

LOCAL GOVERNMENT PERSPECTIVES ON WATER INFRASTRUCTURE

HEARING BEFORE THE SUBCOMMITTEE ON WATER AND WILDLIFE OF THE COMMITTEE ON ENVIRONMENT AND PUBLIC WORKS UNITED STATES SENATE ONE HUNDRED TWELFTH CONGRESS SECOND SESSION

FEBRUARY 28, 2012

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LOCAL GOVERNMENT PERSPECTIVES ON WATER INFRASTRUCTURE

TUESDAY, FEBRUARY 28, 2012

U.S. SENATE,
COMMITTEE ON ENVIRONMENT AND PUBLIC WORKS,
SUBCOMMITTEE ON WATER AND WILDLIFE,
Washington, DC.

The Subcommittee met, pursuant to notice, at 10 a.m. in room 406, Dirksen Senate Office Building, Hon. Benjamin L. Cardin (Chairman of the Subcommittee), presiding.

Present: Senators Cardin and Sessions.

OPENING STATEMENT OF HON. BENJAMIN L. CARDIN, U.S. SENATOR FROM THE STATE OF MARYLAND

Senator CARDIN. Good morning, everyone. Let me welcome you to the Subcommittee on Water and Wildlife of the Environment and Public Works Committee.

Senator Sessions will be joining us shortly. He is balancing two committees; he is the ranking Republican member of the Budget Committee, which is also meeting at this time with Secretary Panetta on the Department of Defense budget. So he will be joining us and will most likely not be able to stay for the entire hearing, but I thank him for his cooperation in arranging this morning's Subcommittee hearing.

I also want to thank Chairman Boxer and Ranking Member Inhofe of the full Committee for authorizing us to have a series of hearings dealing with our water needs. And I want to thank our witnesses for being here.

There is a public expectation that when they turn their faucets on and when they drink the water that we have in front of us that it is safe and that it is clean. There is also an expectation that our wastewater will be treated in a way that will not cause us harm from public health. The realities are that we have an aged system and that it is very vulnerable and that we need to pay attention to make sure that in fact the public expectations are realized.

Every year we have 54,000 episodes of our septic systems overflowing, causing a concern as to whether we have a public health risk. Excuse me, I gave you the wrong number, there's actually 75,000 sanitation sewage overflows every year, causing as many as 5,500 illnesses due to storage contamination of our beaches, our streams, and our lakes. There are 54,000 community drinking water systems in America that serve 250 million Americans.

Every year the wastewater treatment plants treat billions of tons of pollutants from reaching our rivers, our lakes, and our coast-

lines. And we are at risk, as I said, as a result of the aged system. The needs are great.

I could give you many examples of breaches in our water mains in our country. But let me just talk a little bit about my own State of Maryland. Mayor Stephanie Rawlings-Blake is here, and she recalls that we have—it seems like too frequently—water main compromises in our city and in our State. Every day we hear of more examples of water mains that have broken and caused problems. We had a major break in Baltimore that caused the flooding of our downtown community. Our Mayor responded to that. But when you are dealing with pipes that are over 100 years old, it is challenging. And the amount of maintenance and replacement is beyond the capacity of any municipality.

In Prince Georges County we had a major break recently that caused us to close the Beltway around Washington. And we all recall when River Road in Montgomery County, Maryland, became a river and required actually an air rescue in order to deal with stranded motorists. Those types of episodes are occurring all too frequently in our communities.

One of the challenges that we have with our water infrastructure that, unlike the roads and the bridges and the transit systems that people see every day, and they can tell when there is a need for a change, they see the congestion on the roads, or they see the failure of a bridge, they can visually see and demand that we deal with our transportation infrastructure. The same is not true for the underground pipes that supply us with the drinking water and treat our wastewater.

We need to do a more effective job so the public understands just how critically important it is that we maintain our water infrastructure. Our water infrastructure is equally important to our transportation infrastructure for America's growth.

The needs are rather immense. The Mayor's Water Council reported that in 2008, in order to meet mandates of Clean Water, the annual cost was about \$93 billion. That is estimated to increase. That is estimated to increase by 2028 to somewhere between \$189 billion to \$421 billion. Now, again, the major responsibility for this rests with local governments.

In the best of times, they would have a challenge meeting these needs. But in these economically challenging times it is just impossible to expect our municipalities to be able to handle this without the partnership from the Federal Government. The partnership from the Federal Government has taken on many forms. The State Revolving Funds are, of course, one of the principal areas. And we are pleased—if you look at the last 3 years, there has been some significant increase in funding in the State Revolving Funds, in the operational budgets as well as in the recovery funds. But as we look at the current budget year there is an inadequate amount of money being made available to deal with the State Revolving Fund, and we need to deal with this.

The issues here are not just health-related issues, and there are health-related issues. There are also energy issues that are involved. We have a very inefficient system for delivering our water, causing us to use more energy than we should.

It is an environmental issue. We waste a lot of water. Water is a precious resource. A significant amount of our water is wasted every day because of leakages from the pipes that transport that water.

And we also have an economic issue here. The United States Conference of Mayors said for every dollar we spend on water infrastructure, we get back over six times in our economy in the GDP. The National Association of Utility Contractors estimates for every billion dollars that is spent on water infrastructure, it will create 26,000 jobs.

Today we have witnesses that really understand these issues, and I want to thank our three witnesses for being here. I am going to introduce two, Senator Sessions is going to introduce the witness from the State of Alabama.

But before I do that, let me turn to Senator Sessions for any introductory comments that he would like to make.

**OPENING STATEMENT OF HON. JEFF SESSIONS,
U.S. SENATOR FROM THE STATE OF ALABAMA**

Senator SESSIONS. Thank you very much, Mr. Chairman.

As you know, I am Ranking on the Budget Committee, and we have the Secretary of Defense in today talking about his budget, how much it is going to be cut and where else we can find the savings in our Government to put us on a path of sustainability. And we are not on a sustainable path right now, we are just not, and it is not going to be pleasant. And sometimes you just have to not spend what you don't have, the money you don't have. The Governor of Alabama, Governor Bentley, said the other day we are going to spend the money we have.

Well, we are not doing that here. We are spending 40 percent more than we take in. So this is our difficulty, and it impacts the good goals that we have for each of you.

So I want to thank Senator Cardin for having this hearing, to receive this testimony. Importantly, more than 90 percent of the Nation's community water systems serve populations under 10,000 people, in mostly rural areas. Where I grew up, that is so. They have a water system now. We had an artesian well across the road, a pipe ran and served two or three houses. But now people there who have been struggling for water can have it at a reasonable price. And it pays for itself through the payments.

America's water infrastructure is vast, 800,000 miles of pipes and 600,000 miles of sewer lines, much of which is at a point that it needs to be replaced. In fact many rural systems lose a quarter—as you said, Mr. Chairman—to one-third of their water through leaks. That is an energy cost; that is an environmental difficulty.

It is also true that America is on an unsustainable debt path. And we are running the fourth consecutive deficit of over \$1 trillion. Debt like that will lead to the most predictable economic crisis in our Nation's history, as the Debt Committee Chairmen Bowles and Simpson told us.

So we need to look for ways to improve. Unfortunately the \$800 billion stimulus that the President pushed through in 2009, which was sold on the idea of fixing crumbling infrastructure, spent only a tiny fraction on water infrastructure, a really small amount on

roads, about 4 percent on crumbling bridges and highways. In the wake of the largest single borrow and spend in our history, we still have not invested the money we need in infrastructure programs.

And the reason I tend to favor infrastructure spending is it creates American jobs, it creates an infrastructure improvement that is not here today and gone tomorrow, but will be here for decades to come.

So Mr. Chairman, thank you for having the hearing. I will need to go back and forth to a hearing. I would say how pleased I am to have Kathy Horne here. Kathy, nice to see you. Thank you for the leadership you have given to our State for many years.

And just to give a bit of a bio, if I could at this time, a little bit out of order, she has had more than 25 years of experience on rural water issues. Currently she serves as Executive Director of the Alabama Rural Water Association, a position she has held for more than 9 years. As Executive Director, she directs several programs in Alabama through the USDA Rural Development Agency and the U.S. Environmental Protection Agency as well as numerous State-funded programs.

She is a member of the American Water Works Association, the Alabama Water Pollution Control Association, the Society of Water Professionals, the National Rural Water Association, and serves on various boards and committees. In 2001 Kathy was elected by her peers to receive the Executive Director of the Year award for the National Rural Water Association, and in 2004 she received the USDA Rural Development Leadership Award.

She is the mother of four children and active in local school, church, and community activities, an outstanding citizen of Alabama. I am proud that she will be able to provide important testimony today.

I also would note that she has with her Mr. Randolph Hall, General Manager of South Bullock County Water Authority, and William Snyder, Manager of the Monroeville Water Works Board. Monroeville is my home county, the county of Harper Lee and To Kill a Mockingbird and a lot of other wonderful folks there. So we are glad to have them here.

Mr. Chairman, we are dealing with a very important issue. Anything we can do to use our money more effectively, help these people accomplish their goal more effectively is a good challenge for us all.

Thank you.

[The prepared statement of Senator Sessions follows:]

STATEMENT OF HON. JEFF SESSIONS,
U.S. SENATOR FROM THE STATE OF ALABAMA

At this Subcommittee's last hearing we heard testimony about the condition of America's water infrastructure from a variety of perspectives—States, pipe makers, civil engineers, and others. I want to thank Senator Cardin for calling today's follow up hearing to receive testimony specifically from municipalities and rural communities. Importantly, most of the Nation's community water systems serve populations under 10,000 people in primarily rural areas. So I am really pleased that Alabamian Kathy Horne is here. She is the Executive Director of the Alabama Rural Water Association. I know we will benefit greatly from Kathy's testimony about the challenges facing rural water utilities.

America's water infrastructure is vast, with at least 800,000 miles of water pipes and 600,000 miles of sewer lines—much of which needs to be replaced. In fact many rural systems lose one-quarter to one-third of their water through leaks. There are

billions of dollars in needed investment to upgrade these systems. It's also true America is on an unsustainable fiscal path. This year, we will run the fourth consecutive deficit over \$1 trillion. Debt like that will lead to the most predictable economic crisis in our Nation's history. So, in this era of tight Federal budgets we need to look for ways to leverage additional investment in water infrastructure without adding more debt.

Unfortunately, President Obama's \$800 billion stimulus in 2009, which was sold on the idea of fixing our crumbling infrastructure, spent only a tiny fraction on water infrastructure. Ironically, in the wake of the single largest borrow and spend program in the Nation's history, we are now struggling to find the money to keep existing infrastructure programs at near current levels. For instance the President's budget proposes to cut the State Revolving Loan Fund program by more than \$350 million. We cannot just dismiss cuts like that out of hand, but I know those cuts are troubling to rural utilities. The stimulus was touted as the way to fix our Nation's infrastructure, but in the end it was one of the biggest bait and switch schemes of all time. It left us with even more debt but little new infrastructure to show for it.

So, how can the Federal Government alleviate this situation without adding to the debt? First, we must keep in mind that energy costs are the single greatest expense for rural water utilities. We need to keep electricity rates as low as possible. Regrettably, this Administration has issued a wave of new rules—like the Utility MACT issued in December—that will add billions in energy costs to the U.S. economy.

Second, we need to reduce regulatory burdens and ensure that rural communities have the flexibility to resolve water quality issues in a cost-effective manner.

Third, when cities and counties are sued for water or sewer problems, we need to be sure that only reasonable, cost-effective, and achievable obligations and timelines are imposed.

Fourth, while water infrastructure is primarily a State and local obligation, we need to reauthorize and improve Federal programs, like the State Revolving Loan Fund Program, that help rural and municipal utilities.

Fifth, we should lift the volume caps on private activity bonds issued for water infrastructure projects. This is one way to facilitate more investment in water infrastructure. As long as the costs associated with this proposal are appropriately offset and do not grow the national debt, I would vote for it.

There are certainly other ways we can address these challenges. I look forward to hearing from our panel today.

Thank you.

Senator CARDIN. Senator Sessions, thank you for your opening comments and thank you for your leadership on the Budget Committee. I know that you are busy on that committee today.

We need a game plan for our budget. And Senator Sessions is one of our key players in trying to bring us together to develop a responsible, credible plan to get our deficit under control. It will require sacrifices at all levels of government and a more efficient government at all levels of government. Clearly, the Department of Defense, our largest single agency, needs to be in the forefront of those efforts. So I know how important today's hearing is up in the Budget Committee, and I thank you for taking time to come down and visit with us on this subject, which is extremely important also. We appreciate that.

Let me invite our witnesses to the table. First I am going to introduce my good friend and colleague, Mayor Stephanie Rawlings-Blake, who currently serves as the 49th Mayor of Baltimore. She has dedicated many years of work to strengthening Baltimore's neighborhoods, which includes ensuring that her constituents have access to clean, safe water.

Prior to being elected Mayor of Baltimore she was President of the City Council of Baltimore. Mayor Rawlings also serves in a leadership position on the U.S. Conference of Mayors. She is Co-Chair of the Mayors' Water Council where she assists local govern-

ment in providing high quality water resources in a cost-effective manner.

Mayor Rawlings-Blake has been an innovator for us in Baltimore. Being a mayor of a major city is a very difficult task. The Federal Government pushes some of its problems off on the counties. The counties push some of their problems off on our municipalities. There is no place for a mayor to turn to push off issues. She has to confront them directly, and our Mayor of Baltimore City does exactly that.

So we are looking forward to your testimony and to your suggestions as to how we can find creative ways in order to help you in your task of helping the people of Baltimore.

We are also joined by Mr. Jerry Johnson, who currently serves as the General Manager of the Washington Suburban Sanitary Commission. The Commission provides water and wastewater services to 1.8 million residents in Prince Georges County and Montgomery County in my home State of Maryland. As General Manager, Mr. Johnson is employing cutting edge technologies in an effort to find cost-effective solutions to his customers' water infrastructure needs.

I am very impressed with what you have been able to do in innovation and creativity, trying to do more with the limited amount of funds that are available.

And Ms. Kathy Horne, your Senator has already introduced you. But I thank you for what you do for the people of Alabama, but also to bring to this panel the perspective from the rural communities. Maryland is a State that has two major urban centers, but we do have rural communities that depend upon the water facilities that are different in its nature. I was at Smith Island not too long ago, which is a pretty isolated community in Maryland. Their water needs were of paramount concern, and we have to work a different type of solution for rural American than we do for our urban centers.

So I thank all three of you for being here today.

We will start with Mayor Stephanie Rawlings-Blake.

**STATEMENT OF HON. STEPHANIE RAWLINGS-BLAKE,
MAYOR, CITY OF BALTIMORE, MARYLAND**

Ms. RAWLINGS-BLAKE. Thank you very much, Mr. Chairman, and thank you for your leadership on this issue. I certainly appreciate the partnerships that we have had over the years.

My name is Stephanie Rawlings-Blake, and I am the Mayor of the city of Baltimore, Maryland. I want to thank you for the opportunity to speak to you about the challenges that cities such as Baltimore face in operating and managing water and wastewater systems. These challenges are especially difficult in today's climate of unfunded Federal mandates, as well as a struggling economy.

In Baltimore we have a regional water and wastewater system that serves almost 2 million people living and working in the city and surrounding counties. Baltimore's water and wastewater utilities are about a \$400 million business, with more than 1,700 employees and a \$1.8 billion 6-year capital improvement program. So when it comes to financial pressures of running a water, waste-

water, and stormwater system, Baltimore is not alone. But as you mentioned, we are on our own.

Over the next 20 years an estimated \$4 trillion will be spent nationally for water and wastewater projects. Ninety percent—90 percent—will be funded locally. Even with our large capital program Baltimore has about a \$4 billion gap in funding over the next 6 years. And that figure does not include the \$2 billion needed to replace existing stormwater pipes.

Having to direct our investment toward meeting our Federal mandates has had dire consequences on the condition of our water infrastructure. Deferred maintenance and capital investment have resulted in the loss of finished water of over 20 percent every day. So if you are a Baltimorean, Mr. Chairman, it would be just about the equivalent of turning our World Trade Center upside down and filling it up with water every day. That is about the amount that we are losing.

Major water breaks and emergencies create lengthy service disruptions, damage and loss to property, increase sediment loads to streams and the harbor. It is hard to convince your citizens and your ratepayers to accept an annual increase in water and sewer rates to comply with Federal mandates when basic infrastructure needs continue to crumble.

To meet these challenges we employ a multitude of strategies to finance our water needs. With an enterprise fund, we are able to sell water and wastewater revenue bonds to fund our capital programs. While revenue bonds are an excellent source of funds, the capital demands of our system have doubled our water and wastewater debt from fiscal year 2004 to fiscal year 2011. To leverage our capital dollars, we have competed for and received State Revolving Loan Funds. These low and no-interest funds have helped us with our financing.

But the size of our system makes for very large and costly projects. Declining Federal funding for the State Revolving Loan Fund has only increased the competition for these limited dollars. We hope that Congress will continue to recognize the importance of this program by ensuring that it continues the funding at a meaningful level.

Baltimore may also need to introduce a fee on all impervious areas within the city to fund our stormwater program, in order to comply with our MS4 permit. As you can imagine, a new fee will be difficult for our citizens and businesses to absorb in this economy. But without a stable source of funding we will not be able to meet our environmental obligations.

We are not just looking to our ratepayers to fill in the gap of our funding needs. We are also looking for ways to reduce our costs as well as our energy. And it is certainly one area where we have been successful. We have reduced energy costs with methane harvesting as well as solar installations.

Cities like Baltimore are looking for new and innovative funding options to help expand the opportunities to assist with our fiscal challenges. For example, the creation of a loan guarantee program that provides low-cost capital for water infrastructure modeled after the TIFIA program. A WIFIA program could provide secured direct loans and loan guarantees, a standby line of credit for infra-

structure and an annual Federal funding to budget for credit defaults.

Federal credit can make a project more attractive for private capital and lower interest rates on private lending. And credit available on Treasury borrowing rates can reduce borrowing costs by up to 20 percent.

Since water utilities have existing revenue streams which they can use to repay Federal credit assistance an investment of this nature is even more financially sound than a widely supported TIFIA program. Another example is the creation of a clean water trust fund. The fund could be supported by national dedicated user fees that are low rate and broadly based on a range of products sold in interstate commerce. This trust fund could provide a long-term and sustainable national funding source for water and wastewater investment. It could fund research and development of advanced treatment technology. It could support expansion of State Revolving Funds as well as provide grant assistance for watershed, urban, stormwater, and rural non-point source management.

A source of sustainable national funding is essential to the recovery of our Nation's water infrastructure and our environment. Local governments cannot carry the financial burdens by themselves. Increased funding is only one side, however, of the coin, in improving our water infrastructure. Cities need more flexibility in meeting the requirements of the Clean Water Act and the Safe Drinking Water Act. We must meet our responsibilities, our environmental responsibilities. I don't think you will find one mayor in this country that thinks our environmental obligations are not serious. We want to meet those responsibilities. It is important to the health and the welfare of all our communities. But our resources are finite.

I am happy to report to the distinguished members of this Subcommittee that the EPA has heard our message, and they have acknowledged the strain that municipalities are under. They are willing to work with us to develop a more flexible and tailored program to achieve a cleaner environment without bankrupting cities in the process. EPA headquarters has been working hard to develop these ideas into a concept called integrated planning. Integrated planning is a big change in the way EPA approaches enforcement, and it could not have come at a better time for cities across the country. In the past EPA enforced compliance with Federal environmental laws through a series of unfunded mandates. Each mandate was pursued individually and with the same sense of urgency.

Through integrated planning, we will be able to look at all of our environmental projects holistically to determine the environmental, social, and health benefits of each one of them so we can place projects with the greatest benefits to the top of our capital plan and address the less effective projects later.

In January EPA released a draft framework for integrated planning which outlines the overarching principles that should guide the development of an integrated plan. My city is already developing its own integrated plan. We are in the process of looking at all of our responsibilities under the Clean Water Act and the Safe Drinking Water Act, our operations and maintenance requirements, as well as our future capital investment needs and ranking

each project based on its overall benefit. After extensive stakeholder consultation and outreach we will develop a long-term plan for effective management of our utilities.

You will notice that I mentioned Baltimore's Safe Drinking Water Act responsibilities as an element of our integrated plan. Right now EPA only wants Clean Water Act mandates included in the integrated plan. But Baltimore, like many other cities, is responsible for metropolitan drinking water and wastewater systems as well as stormwater controls and treatment within our borders. Our citizens and ratepayers pay for these systems, and all three utilities run under the same streets. An integrated plan for Baltimore must address all three systems.

While EPA has not agreed to including drinking water, they have left the door open for further negotiation on this issue. And I am confident that we will reach a solution that protects human health as well as the environment.

One challenge to implementing integrated planning will be to establish a legal framework for the resulting plans. In my opinion there can be no one size fits all approach to this challenge. Each municipality will have to reach an agreement with EPA and its State regulators that is unique to its resources and its unique challenges.

I am very proud that my city is at the forefront of the integrated planning effort. I believe that this program presents an excellent opportunity for each city and utility to comprehensively assess their water, wastewater, and stormwater programs and to plan in a way that produces the best results for both people and the environment.

I am pleased that the EPA agrees and is willing to partner with us in developing a new and more productive approach to meeting our environmental obligations.

Again, Mr. Chairman, I thank you for your kind attention and will be happy to answer any questions, either now or at the end of the panel.

[The prepared statement of Ms. Rawlings-Blake follows:]



STEPHANIE
RAWLINGS-BLAKE
MAYOR

STATEMENT OF
THE HONORABLE STEPHANIE RAWLINGS-BLAKE
MAYOR OF THE CITY OF BALTIMORE

ON
THE CHALLENGES OF FINANCING
WATER INFRASTRUCTURE

BEFORE THE
SENATE SUBCOMMITTEE ON
WATER & WILDLIFE

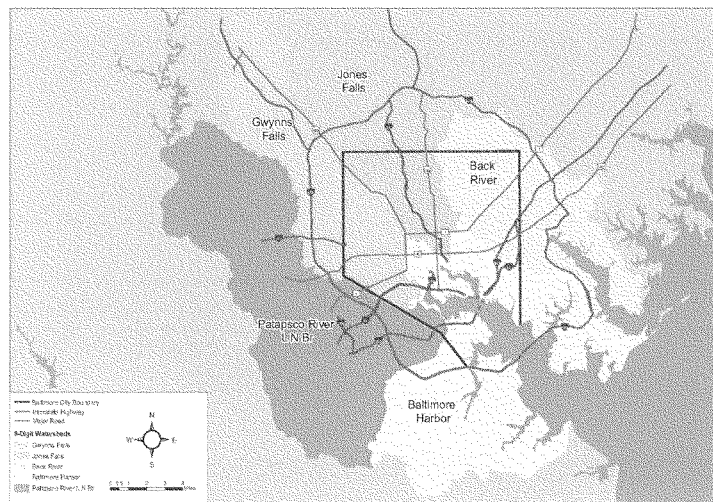
FEBRUARY 28, 2012
WASHINGTON, D.C.

Good morning Mr. Chairman and Members of the Subcommittee on Water and Wildlife.

My name is Stephanie Rawlings-Blake and I am the Mayor of the City of Baltimore, Maryland. On behalf of my citizens, I thank you for the opportunity to speak to you about the challenges cities such as Baltimore face in operating and managing water and wastewater systems in today's climate of unfunded federal mandates and a struggling economy. I believe that targeted investing in our aging water infrastructure will deliver a terrific return in the quality of our environment, the state of our economy, and the quality of life for our people.

Baltimore is one of 24 jurisdictions in the State of Maryland. Incorporated in 1797, Baltimore grew because of its beneficial location on a productive harbor. Second only to New York as a point of immigration, we embraced waves of immigrants who helped build and create the communities that exist today. We are home to approximately 627,000 people of many races, backgrounds and incomes; have institutions of learning making great advances in the health and biotechnological fields; and are enriched with a vibrant cultural and arts heritage. Baltimore is also gaining a reputation for our growing sustainable and green movement and we sit at the confluence of a vital port, highway and rail transport system that supports our national commerce.

Baltimore's Major Watersheds



But we are also an older urban center facing many of the challenges of other East Coast cities; transitioning from an industrialized to a more service-oriented economy, working

to become a more technologically savvy city, while finding ways to support these changes with an aging infrastructure built to support a much different way of life.

Baltimore's water and wastewater systems grew out of a need to combat the devastating effects of water borne diseases in the 1800s and the emerging field of sanitary engineering, the prerequisite for improving public health. Today, we have a regional water and wastewater system that serves nearly two million people living and working in Baltimore and the surrounding counties. This metropolitan system is built on a foundation of extensive planning and foresight, which is why we enjoy an abundant water supply and high quality treatment systems. But a lot has happened since sanitary engineering first began shaping our water infrastructure. We know much more about the effects we humans and our activities have on our waterways, and we know we must address these water quality issues if we are to continue to grow while fostering a healthy and sustainable environment.

City of Baltimore – Water Infrastructure

| | Water | Wastewater | Stormwater |
|--|--|--|---|
| Water bodies | Water sources: 3 reservoir impoundments & Susquehanna River | N/A | 40 miles of streams Baltimore Harbor |
| Treatment plants | 3 filtration plants producing up to 265 mgd* of potable water | 2 treatment plants capable of treating up to 250 mgd of wastewater | N/A |
| Pipes | 3,700 miles of water mains in Baltimore City & County; 8,761 fire hydrants | 1,400 miles of sanitary sewers | 1,146 miles of storm drains; 27,561 manholes; 52,438 inlets & 1709 outfalls |
| Pumping stations & other structures | 24 pumping stations, 6 elevated tanks & 3 reservoirs | 8 major pumping stations & 6 minor installations | 4 pumping stations & 5 large debris collectors |
| Impervious area | N/A | N/A | Restoration of 7,000 acres of impervious area by 2017 |

*mgd – million gallons per day

Baltimore's water and wastewater utilities are a \$400 million business with more than 1,700 employees and a \$2.2 billion, 6 year capital improvement program. The water and wastewater systems are enterprise funds, operated without profit or loss to other

funds of the City. Our ratepayers support these programs through their water and sewer bills. But the challenge facing Baltimore and other cities is how to maintain these complex water systems and respond to the many federal mandates issued under the federal Clean Water and Safe Drinking Water Acts. The condition of our nation's water infrastructure has become a national issue.

When it comes to the financial pressures of running modern water, wastewater, and stormwater systems, Baltimore is not alone, but we are on our own. Over the next 20 years an estimated \$4 trillion will be spent nationwide for water and wastewater projects, 90% of which will be funded locally. Even with our large capital program, Baltimore has a \$4 billion gap in funding over the next 6 years. And that figure does not include the \$2 billion needed to replace existing stormwater pipes. Over 95% of the City's water mains have been in service for 65 years without regular inspections, and many of these pipes are approaching 100 years of service. Over 50% of the storm drains were installed prior to the 1950s. Having to direct our investment toward meeting federal mandates has had dire consequences on the condition of our water infrastructure. Deferred maintenance and capital investment has resulted in the loss of finished water in excess of 20% every day; major water breaks and emergencies create lengthy service disruptions, damage to and loss of property; and increased sediment loads to streams and the Harbor.



It's hard to convince your citizens and ratepayers to accept annual increases in water and sewer rates to comply with federal mandates when the basic infrastructure is crumbling. Since 1996 our typical family of 4 has seen their annual cost for water and sewer service triple. The water and wastewater utilities' debt service doubled between FY 2004 and FY 2011. The current financial structure does not provide a sufficient or stable funding source for stormwater infrastructure. And these financial burdens do not

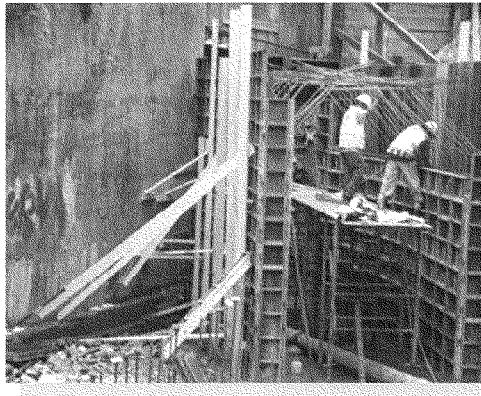
reflect the hydraulic modifications remaining to be done under our wet weather consent decree or other regulatory requirements to be met in the future.

We have already employed a multitude of strategies to finance our water infrastructure needs and we are consistently looking for new and innovative methods to make our ratepayers' dollars go further. As an enterprise fund, we are able to sell water and wastewater revenue bonds to fund our capital programs. Since the first bond authorization in 1990, we have requested increases six times, the most recent in 2010. We are now able to carry a maximum debt limit of up to \$1.017 billion in the water utility and \$1.11 billion in the wastewater utility. These are revenue obligations borne solely by the water and wastewater utilities and are necessary to support the capital programs that respond to federal requirements and mandates, as well as reinvestment in the respective systems. But we cannot continue to raise the debt ceilings of our utilities without thought to our ratepayers who support these debts through their bill payments. To leverage our capital dollars, we have competed for and received State Revolving Loan funds. These low- and no-interest loans have helped us with our financing, but the size of our system makes for some very large and costly projects. Declining federal funding for state revolving funds has only increased the competition for these limited dollars. These reduced funding levels come at a time when unfunded mandates continue to exert pressure on our water and sewer rates and capital programs, diverting investments away from our aging infrastructure.

- Baltimore is a city of 87 square miles; last annexation in 1918 (further annexation prohibited by State law)
- Population of 626,664
- Average unemployment rate of 10.3% (January-July, 2011)
- 47% of the population lives below the Median Household Income of \$42,000 (family of 4)
- 25% of the population lives below the poverty line (2010 Census)

One project that has been partially funded by State revolving loan funds is the upgrade of our two wastewater treatment plants to meet the nitrogen limits mandated by the Chesapeake Bay TMDL. Cleaning up the Bay is important for the State, local, and regional economies, and due to our proximity to this vital water body, we in Baltimore feel a particular stewardship. Baltimore's wastewater treatment plants are two of the largest in the State and in order for Maryland to meet its pollution reduction goals, both plants must be outfitted with state-of-the-art Enhanced Nutrient Removal (ENR)

facilities which will cost a total of \$900 million. In addition to the State revolving loan funds, we are also receiving funding assistance under the Bay Restoration Fund (BRF). The BRF, or as it is affectionately known in Maryland, “the Flush Tax,” is a state-wide fund financed by every public sewer system customer, including our citizens, through fees on their water and sewer bills. Baltimore was also successful in applying for stimulus funds through the State, receiving \$6 million toward one of the ENR projects. We are grateful for the support we’ve received from the SRF, BRF, and stimulus funding, but at the end of the day, the balance of that \$900 million falls on the shoulders of Baltimore’s ratepayers.

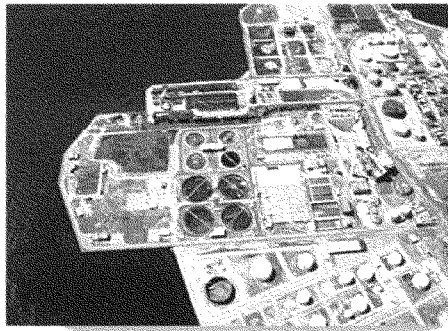


A challenge that Baltimore has faced recently is the funding for our stormwater program. When viewed against the history of Baltimore City, the regulation of stormwater is a fairly new development: we received our first Municipal Separate Storm Sewer System (MS4) permit in 2005. The regulation of stormwater followed a pattern that is familiar in environmental regulation. First the science developed to recognize a problem, then EPA determined how it would regulate the problem, and local governments are left to figure out how to pay for the regulations. In Baltimore, we began to fund our stormwater compliance out of the city’s general fund where, at budget time, it would have to compete with all of the city’s other priorities for funding. As the TMDL requirements of the MS4 permit became more stringent, it became clear that stormwater would need a dedicated funding source. Of course “dedicated funding source” translates into another dip into our citizens’ wallets.

My administration has been trying to create an equitable way to fund compliance with these relatively new requirements plus rehabilitate and maintain our aging stormwater infrastructure. As politically unpopular as it is during a slow economic recovery, we may be faced with requiring all properties in Baltimore City to pay a charge based on the

amount of their impervious area. I would like to thank Senator Cardin for his efforts to insure that the federal government would pay its fair share of this kind of charge.

We are not just looking to our rate payers to fill the gap in our funding needs. We are also looking for ways to reduce our costs, and energy is certainly one area where we have been successful. Methane is a byproduct of wastewater treatment, and we have used this gas to heat some of our buildings and processes. We are lowering our energy costs by operating a public/private cogeneration facility that converts methane into 3MW of electricity, approximately 30% of the base electrical load for one of our treatment plants. We are also investigating the ability to install solar farms on large areas available at the treatment plants to generate even more electricity.



In addition to the strategies I've already discussed, cities like Baltimore need new and innovative funding options. This is why last summer at the United States Conference of Mayors' annual meeting I co-sponsored a resolution that was adopted by the Mayors' Water Council supporting the creation of a water infrastructure financing and innovation authority (WIFIA) modeled after the Transportation TIFIA program. The WIFIA would set up a loan guarantee program that would provide low-cost capital to water and wastewater utility investments in infrastructure. WIFIA could provide secured direct loans and loan guarantees, a standby line of credit for infrastructure construction, and annual federal funding to budget for credit defaults. Federal credit can make a project more attractive for private capital and lower interest rates on private lending. And credit available on Treasury borrowing rates can reduce borrowing costs by up to 20 percent. Since water utilities have existing revenue streams which they can use to repay federal credit assistance, an investment of this nature is even more financially sound than the widely supported TIFIA program. And let's not forget that the historic default rate on water and sewer bonds is 0.04 percent.

Another innovative financing strategy that is gaining attention is a Clean Water Trust Fund. The fund would be supported by national dedicated user fees that are low-rate and broadly based on a range of products sold in interstate commerce. This Trust Fund could provide a long term and sustainable national funding source for water and wastewater infrastructure investment, research and development of advanced treatment technologies, support expansion of the state revolving funds, and provide grant assistance for watershed, urban stormwater and rural nonpoint source management. A 2009 General Accountability Office report documented potential revenue sources for this fund. Quite frankly, a source of sustainable national funding is essential to the recovery of our nation's water infrastructure and our environment because local governments cannot carry the financial burden by themselves. Both the WIFIA and Clean Water Trust Fund have merit and deserve consideration.

Increased funding is only one side of the coin in improving our water infrastructure. As co-chair of the U.S. Conference of Mayors' Water Council, I and my representatives have been meeting in formal and informal settings with EPA Headquarters since December of 2010. Through our membership in professional organizations such as NACWA, APWA, and WEF, we have pressed a consistent message: cities need some flexibility in meeting the requirements of the Clean Water Act and Safe Drinking Water Act. We want to meet our environmental responsibilities; it is important to the health and welfare of our communities. But our resources are finite.

I am happy to report to the distinguished members of this Subcommittee that the EPA has heard our message. EPA acknowledges the strain that municipalities are under and is willing to work with us to develop a more flexible and tailored program to achieve the goals of a cleaner environment without bankrupting us in the process. It is called integrated planning. In an October 27, 2011 memorandum to their regional administrators, EPA Headquarters noted the following:

"Integrated planning will put municipalities on a critical path to achieving the water quality objectives of the CWA by identifying efficiencies in implementing sometimes overlapping and competing requirements that arise from separate waste- and storm-water programs, including how best to make capital investments and meet operation and maintenance requirements. Integrated planning can also lead to the identification of sustainable and comprehensive solutions, such as green infrastructure, that improve water quality as well as support other quality of life attributes that enhance the viability of communities."

At a December 13, 2011 meeting with NACWA representatives, EPA promised to provide a draft framework for municipalities to consider when preparing their own plans. True to their word, on January 13, 2012, EPA released the *Draft Integrated Planning Approach Framework*, a document that outlines the overarching principles that should guide development of an integrated plan, some of the elements that need to be

addressed, and the means to implement the plan. Integrated planning is a big change in the way that EPA approaches enforcement and it could not have come at a better time. In the past, EPA enforced compliance with federal environmental laws through a series of unfunded mandates. Each mandate was pursued individually and with the same sense of urgency. Through integrated planning, we will be able to look at all of our environmental projects holistically to determine the environmental, social and health benefits of each, place projects with the greatest benefits at the top of our capital plans, and address the less effective projects later.

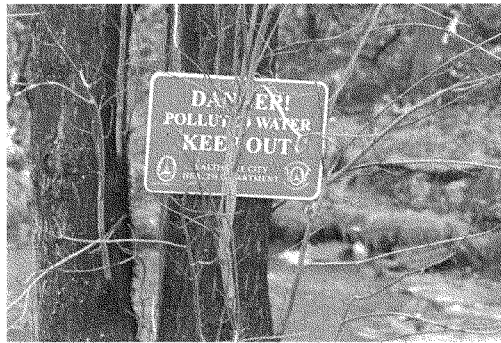
My city is already developing its own integrated plan and our intentions for the plan are largely in sync with the EPA draft framework. We are in the process of looking at all of our responsibilities under the Clean Water Act and Safe Drinking Water Act, our operations and maintenance requirements, and our future capital investment needs. Each of these projects and programs will be given a score based on its environmental, social, and health benefits and we will develop several alternatives for how to proceed. After extensive stakeholder consultation and outreach, we will develop a long-term plan for the effective management of our utilities.

You will notice that I mentioned Baltimore's Safe Drinking Water Act responsibilities as one element of our integrated plan. Right now, EPA only wants Clean Water Act mandates included in integrated planning. But Baltimore, like many other cities, is responsible for metropolitan drinking water and wastewater systems, and stormwater controls and treatment within our borders. Our citizens and ratepayers pay for these systems, and all three utilities run under the same streets. An integrated plan for Baltimore must address all three systems. It just makes sense.



In order to continually provide high quality drinking water, cities need to be able to plan in a holistic manner for the replacement of water mains and refurbishment of treatment plants. In Baltimore, we have three water treatment plants that provide high quality water to 1.8 million people. One of our plants, Montebello 1, is starting to show its age and will be needing a complete refurbishment. We are unable to shut Montebello down to make all the necessary upgrades and repairs until we construct a fourth treatment plant. It's the timing of this kind of capital expenditure that we want to work into an integrated plan so we know that we are doing it in time to best protect the quality of our water but also at a time when it makes fiscal sense.

We also want to be sure that we comply with drinking water regulations in a way that accurately balances the public health benefit of those regulations with environmental and social benefits. Baltimore currently has 5 open finished water reservoirs. Due to the LT2 Rule, we have to cover or UV treat them all to the tune of \$190 million and a lot of angry citizens view those reservoirs as aesthetic amenities in their communities. While we understand the public health benefit of covering or providing additional treatment, and we are committed to undertaking this effort, we would also like to examine if that health benefit outweighs the health and environmental benefit of replacing miles and miles of aging and leaking water mains. We don't know yet, but it's possible that our limited funding would be better spent on system improvements first, then cover or treat the reservoirs further on down the road. The fact that EPA is now reexamining the LT2 Rule under the President's Regulatory Review underscores our concerns about the sequencing of these projects.



While EPA is not yet seeing eye-to-eye with Baltimore and other cities on the issue of integrating drinking water planning, they have left the door open to further negotiation on the issue, and I am confident that we will reach a solution that protects human health and the environment.

One challenge that EPA, state regulators, and cities will have to face together will be to establish a legal framework to accommodate integrated planning. The tools provided by

the Clean Water Act and the Safe Drinking Water Act are limited and none of them provides an easy fit for the kind of long-term, holistic approach that integrated planning must entail. EPA has stated that they do not think that a rule-making or revision to the Clean Water Act is necessary to accommodate integrated planning. I do not disagree with that, but I must emphasize that to make integrated planning work in the current legal scheme, there can be no "one size fits all" approach: each municipality will have to reach an agreement with EPA and its state regulators that is unique to its resources and challenges.

I am very proud that my city is at the forefront of the integrated planning effort. I believe that this program presents an excellent opportunity for each city and utility to comprehensively assess their water, wastewater, and stormwater programs and to plan in a way that produces the best results both for people and the environment.

I thank the Chairman and Subcommittee members for your kind attention and will be happy to answer any questions you may have.



STEPHANIE RAWLINGS-BLAKE
Mayor
250 City Hall
Baltimore, Maryland 21202

**United States Senate
Committee on Environment and Public Works**

**February 28, 2012 Hearing
“Local Government Perspectives on Water Infrastructure”**

Follow-up Questions for Written Submission

Senator Ben Cardin

1. **Ms. Rawlings-Blake, what actions would you like to see at the federal level to local governments with water infrastructure maintenance and repair, and to help cities to capture the economic potential of water infrastructure investment?** I believe that the most important step the Federal government can take right now is to allow integrated planning as a tool that cities can use to tackle their Clean Water Act and Safe Drinking Water Act obligations together in an efficiently holistic manner. U.S. EPA is in the process of developing guidance for integrated planning. It will be important that this guidance is flexible enough to allow each city to tailor their integrated plan to meet the unique needs of its citizens and the local environment. As I stated in my testimony, it is also very important that cities be able to include their Safe Drinking Water Act compliance in their integrated plans. In order to truly capture the economic potential of water infrastructure investment, cities' integrated plans must accurately rank operations and maintenance activities against new capital projects so that we know we are getting the best environmental value for our dollar.
2. **In your testimony, you spoke in support of a TIFIA-like trust fund for water infrastructure. Could you describe how that fund would work and who would administer it?** The municipal bond market and State Revolving Fund programs are the primary mechanisms used by local governments to fund their drinking water and wastewater infrastructure needs. Current funding levels are not sufficient to fully meet critical water and wastewater needs for larger infrastructure projects. A TIFIA-like program would provide a mechanism for direct loans and loan guarantees

*Visit our Website @ www.baltimorecity.gov
Phone: 410.396.3835 fax: 410.576.9425 e-mail: mayor@baltimorecity.gov*

for these types of water infrastructure projects. A "WIFIA" program would not replace the State Revolving Funds but would serve as another financing tool to help close the funding gaps experienced by local governments for these critical services. The program would provide low-cost capital for water, wastewater and stormwater infrastructure investments. Credit available on Treasury borrowing rates can reduce borrowing costs by as much as 20%. While I do not have a position regarding who should administer a WIFIA program, I believe that in order for this program to be most helpful, there should be a direct relationship between the local government applying for the loan guarantee and the federal agency administering it.

3. **The State Revolving Funds are a key tool for water infrastructure financing across the nation. The Administration's 2013 Budget Proposal recommends cutting the State Revolving Funds by \$359.3 million. How will that cut affect cities such as Baltimore that are already struggling to finance their water infrastructure needs?** Declining funding for the State Revolving Funds (SRFs) means less funding for the states and more competition within each state for these water infrastructure loans. SRF funding for Bay States decreased from \$160 million last year to \$115 million this year. The approximately 20% decrease proposed in the President's budget would further erode this valuable funding source. Baltimore City makes good use of these low- to no-interest loans for water and wastewater capital projects to leverage capital investments. Fewer opportunities for SRF loans means the City must use higher interest loans sold through revenue bonds, resulting in higher costs for capital program implementation. The proposed FY2013 budget reductions come at a time when unfunded mandates continue to exert pressure on our water and sewer rates and capital programs, diverting investments away from our aging infrastructure. Although the City has implemented regular rate increases, the available water and wastewater funding is not sufficient to meet the demand for infrastructure investment required to serve the City and the greater metropolitan region. Our new six year Capital Improvement Program (FY 2013 – FY 2018) invests \$5.2 billion in water infrastructure. Due to the magnitude of some of the capital projects, construction and dollars will extend beyond fiscal year 2018. Even with this growing capital investment, our water and wastewater needs will not be fully met.

Senator James Inhofe

1. **How do reductions in federal support for water infrastructure impact you?** Loss of federal support increases our borrowing costs, limits our ability to leverage our investment dollars and pushes investing in our aging infrastructure further down the priority list.
2. **You discussed the impacts of increased water and sewer rates to the customers you serve. How do new or additional requirements from federal regulatory programs affect your operations costs? How often can you pass rate increases to your customers?** Our water and wastewater systems are enterprise funds that must be operated without profit or loss to other funds of the City. Therefore, any increase in operating or capital costs must be covered by our ratepayers. As mentioned in our response to your first question, mandatory requirements by their very nature take precedence over aging infrastructure investments. The Board of Estimates, the entity that formulates and executes the fiscal policy of the City, receives an annual report on the

financial condition of our water and wastewater utilities and considers annual recommendations for water and sewer rates for the coming fiscal year.

3. **What are some of the challenges with increasing rates to your customers?** Baltimore is a very diverse city populated with citizens of varying income levels. The challenge in setting rates is to ensure sufficient funds for complying with federally mandated programs and requirements while investing in our aging infrastructure, honoring our debt service, and minimizing “sticker shock” for our customers when possible. Baltimore’s Median Household Income (MHI) is \$42,000 (family of 4), but 47% of our citizens are below the MHI and there are wide swings in the MHI from neighborhood to neighborhood. The 2010 Census revealed 25% of our population now living below the poverty line. Even with offering our customers senior discount and low income assistance programs and payment plans, unpaid water and sewer bills can and do result in liens that, if left unpaid, may put a property in tax sale.
4. **What regulatory and/or bureaucratic difficulties do you have in replacing current infrastructure and adding new infrastructure?** At present, the replacement of aging infrastructure is considered a purely local problem. The EPA and our State environmental regulators concern themselves with determining what new limits and regulations we need to comply with and what new technology we need to get there. Federal and State environmental mandates are subject to costly enforcement proceedings. When affordability is considered at all, it is viewed in the singular vision of only complying with the proposed mandate and not in light of operations and maintenance concerns such as the replacement of aging infrastructure. As a result, preventative infrastructure maintenance and replacement is prioritized behind mandated capital improvements and our maintenance crews are consistently battling breaking and leaky pipes which have stayed in service long past their useful lives. The best approach to new environmental mandates is to view them in light of a city’s other infrastructure responsibilities to insure that ratepayer dollars are being spent in a manner that gives the best environmental value.
5. **Have you had difficulty attracting business to your city due to aging water infrastructure? Have businesses in your area addressed the issue with you?** To begin to chip away at the massive project of maintaining and replacing our aging infrastructure while complying with federal and state environmental mandates, we must increase our rates. Increased rates draw criticism from businesses since this can have a direct impact on their bottom lines. One business in particular had been paying a high sewer surcharge due to the quality of wastewater they were discharging into Baltimore’s sewer system. This business subsequently left the City, taking with it a large portion of our revenue. Other businesses have expressed concern about our system’s capacity and redundancy in case of a failure.
6. **You mentioned working with EPA to developing the integrated planning programs that will help you meet water mandates. Please describe how Baltimore would like to see integrated planning work to meet you clean water and drinking water mandates.** I see integrated planning as a way for cities to achieve compliance with the Clean Water Act and Safe Drinking Water Act while providing the best environmental, public health, and social benefits in an economically responsible way. Ideally, integrated planning would be a flexible process that each city could tailor to its unique needs. In Baltimore, drinking water, wastewater, and stormwater are all controlled by the same agency, run under the same streets, and are funded by the same

ratepayers, so it makes sense that all three systems would be included in the same integrated plan. Of course, this is not the case for all cities, so exactly what gets integrated into a plan should be up to the individual jurisdiction. Similarly, each city has its own unique environmental benefits and challenges, so each city should decide how to prioritize projects in an integrated plan in a way that works for them. The end result will be a comprehensive list of a city's responsibilities under the Clean Water Act and Safe Drinking Water Act prioritized by the benefit they will provide to the community and the environment. The city will then know which projects to invest precious ratepayer funds in first, and which projects have a lower benefit and can be accomplished in later years.

7. **Will you be able to continue to supplement infrastructure from the City general fund to pay for water infrastructure if federal financing, including decreases in SRF funding continue?** The only infrastructure that has been funded with General Funds is our stormwater infrastructure (which has also received small amounts of Motor Vehicle Revenues). The water and wastewater systems are separate utilities funded solely through water and sewer charges. However, due to the anticipated requirements under our soon-to-be issued new Phase I MS4 permit, as well as the pending Bay TMDL, Baltimore property owners may be required to pay a stormwater charge to fund our capital and operations and maintenance costs to comply with these mandates. In fact, our State Legislature just passed a bill that, if signed into law by our Governor, will require counties and municipalities with Phase I MS4 permits to establish and collect a stormwater remediation fee to fund our capital and operations and maintenance costs.

Senator Jeff Sessions

1. **As we all agree, our nation is facing a substantial backlog of much-needed water infrastructure projects. This is not just one or two cities or counties. It is a significant problem for cities and counties around the entire country.**
 - a. **How much does the City of Baltimore spend each year operating its drinking water and wastewater facilities?** The City's combined operating budget for the water and wastewater utilities for Fiscal Year 2012 totaled \$329,661,069. Capital projects proposed over the period of 2013 through 2018 for improvements or rehabilitation to these systems are projected to be \$5.2 billion. As noted in our response to a question from Senator Cardin, the magnitude of some of the capital projects will cause construction and dollars for this six year program to extend beyond fiscal year 2018.
 - b. **Are electricity costs among the most significant expenses you incur?** Water and wastewater treatment amounts to about 3% of the nation's energy consumption and represents one of the largest controllable costs of providing water or wastewater services to the public. Expenses related to gas, electricity, and steam were budgeted at \$20,065,909 in the fiscal year 2012, representing 6.09% of the total utility budget.
 - c. **In your city's planning, are you anticipating increases or decreases in the amount of money spent from your budgets on energy costs?** Energy costs across the Country, including Baltimore City, are anticipated to increase in the short term and long term future.

The City's water and wastewater operations include this assumption in their respective long term financial planning, projecting a 3% annualized increase in energy costs through the entire forecast period.

2. One of the significant threats facing our nation today is cyber-attack.

- a. **Do you consider cyber-attacks as a serious threat to your city's water and wastewater facilities?** The City does not discount the possibility of threats to our water and wastewater systems, including cyber-attacks. We know the locations in our systems that, if compromised, could have a debilitating effect on providing these vital services to our citizens and the larger metropolitan area. Since the attacks of September 11, 2001, we are even more aware of our responsibilities to protect our water infrastructure. For example, the SCADA (Supervisory Control & Data Acquisition) systems that provide process controls, monitoring, and data management for portions of our water and wastewater systems are on stand-alone servers, separate from our overall City system, to minimize hacking opportunities. We are also in the process of instituting upgrades to our SCADA systems and security will be an important part of those upgrades. As required by EPA, my Department of Public Works, the agency that is responsible for the water and wastewater systems, provided a report identifying the respective system weaknesses and vulnerabilities as well as our protective measures. In addition, Public Works is an active member of the City's All Hazard Mitigation Plan (Disaster Mitigation Act of 2000) and manages the City's flood alert system. The Department has a Safety, Training, Emergency Management and Security Division whose mission is to proactively prepare for emergency situations and coordinate responses to these situations within the agency and with other City emergency responders.
 - b. **Shouldn't those costs be taken into consideration when we talk about the significant financial needs of water utilities?** Yes; all security costs are part of our water and wastewater operation and maintenance costs and are meant to ensure the reliability of our systems to perform in times of duress. By way of example, we spend approximately \$470,000 for 24 hour security at our water filtration plants, and another \$107,000 for access controls at other key locations. We also have watershed rangers who patrol our drinking water reservoirs and coordinate with State Department of Natural Resources and County police. During high security alerts, we reinforce these security efforts. Security costs can vary from community to community depending on the complexity of systems and the corresponding ability of the served communities to pay, taking into consideration income limitations or the size of the communities relative to these costs.
- 3. Are there any unwarranted federal regulatory burdens that should be relaxed in order to allow water utilities to do their job in a more cost-effective manner?** I am proud of the fact that Baltimore City's water, sewer, and stormwater systems have been able to comply with a broad spectrum of federal regulations. I will note that each system has at one time or another been the subject of an enforcement action with a monetary penalty, but overall our record of compliance is good. In dealing with federal regulations, one thing that would be helpful would be for members of the same federal agency to speak with the same voice. Through my work with the U.S. Conference of Mayors Water Council, I know that many mayors have had a similar experience to mine in which the message coming out of EPA headquarters does not always match

with the actions taken by the EPA staff members at the regional level. While it is understandable that there will be differences of opinion in a large organization, it is hard for cities to know where they stand when headquarters is talking about the importance of flexibility but the regional staff is sticking to strict enforcement.

4. **Just as energy prices consume a large share of water and wastewater budgets, I'm sure the price of water and sewer service is a large share of your customers' budgets – whether families or businesses. Do you anticipate that the price for water and sewer service will be increasing over time?** Yes; in order to fully meet our mandated responsibilities and reinvest in our aging systems, we must plan for regular annual water and sewer rate increases to achieve these goals. At the same time, we are committed to operating in the most effective and efficient way possible, by cross-training our personnel, using technology where possible, investing in the most cost effective systems, and reducing energy costs through innovations such as methane gas recovery/reuse and photovoltaic options.

Senator CARDIN. Thank you very much.

We will hear from the panelists, then we will have some questions.

Mr. Johnson.

**STATEMENT OF JERRY N. JOHNSON, GENERAL MANAGER/CEO,
WASHINGTON SUBURBAN SANITARY COMMISSION**

Mr. JOHNSON. Good morning, Mr. Chairman.

I am Jerry Johnson, General Manager and CEO of the Washington Suburban Sanitary Commission. We provide water and wastewater services to 1.8 million residents of Prince Georges and Montgomery County, as you mentioned earlier, which border on the Nation's capital. WSSC has a combined operating capital budget for fiscal year 2012 of \$1.2 billion.

It is an honor to be here today, and I thank you for inviting me to join you on this relatively balmy morning. We are enjoying the warm weather. But it is particularly significant to our utility operators, for warm temperatures have meant fewer water main breaks to WSSC customers, employees and to our bottom line. Water main breaks in our service area also affect many Federal facilities that we serve and even the region's economy.

We had only 336 breaks in the month of January, and in all of last year our customers only had 1,600 breaks. But it is counter to the long-term trend of upward numbers and upward count of water main breaks. Our yearly average is over 1,700, and our fear is that if we don't act quickly enough, one day in the not too distant future the number of breaks will reach a tipping point where we are unable to keep up with repairs.

You may have heard about the study released yesterday by the American Water Works Association, which estimates that nationwide, to replace our aging underground water infrastructure as well as to add new pipes for the growing population, the cost will be well over \$1 trillion over the next 25 years. Much of that is unplanned and currently not budgeted. Sitting in the national capital area, WSSC represents a microcosm of the conditions described in that report. With nearly 5,600 miles of underground water pipes fed by two water filtration plants, approximately 1,500 miles of those pipes—or 26 percent—are well over 50 years old. Several years ago, we embarked on an aggressive program to address this issue.

During the current fiscal year, we plan to replace 41 miles of water pipe. By 2015, the number will top out at 5,500 miles of water pipe, assuming that we can afford to keep up that pace. In today's dollars the cost to replace a mile of pipe is approximately \$1.4 million. Over the next 6 years, the price of replacing underground water pipes will cost our ratepayers an estimated three-quarters of a billion dollars, and we will need to keep that pace up forever. It is kind of like painting a bridge, when you get to one end of it and you are finished, you have to go back to the beginning of it and start over again.

Our biggest challenge is funding. Ninety-five percent of our revenue comes from our customers. For 6 years WSSC has had no rate increases, followed by 3 years of increases that were below the inflation rate. For the last 5 years, however, even in this troubled

economy, our county councils have recognized the pressing issues and have approved rate increases between 6 percent and 9 percent. Unfortunately, more increases will be needed, even though our recent increases are lower than those in many parts of the country.

So what are we doing about this challenge at WSSC? We have undertaken a comprehensive multi-year asset management program. When completed it will provide a road map for the optimum schedule for either repair, refurbishment, or replacement of every single WSSC asset. Our goal is to use technology to most effectively manage our customers' resources.

WSSC has chartered an infrastructure funding working group, made up of WSSC and county stakeholders, to study various ways to fund infrastructure replacement while attempting to reduce some of the burden on our ratepayers. We look at every avenue to control and reduce costs.

For example, energy is among our highest annual operating expenditures. For the last 4 years, we have been purchasing wind power as a direct purchaser from a wind farm in Pennsylvania. Now wind power provides about one-third of the electric power needed for our operations and saves our customers about \$800,000 per year.

We have also substantially reduced greenhouse gases as a result, in the equivalent of taking 20,000 cars off of the Washington Beltway on an annual basis.

With help from Federal grants we are also studying anaerobic digestion, which could allow us to use methane to provide power for some of our energy needs. We are extending the life of our large transmission mains—those between 36 and 96 inches in diameter—by installing acoustic fiber or optic fiber. This system of cables installed in the pipes allows us to listen for potential snapping of support wires embedded in the concrete walls of the pipe, allowing us to monitor conditions with a computer 24 hours, 7 days a week. Along with a regular inspection regime this will prevent another incident like the near-tragedy that you mentioned earlier that occurred on River Road as well as the one in 2010, which shut down the interstate for several hours.

But at this point I have really given you only half of the story, the drinking water side of the story. WSSC also has 5,400 miles of underground sewer pipes and seven wastewater treatment plants. Like many urban communities in this country, including DC and Baltimore, we are under a consent decree to repair and improve the sewage collection system. And we and our customers are also contributing \$18.5 million annually to the Maryland State fund used to help clean up the Chesapeake Bay.

But there are other costs that we incur as well. For example, there are three-quarters of a billion dollars for sewer pipe maintenance and replacement over the next 6 years. And again, these costs will continue into the future. We are in the process of adding enhanced nutrient removal to our five largest wastewater treatment plants as a part of the Bay program. These projects, when completed in 2015, will cost \$61.4 million, of which we expect to get \$56 million in construction grants from the Chesapeake Bay fund, which is levied by the State.

WSSC ratepayers must also spend 46 percent of the cost for E&R for the Blue Plains wastewater treatment plant in the District of Columbia, with estimated construction costs of \$311 million, with only \$227 million of that being reimbursed by the Fund.

Along with the practical problems of rebuilding this massive infrastructure, we face another challenge. Unlike roads and bridges and even railroads, they are out of sight and out of mind. By and large, we deliver 24 hours a day, 7 days a week, 365 days a year on a demand basis. You turn on the handle, the water flows; you press the button, the wastewater goes away.

These functions, water and wastewater, are not optional. And they rely on systems of national infrastructure no less critical than the roads, bridges, and airports. They are absolutely necessary for the health and the well-being of our citizens here and across the country. These systems prevent diseases, provided for fire protection, and are absolutely essential for the economic growth of the United States.

We are out of sight and out of mind; however, we have projects that are shovel-ready. We are providing jobs for workers across a range of skills, and we can provide more, and we can do it quickly. We have customers who continue to carry the major part of the burden and who need the relief most of all.

With the exception of some of our policymakers, like those—like yourself and those who are members of this Committee here today, underground infrastructure has been a relatively low priority. The levels of Federal funding for this critical national infrastructure have been falling in numbers over the years. Water infrastructure should be a larger part of the ongoing national conversation because these challenges are not unique to WSSC and the Washington Metropolitan area, nor Baltimore.

I hope this thumbnail sketch of the challenges we face as a local utility have been helpful. I again want to thank you for the opportunity to appear before you here today. Let's hope that the rest of March will be as mild as the earlier part of the winter, so that we don't experience quite as many water main breaks. Thank you for your tolerance with the timing.

[The prepared statement of Mr. Johnson follows:]

**TESTIMONY OF JERRY N. JOHNSON
GENERAL MANAGER/CEO
WASHINGTON SUBURBAN SANITARY COMMISSION
SENATE COMMITTEE ON ENVIRONMENT AND PUBLIC WORKS
SUBCOMMITTEE ON WATER AND WILDLIFE
TUESDAY FEBRUARY 28, 2012**

Good Morning. My name is Jerry Johnson; I am the General Manager and Chief Executive Officer of the Washington Suburban Sanitary Commission. We provide water and wastewater services to the 1.8 million residents of Prince George's and Montgomery counties in Maryland which border our nation's capital. WSSC has a combined operating and capital budget for Fiscal Year 2012 of \$1.2 billion.

It is an honor to be here, and thank you for inviting me to join you on this relatively balmy morning in February. We're all enjoying this warm weather, but it has particular significance for utility operators -- these warmer temperatures have meant fewer water main breaks that affect WSSC's customers, employees and our bottom line. Water main breaks in our service area can also affect the many federal facilities we serve and even the region's economy.

We had **only** 366 breaks and leaks in January. And in all of last year, our customers endured **only** about 1,600 breaks and leaks. But that is counter to the long-term upward trend. Our yearly average is over 17-hundred. Our fear is that if we don't act quickly enough, that one day in the not-too-distant future, the number of breaks will reach a tipping point where we are unable to keep up with repairs.

You may have heard about the study released yesterday by the American Water Works Association. It estimates that nationwide, to replace our aging underground water infrastructure, as well as to add new pipes for a growing population, the cost will be one **trillion** dollars over the next 25 years.

Sitting in the national capital area, WSSC represents a microcosm of that report. WSSC has nearly 56-hundred miles of underground water pipes, fed by two water filtration plants...one on the Potomac River, the other on the Patuxent. Approximately 15-hundred miles of those pipes...26 per cent...are over 50 years old.

Several years ago we embarked on a plan to address this issue by increasing the replacement rate. It doesn't happen overnight. Plans must be developed, designs drawn, permits issued and contracts issued; but most of all, you need money.

During the current fiscal year, we plan to replace 41 miles of pipe. By FY'15, the number will top-out at 55 miles of water pipe per year that we hope to be able to afford.

In today's dollars, the cost to replace a mile of pipe is approximately \$1.4 million. Over the next six years of our Capital Improvements Program, the cost of replacing underground water pipes will cost WSSC ratepayers an estimated three-quarters of a billion dollars...and we need to keep up that pace **forever**.

Our biggest challenge is funding. Ninety-five per cent of our revenue comes from our customers. For six years WSSC had no rate increases, followed by three years of increases below the inflation rate. For the last five years, even with a troubled economy, our county councils have recognized the pressing issues we are striving to address and approved rate increases of between six (6) and nine (9) percent.

Unfortunately, more increases will be needed even though our recent increases are lower than those in many parts of the country (I would also guess that the water bill each of us pays is still probably the smallest of our utility bills.)

So, what is WSSC doing about these challenges?

- WSSC has undertaken a comprehensive, multi-year **Asset Management Plan**. When complete, it will provide a road map of the optimum schedule to either repair, refurbish or replace every single WSSC asset, including pipes—our goal is to make maximum use of every customers' dollar.
- WSSC has chartered an **Infrastructure Funding Working Group** made-up of WSSC and county stakeholders to study various ways to fund infrastructure replacement. We expect to receive this year meaningful recommendations on potential sources of non-rate payer revenue, but our customers will continue to face a substantial burden.
- We look at every avenue to **control and reduce costs**. For example, energy is among our largest annual operating expenditures. Four years ago we began the direct purchase of wind power from a wind farm in Pennsylvania. Now, **wind power** provides approximately one-third of all of our electric power needs, saving our customers an estimated \$800-thousand.
- So far, wind energy is providing the added environmental benefit of **greenhouse gas reductions** that are equivalent to taking about 20-thousand cars off the Washington Beltway each year.
- With the help of a federal grant, we are studying the potential to use **anaerobic digestion** - a more efficient technology to handle a part of the

wastewater treatment process that also produces and allows us to use methane gas to provide for our energy needs.

WSSC is also:

- Extending the life of our large transmission pipes - those between 36 and 96-inches in diameter - by installing acoustic fiber optics, or A-F-O. This system of cables and microphones installed in the pipes allows us to listen for the potential snapping of support wires embedded in the concrete walls of the pipe, allowing us to monitor conditions with computers 24/7. Along with an inspection regime, A-F-O will help prevent another incident like the near-tragedy that occurred on River Road in Bethesda just before Christmas in 2008.

But at this point I have really only given you half the story; the drinking water side of the story.

WSSC also has 54-hundred miles of underground sewer pipes and six wastewater treatment plants. Like many urban communities in this country, including DC and Baltimore, we are under a consent decree to repair and improve the sewage collection system.

We and our customers are also contributing \$18.5 million annually to the Maryland State Fund used to help clean-up the Chesapeake Bay.

But there are other costs our customers must bare, as well:

- Add, for example, another three-quarters of a **billion** dollars for sewer pipe maintenance and replacement over the next six years as projected in our CIP. Again, that number will continue forever.
- We are in the process of adding Enhanced Nutrient Removal to our five largest wastewater treatment plants as part of the Bay clean-up program. By the time those projects are completed in 2015, the total projected construction costs for these five projects is \$61.4 million. WSSC expects to receive approximately \$56 mmillion in construction grants for these projects from the Bay Restoration Fund...also known as the Flush Tax, which is levied by the State of Maryland and collected by WSSC and other wastewater utilities.
 - As you are probably aware, Governor O'Malley and the State Legislature are considering raising that fee from the current \$2.50 per month, per account. That is additional pressure on our customers. WSSC customers are already the single largest contributors to the fund. One way or another, they pay.

- WSSC ratepayers must also fund nearly 46% of the cost of the ENR upgrade at the Blue Plains Wastewater Treatment plant in the District of Columbia. The estimated construction cost for WSSC's portion of this regional project is \$311 million. WSSC expects to receive approximately \$227 Million in construction grants from the Bay Restoration Fund for this project (This project must be completed by January 2015.)

Along with the practical problem of rebuilding this massive infrastructure, we face another challenge. Unlike roads, bridges and even railroads, we are out of sight and out of mind. By-and-large we deliver 24/7, 365-days a year. You turn the handle and the water flows. You press the button and the water flushes. Most of our customers only think of us when the bill arrives.

These functions, water and wastewater, are not optional, and they rely on a system of national infrastructure no less critical than the roads, bridges, airports and rails. They are absolutely necessary for the health and well-being of our citizens here and all across the country. These systems prevent disease, provide fire protection and are absolutely essential for economic growth in the United States.

We are out of sight and out of mind, even though:

- We have projects that are shovel ready;
- We are providing jobs for workers across a range of skill levels, and we can provide more...and do it quickly;
- We have customers who continue to carry the major part of this burden and who need relief, and most of all;

With the exception of some policymakers like those of you here today, underground infrastructure is a relatively low priority. The levels of federal funding for this critical national infrastructure have been falling for a number of years, and water infrastructure should be a larger part of the on-going national conversation because these challenges are not unique to WSSC.

I hope this thumbnail sketch of the challenges we face as a local utility has been helpful, and I again want to thank you for the opportunity to appear before you today.

And let's hope that we make it through the month of March with more unseasonably warm weather!



Contact: Kirk Wineland
301.206.8222

The Washington Suburban Sanitary Commission (WSSC) powered up with wind in the spring of 2008. According to the U.S. Environmental Protection Agency, WSSC is ranked at #13 in the Top 20 Local Government users of green power.



Wind power now accounts for 28% of WSSC's total electric consumption. The Commission receives 85% of the energy generated from a wind farm in southwestern Pennsylvania, or approximately 70,000-megawatt hours of power a year.

While the use of wind power is growing more common, WSSC's wind power purchase is anything but common. Instead of buying renewable energy certificates or RECs, WSSC has opted to purchase green power directly from a wind farm. This not only means a tremendous savings for our customers, but also demonstrates our commitment to improve air quality by reducing greenhouse gas emissions.

WSSC is paying a fixed price for 85% of the wind farm's output over a 10 year period. To really understand the financial benefit, think about your own electric bill. As energy prices continue to skyrocket, imagine if you could lock in a reasonable rate for your electric bill and then pay that fixed price for the next decade. That's exactly what WSSC has done. We expect to save millions of dollars in energy costs over the length of our contract.

The Commission is also committed to protecting the environment for generations to come. By using direct wind power, WSSC is reducing greenhouse gases released into the Washington area by 38,000 tons/year. That is the equivalent of taking 100,000 cars off the Capital Beltway.

"Direct wind-power purchasing was a win-win-win for WSSC, its customers and the environment," says Rob Taylor, WSSC's Energy Manager. "It provides the opportunity to reduce the Commission's energy prices by providing a long-term hedge against rising generation costs, help clean the air we breathe, and to reduce our carbon footprint."



WSSC Facts At-A-Glance

Contact: Kirk Wineland
301.206.8222

- Established in 1918 by the Maryland General Assembly to provide water and wastewater services for Maryland's Montgomery and Prince George's Counties
- WSSC's drinking water has always met or exceeded federal standards.
- 1,000 square miles service area
- Approximately 1.8 million residents
- 437,534 residential customer accounts
- 29,995 commercial and government accounts
- 1,600 employees
- \$565, 922 million FY'12 Capital Budget
- \$626,145 million FY'12 Operating Budget
- More than 5,500 miles drinking water pipelines
- Nearly 5,400 miles sewer pipelines
- 40,789 fire hydrants
- Average daily water production in FY11 – 175 million gallons per day
- Average daily wastewater treated in FY11 – 214.5 million gallons per day
- Raw water reservoir storage – 14 billion gallons of normal storage
- 2 water filtration plants
- 2 raw water pumping stations
- 7 wastewater treatment plants
- 3 water storage reservoirs with total capacity of 14 billion gallons
- 56 water storage tanks
- 17 treated (finished) water pumping stations
- 46 wastewater pumping stations
- CCT - 4 maintenance depots
- WSSC is governed by six Commissioners, three from Montgomery County and three from Prince George's County. Commissioners are appointed by their respective county executives and approved by their county councils. They serve four-year terms.
- The Commissioners hire the General Manager/CEO who manages the day-to-day operations

General Infrastructure (Calendar Years)

- 2,096 water main breaks and leaks in 2010; 1,489 breaks and leaks in 2011.
- December 2010 – record for most water main breaks and leaks in a single month: 647
- The 10 year water main break average is 1,715. (2000 – 2009)
- The one-year record is 2,126 set in 2007.
- 2007 – 2011: 9,217 breaks and leaks recorded.
- Age of pipes - **26 percent of all water mains are more than 50-years old**

| | |
|---------------|----------------|
| OVER 50 YEARS | 1,452.89 miles |
| 25-50 YEARS | 2,517.81 miles |
| UNDER 25 Yrs | 1,619.61 miles |

Total Miles of Water Main 5,590.31

Water Main Replacement Totals/Planned

| FY | Miles/year |
|------|------------------|
| 2005 | 21.5 miles |
| 2006 | 17.2 miles |
| 2007 | 16.1 miles |
| 2008 | 24.98 miles |
| 2009 | 34.41 miles |
| 2010 | 38.94 miles |
| 2011 | 44.34 miles |
| 2012 | 41 miles planned |
| 2013 | 46 miles planned |
| 2014 | 51 miles planned |
| 2015 | 55 miles planned |

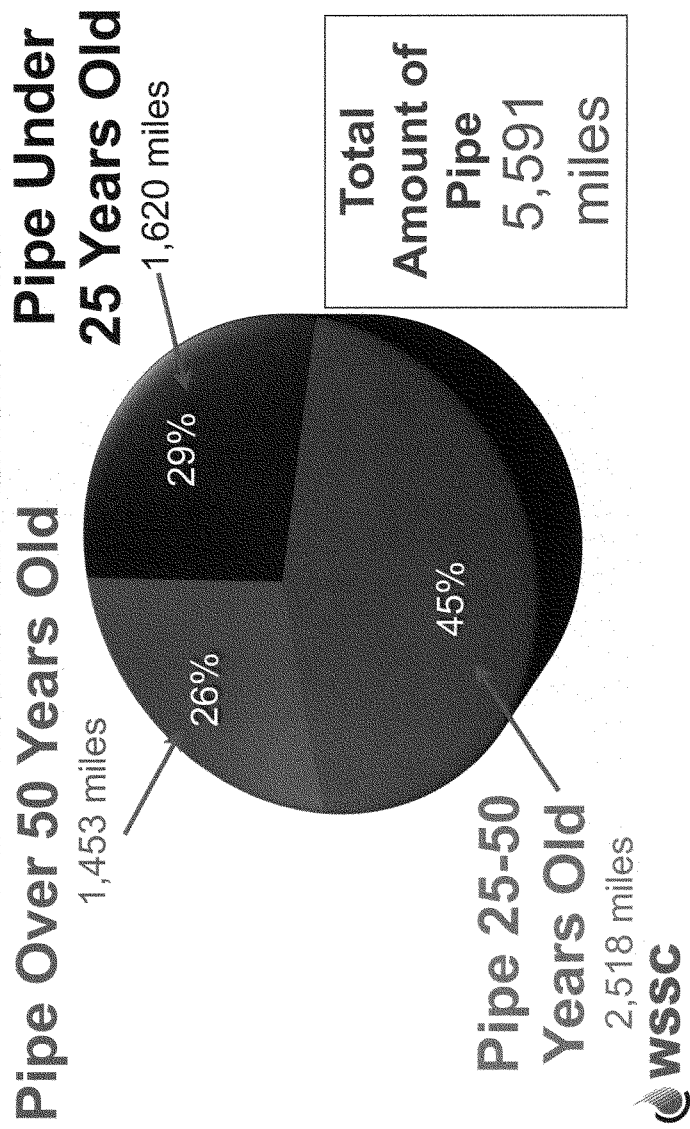
Pres-Stressed Concrete Cylinder Pipe (PCCP) /Acoustic Fiber Optics (AFO)/ General Infrastructure Information

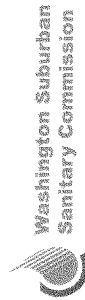
- WSSC has approximately: 350 miles of “large mains” 16” and larger

- 145 miles 36" and larger
- 77 miles 48" and larger
- 59 miles 54" and larger
- In FY'09 10.2 miles of large mains were inspected and equipped with acoustic fiber optic (AFO) monitoring.
- In FY'10 13.3 miles of large mains were inspected with AFO installed.
- In FY'11 13.5 miles of large mains are being inspected and 11 miles of AFO installed.
- To date, about 55 of the 77 miles of large mains have been equipped with AFO.
- We expect all large mains (48" and greater) to be equipped with AFO by end of FY 2013.
- For one mile of PCCP, it costs about \$225,000 to internally inspect and leave AFO (acoustical fiber optics) monitoring equipment behind.
- It costs an additional \$13,000 a year to monitor each.
- The optimum inspection interval for large diameter mains is 5-7 years.
- In FY'09, WSSC's inspection mileage was increased from 6 miles to 12 miles a year. At 12 miles per year, these pipelines will be inspected at an interval rate of approximately 6.5 years.
- The targeted pipeline diameter was also decreased from 54" to 48".
- WSSC is using a combination of visual inspections and three types of state-of-the-art technology to inspect our large transmission mains.
- WSSC is the largest water utility in the nation using this technology.
- In November 2009, Trenchless Technology Magazine, a trade magazine in our industry, honored WSSC with its 2009 Project of the Year for Rehabilitation. We were honored for our "innovative approach and use of technology to cost-effectively craft a repair program."
- WSSC has contracted Pure Technologies to conduct "SmartBall" inspections and overall condition assessments of our large mains. The "SmartBall" is a high-tech "microphone" placed inside a foam shell that is compressed and inserted into the pipeline while it is in service (while water is flowing through the main).
- The "SmartBall" moves along the pipe "listening" for leaks as it flows through the pipe, passing through valves and other obstacles. It is then retrieved and the data is downloaded for analysis.

- The main is then dewatered for visual inspection and “P-Wave” electromagnetic inspection. “P-Wave” equipment is placed in the pipe to find and estimate existing wire breaks along individual pipe sections. Wire breaks are a key indicator that the pipe is weakening and at risk for failure.
- Finally, following the inspection of a pipe, WSSC (through Pure Technologies) installs acoustical fiber optic monitoring, or AFO, to continuously monitor the mains 24/7 to detect wire breaks.

WSSC's Water Mains





FY'13 Proposed Capital and Operating Budgets

| | FY'12 Approved | FY'13 Proposed | Over / (Under) FY'12 | % Change |
|---------------------------|------------------------|------------------------|-------------------------|--------------|
| Capital Funds | | | | |
| Water Supply | \$198,844,000 | \$240,107,000 | \$41,263,000 | 20.8% |
| Sewage Disposal | 332,424,000 | 536,771,000 | 204,347,000 | 61.5% |
| General Construction | 34,654,000 | 19,984,000 | (14,670,000) | (42.3%) |
| Total Capital | \$565,922,000 | 796,862,000 | 230,940,000 | 40.8% |
| Operating Funds | | | | |
| Water Operating | 251,595,000 | 269,337,000 | 17,742,000 | 7.1% |
| Sewer Operating | 323,390,000 | 350,271,000 | 26,881,000 | 8.3% |
| General Bond Debt Service | 51,160,000 | 41,455,000 | (9,705,000) | (19.0%) |
| Total Operating | 626,145,000 | 661,063,000 | 34,918,000 | 5.6% |
| GRAND TOTAL | \$1,192,067,000 | \$1,457,925,000 | \$265,858,000 | 22.3% |

The FY'13 Proposed Capital Budget of \$796.9 million represents an increase of \$230.9 million (40.8%) from the FY'12 Approved Budget. The significant increase is attributable to several major projects scheduled to move forward or to ramp up construction work in FY'13 including both the Blue Plains Wastewater Treatment Plant Digester and Enhanced Nutrient Removal projects, the Broad Creek Wastewater Pumping Station Augmentation, the Pittuxent Water Filtration Plant Expansion, the Large Diameter Water Pipe Rehabilitation Program and both the small diameter Sewer Reconstruction Program and large diameter Trunk Sewer Reconstruction Program.

In summary, the FY'13 estimated expenditures for all operating and capital funds total \$1.5 billion or \$265.9 million (22.3%) more than the FY'12 Approved Budget. The FY'13 Proposed Operating Budget of \$661.1 million represents an increase of \$34.9 million (5.6%) from the FY'12 Approved Operating Budget. The primary driver of this increase is debt service associated with the increased Capital Budget, with costs expected to exceed FY'12 budgeted debt service by \$25.4 million. Other drivers include cost increases at regional sewage disposal facilities, Sanitary Sewer Overflow Consent Decree Compliance including expansion of the Large Diameter Sewer Main Inspection Program, an increase in the operating reserve, and 12 new workyears in direct support of operations and maintenance of the water and sewer systems.

Senator CARDIN. Thank you very much for your testimony.
Ms. Horne.

**STATEMENT OF KATHY HORNE, EXECUTIVE DIRECTOR,
ALABAMA RURAL WATER ASSOCIATION**

Ms. HORNE. Thank you, Chairman Cardin, and Ranking Member Sessions, for the opportunity to testify here today.

I am Kathy Horne, the Executive Director of the Alabama Rural Water Association, representing 550 public water utilities in the State of Alabama, serving 3.7 million people. I am also proud to represent the National Rural Water Association, which has over 28,000 small and rural community members.

Alabama Rural Water has been in service since 1977. Our purpose is to assist and work with drinking water and wastewater systems in providing free localized training and onsite technical assistance. Many of the rural and small town water systems were constructed in Alabama during the 1950s and 1960s. The vast majority of water suppliers serve a population of less than 10,000, which is equivalent to 3,333 customers.

While most of the water systems in Alabama are managed successfully, very little net revenue is realized beyond the routine operational and maintenance cost. This makes it very difficult for small systems to meet the needs of financial reserves and system improvement funds while also properly maintaining the operation.

I would like to highlight two areas of concern for community water systems and urge the Subcommittee to consider assisting in future Federal funding and policy. First is the problem of high unaccounted for water, and second is the lack of training resources for the governing body or board members of community water systems. Both of these challenges illustrate the critical need for increased funding to help in upgrading and expanding existing water system infrastructure.

In Alabama 15 percent water loss is considered normal for fire-fighting, flushing, and routine line breaks. Last year Alabama Rural Water conducted 23 leak surveys free of charge, with an average water loss of 37 percent.

On a national perspective, studies have estimated that 20 percent to 25 percent of the treated water flowing within the distribution system is lost through leakage. I will give you an example. Last October, Alabama Rural Water conducted a leak detection survey for Centerville Water and Sewer Board in Bibb County. Centerville serves 1,945 customers. The survey resulted in the detection of a 6-inch main line that had blown apart at the coupling and was leaking 100 gallons per minute. Upon repair, this system saved approximately \$6,480 monthly in service fees.

This not only wastes the water supply but also the energy and the electrical costs associated with pumping and treating it. Energy bills are the highest expense for water utilities and correlate to a tremendous energy demand nationwide.

My second concern is the lack of training resources for the governing board members of small water systems. In most all of the approximately 50,000 small community water systems, board members volunteer their time to make decisions on behalf of the citizens in their community regarding one of the most critical resources

available to man: water. Many small water systems are lacking in essential resources like system maps, standard operating plans, et cetera. These are all very essential to identifying infrastructure conditions.

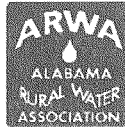
As a part of this overall process, we urge Members of Congress, in addition to funding for tangible water infrastructure projects, to consider strengthening the capacity of local governments in providing additional resources in the investment of water and wastewater utility management. This would ensure the most effective use of State and Federal dollars invested in infrastructure projects.

Federal funding sources have experienced drastic reductions in their most recent budgets, causing insufficient funding to address overdue improvement projects. With the shortfall the utilities are still expected to continue full service for the citizens, industry, economic growth and comply with all Federal and State regulatory requirements. Investing in the future of water infrastructure not only improves the quality of life for American citizens but also provides for future economic recovery, growth, and stability. It provides a natural resources that no one can live without.

In summary, I respectfully urge Congress to consider the unique infrastructure needs and concerns facing our rural and small town water systems and incorporate these as priorities in future Federal water funding programs and policies.

Thank you all for your service, and thank you for this opportunity.

[The prepared statement of Ms. Horne follows:]



TESTIMONY OF
KATHY HORNE
 EXECUTIVE DIRECTOR
 ALABAMA RURAL WATER ASSOCIATION
 AND ON BEHALF OF THE
 NATIONAL RURAL WATER ASSOCIATION
 BEFORE THE
 U.S. SENATE COMMITTEE ON ENVIRONMENT AND PUBLIC WORKS
 SUBCOMMITTEE ON WATER AND WILDLIFE
 LOCAL GOVERNMENTS PERSPECTIVE ON WATER INFRASTRUCTURE
 FEBRUARY 28, 2012

Thank you Chairman Cardin, Ranking Member Sessions and members of the Subcommittee for the opportunity to testify here today. I am Kathy Horne, Executive Director, of the Alabama Rural Water Association, representing 550 public water systems serving 3.7 million people in Alabama. I am also proud to represent the National Rural Water Association, which has over 28,000 small and rural community members.

There is a state rural water association in every state representing small and rural communities' water and wastewater supplies. Ninety percent of the community water systems in Alabama are members of Alabama Rural Water. In the nation, **most all community water systems are small**: 94% or 47,495 of the 51,651 community water systems serve a population less than 10,000 people. And small communities have to comply with all the federal regulations, just like the largest cities.

I have worked with drinking water and wastewater systems in Alabama for over 30 years, providing technical, managerial and financial assistance. **We are proud partners with the key governmental agencies** in our state including the USDA, our state's regulatory agency, the emergency management agency, the Alabama Department of Economic Development and other groups.

I am very familiar with the challenges facing our small towns and rural community water systems, and the funding needs for water and wastewater infrastructure facing the industry.

Alabama Rural Water has been in service since 1977. **Our purpose is to assist and work with drinking water and wastewater systems**, providing free localized training and technical assistance to enable water utilities to provide safe water and quality wastewater, stay in compliance, and fulfill the operator certification requirements of the state regulatory agencies and the EPA. Also, we provide on-site local technical assistance including leak detection

surveys, smoke testing, valve locating, water rate studies and assistance with the financial and management capabilities of the utility.

The expansion of small water supplies is one of the great public health and sanitation advances in the nation. Before the expansion of rural water supplies, many rural families relied on hauled water, questionable quality well water, or untreated sources of drinking water. Many of the rural and small town water systems in Alabama were constructed in 1950's and 60's, because larger municipalities found it cost prohibitive to extend their lines into the sparsely populated rural areas. This grand improvement in rural public health, economic development, and environmental protection was made available by USDA's low-interest loan and grant funding. **Three principles in the USDA program should serve as the foundation for every other federal water funding program:** (1) limiting funding to communities who can't finance water infrastructure without subsidies, (2) targeting funding to communities with the greatest economic and environmental challenges, and (3) providing a portion of grant funding, which is necessary to assist the communities most in need.

Due to their limited economies of scale and lack of technical resources small communities often struggle to operate their utilities and comply with complex technical and regulatory requirements. The EPA continues to increase mandates through the Safe Drinking Water Act and the Clean Water Act creating more and more expense and increases in water rates. The demographics of water supplies in Alabama are typical of the other states, where the vast majority of water supplies serve a population of less than 10,000 users – which is the equivalent to 3,333 customers. While most of these small communities are operated and managed responsibly, very little net revenue is realized beyond the routine operational and maintenance costs. This makes it more challenging for small systems to meet financial reserves, replacement funds and system improvement funds – and simultaneously properly maintain the operation. With limited financial and technical resources – and hundreds of miles of water lines buried in the ground – it can be a challenge to plan ahead. Major upgrades and replacements can be overlooked and sometimes forgotten until a crises forces the situation like a continuous leak, low pressure or other poor service related issues. Because water lines are hidden, they can sometimes be looked at as, *"out of sight and out of mind."* This same concept applies to wastewater infrastructure and can also extend to the visible water utility assets such as pumps, tanks, etc. It is easy to adopt the concept of, *"if it's not broken, don't fix it!"* even though these assets should be replaced before the life expectancy expires and cripples the operation. Encouraging local responsibility for professional operations and long-term sustainability is our main objective at Alabama Rural Water. We train and assist more local operators, managers, and officials than any other effort, regulation, or program. **Local responsibility is the most important element for safe water and a sustainable utility.**

I would like to highlight two areas of concern for community water supplies and urge the Subcommittee to consider assisting in some solutions in future federal funding and policy.

First is the problem of unaccounted or lost water and, second, is the lack of training resources for the governing members or board members of community water supplies. Both of these challenges demonstrate the critical need for increased funding to help in upgrading and expanding existing water system infrastructure.

In Alabama, 15% water loss is considered normal. Water can be lost from fire fighting, routine line flushing to maintain sanitary conditions, and routine line breaks. Last year, Alabama Rural Water conducted 23 leak surveys (free of charge) for small water systems. The water loss for these utilities before the leak survey averaged 37% loss. Yes, **it is common for communities to lose over a third of the water they treat** before it reaches the tap. A chart providing total gallons of unaccounted water detected, as well as the estimated savings to each system, is included in my full testimony.

On a national perspective, studies have estimated that 20-25% of the treated water flowing within the distribution system is lost through leakage. High rates of lost water can be caused by faulty meters that do not register properly, and through old/deteriorating water pipes, which must be addressed at some point. Water lines were not intended to last forever and in many cases the life expectancy has long passed with upgrades yet to be made. Water loss wastes energy and expenses associated with treating and pumping the water. Energy bills are the highest expense for water utilities and correlate to a tremendous energy demand nationwide.

For example, last October, we conducted a water survey in the Centreville Water and Sewer Board in Bibb County. Centreville serves 1,945 customers. The survey resulted in the detection of a 6-inch main line that had blown apart at the coupling and was leaking 100 gallons per minute. Using their cost factor of \$1.50 per 1000 gallons of water treated, the utility, upon repair, saved approximately \$6,480.00 monthly in service fees. Photos of this leak and other similar detected leaks are included in my written testimony. If leaks the magnitude of Centreville's go undetected for long periods, they will drain the system financially. Water infrastructure, including service lines must be maintained or replaced to meet the ongoing service needs of the utility, and its customers.

As you know, recent EPA studies have estimated an investment-funding gap of more than \$500 billion (over the next 2 decades) is needed for upgrades and repairs to public water and wastewater systems. But capital investment for such projects is extremely difficult to secure as states and local governments are challenged with large budget deficits, debt obligations and revenue shortfalls. This is resulting in much needed water and wastewater projects being placed on the "back burner," with the hope next year will be better.

My second priority concern is the **lack of training resources for the governing board members of water supplies**. In most all of the approximately 50,000 small community water systems, volunteer governing board members, city councils, selectmen, etc. volunteer their time to make decisions on behalf of the citizens in their community regarding one of the most critical resources available to society: safe drinking water and sanitation. Many small community water supplies are lacking in essential site-specific resources like system maps, standard operating plans, routine preventative maintenance plans, long range plans, etc. – all of which are essential to identifying infrastructure conditions. This represents a lack of understanding regarding the management responsibilities necessary to form strong sound governance decisions regarding the utility's infrastructure needs.

In addition to funding for tangible water infrastructure projects, please consider strengthening the capacity of local governments and providing additional resources in the investment of water and wastewater utility management. By directing more funding to the training of local governing officials, this would assist these decision-makers in their critical role of managing, maintaining and properly overseeing the nation's drinking water and wastewater operations – and ensure the most effective use of state and federal dollars invested in infrastructure projects. Better informed board members would result in better prepared decision-makers capable of properly planning and preparing the utility to meet the ongoing challenges that water and wastewater utilities face.

Safe and dependable drinking water supplies and sanitation are necessary for economic development in small and rural communities as well as meeting the future needs of residential and commercial growth.

The three primary funding sources for water infrastructure include: the USDA Loan and Grant Program (limited to communities with less than 10,000 persons), the State Revolving Loan funds (no population restriction) and HUD's CDBG grants (for low-income areas). You may be surprised to know that in recent years, the SRF program in Alabama supported only one large municipality, with nothing left to support smaller water system infrastructure requests. In many cases, this funding is approved for large municipal operations because there are no population or size restrictions. However, all of these sources have experienced drastic reductions in their most recent budgets.

USDA and SRF funding is not sufficient to cover the growing infrastructure needs of water systems, and certainly not sufficient to address overdue improvement projects throughout the nation. All communities are expected to continue full service for the citizens, industry, economic growth and comply with all federal regulatory requirements. However, federal, state and local water budgets are shrinking and more reductions are in sight.

Investing in the future of water infrastructure not only improves the quality of life for American citizens, but also provides for future economic recovery, growth and stability. As we invest in water infrastructure, we create jobs and boost the economy, and we provide a natural resource that one can't live without.

In closing, I respectfully urge Congress to consider the unique needs and concerns facing our rural and small town water systems and incorporate these as priorities in future federal water funding programs and policies. We urge you to **include additional local government training resources and the three needs-based principles (in the USDA funding program)** in any reauthorization of the state revolving loan funds or new water infrastructure legislation. This would ensure more informed management decisions in protecting and maintaining federal investments of water and wastewater infrastructure projects – and ensures that the most needy communities are prioritized in federal funding initiatives.

Thank you all for your service and for this opportunity. Attached to my written testimony is a one-page summary of the National Rural Water Associations' priorities in any new water infrastructure legislation.



**COMMENTS OF THE
NATIONAL RURAL WATER ASSOCIATION
(SUBMITTED FOR THE RECORD TO THE)
SENATE SUBCOMMITTEE ON WATER AND WILDLIFE
LOCAL GOVERNMENTS PERSPECTIVE ON WATER INFRASTRUCTURE
FEBRUARY 28, 2012
HOUSE SUBCOMMITTEE ON WATER RESOURCES AND ENVIRONMENT
INNOVATIVE WATER INFRASTRUCTURE FINANCE HEARING
FEBRUARY 28, 2012**

Small and rural communities often have a difficult time, due to their limited customer base, when it comes to providing safe water and compliance with federal standards. This is compounded by the fact that small and rural communities often have lower median household incomes and higher water rates compared to larger communities. As a result the cost of compliance is often dramatically higher per household. The vast majority of U.S. water supplies are small, 94% or 47,495 of the 51,651 community water systems serve a population less than 10,000 people. There are approximately 16,255 water regulated public sewer systems in the U.S.; 13,057 sewer systems are considered small – serving less than 10,000 persons. EPA asserts, “*Because small communities tend to be economically disadvantaged, under-served and resource-poor, they face significant barriers to building and maintaining effective wastewater treatment services.*”

Federal Water Funding Priorities and Targeting

Any new or reauthorized federal water infrastructure initiatives should retain the key elements that ensure targeting of funding to the most needy communities including: a minimum set-aside for small systems, disadvantaged community subsidies, requirements to prioritize funding to address the most serious risk to human health; to ensure compliance; and assist systems most in need on a per household basis. The 1996 Drinking Water State Revolving Fund grants states considerable discretion in the operation of their revolving loan funds with regard to providing principal forgiveness, in defining disadvantaged communities, and in targeting funds to the most needy communities. Three principles in the USDA water funding program should serve as the foundation for every other federal water funding program: (1) limiting funding to communities who can't finance water infrastructure without subsidies, (2) targeting funding to communities with the greatest economic and environmental challenges, and (3) providing a portion of grant funding, which is necessary to assist the communities most in need.

Technical Assistance

Rural and small communities want to ensure quality drinking water and wastewater. After all, local water supplies are operated by people who are locally elected and whose families drink the water every day. However, they need common-sense technical assistance in a form they can understand. On-site technical assistance allows small communities to have access to technical resources needed to operate and maintain water infrastructure, comply with standards in the most economical way, and obtain assistance in applying for state revolving loan funds. Often the assistance saves thousands of dollars for the community and keeps the systems in long-term compliance with EPA rules. Please consider a provision similar to H.R. 1427 to ensure the most beneficial assistance is provided.

Public-Private Partnerships

NRWA has not opposed water supply privatization in principle. However, corporate water (profit generating companies or companies paying profits to shareholders/investors) should not be eligible for federal taxpayer subsidies. Private companies argue that they have to comply with the same regulations. However, the distinction in mission between public and private is the core principal that should be considered. Public water utilities were and are created to provide for public welfare (the reason why public water continues to expand to underserved and non-profitable populations).

Consideration of Tax Law Modifications to Allow for Financing

Senate Bill, S. 157 from the 109th Congress allows for small non-profit water supplies to have access to tax-exempt financing with the additional benefit of a federal guarantee. With minimal cost to the Treasury, this bill would allow for additional subsidized funding to be available to small and rural water supplies that are in need. The funding is only available to a limited group of small communities that have no chance of obtaining commercial funding, are economically disadvantaged, and have documented environmental or public health needs.

Alabama Rural Water Association

2576 Bell Road
Montgomery, Alabama 36117



Quality
On Tap!

Our Commitment  Our Profession

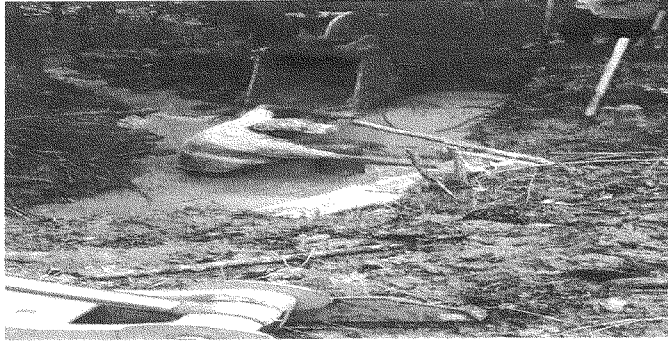
Alabama Rural Water Association

Leak Detection Program 2011

| Date | System | %Loss Before Survey | Gallons Pumped/Purchased Per Month | Gallons Located Per Year | Annual Savings Water | Annual Savings Electric | TBTU (E-6) |
|---------------|-----------------|---------------------|------------------------------------|--------------------------|-----------------------|-------------------------|------------------|
| 10/12/2010 | Franklin Water | 68% | 610,000 | 7,884,000 | \$13,481.64 | \$709.56 | 34.59 |
| 11/16/2010 | Uriah Water | 24% | 7,261,000 | 13,140,000 | \$78,840.00 | \$1,182.60 | 57.66 |
| 12/2/2010 | Cleburne County | 25% | 48,740,912 | 23,652,000 | \$61,495.20 | \$2,128.68 | 103.78 |
| 1/6/2011 | Allgood | 15% | 2,554,170 | 10,512,000 | \$17,625.60 | \$946.08 | 46.12 |
| 1/11/2011 | Perry Co. | 68% | 11,694,100 | 36,792,000 | \$181,440.00 | \$3,311.28 | 161.44 |
| 2/7/2011 | Brookside | 37% | 9,075,783 | 28,908,000 | \$86,124.00 | \$2,601.72 | 126.84 |
| 2/8/2011 | Wilton | 54% | 19,311,000 | 52,560,000 | \$64,800.00 | \$4,730.40 | 230.62 |
| 2/9/2011 | Phil Campbell | 37% | 23,134,000 | 21,024,000 | \$34,008.00 | \$1,892.16 | 92.25 |
| 2/16/2011 | Carrollton | 29% | 4,616,520 | 10,512,000 | \$16,584.00 | \$946.08 | 46.12 |
| 3/29/2011 | Centreville | 52% | 24,350,000 | 13,140,000 | \$16,200.00 | \$1,182.60 | 57.66 |
| 4/28/2011 | Lowndes | 53% | 11,747,000 | 13,140,000 | \$16,200.00 | \$1,182.60 | 57.66 |
| 5/25/2011 | Russell | 35% | 54,248,500 | 13,140,000 | \$14,256.00 | \$1,182.60 | 57.66 |
| 6/9/2011 | Talladega | 48% | 119,973,000 | 1,051,200,000 | \$2,571,264.00 | \$94,608.00 | 4612.49 |
| 8/9/2011 | Park City | 46% | 2,712,570 | 15,768,000 | \$55,188.00 | \$1,419.12 | 69.19 |
| 8/23/2011 | Dallas County | 17% | 21,639,000 | 13,140,000 | \$24,309.00 | \$1,182.60 | 57.66 |
| 8/12/2011 | Cullman County | 36% | 151,992,000 | 15,768,000 | \$23,809.68 | \$1,419.12 | 69.19 |
| 7/19/2011 | East Alabama | 30% | 23,272,000 | 10,512,000 | \$16,188.48 | \$946.08 | 46.12 |
| 8/25/2011 | Bellwood Water | 20% | 500,000 | 10,512,000 | \$15,768.00 | \$946.08 | 46.12 |
| 8/18/2011 | Roanoke | 8% | 25,342,000 | 5,256,000 | \$11,037.60 | \$473.04 | 23.06 |
| 8/16/2011 | Russell County | 35% | 54,248,500 | 10,512,000 | \$11,563.20 | \$946.08 | 46.12 |
| 8/19/2011 | Webb Water | 22% | 4,970,700 | 15,768,000 | \$51,246.00 | \$1,419.12 | 69.19 |
| 7/11/2011 | Uriah Water | 41% | 10,006,900 | 52,560,000 | \$315,360.00 | \$4,730.40 | 230.62 |
| 9/29/2011 | Lowndes County | 41% | 9,689,200 | 26,280,000 | \$32,850.00 | \$2,365.20 | 115.31 |
| TOTALS | | | 641,078,855 | 1,463,796,000 | \$3,716,156.76 | \$131,741.64 | 0.0006423 |

TBTU (E-6) = Total British Thermal Units

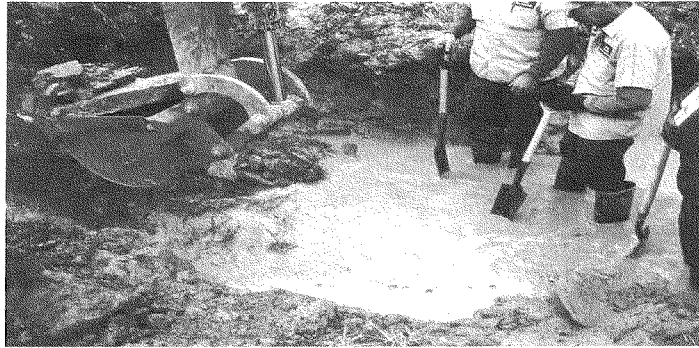


Emergency Leak Assistance Centreville Water & Sewer Board

This leak was located on County Road 51 in Centreville, Alabama, which is located in Bibb, County. The Centreville Water & Sewer Board serves 1,945 metered customers. The leak was found on October 9, 2011. This leak was approximately 100 gallons per minute from a 6 inch main that had blown apart at the coupling. Using a cost factor of \$1.50 per 1000 gallons, the result of repairing this leak saved the Centreville Water & Sewer Board approximately \$6,480.00 monthly in service fees.



This leak was located in Centreville, Alabama, which is in Bibb, County. The Centreville Water & Sewer Board serves 1,945 customers. The leak was found on October 10, 2011 on County Road 58 down the street from City Hall. This leak was approximately 15 gallons per minute from a service line connected to a 6 inch main. Using a cost factor of \$1.50 per 1000 gallons, the result of repairing this leak saved the Centreville Water & Sewer Board approximately \$972.00 monthly in service fees.



This leak was located on County Road 54 in Bibb, County. The leak was approximately 25 gallons per minute from a split in the bottom of a 6" PVC pipe. Upon using a cost factor of \$1.25 per 1000 gallons, the result of repairing this leak saved the Centreville Water Works approximately \$1,350.00 monthly in service fees.

URIAH WATER SYSTEM LEAK SURVEY JUNE 14 – JUNE 16, 2011

A leak survey was conducted in the Town of Uriah, AL. Uriah is located in Clarke County and serves 1130 customers. Three leaks were found. In picture "A", the system operator is shown observing a meter that is not registering a leak heard on the customer's side of the service

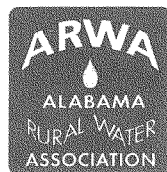


In photo "B", the operator is seen overlooking a creek crossing that is disguising a six inch (6") water main leak. This leak generates a loss of 2,592,000 gallons per month which results in lost revenue of \$10,808.64 monthly

URIAH WATER SYSTEM LEAK SURVEY JUNE 14 – JUNE 16, 2011

Photo "C" shows a three inch (3") water main leak located at Iris Peavy Road in Uriah Alabama

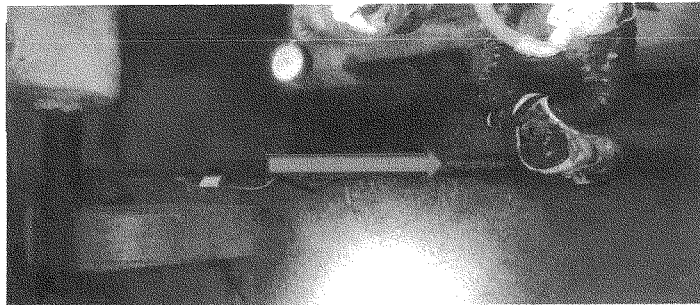
The three (3) leaks detected are estimated to total one hundred gallons per minute (100gpm) of combined water loss. Based on a system provided figure of four dollars and seventeen cents per thousand gallons (\$4.17/1000gal) production cost, the system can expect a monthly savings of eighteen thousand six hundred fourteen dollars and eighty eight cents (\$18,614.88) once repairs have been made.



Bellwood Leak Survey, August 16, 2011



The picture above illustrates a $\frac{3}{4}$ " service line leaking 20 gallons/minute on Hwy 85 in Bellwood, AL. Bellwood Water & FPA, located in Geneva County, Alabama, serves 150 customers. This leak had been leaking for approximately two (2) months totaling approximately 1,728,000 gallons of water. This calculates to an approximate loss of \$2500.00.



It was also noted that the water lubrication supply line (pictured above) did not have a meter counting the gallons of water from the system that are returned to the well for lubrication. Installation of a meter here will help the system maintain accurate water loss records. While at the pump site, it was observed that the pump was cycling on and off quite frequently. A common reason for this to occur in a hydro-pneumatic tank situation is when the tank contains too much air and becomes "air-locked". When Bellwood Water & FPA installs a meter on the water line for pump lubrication, and correctly adjusts the amount of water in the hydro-pneumatic tank, the system should realize a savings of approximately \$2000.00 per month.

Lowndes County Water Authority



This leak was located in Lowndes County, Alabama. It was found on County Road 9 on 4-28-11. This leak was leaking approximately 25 gallons per minute out of a service line that was broken at the water main. Upon using a cost factor of \$1.25 per 1000 gallons, the result of repairing this leak saved the Lowndes County Water Authority approximately \$1,350.00 monthly in service fees.



This leak was located on Matthew Lane in Lowndes County, Alabama. It was found on September 29, 2011. It was leaking approximately 50 gallons per minute from a 3 inch flush hydrant that had blown out from the bottom. Using a cost factor of \$1.25 per 1000 gallons, the result of repairing this leak saved the Lowndes County Water Authority approximately \$2,700.00 monthly in service fees.

Talladega Leak Emergency



This leak was located in Talladega, Alabama. It was found on 6-9-11 at the intersection of Bemiston Street and East Parkway Street. This leak was approximately 2000 gallons per minute from a 10 inch fire main belonging to MasterBrand Cabinets Inc. This leak was a tremendous loss to the City of Talladega completely emptying a tank and causing them to implement a boil water notice to all their customers. The Alabama Emergency Management was on-site as well as the Alabama Department of Environmental Management. This affected some major facilities such as their hospital which had to move patients to the first floor and cancel all surgeries until the boil water notice was lifted. Nursing homes and the School for the Blind were also affected. Using a cost factor of \$2.48 per 1000 gallons, the result of repairing this leak saved the Talladega Water & Sewer Board approximately \$214,272.00 for the 6 days this leak was running in service fees.

Brookside Water Works Leak Survey



This leak was found on Brakett Loop in Brookside, Alabama which is located in Jefferson County. It was found to be leaking 55 gallons per minute from a 2 ½ inch cast iron main. The savings to the Brookside Water Works upon repair will be \$7,177.00 monthly by using \$2.26 per 100 cubic feet cost.

Wilton Water Works Leak Survey



This leak was found on County Road 54 in Shelby, County Alabama. The water belongs to the Wilton Water Works in Wilton, Alabama. It was a 6 inch main that had a split at the bottom of the pipe. Using a cost factor of 1.25 per 1000 gallons, the Wilton Water Works saved approximately \$5,400.00 monthly.

Appendix
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Perry County Water Authority Leak Survey

This leak was found on 1-11-11 on County Road 47 in Perry County, Alabama. The cause of the leak was a 6 inch main which had a hole in the side of it leaking approximately 70 gallons per minute. The pipe belongs to The Perry County Water Authority. Using a cost factor of \$5.00 per 1,000 gallons, upon repair, the Perry County Water Authority will realize a monthly savings of \$15,120.00 in service costs.



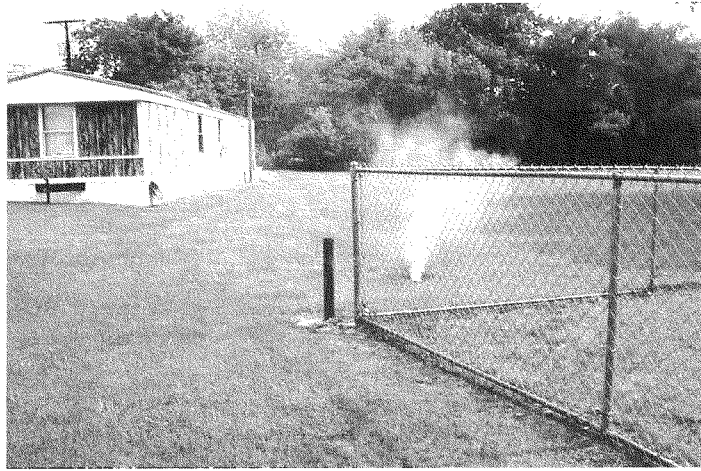
Altoona Water & Sewer Inflow and Infiltration



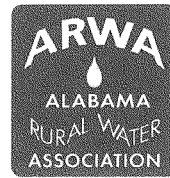
Altoona Water & Sewer Board is located in Etowah County, Alabama and serves 225 sewer customers. The sewer collection system has been experiencing infiltration during rain events. The unnecessary flow causes increases in pump station run time and added treatment cost at the lagoon. On April 24, 2011 Alabama Rural Water Association's Wastewater Technician performed a collection system smoke test. The test identified 23 leaks in the collection system. Once the problems are identified, repairs can be scheduled and once completed, will save the system \$25,000 in power consumption and treatment costs. Above is an example of what was identified as a main line leak.



Town of Woodville Smoke Test



The Town of Woodville is located in Jackson County, Alabama and serves 90 sewer customers. The Town has been experiencing infiltration problems which cause unnecessary treatment costs to the town. Minor rain events are causing increases in flow to the small treatment plant and even though the town has made some improvements, some problems still exist. On January 27, 2011 Alabama Rural Water Association's Wastewater Technician performed a collection system smoke test. This test was a follow up to previous testing. The test identified eight leaks which was much lower than the previous test showed. The test did reveal an area of groundwater intrusion at or near the High School. The test revealed a steady flow of clean water in that section of the line. A suggestion was made to exactly where the water was entering. Once the problems are identified, repairs can be made thus saving the town \$5,000 annually in power consumption and treatment costs. Above is an example of a leak identified as a broken clean out cap.



**Environment and Public Works Committee Hearing
February 28, 2012
Follow-Up Questions for Written Submission**

Questions for Home

Questions from:

Senator Benjamin Cardin

1. Ms. Home, what is the biggest hurdle facing your community and other rural communities as they attempt to meet their water infrastructure needs?

The unique characteristics of small water systems including their small customer base, the widespread distance of their distribution system, economic disadvantages, and so many are basically resource poor. These are common hurdles for day-to-day operations and management. Beyond the day to day operations and management, to address capital improvements additional funding assistance is needed.

2. Does the smaller nature of these rural water systems lead to management challenges and limitations in long-term planning?
 - a. Can you describe the impact of these challenges and limitations on the ability of rural systems to meet their customers' needs?
 - b. Would additional Federal resources be helpful in ensuring water quality and sound water infrastructure for rural systems?

- 1) The smaller nature of the rural water systems does in many situations lead to management challenges and a lack of long-term planning. Water and Wastewater Operators are required to be certified professionals capable of monitoring, sampling, treating and overseeing delivery of the nation's drinking water and the wastewater treatment process as well. They do a great job with this challenge. Structured training programs exist in many States for the governing body of water and wastewater utilities but in most States there is no Certification Program requirements thus individuals attend on a voluntary basis. Better informed decision makers are better prepared to make decisions necessary to meet the long-term needs of the water operation and its infrastructure. Very few businesses operate in today's society without the requirement of a license or certification. Yet, individuals who make decisions regarding the current and long-term stability of our most essential resource—water—are not required in most States to have such certification. I believe a few States have certification—Mississippi and Oklahoma. I feel that in each state we (at the state level) should consider establishing a certification process for Board Members of water and wastewater utilities and *encourage Congress to Provide set aside money through SRF and USDA for Board Member, Management or decision maker training*. It is crucial for individuals who make decisions regarding the nation's drinking water, it's safety, and the infrastructure that supports it, to receive regular educational information to assist in that process.

Senator James Inhofe

1. How do reductions in Federal support for Water Infrastructure impact you?

Reductions in Federal Support for water infrastructure impact small town and rural water systems greatly. These small systems (10,000 population or less) depend upon the Revolving Loan Fund, the USDA Loan and Grant Program, and Community Development Block Grants as primary funding sources for infrastructure improvements. Small Customer base systems are confined to limited budgets and revenues are not sufficient to fund the necessary capital improvement projects without additional government low interest long term loan or grant funding. The availability of this government funding enhances the system's ability to improve water and wastewater infrastructure as well as safe drinking water and wastewater operations.

2. You discussed the impacts of increased water and sewer rates to the customers you serve. How do new or additional requirements from Federal regulatory programs affect your operations costs? How often can you pass rate increases to your customers?

More and More unfunded mandates by Federal Regulatory programs force additional water spending toward compliance costs. Systems are testing for potential contaminants with testing results reporting no-detects. Yet, they are required to continue testing regularly. Advancements in technology allowing measurements of chemical substances in the parts per trillion which equates to 1 part to 1,000,000,000,000 or one drop in a 12 million gallon tank has caused some fairly stringent water quality regulations from the EPA. Regulations seem to be drafted without analyzing the financial impacts that these regulations will have on the small rural water systems. The protection of public health is the number one priority of any public water utility, however, all water in our aquifers contain trace amounts of chemicals naturally derived from the rock formations. It is imperative that costly regulations imposed on water systems have a foundation on solid scientific principles and that public fear and hysteria in some cases doesn't influence high cost regulations to be enforced. It is difficult to justify frequent rates increases to cover compliance costs. Keeping rates reasonable and affordable still must be considered.

3. What are some of the challenges with increasing rates to your customers?

Challenges of increasing rates include:

- 1) Governing officials in many cases are reluctant to increase rates. Local small town officials know the customers on a personal basis and they are aware of fixed and low income customers. They realize that some of the customers budgets are already stretched and delay adding more burden to those individuals by increased water and wastewater rates. Also, Small and Rural communities often have lower median household incomes and already higher water rates compared to larger communities.
- 2) Higher Rates may cause the customers to look at private wells as an untreated, unregulated drinking water source. This could create health risks.
- 3) Increasing Rates to meet Regulatory Requirements is difficult when water service is poor because of failing infrastructure. A good example includes explaining to a customer why rates have increased but the water pressure at their residence is not sufficient for common household use

4. What regulatory and/or bureaucratic difficulties do you have in replacing current infrastructure and adding new infrastructure?

Bureaucratic Difficulties are common. Opinions regarding additional debt are not the same. Compromises are sometimes made to retain low and reasonable rates but are not always beneficial to the long-term stability of the water or wastewater system. Also, with the increasing number of different utilities that are located on public rights of way, obtaining approval from local, county and state governments to use these rights of way for new infrastructure is becoming increasingly difficult.

5. Have you had difficulty attracting business to your cities due to aging water infrastructure? Have businesses in your area addressed the issue with you?

Yes, it is difficult to attract businesses and encourage economic development in small towns and rural communities without the capability to meet the water and wastewater treatment demands.. These are both Critical resources for Business and Industry development. A recent experience involved a public water system serving 275 residential customers. The small system which purchases 100% of it's water is surrounded by other water systems and has no growth potential. However, a developer purchased property which was located within the small system service area. He planned to build an apartment complex. The Developer needed both water and wastewater service to meet his demands. After negotiations were finalized, the developer agreed to pay the costs of the system upgrades necessary for the business to locate in their service area. This practice discourages economic growth in small towns and rural communities. A well managed utility will properly seek opportunities to upgrade and offer inviting opportunities for commercial growth within their service area, but to do so, federal funding programs are essential for much needed capital improvements.

6. How can the federal government help to improve training and bring technical assistance to employees of rural water systems?
- 2) Consider adding provisions within SRF and USDA Federal Loan Programs that management personnel participate in a limited number of hours decision maker training annually.
 - 3) Provide set aside money within the SRF and USDA Loan and Grant Budgets for Board Member, Management or decision maker training. This training is mandatory in a few states, of which Oklahoma is one, but there are no requirements in all states. It is crucial for individuals who make decisions on a regular basis regarding the nation's drinking water, it's safety, and the infrastructure that supports it, to receive regular educational information to assist in the process.
 - 4) Some grants were awarded from EPA in the past for certified water operator continuing education hour training and should be continued as well as funding to support specific training tailored toward the advancement of water and wastewater utility management and decision making.
 - 5) Local water utilities are operated by people who are locally elected and whose families drink the water every day. They wear multiple hats. They serve as the certified operator, the manager, the maintenance person, the supervisor and customer service

representative . They need and appreciate local common-sense technical assistance in a form they can understand and implement. On-site technical assistance allow small communities to have access to technical resources needed to operate and maintain water infrastructure, comply with standards in the most economical way and obtain assistance in applying for state revolving loan funds, USDA Loans and Grants or other governmental funding. The onsite technical assistance which is primarily provided now throughout the nation is the Rural Water Circuit Rider Program . It saves thousands of dollars for the community and keeps the system in long-term compliance with EPA Rules.

7. You mentioned that rural water systems face enormous maintenance and energy costs, without additional federal help, how much do you project that you will have to raise customer rates to maintain existing infrastructure?

Enormous maintenance and energy costs are increased significantly by water loss due to line breaks. On a national perspective, studies have estimated that 20-25% of the treated water flowing within the distribution system is lost through leakage. Lost water due to aging infrastructure increases electrical costs and other expenses greatly as well as the loss of energy used to pump and distribute it. It is impossible to say how much customer rates would need to be increased to maintain the existing infrastructure. It would vary system to system depending upon their own characteristics of operation and debt service obligations already committed.

8. How much extra cost would EPA drinking water and clean water mandates impose on rural water systems and how much would ratepayers expect their utility bills to increase?

EPA drinking water and clean water mandates normally impose the need for rate increases. This amount will vary system by system depending upon the degree of complexity the Rule imposes upon their operation. Normally it is higher for surface water suppliers than ground water suppliers but still significant for all. Wastewater systems are also not immune to the increased cost. It is rare that a Wastewater Treatment Operation can make profits to support infrastructure needs under normal operating conditions. As Regulations increase this profit margin worsens.

9. How will you obtain funds to maintain water infrastructure if EPA further reduces SRF funding?

If the SRF Budgets are reduced, it will continue to compound the infrastructure problems you are addressing. Small town and rural water and wastewater systems would have to compete for available USDA funding or try to obtain private financing. Many rural communities cannot meet the underwriting criteria for this private financing or the costs associated are such that it would require rates in excess of what is reasonable. We strongly encourage Congress to increase investments in water and wastewater infrastructure through the SRF and USDA funding. We also strongly recommend more flexibility and discretion at the State level. Systems are overburdened and water resources cannot continue to be jeopardized by postponing infrastructure improvement needs. These needs will see continued delays with SRF reductions.

Senator Jeff Sessions

1. As your testimony references, S. 1578 is a bill to reduce the regulatory burden on water utilities by allowing utilities to forego sending paper consumer confidence reports to their customers. Do you support that bill? How would it help rural water utilities?

Yes we do support the bill. S1578 addresses the mailing requirements of the Annual Consumer Confidence Report which is a requirement of EPA that customers be notified each year regarding the quality of their drinking water. S 1578 if enacted, would enhance public access of health information regarding drinking water and reduce compliance costs for local communities and consumers by allowing communities to utilize technological innovation by the internet in compliance with federal rules and communicating with consumers. This new option would be especially important for small and low-income communities who can least afford additional compliance cost that result each year from the Consumer Confidence Report printing and/or production requirements.

2. The State of Alabama has billions of dollars in water infrastructure needs over the next 50 years. What are some of the most important "tools" in the state's "toolbox" for addressing that daunting challenge?

The most important programs and tools in Alabama are the funding opportunities through the SRF, the USDA Loan and Grant Program, the Community Development Block Grant (HUD) Programs and other financial assistance from partnerships such as ADEM, USDA, Ala. Rural Water Assn., and your local office efforts with Michelle Tims. In addition, the long term funding opportunities from the National Rural Water Association, allow local on-site training and technical assistance free of charge for small town and rural community personnel to gain helpful information and support for new regulatory requirement procedures, technical assistance and management assistance.

One tool missing is mandatory training requirements for Governing Officials of these water and wastewater utilities. Better informed decision makers are better prepared to meet the long-term needs of the water operation and its aging infrastructure. They are also better acquainted with the preventative long term maintenance needed to protect the federal government's water infrastructure investments. Very few businesses operate in today's society without the requirement of a license or certification. Yet, individuals who make decisions regarding the current and long-term stability of the most essential resource—water—are not required in most States to have such certification. Structured training programs exist in many States for the governing body of water and wastewater utilities but in most States there is no certification program requirements thus individuals attend the training sessions on a voluntary basis. A few States that require the certification are Mississippi and Oklahoma. Regular training for utility governing Board Members would strengthen both current and long-term strategies to insure successful operations and regular review of plans to address aging infrastructure. I feel that in each State we (at the State Level) should consider establishing a certification process for Board Members of water and wastewater utilities and *encourage Congress to provide set aside money through the SRF and USDA for specific training for Board Member, Management personnel and other decision makers.*

Senator CARDIN. Thank you very much.

Let me thank all our witnesses for their testimony. This is very important.

Mr. Johnson, you mentioned the relatively low priority of these issues because of visibility, which I also pointed out in my opening statement. One of the reasons we are having these series of hearings is to establish the record which we hope will be for a greater commitment for the Federal Government in partnership on water infrastructure, but also a lasting commitment. We have made a lot of progress in the last 3 years, we really have. We increased dramatically the funding levels on the State Revolving Funds in the last 3 years. The budgets are higher.

We see a dip this year, which has us greatly concerned. I plan to take some action on that and expect that some of my colleagues will be joining us in that regard.

When it came to the use of recovery funds, we were able to get a significant amount of recovery funds dedicated to water projects. That was for two reasons: one because of the need, second the reason you just said, you were shovel-ready, which was something that we—unfortunately we have too many projects ready to go and not enough money to deal with those projects.

Madam Mayor, let me ask you, I am very encouraged by your testimony in regard to your integrated plans with EPA. That is exactly what we want to see, a tailored program to deal with each of the communities. It is encouraging to hear your comments about EPA's willingness to try to tailor a program to meet your needs.

Storm runoff is a challenge. Storm runoff could very well be a water quality issue from the point of view of the Clean Water Act, there is no question about it. We have a challenge in the Chesapeake Bay watershed as the largest single growth of pollutants going into the Bay are coming from the storm runoff issues.

We also have a problem in managing the water treatment facility plants based upon the volume of storm runoff. We have that particular problem in Blue Plains, which has a major commitment to try to deal with storm runoff.

I guess my question is—you mentioned that the EPA was having some difficulty in putting together the drinking water, safe drinking water with wastewater treatment, even though both come under basically their supervision. Are you having luck in dealing with the storm runoff with the wastewater treatment issues in an integrated plan with EPA? Are they willing to consider the challenges that you have in dealing with the infrastructure necessary to deal with storm runoff? We really have not had a great deal of Federal support in dealing with that part of the environmental challenge.

Ms. RAWLINGS-BLAKE. I am encouraged. I have been mayor for just a little over 2 years. And in that time I have seen a lot of progress in the way that the conversation with EPA is going. So I know that the door is still open. Are we there yet? No. But the conversations, the fact that they are using the language of integrated planning, that they are talking about the possibility of a pilot city, I have one to recommend.

I know that they are open to the common sense realities of what we face. I think what has been happening is a long tradition of

dealing with all of these systems in segments. Our economies are forcing people to get out of that siloed thinking more than ever. To me, this is no exception. I believe that we can head that way, we can head that way in the future.

So storm water is included, we are trying the drinking water included.

Senator CARDIN. Good. I appreciate that, because I think all three parts are important. If you can have an integrated plan, it makes a great deal of sense, rather than just stovepiping because of the funding source. And the funding source presents the challenge. So I am very pleased that EPA is willing to consider some flexibility.

We do need to look at new avenues for partnership. I like your clean water trust fund; I think that makes a good deal of sense for us to consider that. To the extent that we can leverage the lower interest rates the Federal Government can obtain, to the extent that you can leverage the tax status, it gives us the possibility of leveraging more money. There is a lot of discussion here about infrastructure banks. And I have promoted that in any infrastructure bank, let's include water projects, not just the traditional thoughts of transportation or energy or education, which are the other areas that tend to get a lot of attention. We want to make sure that water is included in those areas.

But I really applaud you, and the mayors collectively, for coming forward with creative sources. I think we should push for some form of a clean water trust account that could leverage the dollars that are available more effectively than we are doing today.

Ms. RAWLINGS-BLAKE. Mr. Chairman, I agree, and I think we have a unique opportunity. There are not many national issues where rural areas and urban areas are dealing with an issue with the same amount of urgency. To me that provides an opportunity for partnership across the aisle and in ways that we haven't seen before. We are facing the same problems but in different ways. I really think we could all work together, rural areas, metropolitan areas, in the issue of water infrastructure funding, to create a solution that would help all across the country.

Senator CARDIN. I agree. I think there is bipartisan support here, as Senator Sessions indicated in his opening comments. Senator Inhofe has been a strong proponent of moving forward with water infrastructure as has Senator Boxer.

Ms. Horne, I was concerned and impressed by your statements that talk about the challenges a rural community in getting the technical help that they need in order to be able to properly manage a water system. I must tell you, I visited many of the small water facilities that we have in Maryland, treatment facilities. I am impressed by the community sort of coming together to manage that. They don't have the same type of professional management that you would see in a large urban center.

We do provide some technical help through the funds that are available nationally. But could you just go into the challenges that you see in the ability to manage a rural water plant that the Federal Government should be sensitive to trying to provide some—meeting some of those challenges?

Ms. HORNE. Some of the challenges that we see in the State of Alabama include, in working with members of management it is just the lack of opportunity that these individuals have for specific training that would help them to make better decisions regarding the management of that public water utility.

They do have a lot of challenges that they deal with because their customer base is very small. And the regulatory requirements have not been reduced, of course; through EPA and the State regulatory agencies they have been increased. Many of those regulations impose some high costs, of course, for these utilities. And with small customer bases it is very difficult for management to be able to spread those costs throughout the customer base and to be able to maintain reasonable rates at the same time.

So we primarily work with these utilities through governmental funding opportunities. And in doing so, that has provided a tremendous, a tremendous opportunity to assist those utilities with the infrastructure problems that they are facing. Yet there is so much, of course, that we have discussed today that still needs to be done that we haven't reached.

I think that with the support from the Subcommittee to help us with resources that would allow the board members of these small public water utilities to have an opportunity to learn more about what resources are available to them and what others, even in larger municipalities, are doing to help in their particular cities, which may or may not be relevant to a small, rural community. It is still an opportunity for that person to become better informed and to make better decisions regarding that particular operation.

Senator CARDIN. Thank you.

Let me yield to Senator Sessions.

Senator SESSIONS. Thank you.

Mr. Chairman, I would offer for the record a statement from the Birmingham Water Works Board.

Senator CARDIN. Without objection, it will be included.

[The referenced statement follows:]

Congressional Testimony on “Local Government Perspectives on Water Infrastructure”

Before the Senate Committee on Environment and Public Works, Subcommittee on Water and Wildlife

February 28, 2012

Mac Underwood, General Manager
The Water Works and Sewer Board of the City of Birmingham
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**CONGRESSIONAL TESTIMONY ON "LOCAL GOVERNMENT
PERSPECTIVES ON WATER INFRASTRUCTURE"**

Before the Senate Committee on Environment and Public Works, Subcommittee on Water and Wildlife

February 28, 2012

Mr. Chairman, I want to thank you and Ranking Member Sessions for offering me the opportunity to submit testimony before the Committee today. It is truly an honor to have this opportunity to discuss issues related to the drinking water infrastructure needs of municipalities.

My name is Mac Underwood. I serve as the General Manager of the Water Works Board of the City of Birmingham. The Water Works Board provides drinking water to over 600,000 people in the north central region of the state of Alabama. We have four drinking water sources, four drinking water treatment plants with a total capacity of 190 million gallons per day, 51 drinking water storage tanks, and 3,970 miles of pipe. Our youngest drinking water treatment plant is 40 years old and our oldest is 111 years old.

Mr. Chairman, as I am sure you and the Committee will agree; drinking water is a basic necessity of life. We at the Water Works Board take that reality and that responsibility very seriously. That is why we are committed to ensuring that we bring the cleanest, safest, and most inexpensive drinking water possible to our customers. But make no mistake, performing that task is not easy and it is not cheap. And, unfortunately, in today's budgetary and regulatory climate, it is not getting any easier or any cheaper.

To succeed in our mission of providing affordable, clean and safe drinking water to our customers, we must continually upgrade our system. As I mentioned above, our newest treatment plant is over 40 years old and our oldest is 111 years old. Additionally, we have found that an estimated eight percent of the pipe in our inventory that is slated to be replaced must also be increased in size due increased fire protection requirements. While these are long term capital systems in which we have gotten our money's worth, they are now quickly aging past their useful lifespan or are becoming obsolete in their capacity to meet the needs of the system.

In recent years, replacing these systems has become increasingly more difficult and more costly because of understandably tightening federal funding streams and more challenging bond markets. Nevertheless, despite these funding challenges, we must upgrade our system and must find the funding to do it from somewhere. Unfortunately and far more than we would like, that somewhere has increasingly become the pocketbooks of our customers.

Mr. Chairman, our purpose here is to discuss where costs have become out of hand for water systems like ours. We offer this perspective to you so that you and your colleagues will have a better idea of what issues should and must be addressed when considering legislation in the future. It is our view that our nation's water systems cannot continually hit their customers' wallets with rate increases to pay for increasing costs that are in many cases beyond the control of the customers or of the systems themselves.

Unfortunately, because of time constraints, our purpose at this time is not, for the most part, to provide you with the Board's opinion on how to solve these problems. It is my hope, however, that when the Committee turns to that secondary and obvious question, that you will continue to view us as a resource. Certainly, we stand at the ready to help in whatever way we can.

With that said, below we discuss the major cost drivers that we believe most impact water works systems such as ours.

The Rising Cost of Raw Materials:

The rising cost for raw materials has weighed heavily on our efforts to budget for upgrades to our system. Let me provide the Committee with two specific examples where costs have risen dramatically: the cost of iron and the cost of asphalt.

First, as you may know, the industry uses a large amount of iron to produce ductile iron pipe. This pipe is the material of choice for the Water Works Board. Unfortunately, in recent years, the increasing cost of this iron has increased rapidly and has become prohibitive. In our view, this price increase is due in no small measure to various trade and regulatory barriers that have impacted iron and steel production in the United States.

Secondly, when we install new pipe to replace leaking and corroded pipe (see attached pictures for a frame of reference for this problem), we must tear up the pavement and road above the pipeline. We are then required to repave the road and an replace other pavements. However, in recent months, paving costs have gone up dramatically as well. For example, in just the past two months, asphalt costs have risen from \$40 per ton to \$60 per ton, an increase in price of 50 percent. To make matters worse, analysts are now predicting that asphalt costs are likely to sky rocket to \$100 per ton by this summer – an increase of nearly 100 percent over today's prices and nearly 150 percent over prices of just two months ago. In our view, this incredible and crippling increase cost for asphalt, Mr. Chairman, can certainly be attributed to the increasing cost of oil in recent months.

The Scarcity of the Bond Market:

Over the past few years, the availability of low cost financing has become extremely scarce. As the public bond markets have fluctuated wildly, so too has the cost of acquiring bonds at reasonable rates. Consequently, our ability to borrow money at cheap rates, if at all, has become substantially more difficult. This is despite the fact that the Water Works Board has consistently maintained a very high bond rating.

Mr. Chairman, if our nation is going to seriously address its infrastructure problems, especially those within our water infrastructure system, then we must do something to bring more stability to the bond markets and ease the current stranglehold on available credit in the market place. How we do that is not clear, but it must be done.

Finding Qualified and Skilled Labor:

An additional impediment and cost factor to achieving our mission is our workforce. Frankly, the labor force available to us is getting vastly smaller. We attribute this problem to the fact that we are finding it more difficult to find qualified and skilled professionals to work on and complete construction projects. Mr. Chairman, it is not that America does not have enough jobs; it is that America does not have enough qualified and interested people to fill them.

It is our opinion that our nation needs to put more focus on education programs and labor policies that not only train people for skilled trade jobs, but also increase the desire and ability of young people entering the work force to seek careers in the skilled trades.

The Lack of Reliable and Cheap Power Sources:

Uninterrupted electrical power to run our facilities is critical to providing affordable, clean and safe drinking water to our customers. Without it, we just cannot fulfill our mission. Unfortunately, the nation's electrical grid has become less reliable over the years. Couple this fact with increased fuel costs and it becomes blatantly clear that costs of electrical power have had a substantial impact on our ability to provide water to our cheaply and efficiently. And as the grid continues to deteriorate, those costs will only continue to rise.

Already we have been forced to add on-site "whole house" generators at our facilities to protect against power outages. Clearly, this is an additional cost that we would not have to undertake if our national simply improved and better protected is power transmission grid.

Major Infrastructure Costs on the Horizon:

EPA regulations have significantly increased our costs in recent years. As a result, we have been forced to continuously look for plant efficiencies. We anticipate the following capital costs of the next 20 years.

- 450 miles of old galvanized steel pipe needs to be replaced (Photo Attached). This is over 10 percent of our system which is beyond its useful life of 40 years.
- 50 miles of unlined cast iron needs to be replaced (Photo Attached). This pipe is over 100 years old and is beyond its useful life.
- The estimated cost to replace the galvanized steel and unlined cast iron pipe will be over \$250,000,000.00.
- One of our largest filtration plants, the Carson Filter Plant must be expanded to meet future demand. The expansion is estimated to cost \$57,580,000.00.
- Filter upgrades are needed at two of our other major plants, the Western Filter Plant and Shades Mountain Filter Plant that will cost an estimated \$48,630,000.00.
- Automatic meter infrastructure upgrade is expected to cost over \$60,000,000.00. Whole house generators for four of our facilities are expected to costs \$43,000,000.00.
- We are also working to develop a new water source for projected future demand, which will cost \$350,000,000.00.

We anticipate that total capital expenditures for our utility could easily exceed \$1 billion as we upgrade our infrastructure and as EPA regulations continue to affect the cost of doing business.

Conclusion:

In short, we are faced with an aging infrastructure that must be replaced in an environment of changing and tightening regulations. Additional funding for these much needed capital improvements is difficult to identify and secure in this budget environment and the American public is not fully aware the complex investment and constant effort that must be invested to provide the cleanest safest drinking water in the world. Our primary goal is to keep cost down for the consumer while simultaneously providing a high quality product.

I hope the experiences of this water utility have helped to provide useful information for the Committee's discussion. I very deeply appreciate having this opportunity to discuss with you some examples of what is facing the drinking water industry from our perspective.

Senator SESSIONS. It deals with issues that we are talking about and the challenges that this older city system faces.

Ms. Horne, Alabama Rural Water Association's purpose is to improve the quality of life for Rural Alabamians. Can you describe some recent situations where new water infrastructure has helped a rural community with economic growth and development?

Ms. HORNE. Sure. Most of the water systems in Alabama started, as I mentioned, back in the 1950s and the 1960s. Those were primarily funded through USDA loans and grants.

I do know—what comes to mind is Millport, the water utility in Millport, that serves a little over 400 customers, a very small customer base. And a USDA loan and grant was made available to this utility to provide infrastructure improvements to allow Millport in Lamar County to be able to provide capacity to a recycling plant that was interested in locating there.

Without this Federal support through funding, it would not have happened. It has worked very well; they did create this commercial user. And that is always really important in a rural community, to have an inviting environment where they can meet the demands of those particular industries or manufacturing plants that would even consider locating in those rural communities to be able to find the funding to improve their infrastructure to provide the service needed and meet the demands that are requested.

Senator SESSIONS. You talked about the importance of the State Revolving Loan Fund, which provides low interest loans to communities so they can comply with the water standards that they need to meet and that the Federal Government requires. I understand that this program is due for reauthorization. It is a good example of a cooperative program between Federal and State governments that has helped meet our Nation's infrastructure needs. I think that is plain.

The President's budget proposes some deep cuts, and we are facing deep cuts in a lot of different areas. We should respect that and just not immediately reject the budget that has been proposed. But could you explain why the SRF program is important to communities and how you think it is valuable and should be maintained?

Ms. HORNE. The State Revolving Fund is certainly valuable to all of our States. It provides a tremendous financial revenue source for our public water utilities and wastewater utilities through the Clean Water Revolving Fund. I think that with the State Revolving Fund, if more discretion could be given to the people in each State regarding the decisions that they make about the projects that are being approved, looking at priorities for those projects and determining whether or not the utility, for example, is in compliance or if they are having compliance issues.

If that utility could be given some priority in the approval process and allow the discretion of those type decisions to be made at the State level. Who better knows the needs of that State than the people in the State? As we identify these areas of concern and the projects that are most needed with the public water systems that we work with, we partner in working with our regulatory agencies, USDA and others, to help identify these problems and then support the priority funding that is needed to correct the issue at hand.

Senator SESSIONS. Well, thank you.

Mr. Johnson, Ms. Rawlings-Blake, would you have any comment on that?

Ms. RAWLINGS-BLAKE. I certainly agree that the Revolving Fund is important. My hope is that we can get the funding up to a meaningful level. The needs are great, and the Revolving Loan Fund, while it is important, does not come near to meeting the State's needs.

We have very unique needs, rural communities, urban communities. If you take a look at the infrastructure improvements that are needed to meet the Federal mandates, that expense cannot be borne by ratepayers alone. We need to be able to leverage funds; we need access to cheaper capital money so we can make the improvements that we need.

So we need the Revolving Fund as well as some other innovative financing options so we can work in partnership to create a safe environment for all of us.

Senator SESSIONS. Mr. Johnson, would you have any comments on that, and maybe a question of increased flexibility?

Mr. JOHNSON. I certainly agree with both speakers, with everything they have had to say. In particular the point of additional flexibility at the State level. What we found is that with the current affordability guidance, it makes it rather difficult for us to attract some of those moneys in the two counties that we serve. And if there were greater flexibility, I think those dollars would go a longer way.

One of the things I think you have to understand is in an urbanized community like the two counties that we serve, Montgomery and Prince Georges, there are still areas and pockets of the community where there are unserved and under-served residents who are still living with septic tanks and wells that are currently failing and going bad. We are now struggling to try to determine how we extend the modern system to many of those residents. We are talking about subdivisions of 40 houses here and 20 or 30 houses there, and sometimes single residents in some of the far reaches of the two counties.

So I really empathize and understand and can very much relate to some of the things that are happening in the rural areas as well, although we are in a very urbanized area. So I think the notion of flexibility and certainly additional funding would do well to serve us in the State of Maryland.

Senator SESSIONS. Mr. Chairman, as I think about water, my three rural grandparents' homes, all three, when I was a kid, still had a well, bucket well, shallow well where you got water from. All three had attempted with various degrees of success to drill a well, but some had too much iron, some sand would cave in, and it would be in trouble.

In my mother's family home they liked the water from an artesian well. We would go periodically with jars and fill up with water, and so did my father's home place. So these are the kinds of things people have lived with for years and years.

But a water system is relatively inexpensive. It is amazing to me how low the rates can be for people out on the road, with a new system, the plastic piping can rush out there and put a water tower up, and it works. So it becomes economically feasible and realistic,

providing a reliable source of water, which also can attract business. And without it, you won't be able to attain business development.

So I think it is a good infrastructure investment. We don't have near as much as we would like to have. I understand the difficulties with the budget. But I sure hope that we can figure out a way not to lose momentum in being able to expand the water systems in our country.

Senator CARDIN. Senator Sessions, thank you very much. I am going to follow up on some of your economic issues here because I think you are absolutely correct. If a business is going to be able to locate they have to have access to water. It is just a fact. They are not going to be able to do what your grandparents did in order to deal with their business needs. They are going to locate where they can get a reliable source of clean water.

And as we look at where population trends are taking place, and when you try to have proper planning for economic growth, the availability of water through a system is critical. So it is absolutely directly involved in economic issues.

But you raise a very important point. And that is, people are sort of accustomed to being able to get water at a rather reasonable, some would say cheap rate. And perhaps we are not doing an effective enough job in pointing out to the public what is involved in getting safe drinking water to their homes so that we can have revenue options that are currently not available through the rate increases to be able to get the continuation of reliable service in a more efficient manner, without all those leaks. Any suggestions here of how we can get a more realistic expectation from the users as to what the costs of these systems are involved?

Mr. JOHNSON. Senator, I think that there are a number of elements that relate to that question. One is straightforward education, education, education. And it is making our customers more aware of what it takes to get water. And there are a variety of different things, from exposing them to our facilities and offering tours and opportunities for them to see what we are doing, taking them to our various work sites and the like.

And when we are going into neighborhoods and doing pipe replacement, explaining to them the level of effort that it takes, the kind of equipment that it takes, the dollars that it takes to do that kind of work. Replacement of a mile of standard line, ductal line pipe, is about \$1.4 million today. In addition to that replacement, we have to do extensions and other kinds of work.

So I think that a good bit of it has to do with education. Truly, I believe that people are getting a real bargain with water supply and water service. When you compare the water bill to other utility costs and look at the essential nature of water service, it is a real bargain.

But understand that in our urban areas communities can't function without fire protection. Hospitals can't operate without a clean, safe supply of water. Not all of the water, obviously, is used for consumptive purposes. There are many other uses of water. I think making people aware that they do have options for other utilization of re-used water and the like I think is also very important to our customers.

And getting them to get behind certain other initiatives that we might be undertaking, things like the Mayor mentioned, the trust fund. If customers understood the nature of a trust fund and how something like that could work to benefit them and not to reduce the cost but to hold the trajectory of costs down, I think would be very important to them.

And also looking at our assets and how we might be able to leverage them for more resources.

Senator CARDIN. Madam Mayor.

Ms. RAWLINGS-BLAKE. Yes, thank you very much, Mr. Chairman.

I have certainly worked diligently on the education effort. Because we have had to raise the rates—the water rates—annually for the past few years. And with the clear understanding at the time that we started the roll out of the increases that it would go on for some time in the foreseeable future.

So in Baltimore the relative cheapness or inexpense of water is going away. And people are feeling the squeeze. And it is becoming increasingly difficult when we know that we have inefficiencies and we know that we have daily water loss that costs us more money to be able to produce that water, when we know that because of an inefficiency in the way that we must deal with our capital projects, because we are not at the point where we have this integrated plan or this holistic plan means that we can't really deal with the aging infrastructure issue in a pace where we think would be helpful to keep the costs down, because we have to meet these other Federal mandates.

So it is more expensive; it requires education. But at a point—at least in Baltimore—people are going to want to see evidence of more cooperation on providing the efficiencies and the autonomy that is needed to be able to save the ratepayer money. So the money that we are charging we know is going to create the most efficient and effective system possible.

Senator CARDIN. Just one last question on the economics here of moving forward, Mr. Johnson, you mentioned 1,700 breaks a year. That is an unbelievable number. If my math is right, that is four or five a day that you get every day of the year. And Mayor Stephanie Rawlings-Blake, you mentioned the number of leaks that you are having in Baltimore, and Ms. Horne, you mentioned 20 or 25 percent leakage. That is an unbelievable number of how much water is wasted.

That is a huge cost. I can't imagine how much it costs you just to investigate each leak and try to deal with it before it becomes a major problem for a break that can cause a major disruption to a community, loss of water. In Dundalk we had people for days had to boil their water. They couldn't get water. And that is in Baltimore.

So that is a huge cost. Can you quantitate that at all?

Mr. JOHNSON. I can in just a minute. I can get that information back to you.

Senator CARDIN. I think it would be helpful for us to have if you could, quantitate the cost of inaction, the leakage plus the breaks plus all the repair work that you have to do. If deferred maintenance catches up with you, and that is what is happening in Amer-

ica, your analogy of painting a bridge is absolutely right. The problem is we haven't completed it the first time.

Mr. JOHNSON. You are right.

Senator CARDIN. And it is already peeling at the back end. And we have to catch up in a much more aggressive way.

Let me turn it over to Senator Sessions, and I will come back and give you all an opportunity.

Senator SESSIONS. Mayor Rawlings-Blake, I offered for the record a statement from the Birmingham Water Works Board, which I think is doing very well. But I am sure you are probably aware that Jefferson County, which is also part of the Birmingham area water works system, declared bankruptcy, one of the largest bankruptcies, and what an embarrassing, difficult time that has been. The rates surged for the consumers to a point they couldn't be sustained.

I was attorney general at a point when the EPA filed a complaint against the system. It was supposed to cost \$1 billion to fix the problems; it ended up costing about \$4 billion. And it was those bonds and the floating of that and some unwise decisions they made about how to finance it that led to this bankruptcy.

I understand you had a recent settlement of \$250 million with EPA. More than that? OK.

Ms. RAWLINGS-BLAKE. I think the consent decree is around \$1.2 billion settlement.

Senator SESSIONS. Yes. I believe Mr. Johnson had a smaller one.

I guess the question is, do you think you can stay on those numbers? Are you afraid that they will go out of control and not be able to accomplish everything you are mandated to accomplish? What kind of risk does that place you in?

Ms. RAWLINGS-BLAKE. If you were to come to one of our Water Council meetings and see mayors from across the country, small cities, large cities, Republican, Democrat, deal with the fiscal reality of trying to meet these mandates, you will see a frustration beyond belief. Because every single one of us wants a safe water system. We want a safe environment.

But we can't do it just on the backs of the ratepayers. We are all at risk. We don't want to see another story of a bankrupt city, another one, another one, when we know that there are other options out there. It requires us to think differently and smarter about these financing options so we can use the resources that we have.

The ratepayers, I think the rate of default for these water bonds is one of the lowest out of any of it. You have the regular ratepayers paying the water bill. But we need to be able to leverage that to get a more efficient system quicker.

Senator SESSIONS. Well, as I understand the EPA law, and I think it controls what they do, they are not able to say, well, your sewer system overflows, and you have to stop it, but you can do it over a period of time, which they do. But fundamentally they are required to end it immediately. If it creates a risk they are not supposed to consider particularly how you pay for it and what kind of system of repair over a period of years would be the most efficient way to achieve that goal. They push for rapid completion of these problem areas almost immediately. It can be a great cost.

I sensed—when I observed the settlement of \$1 billion in Alabama, I thought the city couldn't afford that. But before it was over it was about \$4 billion. And it took them down.

Mr. Johnson, you had a settlement also. Do you find that the EPA legal requirements are such that it makes it difficult to work out a cost-effective way to improve your systems?

Mr. JOHNSON. I would assume, I think that is a relative question. It depends on the nature of the problem and the issues that you are dealing with. I have had the experience of doing this in several different cities and in the community that I am in now. And it is a heavy burden. And the burden comes on top of all of the other things that you know you have to do just as good management and good operating practices.

The question that the Senator asked me just a minute ago about the cost of maintenance of the water and sewer pipes, just that maintenance alone is \$21.6 million a year. So if you take that as a given, then recognize that you now have to take on a regulatory responsibility that has to be completed within a specified period of time, it does put a strain on the system, and you have to make some tough choices. Do you continue to replace these water mains and the other systems that you know are going to go bad, or do you let them languish while you go forward and focus on the other parts of the system that you are being required to do because of an EPA order?

Those are very difficult. And you have to do it within a finite number of dollars and resources that you have available. This is not unique to our utility. As the Mayor indicates, this happens across the country and creates a very vexing kind of dilemma for the various organizations that have to undertake it.

Senator SESSIONS. Thank you.

Mr. JOHNSON. However, the comments that the Mayor made earlier about this integrated planning approach has great potential and has great opportunity to begin to save the ratepayers and the communities dollars. Because if we look at these issues in an integrated fashion and recognize, as an example, that sewer flow and stormwater flow are both water-related issues, and all of it has to be dealt with through a wastewater plant or certain other facilities, and we begin to look at that planning effort on an integrated basis, that becomes method of saving money when we come out of that stovepipe.

Senator CARDIN. I have one more observation and one question, then we may have some additional questions for the record.

Let me just point out, what Senator Sessions is saying about coordination, and Mayor Rawlings-Blake said about integrated plans, it takes me back—the problems in Baltimore pre-date our mayor, and pre-dates your service even as a city councilwoman. We have been in legal issues for a long time concerning compliance with Federal regulation in our water.

We had an issue with the Army Corps with the Patapsco River restoration, where a lot of the pipes are laid, as to when they are doing the restoration work, why couldn't they at the same time do some of the water work and count it all as one project. And we had the hardest time getting them to do two things at one time, two different agencies.

So I think Senator Sessions' point is a very valid point. I really am encouraged by what the Mayor is saying in your conversations with EPA, of looking at three different sources and putting them together as a coordinated plan. I know you are not quite there yet. But we are going to be interested in following that and trying to help you get through the administrative bureaucratic issues so that we can look at results.

And we might want to bring in the programs, such as what the Army Corps does on restoration and say, look, that may be a source that we can also get some help, as we do some of our restoration work, also look at storm management and issues like that, that make your job a little bit easier, so that we sort of coordinate all this at one time.

I am looking at the transportation bill as an opportunity to deal with storm runoff. We can use that as a way, again, to make your job just a little bit easier.

But my last question deals with green technology. Mr. Johnson, you have been an innovator in looking at innovative ways to deal with water issues. Can you just briefly tell us the promise for green technology as you deal with managing the water issues as to how much promise that holds for not only being gentler to our environment but also more economically efficient?

Mr. JOHNSON. As I mentioned in my earlier presentation, we have bought into a wind farm in Pennsylvania that is now saving our customers about \$800,000 a year and reducing traffic on 495 or the Beltway by about 20,000 cars per year. So that is one innovation. We are also looking at how we go about re-using much of what we do at the wastewater treatment plant. Are there ways that we can approach the digestion system at the plant, as an example, to recapture methane gas and re-use that for offsetting some of our energy needs. Are there ways that we can use solar power. We have fairly large land holdings. I think that presents some opportunities for us to do some of those kinds of activities.

But the private sector investment also needs initiative. I think that some of the tax credits that have been provided by the Federal Government for some of those energy initiatives is something that could help us as well. Because then we can incent the private sector folks to come in and do the photovoltaic kinds of projects and other things that would allow us to function much better.

We are also looking at better ways of eliminating biosolids and methods of re-using that in a more effective way, as we know that land application is not going to be the way of the future. So we have to look down the road at ways of dealing with that as well.

So we look at the whole operation: can we reduce chemical use, and our carbon footprint to ensure that we have resources available for our children and their children's children in the future.

Senator CARDIN. Thank you.

Do either of the other two witnesses want to comment on this issue?

Ms. RAWLINGS-BLAKE. We are certainly looking, Mr. Chair, at uses of green technology in our holistic approach, our integrated planning proposal.

Senator CARDIN. Thank you.

Let me thank all three of you for being here and just tell you some of the things that we are going to be looking at. Senator Sessions mentioned that the State Revolving Fund reauthorization is an issue that enjoys bipartisan support. This Committee has a history of working together on those issues. As we look at the future of the State Revolving Funds, I think the comment that Ms. Horne made is accurate, we are looking at ways of giving you more flexibility as we move forward with the Federal partnerships. So we will continue to do that.

We also believe the funding levels have to be maintained. Senator Sessions raised a very valid point about our budget challenges. We all need to be mindful that we have to have a sustainable Federal budget. Infrastructure is a critically important priority for this country, and we want to make sure that water, along with our other transportation, our transportation priorities and energy priorities, are included at a high level. So we will continue to fight for that.

We will look for creative ways to provide additional opportunities. I think the testimony of Mayor Rawlings-Blake helps us in thinking about additional avenues that we can look at to provide additional partnerships.

But I really thought the point that all of you raised about coordination is important here. We have multiple goals. The easier we can work on those multiple goals and have the Federal Government helpful rather than just giving you mandates without an avenue to meet those needs in a more cost-effective way, which is what I think we all are trying to do with the Federal partnerships.

So this hearing will be extremely valuable to our Committee in coming up with a strategy to try to help you, as your partner, to help meet the expectations of our public for safe and clean water. Thank you very much for your testimony.

We will stand adjourned.

[Whereupon, at 11:21 a.m., the Committee was adjourned.]

[An additional statement submitted for the record follows:]

STATEMENT OF HON. JAMES M. INHOFE,
U.S. SENATOR FROM THE STATE OF OKLAHOMA

I appreciate that Senator Cardin and Senator Sessions have called another hearing on water infrastructure needs in our country. I have often said that the best way to ensure we are providing safe drinking water and clean water is to improve water infrastructure. I look forward to working with them and other members of the Committee this year on this vital issue.

It is clear that the United States' water infrastructure is in dire need of repair. In the American Society of Civil Engineers' most recent report card for United States' infrastructure, they gave the wastewater and drinking water infrastructure a grade of a D-. At our last hearing, Mr. Gregory E. DiLoreto, president-elect of ASCE, testified that if current infrastructure investment trends persist, by 2020 the anticipated capital funding gap will be \$84 billion. He noted that "Even with the increased use of sustainable practices and cost-effective development of other efficiency methods, the growing gap between capital needs to maintain drinking water and wastewater treatment infrastructure and investments to meet those needs will likely result in unreliable water service and inadequate wastewater treatment." Yesterday the American Water Works Association released a report showing that the United States will need to spend \$1 trillion in the next 25 years to maintain the current level of drinking water service and accommodate economic growth.

A nationwide investment in improving the aging water infrastructure will create jobs and protect public health and the environment. Public investment in improving the aging water infrastructure, according to the Department of Commerce, yields significant economic benefits estimating that \$1 invested in water infrastructure

generates more than \$2 in economic output in other industries and that each job created in the local water and sewer industry creates nearly 4 jobs in the national economy. The U.S. Conference of Mayors notes that each public dollar invested in water infrastructure increases private long-term GDP output by more than \$6.

Given the incredible need, the incredible benefits from investment, I was extremely disappointed to see that EPA's fiscal year 2013 budget requested a decrease in funding for the Drinking Water and Clean Water State Revolving Fund programs for the second year in a row. Every Federal dollar that EPA directs away from addressing the primary goal of the SRF programs reduces the capacity of a State to leverage Federal funding and address infrastructure needs. One million in Federal funds from these programs is leveraged into \$3 million in capacity for funding additional infrastructure projects. As Joe Freeman, Chief Financial Assistance Division, from the Oklahoma Water Resources Board testified before this Subcommittee in December, "In the past two decades few federally authorized programs have proven as effective in realizing their intended goals as the SRF programs."

I am looking forward to hearing about the challenges facing water systems, both small and large. I continue to believe that the most successful approaches to helping water systems meet their individual water quality needs are developed at the local level. Because water challenges differ from State to State and city to city we must promote solutions that are flexible and provide solutions for both small and large systems.

I am especially pleased to have Kathy Horne, Executive Director of the Alabama Rural Water Association, here to share her perspectives on issues affecting rural water systems. As you know, Oklahoma has a large number of rural water systems. Rural systems often lack the financing and engineering resources of many larger systems yet still are tasked with providing safe drinking water to the people they serve. Ensuring that treatment technologies are cost effective is critical for these systems since they serve fewer people often over large geographical areas, and costs are shared between fewer people than urban drinking water systems. Rural populations often must pay more money to receive the same water service, which is not affordable for many rural Americans who live on fixed incomes.

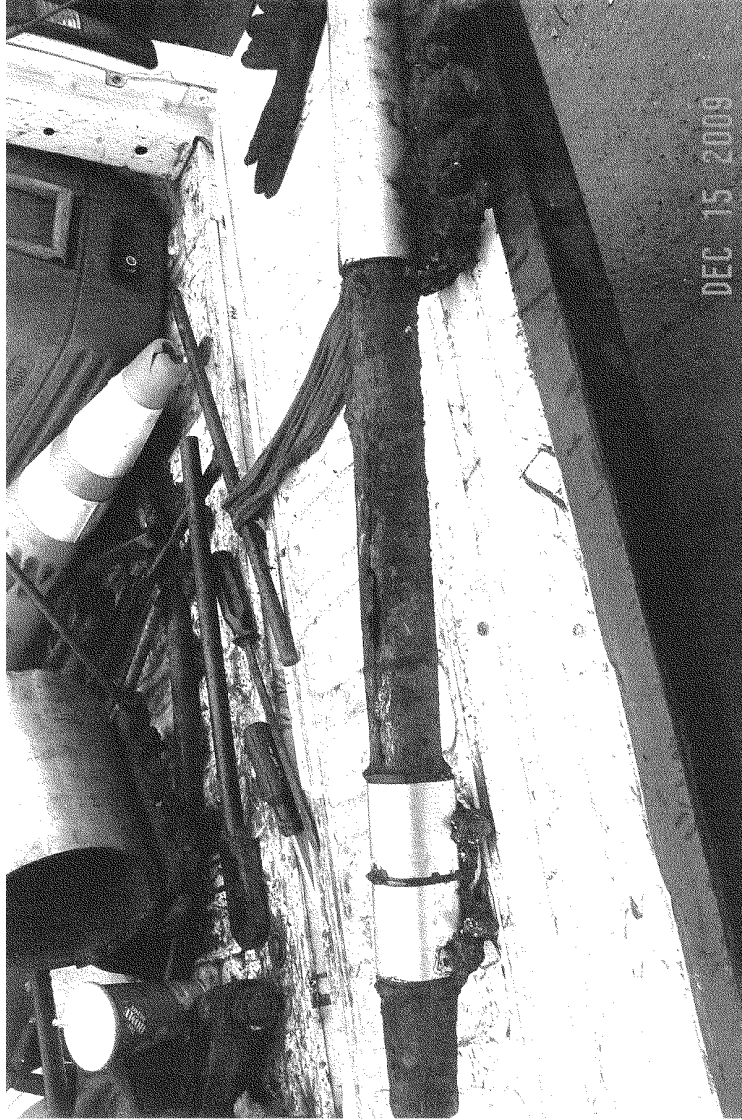
Considering the importance of water infrastructure to the well being of the American people and our economy, I will continue to support investment in water infrastructure and am looking forward to hearing the testimony of our witnesses on the important issues facing both rural and urban water systems.

Thank you.

[Additional material submitted for the record follows:]



Un – Lined Cast Iron Pipe



Galvanized Steel Pipe