LAKE, VILLAGE OF	\$62,021,000
SOUTHAMPTON, VILLAGE OF COLL	\$30,552,000
CHEEKTOWAGA, TOWN OF	\$50,000,000
NASSAU COUNTY BAY PARK SEWER	\$50,951,925
NASSAU COUNTY BAY PARK SEWER	\$524,750,000
ONEIDA COUNTY PHASE 2B	\$59,500,000
ONEIDA COUNTY PHASE 5B	\$117,000,000
ONEIDA COUNTY PHASE 6A STP UP	\$110,600,000
SUFFOLK COUNTY SW SD #3	\$88,572,000
SUFFOLK COUNTY RT 25	\$76,230,000
UTICA, CITY OF	\$105,304,000

Projects for New York City

NYCMWFA WARDS ISLAND BRONX	\$64,091,406
NYCMWFA WARDS ISLAND STP REHAB	\$102,655,400
NYCMWFA BOWERY BAY STP MOD	\$50,412,000
NYCMWFA BOWERY BAY STP UP	\$204,301,784
NYCMWFA TALLMAN ISLAND STP UP	\$280,322,476
NYCMWFA JAMAICA STP IMP JA-179	\$57,267,070

NYCMWFA 26TH WARD, BB, TI, WI,	\$93,802,596
NYCMWFA 26TH WARD STP IMP	\$51,101,400
NYCMWFA 26TH WARD STP IMP	\$100,595,678
NYCMWFA NEWTOWN CREEK STP UP	\$45,933,272
NYCMWFA NEWTOWN CREEK STP UP	\$112,331,279
NYCMWFA NEWTOWN CREEK STP UP	\$169,975,528
NYCMWFA NEWTOWN CREEK STP UP	\$140,983,576
NYCMWFA NEWTOWN CREEK STP UP	\$42,212,389
NYCMWFA NEWTOWN CREEK STP UP	\$361,199,252
NYCMWFA NEWTOWN CREEK STP UP	\$589,360,645
NYCMWFA PUMP STATIONS CSO [CSO	\$183,867,577
NYCMWFA CONEY ISLAND CREEK CSO	\$69,107,016
NYCMWFA CONEY ISLAND CREEK CSO	\$48,351,415
NYCMWFA NYC-WATERSHED NPS 319	\$116,225,648

Final Intended Use Plan Drinking Water State Revolving Fund

October 1, 2015- September 30, 2016

<http://www.efc.ny.gov/Default.aspx?tabid=108>

NEW YORK CITY

Croton Filtration Plant (Phase 11 of 16479),	\$1,200,000,000
3rd City tunnel and shafts, crit redund, dist press,	\$470,000,000
Catskill& Delaware UV Disinfection, Treatment Plant	\$1,400,000,000

STATE OF CALIFORNIA, FISCAL YEAR 2015-2016

Clean Water State Revolving Fund Intended Use Plan

www.waterboards.ca.gov/board_info/agendas/2015/jun/060215_8_draft_sfy1516_cwsrf_iup.pdf

Sacramento Regional County Sanitation District Echo Water Project	\$174,380,875
Sacramento Regional County Sanitation District Echo Water Project	\$65,426,778
South Coast Water District Tunnel Stabilization & Sewer Rehabilitation	\$102,560,000
Hi-Desert Water District Wastewater Treatment and Water Reclamation	\$142,349,314
City of Malibu Civic Center Wastewater Treatment & Recycling Facility	\$41,900,000
Santa Margarita Water District Trampas Canyon Recycled Water	\$47,450,000
City of North Valley Regional Recycled Water Program	\$96,617,856
Monterey Regional Water Pollution Control Agency Groundwater	\$82,000,000
Eastern Municipal Water District Recycled Water Supply Optimization	\$114,031,280
Los Angeles, Advanced Water Purification Facility	\$451,000,000
Sacramento Regional County Sanitation District Echo Water Project	\$59,408,652
Sacramento Regional County Sanitation District Echo Water Project	\$711,032,393
City of San Luis Obispo Water Resource Recovery Facility Expansion	\$68,000,000
Ventura County Waterworks District No. 1	\$50,000,000
San Jose, City of Digester and Thickener Facilities	\$86,350,000
Water Replenishment District of Southern California Groundwater	\$80,000,000
Upper San Gabriel Valley Municipal Water District Indirect Reuse	\$65,000,000
Los Angeles, City of Hyperion Treatment Plant Membrane	\$460,000,000
Palmdale Water District Palmdale Regional Groundwater Recharge	\$130,000,000
Sacramento Regional County Sanitation District Echo Water Project	\$484,585,422



ENVIRONMENTAL AND PUBLIC PROTECTION CABINET

Ernie Fletcher
Governor

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Division of Water
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LaJuana S. Wilcher
Secretary

News Release

Contact: Julie Roney
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DRINKING WATER NOTICES NO REASON FOR CONSUMER CONCERN
They reflect careful government standards for water purity

FRANKFORT, Ky. (May 9, 2005) – If you received a notice from your water company about “disinfectant byproducts” in your drinking water, you’re not alone. Thousands of Kentuckians are receiving the notices, which were required under standards set by the U.S. Environmental Protection Agency (EPA).

Recently, many water systems in the state were required to notify customers that maximum contaminant levels (MCLs) for certain disinfectant byproducts (DBPs) had been exceeded. The notices, intended as advisories, included language about potential health effects from consuming water with elevated levels of these substances.

The notifications used specific language and a format dictated by EPA, causing confusion among some consumers.

What it’s all about

To be made safe for drinking, water is disinfected during treatment. Without disinfection, bacteria, viruses and microbes would cause disease and possibly death. Dysentery, cholera and typhoid fever once were constant threats. Public health officials say chlorine treatment of drinking water is one of the most significant public health achievements of the past century.

However, disinfectants such as chlorine, chloramine, chlorine dioxide, ozone and bromine can react with substances that occur naturally in water at its source, such as decaying leaves or other organic matter. The reaction creates DBPs such as trihalomethanes (THMs) or haloacetic acids (HAAs). The EPA determined that long-term exposure to DBPs was potentially cancer-causing and thus set maximum contaminant levels (MCLs) for water systems to meet. The standards were set cautiously and conservatively.

The MCL for THMs was set in 1970 and revised in 1998; the new rule also added monitoring for HAAs. The new rules became effective for all surface and groundwater systems on Jan. 1, 2004, regardless of population size. Water systems are required to monitor for THMs and HAAs every three months. At the end of 2004, quarterly monitoring was

-more-

DRINKING WATER NOTICES NO REASON FOR CONSUMER CONCERN – page 2

averaged and compared with the MCL. If the running annual average showed the level to be over that set by EPA, a water system was to examine its treatment techniques to get into compliance. It also was to notify the public of its monitoring results. Those averages and notifications became available in March.

Eight percent of large water systems – systems that served more than 10,000 people and treated surface water – were out of compliance in 2004, down from 37 percent in 2002. Most are taking further steps to control THM and HAA.

Smaller surface water systems and all groundwater systems began to comply with lower limits in 2004. As this was the first time that these smaller surface water systems monitored for THMs and HAAs, some had not changed their treatment processes enough to lower these levels and thus were out of compliance at the end of 2004. Of the approximately 208 groundwater systems and 103 small surface water systems, none of the groundwater systems exceeded the new MCL and 25 percent of the surface water systems did exceed them. That 25 percent was required to notify the public for the first time about this new monitoring. Those small surface water systems are now examining their treatment processes and preparing to make the changes necessary to return to compliance.

The health effects of DBPs are unclear. Some studies have shown no problems. Others have indicated a slightly higher incidence of bladder and colon cancer in areas where drinking water has been chlorinated. Though the science is uncertain, EPA has taken precautions by establishing MCLs. To experience health effects from water with elevated DBP levels, a person would have to drink two liters daily for 70 years of water containing elevated levels of these substances. Risks from not disinfecting are immediate, however.

For information about DBPs, contact the Drinking Water Hotline, 1-800-426-4791, or see these Web sites:

<http://www.epa.gov/safewater/hfacts.html>. Click on Disinfection Byproducts.

<http://www.epa.gov/safewater/mcl.html>. Scroll down to Disinfection Byproducts.

<http://www.epa.gov/safewater/pws/pn/handbook.pdf>. This site contains the handbook that tells how water systems are to notify their customers and exactly what language they must use.

Check out EPA's Safewater site, <http://www.epa.gov/safewater/>, for more information. Also see information on disinfection byproducts on the Kentucky Division of Water's Drinking Water Web site at

<http://www.water.ky.gov/dw/profi/tips/Disinfection+Byproducts.htm>.

What's being done and what consumers can do

Water systems, with assistance from DOW when needed, will be adjusting treatment processes. Customers of water systems that sent notices need not switch to bottled water. THMs dissipate readily from water. THMS and HAAs both are removed when water is heated, such as for making coffee or tea.

For cold drinking water, or in making beverages with cold water, allowing the water container to sit uncovered at room temperature for several hours before refrigeration will allow much of the THM concentration to dissipate.

People with special health needs or concerns should contact their physicians for additional precautions.



TO: **Deputy Assistant Administrator Ken Kopocis, Office of Water**
CC: Senate Subcommittee on Fisheries, Water, and Wildlife
Senate Subcommittee on Regulatory Affairs and Federal Management
House of Representatives Subcommittee on Energy and Environment
House of Representatives Subcommittee on Government Operations
FROM: NRWA Regulatory Committee
DATE: October 2, 2015
RE: Water Policy for the National Water Safety and Quality Programs

The National Rural Water Association (NRWA) is the non-profit association of the federated state rural water associations with a combined membership of over 30,000 small and rural communities. NRWA is the country's largest water utility association and the largest community-based environmental organization. Our state rural water associations are non-profit associations governed by board members elected from the membership.

We appreciate the agency's effort to improve and enhance federal water regulations to be reasonable for small and rural communities.

Our member utilities have the very important public responsibility of complying with all applicable U.S. Environmental Protection Agency (EPA) regulations and for supplying the public with safe drinking water and sanitation every second of every day. Most U.S. water utilities are small; 94% of the country's 51,651 drinking water supplies serve communities with fewer than 10,000 persons, and 80% of the country's 16,255 wastewater supplies serve fewer than 10,000 persons. Small and rural communities often have difficulty providing safe, affordable drinking water and sanitation due to limited economies of scale and lack of technical expertise. Similarly, when it comes to providing safe water and compliance with federal standards, small and rural communities have a difficult time due to their limited customer base. This is compounded by the fact that small and rural communities often have lower median household incomes and higher water rates compared to larger communities. As a result, the cost of compliance is often dramatically higher per household.

NRWA's Regulatory Committee (members attached) is chartered to make policy recommendations to the entire association. Over the past year, the Committee has identified a number of policy improvements to the national drinking water program that have been approved and adopted by NRWA. The purpose of this memorandum is to identify the policy recommendations that could be implemented by EPA under the

agency's executive authority (i.e. without a change in federal water statutes) and urge you to adopt these policies to improve the national water safety and quality programs. We believe certain current EPA policies are unnecessarily alarming the public regarding the safety of its drinking water, are causing the public to unnecessarily avoid public drinking water, and are unnecessarily costly for the public. We hope you can implement modifications to current EPA regulatory policy to improve the national water program, enhance public health and better protect the environment. We look forward to working with you on these suggestions.

NRWA Water Policy Recommendations

Senator Wicker Tier 2 Public Notification Issues: The Senator's June 11, 2015 letter to you inquires if any Tier 2 public notices (PN) should be eligible for e-reporting or annual notice (similar to Tier 3 PNs). Your July 29, 2015, response to Senator Wicker did not answer this question. NRWA urges the agency to consider reclassifying disinfection by-products (DBPs) MCL violations as Tier 3 public notices or allow for e-reporting of the current DBP Tier 2 public notices. For fiscal year 2014, EPA lists 2,135 maximum contaminant level (MCL) violations of DBPs standards: 477 of those exceedances include no recorded level; 110 of the 416 violations for the haloacetic acids standards (HAA5) are for exceedances equal to or less than 5 parts per billion (PPB); and 174 of the total 1,252 violations for total trihalomethanes standards (TTHMs) are for violations equal to or less than 5 PPB. It is our understanding this category of DBP violations requires Tier 2 PN (direct mailing of the violation to consumers with mandated alarming language specified by EPA) which often results in alarming the public to the point they are afraid to drink the water. For example, after a DBP violation of one-half of a part per million, the local news station in Menominee, Michigan (WFRV, 4/3/2015) reported, *"Residents in Menominee, Michigan are Questioning the Safety of their Drinking Water... Last week, [a consumer] got a notice in the mail saying the Menominee city water system recently violated a drinking water standard. The supply tested high for trihalomethane, a disinfection by-product. 'It was kind of a slap in the face when I got this and I thought, here I'm paying for a commodity and I'm not really sure that it's safe,' explained [the consumer]. 'I don't think I'm the only one in the city that feels that way... I'm actually looking into getting a whole house water filtration system,' she added. 'I don't trust our water anymore...'"* What the public wants to know most is whether there is a public health significance difference between 60 parts per billion and 65 parts per billion of THMs occurring in their water. Some states have been compelled to issue additional public notices to warn consumers of the EPA mandated warnings (Kentucky Department for Environmental Protection, May 9, 2005). The EPA reply to Senator Wicker also states that the Safe Drinking Water Act (SDWA) does not allow for consideration of *de minimis* public health risks above the MCLs. Regarding this conclusion, we urge the agency to review SDWA variance and exemptions sections that authorize the exceedance of MCLs under certain circumstances and only if the exceedance "will not result in an unreasonable risk to health." Senator Wicker's letter clearly raises this concern.

De Minimis Violations and EPA Enforcement Policy: The agency is implementing a new approach for enforcement targeting under the SDWA for public water systems. According to EPA, *"The new approach includes a revised Enforcement Response Policy (ERP) and new Enforcement Targeting Tool (ETT), designed to identify public water systems with violations that rise to a level of significant noncompliance by focusing on those systems with health-based violations and those that show a history of violations across multiple rules... This system-based approach uses a tool that enables the prioritization of public water systems by assigning each violation a 'weight' or number of points based on the assigned threat to public health. Points for each violation at a water system are added together to provide a total score for that water system. Water systems whose scores exceed 11 are considered a priority system for enforcement."* A simple analysis of some of the "worst" violators shows no correlation to severity of violation and public health threats. For example, Virginia's ETT database lists small communities with some of the highest or worst ETT scores in the country:

Public Water System Name	ETT Score	Pop.	On Path to Compliance?	SDWIS
HOBSON ARTESIAN	100	70	Not on Path	Fluoride 4.7 PPM
RESCUE WATERWORKS	99	203	Not on Path	Fluoride 4.4 PPM
BIRDSONG WATER COMPANY	97	71	Not on Path	Fluoride 5.3 PPM
WILLING WORKERS CLUB	59	31	Not on Path	Fluoride 4.1 PPM
CAPTAINS COVE SUBDIVISION	47	840	Not on Path	Arsenic 13 PPM
HOLLAND SUBDIVISION	37	405	Not on Path	No record
SPRINGFIELD DOWNS	36	120	Not on Path	Fluoride 5 PPM
LONGVIEW ACRES	36	168	Not on Path	Fluoride 4.9 PPM
CHERRY GROVE ACRES	36	108	Not on Path	Fluoride 4.8 PPM
BARREN SPRINGS WATER	33	146	Not on Path	Monitoring
MARSH RUN MOBILE HOME	31	1128	Not on Path	Arsenic 11 PPM
SHENANDOAH UTILITY	30	55	Not on Path	Monitoring
CRICKET HILL APARTMENTS	27	88	Not on Path	Monitoring

We urge the agency to modify its enforcement policy to better correlate for threats to public health, target technical assistance, acknowledge the limitation of funding for disadvantaged communities, and consider *de minimis* risks to public health. One of the "worst" violators of the SDWA (i.e. highest ETT score) is Rescue Waterworks in Virginia whose water has less than one-half a part per million of fluoride, a naturally occurring element in groundwater, above the MCL. Enforcement is not the appropriate approach to small communities in non-compliance that simply don't have the resources to afford compliance and have a violation of questionable health concerns. None of the non-compliance is a result of disregard for the rules; it is always a result of lack of resources. This can be especially acute in economically disadvantaged communities, when compliance is very costly, or when the violation is not actually related to public health. Most all SDWA violations that EPA identifies as "health based" are for naturally occurring substances, for total coliform which EPA no longer considers a violation or health threat, or a result of disinfecting the water. For fiscal year 2014, EPA lists 9,906 total health based violations: 2,648 violations are for total coliform (TCR); 1,176 violations are for the

arsenic rule, 297 of which are for an exceedance equal to or less than 2 parts per billion (PPB); 232 violations are for the fluoride rule, 221 of which are for an exceedance equal to or less than 2 parts per million (PPM); 331 violations are for the gross alpha standard, 204 of which are for an exceedance equal to or less than 10 pCi/L; 428 violations are for radium 226/228, 206 of which are for an exceedance equal to or less than 2 pCi/L; 262 violations are for the uranium standard, 58 of which are for an exceedance equal to or less than 10 picocuries per Liter (pCi/L); and 2,135 violations are for disinfection by-products standards, many of which are only slightly above the MCLs. Any modification in enforcement policy should include a workable variance policy.

Total Organic Carbon (TOC): One of the more frustrating requirements to operators of surface water treatment plants is the total organic carbon (TOC) percentage removal requirement. Compliance with this requirement is not only uncertain, but the costs of monitoring, reporting, and public notice are substantial. And then there is the public's reaction to the public notice for a rule violation that is not related to adverse health effects. Analysis conducted by the Kansas Rural Water Association finds that the level of precursors, that is organics as measured by TOC, is not an appropriate compliance surrogate. There are treatment plants that meet the THM and HAA MCLs but do not meet the TOC percentage reduction requirement. There are also treatment plants that do not meet these MCLs but do meet the TOC percentage reduction requirement. So there is not necessarily a correlation between MCL compliance and meeting the TOC percentage reduction requirement. Also, Kansas Rural Water Association found there are many situations where a treatment plant will have both a higher TOC concentration and lower THMs and HAAs in the drinking water than another plant source that has lower TOC concentrations and higher THMs and HAAs. We urge the agency to modify the rule to allow for TOC to be an operations measure but not a compliance indicator.

This issue of correlation, along with the concern about regulating a substance that has not been identified as a public health risk according to the Safe Drinking Water Act (1414(b)(i)), was initially raised by Senator Inhofe (Comments to EPA, 9/7/2005). Reform of the current public notice requirement for TOC violations would likely result in the public receiving more accurate information on the safety of their water. Consider the example of the City of Atchison, Kansas, where a TOC violation public notice motivated consumers to find alternatives to the public water and inspired the following comment from a consumer, *"The Atchison water system is kind of notorious for not being the best, so this is our effort to bring healthier solutions to the school."* (The Circuit, 2/10/2012)

Point of Use (POU) Technology: The federal standards promulgated under the SDWA are contingent upon feasible technology identified by the agency available to achieve compliance (§1412(b)(4)(E), *"Each national primary drinking water regulation which establishes a maximum contaminant level shall list the technology, treatment techniques, and other means which the Administrator finds to be feasible for purposes of meeting such maximum contaminant level, but a regulation under this subsection shall not require that any specified technology, treatment technique, or other means be used for purposes of meeting such maximum contaminant level."* Under §1412(b)(4)(E)(ii) of the SDWA, Congress determined that point of use (POU) technology does achieve compliance with federal standards, *"The Administrator shall include in the list any technology, treatment technique, or other means that is affordable, as determined by the*

Administrator in consultation with the States, for small public water systems... and that achieves compliance with the maximum contaminant level or treatment technique, including packaged or modular systems and point-of-entry or point-use treatment units."

Contrary to the SDWA, some states prohibit, discourage or will not approve the use of POU technology for compliance with federal standards. We urge the agency to provide a "safe harbor" from enforcement of federal standards for any public water system not provided all the available compliance options in the SDWA including POU technology. Furthermore, we urge the agency to make this a primacy requirement for states requesting primacy.

Public Sensitive Water Utility to the Internet: NRWA supports the May 26, 2015, Association of Metropolitan Water Agencies' (AMWA) letter to you regarding the "concerns about EPA making water treatment plant location data more readily available for public access via the internet." Similar to AMWA's position, NRWA is concerned about the posting of information on the internet that could increase risk to water utilities because it conveys a message that the information is not sensitive and that protecting it is not necessary.

Source Water Protection: In response to recent crises such as Charleston, West Virginia, we urge the agency to adopt new initiatives to enhance source water protection that allow for some immediate protection and do not require any grand spending program or any expansion of federal unfunded mandates. This suggestion relies on the advancement of information technologies to educate and empower the public to protect their own resources. In a novel governmental experiment a few years ago, Congress provided a small package of funding to the state agencies that protect ground water to design and publish on the internet a public disclosure database of all chemicals used in hydraulic fracturing events. This experiment proved to be widely successful. As it was created by the states, it was more accountable to state priorities and supported by local governments. For a small federal investment, this data-system could begin to publicly disclose all watersheds, all potential threats within those watersheds, the list of all communities that have adopted protection plans, copies of each protection plan, and a grading system for communities taking action. Communities could populate the data-system with their localized information. All of this would provide direct access to environmental data, governmental response information, and governmental accountability to the public. In addition, it would create a climate of peer pressure or polite competition for communities to highlight their initiatives. We can all agree that every city and state thinks it is doing the best job, and this system would allow the public to make sure their claims are accurate. Large communities and states would likely have the resources to complete plans and showcase their successes. Additional technical assistance could be provided to assist smaller communities that lack technical resources; 94% of community drinking water systems serve a population of fewer than 10,000 people.

Cyber Security Implementation in Water Utilities: Based on recommendations from the Department of Homeland Security (DHS - Sophisticated Cyber Threat Actors Target Industrial Control Systems), NRWA has been promoting that water systems should: isolate ICS networks from the internet, minimize network exposure for all control systems

devices, locate control system networks and devices behind firewalls, isolate control systems from the business network, employ secure methods such as Virtual Private Networks, remove, disable, or rename any default system accounts wherever possible, and implement account lockout policies in the coming weeks. We urge you to initiate a partnership with small and rural communities to secure the country's drinking water and sanitation supplies from cyber attacks. By collaborating with the water sector and utilizing the existing network that water supplies rely on for security initiatives and education, the Cybersecurity Framework could: (1) rapidly assess each water supply's efficacy in protecting its cyber infrastructure, (2) develop reasonable protocols to enhance protection, (3) provide assistance to any inadequate cyber protection plan, and (4) document the state of cyber-protection in all water supplies. Upon adoption/completion of a cybersecurity plan, each community will have a documented security plan that could be verified and open to review as appropriate. Federal, state and local authorities could easily track which communities have taken the initiative to secure their cyber infrastructure. The contents of each plan could be combined with each community's vulnerability assessment and emergency response plans. Local support and responsibility is essential to ensure security protection because only local experts can identify the most vulnerable elements in the community and detect immediate threats. A national collaboration on water cybersecurity should result in communities enthusiastically focusing on enhancing local security based on local risks.

The existing Risk Based Data Management System (RBDMS)/FracFocus information system should be used to launch this effort for a water "CyberFocus" for the water sector to make all water utility cyber-plans available to the public, continually updated, and quantifiable. DHS' Sophisticated Cyber Threat Actors Target Industrial Control Systems would be the foundation of the water utility cyber-security plans. Any additional data could be collected and shared with the feds for their analysis similar to what RBDMS is currently sharing with the Department of Energy for energy analysis.

Unregulated Contaminant Monitoring: Small and rural communities have been frustrated by the confusion that has resulted from EPA's requirement to list monitoring reports from their Unregulated Contaminant Monitoring (UCMRs) in their Consumer Confidence Reports (CCRs). We urge the agency to allow public water systems to make UCMR results publicly available (online) but not part of the consumer confidence reports. To put this request in context, all 70 PWSs sampled to date in South Carolina during UCMR3 had UCMR detections and thus require public notification. Many of these systems had detects found in each sample at every sampling point triggering numerous notifications, thus creating a lengthy CCR regardless of the absence of violations in their routine monitoring and operations. Specific to strontium, 68 of the 70 systems sampled had detects of strontium at a range of .31–1400 ug/L. Therefore no systems detected strontium under UCMR 3 at concentrations above the current HRL of 1500 ug/L. However, all of these systems were required to report strontium detects on their CCR. The following is excerpted from the statement that was submitted by Charles Gray of the Chesterfield County Rural Water (South Carolina) for consideration during the recent UCMR forum in June, 2014, *"We found positive detects for the following substances: Hexavalent Chromium (.058 – 1.0 ug/l), 1,4 Dioxane (0.123 – 0.589 ug/l), Strontium (12 – 47 ug/l), Vanadium (0.12 - 0.45 ug/l), Chlorate (100 – 130 ug/l) and 1, 1 Dichloroethane (38 – 38 ug/l)... These are, by definition, unregulated elements and/or*

compounds found in water samples. The term "contaminant" has a negative connotation for customers, when another, less alarming and more accurate term could be used if a utility is going to be required to report findings... It is unclear and apparently undefined as to the concentration of the elements or compounds that may cause some detrimental impact on public health. As such, it seems reporting these findings without clear determination of what accepted levels are considered unsafe concentrations is premature and unwarranted. It also leaves the public without the information they most want to know; what levels of these substances are safe or not safe. We don't think EPA should override the locally preferred public disclosure policy without providing this basic information to the public... Consumer Confidence Reports are intended to inform the public about the safety of their drinking water and system operation. A system can have flawless performance and meet all the guidelines of the Safe Drinking Water Act (SDWA), and yet have "hits" on unregulated contaminants and appear to consumers that issues exist with system operations... Does the SDWA mandate that unregulated contaminants be reported in CCRs? If not, why was this required? If this reporting is not required by EPA, water utilities should be allowed to publicly disclose the information in a manner more reflective of public health relevance."

Regulation of Storage Tanks: EPA is proposing new regulations for "Finished Water Storage Facility Inspection Requirements Addendum to the Revised Total Coliform Rule" (a.k.a. Inspection of Finished Drinking Water Storage Facilities NPDWR, Docket No.: EPA-HQ-OW-2008-0878). According to the agency, *"EPA is planning to propose an addendum to the Revised Total Coliform Rule (RTCR) to strengthen public health protection by including finished water storage facility inspection (SFI) requirements. In the preamble to the July 2010 proposed RTCR (75 FR 40926)."* NRW urges the agency to withdraw this proposal for the following reasons: First, a uniform regulation for tanks will result in unintended consequences and unnecessary requirements in some communities and discourage local officials from staying vigilant for threats unique to their storage and distribution system. Encouraging local governments to be vigilant in monitoring their systems would be more effective because each community's threats/vulnerabilities are unique. Second, the SDWA does not authorize such a rule; it authorizes rules such as National Primary Drinking Water Regulations (NPDWRs) only after a finding of contamination, not for prevention of contamination unless explicitly authorized like the Surface Water Treatment Rule or Groundwater Rule. Third, many tanks don't need consultant-type inspections. Local education and technical assistance would be more cost effective, locally supported, and protective. Finally, NRW's representative of the Federal Advisory Committee reviewing the Revised Total Coliform Rule (RTCR), David Baird, commented that this proposal *"violates the agreement in principle that NRW and EPA negotiated and agreed to implement... Tank inspections are addressed by the systems as part of sanitary surveys and routine system operation and maintenance. The RTCR was specifically designed so that when there was a positive coliform hit, the system would need to investigate (through a self assessment) and not just rely on up and downstream samples as was the case under the old rule. Ultimately, the systems would investigate potential sources of the positive hit based on the design and operation of their individual systems. This was considered to be an improvement over the old rule, because systems had to look for the source of positive hit. It was up to the water system as to how they conducted the assessment."*

This proposed action by is moving into the territory of a 'Distribution Rule.' At the beginning of the RTCR process, EPA presented information as to why a Distribution Rule should be developed as part of the RTCR. The RTCR committee clearly rejected any Distribution Rule component. EPA attempted to bring this up during the 2 years of FACA meetings and the committee continued to oppose."

Watershed Pollution Trading Policy: Most all small communities comply with modified National Pollution Discharge Elimination System (NPDES) permits influenced by EPA's Total Maximum Daily Load TMDL program without ever considering a trading component that could be more environmentally beneficial and more economical (most all of these small communities are not aware of the trading option - and most states don't encourage trading). There is currently no successful effort, incentive, or locally available triggering authority to allow for a trading option or even trading consideration to occur. Legal challenges in federal/state court by small communities to allow for trading compliance schemes are not possible in these situations because small communities can't afford the legal costs, don't know it is possible, and don't understand that process.

As more TMDLs and state nutrient plans are implemented, we expect to see more communities adversely impacted that could benefit from the trading option. This concept also applies to recent agency initiatives to reduce nutrient pollution in addition to NPDES compliance such as initiatives emanating from the recent Toledo, Ohio crisis. A number of our members within the Chesapeake Bay TMDL are interested in a trading option that would expand local digester capacity to treat more agriculture and dairy livestock waste and convert the waste to renewable energy and benign solids. Such a proposal would reduce nutrients to the Chesapeake Bay more than the prescribed reductions in their point-source effluent for less cost (the bulk of the nutrient pollution in the waters is coming from the farms not the cities). However, there is no available process for these communities to adopt such an innovative compliance alternative. One municipality (Cortland, New York) wants to increase the capacity of their digester and consider changing the location so that it could treat animal waste from the surrounding farms at no cost to the farmers (some of whom have non-working digesters or land-applying manure). The resulting energy could pay for the transportation of the animal manure.

We urge the agency to adopt a new trading policy to allow for some type of third part certification (i.e. conservation districts) to authorize, calculate, or propose trading schemes. This would assist small communities and state agencies by removing the administrative burden of proposing trading programs. Additionally, every community facing more stringent NPDES compliance due to TMDLs should be provided an opportunity to propose a trading compliance option before an enforcement action is taken.

Affordability and Environmental Justice: In order to prohibit small communities from utilizing economical treatment options (so-called small system variance technologies) under the Safe Drinking Water Act – the EPA must make a finding that their rules are "affordable" [(42 U.S.C. 300g-1(b)(15)(A)]. To determine affordability, EPA adopted a policy that families can afford annual water rates of 2.5% of median household income (MHI). NRWAs has commented to EPA that the use of MHI computed as a national

aggregate as the sole metric for determining affordability has many problems and should be revised to be reasonable for small communities and allow access to affordable compliance treatment options. After a Congressional directed review, EPA concluded the following in March, 2006, "Some stakeholders have argued that the current criteria are too stringent and fail to recognize situations in which a significant minority of systems within a size category may find a regulation unaffordable. After seven years of experience with the current criteria, EPA agrees it is time to consider refinements to address the situations of communities with below average incomes or above average drinking water and treatment costs (FR p.10671 – March, 2007)." EPA has not finalized a new policy after making this declaration in 2006. EPA has stated that the purpose of their affordability determination is to "look across all the households in a given size category of systems and determine what is affordable to the typical, or middle of the road household" [Federal Register (Jan. 22, 2001) 6975- 7066]. EPA's MHI standard does not consider the quantity, concentration, rural demographics, and financial abilities of low-income families or disadvantaged populations to afford the rule as required by the Agency's Environmental Justice policy [Executive Order 12898].

Lead and Copper Rule Revisions: We appreciate the invitation from EPA for John Sasur of Three Rivers Fire District, Massachusetts to represent small and rural communities on the National Drinking Water Advisory Council Lead and Copper Rule (LCR) Working Group. NRWA's priority issue in any new LCR is an alternative to in-home consumer monitoring. The current in-home monitoring is problematic (unworkable, unreliable, error-prone, and not an indicator of contamination) and needs to be replaced with a new scheme.

Thank you for your consideration of our concerns. Please contact NRWA staff member, Mike Keegan <keegan@ruralwater.org> with any questions.

Sincerely, NRWA Regulatory Committee



John O'Connell (Chair)
City of Cortland Wastewater Treatment,
New York



Jim Mackie
Willingboro Municipal Utilities Authority,
New Jersey



George Crum
Pennsylvania Rural Water Association



Bob Freudenthal
Tennessee Association of Utility Districts



Gary Williams
Florida Rural Water Association



George Hanson
Chesapeake Ranch Water Company,
Maryland



Jill Miller
South Carolina Rural Water Association



Wilmer Melton
City of Kannapolis, North Carolina



John Sasur
Three Rivers Fire District,
Massachusetts



Earl McKinney
Wyoming Association of Rural Water

Daniel Wilson
North Carolina Rural Water Association

Addendum (March 17, 2016)

Emergency Generators and Peak Shaving Program: The 2010 National Emission Standards for Hazardous Air Pollutants for Reciprocating Internal Combustion Engines (“RICE NESHAP”) specified that small emergency electric generating units used for peak shaving must meet the emission standards for non-emergency engines. An emergency generator that is compliant with the new rule (tier 4 generator) is double the cost of the status quo generators (tier 3 generator). For example, a tier 3--150 kilowatt generator costs approximately \$50,000 and a tier 4 unit of similar size costs around \$100,000.

The EPA found that the operation for peak shaving does not come under the definition of emergency use as it is designed to increase capacity in the system rather than responding to an emergency situation such as a blackout or imminent brownout. The rule allows for emergency units to operate up to 100 hours-per-year or more for testing, maintenance, etc., including 50 hours-per-year for non-emergency situations – but specifically not for peak-shaving purposes. Peak shaving programs involve minimal hours of operation, thereby having the potential not to add to the allowed 100 annual hours of operation contained in the rules. Therefore, continuing the use of peak shaving programs would not cause additional public health risks or environmental harm beyond those already contemplated in the final rule.

According to the National Rural Electric Cooperative Association (NRECA), *“Elimination of peak-shaving programs, however, would require the procurement of additional central station capacity and potentially the addition of transmission and distribution line capacity to service the demand increase. While peak-shaving programs do not generate income for the distribution cooperative, they do produce economic benefits by reducing the level of demand on their electric power suppliers, resulting in reduced demand costs. These reduced costs, in turn, are shared with the owners of these small emergency generating units that participate in peak shaving programs: a win-win arrangement that helps hold down power costs for the owners of these units, as well as for the cooperatives other consumer-owners.”*

In light of the minimal environmental effects and significant benefit from having these small stationary emergency units available, the restriction of the operation of these emergency units for peak-shaving and demand reduction programs should be eliminated. This change would not result in any additional run-time above the 100 hours of operation that is already provided for in the rule.



**American Water Works
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The Federal Role in Keeping Water and Wastewater Infrastructure Affordable

**Presented by
Aurel Arndt
Chair, Water Utility Council
American Water Works Association**

**Before the Senate Committee on Environment and Public Works
April 7, 2016**

Good morning, Chairman Inhofe, Ranking Member Boxer and members of the committee. My name is Aurel Arndt, and I am chair of the Water Utility Council of the American Water Works Association. Established in 1881, the American Water Works Association is the largest nonprofit, scientific and educational association dedicated to managing and treating water, the world's most important resource. With approximately 50,000 members, AWWA provides solutions to improve public health, protect the environment, strengthen the economy and enhance our quality of life.

AWWA deeply appreciates this opportunity to offer input on the critical issue the subcommittee is addressing today: water infrastructure financing and innovative tools to meet national and local needs.

As for my background, I recently retired as CEO of the Lehigh County Authority based in Allentown, Pennsylvania. Lehigh County Authority is a municipal utility providing high-quality, affordable and reliable water and sewer service to more than 50,000 customers in Lehigh County and Northampton counties. I worked for the Lehigh County Authority for more than 40 years, and served as CFO for 27 years during my employment there. Throughout my career, which includes service on the Executive Board of the Government Finance Officers Association, then the board of the Pennsylvania Infrastructure Investment Authority (PennVest), and now on the Water Utility Council of AWWA, I have focused my efforts and interest on water infrastructure finance. I am here today representing AWWA and its members across the United States.

Water infrastructure is vital to our nation's well-being for a variety of reasons. Most obviously, water infrastructure protects public health and the environment, supports local economies, protects us from fires, and brings us a better quality of life. Moreover, the US Department of

Commerce Bureau of Economic Analysis (BEA) estimates that for every dollar spent on water infrastructure, about \$2.62 is generated in the private economy. And for every job added in the water workforce, the BEA estimates 3.68 jobs are added to the national economy.

The recent events in Flint, Michigan, have highlighted how vital it is to operate, maintain and reinvest in our nation's water infrastructure.

Back in 2012, AWWA released a report titled, "Buried No Longer: Confronting America's Water Infrastructure Challenge," which revealed that restoring existing water systems as they reach the end of their useful lives and expanding them to serve a growing population will cost at least \$1 trillion over the next 25 years. Please note that this \$1 trillion is only for buried drinking water assets. Above-ground facilities, waste water, storm water, and other water-related investment needs are at least as large, and must be added to reflect the true magnitude of the water investment needs before our country. I am providing copies of that report to members of the committee. We are currently working on a similar report that will provide an estimate for wastewater infrastructure wastewater needs.

AWWA has a long-standing policy that communities are best served by water utilities that are self-sustaining through local rates and charges. However, the current sources of funding are woefully inadequate to finance our future water infrastructure needs, leading to the difficult question of how to do that.

Often a large investment in infrastructure is required that is too large to be accommodated affordably in a short time frame only through those local rates and charges. These larger investments are often driven by the critical, large-scale need to replace or upgrade a treatment plant or a pipe network that has reached the end of its lifespan or also when new drinking water regulations require new facilities and those costs are super imposed on communities where water charges and other utility and tax rates are nearly or already beyond the means of the community and its residents. Often, a large amount of a utility's operating costs are dedicated to debt service. Reducing the cost of these necessary expenditures through a variety of financial mechanisms which lower the cost of debt service should be the goal of all responsible water utility administrators and elected officials.

AWWA has long supported the adoption and use of a multi-faceted toolbox of water infrastructure finance tools to address the widely varied water infrastructure investment challenges that water systems face currently and in the the future. In addition to preserving and growing the existing sources of capital, other finance tools must be identified, developed, implemented and applied to fulfill our responsibility to the water ratepayers and consumers across the country. Clearly the federal government has a significant role in maximizing the availability and value of some of these tools, including tax-exempt municipal bonds, the Water Infrastructure Finance and Innovation Act (WIFIA) program, state revolving loan funds (SRFs) and private activity bonds. Remember that municipal bonds, WIFIA loans and private activity bonds are fully repaid through those local rates and charges. SRF loans are generally repaid the same way, but do offer features such as principal forgiveness and negative-interest loans to assist more financially challenged communities.

Primarily, we need to expand the available amount of water infrastructure capital and minimize its cost. Effectively, the result will be significant acceleration of needed water infrastructure investment and making it more affordable for utilities and their customers. Lowering the cost of infrastructure investment pays dividends in other ways as well. Most fundamentally, it makes it possible to do more with less, that is, to rebuild more infrastructure at the same or at a lower total cost.

Tax-Exempt Municipal Bonds

Tax-exempt municipal bonds have been an invaluable tool for water utilities, and at least 70% of U.S. utilities rely on them to some degree. They provide lower interest rates than commercial bonds and provide relatively quick access to capital. They are often the core funding source to finance many water infrastructure projects.

The lower the interest rate on such bonds, even by just a few percentage points in a multi-million dollar loan can amount to significant reduction in the cost impact of an infrastructure project to ratepayers. For example, lowering the cost of borrowing by 2.5 percent on a 30-year loan reduces the lifetime project costs by almost 26 percent, the same result as a 26-percent grant.

We know that in the current fiscal climate, all tax issues are on the table here in Washington. One of those may be the degree to which higher-income earners can utilize the tax-exempt features of municipal bonds. On the surface, this might have some appeal, but I don't think it stands up to serious scrutiny. In my experience and in the experience of fellow utility managers at AWWA, a large share of the purchases of tax-exempt municipal bonds are made by those very higher-income earners, but they accept a lower interest rate in exchange and water utilities and their customers directly benefit from those lower rates. If they are denied tax-exempt interest, the result for utility finance would be devastating. Moreover, no other financing vehicle is as flexible for utilities as these bonds. We must preserve this particular tool in the finance toolbox, and so AWWA joins organizations representing locally elected officials in urging you to protect the current tax exemption of municipal bonds.

The Water Infrastructure Finance and Innovation Act

AWWA and its colleagues in the water sector thank the Congress and this committee in particular for its leadership in seeing through enactment of WIFIA as a part of the Water Resources Reform and Development Act in 2014. As you know, WIFIA has tremendous potential to help municipal and privately held water utilities fill a significant gap between what current water infrastructure tools can do and what needs to be done.

WIFIA would assist communities in meeting water infrastructure needs in a manner that would have minimal to the federal government while complementing existing financing mechanisms, maintaining the current federal role, leveraging private capital and creating vital manufacturing and construction jobs.

As you know, WIFIA would access funds from the U.S. Treasury at long-term Treasury rates and use those funds to provide loans, loan guarantees, or other credit support for water infrastructure projects. WIFIA can provide loans too large or outside the scope of the SRF program. While the SRF program does an excellent job of helping primarily small-to-medium-sized communities facing the most direct threats to public health in water, WIFIA can finance larger-scale projects that help communities prevent their becoming at risk for regulatory compliance and the consequential hazards to public health and safety. That said, the SRFs can package a number of loans to small and medium-sized systems to access WIFIA funding, and WIFIA allows loans to small systems at lower project-size thresholds than required for other systems.

Under WIFIA, funds will flow from the Treasury, through WIFIA, to funding recipients to enlarge their pool of capital. Loan repayments – with interest – and guarantee fees would flow back to WIFIA and thence into the Treasury – again, with interest.

Eligible water infrastructure projects include drinking water, waste water, storm water, water reuse and desalination, and similar projects, and associated water infrastructure replacement.

A key feature of the draft proposal for WIFIA, as in TIFIA, is the minimal cost to the Federal Government. Under the Federal Credit Reform Act, a federal entity can provide credit assistance to the extent that Congress annually appropriates budget authority to cover the “subsidy cost” of the loan, i.e. the net long-term cost of the loan to the Federal government. In this way, Congress directly controls the amount of lending – but the budgetary impact is also minimal because it reflects the net long-term cost of the loan. As you may know, virtually all water-related loans are repaid in full. In fact, Fitch Ratings, a top credit rating agency, determined that the historical default rate on water bonds is 0.04 percent. Indeed, water service providers are among the most fiscally responsible borrowers in the United States. Moreover, those states that leverage their SRF programs have no history of defaults, placing them among the strongest credits in the country. Consequently, WIFIA – because it involves loans that are repaid with interest – involves minimal risks and minimal long-term costs to the federal government. TIFIA is able to leverage federal funds at a ratio of approximately 10:1. With the water sector’s strong credit ratings and history, that ratio should be even greater for WIFIA. We’ve heard discussions in Congress estimating the leverage ratio for the water sector could be 1:50, which would mean a tremendous amount of low-cost finance could be available to help address the nation’s water infrastructure challenges. That also means that because of the sector’s strong credit rating and history, the “subsidy cost” called for by the Federal Credit Reform Act would be minimal.

In short, WIFIA will allow our nation to build more water infrastructure at less cost. And on top of that, we will get a cleaner environment, better public health and safety and a stronger foundation for our economy.

- **Recommendations for WIFIA**

We urge Congress to fully fund WIFIA at its authorized level of at least \$35 million in Fiscal Year 2017. We understand this is not an appropriations committee, so we ask that you communicate the need to more fully invest in our nation's water infrastructure to your colleagues on those committees. So far, Congress has only appropriated \$2.2 million in each of the previous two fiscal years for EPA to set up the program. The time has come for EPA to be able to issue WIFIA loans.

- WIFIA was enacted as a five-year pilot program. As mentioned above, the first two years have been lost to setting up the program. We urge Congress to at least extend the pilot test for another two years. However, given the success of TIFIA, we do feel Congress would be justified in making WIFIA a permanent program as well.
- We deeply appreciate Congress not only enacting WIFIA, but last fall removing the ban on the use of tax-exempt finance for a project receiving support from WIFIA. To fully realize WIFIA's potential, we urge Congress to remove the 49 percent cap on WIFIA support of a project, which was adopted from TIFIA. Transportation projects receive funding from a variety of local, state and federal sources, so we understand where this cap came from. However, water utilities are a much safer risk and this cap will push communities toward applying for a variety of financial instruments, thus increasing administrative and financing costs for a project significantly.

State Revolving Loan Funds (SRFs)

Created in the 1996 Amendments to the Safe Drinking Water Act, the drinking water state revolving loan fund has been an excellent tool for providing funds for water infrastructure, primarily for small to medium-sized utilities facing compliance challenges. The Clean Water SRF has existed since 1988. AWWA supports robust funding of the state revolving loan fund programs for drinking water and wastewater.

The drinking water SRF in particular was authorized to support infrastructure projects necessary for regulatory compliance and must give highest priority to projects where there is the most immediate threat to public health. However, this can tend to put a lower priority on replacing aging infrastructure unless there is a compliance challenge, and leaves out expanding infrastructure to address growing populations. The latter is a particular issue in the South and the West, where many communities are still growing. Finally, because annual appropriations for the SRF are divided up among the 50 states, the body of funds available for loans is over-subscribed in most states. We realize there are exceptions here and there, but in surveying SRF loans, we find that the typical cap on a drinking water SRF loan is about \$20 million. In one state in the Pacific Northwest, our members have been told not to bother applying if the loan is to be above \$6 million. These factors led to our support for WIFIA, but we do not want support of WIFIA in Congress to come at the expense of the SRFs.

- **Recommendation for the SRFs**

We urge Congress to appropriate at least \$1.3 billion each for the drinking water and

wastewater SRF programs. We have known for years that the infrastructure needs for drinking water and wastewater are roughly equal, and investment in the SRF ought to reflect that. We understand there is interest in reauthorizing the SRF programs. Indeed, authorization for the drinking water SRF expired in 2003 and that gives us concern. We offer the experience and expertise of our members as Congress considers this important issue.

Private Activity Bonds

Another tool that could help meet our water infrastructure investment needs is greater use of private activity bonds (PABs). Currently, municipal bonds that meet certain private use tests are considered private activity bonds and become subject to state-by-state volume caps. This severely limits the amount of PABs that can be issued for water facilities. To encourage public-private partnerships and reduce financing costs, PABs for community water systems could be exempted from the state volume cap, just as PABs for publicly owned solid waste facilities are currently exempted. We urge Congress to take that step.

Summary

To help provide for sound water infrastructure across the country for communities of all sizes, AWWA urges Congress to

- fully fund WIFIA at its authorized level of \$35 million in FY2017;
- remove the 49 percent cap for WIFIA support of a project;
- extend WIFIA at least for two more years;
- preserve the current tax-exempt status for municipal bonds;
- maintain funding for robust drinking water and wastewater state revolving loan fund programs; and
- remove the annual volume caps for private activity bonds for water infrastructure projects.

We thank the Environment and Public Works Committee for the leadership it has taken today and over many sessions of Congress in addressing the nation's water infrastructure needs. We are eager to help in any way we can to advance your work on all aspects of water infrastructure.

Thank you again for the opportunity to appear today. I will be happy to answer any questions or to provide you with any other assistance I can, now or in the coming months.

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Testimony of Joe Gysel, President of EPCOR Water USA, Inc. and
President of the National Association of Water Companies (NAWC)

“The Federal Role in Keeping Water and Wastewater Infrastructure
Affordable”

Presented On behalf of NAWC
Before the Senate Environment and Public Works Committee
April 7, 2016

10 AM
410 Dirksen Senate Office Building

Good morning, Chairman Inhofe, Ranking Member Boxer and Members of the Committee. I am Joe Gysel, President of EPCOR Water USA, Inc. and the current President of the National Association of Water Companies – the association that represents the regulated private water service industry, as well as professional water management companies. I am pleased to join you today on behalf of NAWC to talk about water infrastructure and the actions the federal government can take to unleash innovative and sustainable solutions to meet this nation’s water infrastructure needs. NAWC believes that by embracing the powerful combination of public service and private enterprise - we can improve water infrastructure in communities across the country. The NAWC applauds this Committee for bringing water infrastructure issues to the forefront and for providing us with the opportunity to discuss the transformational solutions that the private water industry can bring to the table.

NAWC members are located throughout the nation and range in size from large companies that own, operate or partner with hundreds of systems in multiple states to individual utilities serving a few hundred customers. Through NAWC’s various innovative business models, private water and wastewater professionals serve more than 73 million Americans, nearly a quarter of our country’s population.

EPCOR Water USA is an Arizona-based water and wastewater utility providing service to over 350,000 people in Arizona and New Mexico across 22 communities and seven counties, with more than 125 years of history in the business and care of water resources and systems.

I. Private Water Companies

Private water systems have existed in the United States for well over 100 years. In fact, NAWC’s oldest member utility, York Water in Pennsylvania, is celebrating its 200th anniversary this year. The private water utility sector is highly regulated both by the state Public Utility Commissions (PUCs) which set the water rates that may be charged, and by the EPA for water quality. Private water companies consistently uphold the Clean Water Act and Safe Drinking Water Act standards to ensure quality drinking water and/or wastewater services for the communities they serve.

In fact, NAWC members have the best compliance track record in the industry. A 2011 survey by *American Water Intelligence* of EPA Safe Drinking Water Act violations for the previous five years found over 2,900 sites in violation among government-owned systems—only 14 violations were found among regulated private utilities. Given the private industry’s expertise and exemplary compliance record, NAWC members are often asked by state regulators to revitalize non-compliant public systems.

Our members meet all regulatory requirements and are 100% in compliance on vulnerability assessments and emergency response plans as required by law. They go beyond these federal mandates by advancing preparedness and resiliency measures, voluntarily investing heavily in extreme contingency measures and conducting frequent updated bio-terrorism assessments; develop business continuity plans; and generate successful, innovative and forward-thinking resiliency measures so that the communities they serve are protected and have access to the safest drinking water in the face of extreme weather events or terrorism.

The private water utility sector focuses on long-term planning by making the appropriate and necessary investment for our nation's communities. Such investments and strategies are required by Public Utility Commissions in the ratemaking process throughout the United States. As a result, private water companies are generally more fiscally responsible and consistently perform with measurable efficiency gains over municipally owned utilities.

Investor-owned water utilities operate on a larger scale and serve multiple communities, thus they have the ability to leverage economies of scale unavailable to public systems and can competitively bid operational and capital projects. Investor-owned companies maintain highly specialized staffs of scientific experts and engineers – across multiple water systems in a variety of geographic settings. This gives the private sector an edge over most public systems, and is thus well positioned and prepared to play a substantial role in meeting our nation's critical infrastructure needs.

II. Water Infrastructure Today

Our water infrastructure systems are the backbone upon which communities survive and thrive. Water service is a critical part of the physical platform of the U.S. economy. Not a single business in any community can survive, nor be established, without a sustainable water supply. Communities must have reliable and resilient water infrastructure systems to attract and retain industry, business, and qualified workers. Simply put, capital investment in water infrastructure means job creation across the country. The Associated General Contractors and the U.S. Conference of Mayors have stated that \$1 billion in water infrastructure investment will support 28,500 jobs. Clearly, water plays an essential role in any thriving community and our nation's economy.

Unfortunately, aging and deteriorating public water systems threaten economic vitality and public health, and communities nationwide are faced with massive fiscal challenges to replace critical water and wastewater infrastructure and effectively manage their systems, as was evidenced in Flint, Michigan. On average there are 650 water main breaks every day across the country and two trillion gallons of treated water is lost every year due to leaking pipes at an estimated cost of \$2.6 billion. The estimates for maintaining, replacing, upgrading and operating the nation's water infrastructure are staggering. The U.S. EPA and the Government Accountability Office (GAO) estimate that the current water infrastructure funding gap to be as high as \$1 trillion. The American Society of Civil Engineers gives U.S. water infrastructure a D grade. The nation clearly faces a significant challenge in replacing aging infrastructure. Water related services require miles of complex underground systems and extensive treatment plants. The complex nature of the water industry makes it twice as capital-intensive as electricity and three times as capital-intensive as natural gas. In this context, the importance of bringing in private capital cannot be underestimated.

EPCOR Water continues to proactively replace aging and failing water and wastewater infrastructure across its service territory. Our long-term capital investment plan includes over \$500 million dollars of investment in the next 10 years. This includes replacing drinking water wells that were originally placed into service before WWII and as far back as the Depression era. We believe that this level of investment is vital to continue to provide safe and reliable water and wastewater services to our customers.

Water systems are the most expensive asset a municipality must maintain. Many municipally owned utilities today cannot afford to improve their systems, or issue bonds to finance improvements. They have a limited taxpayer and revenue base which must service all the needs of the community, not just water and wastewater services. The expense associated with maintaining water systems is making cities not in financial difficulty consider choosing to partner with the private sector, or to sell some or all of their water systems – Miami-Dade County is one example.

Addressing these dramatic needs will require focused, dedicated and robust participation by both public and private sectors. Thus, it is important that the federal government look to all sources of capital – both public and private – to invest in water infrastructure. Federal funds alone will not bridge the growing investment gap. As Congress examines future funding for drinking water and wastewater programs, NAWC recommends that all policies be examined to ensure that the private water industry is not disadvantaged and in fact, be incentivized to add additional resources to this effort.

Challenges Bring Opportunities

The challenges we face to protect and maintain our water and wastewater systems and make the investments needed for continuing growth and new public health and environmental standards are vast, but they are not insurmountable. As the Johnson Foundation, in collaboration with American Rivers and Ceres, says in the report, “*Financing Sustainable Water Infrastructure*”, released on January 26, 2012, as part of its Charting New Water initiative:

These challenges can be viewed as drivers of much-needed change in how we finance and develop our water systems to meet future demands. New financing models and pricing flexibility, which are necessary to pay for new infrastructure and to support legacy systems, provide enormous opportunity for positive transformation necessary to keep pace with the rapid changes being experienced by counties, municipalities and investor owned utilities.

The guiding questions that the Johnson Foundation asked of the diverse group of experts it convened for the report were: 1) “What new financing techniques can communities use to pay for integrated and sustainable infrastructure approaches?” and 2) “How can we direct private capital toward more sustainable water management projects?”

III. Private Utility Role in Today’s Water Sector

The private sector is already helping the water sector in the following ways via: 1) substantial private capital investment in water; 2) the use of innovative technology, and 3) successful partnerships between the public and private sectors.

Investment

Ensuring the high standard of quality private water delivers requires extraordinary amounts of capital investment. NAWC estimates that its six largest members are collectively investing more than \$2 billion each year in their systems – and these six companies provide service to about six percent of the U.S. population. NAWC’s largest member utility, American Water, alone invested \$1.2 billion in 2015 and

plans to invest \$1.3 in 2016 in community water and wastewater systems across the country. This is significant when one notes that the total federal appropriation for the clean water and drinking water state revolving fund (SRF) programs for the current fiscal year was approximately \$2.254 billion. While a number of other financing sources and programs are being used to invest in water and wastewater infrastructure, several groups estimate that there is a significant lag in total industry spending compared to what is actually needed.

Innovations to Conserve Water and Address Supply Challenges

Effective, sustainable water supply management in the 21st century require innovative technologies, innovative strategies for long-term resource planning and regional solutions. Given that NAWC Member operate in multiple political subdivisions, and oftentimes multiple regions, they are uniquely positioned to develop such solutions. Innovative technological and regional solutions are key to addressing aging infrastructure, urbanization, resource shortages, emerging contaminants, sustainable development, demographic changes, and obtain greater value for customers, more efficient operations and less waste.

Technology.

- American Water and EPCOR Water have implemented water loss programs and leak data collection systems that actively locate leaking water services and water mains. Once identified, repairs or replacements are made immediately. By identifying and fixing water leaks quickly we can begin to reduce the waste of this precious resource.

EPCOR Water is proud to have an average water loss below 10%, which is lower water loss than most of our municipal partners. This saves money on infrastructure investment and ultimately saves money for customers.

Resource agreements to address water supply challenges.

- EPCOR Water recently entered into long-term public-private water resource agreements in Arizona and New Mexico local communities to develop a water leasing program where farmers or private well owners can sell water to EPCOR. This shifts water use from agriculture to municipal use, reducing withdrawals from strained sources and creates partnerships that share risk and expedite construction timelines for public benefit.
 - Both parties make capital investments – farmers are required to invest in their wells and EPCOR invests in the installation of transmission lines and pays the private well owner for the water, maintenance and operations of the well.

Innovative agreements like these are vital to long-term resource planning, an area of expertise for EPCOR and one of particular importance as arid states grapple with the effects of water scarcity and lingering drought. These unique programs could be replicated across the nation by leveraging the technical, operational and long-range planning expertise of investor-owned utilities.

Regional Planning.

- California Water Service (Cal Water), a large NAWC member company that has operations in multiple western states operates and maintains the distribution system of West Basin Municipal Water District's Edward C. Little Water Recycling Facility. Today, the distribution system includes approximately 100 miles of pipeline that cross multiple political subdivisions in southern Los Angeles County, and the facility itself produces about 40 million gallons of recycled water every day that is retailed to Cal Water's customers across its service area. This regional approach has worked incredibly well, and Cal Water has expanded the model and has entered into a partnership with the City of Sunnyvale, the Santa Clara Valley Water District, and Apple to bring more than 150,000 gallons per day of recycled water to the new Apple 2 Campus in Cupertino.

Maximizing the use of existing sources of supply through recycling.

- Cal Water engaged in an aggressive research strategy to identify the most cost-effective treatment technology after the state set a new chromium-6 standard for drinking water. Cal Water secured a \$5 million grant to support a full-scale demonstration of treatment utilizing strong-base anion-exchange resin to remove chromium-6 from drinking water. In addition to reducing compliance costs, the technology minimizes the amount of waste generated from the treatment process by recycling a portion of the salt brine regeneration stream. This solution saves Cal Water's customers hundreds of thousands of dollars each year, and provides water utilities across the state with a model to cost-effectively meet the state's new standard.
- The San Gabriel Valley Water Company recently established a recycled water expansion project which delivers non-potable recycled water to the City of South El Monte for large landscape irrigation purposes. This saves precious drinking water and avoids the need to purchase costly imported water from distant sources like Northern California and the Colorado River.

Partnerships with Municipalities

We know that neither government nor any one sector, whether public or private, can solve the nation's water challenges on its own. It is far more efficient to work together, and we believe the financial tools that are discussed later in this testimony will benefit us all. Incentivizing capital formation through public-private partnerships (P3s) can be a critical tool in addressing the infrastructure challenge. NAWC Members partner with municipalities in the following ways: 1) we provide management and operating services; 2) we enter into long-term lease or concession arrangements, and 3) sometimes we purchase municipal water systems.

IV. Public-Private Partnerships in the Water Sector Explained

Our member companies have longstanding experience with public-private partnerships (P3s) which deliver benefits to communities by combining the best practices, skills, assets, and resources of both government and private sectors to deliver superior water service or efficiently maintain a water facility to meet the growing demands of citizens. P3s can reduce municipal costs and shift debt burdens allowing municipalities the ability to address other important city priorities. Three basic P3 models exist in the

water space today. Under the first two models, the governmental entity contracts day-to-day management, operation and maintenance responsibility to a private partner under a fee arrangement. Private companies have entered into more than 2,000 such P3s.

- a) Servicing/Consulting Arrangements (1-5 years);
- b) Operations and Maintenance Agreements, which include qualified management contracts (5-20 years); and
- c) Long-term concession-lease agreements (30 years or longer).

Yet, due to the complicated nature of operating water systems the structuring of P3s in this space require lengthy analysis, contractual negotiations, and oversight, which can overwhelm and burden municipalities from the onset and be a significant diversion from the core services they provide to the communities they serve. There are ways to find efficiencies and reduce this burden.

Benefits of P3s with long-term lease contracts

The concession-lease agreement is a relatively new model in the U.S. water sector but has been used effectively for other types of infrastructure projects. There is a growing interest among local governments today in entering into these long-term lease agreements as a means of improving the management and financial and operational condition of their drinking and wastewater systems. Water utilities are, by far, the most capital intensive services that a local government manages and is the most expensive asset to maintain and this model offers considerable benefits to debt-constrained cities or townships. The private entity assumes responsibility for all water system operations and for providing financial capital for infrastructure maintenance and upgrades, along with an upfront payment to the city in the beginning of the contract (a fee for the real property interest in return for the right to operate the facility or system for a specified long-term period (usually 30 years or longer). The payment may consist of one upfront payment or a stream of periodic payments, such as lease rents, over the life of the agreement, which allows the local government to shore up its municipal balance sheet. At the same time, the public authority continues to retain legal ownership of the assets and contractual oversight.

- Two recent concession projects show the significant capital investments that are made in communities under these agreements. In Bayonne, NJ, SUEZ along with KKR is investing \$110 million over 40 years to modernize the city's drinking water, wastewater and storm water systems while in Rialto, CA, Veolia and its partners are investing \$41 million over 30 years in the city's drinking water and wastewater systems.

A concession agreement provides local governments with the ability to realize value from their water and wastewater assets which helps restore their budgets for other important public expenditures and allows the municipality to avoid adding to its own long-term debt obligations. All this occurs while they continue to grow their tax base since concession agreements ultimately create new jobs as a result of the water system upgrades that ensue as part of the transaction.

Given the current state of the US economy, and that infrastructure planning is deferred to state and local governments, leaders are challenged to think in new ways to improve their financial flexibility to address

other important municipal priorities and to ensure critical infrastructure investment in their water systems. To do this, they look to the private sector for assistance. Municipalities sometimes make a determination that their water service can be provided more effectively either by selling to or partnering with a private water company that has greater resources and expertise and thus is more efficient than the municipality in providing the same service

Barriers to P3s with long-term contracts

Current tax rules and regulations have the practical effect of barring many municipalities from entering into cost saving and efficiency driven partnerships with private water companies for the operation of municipal water supply and treatment facilities. These tax regulations can impose a significant added financial price tag to long-term concession transactions on municipalities that sell or lease their water system to a private company when the municipality has outstanding tax-exempt debt related to the water system. As a general rule, the tax exemption on such bonds is lost if a private-sector business acquires a long-term interest in the project. A long-term concession arrangement is designated by the IRS as “private business use”. When a municipality has outstanding tax exempt debt on the water system such “private business use” designation triggers a loss of tax exempt status on the bonds – i.e., tax on interest received by the bondholders. This means that the tax exempt status of the debt would shift to a taxable status, and the interest on that debt becomes taxable. It is this shift which causes the price of an otherwise beneficial transaction to become 15-20 percent higher.

Treasury rules offer alternative approaches or remedial actions that could be taken to avoid shifting the tax exempt debt to taxable status. However, these approaches were developed 3 decades ago and they are infeasible in today’s economic environment.

Alternative Approaches Under Current IRS Rules Not Feasible Today

Defeasance. One such alternative approach is referred to as “defeasance”. The defeasance remedy, however, was established decades ago when interest rates were higher; but in today’s low-interest-rate environment it is prohibitively expensive as it requires outlays of 15-20 percent more of the outstanding principal amount of the bonds. This issue is discussed more thoroughly in Section V under Recommendation 2.

Issuing private activity bonds (PABs). Another remedy Treasury offers for avoiding the shift to taxable status is to obtain from the state an allocation of PABs sufficient to cover the principal amount of the outstanding bonds. PABs are municipal bonds secured by facilities in which a private business has a significant interest; such bonds are under a state volume cap. This means there is no assurance that at the time a municipality starts planning and negotiating a P3 transaction—which can take 2-4 years from start to finish—a sufficient allocation of PABs (which are under volume cap) will be available when the transaction is completed. Thus, the volume cap requirement can be an insurmountable hurdle to the long-term P3 arrangement. Further, in certain states the applicable volume cap allocation legislation or process seems not to permit volume cap to be used for bonds previously issued as regular municipal bonds. Thus, even though the volume cap has, for the most part, been plentiful in recent years in many states, there is no assurance at the time of the P3 decision-making process that there will be sufficient volume of PABs

available for the municipality in order to make its “go or no go” decision. The problem with a volume cap on PABs for water projects is discussed more thoroughly in Section V under Recommendation 1.

V. Federal Role in Stimulating Investment in Water

Although 98 percent of investment in water is made at the local level, federal policy plays an important role in establishing incentives for water investment. Congress and the Administration can act to remove barriers to unleash the vast potential of private capital in much-needed water infrastructure improvement projects. NAWC believes the fundamental goal of any federal program should be to fill market gaps and leverage federal funds and private co-investment to provide additional investment in America’s water infrastructure. All federal program supporting local drinking water and wastewater systems should require that the project be procured and delivered efficiently on a life-cycle basis and delivers the greatest value for the money invested by federal taxpayers. Below are five recommendations that could release private capital and allow for more efficient partnerships to go forward. NAWC seeks two principal tax code changes. Both play a supporting role in engaging in productive and beneficial public-private partnerships (P3s).

Recommendation 1:

Remove state volume caps on private activity bonds (PABs) for water projects

One of the most effective financing tools of the federal government for long-term, capital-intensive infrastructure projects is the private activity bond (PAB)—tax exempt financing granted to the private sector for public-purpose projects, like water. The PAB is a critical tool water and wastewater systems need and use for drinking water and wastewater projects. PABs make infrastructure repair and construction more affordable for municipalities and ultimately for users or customers. The use of PABs spurs capital investment in public projects during a time when governmental budgets are tight; and investors prefer PABs because interest accrues tax-free.

The Sustainable Water Infrastructure Investment Act (introduced in the 114th Congress as S. 2606) recently introduced in the Senate by Senators Menendez and Crapo would remove water projects from state volume caps for private activity bonds and thus spur increased private investment in systems throughout the country. A removal on bond caps for water projects will bring financing of this piece of the nation’s critical infrastructure in line with airports, high-speed rail and solid waste disposal, all of which are currently exempt from existing caps. This same legislation received extraordinary bipartisan support in the 112th Congress, garnering 101 bipartisan co-sponsors spanning the full political ideological spectrum, and was supported by dozens of business and other groups from the Clean Water Council to the U.S. Chamber of Commerce to Operating Engineers and Laborers’ Unions and the U.S. Conference of Mayors because of the measure’s undeniable merit.

The economic and public health benefits of using PABs for water and wastewater infrastructure improvement projects are noteworthy.

- Generates \$2 billion in new investment each of the first few years and grow to several times that as the market opens up.
- Increased state and local tax revenue up \$400-500 million.
- Increased jobs up to 142,500 in the first 2-3 years.
- Minimal cost to the federal government: only \$354 million over 10 years.

NAWC believes that greater access to PABs by removing state volume caps for PABs used for community water projects is an approach that makes considerable sense.

Recommendation 2:

Clarify Internal Revenue Code (avoid defeasance) for Beneficial P3s

Most municipal infrastructure projects are financed by tax-exempt municipal bonds. As a general rule, the tax exemption on such bonds is lost if a private-sector business acquires a long-term interest in the project. However, the IRS has issued rules meant to give state and local governments a reasonable path for preserving the tax-exempt status of these bonds in such an event; though governments can take certain prescribed remedial actions to preserve the tax exemption. Unfortunately, as currently drafted, these remedies are not practicable for water utility projects and, thereby, deter beneficial water P3 projects.

Remedies to preserve tax-exempt bond status under Section 141

- a) One remedial action is to reissue the outstanding bonds as private activity bonds; but the tax code places an annual volume cap on such bonds and a state may have no available volume.
- b) A second remedial action is defeasance of the bonds, but defeasance is prohibitively expensive in the current low interest rate environment; defeasance imposes costs of up to 15-20 percent of the project costs.
- c) The third remedy is for the state or local government to use all cash proceeds received in the transaction from a sale of a bond-financed water system only for other public purposes, such as other infrastructure needs.

Only the third remedial action is realistic, but Treasury guidance is needed to clarify that cash proceeds from a P3 transaction—such as a concession/lease agreement—would also qualify under this action. The Treasury rules currently refer only to the disposition of proceeds from a sale, but not from a lease.

NAWC seeks a narrowly tailored modification to the third remedial action under Section 141 of the Internal Revenue Code. Specifically, NAWC has asked Treasury to revise its rules under the third remedy to provide that long-term concession agreements also be included in the description of cash proceeds. (The Treasury already applies such a rule in the case of the sale of bond-financed water systems.) NAWC simply requests that this remedy also apply to long-term leases (as upfront cash payments are usually the norm in these arrangements). Thus, as long as the municipality in a P3 uses any of the funds it receives in the transaction for governmental services or investments, the bonds can remain outstanding and remain tax exempt (thus avoiding defeasement). We believe this change can be done in a manner that reasonably protects the tax policy concerns of the Treasury.

Recommendation 3:
State Revolving Funds and Eligibility

NAWC supports the State Revolving Fund (SRF) program. However, we strongly hold that any federal program be established fairly so that all taxpayers benefit. Since drinking and waste water systems are a necessary public good and serve the public, the taxpayers in territories serviced by private water providers should benefit equally from the same government loan and grant programs extended to municipally owned water systems. Currently, private water utilities are limited in their use of Clean Water SRF funding. Although EPA has construed the 2014 WRRDA amendments to allow limited use of CWSRF funding for “resiliency” projects by private utilities, these amendments did not put to rest the long-standing discrepancy pertaining to private utilities’ access to CWSRF funding for centralized wastewater treatment.

We, therefore, ask Congress to fix this arbitrary and unnecessary impediment that, if removed, would help to support many communities struggling to maintain their aging water infrastructure. Moreover, while the Safe Drinking Water Act gives states the option to make private water utilities eligible for the Drinking Water SRF, nearly half the states have not done so. We believe that the Congress and the EPA should encourage and incentivize them to do so.

Recommendation 4:
WIFIA

The 113th Congress approved an innovative financing approach for large water infrastructure projects via a pilot program under the Water Resources Reform and Development Act of 2014 (WRRDA), known as the Water Infrastructure Finance and Innovation Authority (WIFIA). A primary objective of this new program is to attract private capital to these projects, to be used along with state and local capital and a low-cost federal subsidy loan. NAWC believes this program will be truly innovative if it is implemented to encourage and facilitate significant new private investment in the nation’s water infrastructure. The aim is to lower the cost of water infrastructure investment by increasing availability of lower-cost capital to public and private utilities.

NAWC believes that both private companies should have an equal opportunity to participate in the program, to ensure that financing is adequately leveraged.

Recommendation 5:
Centralized Office to Navigate the Complex P3 Terrain

The EPA’s new Water Infrastructure and Resiliency Financing Center, for example, which was established to provide technical advisory assistance and professional services to assist small and rural municipalities and to link them up with potential private investors, might take Canada’s approach by expanding this Center’s focus to also advise on P3 formation. The Canadian P3 office has enabled Canada’s P3 landscape to evolve considerably. The office provides a source of P3 expertise to help navigate the complexities of P3s and has thus produced greater competition and lower costs for those entities in the public sector

entering into partnerships with private entities. As a result, Canada has become one of the more significant P3 geographies in both volume and size of capital transactions. NAWC believes it may be advantageous to consider expanding the EPA Water Finance Center to also address P3s.

Mr. Chairman and Members of the Committee – thank you again for inviting the National Association of Water Companies to testify today. Water infrastructure is critical to our economy and way of life. With your leadership on this issue, I am confident we will continue to make progress towards meeting the immense drinking water and wastewater needs across this country. The private water industry stands ready to partner with you and our industry colleagues seated with me at the table today, and I'm happy to answer any questions you may have.



**TESTIMONY OF
ERIK D. OLSON
DIRECTOR, HEALTH PROGRAM
NATURAL RESOURCES DEFENSE COUNCIL**

**BEFORE THE
SENATE COMMITTEE ON ENVIRONMENT AND PUBLIC WORKS
HEARING ENTITLED
“THE FEDERAL ROLE IN KEEPING WATER
AND WASTEWATER INFRASTRUCTURE AFFORDABLE”
APRIL 7, 2016**

Good morning Chairman Inhofe, Ranking Member Boxer, and members of the Committee. I am Erik D. Olson, Director of the Health Program at the Natural Resources Defense Council (NRDC). I have been fighting to improve our drinking water, clean water, and water infrastructure while working for NRDC, EPA, other nonprofits, and as a staffer for this Committee, for more than 30 years. I was deeply involved in the enactment of the 1996 Safe Drinking Water Act Amendments, and was an active participant in the debate over the 1986 Amendments to the Act. I appreciate the opportunity to testify today.

Deferred maintenance and the steady deterioration of the nation’s water and wastewater infrastructure has been known to be a serious challenge for decades.¹ Calls have been made for well over two decades for modernization of the nation’s often-aging and outdated drinking water treatment plants and distribution systems.² Similarly, we have long known that our wastewater and storm water treatment and collection systems are badly in need of updating. But the chickens are now coming home to roost.

As the drinking water crisis in Flint, Michigan has now brought into national focus, the safe drinking water that we all take for granted in the United States can no longer be considered a given. There are major public health and economic impacts flowing from our failure to make appropriate decisions and failure to invest in infrastructure.

In Flint, state-appointed officials decided to save a few million dollars by switching from Lake Huron-supplied Detroit city water, to the polluted and corrosive water of the Flint

River that wasn't treated to control corrosion. The results have been widely reported: serious corrosion damage to the city's already-challenged water pipes and infrastructure, and a string of public health crises including first bacterial contamination, followed by a violation of the standard for cancer-causing disinfection byproducts due to inappropriate disinfection practices, and a serious problem with lead contamination leaching from thousands of lead service lines because of the corrosive water.

Flint reminds us that penny-wise, pound-foolish decisions to save a few bucks can have huge costs to public health, enormous economic costs, and a corrosive impact on public trust of government.

The Human Dimension

We should make no mistake: while these infrastructure problems are usually out of sight and out of mind, they can have very real impacts on people. This has come home to me as we have been legally representing local citizens from Flint who are directly affected by that disaster.

As an example, let me briefly tell you what happened to Maryum, a mother in Flint whose family's water was seriously contaminated. She, her husband, and two children noticed in 2014 that their water "smelled like rotten eggs," tasted bad, and was brown. They switched to bottled water. But after a month of hearing reassurances of the water's safety from government officials, and because using bottled water was expensive and inconvenient, they went back to tap water.

During this time, Maryum's family suffered from a number of health effects. In June 2014, she had a miscarriage; she had no history of miscarriages. She developed a skin rash, began to get headaches, and "clumps of my hair began to fall out." Her doctor prescribed treatments which helped with hair loss somewhat, but she continues to be unable to get rid of a skin rash. Her husband also experienced skin rash and hair loss. Her son had a bad outbreak of eczema sores on his back after the water change, worse than he had ever had. When they stopped using Flint water for bathing, his skin improved.

Maryum says she has read that lead contamination can cause pregnancy complications including miscarriages, and that "just not knowing whether lead exposure may have caused my miscarriage is painful." She worries about the possible effects of lead contamination on her kids. Since December 2015, her family has only used bottled water. For a long time, there were lines and waits for water at distribution point at the fire station. Obviously, picking up and having to rely on bottled water also is very inconvenient. She takes her kids to her parents' house for bathing, which is on a different water system. She says the water crisis has "taken an emotional toll" on her and her family.

Widespread Health & Environmental Risks from Inadequate Water Infrastructure

Maryum’s story is just one of thousands of similar stories in Flint. Her experience and that of other Flint residents illustrate the perils of focusing just on cutting costs and failing to focus on public health and on updating water infrastructure.

They also highlight that EPA cannot shrink from its oversight responsibilities under the Safe Drinking Water Act. When a primacy state is failing to ensure that the health of citizens is being protected from tap water contamination, it is EPA’s obligation to use its oversight authority. While certainly EPA ideally should maintain a cooperative relationship with states, the agency’s paramount obligation is to safeguard the public’s health. If a state is not doing its job to swiftly address issues that are causing violations or threatening public health, EPA must promptly intervene and take enforcement action, rather than simply deferring to the state as a “partner” when the public is at risk.

Unfortunately, stories of contaminated water are not limited to Flint, although that may be an extreme example. Drinking water contamination incidents from lead, and from many other contaminants, are all too common. For example, according to EPA’s most recent annual compliance report for public water systems, there were 16,802 “significant violations” of EPA’s drinking water standards.³ The most common of these more than 16,000 violations were:

- Total coliform bacteria contamination, representing 48 percent of the significant health standard violations;
- Chemical contamination with synthetic organic, volatile organic, inorganic (except lead and copper) and radioactive contaminants, representing 22 percent of significant health standard violations;
- Lead and copper treatment technique violations, representing 5 percent of the significant violations;
- Disinfection byproduct contamination, representing 13 percent of the significant violations;
- Surface water treatment requirements (to control pathogens like *Cryptosporidium* and *Giardia*), representing 7 percent of the significant violations; and
- Ground water treatment requirements (to control for pathogens and fecal contaminants such as certain bacteria and viruses), which comprise 6 percent of the significant violations.⁴

Thus, although many water utilities certainly have made substantial progress in recent years in improving treatment, in too many cases the public is drinking water containing contaminants that are posing serious health risks. The public health threat from our failure to invest in our water infrastructure is enormous, including from lead, arsenic, bacteria and other pathogens, cancer-causing disinfection byproducts, the rocket fuel component perchlorate (which EPA has said contaminates as many as 16 million Americans’ drinking

water systems, but which the agency still has not regulated), and many other contaminants, regulated and unregulated.

Moreover, our wastewater and storm water collection and treatment systems also are too often not up to the task. Combined sewer overflows (CSOs) are common, when domestic sewage mixes with collected storm water in combined sewers and during precipitation events, causes raw or minimally treated sewage to flow into lakes and streams. CSOs are, according to EPA, “a major water pollution concern for the approximately 772 cities in the U.S. that have combined sewer systems.”⁵ These CSOs and other shortcomings in our wastewater and storm water systems are often causing sewage contamination of drinking water source waters, beaches, and sensitive ecosystems.

Disproportionate Impacts of Infrastructure Inadequacies in Low-Income Communities, and Communities of Color

As is well-known, the Flint community is predominantly African American (57%) and has a high percentage of residents living at or below the poverty line (over 40%), or who are working but struggling to make ends meet. State officials were “callous and dismissive” of the concerns these citizens raised about the water, according to the governor’s independent Task Force on Flint.⁶

The obfuscation by government officials, and the denigration of community members and experts who raised concerns, illustrates a pressing nationwide problem. Communities of color all over this country often bear the burden of environmental contamination and the resulting health problems.

In recent years a series of peer-reviewed studies also have documented that unsafe drinking water often is disproportionately associated with lower-income communities of color.⁷ Examples include nitrate and other contaminants in drinking water in California’s San Joaquin Valley, contamination and substandard water infrastructure in U.S.–Mexico border *colonias* and some minority communities in certain Southern rural areas, and bacteriological and chemical contamination on some Native American lands.⁸ Balazs et al. have established that in areas of California “race/ethnicity and socioeconomic class were correlated with exposure to nitrate and arsenic contamination and noncompliance with federal standards in community water systems.”⁹

The Flint case is not an anomaly. There is a wide array of factors, including lack of access of lower income communities of color to resources and government political attention, that help to create a disproportionate and “persistent drinking water burden” in these communities.¹⁰ In sum, researchers have found that “unequal access to infrastructure drives unequal access to safe drinking water.”¹¹

No Two-Tiered Drinking Water System: Every American Deserves Safe Water

As Flint and many other examples highlight, there are clear challenges to ensuring that every American gets safe drinking water. We don't want to create a two-tiered system where the wealthy get water that is clean and safe for their families, and the less well-to-do get second-class water that poses risks to their health.

Thus, we need to create an infrastructure investment and structuring system that ensures that communities that cannot afford to upgrade their water infrastructure get a helping hand. Below, I discuss some of the recommendations of the National Drinking Water Advisory Council's Affordability Work Group, which toiled for many months to develop ideas for how to address affordability concerns.¹² Among other ideas, the Work Group recommended the creation of Low Income Water Assistance Program (LIWAP), modeled after the Low Income Heating and Energy Assistance Program (LIHEAP), which would help lower-income people afford their water bills if needed. Thus, rather than providing substandard water, all consumers should get top quality tap water, with some assistance to low income people if necessary. At bottom, the question is not how do we make water cheap, but how do we make it so everyone can afford clean, safe water for their families?

The Backlog of Overdue Investments in Infrastructure

There is a huge backlog of overdue investments in the nation's water infrastructure. The American Society of Civil Engineers (ASCE) has been ringing the alarm bell about our water infrastructure since at least 2001¹³, with its troubling report cards giving our water and wastewater infrastructure a grade of "D" or worse every four years.¹⁴ The engineers highlight serious problems that result from the lack of investment in our water infrastructure, noting that pipes and mains are often 100 years old and nearing the end of their useful life, causing frequent pipe failures and other problems.

The evidence of these problems is widespread. For example, there are about 240,000 water main breaks per year due to deteriorating and poorly-maintained underground drinking water pipes.¹⁵ Even more water is lost to unseen leaks and breaks that never reach the surface. Water losses waste not only enormous amounts of this precious resource, but they also can cause serious damage to roads and property, they can pose significant public health risks. For example, particularly when water mains are close in proximity to sewer lines, fecal contamination can get into the drinking water after a rupture or pressure loss, posing a threat of causing a waterborne disease outbreak.

In many cities, underground pipes are often a century old or more, and in too many cases municipalities are on track to take 200 years to replace their aging pipes.

We routinely lose an average of 14 to 18 percent of our drinking water to leaking underground pipes,¹⁶ although this is just an estimate, since standardized auditing and reporting of water losses is not required in most states.¹⁷ In some cases, such as Flint, water loss rates of 40 percent or more have been estimated. These leaks represent an enormous waste of water, energy, treatment chemicals, and money used to collect, treat, and pump the water. Moreover, points of leakage of any size can provide pathways for contaminants to enter the water system during short-term pressure fluctuations, known as “transients.” Thus, leaks can cause water pressure losses, which can, much like catastrophic pressure failures from water main breaks, allow pathogens to get into the drinking water, posing health risks. Improved pressure management is an important component of both infrastructure stewardship and public health protection.

Of course, as Flint also highlights, lead service lines are a significant remaining problem. Water industry experts recently published an estimate that there are over 6 million lead service lines still in use in the United States, serving 15 to 22 million people.¹⁸ While innovative techniques such as those being used in Lansing, Michigan have shown us ways to cut the cost of replacing these lead service lines, millions of them remain in the ground, posing a risk that at any time lead may leach from them into the water.

We applaud the American Water Works Association (AWWA), the nation’s largest drinking water utility trade association, for their support for complete removal of lead service lines across the country, recently announced by their Board of Directors.¹⁹ We agree that such replacement is needed as soon as possible, to mitigate or avoid more lead contamination incidents across the country. We have not derived a national cost estimate for such replacements, though recent lower-cost techniques for lead service line replacement such as those used in Lansing and elsewhere demonstrate that innovative approaches are bringing costs down.

The American Water Works Association estimates that it will cost \$1 trillion dollars to upgrade, repair and maintain our drinking water infrastructure to serve the population as it grows over the next 25 years.²⁰ Unfortunately, funding for drinking water infrastructure is not keeping pace with the needs. In recent years, Congress has appropriated about \$2.37 billion a year for water and wastewater infrastructure combined, funding a tiny fraction of the work needed.²¹ While states and localities will need to bear much of the water infrastructure costs as they have for generations, the current federal investment is not making a dent in the problem.

Infrastructure Investment Creates Good Jobs

The good news is that investing in our water infrastructure not only helps to rebuild the base of the nation's economy, which is highly dependent upon reliable, safe drinking water and wastewater service. But major investment in water infrastructure also will create hundreds of thousands or even millions of good-paying jobs.

A recent study found that an investment of \$188.4 billion in water infrastructure (an EPA estimate of wastewater-related infrastructure needs) spread equally over five years would generate \$265.6 billion in economic activity and create close to 1.9 million jobs.²² The study found, based on the economics literature, that such infrastructure investments "create over 16 percent more jobs dollar-for-dollar than a payroll tax holiday, nearly 40 percent more jobs than an across-the-board tax cut, and over five times as many jobs as temporary business tax cuts."²³

Protection of Water Sources Helps to Protect Health and Reduces Treatment Costs

We need a greater focus on source water protection. Ben Franklin's aphorism that "a penny saved is a penny earned" was never so true as it is in this case. Uncontrolled or poorly-controlled source water pollution from polluters remains a serious problem. Unregulated or poorly-controlled sources that can pose substantial pollution threats include agricultural runoff and factory farm pollution, groundwater and surface water pollution from oil and gas exploration and development, coal and mineral mining, certain industrial sources, and spills and leaks from above-ground hazardous substance tanks. State authorities and EPA could substantially reduce the public health and environmental threats from such polluters, and could reduce the costs of drinking water treatment, by better controlling these pollution sources.

The experience of Des Moines Water Works, which serves 500,000 Iowans with their tap water, is illustrative of how state or EPA intervention to ensure that source water is protected from upstream agricultural pollution could help to keep rates more affordable. As a recent statement from Des Moines Water Works notes,

Des Moines Water Works meets or exceeds regulatory requirements for drinking water established by the United States Environmental Protection Agency.... However, the costs and risks in doing so are increasingly high as Iowa's surface waters demonstrate dangers levels of pollutants.

The increase in river nitrate levels is attributable to upstream agricultural land uses, with the largest contribution made by application of fertilizer to row crops,

intensified by unregulated discharge of nitrate into the rivers through artificial subsurface drainage systems.

“Iowa’s political leadership, with influence from industrial agriculture and commodity groups, continue to deny Iowa’s water quality crisis,” said Bill Stowe, CEO and General Manager, Des Moines Water Works. “Defending the status quo, avoiding regulation of any form, and offering the illusion of progress and collaboration, places the public health of our water consumers at the mercy of upstream agriculture and continues to cost our customers millions of dollars.”

Des Moines Water Works seeks relief against upstream polluters and agricultural accountability for passing production costs downstream and endangering drinking water sources. In addition, Des Moines Water Works is actively planning for capital investments of \$80 million, a cost funded by ratepayers, for new denitrification technology in order to remove nitrate and continue to provide safe drinking water to a growing central Iowa.²⁴

While Des Moines may be unusual for its candor, its problems with unregulated or poorly-regulated upstream pollution are hardly so. Problems ranging from routine spills of industrial pollutants on the Ohio River that have led Cincinnati and Louisville to install advanced water treatment facilities at significant expense to ratepayers, are also illustrative.

Similarly, EPA has failed to effectively regulate runoff of the widely-used herbicide atrazine which has caused drinking water systems across the country to find the chemical in their water, often at levels in excess of EPA’s standard during peak runoff season.²⁵ In light of EPA’s and states’ failure to control this problem, a large group of water suppliers sued Syngenta, the manufacturer of atrazine, because they were routinely being required to spend significant amounts to remove the chemical from their tap water.²⁶ They reportedly settled the case for \$105 million dollars, and according to lawyers involved as many as 3,000 water utilities may be eligible to recoup at least some of their treatment costs.²⁷

Another example, upon which this Committee held a hearing on February 4, 2014, was the spill/leak of toxic chemicals from a huge above-ground tank at Freedom Industries that contaminated the drinking water of 300,000 people in Charleston, West Virginia in January of that year.²⁸ EPA had been charged in the 1972 Clean Water Act with issuing rules to prevent spills and leaks from above-ground tanks storing hazardous substances, but has still not done so. Citizen organizations and NRDC recently entered into a consent decree with EPA to have the agency finally issue those long-overdue rules²⁹, though the list of hazardous substances required to be covered by such rules still has not been updated to include the chemicals that caused the Charleston disaster.

Many other municipalities have been forced to quietly install treatment to remove or protect against potential contamination from other contaminants from upstream polluters, without recourse against the polluters. A far better approach would be for Congress, EPA and states to crack down on uncontrolled or poorly-regulated pollution sources such as agricultural runoff and factory farms, mining, and oil and gas activities, to save ratepayers the expense of cleaning up after the polluters.

Protecting Waters of the United States Will Help Control Infrastructure Costs

As a result of confusing court decisions, millions of miles of streams and tens of millions of acres of wetlands lacked clear protection under the Clean Water Act. As a result, water sources that feed drinking water supplies for 117 million Americans were vulnerable to pollution. So were wetlands that filter contaminants and recharge groundwater supplies, while also providing important flood protection and wildlife habitat. If these waters are not protected against pollution by the Clean Water Act, downstream drinking water systems will have a very heavy burden of cleaning up the water to remove the contaminants, costs that—as in the case of Des Moines and so many other utilities—will be borne by ratepayers rather than the polluters.

EPA and Army Corps of Engineers finalized the “Clean Water Rule” in May 2015, which helps to clarify which waters were protected under the act—about 60 percent of the nation's bodies of water. The new rule helps to protect a variety of streams, ponds, and wetlands, including those streams that one in three Americans relies on for drinking water. It is important that we continue to protect these waters for current and future generations.

Restructuring and Encouraging Cooperation Among Small Systems Cuts Costs

Some states, including Kentucky and Connecticut, have made a major effort to encourage cooperation, regionalization, and in some cases physical or managerial consolidation, of small water systems.³⁰ Basically, this involves a broad range of approaches including:

- Ensuring that managers and staff from small water systems are in regular communication and cooperating with other utilities in order to learn ways to address compliance and infrastructure challenges as efficiently and effectively as possible; or
- Regionalizing management of multiple small systems so that overhead is reduced, expertise can be shared, and duplication of functions minimized; or
- Actual physical interconnection and consolidation of the pipes of multiple small systems to make them into a single system. These approaches can take advantage of

the economies of scale, and reduce costs and often improve compliance and water quality and reliability for customers served by small systems.³¹

EPA has studied this approach extensively. In many cases it is highly effective at improving compliance and reducing costs.

Increasing Challenges to Water Infrastructure from Extreme Weather, Droughts

With increasing challenges from extreme precipitation events, droughts, groundwater depletion, and saltwater intrusion in many coastal areas, our water infrastructure faces new and often unprecedented risks. We see this in the impacts of the California and Midwestern droughts, the steady depletion of the Ogallala Aquifer, and the intrusion of saltwater into the wells used for drinking water in many coastal areas in Florida and California, for example.

It has become crucial for water utilities to plan for these challenges by integrating their water and wastewater planning through approaches such as using “integrated water resources management” or IWRM. Some have referred to this approach as “sustainable integrated water management.” IWRM is “a process which promotes the co-ordinated development and management of water, land and related resources, in order to maximize the resultant economic and social welfare in an equitable manner without compromising the sustainability of vital ecosystems.”³² Such integrated planning will become crucial as the impacts of climate change and other challenges become increasingly serious.

The National Drinking Water Advisory Council Affordability Recommendations

I had the honor to participate in an extensive and exhaustive process of discussing the best ways of ensuring that water bills are affordable, while not compromising public health. The National Drinking Water Advisory Council’s Affordability Work Group, which included state and local officials, drinking water utilities, NGOs, financing experts, and others, made extensive recommendations which we do not have time to go into here, but which I commend to members of the Committee.³³ Among the key recommendations³⁴ were:

- **Affordability Rates.** “EPA should provide information and examples pertaining to the use of affordability rates [for low-income customers] for systems to help make water affordable to low-income households.... [A]ffordability rates can be an effective tool for many systems, both large and small, to allow for infrastructure improvements needed to meet regulatory requirements without the need for variance technologies. By EPA providing information and examples of such rate-making ideas to water systems, more systems may take advantage of this tool.” ·

- **Low Income Water Assistance Program.** Congress should adopt a “Low Income Water Assistance Program (LIWAP) as a means to assist low income households facing high drinking water costs, funded with Congressional appropriations similar to the funding for LIHEAP.”
- **Increased SRF Funding.** “DWSRF funding should be increased, with special consideration given to assisting small systems. In order to lessen the need for variance technologies, additional funding for the DWSRF, targeted to small systems, would be effective.”
- **State Disadvantaged Community Programs.** “EPA should encourage States that have not already done so, to establish a disadvantaged community program to address small system affordability issues. Such funding should be consistent with the principles in the DWSRF to encourage restructuring where viable.”
- **Targeted Compliance Assistance Funding.** “To ensure the most effective use of grant funding to help achieve affordable safe drinking water, targeting compliance assistance funding to the systems most in need should be a priority. It is important, however, that grants not be given to disadvantaged systems that, after the grant, will not have managerial, technical, and financial capacity to operate over the long term. Since restructuring can be the most effective tool in ensuring such long-term capacity, priority should be given to using the funds for such restructuring purposes.”
- **Funding Beyond SRFs.** “Provide additional funding beyond the current DWSRF funding for small systems to adopt cooperative strategies as broadly defined... Cooperation between small systems can take many forms. It is one of the best methods for allowing small systems to achieve financial, managerial, and technical capacity for long-term sustainability as well as to meet compliance requirements without the need to use variance technologies.”
- **Other Federal Agency Funding.** “Explore and consider the use of other state and federal agencies, such as the U.S. Army Corps of Engineers and the Bureau of Reclamation, to assist small drinking water-related projects.”
- **State leadership to promote cooperation among small systems to cut costs.** “Cooperative efforts designed for an area or regions are essential if the cost of compliance is to be reduced. These efforts should be funded through new appropriations or through re-allocation of a portion of DWSRF funds....”
- **“Offering meaningful incentives for assessing whether cooperative efforts are feasible** and limiting financial and technical support for individual system compliance solutions to small systems that have assessed cooperative options and found them to be infeasible or not cost-effective.”

EPA’s “Four Pillars” to Promoting Sustainable Water Infrastructure

Under the George W. Bush Administration, in 2007 EPA developed what it called a “Four Pillars” approach to promoting sustainable water infrastructure, which generally is consistent with the principles espoused in this testimony. This approach includes:

1. **Better management:** “Widespread adoption of better management practices offers great promise to reduce costs and direct system investments using a risk-based approach.”
2. **Full cost pricing:** “Pricing that recovers the costs of building, operating, and maintaining a system is absolutely essential to achieving sustainability. Drinking water and wastewater utilities must be able to price water to reflect the full costs of treatment and delivery.”
3. **Water efficiency:** “EPA is focused on developing a program that takes a broad approach by setting water efficiency levels for products, in conjunction with manufacturers, utilities and other stakeholders; building partnerships with manufacturers, distributors, utilities and others to promote water efficient products; and promoting an ethic of water efficiency through promotional activities.”
4. **Watershed approaches:** “One of EPA’s highest priorities is using a watershed approach to address our impaired waters.... The focus is on making sound infrastructure and growth decisions within the context of how water flows through a watershed. Our success at restoring and protecting impaired waters requires strong partnerships between federal, state, and local governments. “

EPA emphasized that the tools available to assist communities in affording infrastructure include grants, loans, state financial assistance programs, institutional arrangements, electronic services, fees, and bonds.

Recommendations

There is an emerging bipartisan consensus that we need to increase our investment in infrastructure. NRDC has several recommendations for improving federal water infrastructure investments and controlling costs of such investments:

1. **Fix Flint.** Flint’s water infrastructure must be immediately repaired and replaced, and safe, reliable water (i.e. bottled water delivered to residents until tap water is fully confirmed as reliably safe) must be supplied in the meantime. In addition, we support the recommendations of the independent Flint Water Advisory Task Force, including the recommendation that there be a tracking system to ensure ongoing health protection for those exposed, and follow-up studies, treatment, and educational and nutritional intervention, among other important steps.³⁵ We also support the package of proposals included in Senator Stabenow and colleagues in the Drinking Water Safety and Infrastructure Act (S. 2579), including provision of urgently-needed resources for infrastructure improvements.

2. **Fix our National Water Infrastructure, Paying Special Attention to the Needs of Lower Income and Disproportionately-Affected Communities.** We need major investment in our water infrastructure, including:
 1. Replacement of the 6+ million lead service lines;
 2. Adoption of standardized water loss auditing and reporting methods, as developed and endorsed by the AWWA,³⁶ to provide the foundation for cost-effective loss reduction and repair strategies;
 3. Accelerated replacement of deteriorating water distribution piping;
 4. Support for restructuring or consolidation of small systems having trouble complying or difficulty affording infrastructure improvements, so they can be more efficient and enjoy the economies of scale;
 5. Improvements to the process for treating of our drinking water. Far too many drinking water treatment plants in the U.S. continue to rely solely upon outdated technologies for treatment such as coagulation, sand filtration and chlorination. These technologies can work well to remove some basic contaminants like certain microorganisms, but cannot remove many of the modern contaminants such as pesticides, industrial chemicals, pharmaceuticals, and other chemicals that are widespread in water.³⁷ We need to invest in modernizing our treatment plants, as some leaders in the industry have done.
3. **Increase Federal Water Infrastructure Funding.** Current Congressional funding of \$2.37 billion dollars per year *combined* for Clean Water and Drinking Water infrastructure is paltry by comparison to the enormous need. As noted, we must invest in clean water infrastructure to better protect the source waters of our drinking water supplies, in addition to making investments in our drinking water infrastructure. These investments must be substantially increased, at least to the approximately \$8 billion per year combine level funded under the American Recovery and Reinvestment Act of 2009. I note that Senator Cardin has proposed legislation (S. 2532) that would more than triple Drinking Water and Clean Water SRF funding, a move we strongly support. As part of the funding strategy, EPA and state agencies managing these investments should prioritize funding (including grants) for water infrastructure improvements in low-income communities and communities of color since they are so often most at risk and have the greatest problems affording new investments. In addition:
 - As part of this reinvigoration of the federal infrastructure investment, more flexibility (grants, loan forgiveness) in the SRF is needed for communities that don't have the ability to meet the criteria to pay back the loans but have serious health threats.
 - States and municipalities also must play a significant role and join in the investment.
4. **Protect Source Water to Reduce Infrastructure Costs.** The better we prevent source water pollution from a wide array of sources ranging from agricultural runoff, to factory farm pollution from manure, to oil and gas-related pollution, the less ratepayers will need to pay to clean up their drinking water. As we have seen

repeatedly in cases like Des Moines, the hundreds of water systems forced to sue the manufacturer of atrazine due to poor regulatory controls on runoff that caused widespread water contamination, and many other examples, an ounce of prevention is worth a pound of cure. A strong Clean Water Rule to protect waters of the United States is an important component of this strategy.

5. **Encourage Small Systems that are Having Affordability and/or Compliance Problems to Regionalize, Restructure, or Consolidate.** As discussed above, and as recommended by EPA and the National Drinking Water Advisory Council's Affordability Work Group, small drinking water systems can be inefficient and have difficulty complying and lack the economies of scale. Approaches to encourage cooperation, restructuring, regionalization or physical consolidation can often cut costs, improve compliance, and provide better drinking water to customers.
6. **Fix the Lead and Copper Rule.** Lead-contaminated drinking water remains a major problem around the country. The EPA's Lead and Copper Rule (LCR)—and the way states and EPA implement and enforce them—need a major overhaul. The LCR, at a minimum, should be fixed to: (a) require all lead service lines to be fully replaced; (b) more fully and fairly monitor problems, and prohibit gaming the system to avoid detecting or reporting lead contamination problems; and (c) require clear, ongoing, and culturally-appropriate public education and notification of lead problems.
7. **Let Citizens Act Immediately in Cases of Imminent & Substantial Endangerment to Health.** In cases such as Flint, citizens whose drinking water may present an imminent and substantial endangerment to health should be authorized under section 1431 of the Safe Drinking Water Act to immediately bring an action for relief when the government has failed them.

NOTES

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