REINVESTMENT AND REHABILITATION OF OUR NATION'S SAFE DRINKING WATER DELIVERY SYSTEMS

HEARING

BEFORE THE

SUBCOMMITTEE ON ENVIRONMENT

OF THE

COMMITTEE ON ENERGY AND COMMERCE
HOUSE OF REPRESENTATIVES

ONE HUNDRED FIFTEENTH CONGRESS

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SUBMITTED MATERIAL

REINVESTMENT AND REHABILITATION OF OUR NATION'S SAFE DRINKING WATER DELIVERY SYSTEMS

THURSDAY, MARCH 16, 2017

HOUSE OF REPRESENTATIVES,
SUBCOMMITTEE ON ENVIRONMENT,
COMMITTEE ON ENERGY AND COMMERCE
Washington, DC.

The subcommittee met, pursuant to call, at 10:00 a.m., in room 2322 Rayburn House Office Building, Hon. John Shimkus (chairman of the subcommittee) presiding.

Present: Representatives Shimkus, McKinley, Barton, Murphy, Blackburn, Harper, Olson, Flores, Hudson, Walberg, Carter, Tonko, Ruiz, Peters, Green, DeGette, McNerney, Cardenas, Dingell, and Matsui.

Staff present: Grace Appelbe, Legislative Clerk; Mike Bloomquist, Deputy Staff Director; Jerry Couri, Deputy Chief Environmental Advisor; Wyatt Ellertson, Research Associate, Energy/Environment; Adam Fromm, Director of Outreach and Coalitions; Giulia Giannangeli, Legislative Clerk, Digital Commerce and Consumer Protection/Environment; Tom Hassenboehler, Chief Counsel, Energy/Environment; A.T. Johnston, Senior Policy Advisor/Professional Staff, Energy/Environment; Alex Miller, Video Production Aide and Press Assistant; Chris Sarley, Policy Coordinator, Environment; Dan Schneider, Press Secretary; Jacqueline Cohen, Minority Senior Counsel; David Cwiertney, Minority Energy/Environment Fellow; Rick Kessler, Minority Senior Advisor and Staff Director, Energy and Environment; Alexander Ratner, Minority Policy Analyst; and Tuley Wright, Minority Energy and Environment Policy Advisor.

OPENING STATEMENT OF HON. JOHN SHIMKUS, A REPRESENTATIVE IN CONGRESS FROM THE STATE OF ILLINOIS

Mr. SHIMKUS. If I could ask all our guests today to please take their seats, and if we can get that door closed, the Committee on Environment will now come to order. The chair now recognizes himself for 5 minutes for an opening statement.

Today's hearing gives our panel a chance to look broadly at our nation's drinking water infrastructure and examine questions about what is necessary for the federal government to do in the way of reinvestment and rehabilitation of these systems to meet future needs.

Currently, more than 51,000 community water systems treat 42 billion gallons of water for use by 299 million Americans daily.

This water, which is used for anything from cooking and bathing in homes, factories, or offices to firefighting is delivered by publicly and privately-owned water utilities stretching over 1 million miles of pipe.

It is really a remarkable feat of engineering that demonstrates our nation's commitment to public health and a high standard of living.

For more than a decade, there have been concerns raised about this system and whether our nation is making the choices it needs to make in order to ensure effective and efficient delivery of safe drinking water in the future.

Many of the pipes now in use were installed in the early and mid-20th century and have a projected lifespan of 75 to 100 years.

In 2013, the EPA announced that a bit more than $384 million of investment was needed between 2010 and 2030 to improve drinking water infrastructure and ensure the provision of safe tap water.

This report was not a suggestion that the federal government needed to provide all of that funding but it and other reports have served as a wake-up call to the threat facing these systems and begs the question as to whether Congress should be doing more.

Before the Safe Drinking Water Act Amendments of 1996, to the extent that it was needed, Congress' role in financing drinking water infrastructure was confined to line items for specific projects, a practice that has been substantially curtailed.

In 1996, Congress, realizing the biggest economic problem facing drinking water systems was the cost of unfunded mandates, created a State Revolving Loan Fund program to provide low-interest loans that helped address compliance and public health needs.

Last year, the Water Infrastructure Improvements for the Nation Act authorized $600 million between two new programs dedicated to tackling lead pipe replacement and aiding economically disadvantaged and underserved communities.

In addition, this law tried to further invigorate loans not related to Drinking Water Act compliance through the Water Infrastructure Finance and Innovation Act program.

While I think these are solid steps, we must also reauthorize funding for the Drinking Water Revolving Loan Fund program. This has been a very successful and important program whose purpose is synergistic in view of other infrastructure programs, having provided more than $20 billion in funding to over 12,400 projects since 1997.

We must also explore other avenues that not only leverage investments in these utility infrastructures but also do it in a way that promotes American workers and protect consumers' health and pocketbooks.

We need to be smart about our investments. This is not going to be an easy discussion, but to be successful it is one we must have.

I believe we must not be afraid to spend more federal money on this issue, but we must maintain local fees as the primary generator of funds for daily operation and maintenance of public water systems as well as their long-term capital investment needs.

That said, we must acknowledge that not only as a percentage of household income, U.S. households pay less for water and wastewater than other developed countries and that water rates have dropped 3 percent more recently.

We also must remember that some systems have taken the very unpopular step of raising rates.

But not everyone can do that, whether due to population contraction or local economic condition, because their rate bases aren't able to handle capital improvements as well as others do.

So long as we focus on trying to increase overall purchasing power for communities, our constituents can enjoy their drinking water for the next 75 to 100 years.

Before I relinquish my time, I want to thank our witnesses for being here today, especially in view of the crazy weather and travel schedules that you and we have had.

I also want to welcome the board members of the Association of State Drinking Water Administrators. We appreciate all the work you do and how important you are to the success of the Safe Drinking Water Act.

[The prepared statement of Mr. Shimkus follows:]

PREPARED STATEMENT OF HON. JOHN SHIMKUS

The Subcommittee will come to order. I recognize myself for 5 minutes for giving an opening statement.

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For more than a decade, there have been concerns raised about this system and whether our nation is making the choices it needs to make in order to ensure effective and efficient delivery of safe drinking water in the future. Many of the pipes now in use were installed in the early and mid-20th century and have a projected lifespan of 75 to 100 years.

In 2013, the EPA announced that a bit more than $384 million of investment was needed between 2010 and 2030 to improve drinking water infrastructure and ensure the provision of safe tap water. This report was not a suggestion that the Federal government needed to provide all of that funding, but it and other reports have served as wake up calls to the threat facing these systems and begs the question of whether Congress should be doing more.

Before the Safe Drinking Water Act Amendments of 1996, to the extent that it was needed, Congress's role in financing drinking water infrastructure was confined to line items for specific projects—a practice that has been substantially curtailed. In 1996, Congress, realizing the biggest economic problem facing drinking water systems was the cost of unfunded mandates, created the State Revolving Loan Fund program to provide low-interest loans that helped address compliance and public health needs.

Last year, the Water Infrastructure Improvements for the Nation Act authorized $600 million between two new programs dedicated to tackling lead pipe replacement and aiding economically disadvantaged and underserved communities. In addition, this law tried to further invigorate loans not related to drinking water act compliance through the Water Infrastructure Finance and Innovation Act (WIFIA) program.

While I think these are solid steps, we must also reauthorize funding for the drinking water revolving loan fund program or DWSRF. The DWSRF has been a very successful and important program whose purpose is synergistic in view of other

infrastructure programs—having provided more than $20 billion in funding to over 12,400 projects since 1997.

We must also explore other avenues that not only leverage investments in these utilities' infrastructure, but also do it in a way that promotes American workers and protects consumers' health and pocketbooks. We need to be smart about our investments.

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So long as we focus on trying to increase overall purchasing power for communities, our constituents can enjoy their drinking water for the next 75 to 100 years.

Before I relinquish my time, I want to thank our witnesses for being here today, especially in view of the crazy weather and travel schedules you have. I also want to welcome the Board members of the Association of State Drinking Water Administrators—we appreciate all the work you do and how important you are to the success of the Safe Drinking Water Act.

With that, I yield back the balance of my remaining time and recognize the Ranking Member of the Subcommittee for 5 minutes to give his opening statement.

Mr. SHIMKUS. With that, I yield back the balance—well, I don't want to do that yet. I'd like to yield one minute to my colleague, Congresswoman Blackburn, for 1 minute.

Mrs. BLACKBURN. Thank you. I think that one of the things we can all agree on is that we are for clean air and we are for clean water. And as the chairman has said, we know that there are accountabilities that need to be met.

There is money that is going to have to be expended. We want it to be done in the right way and we know that contaminated water is not acceptable.

Of course, sometimes it can hit close to home, as it did right here on our campus with the Cannon Office Building and anybody that has worked there knows those stories.

So, I just want to welcome you all. I want to thank you for being here and I want to thank you for working with us on this important issue, and I will yield back.

Mr. SHIMKUS. Gentlelady yields back her time and I yield back my time.

The chair now recognizes the ranking member, Mr. Tonko, for 5 minutes, who has an interest in this issue.

OPENING STATEMENT OF HON. PAUL TONKO, A REPRESENTATIVE IN CONGRESS FROM THE STATE OF NEW YORK

Mr. TONKO. Thank you, Mr. Chair. Thank you, and Chair Walden for holding this hearing.

I know I sound like a broken record requesting a drinking water hearing for the past 4 years but I am truly grateful to you for bringing us together today.

I also want to thank our experts here for being in attendance. We will hear from all of them, from water utilities to engineers to

environmental stakeholders that our national drinking water infrastructure needs are immense.

I also understand that they will present formally their report card on infrastructure. I can tell you, if I received a report card like that my parents would have had a response immediately.

They would have had an improvement plan in place immediately. So let's get going, nation.

The facts are startling. We lose over 2 trillion gallons of treated water each year from leaking pipes. There are more than 240,000 water main breaks each year, which causes service disruption and property damage.

Nearly 100 mid-size cities across our great country are facing shrinking populations, meaning a smaller taxpayer base, to support repairs and to support maintenance.

As Mr. DiLoreto will explain, the American Society of Civil Engineers recently released their report card and have given our systems a grade of D.

It is clear we are not making the progress necessary to tackle this issue. If anything, we are going in the wrong direction. EPA has estimated some $384 billion is needed over the next 20 years to keep our systems running.

And as we deal with aging systems, often with century-old pipes and an alarming number of unregulated and under regulated contaminants, this estimate can only be expected to grow.

The bottom line is I do not see how the needs can be met without significantly greater federal investments. I feel the need to say that the proposed cuts to EPA outlined in President Trump's budget are not only senseless, they are dangerous.

While funding levels for the SRFs appear to be maintained, the status quo is simply not good enough. We need additional funding.

For example, in my home state of New York, we receive a generous allotment from the Drinking Water SRF—about $40 annually. That money is leveraged with state funds which may allow for about $700 million in projects this year.

The problem is there were over $4 billion worth of projects requested, according to this year's intended use plan. Projects that are not funded will continue to be deferred, putting more stress on already struggling systems.

So even for a state that is committed to addressing this issue, there is still a tremendous gap between available funds and needs.

We cannot fool ourselves into thinking local and state governments can do this on their own. There is a federal responsibility. This infrastructure is too important to continue to be neglected.

And let us make no mistake, there are real consequences—health and economic—when these systems fail. Flint should have been a wake-up call to Congress that we must do more.

The investments we can make now are minuscule when compared to the cost of inaction. And Flint is not alone. These problems lurk below the surface throughout our country.

Here are just a few headlines from this past week. From NPR: Kentucky community hopes Trump infrastructure plan will fix water systems. From the Clarion Ledger: Weekend water emergency ripples across Jackson. From the Associated Press: Six Madison schools test positive for lead in drinking water.

This is a national issue, and had this hearing been delayed until next week I am sure we would have found plenty of new stories from different states.

Last year's water resources bill, the WIND bill, took a few steps to address this issue. It created two great programs, grant programs, one for lead-lined replacement and one for small and disadvantaged communities.

Congress should fully fund these programs, but that is only the start. Members of this subcommittee have good ideas on how to update the Safe Drinking Water Act, which has not been significantly changed for some 20 years.

Many of these ideas are supported by stakeholders from labor and the environmental community. The AQUA Act would reauthorize the drinking water SRF for the first time since its inception at significantly higher levels.

Ranking Member Pallone's bill, the SDWA amendments, incorporates a number of ideas from our members including mandating new standards for lead and other emerging contaminants while making it easier for EPA to set science and health-based limits and treatment techniques in the future.

It also would give grants to schools to replace water fountains that contain lead. Mr. Peters is working on a bill to provide grants to systems for resiliency, security and source water protection in the face of hydraulic changes and other emerging threats.

These are good bills that deserve consideration by this committee. Also, we must ensure water is included in any potential infrastructure package that will be considered by Congress.

We can no longer ignore our hidden infrastructure. I would encourage all members of our committee to visit a water system in your district. Go speak to your mayors, your system managers, your departments of public works.

It is likely you will hear what I heard in my district. This is a real and vastly overlooked issue and Congress can help provide relief for financially-burdened local governments and ratepayers.

Every life in this country depends on access to safe drinking water. Every job in this country depends on access to safe drinking water. The needs are great and the cost of inaction is even greater. It's immensely high.

So I look forward to hearing from our witnesses on the role that our federal government should play to rebuild, maintain and protect this infrastructure which is vital to our constituents' lives.

With that, Mr. Chair, I yield back and again thank you for the opportunity of the hearing.

[The prepared statement of Mr. Tonko follows:]

PREPARED STATEMENT OF HON. PAUL TONKO

I want to thank Chairman Shimkus and Chairman Walden for holding this hearing. I know I have sounded like a broken record requesting a drinking water hearing for the past four years, but I am truly grateful to you for bringing us together today.

I also want to thank our witnesses for being here. We will hear from all of them- water utilities, engineers, and environmental stakeholders- that our national drinking water infrastructure needs are immense.

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Flint should have been a wakeup call to Congress that we must do more. The investments we can make now are miniscule when compared to the cost of inaction. And Flint is not alone. These problems lurk below the surface throughout the country. Here are just a few headlines from this past week:

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With that, I yield back.

Mr. SHIMKUS. Gentleman yields back his time.

Chair now looks to the majority side to see if anybody wished to make an opening statement. Seeing none, anyone on the minority side? Seeing none, we will turn to our panel.

So we appreciate you all being here. I'll introduce you as you are prepared to make your statement. Otherwise, I'll go through it and then I have to go through it again.

So we want to first recognize Randy Ellingboe from the Minnesota Department of Health on behalf of the Association of State Drinking Water Administrators. Your full testimony has been submitted to the committee. You are recognized for 5 minutes.

As you can see, this is an issue that we all find are very interested about and want to kind of move forward. So we are not going to be militant on time. But if I do hit the gavel, you have gone way over, OK.

So you are recognized for 5 minutes. And I think you should press a button there in the middle and pull it, if you can, as close as you can. All right.

STATEMENTS OF RANDY ELLINGBOE, MINNESOTA DEPARTMENT OF HEALTH, ON BEHALF OF THE ASSOCIATION OF STATE DRINKING WATER ADMINISTRATORS; JOHN J. DONAHUE, CEO, NORTH PARK PUBLIC WATER DISTRICT IN MACHESNEY PARK, IL, ON BEHALF OF THE AMERICAN WATER WORKS ASSOCIATION; RUDOLPH S. CHOW P.E., DIRECTOR, BALTIMORE, MD DEPARTMENT OF PUBLIC WORKS, ON BEHALF OF THE AMERICAN MUNICIPAL WATER ASSOCIATION; GREGORY E. DILORETO, CHAIRMAN, COMMITTEE FOR AMERICA'S INFRASTRUCTURE, AMERICAN SOCIETY OF CIVIL ENGINEERS; MARTIN A. KROPELNICKI, PRESIDENT AND CEO, CALIFORNIA WATER SERVICE GROUP, ON BEHALF OF THE NATIONAL ASSOCIATION OF WATER COMPANIES; ERIK OLSON, DIRECTOR, HEALTH & ENVIRONMENT PROGRAM, NATURAL RESOURCES DEFENSE COUNCIL

STATEMENT OF RANDY ELLINGBOE

Mr. ELLINGBOE. Good morning, Chairman Shimkus, Ranking Member Tonko and members of the subcommittee.

Thank you for the opportunity to talk about our nation's drinking water systems and how state drinking water systems support them.

Again, my name is Randy Ellingboe and I am with the Minnesota Department of Health but I am also president of the Association of State Drinking Water Administrators whose members in-

clude the 50 state drinking water programs, five territorial programs, the District of Columbia and the Navajo Nation.

Our members and their staff help all public water supply systems provide drinking water that meets all the Safe Drinking Water Act standards through monitoring of their water quality, financial and technical assistance to public water supply systems, and when needed, enforcement to help systems prioritize taking care of deficiencies and violations.

Today I'd like to talk with you about how states play a role in public health protection and sustaining the economic health of communities by implementing three critical components of the Safe Drinking Water Act: the Public Water Systems Supervision, or PWSS program, the Drinking Water State Revolving Loan Fund program and the Revolving Loan Fund set asides.

Sufficient federal funding for these components is essential for maintaining the safety of drinking water across the country. Under the Safe Drinking Water Act, states have accepted primary enforcement responsibility for federal drinking water standards and technical assistance efforts for over 151 public water systems.

These regulations are for contaminants such as nitrate, bacteria, arsenic, lead, and many carcinogens. A person can go virtually anywhere in the country and drink water from a public water system and be confident that the water meets federal health standards because of the work that public water supply system operators do with the assistance and oversight of state and federal drinking water programs.

However, since the Safe Drinking Water Act was passed in 1974, we have come to understand much more about drinking water contaminants and what it takes to manage and treat drinking water to prevent illness.

This has led to increased challenges for both public water supplies and state and federal drinking water programs. But safe water is crucial for protecting people's health and communities' and businesses' economic well-being.

When we polled citizens in Minnesota about water resource issues, drinking water consistently rises to the top. Safe drinking water for all is one of the community conditions that supports health.

However, state drinking water programs and many public water supplies are extremely hard pressed financially as costs and the funding gap continues to grow.

With the advent of the Drinking Water State Revolving Fund in 1996, states could provide low-cost loans to utilities to help them upgrade their treatment plants and water mains, install more protective technologies and improve their aging infrastructure.

Many states have also used no-interest loans and principal forgiveness to assist disadvantaged communities with their infrastructure needs.

Approximately $18 billion federal capitalization grants since 1997 have been leveraged by states into over $29 billion infrastructure loans to communities across the country.

Such investments are now being paid back and loaned out again and pay tremendous dividends both in supporting and growing our economy and in protecting our citizens' health.

States have leveraged the federal dollars with state contributions to provide assistance to more than 10,000 projects to enhance and sustain public health protection for millions of Americans.

However, the most recent drinking water infrastructure needs survey identified $384 billion in investment needed across the country in the next 20 years, as already noted.

With that great need we would recommend expanding the Revolving Fund to help increase infrastructure investment. It has a track record for successfully funding a wide range of drinking water infrastructure projects critical for the economic well-being of communities as well as protecting public health.

Set asides are unique to the drinking water program. States are allowed to set aside a portion of the Revolving Loan Fund for source water protection, program administration, small system technical assistance and water operator training and certification.

Set asides are an essential source of funding for states' core public health protection programs and these efforts work in tandem with infrastructure loans. These proactive strategies and initiatives increase the effectiveness of many state programs in their ability to support drinking water systems.

In summary, sustaining or increasing the PWSS grants is critical, to protecting public health and our economy. Expanding the Revolving Fund will improve the nation's infrastructure and create jobs, and the set asides are key resource to ensuring safe drinking water.

Thank you for the opportunity to provide this testimony about these critical drinking water issues.

[The prepared statement of Randy Ellingboe follows:]

Testimony

"Reinvestment and Rehabilitation of the Nation's Drinking Water Systems"

Subcommittee on Environment
House Energy and Commerce Committee

Thursday, March 16, 2017

By Randy Ellingboe
Manager, Drinking Water Protection Section
Minnesota Department of Health
and President
Association of State Drinking Water Administrators (ASDWA)

Good Morning Chairman Shimkus and Members of the Subcommittee. Thank you for this opportunity to talk about our Nation's drinking water systems and how state drinking water programs support them. My name is Randy Ellingboe and I am the Manager of the Drinking Water Protection Section within the Minnesota Department of Health. I am also the President of the Association of State Drinking Water Administrators (ASDWA), whose 57 members include the 50 state drinking water programs, five territorial programs, the District of Columbia and the Navajo Nation. Our members and their staff are on the front lines every day, ensuring safe drinking water and protecting public health. Their technical assistance and support, as well as oversight of the drinking water systems, are critical to providing safe drinking water and protecting public health.

Today, I'd like to talk with you about three critical components of the Safe Drinking Water Act – the Public Water System Supervision (PWSS) program; the Drinking Water State Revolving Loan (DWSRF) program; and the DWSRF set-asides and how these three components are implemented in support of drinking water systems. Think of these components as a Venn diagram with public health protection at the core of the three interlocking circles of PWSS, DWSRF, and set-asides. No single component, taken alone, provides comprehensive public health protection...but when taken together, the people of the United States know that they can have confidence in the availability and quality of the water they drink every day. Sufficient Federal funding associated with these components is essential for maintaining the safety of drinking water across the country.

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Overview

For each of the 50 state drinking water programs, territorial programs, and the drinking water program of the Navajo Nation, our principal and enduring goal is public health protection. Vibrant and sustainable communities, their citizens, workforce, and businesses all depend on a safe, reliable, and adequate supply of drinking water. Economies only grow and sustain themselves when they have safe and reliable water supplies. Over 90% of the population receives water used for bathing, cooking, fire protection and drinking from a public water system – *overseen by state drinking water program personnel.* In addition, the availability of adequate supplies of safe water is often a critical factor in attracting new businesses to communities. Public water systems – as well as the cities, villages, schools, and businesses they support -- *rely on state drinking water programs* to ensure they are in compliance with all applicable Federal requirements and the water is safe to drink.

The PWSS Program

To meet the requirements of the Safe Drinking Water Act (SDWA), states have accepted primary enforcement responsibility for oversight of regulatory compliance and technical assistance efforts for over *151,000 public water systems* to ensure that potential health-based violations do not occur or are remedied in a timely manner. More than 90 contaminants are regulated by Federal drinking water requirements and the complexity of these requirements has significantly increased in recent years. For example, enhanced treatment requirements for surface water systems now include separate filtration performance requirements. More recent regulatory requirements call for individual surface water system evaluations for *Cryptosporidium* inactivation and removal. The Groundwater Rule calls for individual disinfection determinations to be made. The Revised Total Coliform Rule uses a "find & fix" regulatory approach where the answer to the problem may not always be clear. These decisions are not made in isolation. These regulatory evaluations and resultant actions are generally made in consultation with the state drinking water program to ensure that the evaluations result in the best choice for the water system in terms of compliance, affordability, and efficiency. The primacy agencies accept these responsibilities as part of implementing the PWSS program.

The federal regulations also require states to conduct top to bottom or full system inspections known as sanitary surveys on a regular basis. These inspections provide states with first-hand information as part of their oversight role for public water systems.

Beyond the contaminants covered by Federal drinking water regulations, states are also implementing an array of *proactive* initiatives to protect public health from "source to tap." These include source water assessments and protections for communities and watersheds; training and technical assistance for water treatment plants and distribution systems for challenged utilities; and optimization of overall water system performance. States also are responsible for their operator certification programs, to ensure that the staff operating the treatment plants and the distribution systems are appropriately trained and have the adequate experience based on the complexities of the plant and the distribution

system. These components, both regulatory and non-regulatory, are the responsibilities of state primacy agencies within the PWSS program.

Well supported state drinking water programs are a good deal for America.

1976 was the first fiscal year in which funds were appropriated for the PWSS program. That year, all 50 states shared $7.5 million – or roughly $150,000 per state to oversee implementation of slightly more than 25 contaminants. By 1996, 20 years later, the award had grown to $70.3 million for states – and averaged about $1.4 million per state to oversee regulation of around 70 contaminants. Now after another 20 years have passed and the additional responsibilities of the 1996 amendments to the SDWA are being implemented, the PWSS program received $101.96 million in 2016 – an average distribution of $2 million per state but a jump of about 25 new contaminants and increasingly complex regulations to be overseen.

While this may sound like a healthy increase in funding over the past 40 years, during that same period, the population of the United States grew from 222.6 million to 321.9 million and each of those individuals expected to be able to turn on their taps, wash their clothes, and bathe their children in water that is safe. At the same time, the number of regulated contaminants grew from around 26 to more than 90, and the regulations for these contaminants have grown increasingly complex.

A success story? Definitely, as many substantial risks in drinking water have been reduced with the increased number of contaminants being regulated. A sustainable story? Not likely. State drinking water programs are extremely hard pressed financially and the funding gap continues to grow. States must accomplish all the above-described activities -- and take on new responsibilities -- in the context of a challenging economic climate and increased expectations.

Originally, Federal funding was intended to cover 75% of the costs for a state to implement the PWSS program. Over the years, that Federal contribution has decreased to slightly more than 60%. State funding has historically compensated for this decline, but state budgets have been less able to bridge this funding gap in recent years. State drinking water programs have often been expected to do more with less and states have always responded with commitment and integrity, but they are currently stretched to the breaking point. Federal funding support necessary to maintain compliance levels and meet expectations has been essentially "flat-lined" for the past several years. It is essential that the PWSS funding be increased to meet these increasing regulatory needs. Insufficient Federal support for this critical program increases the likelihood of contamination events that puts the public's health at risk.

The DWSRF Program

The 1996 SDWA Amendments opened new doors and provided exciting new opportunities for states to be able to support the infrastructure needs of their drinking water systems – large and small. With the advent of the Drinking Water State Revolving Loan Fund

(DWSRF), states could award project dollars to utilities to help them upgrade their treatment plants, rehabilitate their distribution systems, install more protective technologies, and generally improve their aging infrastructure. Many states have also used no-interest loans and principal forgiveness to assist disadvantaged communities with their infrastructure needs, but caution is needed in using these incentives due to potential long-term consequences in the ability of the DWSRF to revolve. In the core DWSRF program, approximately $18 billion in cumulative Federal capitalization grants since 1997 have been leveraged by states into over $29 billion in infrastructure loans to small and large communities across the country. Such investments are now being paid back and being loaned out again and pay tremendous dividends -- both in supporting and growing our economy and in protecting our citizens' health.

States have very effectively and efficiently leveraged Federal dollars with state contributions to provide assistance to more than 10,000 projects – all, once again, to enhance and sustain public health protection for millions of Americans. But the infrastructure funding needs are huge and more effort is needed to provide a wide range of tools for infrastructure financing. Last week, the American Society of Civil Engineers gave the nation's drinking water infrastructure a D grade (down from D+ last year) and EPA's most recent National Drinking Water Infrastructure Needs Survey (2011) indicated that drinking water system infrastructure needs total $384 billion over the next 20 years; $72.5 billion of that total is needed to prevent contamination of 73,400 water systems.

With that great need, the federal role needs to be increased, and we would recommend expanding the DWSRF as one of the tools to begin to address the great infrastructure gap. The DWSRF has the track record for successfully funding a wide range of drinking water infrastructure projects to promote the economic well-being of the community as well as protect public health.

A potential complementary new funding approach for infrastructure financing has resulted from the Water Infrastructure Financing and Innovation Act (WIFIA). Both WIFIA and the DWSRF programs are useful in meeting drinking water infrastructure needs; however, it is important to understand that the programs serve different purposes and meet different needs. One cannot and should not be substituted for the other. To offer just a few examples, WIFIA loans are intended to support funding needs for primarily large scale water improvement projects. DWSRF loans are designed to meet public health protection needs and often extend beyond physical infrastructure to fund projects for source water protection and system interconnections. The DWSRF, through its set-asides, also funds programs to train and certify operators and help systems return to compliance. WIFIA offers an opportunity for smaller systems to bundle their project needs to be able to meet the $20 million minimum loan threshold; however, few small systems have the knowledge and wherewithal to collaborate on such an application and coordinate the timing of their funding needs. The states also do not have the capacity to bundle these small projects. As of 2016, of the over 12,000 DWSRF project agreements, 71% have been for communities serving less than 10,000 people. Additionally, the DWSRF provides loans to these smaller systems individually in increments as low as $3,500, as evidenced by a 2010 project in my own state of Minnesota. The two funding programs are fundamentally

different. ASDWA sincerely hopes that these distinctions will inform Congressional funding decisions and that we never see a circumstance in which one program is funded at the expense of the other.

Set-aside Program

Set-asides are unique to the drinking water program. They allow states to reserve up to 31 percent of DWSRF funds for specific purposes. There is a 4% reservation for state DWSRF program administration that supports state administration of the loans and oversight of the projects. A 2% small system technical assistance setaside helps train and assist operators of small water systems where it can be a challenge to meet all the drinking water requirements. States may reserve 10% of the DWSRF's capitalization grant in any year to support other PWSS program activities where there is an additional need. Additional uses include implementation of a capacity development program to support system needs for technical, managerial, and financial capabilities and training and certification for operators. This setaside also provides funding for states when adopting and managing the new rules while continuing to provide oversight for existing rules.

Another setaside provision allows a reservation of 15% (of which any individual use may not exceed 10%) for: land acquisition/conservation easements; implementation of voluntary, incentive-based source water quality protection measures; expenditures to delineate or assess source water protection areas; and expenditures to establish and implement wellhead protection programs. This setaside also provides assistance for water systems through the state's capacity development strategy.

Through these set-asides, states may offer training and technical assistance to communities in need; help identify source water protection initiatives; enhance operator training and certification; and further support traditional PWSS compliance initiatives. Set-asides are thus an essential source of funding for states' core public health protection programs and these efforts work in tandem with infrastructure loans. Without the set-asides, these proactive strategies and initiatives would not be possible, thus jeopardizing the effectiveness of many state programs in their ability to support drinking water systems.

Looking Beyond Infrastructure

Two other elements of the SDWA program support the above three key components.

The Regulatory Process: Clearly, the DWSRF is critical to maintaining safe and reliable drinking water in the US. Through the direct loan program, its attendant set-asides, and the PWSS grant, Congress and EPA provide a foundation for the drinking water effort; however, this foundation must not remain static. We cannot be so focused on infrastructure and related funding needs that we neglect the science-based programs that also assure safe drinking water. Congress, in the 1996 Amendments to the SDWA, provided a robust, science-based process for identifying contaminants to be regulated. This also included actions that develop appropriate limits, monitoring frameworks, and treatment requirements. States agree that the bottom line for regulation should still be

whether there is a meaningful opportunity for health risk reduction. Having said that, state primacy agencies also support the need to be nimble in our approach to rule development. Using the experience gained through implementation of current rules and knowledge of local conditions, states can also provide input to rule language that will assure that the rule can be effectively implemented on the ground. That's a critical step to assuring compliance by water systems.

Water System Security and Resiliency: Water systems and state primacy agencies worked together after the Bioterrorism Act of 2001 to conduct the mandated vulnerability assessments and the emergency response plans. Since those regulatory requirements were completed, water systems and states have continued to grow in their collective knowledge of system security and resilience, and to tackle new and emerging issues such as regional resilience and cybersecurity. Water is considered one of the "lifeline" sectors by the Department of Homeland Security (DHS), and, as such, needs to be considered as a high priority when assessing funding options for water system improvements. Between FYs 2001 and 2009, states received an annual $5 million grant to support their work with water systems in the areas of security, all hazards preparation, and overall resiliency. For example, states used those dollars to fund a "security coordinator," participate in mutual aid programs and initiatives, work with utilities to share information, provide training on new tools and strategies, support smaller systems with their efforts to enhance their security posture, and generally serve as a water security resource. That funding stream disappeared and states have had to significantly scale back their support activities for water systems. To enhance the capabilities of our Nation's water systems, those funds (or more) should be restored.

Summary

In summary, these three SDWA program elements – PWSS, DWSRF, and the Set-asides – and the supporting regulatory development and resiliency components, form an integrated and mutually supportive framework to achieve the principal goal of state drinking water programs – to protect public health. These three SDWA program elements, along with the dedicated State staff, form the foundation for the technical assistance and regulatory oversight that's necessary for safe drinking water.

ASDWA recommends that:

- The PWSS funding be increased to meet increasing regulatory needs;
- The DWSRF funding be increased; and
- Set-asides are maintained as these funds are essential for states' core public health protection programs and these efforts work in tandem with infrastructure loans.

Mr. SHIMKUS. And the gentleman yields back his time and we appreciate those comments.

Another thing I should have said the Chair would like to remind members that pursuant to committee rules all members' opening statements could be placed into the record.

And I also wanted to mention that you all are on the front lines of these battles. We do really appreciate you being here and your testimony, and I think as the questions will follow up to show because you're really trying to deliver the goods.

So I'd now like to recognize Mr. John Donahue, CEO of the North Park Public Water District in Machesney Park, Illinois, way far away from Collinsville, on behalf of the American Water Works Association.

You're recognized for 5 minutes. Thanks for being here.

STATEMENT OF JOHN J. DONAHUE

Mr. DONAHUE. Good morning, Chairman Shimkus, and members of the subcommittee. My name is John Donahue, the chief executive officer at North Park Public Water District in Machesney Park, Illinois, north of I–80.

I am also the former president of the American Water Works Association on whose behalf I am speaking today. I appreciate this opportunity to offer AWWA's input on reinvesting and rehabilitating our nation's drinking water systems.

As you will hear and see in my written testimony, building and maintaining sound water infrastructure includes addressing not only water infrastructure, which includes pipes and treatment plants, but addressing issues such as cybersecurity and the protection of source waters.

One innovative tool to help address this is a new credit program known as a Water Infrastructure Finance and Innovation Act, or WIFIA.

We are optimistic that once WIFIA really gets running and fully funded it could become a valuable tool for financing projects beyond the size and scope of those funded by other tools.

Just as in the transportation program called TIFIA, Congress only has to appropriate funds for the risk factor to those loans. Based on calculations from OMB, WIFIA appropriations could be leveraged at a ratio of about 60 to 1.

For example, if the WIFIA program were to receive the fully authorized $45 million for Fiscal Year 2018, it could provide more than $2 billion in loan money.

Since a WIFIA loan will only support up to 49 percent of eligible project costs, this funding could result in more than $4 billion in infrastructure investment.

Other key federal programs for infrastructure finance like the State Revolving Loan Fund programs, or SRFs, are also designed to provide water and wastewater systems access to lower cost financing for infrastructure projects, typically smaller than those that can be funded through WIFIA.

While the SRFs are excellent programs, their efficiency could be improved by working with stakeholders to streamline those process.

We realize that this next issue is outside the jurisdiction of this committee but we need to mention and need to preserve the tax-exempt status of municipal bonds as Congress considers comprehensive tax reform. More than 70 percent of U.S. water utilities use muni bonds to help finance infrastructure improvements.

The decision to issue bonds is determined and approved by either the local residents, the referenda or by their elected officials. These bonds provide substantial savings for the cost of projects and consequently to the ratepayers.

These are our recommendations to Congress regarding water infrastructure finance: provide fully authorized funding for WIFIA and at least $1.8 billion for the drinking water SRF program; preserve the tax-exempt status of muni bonds, reauthorize the safe drinking water SRF program and work with stakeholders to utilize the lessons learned since its creation to make it more efficient.

Cybersecurity is an increasing component in upgrading and protecting infrastructure and our written testimony contains our thoughts on that issue. The protection of source waters are also critical to the mission of any drinking water utility.

However, many drinking water systems have limited control over upstream activities that may present risks to water. The Revised Toxic Substances Control Act does contain provisions for requiring consideration of impacts on drinking water sources for certain substances.

However, there are policy gaps in the form of inadequate information sharing policies and a lack of notification protocols to alert a utility of incidents that could impact a water supply.

The chemical spill on the Elk River in West Virginia in 2014 illustrates the need for such notification and alerts. In addition, improved collaboration between agriculture producers and water providers can have measurable results in reducing sediment and nutrient pollution.

Nutrients from agricultural runoff do impact drinking water quality, as we saw in Toledo, Ohio, in 2014 when the water system had to be shut down.

The federal farm bill is a key vehicle for agricultural land conservation efforts. We recommend that Congress support the designation of drinking water utilities as first responders in various state and federal emergency response laws in regulation to facilitate information sharing.

We also recommend that Congress sustain and expand conservation programs in the farm bill that support collaboration between agriculture producers and community water systems to improve source water quality.

EPA's 2012 integrated planning framework and related documents on affordability provided important new flexibilities for wastewater utilities to provide regulatory obligations and infrastructure investments.

Representative Bob Gibbs' Water Quality Improvement Act would help put the integrated planning framework in statute for clean water mandates.

However, this legislation only deals with wastewater projects and does not allow for integrated planning to fully acknowledge the cost implication of drinking water mandates.

With that, I will conclude my remarks and look forward to your questions.

[The prepared statement of John J. Donahue follows:]

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Reinvestment and Rehabilitation

of Our Nation's Safe Drinking Water Delivery Systems

Presented by
John J. Donahue
Chief Executive Officer
North Park Public Water District
Machesney Park, Illinois
&
Former President
American Water Works Association

Before the House Subcommittee on the Environment
March 16, 2017

Good morning, Chairman Shimkus and members of the subcommittee. My name is John Donahue, and I am Chief Executive Officer of the North Park Public Water District, based in Machesney Park, Illinois. I also served as President of the American Water Works Association in 2014, on whose behalf I am speaking today. I deeply appreciate this opportunity to offer AWWA's input on reinvesting and rehabilitating our nation's drinking water infrastructure. As you will hear, having sound water infrastructure requires not only what we traditionally think of as water infrastructure – pipes and treatment plants – but involves additional issues, such as cybersecurity, protection of source waters, effective use of resources, and similar issues.

We have been among those leading the warnings that one of the most crucial challenges our country faces is renewal of our water systems and assuring high-quality drinking water for all Americans. As members of this subcommittee know, safe drinking water is vital to public health

protection, fire prevention, economic prosperity and our quality of life. Without adequate supplies of safe and affordable water and well-maintained systems to deliver it, no country can promise a brighter future for its citizens.

AWWA's 50,000 members represent the full spectrum of water utilities – small and large, rural and urban, municipal and investor-owned. From this diverse perspective, we would like to bring to the subcommittee's attention several issues, shared priorities and opportunities for collaboration. Working closely with Congress, we hope to stimulate reinvestment in water infrastructure, top-shelf cybersecurity, protection of source water, smart approaches to affordability, an efficient energy-water nexus and a focus on scientific integrity in our regulatory processes.

Water Infrastructure Investment = Economic Prosperity

The top priority facing our nation's drinking water and wastewater systems is financing the repairs, replacement and expansion necessary to support our communities and assure a vibrant economy.

Water infrastructure protects public health and the environment, supports local businesses, protects us from fires, and brings us a high quality of life. The Bureau of Economic Analysis (BEA) at the US Department of Commerce estimates that for every dollar spent on water infrastructure, $2.63 is generated in the private economy. And for every job added in the water workforce, the BEA estimates that 3.68 jobs are added in the national economy.

AWWA estimates that approximately $1 trillion dollars will be needed for the repair, replacement and expansion of existing drinking water distribution systems over the next two decades. This figure does not include the estimated $30 billion that would be required to replace every lead service line in the U.S.

One innovative solution is a new credit program, the Water Infrastructure Finance and Innovation Act (WIFIA). We are hopeful that once it really gets running and fully funded, it can provide much-needed access to low-interest financing for larger water infrastructure projects or projects outside the scope of the state revolving funds. A WIFIA loan will support up to 49% of eligible project costs, which might also involve municipal bonds, cash financing, an SRF loan, and/or private capital. Just like in the already-successful transportation program called TIFIA, Congress only has to appropriate funds for the risk factor for loans. Historically, the default rate for water utilities nationwide is 0.04 percent.

Based on calculations from the Office of Management and Budget, Congressional appropriations could be leveraged at a ratio of about 60:1. For example, if the WIFIA program were to receive the fully authorized $45 million for fiscal year 2018, it could provide well more than $2 billion in loan money, which would amount to more than $4 billion in infrastructure investment. This program provides an exceptional vehicle to stimulate the investments needed to sustain our nation's drinking water and wastewater infrastructure.

To finance the remaining 51% of the costs for a project receiving WIFIA assistance, a utility has several options, including tax-exempt private activity bonds. Congress provides states an annual allocation of federal tax-exempt private activity bonds, based upon population. In 2015, the state allocation or volume cap was the greater of $100 per resident or $301.52 million. Historically, most of the tax-exempt bonds have been issued to short-term projects such as housing and education loans.

The annual volume cap hinders the use of private activity bonds (PABs) for water and wastewater infrastructure, which are generally multi-year projects. On average, only 1% of exempt facility bonds are issued to water and wastewater projects annually.

Existing federal programs such as the Drinking Water State Revolving Fund (DWSRF) and Clean Water State Revolving Fund (CWSRF) are designed to provide community water and

wastewater systems access to lower-cost financing for infrastructure projects. We support robust funding for these very successful programs. Under the SRF programs, states make loans to a utility. The utility must repay this loan, and those funds are then lent to other communities, and so on. While the SRFs are excellent programs, their efficiency could be improved by working with stakeholders to streamline the approval process.

We realize that this next issue is outside the jurisdiction of this committee, but we would be remiss if we did not mention the need to preserve the tax-exempt status of municipal bonds as Congress considers comprehensive tax reform. More than 70 percent of U.S. water utilities use municipal bonds to help finance infrastructure improvements. They are a very effective tool for implementing the infrastructure needs for different communities. The decision to issue bonds is determined and approved by either the local residents through referenda or by their elected officials. State and local governments on average save about two percentage points on municipal bonds, which translates to substantial savings on projects. We also note that variations of public-private partnerships often utilize municipal bonds.

Recommendations for Congress

1. Make reinvestment in America's water and wastewater infrastructure a top national priority.

2. Provide fully authorized funding for the Water Infrastructure Finance Innovation Act (WIFIA) and at least $1.8 billion for the drinking water SRF program.

3. Preserve the tax-exempt status of municipal bonds.

4. Eliminate the cap on private-activity bonds for financing water infrastructure projects to further promote necessary investments.

5. Reauthorize the Safe Drinking Water SRF program and take advantage of the opportunity to utilize lessons learned since its creation to make it more efficient, by doing the following:
    a. Require quarterly instead of annual reports from states on the amount of unobligated SRF funds the states are holding. This would provide a clearer picture of how efficiently money is moving and which, if any, states need assistance in moving loans;
    b. Provide for the redirection of large sums of unobligated SRF funds after a specified time period;
    c. Make it clear in SRF authorization language that use of SRF loans for consolidation or regionalization of water systems to improve water service to a population does not violate the ban on the use of SRF assistance to accommodate growth;
    d. Direct EPA to provide guidance to states to help make applications scalable to the size and scope of the project under consideration; and
    e. Work with stakeholders to find areas in which administrative processes or requirements could be streamlined.

Cybersecurity for Critical Infrastructure

Continued advances in automation and information technologies have brought great economic advantages to many sectors. However, these capabilities have also introduced the specter of cyber- attacks, a new and faceless threat to individuals, businesses and the critical infrastructure upon which our economy depends. A punitive, compliance-based approach to cybersecurity that places the burden solely on prospective victims/targets of cybercrimes and attacks is ill-advised.

Responsibility for cybersecurity must be shared with technology providers to ensure that the systems to support infrastructure operations, to the extent possible, are not susceptible to attack. In addition, technical support programs are needed to help systems – particularly in small and medium-sized communities -- overcome the technical knowledge/skills gap associated with many of the security systems that have been deployed.

AWWA has been proud to develop a cybersecurity resource designed to provide actionable information for utility owner/operators based on their use of process control systems. That is the purpose and objective of the "Process Control System Security Guidance for the Water Sector" and the supporting on-line "Use-Case Tool." Both are free to water providers on our website. These resources have been recognized by the Water Sector Coordinating Council and EPA as the foundation of a voluntary, sector-specific approach for adopting the National Institute of Standards and Technology's (NIST's) Cybersecurity Framework.

The cyber threat requires ongoing public-private collaboration to develop solutions and mitigate risks facing critical infrastructure.

Recommendations for Congress and the Administration

1. Support a voluntary, collaborative approach to cybersecurity that recognizes the dynamic nature of the threats facing critical infrastructure, such as the existing work done with various sectors, including water, and NIST.

2. Expand support for aggressive investigation and prosecution of cyber attackers.

3. Enhance programs, such as the Industrial Control Systems Cyber Emergency Response Team (ICS-CERT), that can support and build the cyber risk management capacity of all critical infrastructure sectors and rapid information sharing for vulnerability mitigation protocols.

Source Water Protection

Protection and management of source waters are critical to the mission of any drinking water utility and the communities it serves. In reality, however, many drinking water systems have limited control over upstream activities that may present risks to water quality. The revised Toxic Substances Control Act (TSCA) does contain provisions for requiring consideration of impacts on drinking water sources for certain substances. This is an important step in developing programs that place high value on source waters. However, there are critical policy gaps that impede water utility consideration of prospective risks to source waters. These gaps are due to inadequate information-sharing policies and a lack of notification protocols to alert a utility of incidents that could impact a water supply. The chemical spill on the Elk River in West Virginia in 2014 illustrates the need for such notification and alerts.

In addition, improved collaboration between agriculture producers and water providers can have measurable results in reducing sediment and nutrient pollution. Nutrients from agricultural runoff do impact drinking water quality, as we saw in Toledo, Ohio, in 2014, when the water system had to be shut down.

The federal Farm Bill contains the largest funding source for agricultural land conservation efforts. Not only is robust funding needed for such efforts, but they need to be focused where they are achieving the greatest public good. One program within the Farm Bill conservation title in particular has the greatest promise for helping farmers and ranchers undertake effective nutrient management practices in critical watersheds: the Regional Conservation Partnership Program, created in the 2014 Farm Bill. In this program, USDA's Natural Resources Conservation Service, state agencies and non-governmental entities provide financial aid and technical assistance to farmers and ranchers to implement conservation practices that address higher-priority natural resource concerns. The 2014 Farm Bill authorized $1.2 billion for RCPP over five years, but federal budget sequestrations are cutting into those authorized amounts.

Incentivizing upstream adoption of best management practices for nutrient management, along with structural and edge-of-field practices (e.g. riparian buffers, drainage water management, tile nutrient management), are important tools in managing source water quality.

Recommendations for Congress

1. Support the designation of drinking water utilities as "first responders" in various state and federal emergency response laws and regulations to facilitate information sharing with a clear "need-to-know" status.

2. Sustain and expand targeted programs, particularly the conservation programs in the Farm Bill, that support collaboration between agriculture producers and community water systems to improve source water quality. We realize the Farm Bill itself is outside the jurisdiction of this committee, but we seek your support in working with the agriculture committees on the conservation title, to help provide the American public with the best water possible.

Energy-Water Nexus

Drinking water and wastewater utilities use nearly 2% of electricity nationwide. Ultimately, the water and energy sector are deeply co-dependent, with most energy production requiring water and all water production/treatment requiring energy. Improving energy efficiency, energy management, and deployment of renewables within the water sector lowers costs and improves system resilience. This frees up more resources for infrastructure renewal and other priorities, leads to lower emissions, and assists states in meeting their energy goals. Collaborations with the Department of Energy have provided the water sector with key resources needed to improve efficiency and energy management.

Recommendations for Congress and the Administration

1. Support voluntary Department of Energy programs designed to assist the water sector, including continued expansion of the *Better Plants* program.Support initiation of a *Uniform Methods Project* for water utility energy efficiency.

2. Support the development of voluntary state energy programs for the water sector.

Affordability

The core mission of drinking water and wastewater systems is to protect public health and the environment. To accomplish this mission, these water systems must build and operate increasingly complex treatment systems to meet various statutory and regulatory requirements.

These systems must also be built and operated in a manner that is affordable to the local ratepayer.

Current affordability guidelines were developed in 1997 and are outdated. They rely on a single economic indicator – median household income – and have not been revised and updated to account for current economic circumstances. This is a major problem when the Department of Justice seeks to place a public utility and its community under a federal enforcement order. EPA's guidelines must be revised to include new affordability criteria that evaluate a much broader range of community affordability factors.

Studies done in collaboration with the U.S. Conference of Mayors have shown that some regulatory actions do not fully take into consideration the larger context of public health needs and benefits for a community. Since water and wastewater services are funded principally by local ratepayers, the collective burden from multiple regulatory actions should be considered in the whole, as they would be by the families and businesses that will be required to fund them. A

lack of integrated planning redirects constrained funding to address issues that may not generate the greatest public health benefit.

EPA's 2012 Integrated Planning Framework and related documents on affordability provided important new flexibilities for wastewater utilities to prioritize their regulatory obligations and infrastructure investments. However, more action is needed to institutionalize integrated planning in all aspects of EPA's interactions with water utilities, particularly in wastewater permitting. Integrated planning-based scheduling and sequencing must be available as an option for utilities to consider in all future National Pollutant Discharge Elimination System permits. However, integrated planning needs to be codified in the Clean Water Act (realizing this is outside the jurisdiction of this committee) and drinking water regulation needs to become a part of integrated planning as well.

AWWA was pleased to see that Rep. Bob Gibbs' reintroduced the Water Quality Improvement Act, H.R. 465, in the 115th Congress. Legislation like this bill would help put the integrated planning framework in statute for clean water mandates. However, this legislation only deals with clean water, and does not allow for integrated planning to fully acknowledge the cost implications of drinking water mandates. AWWA is committed to working with Mr. Gibbs, the House Subcommittee on Water Resources and Environment, and the Subcommittee on Environment to advance this legislation and eventually see it become law.

Recommendations for Congress

1. Integrated planning should account for the full cost placed on a community when considering drinking water and wastewater regulatory actions to ensure such decisions are not overly burdensome and thus undermine the very benefits sought.

2. Codify in federal law integrated planning for clean water and drinking water regulation.

Scientific Integrity and Transparency

A core tenet of the Safe Drinking Water Act and AWWA is adherence to sound science. This tenet is essential to ensure the integrity of the decision-making process, which must include rigorous public review and comment. This process admittedly appears slow and there is concern it results in too many regulatory delays. However, sound science requires a thorough, methodical, science-based evaluation of potential risks. AWWA believes greater investment in the necessary fundamental scientific research would mitigate the concerns about the length of time required to address risks, expedite decision-making and benefit public health.

In the absence of critical information, especially health effects data, agency actions can result in less-than-optimal decisions that may not serve the public interest. Decision-making based on limited information undermines the credibility of the process with the public and often results in costly diversions of limited financial resources. The absence of data and information can be overcome with appropriate budgetary support for research.

Recommendations for Congress

1. Support the deliberative, science-based regulatory processes outlined in the Safe Drinking Water Act to set health-protective standards for drinking water.

2. Authorize and appropriate funding to assist EPA in its evaluation of potential contaminants.

What is the American Water Works Association?

The American Water Works Association (AWWA) is an international, nonprofit, scientific and educational society dedicated to providing total water solutions and assuring the effective

management of water. Founded in 1881, the association is the largest organization of water professionals in the world.

Our membership includes more than 3,900 utilities that supply roughly 80 percent of the nation's drinking water and treat almost half of the nation's wastewater. Our 50,000 members represent the full spectrum of the water community: public water and wastewater systems, environmental advocates, scientists, academicians, and others who hold a genuine interest in water, our most important resource. AWWA unites the diverse water community to advance public health, safety, the economy, and the environment.

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Mr. SHIMKUS. Gentleman yields back his time.

Chair now recognizes Mr. Rudolph Chow, Professional Engineer, Director of the Baltimore, Maryland Department of Public Works on behalf of the American Municipal Water Association.

Welcome. You're recognized for 5 minutes.

STATEMENT OF RUDOLPH S. CHOW, P.E.

Mr. CHOW. Good morning, Chairman Shimkus and Ranking Member Tonko and honorable members of the Energy and Commerce Committee Environment Subcommittee.

My name is Rudy Chow and I am the director of the Department of Public Works with Baltimore City. It is my honor to appear before you this morning.

As director of the Baltimore City Department of Public Works, I'm responsible for safe delivery of the highest quality drinking water to 1.8 million people living and working in our metropolitan region.

I have over 30 years of experience in the public water industry from the operational, engineering and administrative perspectives. It is a field I both love and respect.

I'm here today to speak on behalf of the Association of Metropolitan Water Agencies, AMWA, an organization representing the nation's largest public drinking water utilities which collectively serve more than 130 million Americans with quality drinking water. I serve on the AMWA board of directors with other dedicated professionals from all over the country.

While our home jurisdiction may be different, I assure you that our challenges are not. We are all challenged by the effects of aging infrastructure and the costly capital projects that protect and improve the quality of water we deliver to our customers.

It is a delicate balancing act we perform to prioritize and fund these expensive investments that are borne locally. But the time of kicking the can down the road is long over.

Through organizations such as AMWA and serious discussion of these challenges in Congress through committees and subcommittees such as yours, we hope to seize the moment the momentum of this national conversation and forge a national commitment to protect our drinking water.

The scale of this challenge cannot be done solely on our own. It is too important. We do not want communities forced to choose between investing in necessary infrastructure and the safety of their water. But here are the cold hard facts.

The EPA's most recent drinking water and clean water needs surveys identify more than $655 billion of needed water and wastewater infrastructure investments over the next 20 years just to maintain the status quo.

AMWA and the National Association of Clean Water Agencies project that water and wastewater utilities could spend a similar amount over 40 years just to adapt to extreme droughts, more frequent and intense storms and rising sea levels.

In my own city of Baltimore, my annual capital program for water and wastewater project can comprise 80 percent of the city's total capital investments. My six-year capital program for just water infrastructure exceeds $2 billion.

The work of this subcommittee and Congress make a difference between our success or failure as a nation to protect our most basic need: clean safe drinking water.

Congress passed the Water Infrastructure Improvements of the Nation Act last year. It created a new program in funding to remove and replace outdated lead service lines and help low-income customers absorb their share of replacement costs.

We need more programs like this to help support affordable financing and assistance to communities in need. AMWA is asking to continue this momentum to support the following efforts in programming.

We need to renew commitment in the Drinking Water State Revolving Fund, SRF. The Drinking Water SRF is an effective national funding mechanism providing critical funding assistance and that is a lifeline to many communities large or small struggling to fund their capital programs. We ask a doubling of SRF to $1.8 billion.

The Water Infrastructure Innovation Act, or WIFIA, is a new federal pilot program that AMWA believes will provide innovative funding to help communities nationwide pay for large-scale water and wastewater projects.

WIFIA will complement, not compete, with SRF funds and WIFIA can help communities with large-scale investment that some SRFs cannot provide. Support the use of tax exempt municipal bonds as they are the most prevalent water infrastructure financing mechanism with at least 70 percent of U.S. water utilities relying on them to pay for infrastructure improvements.

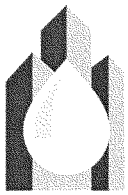
By reauthorizing the Drinking Water SRF, Congress will have an opportunity to update and streamline the program. AMWA would like to codify water facility security enhancements as well as allowing a portion of the metropolitan service areas to qualify as a disadvantaged community use of these funds.

AMWA also supports the framework of the Safe Drinking Water Act and its careful balance of public health protection and local cost and feasibility considerations. Congress should consider options for targeted low-income water rate assistance programs. They are greatly needed.

Finally, AMWA believes water utilities should be recognized in providing preference under SRF for taking steps to improve efficiency and adopting best industry practices via sound water utility asset management plan or who formulate cooperative water utility partnerships.

On behalf of AMWA, I appreciate the opportunity to testify on the importance of investing and rehabilitating our nation's drinking water infrastructure. Thank you again, and I am happy to answer any question you might have.

[The prepared statement of Rudolph S. Chow, P.E. follows:]



ASSOCIATION OF
METROPOLITAN
WATER AGENCIES

Testimony of

Rudolph S. Chow, P.E.
Director, Department of Public Works
City of Baltimore, Maryland

On Behalf of the
Association of Metropolitan Water Agencies

Before the
U.S. House of Representatives
Energy and Commerce Committee
Environment Subcommittee

Hearing on
Reinvestment and Rehabilitation of Our Nation's
Safe Drinking Water Delivery Systems

March 16, 2017

Summary of the Testimony of Rudolph S. Chow

- Public drinking water utilities in the United States provide their customers with some of the best drinking water in the world, but according to U.S. EPA our nation's water and wastewater infrastructure requires more than $655 billion worth of investment over the coming decades to ensure current levels of service continue.

- In Baltimore, the Department of Public Works has launched a comprehensive, long-term strategy to replace or rehabilitate 1,500 miles of city-owned water mains that deliver safe and reliable drinking water to our 1.8 million residential and business customers. Cities and towns across the country are undertaking similar efforts to upgrade their water infrastructure.

- Federal financing assistance is a key component of nationwide efforts to rehabilitate water infrastructure. The Drinking Water State Revolving Fund is a well-established program that helps community water systems undertake projects and repairs that ensure continued public health protection. Since 1996 it has provided nearly 13,000 water infrastructure loans with an average value of about $2.5 million.

- The new Water Infrastructure Finance and Innovation Act (WIFIA) pilot program will deliver additional low-cost loans for major water infrastructure projects that may be too large to benefit from the DWSRF. EPA expects to leverage Congress' initial FY17 appropriation of $17 million for WIFIA project funding into more than $1 billion worth of loans to communities.

- The federal tax code helps communities access low-cost infrastructure financing by making interest earned on municipal bonds exempt from federal income taxes. Without this exemption, AMWA estimates that water infrastructure financing costs would increase by approximately 25 percent as investors would demand higher interest rates on municipal bonds. This, in turn, could lead to higher water bills for communities and their ratepayers.

- The Association of Metropolitan Water Agencies stands ready to work with the subcommittee in support of these programs and other initiatives that will renew America's commitment to robust drinking water infrastructure.

Chairman Shimkus, Ranking Member Tonko, and members of the subcommittee: the Association of Metropolitan Water Agencies (AMWA) appreciates the opportunity to testify on the important topic of "Reinvestment and Rehabilitation of Our Nation's Safe Drinking Water Delivery Systems." We are glad that Congress is turning its attention to the state of our nation's water infrastructure.

I am Rudy Chow, and I have served as Director of the Baltimore Department of Public Works since 2014. One of the top priorities of the Department is to safely and reliably deliver high quality drinking water to all 1.8 million of our residential and business customers in Baltimore and the surrounding region. To ensure success in this mission, the Department has launched a comprehensive, long-term strategy to replace or rehabilitate 1,500 miles of city-owned water mains. And on the wastewater side, we have initiated a program to comply with Baltimore's sanitary sewer consent decree by rebuilding hundreds of miles of sewer mains and by upgrading the capacity of our Back River Wastewater Treatment Plant. Clearly, Baltimore has made a priority of reinvestment in, and rehabilitation of, our water infrastructure.

I also serve as a member of AMWA's Board of Directors. AMWA is an organization representing the nation's largest publicly owned drinking water utilities, which collectively serve more than 130 million Americans with quality drinking water. Our members are well aware of the urgent need to upgrade our nation's water infrastructure, and we are eager to work with the subcommittee to develop components of any forthcoming infrastructure funding legislation that may help communities meet this objective.

It is beyond doubt that America's water and wastewater infrastructure is due for an upgrade. EPA's most recent Drinking Water and Clean Water Needs Surveys show that the nation's water and wastewater infrastructure requires more than $655 billion worth of investments over the next two decades just to maintain current levels of service, but even those estimates may be too modest. The American Water Works Association has estimated that it may cost drinking water systems alone approximately $1 trillion over the next 25 years just to upgrade and expand buried water infrastructure, and AMWA and the National Association of Clean Water Agencies have projected that water and wastewater utilities could spend a similar amount over 40 years as they adapt to changing hydrological conditions such as extreme drought, more frequent intense storms, and rising sea levels.

Fortunately, Congress has begun to give this issue the attention it deserves. Last year's passage of the Water Infrastructure Improvements for the Nation Act authorized funding for a new program aimed at removing and replacing outdated lead service lines and helping low-income customers absorb their share of these replacement costs. The law also authorized assistance to help schools and child care centers test the quality of their drinking water. AMWA hopes to see each of these new programs receive appropriations in the next fiscal year.

All of this represents good progress, but we know that much more remains to be done. And while we continue to believe that local water infrastructure should primarily be paid for through local water rates, there is an important role for the federal government to play in facilitating access to affordable financing and offering assistance to

communities in need. AMWA supports the following programs to strengthen and maintain our nation's drinking water infrastructure.

The Drinking Water State Revolving Fund

Authorized by Congress in 1996, the Drinking Water State Revolving Fund (DWSRF) is the most well established federal program to aid in the financing of drinking water infrastructure. Each year after Congress appropriates DWSRF funding, EPA distributes a share of the funds to each state, following a formula based on each state's identified drinking water infrastructure needs. States add a match of at least 20 percent to their share of funding, and then use the proceeds to provide loans and other assistance for eligible projects in their state, with a focus on addressing the most significant threats to public health. Historically, the DWSRF has tended to focus on small or rural communities that face water quality challenges.

According to EPA, through 2016 the DWSRF had provided nearly $32.5 billion in funding assistance to communities nationwide through 12,827 individual assistance agreements – an average of just over $2.5 million per project. Small communities serving 10,000 people or fewer have received 9,044 of these assistance agreements since the program's inception – about 70 percent of the total – while metropolitan water systems serving more than 100,000 people obtained 897 DWSRF loans through the end of 2016.

While the DWSRF has been a great success, the program also is in need of a renewed commitment from Congress. The DWSRF has never been reauthorized, and annual funding levels have steadily decreased since 2010. While House and Senate appropriators each approved FY17 funding legislation that would provide more than $1

billion for the DWSRF, those proposals are currently on hold along with the rest of EPA's final FY17 budget.

Looking ahead, we are heartened that last year during the presidential campaign President Trump called for tripling annual SRF appropriations, but we are concerned that early reports about the White House's FY18 budget request may propose cutting overall EPA funding by as much as 25 percent. These two objectives are simply incompatible.

Rather than drastic cuts, AMWA would prefer to see the SRF programs put on a path toward sustained growth that will result in an eventual tripling of their appropriations, in line with the position of the president's campaign. To this end, AMWA and others in the water sector support an FY18 Drinking Water SRF appropriation that doubles the program's FY16 level, to $1.8 billion. Such an infusion of funds could also be delivered through a comprehensive infrastructure funding package that Congress may consider later this year.

The Water Infrastructure Finance and Innovation Act

The federal government's newest water infrastructure financing program was established three years ago with strong bipartisan and bicameral support. Enacted as part of the Water Resources Reform and Development Act of 2014, the Water Infrastructure Finance and Innovation Act (WIFIA) pilot program is an innovative financing mechanism that will help communities nationwide pay for large-scale water and wastewater infrastructure projects. Through WIFIA, EPA will loan Treasury funds to cities and towns to carry out qualifying projects, but at a lower interest rate than the community would likely obtain on the bond market. All WIFIA loans will be paid back to the federal government with interest over the period of 35 years following substantial

completion of the project – thus providing affordability to local ratepayers and a return on investment to the U.S. Treasury.

Importantly, WIFIA will complement, not compete with, the existing SRF programs. Unlike the DWSRF, which typically delivers modest-sized loans to help communities respond to public health risks, WIFIA is intended to help communities finance large-scale water infrastructure improvements that may not be positioned to benefit from SRF assistance. For example, because the DWSRF gives preference to projects that address the most serious risks to human health, a significant portion of DWSRF loans often flow to small communities that require help to improve drinking water quality. But other projects that are not directly tied to SDWA compliance or health protection – such as investments to replace or upgrade aging infrastructure or to enhance the reliability and security of water supplies, particularly in metropolitan areas – often struggle to obtain SRF assistance in amounts that will meaningfully reduce total project costs.

A wide range of drinking water, wastewater, stormwater, water reuse, recycling, and desalination projects expected to cost in excess of $20 million are all eligible for WIFIA loan assistance – with WIFIA funding available to cover up to 49 percent of the total project costs. WIFIA also accommodates smaller communities faced with lower-cost projects, as the program will offer loans to a project costing as little as $5 million in a community of 25,000 people or fewer.

The next several months will mark an exciting time for WIFIA. Late last year Congress appropriated $20 million to support WIFIA loans in 2017 – with $3 million reserved to cover administrative expenses at EPA. EPA expects to leverage the

remaining $17 million into more than $1 billion worth of loans to communities across the United States. In January EPA subsequently circulated its first notice of funding availability to begin the process of soliciting WIFIA funding applications, with an April 10 deadline for communities to submit initial letters of interest that describe their potential WIFIA projects. This timeframe could allow the first WIFIA loan funds to get out the door to chosen applicants by the end of the year.

Looking ahead, WIFIA is authorized as a pilot program only through the 2019 fiscal year. Should WIFIA's initial round of funding prove successful, AMWA will urge Congress to quickly reauthorize the program to build on and sustain this initial momentum.

Tax-Exempt Municipal Bonds

The most critical federal water infrastructure financing assistance mechanism is perhaps also the most overlooked during infrastructure policy discussions. And though decisions on the fate of this mechanism will ultimately be made outside of this committee, it is important for all members of Congress to be aware of its essential role in financing water infrastructure.

Since the federal tax code was established in 1913 interest earned on municipal bonds has been exempt from federal income taxes. According to the Congressional Research Service, tax-exempt municipal bonds are the most prevalent water infrastructure financing mechanism, with at least 70 percent of U.S. water utilities relying on them to pay for infrastructure improvements. And a study completed last month by AMWA and the National Association of Clean Water Agencies found that in 2016 alone

communities across the United States issued nearly $38 billion in tax-exempt municipal bonds to finance water, sewer, and sanitation projects.

Municipal bonds make infrastructure investments more affordable for communities because the lack of a federal tax on their interest payments leads investors to charge lower interest rates than they otherwise would. These lower interest rates directly translate to lower financing costs, and thus more affordability for local water and wastewater ratepayers. Without this tax benefit, water and wastewater utilities across the county would pay about 25 percent more in financing costs over their bond payback periods – essentially an additional tax on water infrastructure investment that would be borne by water utility ratepayers of all income levels.

In Maryland alone, cities and towns across the state issued roughly $46.5 million worth of tax-exempt municipal bonds to support water and wastewater infrastructure projects in 2016. AMWA's data indicates that fully taxing municipal bond interest would increase local financing costs on this debt by nearly $20 million over the expected payback periods. Put another way, these increased financing costs represent about 42 percent of the value of Drinking Water and Clean Water State Revolving Fund assistance delivered to Maryland in 2016.

As Congress plans to consider a comprehensive tax reform proposal later this year, AMWA encourages members of this committee who prioritize affordable water infrastructure investments to stand up in support of tax-exempt municipal bond interest. Failing to maintain this effective and equitable subsidy would drastically increase the cost of water infrastructure financing and permanently reduce the affordability of water service to ratepayers in communities nationwide.

A Renewed Commitment to Water Infrastructure

In addition to adequate funding, water infrastructure funding programs also require a renewed commitment from Congress. The Drinking Water State Revolving Fund should be reauthorized, giving Congress a chance to update and streamline the program to position it for continued success in the 21st Century. Some updates favored by AMWA include codifying water facility security enhancements as an eligible use of DWSRF funds, and allowing portions of metropolitan water utility service areas to qualify as a "disadvantaged community" that is able to receive additional subsidization.

More broadly, AMWA supports the framework of the Safe Drinking Water Act, and its regulatory process that reflects a careful balance of public health protections and local cost and feasibility considerations. But new EPA mandates may still pose affordability challenges in many communities, particularly among low-income households, so we believe Congress should consider options for a targeted low-income water rate assistance program.

Finally, AMWA believes water utilities should be recognized for taking steps to improve efficiency and adopting industry best practices. For example, communities that have completed water utility asset management plans should be awarded additional preference when applying for DWSRF assistance, and Congress should encourage the formulation of cooperative water utility partnerships that can improve the operations and management of water systems that have previously experienced compliance issues.

Again, AMWA appreciates the opportunity to testify on the importance of reinvestment and rehabilitation of our nation's drinking water infrastructure. Continued

congressional support for the DWSRF, WIFIA, and tax-exempt municipal bond interest are all policies that will help our nation achieve this goal.

Thank you again, and I am happy to answer any questions from the committee.

Mr. SHIMKUS. Gentleman's time has expired. We thank you for your testimony.

The chair now recognizes Mr. Greg DiLoreto, Chairman of the Committee for America's Infrastructure, American Society of Civil Engineers and nothing.

So we will recognize you for 5 minutes.

STATEMENT OF GREGORY E. DILORETO

Mr. DILORETO. Thank you very much, Chairman Shimkus, Ranking Member Tonko and members of the subcommittee.

Good morning. My name is Greg DiLoreto and I'm a past president of the American Society of Civil Engineers and the current chair of the ASCE Committee for America's Infrastructure, responsible for the 2017 report card for infrastructure.

Prior to my retirement, I served as the chief executive officer of the publicly-owned Tualatin Valley Water District in Portland, Oregon. It's the second largest water utility in Oregon.

I am honored to be here today to testify on behalf of ASCE on the state of America's drinking water infrastructure as the subcommittee examines reinvestment and rehabilitation of our nation's safe drinking water delivery systems.

You're hearing a recurring theme from the comments by the chair, by the comments from the ranking members as well as the four people that have testified before me.

You're hearing this theme that we need to invest in our infrastructure. Every four years since 1998, ASCE has published the report card for America's infrastructure which grades the current state of 16 national infrastructure categories on a scale of A through F.

Last week, we released our 2017 report card, which we'd like to have entered into the official record. In this report card——

Mr. SHIMKUS. Without objection, so ordered.

[The information appears at the conclusion of the hearing.]

Mr. DILORETO. Thank you. In this report card, we gave the nation's drinking water infrastructure systems a grade of D. Unfortunately, that is the same grade it received in our 2013 report card.

But the good news from this year's report card is that water conservation efforts through wise use of water seem to have paid off.

Municipal water consumption in the United States has declined by 5 percent this decade, marking the first time in nearly 40 years that water use at home has decreased.

Total freshwater withdrawals this decade continue to decline in almost every sector including agriculture, industry, domestic and thermal electric. This is primarily due to efficiencies and the reduction in withdrawals from retired coal-fired plants.

The bad news is that every day nearly 6 billion gallons of treated drinking water are lost due to leaking pipes with an estimated 240,000 water main breaks per year occurring in this country.

It's estimated that these leaky pipes are wasting 14 to 18 percent of each day's treated water, the amount of clean drinking water that could support 15 million households.

To address these programs and bring the grade up to a B—good condition, which we recommend—EPA has estimated, as you've

heard, we need to invest, at a minimum, $384 billion over the next 20 years from all levels of government.

Importantly, EPA's numbers do not account for population growth and an estimate is limited in its scope of projects so it could be higher. While drinking water infrastructure is funded primarily through a rate-based user system, the investment has been inadequate for decades and will continue to be underfunded without significant changes as the revenue generated will fall short of the needs grow and as water utilities strive to meet safe drinking water standards.

Additionally, many U.S. cities are losing population. This poses a significant challenge to utility managers. Fewer ratepayers—a declining tax base—make it difficult to raise funds for capital investment plans.

To respond, utilities must raise rates often in cities where jobs and pay have not kept pace with the economy, putting a burden on those who can least afford rate increases.

Conversely, in areas of the country that are growing, such as the West and Southwest, utility managers must respond to an increased overall demand.

So we'd like to offer the following recommendations. First, as you've heard from my colleagues, reinvigorate State Revolving Loan Fund program under the Safe Drinking Water Act through permanent reauthorization. And we are going bold, tripling the amount of the annual appropriation. This is the amount that the president has called for.

Second, fully fund the Water Infrastructure Finance and Innovation Act. Three, as with my colleagues, preserve tax-exempt municipal bond financing. Low-cost access to capital keeps lending for water upgrades strong and accessible for communities large and small.

And fourth, eliminate the state cap on private activity bonds for water infrastructure to bring an estimated $6 billion to $7 billion annually in new private investment.

Finally, the federal government cannot be the bank of last resort. We understand and recognize that individual water utilities must consider the need to increase the price of water to local users.

Water must be appropriately priced, however, to ensure investments to rebuild the infrastructure.

Thank you, Mr. Chairman. That concludes our testimony and at the appropriate time I'd be happy to answer your questions.

[The prepared statement of Gregory E. DiLoreto follows:]

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Testimony Of

The American Society of Civil Engineers

to the

U.S. House of Representatives

Committee on Energy and Commerce

Subcommittee on the Environment

on

Our Nation's Water Infrastructure:

Challenges and Opportunities

March 16, 2017

Mr. Chairman Shimkus, Ranking Member Tonko, and Members of the Subcommittee:

Good morning. My name is Gregory E. DiLoreto, and I am a past president of the American Society of Civil Engineers and the current Chair of the ASCE Committee for America's Infrastructure responsible for the 2017 Report Card for Infrastructure. Prior to my retirement, , I served as chief executive officer for the publicly owned Tualatin Valley Water District in the Portland, Oregon, metropolitan area. The District is the second largest water utility in Oregon, serving more than 200,000 customers in the Portland area. I am a licensed Professional Engineer in the state of Oregon.

I am honored to be here today to testify on behalf of ASCE on the state of America's drinking-water infrastructure as the Subcommittee examines ""Reinvestment and Rehabilitation of Our Nation's Safe Drinking Water Delivery Systems".

The American Society of Civil Engineers is pleased to offer this testimonyas the Committee works to understand and improve the nations drinking water infrastructure. ASCE represents more than 150,00 civil engineers worldwide who plan, design, build, operate and maintain drinking water infrastructure across the country.

Last week, ASCE's 2017 Report Card for Infrastructure graded the nation's drinking water infrastructure a "D" Unfortunately that is the same grade received in our 2013 Report Card.

The United States uses 42 billion gallons of water a day to support daily life from cooking and bathing in homes to use in factories and offices across the country. Around 80% of drinking water in the U.S. comes from surface waters such as rivers, lakes, reservoirs, and oceans, with the remaining 20% from groundwater aquifers. In total, there are approximately 155,000 active public drinking water systems across the country. Most Americans – just under 300 million people – receive their drinking water from one of the nation's 51,356 community water systems. Of these, just 8,674 systems, or 5.5%, serve more than 92% of the total population, or approximately 272.6 million people. Small systems that serve the remaining 17.4% of the population frequently lack both economies of scale and financial, managerial, and technical capacity, which can lead to problems of meeting Safe Drinking Water Act standards.

Drinking water is delivered via one million miles of pipes across the country. Many of those pipes were laid in the early to mid- 20th century with a life span of 75-100 years. With utilities averaging a pipe replacement rate of 0.5% per year, it will take an estimated 200 years to replace the system – nearly double the useful life of the pipes.

Because America's drinking water infrastructure provides a critical service, significant new investment and increased efficiencies are needed as filtration plants, pipes, and pumps age past their useful life. Every day, nearly six billion gallons of treated drinking water are lost due to leaking pipes, with an estimated 240,000 water main breaks occurring each year. It is estimated that leaky, aging pipes are wasting 14 to 18 percent of each day's treated water; the amount of clean drinking water lost every day could support 15 million households.

To address deteriorating water infrastructure, asset management provides utility managers and decision-makers with critical information on capital infrastructure assets and timing of investments. Some key steps for asset management include making an inventory of critical assets; evaluating their condition and performance; developing plans to maintain, repair, and replace assets; and funding these activities.

While drinking water infrastructure is funded primarily through a rate-based user pay system, the investment has been inadequate for decades and will continue to be underfunded without significant changes as the revenue generated will fall short as needs grow. According to the American Water Works Association, upgrading existing water systems and to meeting the drinking water infrastructure needs of a growing population will require at least $1 trillion.

The majority of funding for drinking water infrastructure comes from revenue generated by rate payers. In the nation's largest 50 cities, the rate users pay varies greatly; the lowest average monthly water bill is $14.74 in Memphis, while Seattle residents pay the most at $61.43. This large gap exemplifies the varied approaches to rate structure, as well as the contrast of need and investment across the country. While higher rates that reflect the true cost of service are important, public assistance programs should be considered for low income populations. Between 2009 and 2014, state and local governments decreased capital spending for both drinking water and wastewater by 22%; at the same time, federal capital spending did not change significantly.

The federal government offers financial support to local governments and utilities in the form of loans through the Drinking Water State Revolving Fund, which provides low-interest loans to state and local water infrastructure projects. The Environmental Protection Agency (EPA) provides an allotment of funding for each state, and each state provides a 20% match. Since the program's inception, $32.5 billion of low-interest loans have been allocated. However, with needs far surpassing the program's budget, it is unable to meet all investment needs or fund every deserving project.

In 2014, Congress authorized a new mechanism to fund primarily large water infrastructure projects over $20 million through the Water Infrastructure Finance and Innovation Act (WIFIA). In 2016 Congress appropriated $17 million in funds for

the program. It is estimated that using WIFIA's full financial leveraging ability that a single dollar injected into the program can create $50 dollars for project lending. Under current appropriations, EPA estimates that current budget authority may provide more than $1 billion in credit assistance and may finance over $2 billion in water infrastructure investment.

Municipal drinking water consumption in the United States has declined by 5% this decade, marking the first time in nearly 40 years that water use at home has decreased. Total freshwater withdrawals this decade continue to decline in almost every sector including agriculture, industrial, domestic, and thermoelectric. This is primarily due to increased efficiencies and the reduction in withdrawals for retired coal-fired power plants.

Drinking water needed for public supply in the United States has been relatively flat since 1985 even as the population has increased by approximately 70 million people over the same period. Water conservation efforts, including water efficient fixtures, have had a significant impact in reducing per capita water usage. Importantly, while per capita demand has fallen, population trends have significantly challenged how cities manage water. For example, the Government Accountability Office estimates that 99 of 674 midsized cities in the U.S. are losing population. This poses significant challenges to utility managers; fewer rate payers and a declining tax base make it difficult to raise funds for capital infrastructure plans. To respond, utilities must raise rates, often in cities where jobs and pay have not kept pace with the economy, putting a burden on those who can least afford rate increases. Conversely, in areas of the country that are growing, such as the West and Southwest, water managers must respond to increased overall demand.

Drinking water quality in the United Sates remains the safest in the world. The EPA sets legal limits for over 90 contaminants in drinking water. The Safe Drinking Water Act (SDWA) allows states to set and enforce their own drinking water standards as long as the standards meet or are better than EPA's minimum national standards. Smaller systems that serve under 10,000 people report that a lack of resources and personnel can limit the frequency of testing, monitoring, maintenance, and technical capability in their systems. With sufficient funding and proper oversight, these risks to water users can be mitigated and water quality can remain safe.

America's drinking water infrastructure doesn't stop at pipe, reservoir, pump station, and treatment plant upgrades; many threats to drinking water infrastructure can be attributed to the sources of drinking water, such as polluted source water, depleted aquifers, and inadequate storage. As watersheds continue to be impacted by shifting migration patterns, land use changes, consumption trends, and extreme weather, water infrastructure upgrades will be required to meet new demands. With proper planning, education, and conservation utilities are making strides to ensure demand is met for decades to come. Water conservation and

improvements in water-use efficiency appear to have gained a general acceptance among water utilities as a sensible practice of water management. According to the American Water Works Association, a majority of utilities –74 percent – have a formal conservation program, and 86 percent consider conserved water as one of their water supply alternatives. Additionally, many communities that have separate drinking water and wastewater departments are beginning to work together or even consolidate, creating "one water" utilities that manage water more holistically.

Recommendations:

- Reinvigorate the State Revolving Loan Fund (SRF) program under the Safe Drinking Water Act through permanent reauthorization and tripling the amount of annual appropriations.
- Fully fund the Water Infrastructure Finance and Innovation Act (WIFIA) at its authorized level.
- Preserve tax exempt municipal bond financing. Low-cost access to capital helps keep lending for wastewater upgrades strong and accessible for communities large and small.
- Establish a federal Water Infrastructure Trust Fund to finance the national shortfall in funding of infrastructure systems under the Clean Water Act.
- Eliminate the state cap on private activity bonds for water infrastructure projects to bring an estimated $6 to $7 billion annually in new private financing.
- Encourage utilities to take regional approaches for water delivery to take advantage of economies of scale.
- Increase federal support and funding for green infrastructure, watershed permitting, and other programs that promote the concept of "one water" to protect source watersheds.
- Encourage utilities to conduct revenue forecasting models to determine the necessary rate revenues over a period of time and then institute rates that reflect the true cost of supplying clean, reliable drinking water.
- Encourage utilities to undertake asset management programs.
- Increase federal and local support for vocational training in the drinking water sector as engineers, operators, and maintenance staff begin to retire in

large numbers.

- Support and advance conservation ballot measures that protect source water through dedicated funding to land and water protection.
- Utility managers must remain diligent to ensure science-based decisions control operations and facility function. While lead and other contaminants post significant health concerns when ignored, with proper funding safe and clean drinking water can be ensured.

Mr. SHIMKUS. Thank you very much, John.

The chair now recognizes Mr. Martin Kropelnicki, President and CEO of the California Water Service Group on behalf of the National Association of Water Companies.

You are recognized for 5 minutes. Thanks for being here.

STATEMENT OF MARTIN A. KROPELNICKI

Mr. KROPELNICKI. Good morning, Chairman Shimkus and Ranking Member Tonko and members of the subcommittee.

As the chairman mentioned, I'm Marty Kropelnicki, President and CEO of California Water Service Group. We provide water service to approximately 2 million in the State of California, Hawaii, New Mexico and the State of Washington.

I'm also the current sitting president for the National Association of Water Companies, or NAWC, which represents private water companies across the U.S.

NAWC members have provided water utility services for well over 100 years and today serve nearly a quarter of the population.

Before discussing how private water sector can help address the nation's infrastructure challenges, I want to start with a story, a true story, of what happened in the state of California and what the possibilities can be.

There are 400 residents in West Goshen, which is a small town in Tulare County. The residents of West Goshen had two small wells that had chronic water quality issues including nitrates and bacteria contamination.

In 2012, the two wells failed. Then a portion of the their water system pipes actually collapsed and we had people in this small town that actually had sand flowing through their pipes instead of water.

With the residents having to travel to nearby cities and towns to take showers in portable shower stands, a timely solution had to be found.

CalWater worked with several nonprofits in the local area, the county and state to secure funding to connect the water system to our existing system, which was a mile down the road.

Today, the residents are enjoying something they haven't had in a long, long time—a supply of safe, reliable and high-quality water. This example illustrates how private water companies are already helping overcome water infrastructure challenges.

NAWC estimates that its six largest members, of which we are one, will invest nearly $2.7 billion annually in our water systems. This is significant, given that the federal appropriations for the State Revolving Fund program is about $2 billion annually. It illustrates the shortfall.

Federal funds alone will not fix the nation's infrastructure problems, especially given that many are the result of poor decision making and not necessarily the absence of funding.

Let me highlight for you several recommendations for Congress to consider. First, we must ensure that any federal dollars are effectively and efficiently deployed and used. NAWC and its members support EPA's 10 attributes of effective utility management, which include things such as financial viability, infrastructure stability, and operational optimization.

Applicants for public dollars should demonstrate that they are managing their assets so that adequate repair, rehabilitation, and replacement are fully reflected in management decisions including water pricing.

Second, failing systems that are seriously compliant with water quality standards must be held accountable. If a system is plagued with a history of serious noncompliance it should be given an option to pursue a partnership that will lead to compliance or to be consolidated with an operator or owner who can bring them into compliance.

Finally, as Congress considers future funding of drinking water programs, NAWC recommends that the private water sector not only have equal access to federal funding but also that steps be taken to further enable and incentivize private water sectors' involvement in solving the nation's infrastructure problems.

Apart from the obvious tax base measures, these incentives should include providing a safe harbor provision to shield would-be partners from legal and financial liabilities associated with serous noncompliant systems.

Quite simply, private water companies like CalWater have the financial, managerial and technical expertise to help ensure that all Americans have safe, reliable and high-quality utility services.

I sincerely appreciate your invitation to be here today. Along with my many colleagues in NAWC, I look forward to working with you to address the nation's water infrastructure challenges.

Thank you, and I'd be happen to respond to any questions that the committee may have.

[The prepared statement of Martin A. Kropelnicki follows:]

Testimony of Martin A. Kropelnicki

President and CEO – California Water Service Group

President – National Association of Water Companies

Reinvestment and Rehabilitation of our Nation's Safe Drinking Water Delivery Systems

Presented on behalf of the National Association of Water Companies

House Energy and Commerce Committee

Environment and the Economy Subcommittee

March 16, 2017

Good morning, Chairman Shimkus, Ranking Member Tonko, and Members of the Subcommittee. Thank you for the opportunity to discuss the water infrastructure challenges facing the country and the actions the federal government can take to unleash innovative and sustainable solutions to those challenges.

I am Marty Kropelnicki, President and CEO of California Water Service Group (Cal Water), the third largest publicly traded water and wastewater utility company in the United States. I am also the President of the National Association of Water Companies (NAWC) – the association that represents the regulated private water utility service industry and professional water management companies. NAWC's core belief is that by embracing the powerful combination of public service and private enterprise, we can not only improve our nation's water infrastructure, but also ensure that future generations have access to safe, reliable, and high-quality water utility service.

NAWC applauds you, Mr. Chairman, and this Subcommittee, for highlighting America's water infrastructure needs and the solutions that will best address them. Safe, reliable, and high-quality drinking water is critical to every person, community, and business in this country, and NAWC's members are proud to provide these services to our customers.

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.

Cal Water, for one, provides water and wastewater service to approximately two million people in California, Hawaii, New Mexico, and Washington. Every day, Cal Water treats and delivers more than 320 million gallons of water to our customers. For us, there is nothing more important than enhancing the quality of life for our customers by working each and every day to ensure they have safe, high-quality water each time they turn on the tap.

Private Utility Role in Meeting the Nation's Drinking Water Needs

Private water systems have existed in the United States for well over 100 years. Today, the private water utility sector is highly regulated by state public utility commissions (PUCs), which set water rates, the U.S. Environmental Protection Agency, which sets federal drinking water quality standards, and state agencies, which are also responsible for setting water quality standards. The private water utility sector focuses on long-term planning by making appropriate and necessary investments in our nation's communities. As a result, private water companies have a proven track record of consistently meeting the drinking water needs of consumers in many areas of the country.

The private sector is already helping overcome water infrastructure challenges facing the country. Ensuring the high standard of quality that private water companies deliver requires extraordinary amounts of capital investment. NAWC estimates that its six largest members alone are collectively investing nearly $2.7 billion each year in their water systems – and these six companies provide service to about six percent of the U.S. population. In Cal Water's case, we are budgeting to invest about $1 billion in our water systems over the next five years.

It is significant that six of NAWC's members are collectively investing more than $2 billion in their water systems when one considers that the current total federal appropriation for the Clean Water and Drinking Water State Revolving Fund (SRF) programs is approximately $2 billion annually.

One of the factors that enable the private water sector to undertake such significant levels of investment is outstanding credit ratings. In fact, the corporate credit ratings of some of NAWC's members are amongst the highest in the U.S. For example, Cal Water's first mortgage bonds are currently rated AA-, and Cal Water has the highest credit rating of any utility in the U.S., as rated by Standard & Poor's.

In addition to helping to ensure our customers have safe, reliable, and high-quality water utility service, NAWC members provide significant economic benefits to the communities they serve. We pay federal and state income taxes, local property taxes, local pump taxes, and permit fees for projects, all of which provide much needed revenue to all levels of government in the county. We hire local employees, and provide them with good-paying jobs and competitive benefits. We procure local goods and services. And to help ensure our medium- and long-term financial stability, our employees' retirement benefits are fully funded. All of these things contribute to the economic multiplier effect that benefits the communities that we serve.

Perhaps most importantly, NAWC's members work diligently with our state regulators to ensure that we meet federal and state water quality and customer service standards every day. For example, analysis of EPA data conducted by American Water Intelligence found that the "compliance record of major companies in the private water utility sector has remained nearly spotless."[1] NAWC's members are at the forefront of efforts to ensure the water we provide to our customers is safe. For example, Cal Water's Director of Water Quality was part of the national group of experts who developed the Lead Service Line Replacement Collaborative, which seeks to accelerate voluntary replacement of lead water service lines. Similarly, in 2016, J.D. Power ranked California Water Service, a subsidiary of Cal Water, and Illinois American Water, a subsidiary of American Water, "highest in water utility customer satisfaction in their respective

[1] American Water Intelligence, "Data Show IOUs a Cut Above in SDWA Compliance," October 2012, p. 10.

regions."[2]

In summary, the private water utility sector stands able, ready, and willing to partner with local and state governments, as well as the federal government, to help meet the challenges our nation's water infrastructure will face in the coming years and decades. In addition to supplying necessary capital, private water companies can leverage decades of experience solving complex water challenges to help bring new water infrastructure projects online faster and cheaper. Two examples highlight the value private water companies bring to the table.

- The wastewater system in Fairview Township, Pennsylvania serves approximately 4,000 customers. In late 2015, the Township sold its wastewater system to Pennsylvania American Water for $16.8 million. In order to help ensure residents have a wastewater system they can depend on, Pennsylvania American Water will be investing $13 million in capital improvements. In addition, the revenue from the sale has enabled the Township to pay off $21 million in existing sewer debt, avoid addition debt of approximately $14 million, and reduce residents' property taxes by 50 percent.

- West Basin Municipal Water District (West Basin) is a wholesale water supplier in Southern California. West Basin's Edward C. Little Water Recycling Facility is the largest water recycling facility of its kind in the U.S.; it produces approximately 40 million gallons of useable water every day. Cal Water manages and operates the recycled water distribution system, which includes approximately 100 miles of pipeline that crosses multiple political subdivisions in Los Angeles County. Cal Water was able to utilize our experience working with West Basin to help form a partnership in northern California with the City of Sunnyvale, the Santa Clara Valley Water District, and Apple that will bring more than 150,000 gallons of recycled water per day to the new Apple 2 Campus in Cupertino.

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.

[2] J.D. Power, "Robust Water Infrastructure Is Essential to Customer Satisfaction; Water Quality and Reliability Are Critical, Says Inaugural J.D. Power Water Study," May 18, 2016, available at: http://www.jdpower.com/press-releases/2016-water-utility-residential-customer-satisfaction-study.

Unfortunately, aging and deteriorating 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. The network of pipes that every American relies on for drinking water spans 700,000 miles and is more than four times the length of the National Highway System. Some of these pipes originally intended to survive 50 to 75 years, have been in service for more than 100 years – well beyond their useful life. 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.

As will be discussed by my counterparts today, the estimates for maintaining, replacing, upgrading, and operating the nation's water infrastructure are staggering. Water related services require miles of 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. The continued deterioration of the nation's water systems could lead to increased water service disruptions, more barriers to emergency response, impacts to other public infrastructure, as well as threats to public health for many Americans.

Water systems are the most expensive asset for a community to maintain, and many municipally owned utilities simply cannot afford to improve their systems. They have a limited revenue base which must service all the needs of the community, not just water and wastewater services. In this context, the importance of bringing in private capital cannot be underestimated.

On the other end of the spectrum, there are many instances where needed water system improvements are indefinitely deferred as a result of short-term political expediency. For example, during a recent trial in southern California, it was brought to light that one local water supplier is currently on a water pipeline replacement cycle of 148,000 years.[3] In other words, it will take the water utility 148,000 years to replace all of the water pipes in its system. Too frequently, these decisions are made in order to keep the cost of water service as low as possible. Yet, having low water rates is not, in and of itself, virtuous, especially considering how critical the nation's drinking water systems are to economic vitality and public health.

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 and expertise – 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

[3] Golden State Water Company, "Golden State's (Proposed) Findings of Fact and Supporting Evidence and Law," in City of Claremont v. Golden State Water Company, Superior Court of the State of California – Los Angeles County, Case Number BC566125, August 5, 2016, p. 35.

wastewater programs as part of any infrastructure initiative, NAWC recommends that all policies be examined to ensure that the private water industry is not disadvantaged, but rather, is incentivized to add additional resources to this effort. And just as important, we must ensure that any future federal funds are utilized to most effectively address the nation's vast water infrastructure needs.

Effective Utility Management and Accountability

NAWC and its members support EPA's ten attributes of effective utility management endorsed by all major water and wastewater associations, including the American Water Works Association (AWWA), National Association of Clean Water Agencies (NACWA). Water Environment Federation (WEF), Association of Metropolitan Water Agencies (AMWA), Association of Drinking Water Agencies (ASDWA), and the Association of Clean Water Administrators (ACWA). The attributes include things such as financial viability, infrastructure stability and operational resiliency, which reflect the basics of financial, technical and operational capacity of sustainable utility management.

Failing and noncompliant water systems not only create a growing financial burden, but they pose significant risks to public health and the environment. According to EPA's compliance database, in 2016, there were over 1,500 community water systems in significant noncompliance.[4] These rates of noncompliance are unacceptable and unsustainable. If we are to change the status quo, we must offer more "carrots and sticks" in the regulatory toolbox.

As a good first step, and as a general rule, applicants for public dollars should demonstrate that they have fully accounted for the long-term costs of their projects, including any risks inherent in construction, operations, or maintenance, and have selected the delivery model that provides the best value. For a community to maintain and enhance the condition of its infrastructure long-term, water utilities should be expected, at a minimum, to manage their assets based on a process where adequate repair, rehabilitation, and replacement are fully reflected in management decisions, including water pricing.

On this latter point, it is important to note one of the core differences between regulated private water utilities, like Cal Water, and some of our public counterparts. The water rates charged by regulated private water utilities are set by state public utilities commissions to ensure they reflect the actual cost of service, including the costs of operating, maintaining, and upgrading their water systems. We do not rely on other sources of revenue that are not related to the water system, such as sales or property tax revenue. Not only does this approach send an efficient price signal to customers, but it also helps to ensure that the utility remains financially stable.

[4] Brent Fewell, "Encouraging Greater Compliance Requires a Change in the Status Quo," Journal AWWA, September 2016.

As well, we would be wise to assess impediments to effective utility management resulting from local procurement processes. Public procurement today tends to overvalue low initial costs and undervalue future obligations, rewarding bidders who can build cheaply, rather than those who offer the best value over a project's lifecycle. This often increases the costs down the road – both higher operations and maintenance costs – and as repairs go unaddressed, infrastructure fails prematurely, requiring expensive rebuilds, etc. This is fiscally irresponsible.

Partnerships and Consolidation

Drinking water systems must be expected to maintain their assets and operations in compliance with health-based laws. If a system is unable to attain compliance and is plagued with a history of serious noncompliance, it should be given an option to pursue a partnership that will lead to a return to compliance or be compelled by the State to consolidate or transfer assets to an able owner/operator. In this regard, NAWC has been working closely with other water groups to promote legislation that would encourage partnerships, ranging from peer-to-peer support and public-private partnerships (P3s) to transfer and consolidation. We simply cannot continue to expect failing systems to change unless good decision-making is incentivized and, conversely, bad decision-making is discouraged.

While NAWC and its members are mindful of the socioeconomic and financial complexities associated with our nation's growing water crisis, communities must be held accountable for failing systems. We should expect communities to proactively seek assistance and support or they should get out of the business of water provision. Year after year there is talk of the growing water crisis, yet little is done to actually stem this crisis.

One option to help struggling systems that is currently under discussion is to encourage these systems to pursue partnerships *in lieu* of traditional enforcement or, alternatively, the State should compel the transfer of assets and/or operational control where a return to compliance is unlikely to occur. While traditional enforcement tools are not always appropriate or practicable where, for example, communities simply do not have adequate resources, these communities must be expected to do things differently.

Cal Water's experience with the unincorporated community of West Goshen in Tulare County, California highlights the efficacy of an approach that focuses on partnerships and consolidation. For years, the 400 residents of the community dealt with ongoing water quality issues, including nitrate and bacteria contamination of their two water wells. To make matters worse, in 2012, West Goshen's wells began failing. The community received emergency funding from the State to replace the failing wells. Unfortunately, a short while after receiving this funding, a portion of the water system's pipes collapsed; instead of water, residents had sand flowing through their taps. Residents were forced to travel to nearby towns to shower, brush their teeth, and cook.

Fortunately for the residents of West Goshen, one of Cal Water's service areas was only a little over a mile away. Cal Water worked with several non-profits, Tulare County, and the state to secure $3 million from the Safe Drinking Water State Revolving Fund to connect the community's water system to Cal Water's. As part of the project, Cal Water installed more than 8,500 feet of new water pipe from its existing system to West Goshen, and installed a number of new fire hydrants to improve fire protection in the area. Today, the residents of West Goshen are able enjoy something they did not have for years: safe, reliable, and high-quality water service.

Suffice it to say that there are numerous opportunities for similar partnerships to be employed across the country. What is truly needed is the will to make them a reality. While many communities continue to clamor for more federal funding, more funding is not going to solve this growing crisis. In many cases, water system failures – be they related to water quality, reliability, or both – are not due to the absence of funding, but rather are directly attributable to the failure of proper governance and poor decision-making.

This point notwithstanding, we recognize there are many small and rural communities where few, if any, viable partnership options exist due to the fact they are simply too small or too remote to would-be partners. In those cases, the federal government should increase and reprioritize federal funding and technical assistance to help support those communities.

While public-private partnerships are in many cases an efficient and cost-effective solution, there are numerous impediments to more P3s, including the legal and financial liabilities of distressed systems. Such liabilities for past noncompliance, which can range in the hundreds of thousands and millions of dollars, can be a "poison pill" to a prospective new operator or owner. To solve this problem, Congress should consider providing a legal "safe harbor" to encourage more private sector participation, including investment. Without such liability relief, significant amounts of private capital and investment remains on the sideline.

Specific Tax Issues

While we recognize that tax issues are the jurisdiction of the Ways and Means Committee, NAWC has two priority tax issues that we want to highlight for you today.

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 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.

While legislation has yet to be reintroduced this Congress, in past Congresses bills in the House and Senate have been introduced that 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 volume 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 legislation has received extraordinary bipartisan support in the past, 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. We are hopeful that this legislation will be reintroduced in the near future.

Clarify Internal Revenue Code for Public-Private Partnerships (P3)

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 Internal Revenue Service 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. Unfortunately, as currently drafted, these remedies are not practicable for water utility projects and, thereby, deter beneficial water P3 projects. We look forward to working with Congress and the U.S. Treasury Department to find a reasonable and narrowly tailored solution.

Recommendations

Our current water infrastructure crisis has been in the making for several decades, and it may take several decades to change the direction and right the ship. Today's dwindling resources and increasing demand for safe, sustainable water resources requires a fundamentally different approach than what we have taken over the last several decades.

First, Congress should require as condition to eligibility for public funding, that water systems develop a plan based on life-cycle cost and sustainable materials. Recognizing that not every water system project is of sufficient size to make this level of screening cost-effective, Congress could establish a size or cost threshold below which these requirements would not apply. However, such a threshold should be set at a level, or otherwise be constructed, to encourage opportunities for partnerships or consolidation.

Second, failing systems that are seriously noncompliant with state and federal health-based requirements must be held accountable with a return-to-compliance plan, which could include an option for partnership *in lieu* of a traditional enforcement approach.

Third, Congress should provide more incentives for private-sector participation in the form of public private partnerships, remove barriers such as the PAB volume cap and resolve defeasance issues, and provide "safe harbor" to shield would-be partners from the legal and financial liabilities associated with seriously noncompliant systems.

Conclusion

I sincerely appreciate your invitation to appear before the Subcommittee today and, along with my many colleagues in the National Association of Water Companies, look forward to continuing our work with you to ensure that all Americans benefit from innovations in financing which improve the water infrastructure so essential to their quality of life. Thank you and I would be happy to respond to any questions you may have.

Mr. SHIMKUS. Thank you very much.

Chair now recognizes Mr. Erik Olson, director of the Health and Environment Program with the Natural Resources Defense Council, NRDC. You're recognized for 5 minutes.

STATEMENT OF ERIK D. OLSON

Mr. E. OLSON. Thank you, Chairman Shimkus, and Ranking Member Tonko and members of the subcommittee.

I think we all take for granted where this water that is sitting here comes from. It's, in many cases, comes through water systems that have been there for over a century.

For example, I've seen the DC original plans for the water supply in Washington, DC signed by guess which president? Pierce. Started to be built during the Lincoln administration.

Mr. SHIMKUS. One of my favorites.

[Laughter.]

Mr. E. OLSON. We still get our water through lead pipes in much of the city through lead service lines. We still have a brick aqueduct that is used for some of the water that is delivered into the city.

And DC is not unique. We have got I think a situation where we take for granted where our water is coming from and it is out of sight and out of mind.

But I'd liken this very much to an old house that is 100-plus years old. It's got a leaking roof. It's got termites. It's got a crumbling foundation. It's got broken windows. It sort of reminds me maybe of the house that Jimmy Stewart had in "It's a Wonderful Life" that was falling apart and about to collapse, and without some tender loving care and real investment, unfortunately, in a lot of cities and small towns across the country we are really at risk of collapse.

It's not just the small town in West Goshen, California. There are a lot of other cities and towns that have this problem. You know, and these have very real public health implications.

So CDC estimated a few years back that about 19.5 million people per year get sick from drinking tap water from municipal water supplies in the U.S.

Now, some of those people get really sick. There are deaths and some of them get over the illness. But if you're elderly, if you have an immune system problem, if you're on chemotherapy, they are very real, very serious health risks.

And that is just from the microbiological risks. We are not talking about lead. We are not talking about some of the carcinogens and the other contaminants.

I will say that the U.S. has made enormous strides in the last hundred years. Our water is a heck of a lot safer than it was before World War I.

But, unfortunately, we haven't made the kind of progress we need and we haven't been investing to keep our water infrastructure up.

I think we are sort of like ostriches with our head in the sand. We don't want to think about this problem. It's yet another problem to worry about.

But this s the one infrastructure issue that touches every American and their—and their health every single day. We take a shower in the morning. Do we give it a second thought what's in that water?

We drink it. We use it for our cooking. We use it for making our coffee in the morning. What's in that water? We need to really be thinking about this and the deferred maintenance that we continue to see across the country, unfortunately, because of resource constraints is a very real problem that is affecting communities all over the U.S.

And this has real implications. I was recently in Flint, Michigan, where we are representing the citizens and I know you heard from Melissa Mays about a month ago. She's one of the citizens in Flint, and we visited with Melissa.

We visited with other people in the community and you can imagine what it is like. What if you didn't feel like you could bathe your kids in the water?

What if you felt like the water coming out of your tap was unsafe and that you were being told for a long time that it was perfectly safe—don't worry about it—and then it comes out that it wasn't safe and you find out your kids are lead poisoned? How does that make you feel?

It certainly erodes your confidence in government. It also erodes your confidence in water systems and I will say that a lot of people in Flint that we are working with I don't they are ever going to feel confident about their water and I am very worried that as this problem escalates across the country we are going to see more and more of those kinds of situations where people are not confident in the water that is coming out of their tap. That's a very real risk.

Another example that I cite in my testimony is East Chicago, Indiana. We just filed a petition similar to the petition we filed in Flint months before it became a big issue in Flint.

We recently filed a petition for East Chicago, Indiana. They've got serious lead contamination problems in their drinking water as well as in their soil. I cite a woman named Crystal that is one of the people that is affected by this. She's got two kids under the age of 5 who are lead poisoned.

What's going to happen to that community? How are we going to restore confidence in the water supply in East Chicago and a lot of other communities across the country?

So where do these problems come from? Well, certainly, first of all, there is a lack of investment in our infrastructure. There has been for decades. I don't think this is a partisan issue. It's something where we haven't been putting the money we need to put into it and unless we take some action we have got a really serious problem.

Secondly, we have had weak enforcement. We have deteriorating lead pipes in a lot of communities, a lack of source water protection, and I have to mention that the budget cuts that were announced last night I would call it a bloodbath budget.

We are seeing huge cuts, although the state revolving fund is protected huge cuts in Superfund, huge cuts in enforcement, huge cuts in Great Lakes, Chesapeake Bay program, the water programs.

We are very concerned that the effect of this is going to be more problems, more health risks and it is not just EPA. I noticed also that U.S. Department of Agriculture's entire program for rural drinking water and sewers is zeroed out—almost $500 million zeroed out.

The HUD programs, a lot of which pay for drinking water and sewer——

Mr. SHIMKUS. I am being very kind.

Mr. E. OLSON. That's a serious problem. Thank you.

[The prepared statement of Erik D. Olson follows:]

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

BEFORE THE
COMMITTEE ON ENERGY AND COMMERCE
SUBCOMMITTEE ON ENVIRONMENT
UNITED STATES HOUSE OF REPRESENTATIVES

HEARING ENTITLED
"REINVESTMENT AND REHABILITATION OF OUR NATION'S SAFE DRINKING WATER DELIVERY SYSTEMS"
MARCH 16, 2017

SUMMARY

- The safe drinking water we all take for granted in the U.S cannot be considered a given.
- Much of our nation's water infrastructure is like a century-old house with a leaking roof, crumbling foundation, termites, and broken windows. It's still standing, but unless we act soon and make the investments we need to fix it, there is a risk that it will collapse.
- An estimated 19.5 million Americans are sickened *every year* by drinking pathogen-contaminated tap water, and that doesn't include the impacts of lead or other toxics. Also, tens of millions are served by water systems violating EPA's drinking water standards.
- We cannot be ostriches with our heads in the sand about the mounting drinking water crisis. Deferred maintenance of our drinking water systems is a ticking time bomb that harms public health, imposes enormous costs, and erodes public trust in government.
- This is having devastating impacts on people. Flint resident Melissa Mays testified here last month about the shattering effects on her family of the city's ongoing water contamination problems. And East Chicago, Indiana's "system-wide" lead in tap water problem has upended Krystle's family. Two of her kids under the age of five have been diagnosed with blood lead above the CDC reference level. She's distraught because lead may have seriously, perhaps permanently, harmed her young children.
- The health risks stem from: weak enforcement; outdated and inadequate drinking water treatment technology; deteriorating and often lead-laced water distribution pipes; inadequate protection of source waters; decaying and insufficient wastewater and storm water infrastructure. Often low-income areas lack any access to safe piped drinking water.
- Infrastructure investment creates good jobs.
- Protecting water sources helps to safeguard health and reduces treatment costs.
- There are increasing challenges to water infrastructure from extreme weather, droughts.

Recommendations:

1. Fix Flint.
2. Fix Our Lead in Water, Including the Lead & Copper Rule, and Lead in Schools.
3. Fix the Standard-Setting Process Under the Safe Drinking Water Act.
4. Fix our National Water Infrastructure, Paying Special Attention to the Needs of Lower Income and Disproportionately-Affected Communities.
5. Increase Federal Water Infrastructure Funding.
6. Protect Source Water to Reduce Infrastructure Costs.
7. Protect Water Infrastructure from Extreme Weather Events & Possible Terror Attacks.
8. Invest in Advanced Water Technologies, Including Real-Time Monitoring.
9. Let Citizens Act Immediately Against Imminent & Substantial Endangerment to Health.
10. Vigorously Enforce the Safe Drinking Water Act.

Introduction

Good morning Chairman Shimkus, Ranking Member Tonko and members of the Subcommittee. I am Erik D. Olson, Director of the Health and Environment Program at the Natural Resources Defense Council (NRDC). I have worked on Safe Drinking Water Act issues for over 30 years, beginning with my service as an attorney in the U.S. Environmental Protection Agency's Office of General Counsel in the 1980's, and continuing as a former member of the EPA's National Drinking Water Advisory Council and as a member of numerous EPA advisory committees relating to drinking water. I also served as an advisor to the Government Accountability Office's experts' assessment of how to improve water system security after 9/11.[1] I appreciate the opportunity to testify today.

As the drinking water crisis in Flint, Michigan, and more recently in East Chicago, Indiana and other communities have highlighted, the safe drinking water we all take for granted in the United States cannot be considered a given. And unfortunately, it's not just about lead. Much of our nation's water infrastructure is like a century-old house with a leaking roof, crumbling foundation, termites, and broken windows. It's still standing, but unless we act soon and make the investments we need to fix it, there is a risk that it will collapse.

Deferred maintenance and the steady deterioration of the nation's water and wastewater infrastructure have been a serious challenge for decades.[2] Indeed, NRDC published a report 23 years ago calling for the modernization of our aging and outdated drinking water treatment and distribution systems, noting that "Victorian water treatment" was "taking us into the 21st Century."[3] Unfortunately, here we are in the 21st Century, and progress since our 1994 report has been slow. Similarly, we have long known that our wastewater and storm water treatment and collection systems badly need updating.

Our inadequate drinking water infrastructure is posing very real health risks to millions of Americans. The Centers for Disease Control and Prevention (CDC) has noted that there are an estimated 19.5 million Americans who are sickened *every year* by drinking pathogen-contaminated tap water from community water systems.[4] And that's just from microbiological threats—it doesn't include the devastating impacts of lead contamination,

or from the numerous other cancer-causing and other toxics in our water supplies. NRDC published a report last June documenting that about 18 million Americans were served in 2015 alone by community water systems violating EPA's Lead and Copper Rule, with violations including failing to treat their water to reduce lead levels, failing remove lead service lines, and not testing for lead or reporting lead levels as required.[5] We found about 4 million Americans were served by systems that exceeded EPA's Lead Action Level in 2015. And communities across the country are dealing not only with lead contamination, but also problems with regulated and unregulated contaminants ranging from arsenic to dangerous pathogens. These problems require improvements to our system of funding our infrastructure, and of regulating and enforcing against violations.

We cannot remain ostriches with our heads in the sand about the mounting drinking water crisis. Deferred maintenance of our drinking water systems is a ticking time bomb that harms public health, imposes enormous costs, and erodes public trust in government.

The Human Costs of Our Inadequate Drinking Water Infrastructure

For many of us, these infrastructure problems may be out of sight and out of mind, but they are having devastating impacts on real people every day. As this subcommittee heard from Flint resident Melissa Mays in her moving testimony just one month ago today, that people of Flint still lack water that is safe to drink. This remains so over 1,000 days after state-appointed "emergency manager" made the fateful decision to save a few bucks by switching to the polluted and corrosive Flint River as the city's water source. That ill-advised decision, combined with deteriorating water infrastructure (including thousands of lead service lines in Flint), failure to use corrosion control as required, and the lack of appropriate state and US EPA oversight led to the contamination of thousands of Flint citizens' tap water. It has been linked to elevated blood lead levels in many children across the city[6] and reportedly to a Legionella outbreak that killed a dozen people.[7]

And Flint isn't the only town suffering; other water threats continually come to the fore. Another recent example is the lead-contaminated tap water in East Chicago Indiana, which

NRDC and our colleagues have recently petitioned EPA to address on behalf of local residents because it poses an "imminent and substantial endangerment" to public health.[8] EPA conducted a pilot water study in East Chicago, released in December, 2016, that revealed that lead levels in East Chicago's drinking water are well above the action level set by EPA that triggers corrective action by public water systems. The data showed a "system-wide" problem in the drinking water for this city of 29,000. Similar to the water crisis in Flint, inadequate corrosion control and the existence of lead service lines resulted in elevated levels of lead in drinking water.[9] Unfortunately, there also is lead in the local soil from past industrial activity, and possibly from lead paint, posing cumulative lead risks to East Chicago's kids.

One of the local residents is Krystle, a mother of four children, aged ages 8, 6, 4, and 2. She lived in East Chicago, in the West Calumet Public Housing Complex from 2012 until July 2016. In late 2015, Krystle's child – then two years old – was diagnosed with an elevated blood lead level of 11 micrograms of lead per deciliter of blood (μg/dL), more than double the level at which CDC recommends that action be taken to protect a child. Shortly after receiving this distressing news, Krystle reported this by providing a copy of her child's blood lead level results to the housing authority. She was not informed about the lead contamination that characterized homes in her building, and no steps were taken to provide her family a lead-free source of drinking water.

In May 2016, Krystle's then one year-old son was also tested for lead. Her son's doctor said that he would likely test positive for elevated blood lead levels as a result of the "known" lead and environmental contamination in the area. When his results came back, her son was diagnosed with an elevated blood lead level of 7 μg/dL. Like his sibling, his blood lead level also above the CDC reference level of 5 ug/dL. Krystle was distraught because she realized lead could be seriously – and perhaps permanently – harming her young children. Krystle moved out of the West Calumet Public Housing Complex in the middle of July to keep her children safe. As of September 2016, Krystle and her children were living with a relative whose home is in foreclosure.

Widespread Health & Environmental Risks from Inadequate Water Infrastructure

There are thousands of stories like this in East Chicago, Flint, and many other cities and towns across the country. Melissa Mays' and Krystle's experiences, and those of innumerable other Americans, illustrates the perils of failing to invest in solving our water infrastructure challenges.

The health risks stem from several problems:

- ***Often outdated and inadequate drinking water treatment technology.*** Most large drinking water systems still use basic coagulation, sedimentation, sand filtration, and chlorination as treatment. This technology has reduced waterborne disease and served us well since before World War I a century ago, but is not up to the task of removing many of today's contaminants like industrial chemicals, pesticides, nitrates and many other pollutants. The public health threat from our failure to invest in our water infrastructure is enormous. We remain at risk from lead, arsenic, bacteria and other pathogens, cancer-causing disinfection byproducts, the rocket fuel component perchlorate, and many other regulated and unregulated contaminants. America needs to switch to 21st Century water infrastructure. Treatment technology such as granular activated carbon, membranes, and ultraviolet light or ozone for disinfection, still has been installed by only small minority of water systems. Moreover, while some water systems are effectively using optimized corrosion control treatment, as Flint and East Chicago illustrate, many others are not doing so, posing serious health risks.
- ***Deteriorating and often lead-laced water distribution pipes.*** Many of the underground pipes in our drinking water distribution systems are 100 years old or more, often operating well beyond their design life. In addition, 6 to 10 million lead "service lines" connect the water main to residences of up to 22 million Americans.[10] There are about 240,000 water main breaks a year due to crumbling pipes.

- ***Inadequate Protection of Source Waters.*** The best and least expensive way to avoid drinking water contamination is to prevent pollution of the surface water or ground water used as a water source in the first place. Unfortunately, many water pollution sources still are poorly controlled, such as runoff from large industrial farms, mining waste, and untreated or poorly-treated sewage. We anticipate that these problems could be made worse by proposed or enacted rollbacks of the Stream Protection Rule that was intended to protect communities from water contaminated by coal waste, and of EPA's Clean Water Rule.
- ***Decaying, outdated and insufficient wastewater and storm water infrastructure.*** Our wastewater and storm water collection and treatment systems 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." 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.
- ***Underserved, often low-income areas lacking access to safe piped drinking water.*** While most Americans take piped drinking water systems for granted, in many areas, particularly lower-income rural areas and Native American lands, lack access to safe and sufficient piped drinking water. Areas ranging from the *Colonias* in Texas near the border, to parts of the Central Valley of California, to rural Alaskan Native villages, to parts of Appalachia simply don't have access to safe and sufficient tap water.

The Safe Drinking Water Act

We need to improve the Safe Drinking Water Act to ensure the quality of our tap water.

The Safe Drinking Water Act requires the EPA to establish standards for drinking water safety. EPA is required to set a health-based Maximum Contaminant Level Goal (MCLG) for each regulated drinking water contaminant, at a level that is fully protective of health.[11] The agency is then required to establish maximum allowable levels of the contaminant called Maximum Contaminant Level (MCL) as close to the MCLG as is feasible, considering technological limitations and costs. EPA has identified about 100 contaminants that pose health risks and are regulated in our drinking water.[12]

If EPA finds that it is not feasible to ascertain the level of a contaminant in drinking water, the agency must establish a "treatment technique" instead of an MCL. A treatment technique sets required methods of treating the water to make it safe to drink.[13] Public water systems are responsible for meeting the requirements of an MCL or treatment technique, subject to the supervision of state drinking water officials, and ultimately the oversight of the federal EPA.

The Lead and Copper Rule

In 1991, EPA established a complex treatment technique to control lead levels in tap water, known as the Lead and Copper Rule (LCR).[14] Under the LCR, all large water systems (serving more than 50,000 people) must treat their water to optimize corrosion control, or demonstrate that they don't need to do so because their water isn't corrosive and they have no lead problems. The LCR also generally requires water systems to control corrosion by adding chemicals, since corrosive water can cause the release of lead from pipes and fittings. Many systems use a corrosion inhibiter, such as orthophosphate, which coats the inside of the pipes with a thin film that can reduce the amount of lead that leaches into the water.

All water systems also are required to test a specified number of drinking water taps in high-risk areas (with lead service lines that bring water from the water main under the street to a residence, or areas with a lot of homes that are likely to have lead in their household plumbing or fixtures). The bigger the system, the more taps must be tested.

Under the LCR, if more than 10 percent of the tested taps contain lead above an "action level" of 15 parts per billion, the water system must take measures to reduce lead levels. These measures include removing lead service lines over a specified time period. Unfortunately, under the LCR there are unintended but significant incentives for water systems to monitor the lead levels in ways that fail to detect lead problems (such as using monitoring techniques that are less likely to find lead).[15] In the wake of the Flint crisis, in late February 2016, EPA issued a guidance intended to discourage the tricks some utilities have used to avoid finding lead problems.

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 it—needs a major overhaul.

EPA began developing long-term revisions to the LCR. In 2014, the National Drinking Water Advisory Council (NDWAC) established a Working Group to address these revisions. Between March 2014 and June 2015, the Working Group met and discussed a set of recommendations for revising the LCR. EPA has indicated that it intends to propose revisions to the LCR in 2017. The Flint crisis provides a blueprint for the types of improvements that are needed.

It is critical that the revisions to the LCR, at a minimum, include the following: (1) a mandate to fully replace all lead service lines; (2) improved corrosion control requirements; (3) robust monitoring requirements that fully and fairly monitor problems, and prohibit gaming the system to avoid detecting or reporting lead contamination problems; and (4) a mandate for clear, ongoing, and culturally appropriate public education and notification of lead problems.

Full Lead Service Line Replacement

No matter how optimally a corrosion control system is run, there will always be lead contamination issues, as long as lead service lines are in the ground. The problem of lead service lines is enormous and exists nationwide. While there is no comprehensive national inventory of all of the lead service lines in the country, experts have estimated that 6 to 10

million lead service lines are being used in the United States, serving 15 to 22 million Americans.[16] Most were installed 50 or more years ago. So it is critical that the revised LCR contain an enforceable requirement to fully replace lead service lines on a strict timeline. It is also critical that the service lines be replaced fully; that is, replacement of the service line up to the customers' home or residential building, including on the homeowner's property.

We applaud the American Water Works Association (AWWA), the nation's largest drinking water utility trade association, for its support for complete removal of lead service lines across the country, recently announced by its Board of Directors.[17]

Need for a Far More Robust Monitoring Program

Under the current LCR, it is too easy to develop a monitoring program that avoids finding problems. Flint stands as a marked example of this ability to fly entirely under the radar, since the system reported no violations of the LCR, despite its disastrous lead contamination problems. EPA knows where these gaps exist and should ensure that the LCR is revised to close these gaps. At a minimum, EPA should codify its sampling protocol recommendations to stop the protocols that some utilities have used to "game the system." Specifically, states and water authorities should ensure that every test is valid by prohibiting water sampling instructions to: (a) remove aerators from faucets before testing, since they often capture particulate lead and can be responsible for substantial lead contamination of tap water; (b) pre-flush their tap water 6 hours before the testing, which can reduce the levels of lead detected; or (c) use narrow-necked bottles that make it difficult or impossible to test water rushing out of a faucet at high velocity (as consumers often do when pouring water for a drink or for cooking), when lead levels may be high due to shaking loose of particulate lead.[18]

In addition, the monitoring program should sample more frequently. It should retain and enforce the existing requirement that tap-water sampling target high-risk homes (e.g., those connected to lead service lines or where composition of service lines is unknown.)

Improved Public Notification and Education

The revised LCR should require clear public education notices and notification provisions to ensure customers are aware of elevated levels of lead in the system's drinking water. This should include public education encouraging all homeowners to get their water tested, even if they are not part of the utility's sampling program.

Widespread Violations of the Lead and Copper Rule Threaten Health

NRDC published an extensive report in June 2016 that illustrates the extraordinary geographic scope of America's lead crisis.[19] We found that in 2015, 18 million people were served by water systems with lead violations. These violations were recorded because the systems were not doing everything that they are required to do to protect the public from lead issues, which could include failure to treat to reduce lead levels in the water (health violations), failure to monitor the water for lead as required (monitoring violations), or failure to report lead results to the public or the government (reporting violations). About 4 million people were served by systems exceeding EPA's Lead Action Level of 15 ppb.

Even more surprising: Flint doesn't even show up as having violations for lead in the EPA database. This glaring omission illustrates the serious problem of underreporting and gaming of the system by some water supplies to avoid finding lead problems, suggesting that our lead crisis could be even bigger.

EPA Has Stalled on New Drinking Water Standards

In the 20 years since the Safe Drinking Water Act was amended, EPA has not set one single new drinking water standard without an act of Congress. Rather than being an indication of the safety of the U.S.'s drinking water, this is an abject failure of the process and a demonstration of the numerous barriers to getting contaminants out of our water.

Prior to the 1996 Amendments to the Safe Drinking Water Act, EPA established MCLs for about 100 contaminants. The amendments created a new process requiring EPA to develop a list of unregulated contaminants that are known or anticipated to occur in public water

systems. This Candidate Contaminant List, or CCL, is published every five years. Once a CCL is finalized, EPA must make a "Regulatory Determination" whether or not to regulate five of the contaminants on the CCL every five years. A determination to set a drinking water standard for a contaminant is based on the following findings:

(1) The contaminant may have an adverse effect on the health of persons;
(2) The contaminant is known to occur or there is substantial likelihood the contaminant will occur in public water systems with a frequency and at levels of public health concern;
(3) In the sole judgment of the Administrator, regulation of the contaminant presents a meaningful opportunity for health risk reductions for persons served by public water systems.

Since 1998, EPA has published three CCLs and a draft CCL4, which all told include more than 100 chemicals and microbiological contaminants. Since 2003, EPA has made three preliminary determinations on 26 contaminants: the agency determined to take no action on 24 of them, delayed final determination on one (strontium), and determined to set a drinking water standard for only one: perchlorate.

Perchlorate—a chemical commonly used in rocket fuel, fireworks, and explosives – contaminates the drinking water of as many as 16 million Americans. Even at low levels, perchlorate contamination in drinking water may be harmful to human health. Exposure is particularly dangerous for infants, young children, and pregnant mothers, and may cause developmental delays, reduced growth, and impaired learning capabilities.

In 2011, EPA determined that perchlorate met the three criteria under the SDWA for setting a national primary drinking water standard. The Act requires EPA to propose a drinking water standard within 24 months and publish a final standard within 18 months of the proposed rule. Despite the concerns about the impact of perchlorate on fetuses, it has been more than six years since EPA's determination to develop a standard for perchlorate, and EPA has not even proposed a standard. The agency recently agreed to propose a standard for perchlorate by 2018 and to issue a final standard in 2019—more than eight

years after it determined that a standard is needed, and 23 years after this subcommittee took the lead and helped to enact the 1996 Amendments.

In fact, EPA identified during the CCL3 process more than 7,000 potential chemical and microbial contaminants – and still not one single drinking water standard has come out of this process.

All the while, communities drink water contaminated with hexavalent chromium, pharmaceuticals, algal toxins, PFOA and PFOS, perchlorate, and many other widespread unregulated contaminants. As we continue to produce tens of thousands of industrial chemicals that can end up in our drinking water sources, we need our drinking water regulations to keep up. The system in place does not allow any standards for unregulated contaminants to develop in a timely way.

Weak Enforcement of the Safe Drinking Water Act

On the flip side, violations of regulated contaminants standards rarely lead to enforcement actions either by EPA or the states. States with primacy under the SDWA (all states except Wyoming) are supposed to carefully oversee drinking water systems to ensure that they are in compliance with any EPA requirements such as the LCR. As part of this requirement, primacy states are to regularly report violations and certain other information to EPA. Under the Act, if EPA finds that a water system is in violation in a state with primacy, EPA is to notify the water system and state of the violation. If the state fails to take enforcement action within 30 days, EPA is legally required to issue an administrative order or file an enforcement case in court against the violator.[20] EPA and states often ignore these important mandates in the law.

Flint is but one example where neither state authorities nor EPA took enforcement action until literally years after the problem began. But lack of enforcement in Flint was not anomalous. In fact, according to NRDC's June 2016 report analyzing EPA's enforcement data, states and the EPA took formal enforcement action against just 11.2 percent of the over 8,000 Lead and Copper Rule violations that occurred in 2015—leaving nearly 9 in 10 violations free from any formal enforcement action.[21] Formal enforcement actions were

taken against less than one in five health-based violations (17.6 percent). Furthermore, penalties were sought or assessed for only a tiny fraction (3 percent) of violations. This lack of accountability sends a clear message to water suppliers that knowingly violate the Lead and Copper Rule, with state and federal complicity: There is no cop on the beat.

Weaknesses in the Safe Drinking Water Act's Enforcement Provisions

The Safe Drinking Water Act includes a provision authorizing EPA to immediately issue an administrative order or to bring a case in court if a contaminant "may present an imminent and substantial endangerment to the health of persons," even if no violation of the law is proven.[22] Unlike some other laws (like the Resource Conservation and Recovery Act[23]), however, the Safe Drinking Water Act does not allow *citizens* to bring an action in such cases to protect their health from an imminent and substantial endangerment—a major shortcoming that should be rectified.

The Safe Drinking Water Act does authorize citizens to sue public water systems that have violated the requirements of the Act, but only after providing 60 days advance notice to the violator, the state, and EPA. Unfortunately, this can mean substantial delays while there is an ongoing health threat. Moreover, unlike the citizen suit provisions in the Clean Water Act and Clean Air Act, under the drinking water law, no penalties are available, so there is little incentive for violators to come into compliance until ordered to do so by a court. In Flint, NRDC brought such an action on behalf of local citizens including Concerned Pastors for Social Action and other local residents.

Regrettably, as we have noted, stories of contaminated water are not limited to Flint and are not limited to lead. Drinking water contamination incidents are all too common. 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.[24] 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.[25]

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.[26]

The obfuscation by government officials, and the denigration of community members and experts who raised concerns, illustrates a pressing nationwide problem. Low-income communities and 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.[27] 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.[28] 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."[29]

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.[30] In sum, researchers have found that "unequal access to infrastructure drives unequal access to safe drinking water."[31]

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. The National Drinking Water Advisory Council's Affordability Work Group report on how to address affordability concerns provides an important resource.[32] Among other ideas, the Work Group recommended the creation of a 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. Access to clean, safe, affordable drinking water should be available to everyone.

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 2001[33], with its troubling report cards giving our water and wastewater infrastructure a grade of "D" or worse every four years.[34] 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.[35] 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,[36] although this is just an estimate, since standardized auditing and reporting of water loses is not required in most states.[37] 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.

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.[38] 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.[39] 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.

For example, in passing the bipartisan Water Resources Development Act, the U.S. Senate found that for every one million dollars in state revolving loan fund spending, 16.5 jobs were created.[40] Furthermore, $34.7 billion on federal capitalization grants for the DWSRF would create 506,000 jobs.[41]

A more aggressive investment in water infrastructure would yield more jobs. For example, 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.[42] 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."[43]

Protecting Water Sources Helps to Protect Health and Reduces Treatment Costs

We need a greater focus on source water protection. Uncontrolled and 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.[44]

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.[45] 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.[46] 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.[47]

Another example 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, 2014.[48] 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 rules[49], 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 the Army Corps of Engineers finalized the "Clean Water Rule" in May 2015, which helps to clarify which waters are 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. Unfortunately, President Trump recently issued an Executive Order on February 28, 2017 requiring EPA and the Army Corps of Engineers to reconsider the rule.[50]

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 coordinated 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."[51] Such integrated planning will become crucial as the impacts of climate change and other challenges become increasingly serious.

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. The Water Resources Development Act, enacted in late 2016, will make some of the needed investments, but clearly will not fully cover the full costs of all of the needed infrastructure upgrades in Flint. 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.[52]

2. **Fix Our Lead in Water, Including the Lead & Copper Rule, and Lead in Schools.** To help address our lead in drinking water crisis, we should:

- *Overhaul the EPA's Lead and Copper Rule (LCR)*—and the way states and EPA implement and enforce it. At a minimum, the LCR should be fixed to:
    - Require all lead service lines to be fully replaced in a timely fashion;
    - Strengthen corrosion control requirements;
    - More fully and fairly monitor problems, and prohibit gaming the system to avoid detecting or reporting lead contamination problems; and
    - Require clear, ongoing, and culturally-appropriate public education and notification of lead problems.
- *Address Lead Problems in School Drinking Water.* Tens of millions of children spend their days in school, often drinking from fountains that deliver lead-contaminated water. We need a national effort to ensure that lead tests are conducted for school drinking water, that the results are shared with parents and explained, and that swift remedial action is taken to ensure the protection of children from lead in school pipes, fountains and fixtures.

3. **Fix the Standard Setting Process Under the Safe Drinking Water Act.** When criteria to set a drinking water standard has resulted in no new standards in 20 years, despite the proliferation of drinking water contaminants, there is a problem. Revisions to the cost and feasibility analysis as well as the criteria could streamline the process and allow EPA to move in a timelier manner.

4. **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:
    - Accelerated replacement of deteriorating water distribution piping;
    - Improvements to the processes that utilities use for treating our drinking water;
    - Additional targeted funding for disadvantaged communities, including for restructuring or consolidation of troubled systems, which can help improve water quality and compliance, and reduce per capita costs;

- Adoption of standardized water loss auditing and reporting methods, as developed and endorsed by the AWWA,[53] to provide the foundation for cost-effective loss reduction and repair strategies.

5. **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 combined level funded under the American Recovery and Reinvestment Act of 2009. I note that Mr. Tonko has proposed legislation (HR. 4653) 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.

6. **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.

7. **Protect Water Infrastructure from Extreme Weather Events and Possible Terror Attacks.** Improved vulnerability assessments are needed, and actions required to protect our water systems from threats from extreme weather events that are becoming more frequent with climate change, and to identify and address vulnerabilities to potential terror attacks.

8. **Invest in Advanced Water Technologies, Including Real-Time Monitoring.** We need to invest in modernizing our treatment and monitoring technologies. For example, if real-time monitoring for contaminants could be perfected and widely deployed, it could lead to far more effective identification of problems before they become a public health crisis, could help to identify unforeseen problems, and could help citizens hold their water systems accountable if their water is subpar.

9. **Let Citizens Act Immediately in Cases of Imminent & Substantial Endangerment to Health and Provide for Penalties in Citizen Suits.** 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. Moreover, the Act's citizen suit provision should provide for penalties like the Clean Water Act and Clean Air Act, to provide compliance incentives.

10. **Vigorously Enforce the Safe Drinking Water Act.** States and the EPA should invest resources and staff to ensure far more robust enforcement of the SDWA.

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Mr. SHIMKUS. Thank you very much. I think we were getting your point. I would just add that since you mentioned the budget it includes $2.3 billion for the State Revolving Funds, a $4 million increase over the 2017 annualized level, the budget also provides $20 million for Water Infrastructure Finance Innovation program equal to the funding provided in 2017.

So we will get to those points and we will have those debates. But let me now just recognize myself for 5 minutes for opening questions.

And before I do that, Mr. DiLoreto, I was in Portland with Congressman Schrader two weekends ago and we were—all the cool things that this committee gets to do we were observing the Willamette Superfund site.

So I was just interested, does the water systems there use the Willamette or they—they've got retaining ponds from the mountains or how do they——

Mr. DILORETO. The water system in Portland comes from the Bull Run. It was originated in 1895 under a grant by President Harrison and so it is up in the Mount Hood Forest. It has no human activities, no farmland activities. It's completely protected.

But it used to be the Willamette River in the 1870s and 80s and, of course, it wasn't treated and people got sick. The joke is that the governor at the time, after they did Bull Run, said, "I am not drinking any water that I can't see," and so he objected to it. But the Bull Run is their source, not the——

Mr. SHIMKUS. Yes, it is interesting and I would encourage my colleagues—that is another issue I really look forward to working with in a bipartisan manner to start trying to bring some closure and movement on Superfund sites. So it was a great trip.

Mr. Kropelnicki, you have mentioned the problem of fragmentation in the nation's water industry. What recommendations can you give to this committee to address that problem you've identified?

Mr. KROPELNICKI. Sure. There are approximately 52,000 to 54,000 small rural water systems out there and just compare that to what you have on the electric and gas side.

You have 4,000 electric producers in the U.S. You have 1,600 natural gas producers in the U.S. and so enforcement with numbers of that size become very, very complicated.

Mr. SHIMKUS. It's very hard. I represent rural America and actually USDA rural water grant program has been very helpful. But you really have to talk to the local communities who are so small that they really can't sustain their own water infrastructure and you have to really lovingly encourage them to get into a regional system and I think that is what you're addressing, right?

Mr. KROPELNICKI. Yes, absolutely, Chairman. One of the things we just did in the state of California is we have consolidated a couple districts where we took rural systems where you have a small number of people, where you have complex water supply issues and we merged them with larger districts.

So essentially you spread that marginal cost over a larger base and the end result for the customers in the smaller district is a significant reduction in the water bill and our ability to go in and make and continue to make the capital improvements to keep them into compliance.

Mr. SHIMKUS. Staying with you, what is one obstacle in the water industry the federal government could remove that would draw in more private engagement and investment into industry?

Mr. KROPELNICKI. Mr. Chairman, that is a great question. I mentioned the safe harbor provision. One of the problems being a private water company or an investor in a water company is when we fall out of compliance the fines we get are amazingly substantial, whether it is from the state health department, a local or regional water board or EPA.

So we are held to a very, very high standard and I am very proud of the record. NAWC members have nearly a flawless record at compliance with water quality standards.

However, when we take over a system that is challenged and out of compliance, we run the risk of getting fined right away.

And so having a safe harbor provision or an amnesty period that allows us to ramp that system up to compliance would certainly go a long way in terms of incentivizing private water to come in and take over smaller systems.

Mr. SHIMKUS. And I am sure this will be asked by my colleagues as we start talking about the Water Infrastructure Finance Innovation Act, which you've all testified about, and the Safe Drinking Water Act and how they may interact or how they may help or harm each other.

So if we just go through the whole panel—should the Safe Drinking Water State Revolving Fund and the Water Infrastructure Finance Innovation Act—I hate acronyms so that is why—loan program not just coexist but also complement each other?

And let's just go Mr. Ellingboe and then we will just go down real quickly.

Mr. ELLINGBOE. Thank you, Mr. Chair, and members of the committee.

Yes, I think having them complement each other would provide additional resources needed in order to be able to sustain this infrastructure and I think that is really important, given the need across the country. And so both programs are important.

Mr. SHIMKUS. Mr. Donahue.

Mr. DONAHUE. They do complement each other, Mr. Chairman. The main differences from our perspective——

Mr. SHIMKUS. Someone might have—I think if you can turn your mic off once you're done.

Mr. DONAHUE. The main differences between SRF and WIFIA—sorry about the acronyms but WIFIA is designed to fund projects that are typically greater than $20 million where SRF is substantially less than that.

And historically, when a large project needed low interest funding or desired low interest funding they might have to split that project into smaller pieces in order for it to fit into an SRF program, and that took away resources for the smaller projects.

So low interest funding for large and small projects in the manner of SRF programs and WIFIA is a vital portion of our plan to move forward on infrastructure.

The only other thing I would add is that with the larger projects through WIFIA the repayment opportunities for communities are

up to 35 years where typically in the SRF program you're somewhere closer to 20.

Mr. SHIMKUS. Thanks, and because of my colleagues and out of respect for them, we will just stop there. I am sure they will have questions and I'll turn to the ranking member, Mr. Tonko, for 5 minutes for his questions.

Mr. TONKO. Thank you, Mr. Chair, and to the panelists again, thank you and thank you for reinforcing and strengthening the message of investment.

Many of you discussed the needs estimates for the next few decades. Is it fair to say that there is agreement on this panel about the scale of need in this country?

We can debate the precise remedy to meet that need—how much should come through the SRF, how much through tax-exempt bonds, how much through increased water rates and local government spending, et cetera.

But does everyone agree that it is going to take more federal dollars to make any serious effort to bring down the national need if we that across the board? Need for new additional federal dollars?

Mr. ELLINGBOE. Thank you, Ranking Member Tonko and members of the committee. Yes, we do need additional federal dollars.

Mr. TONKO. OK. If I could just get a yes or no because I am on limited time here. So Mr. Donahue.

Mr. DONAHUE. Yes.

Mr. CHOW. Yes.

Mr. DILORETO. Yes.

Mr. KROPELNICKI. Yes.

Mr. E. OLSON. Limited, yes.

Mr. TONKO. OK. And Mr. Donahue, AWWA represents all types of water systems. Can you discuss the importance of the drinking water SRF for small and disadvantaged systems that may not have the credit rating, the ratepayer base or capacity to fix their systems or bring them into compliance with the law?

Mr. DONAHUE. Thank you. That's a great question. Small systems in particular—and I have experience in that regard where I've used SRF program money for a number of capital financing projects—the main advantage to smaller systems using SRF is the cost of money is much less.

They have to go through higher hoops to get that money so we are hoping that we can make that process a little bit more efficient for the—especially for the smaller systems who have fewer technical staff to help them. I think that would be advantageous.

I also think that using SRF money for smaller systems who have a little bit of a tough time with their credit rating, normally the conventional bond market is very good at supporting credit ratings and municipalities that are AA or AAA rated and some of those smaller systems that may not necessarily have such a high credit limit or credit rating would benefit from a little bit of an easier process through SRF.

Mr. TONKO. Thank you. And there are obvious problems when dealing with so many pipes at the end of their useful lives.

In my district alone there are pipes that go back to Rutherford B. Hayes, if we are going to cite administrations. Water main breaks disrupt service and the local economy. We saw some of

those coming at the worst weather moments of the year, the coldest weather.

They also make the finances of these systems even more difficult. Mr. DiLoreto or any of our other witnesses, can you compare the cost of doing emergency repairs with planned replacement and how much more expensive is it to react? I know that a number of engineers have recommended or suggested it is 10 times more expensive at times to do these after they break than to have some sort of mechanism that pinpoints weakness.

So Mr. DiLoreto.

Mr. DILORETO. Well, I don't have an exact number. That sounds approximate. You're absolutely right. If we can do a maintenance program where we schedule it out, particularly using asset management, I know a number of colleagues here are introducing that into their water systems.

We get all the data from all our water pipes we can then do a modeling that says here's where we ought to be at certain times so that we can avoid the break. The cost is important. More importantly is your business shuts down. People have to get sent home. You lose wages, and that is the real effect you have on the customers and people.

Mr. TONKO. Anyone else on that issue?

OK. Oh, we do? Oh, Mr. Chow. I am sorry.

Mr. CHOW. So I will comment on that. So running a city, a public works department, we often encounter emergencies rather than what we call the preventive maintenance work, and I would say the emergency calls is a heck of a lot more than if we program that out and go through a normal procurement process where we bid it and we certainly couldn't get a much better favorable pricing compared to emergency calls.

Mr. TONKO. Yes. Thank you.

The problem is that many systems don't have the necessary capital asset management practices to be proactive when operating on shoestring budgets.

Therefore, a lot of that maintenance is reactive, which ends up costing local government and ratepayers more.

Mr. Donahue, would you say that is a fair characterization for some of your AWWA members?

Mr. DONAHUE. Absolutely, sir.

Mr. TONKO. And the core mission of this statute is to protect public health. So Mr. Olson, I want to ask what it means for our country to achieve success with the safe drinking water law that talked about the lifelong impacts and I'd like to hear some of your assessments in that regard.

Mr. E. OLSON. Well, I would say that both on the microbiological side I mentioned that there are over 19 million people that get sick a year. Addressing these problems could reduce that.

In addition, the lead contamination problem we did a report recently that found very widespread contamination with lead across the country, something in the neighborhood of 4 million served by water systems that exceeded the lead action level, for example, and there are plenty of other contaminants out there.

Mr. TONKO. Thank you very much.

I yield back, Mr. Chair.

Mr. SHIMKUS. Gentleman yields back his time.

Chair now recognizes the gentleman from Texas, Mr. Olson, for 5 minutes.

Mr. P. OLSON. I thank the chair for calling this very important hearing.

Welcome to our witnesses, and a special welcome to you, Mr. Olson. You are one of the few, the proud, the rare Olson with two Os, not O-L-S-E-N. So get a welcome.

Contaminated water has had national focus because of the tragedy that happened in Flint, Michigan. That was a failure of infrastructure. Lead leached out of the pipes and got in people's drinking water.

It was in the water they drank, they bathed in, they prepared food with, and only years will tell us the damage that is been done to bodies with that lead exposure. It will take a long time.

But infrastructure doesn't just fail over years. It can happen overnight in a flash. It happened in Corpus Christi, Texas, the week before Christmas this past year.

They lost all their drinking water for 3 ½ days because they had a spill. A chemical from an asphalt plant leaked into their water.

Corpus Christi has a special place in my heart. I got my first hour flight time at Corpus Christi Naval Air Station. The first one was 1400 hours. I got my wings of gold there—a naval aviator. I know that town like the back of my hand.

They have 320,000 residents. Flint had about 100,000. So three times bigger than Flint. The local grocery stores were swarmed buying bottles of water. Schools were shut down for the better part of a week.

The mayor resigned after 37 days in office, just over one month. He beat a long-term mayor on the issue of water. During her reign, they had boiled water alerts three times in the last few years.

Against that background, I'd like to open my questions and talk about my home, Fort Bend County, Texas 22. It's about two-thirds suburban and one-third rural.

It is exploding with growth. When a school opens, it is overcrowded on day one. They have trailers come in. That puts a huge burden on infrastructure and water.

If you drive away from a house one mile, go on University Avenue, there is these big blue pipes probably 3 feet in diameter—water pipes, to try to get ahead of the growth we have to have.

My first question is for you Mr. Chow. How with our existing resources can we help growing committees like Fort Bend County and Brazoria County and Harris County manage that growth and serve new customers in a cost-effective way with clean reliable drinking water?

Mr. CHOW. Yes. Any cities undergoing growth are going to be facing the challenges, first of all, with the infrastructure in the current state it is and you're talking about expansion and that is the reason why you got these above ground pipes trying to deliver the water the best they can.

What I'll call the planning in terms of the growth of the city or the township and so on, all that, the planning exercise is a lot more important in terms of forecasting, projecting the population growth

and that is where it really comes down to sound asset management that we mentioned earlier.

Only through sound asset management you can project and from projection you can be one step ahead in terms of have the infrastructure in place in advance of the growth coming to your front door. I mean, that is something that you just have to anticipate through——

Mr. P. OLSON. Mr. Donahue, your comments on that issue, sir.

Mr. DONAHUE. Certainly asset management is a key factor and when you're trying to balance growth with failing infrastructure that you might already have it is a very challenging process for water managers to try to deal with.

One of the things that AWWA is supporting is allowing the SRF program to be used for growth related issues. Right now it is limited only to reinvesting in the existing infrastructure and primarily those communities who have experienced some type of a compliance issue and being able to expand those programs to allow for growth to accommodate some of those needs.

And I've had experiences with schools as well that are bursting at the seams in trailers in the playground. So it is a very challenging process to have.

Mr. P. OLSON. Sounds like a job for Congress. I yield back.

[Laughter.]

Mr. SHIMKUS. Gentleman's time is expired.

Chair now recognizes the gentleman from California, Mr. McNerney, for 5 minutes.

Mr. MCNERNEY. First, I want to thank the chairman and the ranking member for having this hearing.

Mr. SHIMKUS. You're welcome.

Mr. MCNERNEY. It's a good time. And I want to thank the panelists. All your testimony was very good and you came in here so I really appreciate that.

My first question goes to all of you. A simple yes or no would be appreciated.

Do you believe that the State Revolving Fund increases are needed and we need to enhance the ability of cities to get municipal bonds done for this project?

Mr. DONAHUE. Yes.

Mr. MCNERNEY. Starting with Mr. Ellingboe.

Mr. ELLINGBOE. Yes.

Mr. CHOW. Yes, sir.

Mr. DILORETO. Yes, sir.

Mr. KROPELNICKI. Absolutely.

Mr. E. OLSON. Yes, sir.

Mr. MCNERNEY. Mr. Chairman, I think we have unanimity here.

Mr. SHIMKUS. Amazing.

Mr. MCNERNEY. Mr. DiLoreto, you indicated improvements in water conservation. How can we continue to improve in that—in that way?

Mr. DILORETO. Well, the fact of the matter is we kind of reached a point now, if you look at the replacement of fixtures in your homes, most of them have been turned down now so we have reached that point where we've got low flow toilets, low flush showers.

We have reached that point now where we have probably reached. There may be some little things we can do. Now we have got to move on to encouraging people in outdoor water conservation, as your state is well aware of—the kinds of materials we plant for our residence to make them natural to the area that we live in.

Mr. MCNERNEY. So there is more room that can be—thank you.

Also, you mentioned leakage. Could you elaborate a little bit on the technology detecting leaks? Are you the right one to ask?

Mr. DONAHUE. Water loss control is a significant part of the municipal utilities action plan. There are a variety of options. Acoustical leak detection is available and it is traditional and it has been around for probably a good 15 years or so and it is very accurate.

They can come out and pinpoint a leak. But there is also new technology that I am just becoming aware of where there are companies that can view via satellite your geographical region and have some level of accuracy in the determination of where leaks might be so that it focuses your energy and your money in going in to find those leaks. So I am encouraged by the technology.

Mr. MCNERNEY. So we can invest more in developing that technology?

Mr. DONAHUE. Absolutely.

Mr. MCNERNEY. I will bite on your cybersecurity remarks. Could you elaborate on that a little bit?

Mr. DONAHUE. Certainly. Cybersecurity is a growing concern for municipal agencies. I can tell you, as an example in my own town we were attacked and our utility billing system was frozen out by a cyberthreat from outside the country.

We had to pay a ransom basically to get our computer system back. So one of the things that AWWA promotes is working not only with agencies that develop those computer tools for utilities.

But working with the agencies that developed the software programs that prevent those threats from coming in I think a tremendous amount of investment is needed in that regard.

Mr. MCNERNEY. That's horrifying that you would be ransomed.

Mr. DONAHUE. Well, we were just glad we could buy it back.

Mr. MCNERNEY. Wow. Could you elaborate, Mr. Donahue, on some of the way the federal money is leveraged?

Mr. DONAHUE. Oh, sure. So one of the things that has been spoken about quite a bit here this morning is the SRF programs and WIFIA as a new financing tool.

And for every one dollar that is invested in the WIFIA program or is put in the president's budget or in the Congress budget you could get $60 in loans for those utilities.

So using low-interest money from the treasury and being able to leverage that is something that will be very valuable to utilities going forward as we continue with our infrastructure investment.

Mr. MCNERNEY. Thank you.

Mr. Olson, could you talk a little bit about the weak enforcement problem?

Mr. E. OLSON. Sure. We have been concerned about this for some time and, frankly, the budget cuts are going to make it worse. The problem is that there are literally tens of thousands of violations every year of the Drinking Water Act and a lot of those are not

major violations but there are a lot of health standard violations, literally thousands of health standard violations ranging from lead to microbiological.

And unfortunately a lot of those are never enforced against. There is no formal enforcement. We found that 3 percent of the violations actually faced any penalties.

And we are not saying that every single violation requires a penalty or something like that. But what we do need is a cop on the beat, a clear signal that if there is a violation that there will be consequences, especially if it is an ongoing serious one and EPA's own data shows that even the highest priority violations they are not getting around to enforcing nor are the states in many, many cases.

Mr. MCNERNEY. Simple yes or no: do you think it is a matter of over regulation?

Mr. DONAHUE. I think it is a matter of under regulation and under enforcement.

Mr. MCNERNEY. Thank you.

Mr. Chairman, I yield back.

Mr. SHIMKUS. Gentleman yields back his time.

Chair now recognizes the gentleman from West Virginia for 5 minutes.

Mr. MCKINLEY. Thank you, Mr. Chairman and DiLoreto.

I was there speaking—I am a fellow of the American Society of Civil Engineers. Fifty years now I've been a member and——

Mr. SHIMKUS. How long? Can you say that again? How long?

Mr. MCKINLEY. That's 50 years.

But anyway, having said all that, I am fascinated with a lot of this presentation and you all have done a great job on that.

But I get into some other issues that I want to follow back up with the SRF program has been something that is been, you know, much dear to me and I know a few years ago, about three years ago the administration slashed that by half. They had to transfer that money to educational processes rather than—so I am glad we were able to get that restored.

But the AGC is still putting out in its literature that Congress is still cutting back on the money to the SRF. So my question in part is if we can restore it and, Mr. Chow, I particularly like you saying double the amount of money goes to SRF.

You don't get objection from me on that. But my concern I would have and voiced over the years has been how do we do a better job allocating the SRF money to rural communities?

Because when I go back to my area, I hear that time and time again it is the larger cities getting the money and everything we have been able to do confirms that.

So what would be the steps we should take here in Congress to put our foot down a little harder on getting this SRF money to rural communities?

Mr. CHOW. Well, certainly. The SRF fund, it's really more focused on the smaller municipalities and I will answer it this way—that many of these rural areas or small towns and all that they are lacking what I call the technical assistance. So that means, unlike Baltimore City where we have a good number of engineers that——

Mr. MCKINLEY. Isn't that what we did just a couple years ago? We provided more technical assistance but we didn't increase the budget. So all we did was put more people in the queue to get the same amount of money.

Mr. CHOW. Right. But the thing is that I think we as utilities, as colleagues, and then I think there is a responsibility of us, meaning utilities—large utilities providing assistance to those smaller municipalities and smaller communities from the technical assistance perspective for experience, lessons learned.

I think that will go a long way. I mean, if you don't have a project plan designed, what good is SRF? You got to get to that stage so you can tap into that.

Mr. MCKINLEY. Let me see how it goes. I've got a couple other quick questions as well.

We know they've had the problem in the West and it's been the lack of water in the West—the drought they've had for 4 to 5 years out there.

I know it's not quite your testimony that you all were talking about but is the AWWA or the ASCE—is anyone out there talking about ways that we could replenish the aquifers in the West?

Is there anyone talking about that? Because I know there have been some reports in the past and we are ready to work on that if by putting some water lines out and just replenishing the aquifers in the West by using the Missouri or the Mississippi.

Mr. KROPELNICKI. Yes.

Mr. MCKINLEY. Thoughts, please.

Mr. KROPELNICKI. Good question, Congressman.

A couple thoughts on that. One, we have had a lot of rain this last year. It's been actually one of the wettest and largest amount of snow possibly in the last four decades.

The other thing I would say to when we talk about conservation, California's done a great job with conservation. I know for our customers we reduced consumption 27 percent in about a 3-month period and then we have been able to maintain that.

The real problem in California is the fact that you have a population of almost 40 million people and a backbone that the state owns was put in place in the '50s and '60s when the population was about 11 million people.

So the drought highlighted the need for more storage. Right now in California the reservoirs so you have a lot of runoff happening where that water is running off into the ocean.

So it's really a long-term planning scenario. I think you've heard that theme about asset management. It's the same thing I think with the state.

California has taken some big steps in terms of ground water adjudication. What you——

Mr. MCKINLEY. OK. I'd like you, if you could—again, running out of time here—if you could get back I'd like to know more about it because I think the idea of replenishing aquifers could be very good——

Mr. KROPELNICKI. Yes.

Mr. MCKINLEY [CONTINUING]. For other than California. The less California can get to all of them—is the desalinization. I know we just had a hearing yesterday about graphene is a product that

could very well be part of the solution in desalinization of water to give us more of a supply. Any of your associations dealing with the graphene as part of a filtration process? I am seeing no, it looks like, on that.

I've got one more question. I'll put it in the record. Thank you all very much. I appreciate it.

Mr. SHIMKUS. I thank my colleague. Gentleman's time has expired.

Chair now recognizes the gentleman from California. I was looking at my list. We have got McNerney, Matsui, Peters, Ruiz—four Californians right in a row.

So but it is Mr. Peters, and you're recognized for 5 minutes.

Mr. PETERS. Thank you, Mr. Chairman.

First, I'd like to say thanks for having the hearing today. We have heard from witnesses about aging infrastructure, wasted water due to leaking pipes and water main breaks, overall risks to the quality of drinking water.

We have seen that in Flint. I had the opportunity to travel there last year and see it up close. Near my district in San Ysidro, California, we saw similar types of lead, copper, metal contamination in the drinking water and a lot of concern in our communities.

Actually, to help community water systems be better prepared to protect drinking water from a variety of threats, aging infrastructure, industrial activity, the effects climate change or security threats, I introduced a bill today with some of my colleagues on the committee, the Secure and Resilient Water Systems Act, and that bill will direct water systems to assess these kinds of threats with guidance from the EPA, then establish grants to provide communities who are at risk and develop more innovative solutions to use water more efficiently and to support the need to keep our community safe.

Parenthetically, my own community is involved in a aggressive recycling effort to keep water from going into the ocean from our households.

I want to ask Mr. DiLoreto, because in all of this we think very much about how we measure success, and you did a report card and gave us a bad mark.

And we would like to know how do you think we should frame our remediation plan? How do you think we should—is there some sorts of priorities you have, measurements you have that would tell us we are doing well and also that would help us with accountability to our constituents?

Mr. DILORETO. Right. Well, if you look at our report card we come out with these eight categories that we graded in. Part of it is funding and let's be real, the biggest area is that we are under investing in our water system at all levels.

Mr. PETERS. There seems to be a consensus about that here.

Mr. DILORETO. So the fact is we need to invest greater, at your level, to things that we are going to do as a nation——

Mr. PETERS. Right.

Mr. DILORETO [CONTINUING]. That cover whether you're in Alaska or whether you're in Florida. At our level, we need to do things that take care of the pipe system.

If you talk to one of our colleagues that runs the water system here, the first dollar he gets goes for water quality and if he has any money left over he replaces the pipes.

Mr. PETERS. So thinking about that from a national standpoint, do we have sufficient information from water testing to know where risks are that we would have to address first?

Mr. DILORETO. We have information from the contaminants that we know about through the EPA program. That's how we provide safe drinking water. Emerging contaminants continue to occur and then we work through a way to do that.

Right now, we meet—our goal to meet the Safe Drinking Water Act from EPA.

Mr. PETERS. Do you believe that the testing part is sufficiently funded?

Mr. DILORETO. Well, we do that at our own agency. So I can only speak for my own.

Mr. PETERS. OK.

Mr. DILORETO. And we believe that it was sufficiently funded to do the testing we were required to do and then some above and beyond that so we can ensure our customers——

Mr. PETERS. When we think about under funding, we are thinking mostly about pipes, it seems like.

Mr. DILORETO. Well, yes, exactly. Our report card doesn't look at the source water. It looks strictly at the physical infrastructure. So the underfunding that we report talks about underfunding in pipes, underfunding in any physical assets at a water treatment plant, pumps and so forth.

Mr. SHIMKUS. Would my colleague, can I——

Mr. PETERS. Yes, sir. I'll yield.

Mr. SHIMKUS. Mr. DiLoreto is with the engineers. I think some of these questions are good questions to ask the operators—Mr. Donahue, Mr. Chow and Mr. Kropelnicki—because I think you're onto a point. What other things need to be used, and so I just want to throw that in there. I am sorry for interrupting you.

Mr. PETERS. Oh, no. Thank you, Mr. Chairman.

I am thinking systemically from our perspective as a federal government. Suppose we gave these folks and their affiliates the money that they said they needed. I am not sure that will be easy. That only took two seconds to say.

What would we expect to see? How would I measure in 5 years that the systems are doing the right things with the money? I am asking you, Mr. DiLoreto, because you're the teacher.

Mr. DILORETO. Well, clearly, what we would say is a grade of B means condition is good. OK. You don't see the 240,000 water main breaks a year anymore. You're going to see some. That's inevitable.

Mr. PETERS. Yes.

Mr. DILORETO. But you're not going to see that anymore. We start seeing our water quality and our pipe systems are both in that good condition. Condition's good. Funding is good. Capacity is good.

Mr. PETERS. So you'd look at the number of water main breaks, maybe miles——

Mr. DILORETO. Or measurement.

Mr. PETERS [CONTINUING]. Miles of pipes replaced?

Mr. DILORETO. That's right. We'd also be looking at the—we don't make this data up in the report. We get published data.

Mr. PETERS. Yes.

Mr. DILORETO. It's from somebody else. We analyze it. We would start seeing that number that EPA talks about going down. We know that we fund it. You'd see reports from these agencies that would say yes, I've got enough revenue.

Mr. PETERS. How about numbers of people exposed to metal contamination? That would would seem like a priority, too.

Mr. DILORETO. It would be, although we don't measure that in our report——

Mr. PETERS. Oh, OK.

Mr. DILORETO [CONTINUING]. Because, again, we are looking strictly at physical assets.

Mr. PETERS. OK. So for me, we did a whole sewage and water replacement thing in San Diego when I was on the city council.

We used miles of pipes. It seems to me that there has to be some sort of accounting for contamination and as a way to calculate where you'd start.

I won't take much more time, Mr. Chairman, but I would just say that when I went to Flint I think the thing that amazed me was the level of indifference to it from the Congress—I've dealt with a lot of contamination issues and some are worse than others but about the worst is metals and children—heavy metals in children under six is about the worst contamination you can have because it's so deleterious and so permanent, and I would just suggest to my colleagues that starting with that kind of contamination would be the place where we'd start to focus on replacing pipes. And I thank you very much for being.

Mr. SHIMKUS. Gentleman's time has expired. Chair now recognizes the gentleman from Michigan, Mr. Walberg, for 5 minutes.

Mr. WALBERG. I thank the chairman and thank the panel for being here. Mr. Ellingboe, let me ask you for your thoughts on how we incentivize integrated asset management across roads, drinking water, sewer, storm water management, streamline investments and ensure proper planning investment and maintenance over the life of infrastructure.

Mr. ELLINGBOE. Thank you, Mr. Chair and member, for that question. I think one of the most critical aspects is supporting training for water systems and for water operators and that really is a critical part of the job.

In Minnesota where we see difficulties with asset management it's often the smallest systems, the medium-sized systems where water operators may have multiple duties even and having the time and attention to be able to think about asset management, think about what sorts of financial investments are needed, what sorts of technical changes might be needed to their system.

OK. At any rate, that support for operators and systems to have the training needed to really identify and recognize what it takes to manage their systems adequately, financially and technically is crucial and that is where things like the set asides have been important for providing support to training efforts from rural water systems or associations for operators, et cetera, and where the

states can have the opportunity also to work with operators and provide technical assistance to help them with that. So——

Mr. WALBERG. Would there be any reason to make integrated asset management a requirement to receive funding?

Mr. ELLINGBOE. I think the merits—certainly, that would not only promote it and provide interest for operators in doing that but it would provide the states with the backing, so to speak, to require that of the systems as they develop these plans. And so, certainly, this asset management piece is so important for the long-term life of the systems that that could be part of support for seeing that done.

Mr. WALBERG. Thank you.

Mr. Chow, how can we ensure transparency in rates and system needs in order to determine investments?

Mr. CHOW. Well, thank you for the question.

First of all, maybe I'll circle back and address some of your first questions about integrated planning framework because that sort of threads into your second question.

Mr. WALBERG. You've got the mic. I'll take the answer.

Mr. CHOW. Well, I think the integrated planning framework, first of all it's understanding your assets to ensure that you are looking at things more holistically.

You mentioned about water. You mentioned about the sewer. You mentioned about the storm water and so on, all that.

And Baltimore is very fortunate. I am probably one of the first that actually came up with a EPA integrated planning framework document where we look across not only the sewer versus storm water under the current EPA, you know, integrated planning framework definition.

We expanded that to water as well. So you got to look at things holistically. So when you talk about funding you got to make sure you provide the funding to the ones that yield the most benefits.

And, clearly, you don't have enough money to do all of it. You have to start from somewhere and one of the things we talk about how do we reduce the water main breaks over time is that you can't just go out and start replacing water mains. You got to sort of identify where is the most vulnerable piece and then go after those.

And through those sound asset management methodology and looking at things holistically you begin to have a good planning framework in terms of how do you attack this so-called infrastructure crisis that we are facing because you can't bite on this elephant all at one time. You got to take one bit at a time.

Mr. WALBERG. Thank you. Yield back.

Mr. SHIMKUS. Gentleman yields back his time.

The chair now recognizes the other gentleman from California, Dr. Ruiz, for 5 minutes.

Mr. RUIZ. Thank you. Thank you, Chairman.

I want to follow Mr. Peters and his concerns for the public's health. As a physician, I understand the direct link between our nation's drinking water quality and the health and well-being of the people that I serve and that we all serve.

Water is a fundamental element that everyone regardless of political party, regardless of social status needs to survive. So improv-

ing our nation's water delivery infrastructure is crucial to improving our nation's health.

In California, 85 percent of the community water systems tap groundwater sources to supplement their drinking water supply and deliver water to more than 30 million people.

But many ground water basins throughout my state and across the country are contaminated, as we all know, by both naturally occurring toxins like arsenic and hexavalent chromium as well as human causes such as leaky septic systems.

The State Revolving Fund, or SRF, is a critical tool that enables water agencies to build treatment systems or remove aging septic systems.

In my district, the Mission Springs Water District has utilized more than $10 million in SRF funds for its groundwater protection project to remove more than 2,800 septic tanks and install more than 33 miles of sewer line.

This project is critical to protecting the groundwater supplies across the Coachella Valley and may not have been possible without the SRF.

But not all communities even have access to treated water systems. Families in many vulnerable and rural communities like Mecca and Thermal, which I represent, where I grew up, rely on private wells that can have levels of arsenic more than 10 times the national legal limit.

These families are forced to buy bottled water because they can't drink the water from the tap and this is simply unacceptable.

So we owe the American people more than just debate on this critical issue. Clean drinkable water should be a priority for every community across America because it affects everyone regardless of your political party or politics.

So we must act to ensure our water delivery infrastructure is not only up to date but also reaches every community in America. In terms of the public health, the septic tanks are above ground.

With a little rain even in the desert where I live and represent and grow up, those septic tanks can overfill and overrun onto the unpaved dirt area where children and the elderly and everybody else play and walk and going to school. So you can imagine we have a lot of under developed areas in our nation all across rural America.

This is for Mr. Olson. You mention in your testimony that deferred maintenance of our drinking water systems is a ticking time bomb that threatens the public's health.

So what are the health impacts of drinking water contaminants such as arsenic and chromium and can you elaborate on the reduced treatment costs for people if we protect water sources?

Mr. E. OLSON. Yes. Well, there are several contaminants that are fairly common. You mentioned two of them—arsenic and chromium, especially chromium. Hexavalent chromium is one that we are worried about.

Arsenic is fairly widespread. EPA reduced the standard down to 10 parts per billion a little over a decade ago, I guess it was.

It's widespread in California and many other communities. The health impacts of a lot of these are cancer is one of the risks. We are, obviously, worried about lead being a widespread contaminant

that is affecting a lot of communities. It's not just Flint or East Chicago, Indiana. There are many other communities that have a lead problem. And we believe that it's really important to invest in this.

You mentioned rural communities. We are seeing very significant proposed cuts to deal with rural community water. For example, a $500 million cut was proposed in this budget for the USDA rural water program.

Mr. RUIZ. So those residents in the central part of America, in rural America, are going to feel the biggest burden of this budget——

Mr. E. OLSON. Exactly, and——

Mr. RUIZ [CONTINUING]. In terms of their drinking water?

Mr. E. OLSON. That's right, and then obviously they are also proposing cuts in the Mexico border program to zero that out for water. Also, the Alaska native village program, zeroing that out and many other programs.

Mr. RUIZ. So rural communities are going to get duped once again?

Mr. E. OLSON. We are very concerned.

Mr. RUIZ. Yes.

Mr. E. OLSON. Those are where the health risks often are worse.

Mr. RUIZ. Yes. It's unbelievable but it's true and I see it in my rural communities as well.

I got 10 seconds so I'll refrain from asking another question and go ahead and give the mic back.

Mr. SHIMKUS. I thank my colleague and Chair now recognizes the gentleman from Texas, Mr. Flores, for 5 minutes.

Mr. FLORES. Thank you, Mr. Chairman, and I thank the gentlemen for joining us for this important hearing today.

I'd like to start with Mr. Chow. Mr. McNerney started with a question for the entire panel where each of you said that municipal financing tax exemptions were very important.

And so, Mr. Chow, I'd like to dig into that a little bit. A lot of us, at least on this side of the aisle, would like to see a comprehensive tax reform package passed this year and what I'd like to ask you is what tax reform components are important to drinking water infrastructure financing and why.

Mr. CHOW. Well, I mean, certainly, maintaining the municipal bonds being tax exempt is going to go a long way. I mean, I mentioned in my testimony that our 6-year program is about $2 billion and most often is going to be funded by bond markets and we are going to have to go to the bond market and borrow that money.

Now, we do get some SRF from our state. But in relatively comparing to the overall needs in the SRF it just doesn't go far enough.

Now, certainly, with the complement of WIFIA, it's going to be another tool that we are exploring in terms of availability to us on larger projects. When we talk about the 1.8 million customers and so on all that, our projects generally are larger in nature and the WIFIA is going to go be very helpful from that perspective.

Mr. FLORES. Thinking outside the box for a minute, We talked about muni finance and WIFIA and SRF. Just think outside the box for a minute. Is there anything else that would help?

Mr. CHOW. Well, certainly, no one has mentioned P3, which is public-private partnership.

Mr. FLORES. I know where I am trying to go, yes.

Mr. CHOW. That is an area that is a tool in our toolbox. So in terms of financing our infrastructure, we go for state grants.

Then we go for SRF. Now WIFIA is available to us and, ultimately, leveraging the private dollars in terms of our infrastructure needs because the fact that we can't continue to raise water rates at the pace that we have been raising water rates, particularly in Baltimore with the population 40 percent is under so-called the national meeting household income level.

So leveraging the private dollars, negotiate terms more perhaps more favorable in terms of length of the payback periods, and so on and all that. Those are the out-of-the-box sort of thinking and has to be an avenue for us.

Mr. FLORES. Thank you. That's helpful.

Mr. Kropelnicki—I hope I got close on that—ASCE has talked much about the true cost of water in past reports and we know that water rates generally not only pay for operation and maintenance but long-term upgrades and expansion of the water system, or at least they are intended to do that. How do you set your rates to cover all of those costs?

Mr. KROPELNICKI. Sure. That's a very good question, Congressman. Thank you.

We practice full cost for service rate making. So our state regulator, the public utilities commission and our largest operations in California does a very good job where we basically put costs in the bucket.

So you have operating costs—things that are expenses. You have investment costs—things that go into rate base. There is an authorized rate of return that we are allowed to earn those investments.

So you add those things up. Cost of service plus your investment gives you a revenue requirement. That revenue requirement divided by your number of units sold gives you a price per unit.

And the state regulator regulates those things that are in those buckets. So it allows us to forecast our costs and they come back and then check our costs.

So all our capital is approved on a project by project basis. They review our health results. I am very proud to say our company for the last five years has met the primary standards, the secondary standards and all the UCMR, which is unrelated contaminants for the systems that we operate.

And it's all under the purview of our regulator who does a very, very good job at climbing through our drawers and seeing how we operate as a company.

Mr. FLORES. How do your rates generally compare with others in your area?

Mr. KROPELNICKI. That's also a very good question and that is where it gets a little more complicated, and it does for the following reasons.

One, each water source is different and each water source will have a different type of treatment requirement and the price of that treatment varies dramatically.

So that'll cause variation in rates. The other thing that causes variation in rates are things like for a investor-owned utility we pay taxes. We don't really rely on tax-exempt financing.

We are required, under generally-accepted accounting practices, to fund our health and welfare plans, including our pension. So it's really full absorption costing, wherein municipal systems they follow a government or a GASB standard for accounting, which is really different than ours.

So when you normalize all those things out, our rates are very competitive. But when you don't have them normalized out, they could sway dramatically. But it all starts with that water source and looking at what's required for the treatment.

Mr. FLORES. Thank you. Sorry I've gone over, Mr. Chairman. I will say as a CPA, our government accounting standards leave much to be desired.

Mr. SHIMKUS. Texas and California. So now we will turn to the other Texan, Mr. Green, for 5 minutes.

Mr. GREEN. Thank you, Mr. Chairman, and I have a lot of questions. I won't have 5 minutes to do them all in but be glad to submit the questions.

My first one is Mr. Olson. In your testimony you mentioned the need to pay special attention to the needs of lower income and disproportionately affected communities as part of your water infrastructure rebuilding program.

I represent a district that has significant amount of unincorporated area. The city of Houston, we try to partner with these unincorporated areas. We have in Texas what we call municipal utility districts and this provides water to tax based on that.

But we also have private water companies—I know someone on the panel represents those—who some of their rates are those in unincorporated are extremely high.

So we try to partner with the state to pay the infrastructure costs and then they will hook up to the city of Houston's systems and pay the monthly bills. Could you describe the characteristics of a disproportionately affected community?

Mr. E. OLSON. Yes. It's a big issue because we are seeing this across the country. Flint is not the only place that has this problem. There are a lot of small towns and rural areas that have the problem as you're suggesting in your district, Mr. Green.

There is a definition that is in the Safe Drinking Water Act for disadvantaged community. The states will then put a finer gloss on that as to what it means exactly.

But, basically, if you've got a fairly low income community that is where you want to target those resources most because they can least afford it and as we have heard full cost accounting for water can cause rates to go up and that is where, I think, you want to make sure you're dealing with the lower income folks and making sure that you're targeting resources to them and to the infrastructure there.

Mr. GREEN. Well, in this case, neighborhoods that are covered or maybe surrounded by the city of Houston and they will not annex them because, one, it would be such a drag because their property tax base is not near enough to pay for the infrastructure and that is one of our—and low income, which are throughout the country

including Houston, Harris County, it's not as bad as some of the parts of Texas where we have colonias. People actually bought houses. There were no septic systems, no water systems and they ended up drilling their own wells and they become really a problem. South Texas and even parts of east Texas does that. Is the Safe Drinking Water Act something available for those type of communities?

Mr. E. OLSON. Well, I actually mention the colonias in my testimony. It's a serious concern in Texas and a lot of other areas but especially acute there.

The Safe Drinking Water Act does actually have a colonias program that needs a lot more attention, a lot more resources.

I think the cut in the rural utilities service budget of $500 million that was just proposed is really going to hurt efforts to try to deal with that as well the elimination of the Mexico border program that has been proposed in the EPA budget.

Mr. GREEN. In your testimony you mention an idea of creating a low income water assistance program similar to LIHEAP, which also took a hit in the president's budget.

Can you go into greater detail on how this program would work and do we need to do authorizing legislation to do that?

Mr. E. OLSON. A quick answer is—there are a couple ways you could do it. One is much like LIHEAP, which would be essentially federally funded with some state matching money.

That would be a preferable way to do it. You would certainly need federal authorization for that.

Local utilities have done this. EPA did a very interesting review of what some of the states and localities are doing. Some have been very progressive in dealing with these issues—the affordability issues—and I can provide that for the record if that would be of interest.

Mr. GREEN. But, again, it would be a partnership similar to federal government, state government, even the local community pay——

Mr. E. OLSON. Exactly.

Mr. GREEN [CONTINUING]. A share but pay something they can afford.

Mr. E. OLSON. That's right.

Mr. GREEN. Mr. DiLoreto, I want to start with does your investment in drinking water infrastructure compare to the D? Is it safe to say that there are more projects in need of funding and what kinds of projects are these?

Mr. DILORETO. Well, it's absolutely true that there are more projects in need of funding. We look—it appears we have about one-third of the money that is needed to make—to bring our water system up to a grade of B.

Now, we don't look at individual projects. We are looking at the state of the industry. But throughout the industry we find city—the special district like I used to work for, every one of them, having water infrastructure projects that are not getting built with us.

Water mains being replaced and repaired, whether it's pump stations that aren't getting repaired and replaced. We have about a third of the money between what we are getting now in SRF, between money we are generating as utilities to make that happen.

Mr. GREEN. Thank you, Mr. Chair, and thank you for holding these hearings.

Mr. SHIMKUS. Yes, this hearing is making me thirsty so I have been drinking a lot of water.

The chair now recognizes the gentleman from Georgia for 5 minutes.

Mr. CARTER. Thank you, Mr. Chairman, and thank all of you for being here. I appreciate this very much.

I have to share a personal story with you. I was a mayor of a city way back when and I was mayor from 1996 to 2004. I started when I was 10 years old.

But anyway, fascinating. When I was in pharmacy school I never realized that I would know so much about water and sewer because when you're the mayor of a growing city like I was—I refer to this as the nuts and bolts of municipal government and it is.

For most people, they turn on the faucet and the water flows. They flush the toilet and the water goes away and that is all they know.

But when you're the mayor you got to know everything about it. In 1996, our population was 4,500. When I left in 2004, our population was 19,000.

You can imagine the challenges that we had, and we did it—in hindsight I think it may have been easier for us in a sense because we had, if you will, a private-public partnership with the developers.

We said yes, we will extend water and sewer lines and we will go through the state revolving fund and we will get that loan on the city but we need letters of credit from you to cover that.

It was a win-win situation because we were able to get low rates that they took advantage of. We were able, a municipality, to be able to be assured we were going to get a return on it. Otherwise, we'd call in those letters of credit.

And I was just wondering, have you tried any innovative ways like that? I suspect it's going to be a lot different when you're talking about repairing water and sewer lines because we were growing and we had a different set of challenges that we had to deal with.

But that, in some ways, I think, was advantageous to us. I mean, that we could do. But when you've got existing infrastructure that seems to me like it would be more difficult.

I want to ask you, Mr. Donahue, you represent kind of a smaller municipality. What challenges do you face there in getting the funding that you need in order to do these kind of projects?

Mr. DONAHUE. That's a very good question and thank you. It's a rather loaded question too, I might say. As a small utility manager, trying to keep rates so that they are affordable to our lower income, lower socioeconomic customers and still provide the type of resources that we need to provide to maintain our capital is a difficult balance to try to maintain.

Back in the day when I had extensive growth we had developers and we would put the burden on building that capital on the back of the developer and then they would turn that capital over to us.

But now, in trying to reinvest and rebuild that infrastructure, that falls solely on the backs of the ratepayers and trying to maintain rates so that they are manageable is a challenge.

Now, water rates are still a bargain in most areas and I think most of us on the—on the dais here would be hard pressed to argue against that.

But we can't leave the low income folks behind and we have to come up with strategies that will help support them while we are still growing our infrastructure or maintaining our infrastructure.

Mr. CARTER. OK. I've got limited time with so many questions.

I've talked to some of the water managers, if you will, in my district and they are telling me a lot of their costs right there are with the unregulated contaminants, having to test for those.

Are you all having that same experience?

Mr. DONAHUE. We have a groundwater system where I am from and we test for unregulated contaminants every 2 or 3 years as required by our state agency.

It's not a real burden for us. We manage that pretty easily. Now, we are fortunate that we have good ground water but if we had contamination issues then it would be a significant cost burden for us.

Mr. CARTER. I want to ask anyone who wants to jump on this and this is—I apologize, this may be off a little off of the beaten path. But one of the problems we have in my area is that we draw most of our water from the Florida aquifer.

Well, we are right on the edge and we are having saltwater intrusions so we are having to use treated surface water. Aquifer storage and recovery—any opinions on that?

Mr. DILORETO. The agency that I ran for 14 years uses aquifer storage and recovery and we would take water in the winter time and we were able to inject it into the ground there and then we pulled it out in the summer time. So it became another reservoir, if you will, for water in the summer time.

Mr. CARTER. Any problems with it, though? It's tough to get them to take that step to do it because you feel like they are going to contaminate our pure system.

Mr. DILORETO. Right. It started out that way but I am from Oregon. So, we don't have some of those problems that you have perhaps in other parts of the country.

Mr. CARTER. Right.

Mr. DILORETO. And so after we worked with our Department of Environmental Quality and Health Division we were able to actually do a pilot project that showed that it worked quite well in——

Mr. CARTER. OK. Can I have one last question real quick?

Mr. SHIMKUS. No.

Mr. CARTER. No.

Mr. SHIMKUS. Yes. I mean——

Mr. CARTER. One last—seriously.

Mr. SHIMKUS. Just a statement. We have got two colleagues that have been waiting for a long time. So why don't we just no? You can submit it for the record.

Mr. CARTER. OK. All right. I will.

Mr. SHIMKUS. Chair now recognizes the very patient gentlelady from Michigan, Ms. Dingell, who I know had some questions for 5 minutes.

Ms. DINGELL. Thank you, Mr. Chairman, and I thank you for holding this hearing because as somebody who comes from Michigan, the Flint water crisis obviously stays in everybody's hearts and minds every single day.

And I strongly support increased investment in our drinking water infrastructure. That should help our communities replace lead pipes and fixtures quickly and safely.

I am actually even going to ask a question in a minute that is unscripted, God forbid we ever go unscripted in these hearings.

But Mr. Olson, first, let me ask you how can federal infrastructure investments be used to protect communities from lead?

Mr. E. OLSON. Well, there are a couple of urgent needs. One is there are about 6 to 10 million lead service lines across the country, according to industry estimates, and we are going to need to replace those. American Water Works Association and others have said we need to replace those. So that is a huge need.

There are also needs for treatment in many communities that corrosion control treatment is not up to snuff and we need to address that as well.

Ms. DINGELL. One of the issues that we really haven't talked about but I am really seeing in our communities, and I want to build on the tax question of my colleague from the Republican side, is because I had an idea that I am wondering if it's something we should pursue.

Many homes still have lead pipes in my communities and nobody's talking about that, and that isn't the system's responsibility. But until we get rid of those lead pipes that is going to continue to be a crisis and we are trying to map.

Mr. Chow, I'll ask you this. This is an unscripted question so staff's probably having a heart attack behind me. But is there something we should be doing to help homeowners be able to replace these pipes as well?

Mr. CHOW. Absolutely. On the public side we can have the best water bringing to the property lines and then once it gets into homes if they have contaminant pipes such as lead pipes and so on and all that it's not going to be helpful in terms of water quality.

So we have to think outside of the box. So, for example, I'll just introduce an example that we have in Baltimore. So we have aging infrastructure just like everybody else and we recognize when we have aging infrastructure it's likely the homes who are tapping into our system are equally aged.

So we are actually looking at our extended warranty companies out there. They are looking at replacement of pipes when there is a failure or something like that.

Low cost—in our case, we pay—our residents pay about less than $10 for water and sewer protection on a monthly basis. Now, that is an avenue.

But then, now, if you sign up a whole community, recognizing there is lead pipe in there, again, these private companies are going to have to take on the risk. So, again, it's become a business

decision they are going to have to make. But we, on the government side, certainly can bridge that conversation.

Ms. DINGELL. And it's real. Take Flint, for example, where there are many homes that have lead pipes and there is no money for those homeowners to replace it.

They are walking away from their homes because they simply can't afford to replace the pipes. So it's a community issue.

As we are talking about Flint there is also an issue of confidence by consumers. So we just had an incident down river, which is part of my community, where the water was brown and smelled and a thousand other things. So you can imagine in Michigan what any discolorization and foul smelling does to people and confidence in their water.

And, quite frankly, the official communication was poor that left many questions unanswered and I ended up calling the head of Great Lakes Authority with all the mayors and saying, this is unacceptable and what happened wasn't good enough.

Mr. Ellingboe, what are states doing to provide more and better drinking water quality information to customers?

Mr. ELLINGBOE. Thank you, Congresswoman. The communication part—I need to remember to sit back—the communication part is really——

Ms. DINGELL. I don't either. I am always in trouble.

Mr. ELLINGBOE [CONTINUING]. Is really a critical part of our job as state drinking water programs. And so——

Mr. SHIMKUS. Yes, why don't we do this? Just turn yours off and use Mr. Donahue's.

Mr. ELLINGBOE. OK. Thank you.

Ms. DINGELL. It's the mic. It's not you.

Mr. ELLINGBOE. All right. So thanks again. The question is what are state drinking water programs doing to help people understand some of the aspects or risks associated with their drinking water.

Well, first of all, what's really critical is that we work with our communities as they need information to provide to their citizens.

For example, in the issue of lead, I think one of the major aspects is helping people understand what they might be able to do in their homes to avoid problems or provide filtration.

We need to have the resources available that are important through the set asides from the State Revolving Fund in order to be able to provide that technical assistance to provide better information from the state level to have as a resource for utilities to be able to access.

And so it's an ongoing challenge to provide effective communications.

Ms. DINGELL. And I am out of time. I would like to do more questions for the record because I think having just experiences there are a lot of issues.

Mr. SHIMKUS. You are allowed to do that, without objection. So the chair now recognizes the gentlelady from Colorado, Ms. DeGette, for 5 minutes.

Ms. DEGETTE. Thank you very much, Mr. Chairman.

I am really pleased you are having this hearing and I hope we have more like this. Several of our colleagues on both sides of the aisle have pointed out that our constituents all just assume that

when they turn on the faucet that the water will come out and it will be safe and that it will—and that there won't be a problem.

And I think we all agree that you really can't have stable communities without safe drinking water. We saw this in Flint when the whole system collapsed, when the drinking water collapsed.

And this committee has a long and cherished tradition of making sure that safe drinking water is a reality for most Americans.

And while the Safe Drinking Water Act is not perfect and we have to update it, it really has been a tremendous success over the years because it established national drinking water regulations for toxic contaminants.

It funded urgent drinking water infrastructure projects in all 50 states through the revolving fund and it set up a framework of federal-state collaboration to protect drinking water resources under the underground injection control program.

So I think it's really been a success. It has been a model for collaboration with the state and federal government, which I think has really been helpful.

And I have got this bill called FRAC Act and what my bill would be to ensure that when we do hydraulic fracturing, which is a big issue in Colorado and many other states—that we also comply with the Safe Drinking Water Act to make sure that fracking is not contaminating our drinking water. That was, for some reason, in the Energy Act of 2005 exempted and I think that the Safe Drinking Water Act should cover everything.

Now, having said that, I just want to ask you folks about a few of the elements of the Safe Drinking Water Act as we start to think about how we are going to update and modernize it, and most of these should involve yes or no answers.

Do you support preauthorizing the Drinking Water State Revolving Fund, Mr. Ellingboe?

Mr. ELLINGBOE. Yes.

Ms. DEGETTE. Mr. Donahue?

Mr. DONAHUE. Yes.

Mr. CHOW. Yes.

Mr. KROPELNICKI. Yes.

Mr. E. OLSON. Yes.

Ms. DEGETTE. Thanks. Do you think that, given what we have heard today at this hearing, do you think Congress should put greater focus on getting low income or small water systems into compliance?

Mr. ELLINGBOE. Yes.

Mr. DONAHUE. I agree with that as well.

Mr. CHOW. I agree.

Mr. DILORETO. Certainly.

Mr. KROPELNICKI. Absolutely.

Mr. E. OLSON. Yes.

Ms. DEGETTE. Now, do you think Congress should provide more resources for water systems to improve resiliency and security from threats like climate change and terrorism?

Mr. ELLINGBOE. Yes, absolutely.

Mr. DONAHUE. Yes, ma'am.

Mr. CHOW. Yes.

Mr. DILORETO. Yes, it's one of our solutions.

Mr. KROPELNICKI. Congresswoman, I go back to cost of service rate making and making sure costs are fully reflected in the rates and to the extent it's an under privileged community that you use a rate support fund or other mechanism to help true that up but it——

Ms. DEGETTE. So is that yes?

Mr. KROPELNICKI. It's a conditional or a qualified yes.

Ms. DEGETTE. OK.

Mr. E. OLSON. Yes.

Ms. DEGETTE. And do all of you support new financing options to leverage federal dollars and lower interest rates?

Mr. ELLINGBOE. Yes.

Mr. DONAHUE. Yes, I do.

Mr. CHOW. Absolutely.

Mr. DILORETO. Yes.

Mr. KROPELNICKI. Yes.

Mr. E. OLSON. Yes.

Ms. DEGETTE. Thank you. Mr. Chairman, I know I could come up with some more provisions that we could all come to consensus around but I really think what this shows with this wonderful and diverse panel here is that we really can come to consensus around changes to the law so that the EPA can issue new and common sense standards for contaminants and we also need to work on ways to improve compliance versus effective enforcement.

And so with that, I really want to thank all of you. I am cognizant that I am the last questioner so I'll yield back. Thank you.

Mr. SHIMKUS. The gentlelady yields back her time and I appreciate her comments. I would just caution be careful not to ask for too much.

I do think there is a lot of areas in which we can agree and I am pretty excited. Great hearing. Appreciate your testimony. We will be submitting some additional questions to you. If you'd get those back we'd appreciate it.

I ask unanimous consent to the following items being inserted into the record: a letter from the National Groundwater Association, a statement from the mayor of Syracuse, New York, Stephanie Miner, a letter from American Rivers and an article from the New York Times dated December 24th, 2016 on drinking water.

Is there objection? Hearing none, so ordered.

[The information appears at the conclusion of the hearing.]

Mr. TONKO. Mr. Chair?

Mr. SHIMKUS. Yes.

Mr. TONKO. The letter submitted by the mayor of Syracuse is responding to some of the advice that was provided today by the panel including making use of predictive analytics models so as to best understand where the leaks may be, where the frequent reoccurrences have been so as to have a better master plan, and then sensors also that they are applying for their water leaks—a vibration system that then identifies.

So I think they are doing innovative things in Syracuse and it's the kind of message I think I heard here today—to be able to use those innovative concepts to be able to stretch the dollars required and to best manage with most efficiency as the outcome.

So I thank you for entering it into the record.

Mr. SHIMKUS. Can the gentleman tell me whose congressional district that is in?

Mr. TONKO. It is not mine.

Mr. SHIMKUS. It is not?

Mr. TONKO. No, it is in, I think, Mr. Katko's.

Mr. SHIMKUS. What a good guy.

All right. So we appreciate you all attending and I will call the hearing adjourned.

[Whereupon, at 11:59 a.m., the subcommittee was adjourned.]

[Material submitted for inclusion in the record follows:]

PREPARED STATEMENT OF HON. GREG WALDEN

While last year's drinking water crisis in Flint, Michigan drew the country's attention to one community; we all have communities in our states that have discovered they, too, have issues with their water supply and distribution systems. Today, our committee begins a review of the financial needs of our entire nation's drinking water infrastructure. Of course, we need to learn from Flint to make sure the same mistakes are never repeated, but it is important that we don't simply confine our view to just a few solutions. We need to think broadly about all the things that can impact water affordability, reliability, and safety.

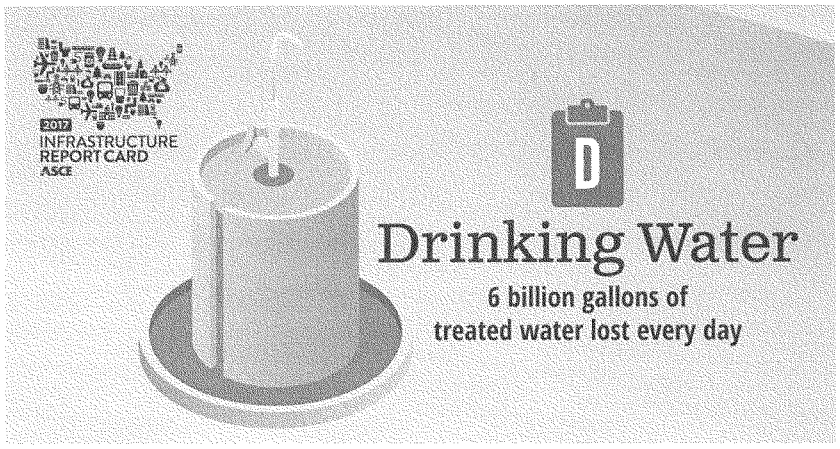
The president strongly supports making newer and larger investments in our nation's infrastructure and I agree that we need to protect these assets. But we must ensure wise investments and diversified efforts make sense and make us better prepared for our future.

It is not enough to look at the latest water needs assessment issued by EPA—or any other group for that matter—and conclude the simple solution is directing more federal money at the problem. Moreover, the price of pipe or a new treatment facility is not the only cost driver—regulations are a significant cost and we know that poorly designed ones can contribute to cost problems. To the extent that existing and new regulations, as well as emerging contaminants are an issue, we should not diminish the importance of tools like the Drinking Water State Revolving Loan fund, which has helped many water utilities afford compliance with federal mandates.

Obviously, these are serious issues and we must delve beneath the surface of these matters and ask hard questions, like where the line should be drawn between federal investment and local responsibility, what existing practices or resources can become used in new partnerships to solve these problems, and where can technology be applied in ways that make our systems smarter and not just newer.

I know these are not easy questions, but I know together we can find the answers. I want to thank our witnesses for joining us today and I look forward to hearing their testimony.

2017 INFRASTRUCTURE REPORT CARD

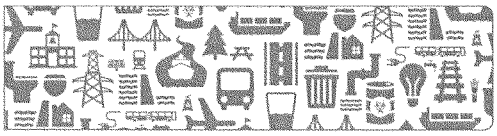


OVERVIEW

Drinking water is delivered via one million miles of pipes across the country. Many of those pipes were laid in the early to mid-20th century with a lifespan of 75 to 100 years. The quality of drinking water in the United States remains high, but legacy and emerging contaminants continue to require close attention. While water consumption is down, there are still an estimated 240,000 water main breaks per year in the United States, wasting over two trillion gallons of treated drinking water. According to the American Water Works Association, an estimated $1 trillion is necessary to maintain and expand service to meet demands over the next 25 years.

CAPACITY AND CONDITION

The United States uses 42 billion gallons of water a day to support daily life from cooking and bathing in homes to use in factories and offices across the country. Around 80% of drinking water in the U.S. comes from surface waters such as rivers, lakes, reservoirs, and oceans, with the remaining 20% from groundwater aquifers. In total, there are approximately 155,000 active public drinking water systems across the country. Most Americans – just under 300 million people – receive their drinking water from one of the nation's 51,356 community water systems. Of these, just 8,674 systems, or 5.5%, serve more than 92% of the total population, or approximately 272.6 million people. Small systems that serve the remaining 17.4% of the population frequently lack both economies of scale and financial, managerial, and technical capacity, which can lead to problems of meeting Safe Drinking Water Act standards. Drinking water is delivered via one million miles of pipes across the country. Many of those pipes were laid in the early to mid- 20th century with a lifespan of 75-100 years. With utilities averaging a pipe replacement rate of 0.5% per year, it will take an estimated 200 years to replace the system – nearly double the useful life of the pipes.



Because America's drinking water infrastructure provides a critical service, significant new investment and increased efficiencies are needed as filtration plants, pipes, and pumps age past their useful life. Every day, nearly six billion gallons of treated drinking water are lost due to leaking pipes, with an estimated 240,000 water main breaks occurring each year. It is estimated that leaky, aging pipes are wasting 14 to 18% of each day's treated water; the amount of clean drinking water lost every day could support 15 million households.

To address deteriorating water infrastructure, asset management provides utility managers and decision-makers with critical information on capital infrastructure assets and timing of investments. Some key steps for asset management include making an inventory of critical assets; evaluating their condition and performance; developing plans to maintain, repair, and replace assets; and funding these activities.

FUNDING

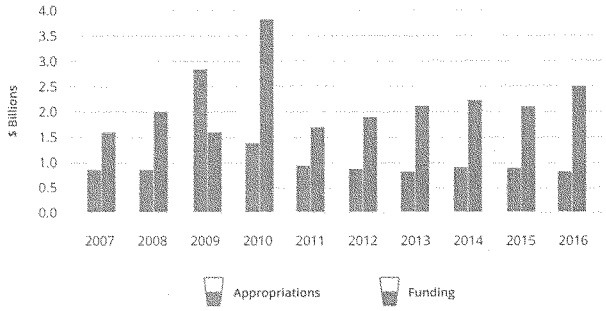
While drinking water infrastructure is funded primarily through a rate-based system, the investment has been inadequate for decades and will continue to be underfunded without significant changes as the revenue generated will fall short as needs grow. According to the American Water Works Association, upgrading existing water systems and to meeting the drinking water infrastructure needs of a growing population will require at least $1 trillion.

The majority of funding for drinking water infrastructure comes from revenue generated by rate payers. In the nation's largest 50 cities, the rate users pay varies greatly; the lowest average monthly water bill is $14.74 in Memphis, while Seattle residents pay the most at $61.43. This large gap exemplifies the varied approaches to rate structure, as well as the contrast of need and investment across the country. While higher rates that reflect the true cost of service are important, public assistance programs should be considered for low income populations. Between 2009 and 2014, state and local governments decreased capital spending for both drinking water and wastewater by 22%; at the same time, federal capital spending did not change significantly.

The federal government offers financial support to local governments and utilities in the form of loans through the Drinking Water State Revolving Fund, which provides low-interest loans to state and local water infrastructure projects. The Environmental Protection Agency (EPA) provides an allotment of funding for each state, and each state provides a 20% match. Since the program's inception, $32.5 billion of low-interest loans have been allocated. However, with needs far surpassing the program's budget, it is unable to meet all investment needs or fund every deserving project.

In 2014, Congress authorized a new mechanism to fund primarily large water infrastructure projects over $20 million through the Water Infrastructure Finance and Innovation Act (WIFIA). In 2016 Congress appropriated $17 million in funds for the program. It is estimated that using WIFIA's full financial leveraging ability that a single dollar injected into the program can create $50 dollars for project lending. Under current appropriations, EPA estimates that current budget authority may provide more than $1 billion in credit assistance and may finance over $2 billion in water infrastructure investment.

Drinking Water State Revolving Fund Appropriations and Funding



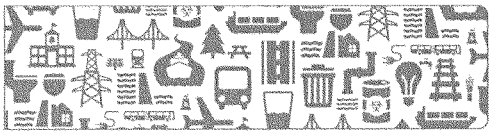
FUTURE NEED

Municipal drinking water consumption in the United States has declined by 5% this decade, marking the first time in nearly 40 years that water use at home has decreased. Total freshwater withdrawals this decade continue to decline in almost every sector including agriculture, industrial, domestic, and thermoelectric. This is primarily due to increased efficiencies and the reduction in withdrawals for retired coal-fired power plants.

Drinking water needed for public supply in the United States has been relatively flat since 1985 even as the population has increased by approximately 70 million people over the same period. Water conservation efforts, including through water efficient fixtures, have had a significant impact in reducing per capita water usage. Importantly, while per capita demand has fallen, population trends have significantly challenged how cities manage water. For example, the Government Accountability Office estimates that 99 of 674 midsized cities in the U.S. are shrinking. This poses significant challenges to utility managers; fewer rate payers and a declining tax base make it difficult to raise funds for capital infrastructure plans. To respond, utilities must raise rates, often in cities where jobs and pay have not kept pace with the economy, putting a burden on those who can least afford rate increases. Conversely, in areas of the country that are growing, such as the West and Southwest, water managers must respond to increased overall demand.

PUBLIC SAFETY

Drinking water quality in the United Sates remains the safest in the world. The EPA sets legal limits for over 90 contaminants in drinking water. The Safe Drinking Water Act (SDWA) allows states to set and enforce their own drinking water standards as long as the standards meet or exceed EPA's minimum



national standards. Smaller systems that serve under 10,000 people report that a lack of resources and personnel can limit the frequency of testing, monitoring, maintenance, and technical capability in their systems. With sufficient funding and proper oversight, these risks can be mitigated and water quality can remain safe.

RESILIENCE AND INNOVATION

America's drinking water infrastructure doesn't stop at pipe, reservoir, pump station, and treatment plant upgrades; many threats to drinking water infrastructure can be attributed to the sources of drinking water, such as polluted water bodies, depleted aquifers, and inadequate storage. As watersheds continue to be impacted by shifting migration patterns, land use changes, consumption trends, and extreme weather, water infrastructure upgrades will be required to meet new demands. With proper planning, education, and conservation utilities are making strides to ensure demand is met for decades to come. Water conservation and improvements in water-use efficiency appear to have gained a general acceptance among water utilities as a sensible practice of water management.

According to the American Water Works Association, a majority of utilities –74%– have a formal conservation program, and 86% consider conserved water as one of their water supply alternatives. Additionally, many communities that have separate drinking water and wastewater departments are beginning to work together or even consolidate, creating "one water" utilities that manage water more holistically.

RECOMMENDATIONS TO RAISE THE GRADE

- Reinvigorate the State Revolving Loan Fund (SRF) program under the Safe Drinking Water Act through permanent reauthorization and tripling the amount of annual appropriations.
- Fully fund the Water Infrastructure Finance and Innovation Act (WIFIA) at its authorized level.
- Preserve tax exempt municipal bond financing. Low-cost access to capital helps keep lending for drinking water upgrades strong and accessible for communities large and small.
- Establish a federal Water Infrastructure Trust Fund to finance the national shortfall in funding of infrastructure systems under the Clean Water Act.
- Eliminate the state cap on private activity bonds for water infrastructure projects to bring an estimated $6 to $7 billion annually in new private financing.
- Encourage utilities to take regional approaches for water delivery to take advantage of economies of scale.
- Increase federal support and funding for green infrastructure, watershed permitting, and other programs that promote the concept of "one water" to protect source watersheds.
- Encourage utilities to conduct revenue forecasting models to determine the necessary rate revenues over a period of time and then institute rates that reflect the true cost of supplying clean, reliable drinking water.
- Encourage utilities to undertake asset management programs.
- Increase federal and local support for vocational training in the drinking water sector as engineers, operators, and maintenance staff begin to retire in large numbers.

- Support and advance conservation ballot measures that protect source water through dedicated funding to land and water protection.
- Utility managers must remain diligent to ensure science-based decisions control operations and facility function. While lead and other contaminants post significant health concerns when ignored, with proper funding safe and clean drinking water can be ensured.

DEFINITIONS

Non-community Water System is a public water system that is not a community water system and that regularly serves at least 25 of the same people over six months/year. These may include systems that provide water to schools, day care centers, government/military installations, manufacturers, hospitals or nursing homes, office buildings, and other facilities.

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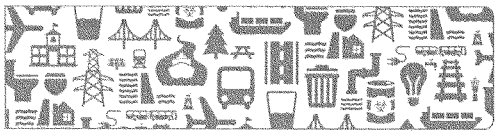

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NGWA
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March 15, 2017

The Honorable John Shimkus
Chairman
Subcommittee on Environment
House Energy & Commerce Committee
Washington, DC 20515

The Honorable Paul Tonko
Ranking Member
Subcommittee on Environment
House Energy & Commerce Committee
Washington, DC 20515

Re: Drinking Water Infrastructure Hearing

Dear Chairman Shimkus and Ranking Member Tonko,

On behalf of the National Ground Water Association's (NGWA) thousands of members across the United States, we commend the attention your subcommittee is giving our nation's drinking water infrastructure during its March 16 hearing, "*Reinvestment and Rehabilitation of Our Nation's Safe Drinking Water Delivery Systems*." NGWA is the largest organization of groundwater professionals in the world, whose mission is to promote the responsible protection, management and use of groundwater.

As Congress considers a major infrastructure bill, NGWA stands ready as a resource to help ensure groundwater remains a safe and reliable source of drinking water for over 40% of Americans. Nearly 20 billion gallons of groundwater are used each day to satisfy the demands of public water systems and individual, household wells.

While much of the attention on drinking water needs is paid to large systems, we urge you during and beyond this hearing to also focus on the safety and reliability of water supplies in rural areas. The needs of small communities are often overlooked or are treated with a one-size-fits-all approach. Dedicated support to rural communities must be considered in any effort to rehabilitate our nation's drinking water infrastructure.

Thank you for your attention to this important matter. Please contact Lauren Schapker, NGWA's Government Affairs Director, at lschapker@ngwa.org or 202.888.9151 with questions or if NGWA can be of assistance.

Sincerely,

Kevin McCray, CAE
Chief Executive Officer
National Ground Water Association

cc: Members, House Committee on Energy & Commerce, Subcommittee on Environment

OFFICE OF THE MAYOR

Hon. Stephanie A. Miner, Mayor

Testimony of Mayor Stephanie A. Miner
U.S. House of Representatives Energy and Commerce Committee, Environment Subcommittee
Hearing on Reinvestment and Rehabilitation of our Nation's Safe Drinking Water Delivery Systems
March 16, 2017

I. Introduction

Syracuse is a City of 145,000 people located in Upstate New York. The fifth-largest City in the State of New York, Syracuse is home to major educational institutions including Syracuse University, Upstate Medical University, Le Moyne College, the St. Joseph's College of Nursing, and others. Syracuse is building a prosperous future for its residents thanks to the thousands of New Americans who call this city home. The City has the fourth-highest rate of refugee acceptance in the nation, per capita, and these New Americans are starting small businesses, rebuilding aging neighborhoods, and being active, involved public school parents. Syracuse is a twenty-first century city on the move with a bright future ahead.

The City of Syracuse would not be on the map today without a major piece of infrastructure: the Erie Canal, which celebrates its bicentennial this year. The Erie Canal served as the primary thoroughfare to send products from Atlantic ports to the growing industries of the Midwest. Syracuse – along with other canal cities like Rochester, Buffalo, and Utica – owes our existence today to this prescient investment years ago. Begun in 1817 and completed in 1825, the Erie Canal – constructed largely with the labor of Irish immigrants – was the largest transportation infrastructure investment in our young nation's history and set the standard as manifest destiny gave our nation a new frontier that required new methods of shipping goods and people from one place to another.

As our nation grew, so did the City of Syracuse. In the late 1800s, we saw another engineering marvel created in the shadow of the Erie Canal: the Syracuse water system. Coming from a pure source, Skaneateles Lake, 14 miles away from the City, our water comes to us through a gravity-fed system built almost entirely by hand with just simple tools. This has enabled the City of Syracuse to enjoy affordable, clean water for over a century, meeting the needs of our citizens and businesses.

Now, more than ever, it is important for cities like Syracuse to continue to have access to reliable, affordable, clean water. We have seen with the crisis in Flint, Michigan that no community can take its drinking water for granted. It is critical that Congress and the Administration take measures to support our clean water systems.

II. Infrastructure Challenges

Cities today are faced with a wide range of challenges facing their infrastructure systems. Syracuse, in particular, must address our major concern: the age of our infrastructure. Pipes were laid more than 100 years ago in many parts of the City system. While the cast iron pipes have done an excellent job transporting water from our source to our City, they are showing their age. In 2016, the City experienced 322 water main breaks. In 2015 and 2014, we experienced 375 and 391, respectively. It was once the norm for water main breaks to happen only in winter, when the freeze-thaw cycle would heave ground and break mains; now it is commonplace for breaks to happen throughout the year. Already in 2017, the City has had 70 breaks.

Part of the challenge Syracuse faces is directly related to climate change: with colder winters, warmer summers, and more dramatic freeze-thaw events happening both earlier and later in the season. This leads to more breaks happening more frequently. Our aging pipes cannot heave with the ground and, without fail, they break due to our weather conditions.

Aging infrastructure is not the only source of struggle for America's water systems; ensuring the quality of a safe supply of clean, potable water is critical. In the cases of Hoosick Falls, New York and Flint, Michigan, we have seen government decisions put the bottom line before the people we are sworn to serve. It is critically important that the federal government support localities when they need to make decisions about water quality. Careful testing for contaminants in water sources is important and strict standards – while beneficial – must also come with support from the governments that require them. Mandates should come with financial assistance to help municipalities meet the rules. No community should ever be forced to make decisions about importing water for their residents from a system that has been contaminated and, with the right support from the federal government, no city will have to again.

III. Innovation and Opportunity

It is said that necessity is the mother of invention; if that is true, then public budgeting is the mother of innovation. Cities like Syracuse are learning to do more with less and develop creative new solutions to addressing infrastructure challenges.

In 2014, the City of Syracuse opened its Office of Innovation, made possible with a three-year, $1.35 million grant from Bloomberg Philanthropies. Syracuse was one of fourteen cities selected in 2014 as part of the Bloomberg Philanthropies' Innovation Teams (i-teams) program. The program aims to improve the capacity of City Halls to effectively design and implement new approaches that improve citizens' lives. Grant funds allow mayors to hire and fund i-teams for up to three years. These teams function as in-house innovation consultants, moving from one mayoral priority to the next. Using Bloomberg Philanthropies' tested Innovation Delivery approach, i-teams help agency leaders and staffs implement a data-driven process to assess problems, generate responsive new interventions, develop partnerships, and deliver measurable results.

The first issue area our i-team was assigned was infrastructure. Through intensive study and collaborative partnerships with other organizations, including the Eric and Wendy Schmidt Data Science for Social Good fellowship at the University of Chicago, the City has done remarkable work to bring new ideas to the forefront to serve our citizens and lead a national conversation on infrastructure. Syracuse has developed a predictive analytics model to determine where water main breaks are most likely to occur based on the age of pipes and the frequency of breaks in the immediate area. Using that study, the City is better able to plan for preventative maintenance, rather than simply reactive repairs that leave customers out of water for hours.

Syracuse has also begun installing sensors on water valves to help detect system leaks. These sensors were first piloted in our Downtown neighborhood – which, after many years is now experiencing a renaissance of new construction, apartment living, and thriving nightlife all built upon aging infrastructure. They work by measuring small vibrations within the water mains. Should even a small leak occur, they transmit a radio signal to the Water Department's headquarters, notifying the appropriate staff who can schedule maintenance before a small leak becomes catastrophic.

We are working on predictive technologies as part of a "Dig Once" philosophy. Repeated construction on the same blocks not only tears up roadways but has the potential to damage infrastructure, even after it is repaired. The City of Syracuse is working to coordinate infrastructure projects several years in advance with utility providers so improvements and preventative maintenance can occur simultaneously and roads can be sealed once and for all – saving on expensive reconstruction costs.

IV. Federal Actions

a. Supporting Grant Programs to Localities

The federal government needs to do more to provide funding for municipalities to address their ongoing water system challenges. Several streams of funding do exist now, principally through the Drinking Water State Revolving Fund (DWSRF), but it is not adequate for all purposes. First, it is a loan, not grant program, and does not add revenue to cash-strapped cities bottom lines. Additionally, with historically low interest rates, mid-size and large cities like Syracuse are able to perform their own borrowing at lower rates than most state DWSRFs are able to provide. The DWSRF is a critical support to smaller municipalities who do not have the bonding ability a city like Syracuse enjoys.

Congress should examine additional ways to provide grant aid directly to municipalities to support clean water systems and other infrastructure programs. This investment helps create jobs and creates a level playing field on which businesses can grow, our economy can thrive, and jobs can be created.

b. Addressing Climate Change

We are long overdue for an honest national dialogue on the impacts of climate change. The ongoing effects of climate change will continue to effect infrastructure systems across the nation. New temperature milestones – both positive and negative – will heave the ground, freezing and thawing pipes and conduits. Super Storms, a phenomenon New Yorkers know sadly all too well, will bring challenges to our electrical grids. Burying lines as part of a "Dig Once" policy, like Syracuse is pursuing, can be expensive but with the right incentives from the federal government would be possible.

The debate on the causes of climate changes rages on but its impacts are being felt in cities across the country. Leaders need to take action; begin the conversation today to prevent catastrophic system failures in the future.

March 16, 2017

The Honorable Paul Tonko
Ranking Member
Subcommittee on the Environment
Energy and Commerce Committee
2463 Rayburn House Office Building
Washington, DC 20515

RE: Letter for the record for the Hearing: *Reinvestment and Rehabilitation of Our Nation's Safe Drinking Water Delivery systems*

Dear Ranking Member Tonko:

On behalf of American Rivers more than 200,000 members and supporters across the United States, I am writing to express our strong support for H.R. 1071, the AQUA Act of 2017 and for including the Act's language in the Safe Drinking Water Act Amendments legislation. Increased funding for our water systems will help to ensure safe drinking water for everyone. No one in the United States should be afraid to drink the water coming out of their faucet.

There is an increasingly urgent need for renewed investment in our communities' water infrastructure. This need is driven by the unfortunate reality that for many decades, funding to maintain water systems has fallen short of the cost of providing safe drinking water. The result is decaying or outdated infrastructure that cannot keep pace with community need. The AQUA Act will provide authorization for an increase in funding for the Drinking Water State Revolving Fund so that states can get the resources they need to provide communities with clean, potable water.

The AQUA Act also increases funding for the removal of lead pipes which pose a significant health threat, as demonstrated by the ongoing crisis in Flint, Michigan. There is no safe level of lead exposure and it is especially dangers to children as it can impair children's brain development. While corrosion control can help to mitigate the risk of lead leaching into drinking water it should be viewed as a temporary fix and there should be continued effort to replace the lead pipes.

In addition to fixing our clean water crisis through much needed investment in our nation's crumbling water infrastructure, American Rivers believes that every river in the country should be safe as a drinking water source. Rivers and streams provide critical natural infrastructure. Thus, protection, restoration, and sustainable management of our watersheds need to be a priority. We believe that everyone should have access to safe drinking water in their homes and that starts at the source and continues through to our taps.

1101 14th Street, NW | Suite 1400 | Washington, DC 20005-5637 | phone 202.347.7550 | fax 202.347.9240 | AmericanRivers.org

American Rivers appreciates the Energy and Commerce Committee's Subcommittee on the Environment for holding a hearing on how to better provide communities across the nation with safe drinking water. If you have any questions please reach out to Meghan Boian 202-243-7037 or mboian@americanrivers.org.

Sincerely,

Meghan M. Boian
Associate Director for Policy & Government Relations

The New York Times | https://nyti.ms/2hiaSsW

BAYONNE, N.J. — Nicole Adamczyk's drinking water used to slosh through a snarl of pipes dating from the Coolidge administration — a rusty, rickety symbol of the nation's failing infrastructure.

So, in 2012, this blue-collar port city cut a deal with a Wall Street investment firm to manage its municipal waterworks.

Four years later, many of those crusty brown pipes have been replaced by shiny cobalt-blue ones, reflecting a broader infrastructure overhaul in Bayonne. But Ms. Adamczyk's water and sewer bill has jumped so much that she is thinking about moving out of town.

"My reaction was, 'Oh, so I guess I'm screwed now?'" said Ms. Adamczyk, an accountant and mother of two who received a quarterly bill for almost $500 this year. She's not alone: Another resident's bill jumped 5 percent, despite the household's having used 11 percent less water.

Even as Wall Street deals like the one with Bayonne help financially desperate municipalities to make much-needed repairs, they can come with a hefty price tag — not just to pay for new pipes, but also to help the investors earn a nice return, a New York Times analysis has found. Often, these contracts guarantee a specific amount of revenue, The Times found, which can send water bills soaring.

Water rates in Bayonne have risen nearly 28 percent since Kohlberg Kravis Roberts — one of Wall Street's most storied private equity firms — teamed up with another company to manage the city's water system, the Times analysis shows. City officials also promised residents a four-year rate freeze that never materialized.

In one measure of residents' distress, people are falling so far behind on their bills that the city is placing more liens against their homes, which can eventually

lead to foreclosures.

In the typical private equity water deal, higher rates help the firms earn returns of anywhere from 8 to 18 percent, more than what a regular for-profit water company may expect. And to accelerate their returns, two of the firms have applied a common strategy from the private equity playbook: quickly flipping their investment to another firm. This includes K.K.R., which is said to be shopping its 90 percent stake in the Bayonne venture, a partnership with the water company Suez.

Rich Henning, a Suez spokesman, said that "Bayonne had chronically underinvested in their water and sewer infrastructure, which has certainly contributed to rate increases during the past few years." He added, "We understand that these increases create stresses for ratepayers."

Desperate towns have turned to private equity firms to manage their waterworks. The deals bring much-needed upgrades, but can carry hefty price tags.

President-elect Donald J. Trump has made the privatization of public works a centerpiece of his strategy to rebuild America's airports, bridges, tunnels and roads. Members of his inner circle have sketched out a vision, including billions of dollars of tax credits for private investors willing to tackle big infrastructure projects. And Mr. Trump himself promised in his victory speech "to rebuild our infrastructure, which will become, by the way, second to none."

Private equity firms like K.K.R. have already presented themselves as a willing partner, and Bayonne provides an important case study. Its arrangement is one of a handful of deals across the country in the last few years in which private equity firms have managed public water systems. While these deals are a small corner of private equity's sprawling interests, they represent the leading edge of the industry's profound expansion into public services.

For residents, the financial trade-offs from these water deals can be painful.

The Times analyzed three deals in which private equity firms have recently run a community's water or sewer services through a long-term contract. In all three places — Bayonne, and two cities in California, Rialto and Santa Paula — rates rose more quickly than in comparable towns, which included both publicly and privately run water systems. In Santa Paula, where Alinda Capital Partners

controlled the sewer plant, the city more than doubled the rates. A fourth municipality, Middletown, Pa., raised its rates before striking a deal.

Now, some of these cities are trying to take back their water. Missoula, Mont., wrested away its water system, which had been owned by the Carlyle Group. Apple Valley, Calif., whose waterworks were also owned by Carlyle, has filed a similar lawsuit. Santa Paula bought its sewer plant from Alinda last year.

Of course, there's a reason many communities look for private partners to begin with: Their water systems are in poor shape. Budget shortfalls and political mismanagement can represent a real threat to both infrastructure and citizens. For evidence, look no further than the crisis in Flint, Mich., where the drinking water became tainted with lead.

"Keeping rates down may sound like the ultimate righteous good for ratepayers, but the truth is, not if you're failing to provide basic care and maintenance," said Megan Matson, a partner at Table Rock Capital, the boutique private equity firm that invested in Rialto's water and sewer system. She added that it helps for deals to "provide more obvious public benefits," noting that her firm partnered with Ullico, the nation's only labor-owned insurance and investment company.

Proponents of the public-private partnerships, citing recent studies in Canada and Europe, argue that private businesses operate more efficiently than governments do and that this translates into cost savings for citizens. And private equity firms, lacking technical expertise in how to manage infrastructure, often team up with private water companies.

Supporters also say that the deals require private equity to spend millions of dollars a year to fix things (money that towns may not spend on their own), and that the firms sometimes pay towns millions more up front. Bayonne, for instance, got $150 million up front from K.K.R.'s team, which the city used to pay off a pile of debt.

In a statement, a K.K.R. spokeswoman said, "Our partnership has provided Bayonne residents with better service, modernized technology to detect leaks and

conserve water, improved infrastructure and safer conditions for workers — all without a tax increase or public expenditure."

Desperate Measures

In Bayonne, a city of about 65,000 on a peninsula in the shadow of the fallen twin towers, a crucial test for its private equity deal came in July 2012. By then, Bayonne had already spent nearly a year haggling with some of K.K.R.'s top negotiators.

Next, city officials presented the deal to a more skeptical crowd: their own residents.

Bayonne's sales pitch to its citizens illustrates the bold steps town officials can take — including making promises that are at odds with the actual terms of the deal — to attract private equity money. Private equity, in turn, can earn significant returns.

At a public meeting in city hall, a lawyer for the city promised that, after an initial rate bump, there would be "a rate freeze for four years," according to a meeting transcript. Bayonne's mayor, Mark Smith, later reiterated the four-year freeze in a magazine article.

That promise turned out to be fleeting.

The contract allowed additional rate increases after only two years. There was no four-year freeze.

In fact, rates rose even more than the Bayonne contract predicted — in part because K.K.R's team had to make unexpected infrastructure upgrades, but also because residents were using less water than expected. The contract guarantees revenue to the team — more than half a billion dollars over 40 years — so water rates have jumped, in part, to make up the difference.

The city said it saw the revenue requirement as a way for K.K.R.'s team to earn steady returns but not a windfall.

In American Towns, Private

Profits From Public Works

A Times analysis showed that Bayonne's water rates grew almost 28 percent under the deal, growth that far exceeded that of three other municipalities to which Bayonne has compared itself.

(Daniel Van Abs, an associate professor at Rutgers University who specializes in water management, said that a true apples-to-apples comparison of water rates in different towns was "extremely difficult" because of the different factors that can affect rates, including the size of the utility, the municipality's population, droughts and infrastructure investment — or lack thereof. The Times analysis for Bayonne did not include sewer rates.)

Former Bayonne officials who had promised the four-year rate freeze said in interviews that they had not meant to mislead residents. They said they had earmarked some of the K.K.R. team's $150 million up-front payment to offset rate increases in the contract's early years.

But then voters ousted Mayor Smith. And once he left office, the new administration put that money elsewhere.

"I think we could have accomplished that four-year minimum," the former mayor said in an interview. The town's water rates, he said, are now "exorbitant."

Tim Boyle, who took over Bayonne's utilities authority after Mr. Smith was voted out of office, said that various regulations required the city to use that money for property tax relief rather than to stabilize rates. He also blamed the previous administration for guaranteeing too much revenue to K.K.R.'s team in the early part of the deal, calling those figures "wildly optimistic."

Bayonne officials also stress the deal's benefits, including the up-front payment that let Bayonne pay off more than $100 million in old debts. Within three months, Moody's Investor Service revised the city's debt outlook from "negative" to "stable" for the first time in five years, and it has since upgraded the city's credit rating.

K.K.R.'s team contributes about $2.5 million annually to pay for repairs to water infrastructure, plus $500,000 to the city itself. K.K.R. and Suez said they

have upgraded their safety equipment and replaced inoperable hydrants around town.

They also installed sophisticated water meters that can detect leaks in people's homes, and sent nearly 2,000 letters to customers warning when such leaks occurred. As such, use has declined, according to Mr. Henning, who said Suez had received "many notes of thanks" for the warnings.

But more-sensitive meters could lead to higher bills for some residents whose water use wasn't fully captured in the past. When negotiating the deal, K.K.R. called this process "meter uplift," according to emails obtained through records requests.

"We gave away too much," said Gary La Pelusa Sr., a city councilman and former commissioner of Bayonne's utilities authority, which approved the deal over his objections.

Bayonne originally promised residents that the city's utilities authority would oversee K.K.R. and Suez. But the City Council recently decided to shutter the agency and handle the oversight itself.

Stephen Gallo, who headed that authority when the deal was struck, still believes that it benefits Bayonne. "But you've got to watch them, you've got to keep an eye on things," he said. "I don't know who's doing that now."

In interviews with The Times, more than a dozen Bayonne residents, including Ms. Adamczyk, expressed dismay over the rate increases. One reason is that people who fall behind on payments face long-term risks: Unpaid water and sewer bills can be sold to investors who try to collect on that debt, a common practice across the country. Failure to pay can ultimately lead to foreclosure.

In 2012, the year Bayonne struck its deal, water bill delinquencies led to 200 government liens against local properties, tax records show. That figure more than tripled the next year, the first full year under K.K.R.'s team. In 2015, the most recent year with data available, the number remained elevated, at 465.

The city publishes its lien notices in the local newspaper and residents receive mailed delinquency letters.

Still, when a reporter asked one Bayonne resident, Carlos Jimenez, about a water and sewer bill lien that had been listed against his property, he expressed surprise, saying he wasn't aware of it. "I didn't know this could happen," Mr. Jimenez said. "It's a different ballgame."

'There Is No "Free" Money'

One of the few things Republicans and Democrats can agree on is that the nation faces an infrastructure crisis.

In water infrastructure alone, the nation needs about $600 billion over the next 20 years, according to federal estimates. And yet federal spending on water utilities has declined, prompting state and federal officials to try to play matchmaker, courting private investors to fix what needs fixing.

For years, the Obama administration has been cheerleading public-private partnerships. In a statement, the White House said it backed them "when they are well structured, include strong labor standards, and when there is confidence that taxpayers are getting a good deal."

During the presidential campaign, Mr. Trump's team outlined a new plan to incentivize private investors to take on large infrastructure projects.

Wall Street has responded to the call to action. There are now 84 active financial infrastructure funds, according to Pitchbook, a private financial data platform, up 25 percent in just three years. Some belong to big banks like Goldman Sachs, but many are run by private equity firms.

"Across our country, we need solutions for infrastructure deficiencies," said James Maloney, a spokesman for the American Investment Council, the private equity trade group. "Private equity serves as one of these solutions."

Some critics are wary of expanding private investment in public infrastructure. Although cities may get cash up front in these deals, "there is no

'free' money" in public-private partnerships, says a 2008 Government Accountability Office report. Using roads as an example, the report observed "it is likely" that tolls will increase more on a privately operated highway than one run by the government.

Ms. Matson, of Table Rock, who has attended White House meetings on infrastructure, has tried to dispel concerns about these deals. Table Rock is part of a team that finances and manages the water system in Rialto, Calif., a deal that provided the city about $41 million to improve the water and wastewater infrastructure, she said.

Rialto residents have seen their water rates increase about 68 percent since the deal, according to the Times analysis, more than any other comparable city. But Table Rock said rates were artificially low after the city had declined to raise them for about a decade, giving it the lowest rates among those towns. And unlike in most other deals, Rialto residents had a say in the increases and ultimately approved them in a public vote, as required under state law. This year's rate increase was delayed.

When the deal closed in 2012, all the public water utility employees kept their jobs. Everyone has since received raises. And Table Rock, like its partner Ullico, has committed to all 30 years of the arrangement.

"We don't do flips, we invest for life," Ms. Matson said, meaning that Table Rock doesn't seek quick profits by unloading its investments. She also said that Table Rock declined to make deals that provided big up-front payments to towns without a sufficient commitment to infrastructure repairs. "Those deals give the rest of us a bad name," she said.

Gaining Control, but Then What?

In an upscale Washington, D.C., restaurant in 2012, an executive from the Carlyle Group, one of the world's largest private equity firms, put his arm around the mayor of Missoula, Mont.

"Mayor," the executive said, "are you ready to buy a water system?"

Three years later, the comments by the executive, Robert Dove, were recounted from a witness stand in the Missoula County Courthouse. The city was suing Carlyle, which ultimately refused to sell to Missoula, to gain control of its water system.

Missoula is one of several places in recent years that have tried getting back their water systems from a private company. But after waging costly battles, the towns cannot always guarantee the same services at lower rates.

At the time of that dinner in Washington, Missoula was the only city in Montana that did not own its water system — and John Engen, Missoula's mayor, wanted to change that. So, months before, he had supported Carlyle's purchase of the regional water company (Park Water) that owned Missoula's local system (Mountain Water), believing that Carlyle would then sell Mountain Water back to his town.

But the mayor's plans derailed.

In October 2013, Missoula made an informal offer to buy its local system. Carlyle declined. Missoula made a formal offer. Carlyle declined again.

Missoula then sued, and it won. But the court decided the system was worth $88.6 million, substantially more than what the city had offered. On top of that, the city must spend millions of dollars on legal and other fees and must also pay some of its opponents' costs, according to court records.

Those costs included lawyers' fees, limo services and dinners at some of Missoula's finest restaurants. They also included at least one order of boneless chicken wings at Hooters, and one bottle of Metamucil.

In a statement, a Carlyle spokesman said that the firm had considered the city's offers in good faith. "The city offered many millions less than the company was worth, and an independent panel agreed," the spokesman said.

He also said that under Carlyle's watch, "capital expenditures more than doubled, leakage was reduced by 19 percent, water quality was excellent and employment was stable."

And under Missoula's watch, water rates may rise anyway. Further costly repairs are still needed, for one thing.

For Carlyle, the deal was a financial success. The firm sold Park Water in January to another private company for $327 million, more than double what Carlyle had paid.

Missoula is not the only city seeking control over its infrastructure. Last year, Santa Paula bought its wastewater recycling plant for about $70 million from Alinda Capital Partners.

Alinda, which specializes in infrastructure investing, had teamed up with a private water recycling company to finance, design, build and operate the plant after the city awarded them the contract in 2008. The new facility, Alinda noted, replaced an old plant owned by Santa Paula that had been violating state environmental regulations, saving the city from paying fines.

But after years of raising sewer rates, partly to pay "service fees" to Alinda, Santa Paula's thinking changed: It would be better for Santa Paula to issue its own debt to purchase the plant than to saddle citizens with annual rate increases. Now the town — at the urging of its city manager, Jaime Fontes, and several council members, including Ginger Gherardi — has started issuing rebates to citizens.

Still, there will be bumps along the road. After all, cities like Missoula and Santa Paula are now responsible for running an important, and occasionally messy, public service.

Soon after Santa Paula regained control of its sewer plant, an equipment failure let partly treated wastewater pour from the plant. The discharge turned a pond green and flowed onto a nearby organic farm.

And wastewater, Mr. Fontes said, is "not the kind of organic you want."

Rachel Abrams contributed reporting from Los Angeles. Kitty Bennett, Susan Beachy and Alain Delaquérière contributed research.

A version of this article appears in print on December 25, 2016, on Page A1 of the New York edition with the headline: In American Towns, Pumping Private Profit From Public Works.

GREG WALDEN, OREGON
CHAIRMAN

FRANK PALLONE, JR., NEW JERSEY
RANKING MEMBER

ONE HUNDRED FIFTEENTH CONGRESS

Congress of the United States
House of Representatives
COMMITTEE ON ENERGY AND COMMERCE
2125 RAYBURN HOUSE OFFICE BUILDING
WASHINGTON, DC 20515–6115
Majority (202) 225-2927
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April 3, 2017

Mr. Randy Ellingboe
Manager
Drinking Water Protection Section
Minnesota Department of Health
P.O. Box 64975
St. Paul, MN 55164-0975

Dear Mr. Ellingboe,

Thank you for appearing before the Subcommittee on Environment on March 16, 2017, to testify at the hearing entitled "Reinvestment and Rehabilitation of Our Nation's Safe Drinking Water Delivery Systems."

Pursuant to the Rules of the Committee on Energy and Commerce, the hearing record remains open for ten business days to permit Members to submit additional questions for the record, which are attached. The format of your responses to these questions should be as follows: (1) the name of the Member whose question you are addressing, (2) the complete text of the question you are addressing in bold, and (3) your answer to that question in plain text.

To facilitate the printing of the hearing record, please respond to these questions by the close of business on Tuesday, April 18, 2017. Your responses should be mailed to Grace Appelbe, Legislative Clerk, Committee on Energy and Commerce, 2125 Rayburn House Office Building, Washington, DC 20515 and e-mailed in Word format to Grace.Appelbe@mail.house.gov.

Thank you again for your time and effort preparing and delivering testimony before the Subcommittee.

Sincerely,

John Shimkus
Chairman
Subcommittee on Environment

cc: The Honorable Paul Tonko, Ranking Member, Subcommittee on Environment

Attachment

Association of State Drinking
Water Administrators

April 18, 2017

Grace Appelbe
Legislative Clerk
Committee on Energy and Commerce
2125 Rayburn House Office Building
Washington, DC 20515

Dear Ms. Appelbe:

As requested, please find below my responses, as President of the Association of State Drinking Water Administrators (ASDWA), to questions posed by Chairman Shimkus in your letter of April 18, 2017. The questions relate to my testimony before the Subcommittee on Environment during the March 16th hearing titled "Reinvestment and Rehabilitation of Our Nation's Safe Drinking Water Delivery Systems." Our thanks to Chairman Shimkus and the Subcommittee for the opportunity to testify and provide additional information

From The Honorable John Shimkus

1. **Currently, the Safe Drinking Water Act's Revolving Loan Fund requires the States to match Federal capitalization grants with 20 percent of their own funding.**
    a. **At what amount of Federal capitalization spending, would the state match requirement become a burden that the States could not meet?**

States range in their ability to meet the current state match requirement. For some states, meeting any match requirement has been a burden, while for others, this funding need has become a typical budget request over the 20 years of the Safe Drinking Water Act Revolving Loan Fund. State funding has remained flat or declined in recent years, and state's budget prospects are no brighter in the immediate future. Any increase in match percentages would be problematic for most state drinking water programs.

For Minnesota, our state match request is always part of our state infrastructure bonding request, and is small in comparison to the total bonding request. We have been able to make a compelling case that the state gets a lot of leverage from the State Revolving Fund (SRF) loan program and it has typically been approved without much debate. Of course, the Minnesota legislature and the governor both must approve the bonding proposal. If that is not approved, then the match (and the use of Federal Capitalization Grant itself) are not available for use in the Minnesota SRF.

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2. **Aside from the issue of asset management, what are some of the lessons learned about what has worked well in incentivizing systems to make solid investments and upgrades and what have you seen work as disincentives?**
   States have found that targeted training and support for smaller water systems on issues beyond compliance such as basic business planning are very effective. Training and education of basic business practices such as creating a business plan, how to set appropriate rates, learning how to communicate both challenges and successes to decision makers, and understanding the value the water system brings to the community from both a public health and economic sustainability can make the difference between a failing system and one that takes the next step forward to better meet Federal and state requirements and successfully serve the community.

   Even with robust business planning, affordability of water and sewer rates can be a significant problem for many small systems, primarily due to local economic conditions. Partial grant assistance that is combined with SRF loans can be a powerful incentive to get a community to make needed investments in its infrastructure. This funding needs to be available in a steady and consistent manner and part of a process that technical, financial, and managerial support to give the community confidence to make the local investments and decisions to get a project ready and ultimately, get construction completed. On the other hand, inconsistent funding that comes in fits and starts works as a disincentive that can cause a community to delay project planning and wait to see if a "better deal" will be available in the future.

3. **What kind of contributions do States make in encouraging the rehabilitation and redevelopment of drinking water delivery systems?**

   On the funding side, Minnesota, as well as many other states, works to establish a clear and consistent funding process and an objective and transparent Project Priority/Intended Use Plan process to identify fundable projects. The Governor of Minnesota has proposed a state grant program to address drinking water affordability needs. Many states are using a variety of funding sources for drinking water infrastructure improvements.

   Through the sanitary survey process conducted by district engineers, deficiencies in public water systems are identified and a plan developed to remedy these deficiencies. Some of the "fixes" for these deficiencies are more procedural in nature and don't require any capital investments. If these deficiencies include infrastructure improvements, the district engineers are familiar with the funding programs and will assist the water system through the funding process

4. **The EPA distributes funds to each Drinking Water State Revolving Fund following a formula based on each state's identified drinking water infrastructure needs.**
   a. **Is the funding formula for how the EPA allocates money to the states sufficiently transparent?**

   Yes, the funding formula is sufficiently transparent, and it seems that the only fair way of allocating funds is based on the needs of the states. There is some concern that guidelines for completing EPA's Drinking Water Needs Survey may result in an underestimate of the national drinking water needs. One example is the limitation of

water main replacement to 10% over 20 years, which amounts to a 200-year replacement schedule, well beyond the design life of any water main.

b. Do you think the allocation formula is working as Congress intended it to be?

Yes, the allocation formula is generally working as intended. This formula should also be used in situations like Flint, where all states have a similar need to work on minimizing lead exposure from drinking water, rather than direct appropriations to a certain city or state. Additionally, some consideration for the allocation formula should be given to the number of systems in a state, somewhat like the calculation for the funding for the Public Water Supply Supervision (PWSS) program. While any potential change in the allocation formula would need careful study, the number of systems in the state may need to be included as part of the calculation along with results of the needs survey.

c. Generally speaking, how long does it take for a State to allocate the annual State Revolving Loan capitalization funding provided to it by the Federal Government?

States vary for the timeframe to allocate and disburse the capitalization funding, but all states strive to keep the timeframe to a minimum. In Minnesota, the annual Federal funds are allocated (obligated) to loans within 6-9 months, and all Federal funds are drawn and disbursed in less than two years. Many other states have similar timeframes. If necessary, ASDWA could survey its membership and provide more detailed information on the states' timeframes to allocate and disburse the capitalization funding.

5. **The Drinking Water State Revolving Funds are designed, as the name suggests, to revolve, meaning that the money received from repayment of outstanding loans is to be used to make additional loans.**

   a. From your experience, are Drinking Water State Revolving Funds working as intended? Meaning, is the money being paid back into the loan allowing for additional loans to be made?

Yes, the DWSRF loans are working as intended – the loans finance high priority drinking water projects at below-market interest rates. In Minnesota, the cities repay the loans on established repayment schedules and have a record of zero defaults. The revolving nature of the program makes the federal appropriations a long-term investment that provides a permanent source of low-cost capital for drinking water infrastructure projects. To date in Minnesota, each federal dollar has generated over $2.25 in project construction, a leveraging ratio that continues to grow as the funds continue to revolve.

Loans are currently beginning to be fully repaid as the loans were set up for a 20-year repayment schedule and 2017 is the 20th anniversary of the Drinking Water State Revolving Fund (DWSRF). For example, Pennvest closed the first DWSRF loan on March 22, 1997 with the Williamsburg Municipal Authority of Blair County for system-wide improvements that included a booster pumping station, a 210,000 gallon storage tank, over eight miles of water mains, and replacement of every water meter in the system. Construction began later in 1997 and was completed in 1998 and the loan was completely repaid on March 1, 2017.

6. **An important component of the Drinking Water State Revolving Fund is the set-aside program, which allows states to use a portion of the State Revolving Funds for programs and activities to ensure safe drinking water.**

   a. **Can you give a few examples of how States are using set-asides?**

The administrative set-aside provides funding for state staff, which not only allows for program administration but allows staff to work with communities and assist them through the funding and construction process.

The wellhead protection set-aside has helped many communities develop wellhead protection plans to ensure the safe and reliability of their water source.

The capacity development set-aside has allowed all states to establish a capacity development program that works to help systems attain, and then maintain, their technical, financial, and managerial capabilities. These safety nets have helped many systems avoid failure and continue to meet their water quality and quantity responsibilities.

All states have established operator certification programs that ensure that operators work from a common baseline and have the necessary education and experience commensurate with the complexity of their public water system.

States have used the technical assistance set-asides to provide additional support, frequently to small or rural areas, to help them with water quality and quantity concerns. States often use this set-aside to contract with assistance providers such as state Rural Water Associations or state Rural Community Assistance Partnership organizations for specific training and technical assistance needs. For example, Minnesota Rural Water Association (MRWA) created an easy-to-use asset management spreadsheet intended for communities with population under 1,000 people.

   b. **Do you think the current set-aside provisions and requirements are successful and working as Congress intended?**

Yes, the set-aside provisions are very successful and are needed by the states to meet the ever-growing challenges associated with providing safe drinking water using aging infrastructure.

7. **You testified that you support a mandatory requirement being added to the Safe Drinking Water Act that asset management be done by entities obtaining Drinking Water State Revolving Fund loans. Is this view the formal position of ASDWA? Does ASDWA support making such a move mandatory as opposed to otherwise encouraging it?**

Effective Asset Management (AM) is critical for long-term sustainability of a water system, and state drinking water programs support and encourage its use. However, making it a mandatory requirement for these loan funds may make it more difficult for the systems to apply for SRF funds, ironically penalizing those systems that need the most assistance. Every additional requirement for these loan funds added to the existing requirements such as American Iron and Steel, Davis-Bacon wage rates, etc., provides a disincentive to use this loan program. Between the additional costs added to

the project and the "hassle factor" from these requirements, water systems are less inclined to be proactive and instead, may wait until an emergency occurs or violations occur to construct the necessary improvements.

My response to the question during the hearing were meant to show my strong support for public water systems developing AM plans to ensure that they have the financial and managerial resources needed to manage a public water system in perpetuity. The vast majority of cities and water systems recognize the value inherent in AM but the pressures of the day-to-day operations can make it very difficult to implement a robust AM program, and a mandatory requirement could make it more difficult for communities to implement sorely needed infrastructure improvements. If AM plans were mandated, it's possible that they could be a one-time AM plan that would be stuck on a shelf to complete the requirements of the mandate.

The critical issue is getting buy-in from the water system to have an AM plan that is actually implemented and maintained in the future. A better approach might be to provide technical assistance to support, encourage and assist communities in developing and maintaining AM programs. Minnesota has contracted with the Minnesota Rural Water Association (MRWA) to develop an AM template and then work one-on-one with pilot cities to fill out the template and implement an AM program. Minnesota Rural Water Association (MRWA) used DWSRF funds through the 2% technical assistance set-aside, showing the importance of these set-asides for drinking water programs. MRWA also has received a grant directly from EPA for small wastewater system training and assistance. MWRA used both funding sources to do the AM pilots with several cities over the past two years and to develop the Excel-based asset AM template that is downloadable for any water system to use.

Thank you again for inviting us to provide additional information on the issues outlined above. If you have additional questions, please feel free to contact me at [redacted] or you can contact Alan Roberson, ASDWA Executive Director at [redacted].

Sincerely,

[redacted]

Randy Ellingboe
President, Assoc. of State Drinking Water Administrators

Cc: The Honorable Paul Tonko, Ranking Member, Subcommittee on Environment

GREG WALDEN, OREGON
CHAIRMAN

FRANK PALLONE, JR., NEW JERSEY
RANKING MEMBER

ONE HUNDRED FIFTEENTH CONGRESS

Congress of the United States

House of Representatives

COMMITTEE ON ENERGY AND COMMERCE

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April 3, 2017

Mr. John Donahue
CEO
North Park Public Water District
1350 Turret Drive
Machesney Park, IL 61115-1419

Dear Mr. Donahue,

Thank you for appearing before the Subcommittee on Environment on March 16, 2017, to testify at the hearing entitled "Reinvestment and Rehabilitation of Our Nation's Safe Drinking Water Delivery Systems."

Pursuant to the Rules of the Committee on Energy and Commerce, the hearing record remains open for ten business days to permit Members to submit additional questions for the record, which are attached. The format of your responses to these questions should be as follows: (1) the name of the Member whose question you are addressing, (2) the complete text of the question you are addressing in bold, and (3) your answer to that question in plain text.

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Thank you again for your time and effort preparing and delivering testimony before the Subcommittee.

Sincerely,

John Shimkus
Chairman
Subcommittee on Environment

cc: The Honorable Paul Tonko, Ranking Member, Subcommittee on Environment

Attachment

American Water Works Association

Dedicated to the World's Most Important Resource™

April 18, 2017

The Honorable John Shimkus
Chair
House Subcommittee on Environment
2125 Rayburn House Office Building
U.S. House of Representatives
Washington, DC 20515-6115

Dear Chairman Shimkus,

Once again, I thank you for the opportunity to testify before your subcommittee on reinvestment and rehabilitation of our nation's water infrastructure on March 16. I have received your written follow-up questions and am submitting answers with this letter. The questions and answers are below.

1. **Your written testimony mentions concerns about consolidation efforts, including the SRF not encouraging sprawl.**
    a. **Can you speak to how this limitation impacts efforts to create better functioning public water systems?**

Answer: The authorizing language for the state revolving loan fund prohibits the use of an SRF loan to "finance the expansion of any public water system in anticipation of future population growth." This effectively prohibits accessing an SRF loan until after a community has already grown. The rapid growth of communities in suburbs, the Sunbelt, the West and even some city centers, makes keeping up with infrastructure needs a challenge already. Drinking water and wastewater pipes, as well as roadways and sidewalks, must be built as a community is growing or is being rehabilitated. We understand that the original intent of the language was to prohibit use of the SRF from encouraging reckless sprawl. However, population trends make this provision obsolete in certain parts of the country.

In addition, it some circumstances, it may be desirable for water systems to consolidate either physically or under some form of joint management and engineering. If they are to physically consolidate, some of the construction work would fall into a hazy area regarding anticipating future growth. The law could be improved by making it clear that using the SRF for consolidation for efficiency of operations and regulatory compliance does not violate the anti-sprawl provision. It should also give more leeway to utilities that clearly see future growth in certain areas near their current service areas.

2. **What features about the Water Infrastructure Finance and Innovation Act program makes it attractive as a source of funding?**

Answer: Lowering the cost of borrowing by just a few percentage points saves water utilities – and ultimately their customers – tremendous amounts of money over the long run, particularly in a multi-million-dollar loan. WIFIA provides loans of $20 million or more for drinking water, wastewater and stormwater infrastructure projects at long-term U.S. Treasury rates. The payback period is up to 35 years, giving communities even more flexibility in repaying it. WIFIA loans can finance projects beyond the scope of SRF loans, which must be prioritized to utilities in which there is the most immediate threat to public health. WIFIA can help a utility prevent becoming one of those dire cases. In addition, the average drinking water SRF loan is about $2.6 million historically. Some states do provide much larger loans, but this is the nationwide average. Replacing water mains costs, on average, about $1 million a mile. Therefore, medium-sized or even small utilities with large geographic footprints could conceivably make use of WIFIA. Small systems are not ignored in WIFIA. For communities serving less than 25,000, the minimum level for a WIFIA loan is $5 million.

WIFIA is also attractive from the government's standpoint in that Congress only has to appropriate for the risk factor. WIFIA appropriations are leveraged according to the Federal Credit Reform Act. Given the historic default rate of water utilities, than means on average, for every dollar Congress appropriates for WIFIA, up to $65 may be loaned out.

3. **Your testimony dedicates some attention to water affordability, including the criteria issued by EPA.**
    a. **Could you explain your concerns further for me?**

Answer: We have two primary concerns here. First, the U.S. Environmental Protection Agency has relied on the same affordability guidelines since 1997, and they are based on median household income. It is a flawed tool. In addition, the affordability of drinking water and wastewater regulations are considered in separate silos. I am attaching a copy of a joint study done by AWWA, the Water Environment Federation and the U.S. Conference of Mayors on this very topic, which goes into much more detail on this.

4. **What is the role of asset management in achieving a technically, managerially, and financially strong water utility?**
    a. **Does AWWA believe this should be a mandatory requirement for water systems?**

Answer: All utilities manage their assets, but the practice we now formally call asset management is more scientific and focused. It can be defined as "A continuous process-improvement strategy for improving the availability, safety, reliability, and longevity of plant assets, i.e., systems, facilities, equipment, and processes." ("What is asset management and where do we start?" Journal AWWA, October 2007). It helps a utility understand what assets it has, their location, their condition at any given time, their design criteria, and then how to develop an asset care plan and how to optimize the performance of those assets. It maximizes the useful life of an asset and lets the utility manager know when it will likely need to be replace. This knowledge helps utilities get the most out of the dollars they spend and minimize disruptions of service.

We do not believe it should be mandated because that would put Congress or a regulatory agency in the business of defining asset management and trying to make that definition fit for a wide range of utilities that can vary greatly in size, types of assets, types of water treatment and distribution, etc. Professional organizations such as AWWA are making education in asset management an ongoing part of our educational efforts for members.

5. **The EPA is supposed to be coming out with a final update to the lead and copper rule this year.**
    a. **Does the pace of the update to the lead and copper rule surprise you at all?**

Answer: No, it does not. After all, lead is unique among water contaminants. It is not in source waters and it is not in the water leaving a treatment facility. It is leached from lead service lines or from household plumbing fixtures or lead solder if the water has certain characteristics. That is why practicing optimized corrosion control is used to prevent such leaching of lead. Monitoring and treating for lead contamination are complicated tasks. Furthermore, even if every lead service line in the country were to be removed, we would still need to monitor for lead contamination from household plumbing fixtures installed before current lead content rules for such fixtures were implemented. There is also a large public communications challenge with lead. The lead action level in the rule is not a human health standard, but a trigger for certain control measures by a utility. That fact is a communications challenge. Another challenge is the fact that typically, a portion of a lead service line is on public right of way and a portion is on private property. Local statutes and even in some cases property owner consent can complicate complete removal of a lead service line. The financial challenge is obvious when you consider that an AWWA study last year estimated that there are more than 6.1 million lead service lines in the United States. The average cost of replacing such a line is $3,000 to $6,000. Some utilities are finding creative ways to help homeowners help finance replacement and some utilities are footing the bill themselves, but that is difficult for most, and in the long run, it will fall on customers. Ultimately, all lead service lines will need to be removed. Given the time that will take and the financial costs, optimized corrosion control will remain a key tool in protecting the public from lead.

6. **Congress provides states an annual allocation of federal tax-exempt private activity bonds that are subject to a volume cap based upon population. In your testimony you state that the volume cap hinders the use of private activity bonds for water and wastewater infrastructure.**
    a. **Will you elaborate on how altering or removing the volume cap on tax-exempt private activity bonds would spur investment for drinking water infrastructure?**

Answer: Water infrastructure projects are typically multi-year projects, whether we are talking about replacing water mains and service lines or installing or upgrading a treatment plant. With annual volume caps, there is a degree of unpredictability to the availability of private activity bonds that can discourage potential private-sector partners from using them. We constantly hear that there is a lot of private sector money interested in investing in water, and private activity bonds can make public-private partnerships more attractive to all parties.

7. **In your testimony, you discuss how the efficiency of the State Revolving Loan Fund programs could be improved by streamlining the approval process.**
    a. **Do you have any specific ideas for how the approval process could be streamlined?**

Answers: Indeed, a complicated, lengthy application process results in a utility paying fees to a consultant just to put together an application, driving the costs of project even further up. It also delays initiation of projects or can drive a community away from the SRF. Here is a list of suggestions:

1. SRF applications should be scalable to the size and scope of a project.
2. To help scale an application, forms should be tailored to the type of project, such as
    a. Consolidation/regionalization of water systems
    b. Addressing source water needs or problems
    c. Upgrades or additions to treatment works
    d. Distribution infrastructure
3. The paperwork burdens and potential penalties for non-compliance make certification of compliance with Davis-Bacon, American Iron and Steel content rules and with "cross-cutter" environmental statutes a disincentive for applying for SRF assistance. Removal, simplification or elimination of redundancies would make the program more attractive, particularly for small water systems. It addition, it would streamline work for state administrators.

    Some earlier attempts at reauthorizing the SRF have included provisions mandating a study by EPA of how the SRF is administered in different states. EPA may have already done some of this. Information from past and future studies could be used to develop an improved application process model, with input from the Association of State Drinking Water Administrators and knowledge derived from Government Accountability Office studies. A comparison with USDA's Rural Development water system loan program could provide insight as well.

Thank you for the opportunity to provide additional insight on the issues we explored in the March hearing. I and the other members and staff of the American Water Works Association look forward to continuing to work with your committee on water challenges.

Sincerely,

John Donahue
CEO North Park Public Water District
[redacted]
and
Former President, American Water Works Association

Cc: The Honorable Paul Tonko, Ranking Member, Subcommittee on Environment

Assessing the Affordability of Federal Water Mandates

An Issue Brief

THE UNITED STATES CONFERENCE OF MAYORS

American Water Works Association

Water Environment Federation
the water quality people

Prepared for

The United States Conference of Mayors,
the American Water Works Association,
and the Water Environment Federation
by Stratus Consulting, Boulder, Colorado

Assessing the Affordability of Federal Water Mandates

Communities and the water agencies that serve them have limited resources, so the investments they make need to address the most important risks to public health and the environment and deliver maximum benefits at affordable cost. This issue brief summarizes the U.S. Environmental Protection Agency's (EPA's) methods for analyzing the affordability of federal mandates stemming from the Clean Water Act and Safe Drinking Water Act. The paper describes the Agency's current policies, offers a critique, and identifies a number of alternatives that might be more suitable for analyzing the affordability of water and wastewater mandates on American communities. Finally, the paper notes the importance of weighing the benefits as well as the costs of federal mandates while considering their affordability.

This paper is the result of a collaborative effort by the United States Conference of Mayors (USCM), the American Water Works Association (AWWA), and the Water Environment Federation (WEF). Its purpose is to raise issues and provoke discussion. It does not represent the official policy of these organizations or their members. The three associations also offer to their members, separately, an affordability assessment tool that allows communities to directly assess the affordability of water and wastewater mandates after considering the issues raised in this paper. Unless otherwise noted, the term "water" is used throughout this paper to mean drinking water, wastewater, and stormwater.

Background

Investment to meet federal water and wastewater requirements can impose significant financial hardships on households, businesses, and the broader communities in which they are located. When communities face large—and sometimes multiple—federal water mandates, the combined impact of the required expenditures can be extremely expensive for everyone in that community who pays a water or wastewater bill (most consumers get one combined bill for water and wastewater services). For the utility, the cumulative suite of required investments not only strains fiscal capacity but may also displace other important investments, including critical but nonmandatory capital improvement and infrastructure renewal projects. For the greater community, mandatory investments may also squeeze out other important priorities, such as social safety net programs and economic development efforts. For the residents and businesses in affected cities, the capital and operating expenses associated with federal mandates are often reflected in water and wastewater bills that must grow faster than household incomes and the general rate of inflation. Very significant affordability challenges are often created, particularly for lower-income households.

With the intention of providing a mechanism for relieving undue economic stress in the face of water mandates, EPA has developed "affordability" criteria to indicate when such mandates would cause substantial and widespread economic distress in the community. In those cases, the Agency might be willing to exercise some flexibility in the mandate, such as allowing a longer timeframe to achieve compliance with wastewater and stormwater requirements. The affordability of drinking water requirements is handled differently and can—at least in theory and case-by-case—affect the kind of technology that must be deployed in some small communities.

If EPA affordability criteria functioned properly, the economic hardship imposed on lower-income households might be alleviated in many communities by relaxing compliance requirements or stretching them out over a longer time frame. Unfortunately, there are several critical limitations to how EPA defines affordability and applies its assessment criteria. This is due in part to EPA's reliance on metrics such as median household income (MHI), which is highly misleading as an indicator of a community's ability to pay. As a result, regulatory relief is not provided in many communities where substantial and widespread economic hardships are indeed being created.

EPA's Two-level Affordability Screening Analysis for Wastewater and Combined Sewer Overflow (CSO) Controls

In 1995, EPA published its first set of affordability-related guidelines: *The Interim Economic Guidance for Water Quality Standards.* The 1995 Guidance contains a detailed discussion of the analyses a municipality should undertake to evaluate the economic impact of complying with water quality standards (WQS) under the Clean Water Act (CWA). In 1997, EPA published *Guidance for Financial Capability Assessment and Schedule Development* using a nearly identical approach to assess whether an extended compliance schedule might be granted to a community facing affordability problems. The analyses put forth in these guidance documents are divided into two parts:

1. The "preliminary screen" examines affordability using a factor called the Residential Indicator (RI). The RI weighs the average per household cost of wastewater bills relative to median household income in the service area. Ultimately, an RI of 2% or greater is deemed to signal a "large economic impact" on residents, meaning that the community is likely to experience economic hardship in complying with federal water quality standards.
2. A "secondary screen" examines metrics related to the financial capability of the impacted community. This screen applies a Financial Capability Indicator (FCI) reflecting the average of six economic indicators. Those indicators include the community's bond rating, its net debt, its median household income, the local unemployment rate, the service area's property tax burden, and its property tax collection rate. Each indicator is assigned a score of 1 to 3, based on EPA-established benchmarks. Lower FCI scores imply weaker economic conditions and thus an increased likelihood the mandate would cause substantial and widespread economic impact on the community or service area.

The results of the RI and the FCI are ultimately combined into an overall rating based on EPA's Financial Capability Matrix. This rating is intended to demonstrate the overall level of financial burden imposed on a community by compliance with Clean Water Act mandates.

EPA's Assessment of Affordability for Drinking Water Regulations

Whereas EPA's consideration of affordability for wastewater and CSO compliance is aimed at assessing an individual community's ability to comply with regulatory mandates and schedules, EPA's consideration of affordability in the context of potable water supply is limited to assessing the *national-level affordability of regulatory options for small communities.* EPA does not consider the affordability of drinking water requirements in any manner that pertains to individual utilities (even small ones), or to the category of medium and large utilities.

EPA has stated that it would consider a National Primary Drinking Water Regulation to be unaffordable to small communities (those with populations under 10,000) if the standard would result in a household drinking water bill in excess of 2.5% of the national average MHI in such communities. To date, EPA has never made this finding. If EPA were to make such a finding, it would be required to identify technologies for small systems that might not result in meeting particular drinking water standards but are found to protect public health. Then, on a case-by-case basis, states may approve the use of such affordable small system technologies (called a variance) or approve an extended deadline for compliance (called an exemption). States cannot approve both a variance and an exemption for the same standard in the same community. Variances are subject to review and approval by EPA. States have allowed very few variances and exemptions because they can be difficult and expensive to issue.

EPA's stated view on potable water—that it is affordable if it costs less than 2.5% of small community MHI—influences the perceived affordability of combined water and wastewater bills. Specifically, it is inferred that EPA would consider a combined annual water and wastewater bill of less than 4.5% of MHI to be affordable (2.5% for water, plus 2% for wastewater services and CSO controls).

Limitations of EPA's Preliminary Screening Approach

A central issue in assessing affordability of federal water mandates is the reasonableness of community-wide MHI as a primary yardstick. MHI can be a highly misleading indicator of a community's ability to pay for several reasons.

- ***MHI is a poor indicator of economic distress and bears little relationship to poverty or other measures of economic need within a community.*** For example, consider an analysis of MHI and poverty data for the 100 largest cities in the United States. It shows that for 21 cities identified as having an MHI within $3,000 of the 2010 national MHI ($50,046), there is no discernible relationship between MHI and the incidence of poverty. Statistical analysis confirms that the correlation between MHI and poverty among these cities is not meaningful, with a correlation coefficient (r) of 0.024. Indeed, within these 21 cities, the poverty rate ranges from a low of 14.1% to a high of 23.3%.
- ***MHI does not capture impacts across diverse populations.*** In many cities, income levels are not clustered around the median, but are spread over a wide income range or concentrated at either end of the income spectrum. This tendency for the income distribution to spread away from the middle has been increasing and may well continue to increase in the future, making MHI an even less meaningful metric. In addition, income distribution and other economic measures can vary widely across different districts and neighborhoods within a city. Thus, the economic hardship associated with increasing water and wastewater bills can be concentrated in a few lower-income neighborhoods. This will compound the economic hardship within the community and may raise issues of environmental justice (EJ). These impacts are not captured with the use of service area MHI as a sole indicator.
- ***MHI provides a "snapshot" that does not account for the historical and future trends of a community's economic, demographic, and/or social conditions.*** This is particularly relevant in areas that may be experiencing economic declines or population losses (which will result in the costs of water and wastewater programs being spread across fewer residents). Without consideration of these and other economic and demographic trends, the affordability determination will overestimate the ability of residents to tolerate rate increases over time.
- ***MHI does not capture impacts to landlords and public housing agencies.*** Many renters do not receive water bills because water and wastewater service is included in the cost of rent. The same is true of many residents in public housing. In cities with a high percentage of renters and/or public housing residents, use of MHI and RI does not capture impacts to landlords and public housing agencies, which must often absorb the cost of increased water and wastewater bills. In many cases, higher water bills mean that public housing authorities will be required to reduce the number of needy renters they serve, unless there can be offsetting increases in public housing budgets.
- ***The RI does not fully capture household economic burdens.*** Economic burdens are commonly measured by comparing the costs of particular necessities to available household income. The RI is such a measure in that it is used to evaluate the economic burden from water bills by comparing those bills to MHI. However, there can be situations where the economic burdens in a community are substantially different from those typically associated with its RI. For example, a community may experience unusually high costs of basic necessities or may have a distribution of household income that differs significantly from that in most communities. In these cases, the standard application of EPA's RI would be insufficient on its own to distinguish between higher and lower levels of economic impact.

Alternative Household Affordability Metrics: Moving Beyond EPA's Criteria

Given the limitations of the RI, and in particular the use of MHI as a primary indicator of household affordability, it is important to consider the use of alternative metrics to gauge the affordability of federal water mandates. For example, impacts on customer bills can be assessed as follows:

- ***Across the income distribution.*** Given the relatively large percentage of households in the lower portions of the income distribution in many cities, it is important to examine the effect of rising water bills across the entire income distribution—and especially at the lower end—rather than simply at the median. For example, a key indicator could include the analysis of average water and wastewater bills borne by each income quintile as a percentage of the average income for that quintile. The percentage of households below specific income thresholds can also be used to examine household impacts. Figure 1 illustrates this point.

  EPA's "Guidance for Preparing Economic Analyses" (240-R-00-003) recognizes the legitimacy of assessing impacts to all households across the income distribution, though EPA has not provided information on how such analyses have been conducted in the past or used in enforcement actions.

- ***Across household types.*** Average water and wastewater bills can be examined as a percentage of income for potentially vulnerable populations (e.g., renters and elderly households).

- ***Across neighborhoods*** or similar geographic units, such as Census tracts, or Public Use Microdata Areas. Poverty rates and households located in poverty areas can be considered to identify portions of communities that are economically at risk. Alternative measures of poverty, such as the Supplemental Poverty Measure (SPM) recently developed by the U.S. Census Bureau, can be especially useful in this respect. The analysis could capture affordability issues in particular parts of a community or service area that may be masked when looking at the area as a whole.

- ***Other indicators*** of economic need and widespread impacts can also be considered for the community or parts of the community2. These might include:

  - The unemployment rate.
  - The percentage of households receiving public assistance such as food stamps or living below the poverty level.
  - The percentage of households meeting Home Energy Assistance Program requirements.
  - The percentage of customers eligible for water affordability programs.
  - *The percentage of households paying high housing costs*—for example the percentage of households with housing costs in excess of 35% of income.
  - *Other household cost burdens such* as nondiscretionary spending as a percentage of household income for households within each income quintile (Rubin 2003).

Figure 1: Household Income Quintile Upper Limits in Atlanta, Georgia and the United States (2011$)

	Atlanta, Georgia	United States
Lowest quintile	12,294	20,585
Second quintile	31,873	39,466
Third quintile	59,043	63,001
Fourth quintile	104,233	101,685
Lower limit of top 5%	246,335	187,087

Source: U.S. Census Bureau ACS, 2012.

1. The SPM includes changes in the measure of available household resources (e.g., using after-tax income instead of pre-tax income and taking into account income received through food stamps and other forms of public assistance) and also recognizes some nondiscretionary expenses that such households bear. The SPM also adjusts for different housing status (e.g., renters versus owners). Additional details can be found in the U.S. Census Bureau (2011).

2. EPA's 1995 Interim Economic Guidance for Water Quality Standards provides a good list of these indicators, also including economic losses, impacts on property values, decreases in tax revenues, and potential for future job losses, among others.

EPA's Secondary Screening Analysis: Limitations and Alternative Indicators

Just as the RI falls short of its intended purpose, so too does the Financial Capability Indicator (FCI). The FCI that makes up EPA's secondary screening analysis does not adequately reflect a community's ability to finance investments associated with federal water mandates. This measure fails to fully capture financial capability because:

- EPA uses property tax revenues as a percentage of full market property value (FMPV) as its sole measure of local tax effort. Focusing solely on property taxes—while ignoring income, sales, business taxes, and user fees typically charged for city services—inevitably understates the tax effort in cities that rely on multiple forms of taxation. As an alternative, EPA should allow municipalities to use *total local tax and fee revenues as a percentage of gross taxable resources.* This would provide a better measure of the extent to which a municipality is already using the full range of its taxable resources.

- The secondary screening analysis includes measures of local MHI and unemployment levels compared to the national average. By focusing on how these measures compare with national levels, EPA fails to acknowledge the profound impact of the absolute levels themselves. For example, if the national unemployment rate is 9%, a community with an unemployment rate of 10% is considered by EPA as having only a "mid-range" unemployment problem. In fact, a community with a 10% unemployment rate is all-but-certain to be experiencing significant distress, regardless of the national average.

  In addition to supplemental measures for MHI (as previously described), EPA should consider a metric that compares a municipality's *current* unemployment rate with the long-term state and national average (the national average was 5.8% between 1991 and 2010). Use of the *long-term* state and national averages as a benchmark would provide a more insightful socioeconomic indicator than a single current number. A community's long-term unemployment rate (for example, the share of the labor force continuously unemployed for one-half year or more) could also be evaluated.

- The FCI does not take into account any deterioration of a local government's ability to finance major capital improvements, as evidenced in municipal capital markets. EPA should consider adding a measure of local government revenue growth or decline to the FCI matrix, with a decline in real revenues over some period taken as a sign of weakened financial capacity.

- EPA's methodology for assessing municipalities' financial capabilities takes into account formal debt burden, but it does not consider what for many cities is an even greater liability: unfunded pension and health care commitments to retirees. These are generally not reflected in formal debt.

- Community or utility revenues are not considered in the secondary screening analysis. This creates a significant weakness, especially in areas that are experiencing economic difficulties, delinquency in water and wastewater payments, declining water usage, shrinking revenues, or a growing number of older customers on fixed or declining incomes. EPA should consider the addition of more appropriate measures of revenue collection, such as current delinquency rates, the agency's ability to enforce collection, and its likelihood of recovering these costs.

- EPA's secondary screening analysis does not take into account the fact that many communities have a legal debt ceiling. Debt limitations have the potential to severely limit a community's ability to finance unfunded mandates absent an extended schedule.

- Finally, EPA does not consider the longer-term needs facing many municipalities for reinvestment and renewal of water and wastewater infrastructure due to the current system's age and condition. As documented by the American Water Works Association's 2012 *Buried No Longer: Confronting America's Water Infrastructure Challenge* report (covering buried drinking water infrastructure only), these needs add up to at least $1 trillion over the next 25 years. Wastewater needs are at least as great, not counting CSO costs. The need for this investment is real and urgent.

Weighing the Benefits of Additional Mandate-Driven Expenditures

Federal Clean Water Act and Safe Drinking Water Act mandates are intended to provide better public health protection, water quality enhancements, and other benefits. However, not all drinking water and wastewater mandates are the same. Some provide greater benefits than others, or provide benefits sooner than others, or generate benefits to different groups of people or ecosystems than others.

When communities face expensive water mandates and associated deadlines, the impact of the required expenditures can be extremely difficult for all who pay water bills, but particularly for those with lower incomes. In such communities, the expected benefits of the mandate should be carefully weighed against:

- Compliance deadlines (which might be amended).
- Permit limits (which might be adjusted).
- Required compliance technologies and strategies (some of which are more expensive than others).
- Other factors that influence the magnitude and timing of required investments.

When the costs of meeting a regulatory mandate are high, the affordability implications and the benefit of the activity should each be evaluated in concert with one another. The most important questions include:

1. Are the added benefits of more rapid and/or stringent mandates warranted given the added costs and adverse impacts on affordability, when compared to less stringent, perhaps less expensive alternatives?
2. Are projects with lower public health or environmental benefits driving out projects that might be of greater value to the community or the nation?
3. Will those who will realize most of the benefits be different than those who bear most of the costs?
4. Are those bearing the greatest burden economically disadvantaged and thus worthy of environmental justice consideration?

EPA's proposed Integrated Planning and Permit Policy (IPPP) provides one potential avenue by which the costs and benefits of all federal water mandates could be addressed. The IPPP process could be used to set priorities, make adjustments in requirements, and set reasonable timetables. Such adjustments would help ensure that local resources are used to secure the greatest public health and environmental benefits at an affordable cost. Moving the IPPP process forward as suggested offers important potential advantages:

- Comparing the environmental, social, and financial benefits of all water-related obligations would allow municipalities to develop priorities that reflect the totality of trade-offs and commitments facing the community.
- Considering all water-related obligations together, and assessing financial capability in light of total water-related obligations, would focus local resources where the community will get the greatest total environmental, public health, and other benefits.

It should be noted that EPA does not include drinking water mandates in the Integrated Municipal Stormwater and Wastewater Planning process, even though drinking water investments must be carried on the same customer bill as investments needed to comply with wastewater and CSO mandates. The USCM, AWWA, and WEF have recommended that EPA include consideration of drinking water investments in the Integrated Planning and Permit Program. The program should also consider necessary but nonmandatory investments in the on-going rehabilitation of water and wastewater infrastructure.

Conclusion

EPA is to be commended for addressing affordability concerns. However, the continued application of EPA's current approach is inadequate. With respect to considering the impact of rising water bills on households, a basic problem is over-reliance on median household income (MHI). Rather than focusing on MHI alone, EPA should focus on households at the lower end of the income spectrum. This examination could include households with incomes below a certain threshold; households with the lowest income levels (such as the lowest quintile or decile); households with housing costs above a certain threshold (such as 35% of income); or households experiencing other types of financial distress (such as households living in areas of high poverty or unemployment). Moreover, the trend in changing household incomes, water and wastewater consumption, employment and demographics (such as population changes) should be taken into account in evaluating how household economic burdens are likely to change over time.

With respect to assessing a community's financial capability, EPA does not consider a number of important realities facing many communities today. Alternative metrics need to be considered as part of the financial capability assessment to better account for several highly relevant factors. These include the liabilities associated with unfunded municipal pension obligations and other long-term contractual commitments. Finally, the long-term need to reinvest in aging water and wastewater infrastructure to ensure systems are sound and resilient also should be considered.

Including in EPA's analysis a number of additional and alternative measures as described in this paper would significantly improve the Agency's understanding of the affordability of federal water mandates in American communities.

Finally, although this paper focuses on EPA's analysis of residential affordability, it has to be noted that affordability impacts on other customer classes—such as commercial and industrial customers—can be dramatic. In turn, those impacts can significantly affect the economic health and vitality of a community now and into the future.

Affordability Assessment Tool

The United States Conference of Mayors, the American Water Works Association, and the Water Environment Federation have collaborated in the development of an Affordability Assessment Tool that allows our members to consider many of the alternative factors discussed in this paper and better understand the full range of affordability implications for the federal water mandates they face. To access this tool, visit usmayors.org, awwa.org, or wef.org.

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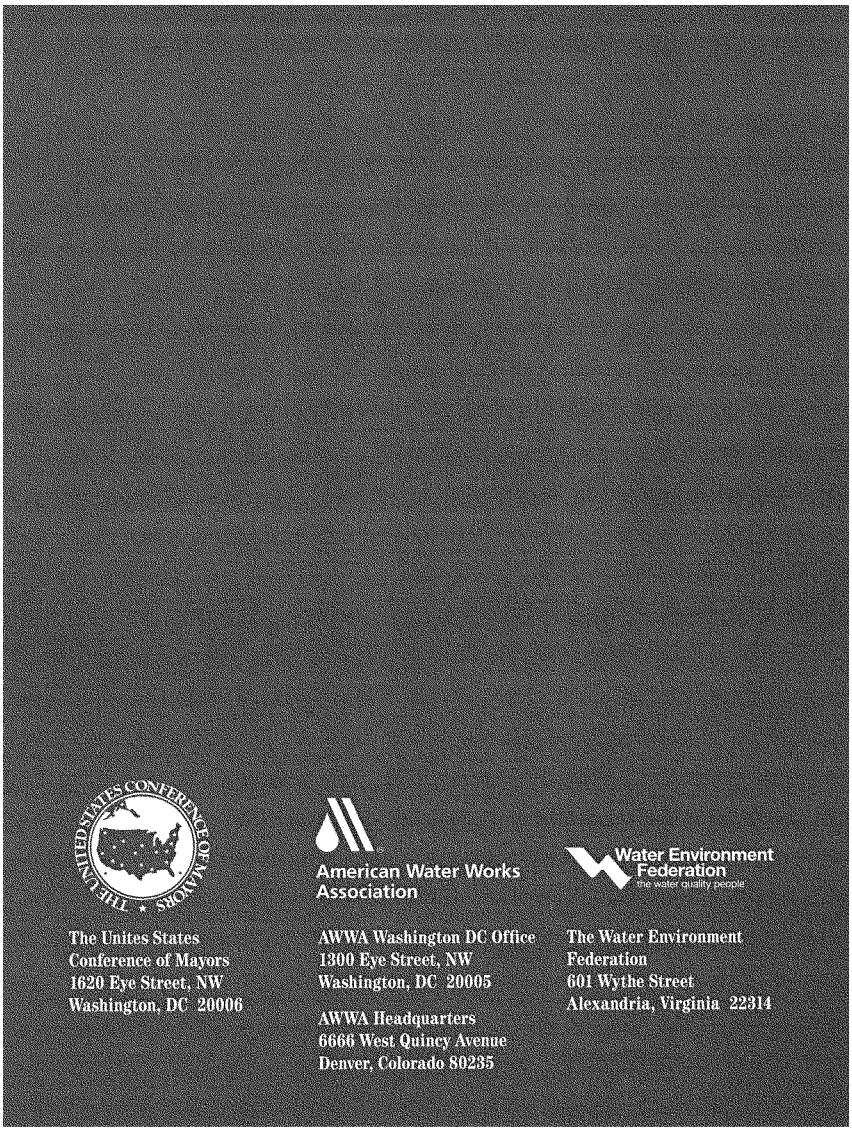

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April 3, 2017

Mr. Rudolph S. Chow
Director
Baltimore City Department of Public Works
200 Holiday Street; Room 600
Baltimore, MD 21202

Dear Mr. Chow,

Thank you for appearing before the Subcommittee on Environment on March 16, 2017, to testify at the hearing entitled "Reinvestment and Rehabilitation of Our Nation's Safe Drinking Water Delivery Systems."

Pursuant to the Rules of the Committee on Energy and Commerce, the hearing record remains open for ten business days to permit Members to submit additional questions for the record, which are attached. The format of your responses to these questions should be as follows: (1) the name of the Member whose question you are addressing, (2) the complete text of the question you are addressing in bold, and (3) your answer to that question in plain text.

To facilitate the printing of the hearing record, please respond to these questions by the close of business on Tuesday, April 18, 2017. Your responses should be mailed to Grace Appelbe, Legislative Clerk, Committee on Energy and Commerce, 2125 Rayburn House Office Building, Washington, DC 20515 and e-mailed in Word format to Grace.Appelbe@mail.house.gov.

Thank you again for your time and effort preparing and delivering testimony before the Subcommittee.

Sincerely,

John Shimkus
Chairman
Subcommittee on Environment

cc: The Honorable Paul Tonko, Ranking Member, Subcommittee on Environment

Attachment

Response to Questions Submitted to:

Rudolph S. Chow
Director
Baltimore City Department of Public Works
Testifying on the behalf of Association of Metropolitan Water Agencies (AMWA)

Regarding

Hearing on Reinvestment and Rehabilitation of Our Nation's Safe Drinking Water Delivery Systems
March 16, 2017

The Honorable John Shimkus

1. **How much money does it cost to perform an asset management assessment?**

   AMWA defines asset management as "an integrated set of processes to minimize the life-cycle costs of infrastructure assets, at an acceptable level of risk, while continuously delivering established levels of service." Effective asset management therefore functions as a continuous business practice that informs capital investments and operations and maintenance protocols over time. As such, we would expect there to be considerable variability in the costs a community water system may incur to conduct asset management planning at its own utility.

   The costs associated with performing an asset management assessment depends on a number of factors, starting with the degree of rigor and preciseness of results the community water system hopes to achieve. The community water system's ultimate objectives on this point will inform subsequent decisions regarding the number of utility staff or professional consultants to be involved and whether software will be used, both of which will affect the cost. Finally, the size of the utility and the age and location of its infrastructure assets will also contribute to the ultimate cost expectation of asset management planning.

   In general, one might expect that the cost of a robust, multi-point assessment at a large water system could be substantial, while a less comprehensive asset management review at a smaller utility would likely cost much less. But ultimately the cost will vary.

The Baltimore City Department of Public Works (DPW) has an established Asset Management division, referred to as the Office of Asset Management (OAM), that is responsible for the inventory and maintenance of our assets and infrastructure of our water, stormwater and wastewater systems (see Water Infrastructure chart, below).

	Water	Wastewater	Stormwater
Water bodies	Water sources: 3 reservoir impoundments & Susquehanna River	N/A	40 miles of streams & open channels in City; Baltimore Harbor
Treatment plants	3 filtration plants producing up to 225 mgd* of potable water	2 treatment plants capable of treating up to 250 mgd of wastewater	N/A
Pipes	3,800 miles of water mains in Baltimore City & County; 9,100 fire hydrants in City, 13,750 in County	1,400 miles of sanitary sewers in City	1,146 miles of storm drains; 27,561 storm drain manholes; 52,438 inlets & 1709 outfalls
Pumping stations & other structures	24 pumping stations, 6 elevated tanks & 3 reservoirs; 2 major chlorinators & 16 remote chlorinators	8 major pumping stations & 10 minor installations	4 major pumping stations; 5 large debris collectors; 350 Best Management Practices
Impervious area	N/A	N/A	Remediation of 20% of impervious area by 2018 (4,291 acres)

*mgd – million gallons per day

Recognizing the value of an Asset Management program, we have increased our budget from $8.2 million in Fiscal Year 2017 to $15.9 million in Fiscal Year 2018 supported by 31 staff members. The program began with the City's underground infrastructure, but is expanding to include other asset classes, including above ground facilities, above- and below-ground stormwater infrastructure, as well as solid waste and energy assets.

OAM is comprised of three divisions:

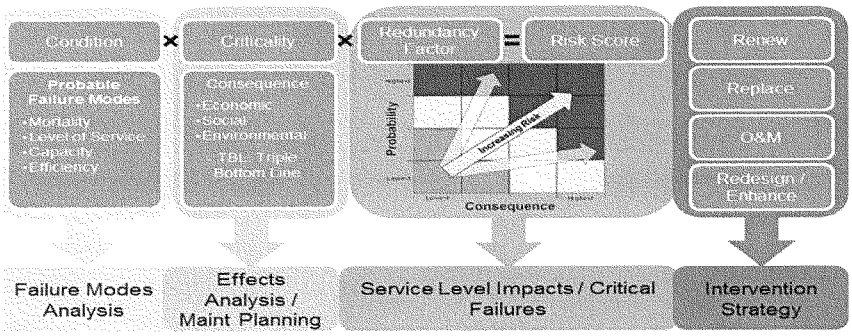
- Planning and Analysis – engineering personnel manage risk-based programs, including asset prioritizing for renewal and replacement; projects and programs associated with asset condition, capacity analysis, and enhancing service levels and reliability; recommends asset maintenance, renewal, and replacement strategies.

- Data Management – Geographic Information Systems (GIS) and other data systems professionals and business analysts manage operational data, spatial and model analysis, and operational field data analysis; program management data, system risk profiles, and project updates; recommends overall technology resources and investments needed to fully support operational and engineering decisions.
- Preventative Maintenance – focuses on preventative and predictive maintenance programs; minimizes reactive failures, maintains regulatory compliance, extends the useful life of assets through proactive maintenance; conducts asset field inspections and routine maintenance to keep assets in serviceable condition.

We believe that the structure above helps us to achieve our Six Key Components to which we attribute our success: (1) Complete Asset Inventory Record, (2) Identification of Critical Assets, (3) Level of Service Required as Established by Management, (4) Life Cycle Costs, (5) Use and Employment of Technology, and (6) Immediate and Long-Term Financing. Collectively these components provide the basis for how we plan, prioritize, fund, and manage our assets during their operation, acquisition, rehabilitation and eventual disposal.

Like many other municipalities, Baltimore has aging infrastructure that did not receive the investment it needed in the past to maintain its viability, thus the function and support of our Asset Management program becomes evident. The limited availability of funds alone places a huge responsibility on our OAM as they are critical in getting our assets on a proactive schedule of maintenance and repair/replacement to ensure system and asset reliability throughout their life cycles. By understanding asset condition and failure risk, investments in our assets are targeted on projects that will have the most significant impact on improving service level and reliability while ensuring sustainable funding.

One example of how the Office of Asset Management integrates the six components mentioned above is exemplified by our Distribution Main Risk Model shown below. This risk-based approach addresses asset renewal planning for our 1,500 miles of aging water mains. We implemented a 15 mile per year water main renewal program, using the Model to help select which assets are targeted for maintenance or renewal first.



a. Does AMWA believe these types of tests be <u>mandated</u> in order to receive federal funding?

AMWA believes it is a best practice for community water systems to carry out asset management planning, and that such planning should be encouraged. But we do not favor imposing additional "cross-cutting" requirements on federal infrastructure programs like the DWSRF, and we do not believe that the completion of a particular defined aspect of asset management planning should be a mandated prerequisite condition of receiving DWSRF assistance.

2. Beyond financing, what opportunities exist for the Federal Government to provide greater assistance in improving drinking water infrastructure?

Aside from adequately funding financing assistance programs like the DWSRF and WIFIA, preserving the federal tax-exempt status of municipal bond interest is the single greatest step Congress can take to promote affordable investments that will yield improvements in drinking water infrastructure. AMWA recently calculated that communities nationwide issued roughly $38 billion worth of municipal bonds to fund water and wastewater infrastructure projects in 2016. In contrast, total SRF funding appropriated by Congress in the 2016 fiscal year totaled about $2.3 billion.

Preserving tax-exempt municipal bond interest is particularly important as Congress considers comprehensive tax reform options, as any effort to roll back or eliminate the exemption would directly lead to higher infrastructure financing costs for communities. Today, because municipal bond interest income is not subject to federal income tax, investors charge lower interest rates than they otherwise would on municipal bonds – lower rates that directly benefit communities that are issuing bonds to finance water infrastructure projects. Imposing a new tax on interest income earned by these investors would lead them to respond by passing the cost on to bond issuers in the form of higher interest charges. Ultimately, local ratepayers would pay for these higher financing costs through increased water rates. AMWA has estimated that fully taxing municipal bond interest would increase water and wastewater infrastructure financing costs by about 25 percent – which would essentially serve as a new tax on water system ratepayers.

In Maryland, communities across the state issued roughly $46.5 million worth of municipal bonds to fund water and wastewater projects in 2016. Fully taxing municipal bond interest would increase these financing costs by about $20 million

over the bonds' payback periods. In Baltimore we are preparing for our 2017 Series Bond sales that will produce $157 million in new money for water infrastructure and $103 million in new money for wastewater infrastructure.

The federal government should also explore opportunities to reduce regulatory burdens on community water systems, or to modernize regulations that are in place. For example, as a result of a regulatory review carried out in 2012, EPA amended its interpretation of the Safe Drinking Water Act's requirement that community water systems provide their customers with a consumer confidence report each year. Under EPA's new interpretation, community water systems were given the option to deliver these reports to customers electronically, such as by posting the reports publicly online and notifying customers of their availability via notices on water bills.

While Baltimore does post its CCR on its website, we continue to mail paper copies of these reports to our customers each year to ensure that all customers have access to the information. Many other AMWA members have successfully transitioned to an electronic delivery model. Based on a 2016 survey of AMWA members, 80 percent of responding utilities used electronic CCR delivery last year. These utilities reported avoiding printing an average of more than 138,000 paper CCRs, and saved an average of $44,205 in printing and postage costs. These savings represent additional resources that communities are able to devote to infrastructure investment.

Because these savings are the result of EPA's reinterpretation of Safe Drinking Water Act requirements, EPA could reverse its interpretation at any time. AMWA therefore supports congressional action that would codify in the Safe Drinking Water Act the ability of community water systems to utilize similar electronic distribution methods to share consumer confidence reports with the public.

GREG WALDEN, OREGON
CHAIRMAN

FRANK PALLONE, JR., NEW JERSEY
RANKING MEMBER

ONE HUNDRED FIFTEENTH CONGRESS

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April 3, 2017

Mr. Greg DiLoreto
President
ASCE Foundation
1900 Sunburst Terrace
West Linn, OR 97068

Dear Mr. DiLoreto,

Thank you for appearing before the Subcommittee on Environment on March 16, 2017, to testify at the hearing entitled "Reinvestment and Rehabilitation of Our Nation's Safe Drinking Water Delivery Systems."

Pursuant to the Rules of the Committee on Energy and Commerce, the hearing record remains open for ten business days to permit Members to submit additional questions for the record, which are attached. The format of your responses to these questions should be as follows: (1) the name of the Member whose question you are addressing, (2) the complete text of the question you are addressing in bold, and (3) your answer to that question in plain text.

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Thank you again for your time and effort preparing and delivering testimony before the Subcommittee.

Sincerely,

John Shimkus
Chairman
Subcommittee on Environment

cc: The Honorable Paul Tonko, Ranking Member, Subcommittee on Environment

Attachment

ASCE
AMERICAN SOCIETY OF CIVIL ENGINEERS

1900 Sunburst Terrace
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April 13, 2017

The Honorable John Shimkus
Chairman
House Energy and Commerce Committee
Subcommittee on the Environment
2125 Rayburn House Office Building
Washington DC, 20515

Dear Chair Shimkus:

Thank you for the opportunity to appear before your Subcommittee on the Environment on March 16, 2017 to testify on reinvesting and rehabilitating our nation's safe drinking water delivery systems.

As requested in your April 3, 2017 letter to me, enclosed are my responses to the questions asked. Should you have additional questions or would like more information on this important topic, please do not hesitate to contact me.

Sincerely,

[redacted]

Greg DiLoreto, P.E., P.LS., D.WRE., Pres. 13, ASCE
Chair, ASCE Committee on America's Infrastructure

Response to Questions For the Record

The Honorable John Shimkus

1. **In ASCE's 2013 Infrastructure Report Card on drinking water, it stated that the financial impact of meeting regulatory requirements were a continuing issue for many communities and one that encouraged deferred maintenance-- $7 billion over 20 years. What was the financial impact of meeting regulatory requirements that ASCE found as part of its 2017 Report Card?**

   In our 2017 Report Card, we did not break out the financial impact of meeting regulatory requirements. The amounts we obtain from EPA are combined for both regulatory and infrastructure needs.

2. **In the 2013 Infrastructure Report Card, ASCE recommends higher water rates to reflect the "true cost of water." The ASCE recommendations in its 2017 Report Card are much softer with regard to the need for rate increases, instead placing a heavier reliance on Federal funding. What changed over the last four years?**

   Both the 2013 and 2017 Report Cards call for investment through rates at the local level. In 2013 we stated, "Current water rates do not reflect the true cost of supplying clean, reliable drinking water. Replacing the nation's antiquated pipes will require significant local investment, including higher water rates." In 2017 we state, "Encourage utilities to conduct revenue forecasting models to determine necessary rate revenues over a period of time and then institute rates that reflect the true cost of supplying clean reliable drinking water. Further, one of the 2017 Report Card's overall solutions, not just those in water categories, reads, "Infrastructure owners and operators must charge, and Americans must be willing to pay, rates and fees that reflect the true cost of using, maintaining, and improving all infrastructure, including our water, waste, transportation, and energy services."

   And the five financial solutions listed in the 2017 Report Card are also contained in the 2013 Report Card. The five financial solutions in the 2017 Report Card are:

   - Reauthorize both the Clean Water and Drinking Water state revolving funds (SRF) and triple the amount of annual appropriations.
   - Fully fund the Water Infrastructure Finance and Innovation Act (WIFIA) at its authorized level.
   - Preserve tax exempt municipal bond financing. Low-cost access to capital helps keep lending for drinking water upgrades strong and accessible for communities large and small.
   - Establish a federal Water Infrastructure Trust Fund to finance the national shortfall in funding of infrastructure systems under the Clean Water Act.
   - Encourage utilities to conduct revenue forecasting models to determine the necessary rate revenues over a period of time and then institute rates that reflect the true cost of supplying clean, reliable drinking water.

The only difference in these financial solutions between 2013 and 2017 is that in 2013 WIFIA had not yet passed, and so the recommendation in 2013 called for its passage. Since 2013, it has passed and authorization approved; appropriations are needed to move the program forward.

Our recommendations make clear that it will take a partnership of investment at the Federal, State, Local and private sector levels to improve the condition of our drinking water systems in this country; no one level of government will be able to do it all. Yet at the end of the day, the cost of this investment will be borne by the users of drinking water systems.

3. **ASCE's 2017 "Failure to Act" document states that not making the investments called for in your report will lower income; a result of an economic restructuring away from the technology/export sectors towards lower paying, less productive services. Have you quantified how much this drop in income and employment would translate to lost revenues in the Federal treasury for drinking water?**

We have not quantified the impact of the loss of income and employment would have in lost revenues in the Federal treasury. In the *Failure to Act* report it is important to note that it states a loss to American families in disposable income. Absent of other economic impacts this loss is not in total income but rather this income will not be spent on discretionary activities and will be spent on things that compensate for the poor infrastructure, such as car repairs, purchasing bottled water, time wasted in traffic, and an increase cost in goods because of the impacts on businesses due to poor infrastructure. After time, the loss of 2.5 million jobs in 2025 may have an impact on taxes paid, but what most likely will happen is those 2.5 million jobs will be replaced with lower paying jobs or an increase in jobs in the repair sector. What happens though is that our quality of life suffers.

GREG WALDEN, OREGON
CHAIRMAN

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ONE HUNDRED FIFTEENTH CONGRESS

Congress of the United States

House of Representatives

COMMITTEE ON ENERGY AND COMMERCE

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April 3, 2017

Mr. Martin A. Kropelnicki
President and CEO
California Water Service Group
1720 North First Street
San Jose, CA 95112-4598

Dear Mr. Kropelnicki,

Thank you for appearing before the Subcommittee on Environment on March 16, 2017, to testify at the hearing entitled "Reinvestment and Rehabilitation of Our Nation's Safe Drinking Water Delivery Systems."

Pursuant to the Rules of the Committee on Energy and Commerce, the hearing record remains open for ten business days to permit Members to submit additional questions for the record, which are attached. The format of your responses to these questions should be as follows: (1) the name of the Member whose question you are addressing, (2) the complete text of the question you are addressing in bold, and (3) your answer to that question in plain text.

To facilitate the printing of the hearing record, please respond to these questions by the close of business on Tuesday, April 18, 2017. Your responses should be mailed to Grace Appelbe, Legislative Clerk, Committee on Energy and Commerce, 2125 Rayburn House Office Building, Washington, DC 20515 and e-mailed in Word format to Grace.Appelbe@mail.house.gov.

Thank you again for your time and effort preparing and delivering testimony before the Subcommittee.

Sincerely,

John Shimkus
Chairman
Subcommittee on Environment

cc: The Honorable Paul Tonko, Ranking Member, Subcommittee on Environment

Attachment

CALIFORNIA WATER SERVICE
1720 North First Street
San Jose, CA 95112-4598 *Tel:* (408) 367-8200

April 17, 2017

The Honorable John Shimkus
Chair, Subcommittee on Environment
c/o Grace Appelbe
Legislative Clerk, Committee on Energy and Commerce
2125 Rayburn House Office Building
Washington, DC 20515

Re: Questions for the Record following Hearing on Nation's Drinking Water Infrastructure

Dear Chair Shimkus:

Thank you for inviting me and the National Association of Water Companies (NAWC) to testify before the Subcommittee on Environment during its March 16, 2017 hearing entitled, "Reinvestment and Rehabilitation of Our Nation's Safe Drinking Water Delivery Systems."

We commend you and the Subcommittee for highlighting the challenges facing the country's drinking water systems and the solutions that will help ensure all Americans have safe, reliable, and high-quality water utility service for generations to come. California Water Service (Cal Water) and NAWC's other member companies stand ready, able, and willing to work with all levels of government to help overcome these challenges.

Enclosed you will find NAWC's responses to the additional questions for the record you submitted. If you have any questions, please do not hesitate to reach out to us. Likewise, it would be an honor to further assist the Subcommittee and Congress as you continue to work on the critical issues associated with the nation's water infrastructure.

Sincerely,

[redacted]

President & CEO

Enclosure

National Association of Water Companies

Answers to Questions for the Record Following a Hearing on the Nation's Drinking Water Infrastructure Conducted by the Subcommittee on Environment, House Energy and Commerce Committee

On March 16, 2017, the Subcommittee on Environment of the House Committee on Energy and Commerce convened a hearing entitled "Reinvestment and Rehabilitation of Our Nation's Safe Drinking Water Delivery Systems," at which Martin A. Kropelnicki, President & CEO of California Water Service Group and President of the National Association of Water Companies (NAWC), testified on behalf of NAWC about the ways the private water sector can help address the nation's drinking water infrastructure challenges. Chairman Shimkus submitted further questions for the record, and this document provides NAWC's responses.

The Honorable John Shimkus, Chairman Subcommittee on the Environment

Question: You mention in your testimony that "If we are to change the status quo, we must offer more "carrots and sticks" in the regulatory toolbox." The Safe Drinking Water Act already has provisions in it related to consolidation of systems. What do you think needs to change and can you give me a practical example of what you mean?

Since at least 1992, the U.S. Environmental Protection Agency (EPA) has discussed the concept of consolidation in the water utility sector.[1] Several decades later, there are still more than 50,000 community water systems in the U.S. and, according to the EPA's compliance database, in 2016, more than 1,500 of them were in significant noncompliance with the Safe Drinking Water Act.[2]

It is without question that these rates of noncompliance are unacceptable and unsustainable, especially considering that hundreds of billions of dollars will be needed over the next several decades to maintain and upgrade the nation's drinking water systems.[3] Doing more to encourage the consolidation of failing and noncompliant water systems is an important means to overcome both of these interrelated challenges.[4]

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[1] Environmental Protection Agency, "Helping Small Systems Comply with the Safe Drinking Water Act: The Role of Restructuring," September 1992, available at: http://bit.ly/2pfy0cG.

[2] Brent Fewell, "Encouraging Greater Compliance Requires a Change in the Status Quo," Journal AWWA, September 2016, p. 26, available at: http://bit.ly/2oc0XqJ.

[3] American Water Works Association, "Buried No Longer: Confronting America's Water Infrastructure Challenge," 2012, p. 3, available at: http://bit.ly/1xSHwAS.

[4] As used herein, "consolidation" refers to a process under which two or more water suppliers are combined under a single ownership and/or management structure. In those instances where a smaller water system is consolidated with a larger system, the marginal cost of water utility service is shared by a larger total customer base, which is likely to result in reduced water utility rates in the smaller water system.

Too frequently, though, consolidation is not prioritized, but rather viewed as a last resort. The situation faced by the community of West Goshen in Tulare County, California is a case in point. For years, the community dealt with ongoing water quality issues, including nitrate and bacterial contamination. In 2012, the community's wells failed. Even though one of NAWC's largest members, California Water Service (Cal Water), owns and operates a water system a little more than one mile away, the state provided emergency funding to fix the community's wells. Unfortunately, a short while after the emergency funding was received, a portion of the water system's pipes collapsed, and the residents were again without water. It was not until residents had sand flowing through their taps and were traveling to nearby towns to shower that the possibility of simply connecting the community to Cal Water's existing system was explored and ultimately chosen as the best solution. Cal Water worked with several non-profits, Tulare County, and the state to secure funding to install more than 8,500 feet of new water pipe from its existing system to West Goshen. Today, the residents enjoy safe, reliable, and high-quality water utility service. Had this option been pursued before the community's wells had collapsed – when it was *only* dealing with ongoing water quality issues – the residents of West Goshen would have avoided being without water for an extended period of time.

In addition to taking steps to ensure that consolidation or other partnership arrangements are being prioritized, Congress should consider providing legal 'safe harbor' for utilities that assume responsibility for failing and noncompliant water systems. The possibility of being held legally responsible for past noncompliance often serves as a poison pill to prospective new owners or operators, especially when the legal liabilities can range from the hundreds of thousands to millions of dollars. Ensuring that new owners or operators are not held liable for the misdeeds of others would do much to expand the use of consolidation and other partnership arrangements.

Finally, Congress should explore the possibility of creating a tax-based incentive for private water companies that enter into consolidation or partnership arrangements with noncompliant systems. In those cases where the noncompliant system is publicly owned, the federal government is already not receiving any income tax revenue from the water system. It may make sense to extend that income tax benefit to a private water company that assumes responsibility for the noncompliant system, either for a certain number of years or until the failing system is brought into compliance. In the short-term, such an incentive would be revenue neutral, and over the medium- and long-term, it would be a revenue enhancer. In addition to creating an incentive for more partnerships and consolidations, this approach would help to address some short-term affordability questions and free up additional capital to be invested into the water systems.

Question: How can Congress incentivize innovative solutions to drinking water infrastructure and treatment problems? Can you give some examples?

There are a number of things that Congress can and should do to further incentivize innovative solutions to the country's water infrastructure challenges. Quite simply, we cannot expect more money to fix the problem, as we know firsthand the consequences of simply putting Band-Aids on failing water systems with financial subsidies without doing or requiring more.

Most importantly, water systems need to be held accountable. It should not be acceptable to anyone that there are hundreds, if not thousands, of water systems across the country that do not have the

financial, technical, and managerial capabilities to ensure their customers receive reliable, high-quality service. It should not be acceptable to anyone that there are hundreds, if not thousands, of water systems across the country that are allowing their infrastructure to deteriorate, intentionally or not. And it certainly should not be acceptable to anyone that, every year, there are thousands of reported health-based violations of the nation's drinking water standards.[5]

All water systems should be held accountable to ensure federal subsidies are used efficiently and cost-effectively. As a general rule, we should expect communities to abide by principles of effective utility management as a condition of federal funding. Those systems that are unable or unwilling to abide by these principles should be encouraged – if not required – to pursue consolidation or partnership arrangements with owners or operators who can and do effectively manage and operate their respective water systems.

Unfortunately, a double-standard appears to exist when it comes to the enforcement of the nation's water quality regulations. Recent research indicates that government-owned water suppliers not only violate the Safe Drinking Water Act significantly more frequently than their private counterparts, but also that they are less likely to be penalized for those violations.[6] Ensuring that all water suppliers – public or private – are held to the same standards would do much to help ensure that all Americans have access to safe, reliable, and high-quality water utility service.

Apart from simply holding all water systems accountable, we must encourage more public-private partnerships and risk-sharing, where the private sector can assume some of the risks of jointly pursuing innovative solutions with communities. As discussed previously, consolidation and partnerships should not be viewed as a 'last resort,' but rather as an effective and efficient tool to help solve the nation's drinking water challenges. In terms of project financing, Congress should remove water projects from state volume caps for private activity bonds, bringing 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. Finally, Congress should consider providing a tax incentive to private water companies that assume the responsibility of operating failing water systems, which would help to level the playing field between public and private water utilities.

Question: How do you quantify and address affordability for the consumer?

Given the challenges faced by the nation's drinking water systems – be it the current investment gap or serious noncompliance with water quality standards, 'affordability' cannot be assumed to be synonymous with 'cheap.' Instead, affordability should be viewed through the lens of 'value,' which takes into account the quality of the product and service customers are receiving. In short, having low water utility rates is not, in and of itself, virtuous.

It is relatively easy for a water supplier to have 'cheap' water utility rates by simply neglecting its infrastructure and the needs of its customers. For example, one government-owned water utility with

[5] Environmental Protection Agency, "Providing Safe Drinking Water in America: 2013 National Public Water Systems Compliance Report," p. 3, available at: http://bit.ly/2oRf080.
[6] David Konisky and Manuel Teodoro, "When Governments Regulate Governments," *American Journal of Political Science*, July 1, 2015, available at: http://bit.ly/2ntbSz6.

'cheap' rates had deferred maintenance on its water system to the point that it "did not meet either fire suppression standards . . . or normal operating standards."[7] A separate government-owned water supplier is currently on a 148,000-year water main replacement cycle. Stated differently, it will take this utility 148,000 years to replace all of the water mains in its system.[8] As is the case with serious noncompliance with water quality standards, neglecting a water system in this way is unacceptable and unsustainable.

Generally speaking, water utility rates should reflect the actual, true cost of water service, including the costs of operating, maintaining, and upgrading the water system. This standard, which is employed by NAWC's members, is important for several reasons. First, it sends an accurate price signal to the consumer, resulting in a more efficient use of the resource.[9] Second, having rates that reflect the actual cost of service helps to ensure the financial stability and viability of the utility, the benefits of which are discussed in detail below.

The importance of having water utility rates that reflect the actual cost of service notwithstanding, there are several steps that can and should be taken to help ensure that water utility service remains affordable. Perhaps most importantly, the consolidation of smaller water systems that have significant infrastructure needs and water quality challenges will create superior economies of scale that provide better value propositions to customers. Increasing the number of customers that share the costs of operating, maintaining, and upgrading a water system reduces the proportion of those costs for which any individual customer is responsible.

With service areas that already span numerous political subdivisions, NAWC's members are uniquely positioned to help make further consolidation a reality for small water systems across the country. For example, Cal Water was recently able to implement regional cost-sharing between its Lucerne service area in Lake County, California and its service area in the San Francisco area. The Lucerne service area is relatively small, with only about 1,400 service connections, but has significant infrastructure and water quality needs. Given this, water utility rates had been relatively high in this severely disadvantaged community. After the implementation of regional cost-sharing, typical customers in the Lucerne service area have seen their monthly water bills decrease by nearly 30%.

Second, water utilities should implement programs that support those customers facing economic hardship. Many of NAWC's members have low-income rate support programs that provide customers a discount on their monthly water bills. For example, Cal Water's Low-Income Rate Assistance program provides customers with a 50% discount on their monthly service charge. Several of NAWC's members, including Cal Water and American Water, have gone even further by establishing shareholder-funded grant programs that are designed to assist customers facing short-term economic or other hardships.

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[7] City of Tulare, "2015/16 Adopted Budget," June 2, 2015, p. 15, available at: http://bit.ly/2oOv8HF.
[8] Golden State Water Company, "Golden State's (Proposed) Findings of Fact and Supporting Evidence and Law," in City of Claremont v. Golden State Water Company, Superior Court of the State of California – Los Angeles County, Case Number BC566125, August 5, 2016, p. 35.
[9] James Lauglin, "Full Cost Pricing Key to Sustainability," *Water World*, January 2013, available at: http://bit.ly/2ocy0Lr.

Additionally, adjusting water rate structures and the balance between a utility's fixed and quantity charges may provide benefit to low-income customers. For example, a utility with a larger number of low-income customers could decrease the proportion of their revenue requirement collected through fixed monthly service charges and increase the proportion collected through quantity charges. This could provide the customer with more control over their monthly water bills. However, this strategy must be managed locally and based on the unique circumstances of individual water suppliers.

Finally, there should be consideration for providing direct relief to challenged and low-income customers. Currently, federal funds flow directly to water utilities, which enables them to charge lower rates to all of their customers, including those that are not facing any type of economic hardship. A more efficient approach may be to transfer funds directly to challenged and low-income customers, similar to the Low Income Home Energy Assistance Program for gas and electric customers.

Question: How hospitable is the private capital market to financing investments in drinking water infrastructure?

What, if anything, can Congress do to encourage greater receptivity?

Historically, the capital markets have been very receptive to financing investments in water infrastructure, for the public and private sector alike. The fact that water utilities provide an essential service and experience limited financial volatility have made them attractive investments.

The continued receptivity of capital markets to financing water infrastructure investments is dependent on water utilities being effectively managed. For instance, NAWC estimates that its six largest members alone are collectively investing nearly $2.7 billion each year in their water systems. This level of investment is possible because the corporate credit ratings of NAWC's members are among the highest in the U.S.

On the other hand, we have seen the markets downgrade the credit ratings of some municipal water and wastewater suppliers over the last several years. For example, in 2016, Moody's downgraded the City of Jackson, Mississippi's water and sewer bonds, partly as a result of a deterioration of the utility's financial performance.[10] In many cases, these types of downgrades occur because a utility's rates are not keeping pace with the actual cost of water utility service.[11] Too frequently, needed water system improvements are indefinitely deferred as a result of the short-term political interest in keeping water rates as low as possible, which only serves to create the need for more significant rate increases in the

[10] Moody's, "Moody's Downgrades to Baaa3 the City of Jackson's (MS) Water & Sewer Revenue Debt," August 17, 2016, available at: http://bit.ly/2nWC4P0.

[11] Sharlene Leurig, "Water Ripples: Expanding Risks for U.S. Water Providers," *A Ceres Report,* December 2012, ("Since 2010, by far the most common cause of credit downgrades in the water sector has been failure to increase rates sufficiently to keep pace with expenditures on system maintenance or debt service coverage." p. 10), available at: http://bit.ly/2oObADs.

future.[12] The importance of these factors to market receptivity is illustrated by the fact that 35% of Moody's rating of municipal utility debt is based on a utility's financial strength.[13]

In short, capital markets react to risks; the higher the perceived risk, the less receptive they will be to financing an investment without a commensurate increase in return. Given this, the issue is less about the receptivity of the markets to financing water infrastructure investments, and more about whether water utilities are being managed and operated well. As is discussed in several of NAWC's other responses to the Questions for the Record, this is, indeed, something Congress can help ensure.

Question: You make the point in your testimony that in many instances, water system failures are not due to the absence of funding, but rather are attributable to poor management and decision making. From your perspective, what metrics should be used to assess what drinking water problems are caused by a lack of funding and what drinking water problems are caused by poor management?

The performance of all water systems should be measured based on the quality and consistency of water and services each provides to its customers. NAWC believes that the 10 attributes of effective utility management,[14] endorsed by the EPA and each of the major water industry associations, including NAWC, provide the framework for measuring sound water utility management decision-making. These attributes include:

- Product Quality
- Employee and Leadership Development
- Financial Viability
- Operational Resiliency
- Water Resource Adequacy
- Customer Satisfaction
- Operational Optimization
- Infrastructure Stability
- Community Sustainability
- Stakeholder Understanding and Support

These attributes consist of both leading and lagging indicators of overall water system performance. Financial viability is one of the most important leading metrics, but particularly the use of full-cost pricing or life-cycle analysis. Additionally, there is a strong correlation between financial viability and regulatory compliance, which is a key lagging indicator.

It is important to recognize that a lack of funding for needed water system improvements is not always an indicator that additional federal or state resources are needed. Unfortunately, many times water utilities would be able to raise the capital needed to finance an important water system improvement by

[12] California-Nevada Section of the American Water Works Association, "2015 California-Nevada Water and Wastewater Rate Survey," 2015, p. 3, available at: http://bit.ly/2nsK6mr.
[13] Moody's, "U.S. Municipal Utility Revenue Debt," July 30, 2014, p. 13, available at: http://bit.ly/2oUet20.
[14] EUM Utility Leadership Group, "Effective Utility Management: A Primer for Water and Wastewater Utilities," January 2017, available at: http://bit.ly/2p6MAXC.

adjusting water rates, but are simply *unwilling* to do so. In these cases, water system improvements that are needed to ensure long-term system safety and reliability give way to short-term political expediency.[15] This practice of intentionally underpricing water utility service does not benefit the public, and should not serve as a justification for additional federal or state funding:

> Ultimately, this resistance to higher water rates often results in utilities exhibiting less-than-optimal system maintenance and neglecting long-term needs until a crisis forces them to act. At that point, a rate increase can be justified as a response to pending system failures. Ultimately the artificial suppression of water rates can defeat the very intention of keeping water affordable. Financing system improvements in response to crisis can force systems to go to market when their weak financial condition demands a higher rate of return. Ratepayers then end up paying more for system repairs in the form of higher interest payments and may be paying for poorer services. Perversely, this crisis-response mode can make utilities eligible for emergency funding available from state or federal government that is offered at a lower cost than market, which perpetuates the problem of reactive system management and persistent underpricing.[16]

At the other end of the spectrum, there are certainly cases where water suppliers are *unable*, not unwilling, to raise the capital needed to finance an important water system improvement by adjusting water rates. Consider a rural water system with 500 customers in a disadvantaged community that needs to construct a new $10 million water treatment facility to comply with water quality regulations. Each of the utility's customers would have to pay more than $20,000 for this project. Assuming the plant has a 50-year lifespan and the utility is able to finance the project interest-free, each customer would end up paying more than $33 per month just for the new treatment facility, which may very well be too much of a burden for a disadvantaged community. In this instance, the first question that should be asked is whether there is an opportunity for consolidation or a partnership arrangement that would allow the costs of the new plant to be spread over a larger customer base. Only after considering this option should federal and state funding be considered.

In short, federal and state funding needs to be used more efficiently. As a general rule, applicants for federal and state funding should demonstrate that they have fully accounted for the long-term costs of their projects, including any risks inherent in construction, operations, or maintenance, and have selected the delivery model that provides the best value. For a community to maintain and enhance the condition of its infrastructure long-term, water utilities should be expected, at a minimum, to manage their assets based on a process where adequate repair, rehabilitation, and replacement are fully reflected in management decisions, including water pricing.

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[15] Table Rock Capital, "Alternative Financing Mechanisms to Restore, Rebuild, and Adapt U.S. Water & Wastewater Infrastructure: Assessing the Potential for Public-Private Innovation to Reinvest in Municipal Infrastructure," August 2014, p. 8, available at: http://bit.ly/2p6YalL.

[16] The Johnson Foundation, "Financing Sustainable Water Infrastructure," January 2012, p. 18, available at: http://bit.ly/1TQmjEM.

Question: In your testimony, you discuss how partnerships and consolidation can be used to help water systems attain compliance with drinking water standards. What barriers are preventing the formation of peer-to-peer partnerships or public private partnerships?

The most significant barrier to the consolidation of systems and other partnership arrangements is that many failing water utilities simply are not being held accountable. All water utilities must be expected to maintain their systems and operations in compliance with health-based laws. If a utility is unable to attain and maintain compliance or is plagued with a history of non-compliance, it is unlikely that simply providing it with additional funds is going to solve the problem. In these instances, consolidation and other partnership arrangements should be prioritized, if not required, as they are likely to be the most efficient and cost-effective means of ensuring the water system's customers have access to safe, reliable, and high-quality water utility service.

Second, the possibility that a new owner or operator of a failing water system can be held legally responsible for past noncompliance can create a significant barrier to consolidation or other partnership arrangements. The prospect of hundreds of thousands or even millions of dollars of fines and penalties serves as a poison pill. Establishing a legal 'safe harbor' for utilities that assume the responsibility of operating failing and noncompliant water systems would do much to increase the willingness of superior water utilities to enter into consolidation or other partnership arrangements.

Finally, most municipal infrastructure projects are financed by tax-exempt municipal bonds. Generally, the tax-exempt status of these bonds is lost if a private entity acquires a long-term interest in the project. While the Internal Revenue Service has issued rules designed to give state and local governments a means to preserve the tax-exempt status of these bonds when they enter into a partnership with a private entity, as currently drafted, these remedies are not practicable for water infrastructure projects, which deters many otherwise beneficial public-private partnerships. Here again, a reasonable and narrowly tailored solution to this issue would go a long way to increasing the use of consolidation and other partnerships in the water utility sector.