

Testimony of Shellie R. Chard

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to the

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

**Examining the Challenges Facing Drinking Water
and Wastewater Infrastructure Projects**

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Executive Summary

ASDWA's state, territorial, and tribal members (hereinafter "states"), have been implementing the Safe Drinking Water Act (SDWA) and subsequent Amendments since the initial SDWA in 1974 and have substantial experience working through its many complexities. Many of these same agencies and individuals implement Clean Water Act (CWA) and state, territorial and tribal specific water programs. In other cases, ASDWA members work with their counterparts in environment or natural resources agencies to implement complete statewide water programs.

Today I will highlight six themes in this testimony:

- 1) **Water and wastewater systems must become more resilient to significant weather events and changes in climate.** Water and wastewater systems are facing an increasing number of significant weather events including wildfires, ice storms, flooding, hurricanes, and drought. As has been highlighted during this year of the COVID-19 pandemic, safe drinking water for handwashing and disinfection processes is paramount to the health of our nation. Water and wastewater systems often operate "out of sight and out of mind" and only garner attention when there is a failure. Funding must be made available to ensure water and wastewater systems can upgrade and improve infrastructure to protect public health in reaction to the changing operating conditions.
- 2) **Innovation and flexibility in implementation of water policy and regulation is important.** Protecting public health and the environment across the entire country in all communities is critical. However, what is most effective in one state or geographic region may not be an effective solution in other areas. States work with their water systems to identify reasonable approaches to complying with drinking water regulations and protecting public health. Many of these efforts have been reviewed and considered as part of EPA's National Compliance Initiative on *Reducing Non-Compliance with Drinking Water Standards at Community Water Systems*. In Oklahoma, the EPA's Enforcement Targeting Tool (ETT) has been modified to not only look at the number of systems out of compliance but to also look at the percentage of population served by systems that are out of compliance. These two approaches tell very different stories that dramatically impact allocation of funding and other resources. Another important tool that was codified by Congress in the Water Infrastructure Improvement Act (WIIA) is Integrated Planning. This approach allows water and wastewater facilities to work with state and federal regulators to make improvements to their treatment systems in a phased approach.
- 3) **Funding for research and development for cost effective treatment technologies must be expanded.** As Congress continues its discussions on infrastructure funding, an important consideration is the needed research for cost effective technologies that can be implemented by not only the large, sophisticated systems but also the small and rural water and wastewater systems. One potential funding vehicle could be the Moving Forward Act of 2020 that has a goal to support the development and implementation of smart water technology to better manage and address the nation's long-term water infrastructure, manage shrinking drinking water resources, and meet water quality needs. While state of

the art technology can be extremely helpful, it is also important to ensure there are treatment options that can be implemented by small systems as well as large systems. Continued funding for EPA's Office of Research and Development is important to this effort.

- 4) **Workforce training is needed.** One area of infrastructure that is often overlooked is the need for a properly trained workforce. State agencies and water and wastewater systems are expecting 30-50% retirement rate for their existing workforce in the next few years. Proper training is needed to keep vital infrastructure functioning to protect public health and the environment. An additional training need is the continuing education for existing operators to keep up with changing regulatory requirements and the needed technology to comply with regulatory requirements. Funding must be made available for training operators and regulators which Congress could consider including in the State and Tribal Assistance Grants.

- 5) **Funding for infrastructure programs must be increased.** Several federal programs have been structured to provide low interest loans and grants to publicly owned water and wastewater facilities for needed infrastructure. These include the Drinking Water and Clean Water State Revolving Loan Funds (SRFs), United States Department of Agriculture's Rural Development program (USDA-RD), Department of Commerce Community Development Block Grants (CDBG), Indian Health Service, and the Water Infrastructure Finance and Innovation Act (WIFIA)), as well as several of smaller new grant programs to address climate change resilience, lead pipe replacement, sewer overflows, stormwater, and water reuse. Additionally, states and tribes have developed their own infrastructure funding programs and often work to combine the available funding sources into a funding package that is the most beneficial for the water and wastewater systems. I am especially proud of the Oklahoma Funding Agency Coordination Team (FACT) which streamlined the application process for infrastructure funding sources available to public water and wastewater systems. The FACT meets with eligible entities and works with them to develop the right funding package for their circumstances. Without the continued funding from Congress to the federal agencies and the SRFs, Oklahoma FACT cannot assist the systems in a manner that is cost effective and moves more quickly to increase public health protection.

SRF funding is one of the primary vehicles for funding infrastructure improvement and water treatment projects for drinking water and wastewater systems. Competition for resources continues to intensify as emerging contaminants such as PFAS are ranked against traditional infrastructure replacement projects and treatment projects to address potential future SDWA and CWA regulatory compliance obligations. EPA is in the process of finalizing the Lead and Copper Rule Revisions which will increase the number of lead service line replacement projects that need to be funded.

Reauthorization at the highest levels possible for both the Clean Water and Drinking Water SRFs is vital to the continuation of the improvement of infrastructure. Additionally, allowing for increased subsidy and longer loan terms can assist communities, especially

disadvantaged and rural communities, to meet regulatory obligations and public health protection. It would also be helpful if both SRFs could allow for cost recovery related to the planning functions needed for infrastructure design and construction, asset management, maintenance and for the development of innovative technologies.

6) Funding for Public Water Supply Supervision (PWSS) must be increased.

Over the last decade, state and territorial drinking water programs have seen a tremendous growth in programmatic demands without adequate resources to address those demands. State drinking water programs have responded accordingly and have dedicated staff time and resources to address new challenges, including PFAS, lead in schools, harmful algal blooms (HABs), emergency response planning, *Legionella*, manganese, water reuse, water use and conservation, and other non-regulatory activities as emerging issues not directly required by the SDWA, but necessary to ensure the delivery of safe drinking water. In some cases, states have taken on the burden of addressing these issues in the absence of a federal response.

States are continually being asked to be proactive and manage an increasing amount of non-regulatory activities, spreading their already dwindling resources thin. Without additional resources, states are forced to take efforts away from existing regulatory programs to manage the non-regulatory tasks that are being added to their workload. State water programs continue to adapt to stagnant resources and increasing demands by prioritizing threats to public health and implementing efficiency measures, but their ability to meet all demands and requirements is greatly compromised.

While funding for the PWSS program increased by 4.2% in FY20 appropriations, the total funding gap for states' drinking water programs has increased by \$197 million since 2011, with an increase of only \$4.3 million in PWSS¹ appropriations in FY20. Additionally, without adequate funding for EPA to fulfill their obligations and for states to meet their responsibilities, the protection of public health through drinking water programs is much more difficult.

¹ "2019 Analysis of State Drinking Water Programs' Resources and Needs: Addressing Emerging Issues and State Specificity in Program Implementation," ASDWA, prepared by The Cadmus Group, July 2020. <https://www.asdwa.org/wp-content/uploads/2020/07/2019-Analysis-of-State-Drinking-Water-Programs-Resources-and-Needs.pdf>

Testimony

Good Morning Chairman Carper, Ranking Member Capito, Subcommittee Chairwoman Duckworth, Subcommittee Ranking Member Lummis, and members of the committee. Thank you for this opportunity to appear before you and discuss how we can best address the protection of public health through increased infrastructure funding and through the collaborative partnership among the states, tribes, territories and the federal government in implementing the Safe Drinking Water Act (SDWA) and other water programs.

My name is Shellie Chard and I am the Past-President of the Association of State Drinking Water Administrators (ASDWA), whose 57 members include the 50 state drinking water programs, five territorial programs, the District of Columbia and the Navajo Nation (hereinafter "states"). Our members have primary enforcement authority, or primacy, for the SDWA. Our members and their staff are on the front lines every day, implementing the SDWA by providing technical assistance, support, and oversight of drinking water systems, which is critical to ensuring safe drinking water and protecting public health. Also, I am the Water Quality Division Director for the Oklahoma Department of Environmental Quality where I oversee the drinking water, wastewater, stormwater and the operator certification and training programs. Additionally, I serve on the Board of Trustees for the Water Environment Federation (WEF), the Board of Directors of the Ground Water Protection Council (GWPC), the National Drinking Water Advisory Council and previously as President of the Association of Clean Water Administrators (ACWA). Today, I will discuss ASDWA's perspective on challenges facing drinking water and my own experiences on the challenges facing drinking water and wastewater infrastructure.

Background

ASDWA's members operate state level public water supply programs to protect public health through safe drinking water. Like many federal programs, Congress established SDWA programs to be implemented by states with oversight by the EPA. Likewise, Congress established the Clean Water Act (CWA) to be implemented by the states with EPA oversight. One key difference in the two water acts has shaped very different approaches to federal water programs. The SDWA has 91 national standards known as Maximum Contaminant Levels (MCLs) that apply across the nation while the CWA has a greater focus on state established Water Quality Standards with uniform permitting processes to implement them. This dual framework within the water programs can cause the drinking water and wastewater programs to appear in conflict or competition with funding priorities rather than working in harmony to achieve the end goals of protecting human health and the environment. If considered holistically, the CWA has tools that can be used to protect sources of drinking water and increase water quantity.

Energy and treatment chemicals are two critical pieces of the water and wastewater infrastructure challenge. People, power, and chemicals are required for water and wastewater treatment. In addition to the costs associated with the production and transmission of energy, there are costs associated with operating vital treatment and pumping equipment. There are costs and infrastructure associated with the production and delivery of water treatment

chemicals. As has been witnessed in the February 2021 snow and ice arctic storm that impacted much of the country, nearly 10 million Americans were impacted by power outages and frozen water plants and pipes while temperature were well below freezing and below zero degrees for more than a week in some areas.

Water and wastewater services are taken for granted by most people in the United States. Citizens expect safe and adequate water quality and quantity to be readily available at their taps within homes, businesses, schools, industries, and recreation areas. As changes to weather patterns increase and there are more significant and extreme weather events our aging water infrastructure is struggling to perform its vital function. A 2020 national survey by the Value of Water Campaign found that 80% of Americans felt that rebuilding America's infrastructure was extremely or very important, second only to 81% of Americans feeling that strengthening the economy was extremely or very important.² All levels of government must come together and provide the necessary funding to ensure safe drinking water and safe water for agriculture, wildlife recreation, and economic development.

On March 3, 2021, the American Society of Civil Engineers (ASCE) released its Infrastructure Report Card.³ ASCE graded drinking water infrastructure a C-, wastewater infrastructure a D+, and stormwater infrastructure a D. Drinking water infrastructure is aging and substantially underfunded. According to the report, "there is a water main break every two minutes and an estimated 6 billion gallons of treated water lost each day in the U.S."⁴ While there are signs of improvement including increased use of asset management in the industry and innovative technologies being introduced, restorative and preventative actions by water systems take money and many water systems are struggling to cover the infrastructure needs with funds generated by rate payers.

This struggle has been further exacerbated by the COVID-19 pandemic. Many systems have halted water shutoffs for non-payment as customers struggle to pay their bills amidst significant unemployment across the country. Water is essential for public health protection and many utilities recognize that cutting off water service to vulnerable households only worsens the public health crises we are facing. However, these decisions made in the best interest of the community have real financial impacts. In California alone, it is estimated there are 1.6 million households with a combined water debt of \$1 billion, which is growing by about \$100 million each month.⁵ In order to maintain the level of service citizens expect, steps must be taken to help address the funding gap created by water systems continuing to treat and deliver water and not receiving payment. Similar to the funding included in the Consolidate Appropriations Act of Fiscal Year 2021 and the American Rescue Act, it would be helpful if Congress would continue to provide assistance to low-income drinking water and wastewater ratepayers. Additionally, in any future infrastructure or economic stimulus legislation, Congress should also

² [PowerPoint Presentation \(thevalueofwater.org\)](https://www.thevalueofwater.org/)

³ [America's Infrastructure Report Card 2021 | GPA: C-](#)

⁴ Ibid.

⁵ [California Households Owe \\$1 Billion in Water-Bill Debt - Circle of Blue](#)

consider additional assistance to help drinking water and wastewater systems fill the funding gap created by halting shutoffs for all customers during the pandemic

States and EPA are not immune to funding gaps either. A well-funded EPA is needed to produce necessary research, work through the regulatory process, provide tools and resources to states and water systems, and lead the Nation in providing a vision for safe and clean water. States are tasked with implementation and oversight of water systems. State water programs have taken on more and more work without adequate increase in federal support. States need additional funding through the Public Water System Supervision (PWSS) grant to ensure safe drinking water and prevent water crises like Flint, Michigan from occurring again.

Recommendations

Adequate funding for water and wastewater systems are critical to protect public health and sustain and improve our way of life. Ensuring that states and federal agencies are adequately funded is also extremely important. While many see the regulatory functions of state agencies, the important role in providing technical assistance, workforce training and compliance assistance is frequently overlooked and underfunded. The following six points illustrate some of the direct and indirect infrastructure funding needs.

- 1) **Water and wastewater systems must become more resilient to significant weather events and changes in climate.** Water and wastewater systems are facing an increasing number of significant and more intense weather events including wildfires, ice storms, flooding, hurricanes, and drought. As has been highlighted during the past year of the COVID-19 pandemic, safe drinking water for handwashing and disinfection processes is paramount to the health of our nation. Water and wastewater systems often operate “out of sight and out of mind” and only garner attention where there is a failure.

For many years the western part of the United States has experienced periods of extreme drought. The February 25, 2021 Drought Monitor⁶ indicates that more than half of the US is experiencing some level of drought. In the south eastern part of the country where drought has not historically occurred, states like Florida and Georgia are having “water wars”⁷ over water usage in Georgia and the impacts downstream in Florida. The United States Supreme court is currently deliberating the case which will impact the quantity of drinking water for the City of Atlanta, use of water for agricultural purposes in Georgia, the oyster industry, and other water rights in Florida. States and water, wastewater, and storm water systems will have to become more creative to find and fund solutions to water needs.

An area where there has been significant progress in addressing water needs is treating, reclaiming, recycling municipal wastewater for reuse. In some areas like Enid, Oklahoma rather than using 2.85 million gallons of drinking water each day to produce fertilizer, Koch Industries uses treated municipal wastewater known as reclaimed water. This is an example of community, state, and industrial leaders coming together to increase the quantity of

⁶ [Current Map | United States Drought Monitor \(unl.edu\)](#)

⁷ [Georgia-Florida water wars case heard by U.S. Supreme Court - Georgia Recorder](#)

drinking water without obtaining additional water rights and only treating water to the level needed rather than all water used in the community to meet drinking water standards. In other locations, including San Diego, California, a more aggressive approach to increasing water quantity is taken. The construction of a \$1.4 billion water reuse/recycling facility to deliver 30 million gallons per day of drinking water for its 1.4 million customers⁸ is underway to increase water quantity. This direct use of recycled water adds a sustainable source of potable water without the need to acquire additional water rights and construct additional raw water pipelines.

Stormwater capture and treatment is another source of water that can help improve water quantity and make water systems more sustainable. In some applications, the stormwater can help offset water usage for irrigation, outdoor fountains, livestock watering and other similar applications. The \$400 million in funding that is included in Section 221 of the Moving Forward Act of 2020 provides needed financial support to harness this water for use and to improve water quantity.

Regionalization, also referred to as consolidation, is another tool that can be effective and appropriate for some systems to become more resilient. While this approach is not appropriate in all cases due to geography, geologic, or hydraulic conditions, it is an excellent tool that must be considered. States have used the Drinking Water SRF (DWSRF) and other federal and state funding programs to regionalize water systems to improve drinking water served to rural residents. For example, in Oklahoma the DWSRF provided \$1.5 M to Logan County Rural Water District #1 to consolidate the small town of Meridian's drinking water system due to maximum contaminant level (MCL) exceedances for arsenic, uranium, and gross alpha particles. Meridian could not afford the treatment needed and other test wells in the area had similar contaminants. By completing this regionalization project, the Town of Meridian obtained safe drinking water for its citizens.

The February 2021 winter storm that brought historic low temperatures to Oklahoma, Texas and other states highlighted a critical need for water treatment, distribution, collection, and wastewater treatment facilities to have redundant equipment and power sources to allow operation during extreme emergency conditions. In Oklahoma, rules have been promulgated⁹ to require generators or alternate power sources, at least two units of all treatment processes, and 24 hours of elevated storage. While this approach is helpful in times of emergency, it does require greater capital investment and operation and maintenance costs that water and wastewater facilities must manage. Comparable rules for power supply, redundant treatment process, and elevated storage vary across the country.

Other programs in agencies not typically associated with drinking water source water protection can be utilized to lower the need for additional treatment and associated costs and enhance water quantity to make drinking water systems more resilient. An example is continued funding for the Department of Energy Water Security Grand Challenge. This

⁸ [Pure Water San Diego | Water Infrastructure Finance and Innovation Act \(WIFIA\) | US EPA](#)

⁹ [626.pdf \(ok.gov\)](#) and [656.pdf \(ok.gov\)](#)

funding for treatment innovation and water reuse encourages the recycling of water for non-consumptive uses and leaves fresh water for treatment to potable standards. Additionally, the CWA Section 319 grants in conjunction with the Farm Bill and the Department of Agriculture, work with farmers and ranchers to fund projects that reduce runoff of pesticides, herbicides, fertilizers, and sediment to improve surface water quality. Improved source water quality reduces the cost for treatment processes. The continuation of funding for these programs assist drinking water systems become more resilient and reduces treatment costs since the source water is of higher quality.

2) Innovation and flexibility in implementation of water policy and regulation is important.

Protecting public health and the environment across the entire country in all communities is critical. However, what is most effective in one state or geographic region may not be the correct solution in other areas. States need flexibility in implementation of regulations. There must be standards in place to allow for consistency in regulation; but it is important to understand that “consistent” does not necessarily mean the “same.” States may choose to go beyond what EPA has established and they should retain that right. In the past, EPA considered the different sizes of water systems when establishing regulations, for example, the staggered compliance deadlines for the Stage 1 and Stage 2 Disinfection Byproducts Regulations. These considerations should continue as new regulations are established due to the financial limitations of extremely small systems and their inability to consolidate or regionalize due to geographic separation, lack of funding, or lack of political will. Very small systems and rural communities struggle with maintaining compliance and addressing aging infrastructure and often have a small or shrinking customer base. Additional MCLs only add to the unsustainable economic reality these systems face. It does not mean that public health is sacrificed, but rather their struggles need to be considered when structuring National Primary Drinking Water Regulations (NPDWRs). Sound science must be used to establish any new regulatory standards. It is important to remember that it is not the setting of standards alone that protect public health. It is ultimately the implementation of those standards that protect public health.

States work with their water systems to identify reasonable approaches to complying with drinking water regulations. Many of these efforts have been reviewed and considered as part of EPA’s National Compliance Initiative on *Reducing Non-Compliance with Drinking Water Standards at Community Water Systems*. In Oklahoma, the EPA’s Enforcement Targeting Tool (ETT) is used to not only look at the number of systems out of compliance but to also look at the percentage of population served by systems that are out of compliance. These two approaches tell very different stories that dramatically impact allocation of limited funding and other resources. For example, Oklahoma began evaluating compliance success in terms of percentage of citizens served by a public water supply system in compliance as opposed to the percentage of systems in compliance. By modifying the tool to focus on public health (i.e., citizens served) rather than simply the number of systems with a violation, the number of individuals that are impacted by non-compliant drinking water systems is reduced. This approach also allows the state to focus limited

resources where there can be the most improvement in public health protection through safe drinking water. Another tool utilized by Oklahoma and other states is drone technology to inspect water towers, intake structures, and other water infrastructure, as appropriate. An additional example used in some states is water audits and leak detection surveys, which can inform utilities of their water loss to leaks, faulty meters or other unmetered water usage. At least 10 states have state standards for non-revenue or unaccounted for water, but many states that do not have specific regulations strongly recommend systems complete water loss audits.

States encourage participation in voluntary programs through DWSRF projects, inspections, asset management requirements or capacity development programs. By implementing policies in a flexible manner, states use their limited resources in a more efficient manner and drinking water systems can prioritize biggest health violations first.

As states implement national, regional and state-level water policies, they need the flexibility to determine solutions that fit their needs and will make more significant impacts to the public health of their citizens and the ground and surface water bodies. For example, while the Clean Water SRF (CWSRF) is intended to provide low cost loans for wastewater treatment, it also has significant benefits to drinking water sources and recreational water bodies. Some states like Oklahoma have chosen to implement a loan program that includes both traditional and non-traditional projects. Traditional projects target wastewater treatment. Non-traditional projects target water reuse and conservation, dam rehabilitation, and non-point source runoff contamination reduction. Non-traditional projects have included rain gardens, bio-retention cells and pervious pavement, and Lake Eufaula wetlands. This improved water quality also impacts potential economic development and improved recreational water.

The State of Kansas has established a Drinking Water Protection Program to address the issue of non-point source nitrate contamination. The states use tools available under the USDA and the CWA Section 319 funding to assess public water supply wells and working with stakeholders to develop a protection program.

The DWSRF allows states to identify priorities for funding. This is another important tool that is used by states to seek improved compliance and public health. States regularly evaluate priority compliance areas and make principle forgiveness loans to projects to meet the new goals. An example is it the Oklahoma Disinfection By-Products Program. The program determined where wholesale water systems were out of compliance and worked with them to not only bring them into compliance but would also bring purchase water systems back into compliance with health-based standards. In one case, the wholesaler borrowed \$1.2 M and received \$700,000 in principle forgiveness. Once the project is completed, a total of eight drinking water systems are expected to return to compliance. In the traditional way of funding projects, there would have been eight separate funding agreements with all eight systems required to develop mitigation measures. By working together with the funding programs, more efficient and effective solutions are development.

Kansas assists water systems with a holistic approach to reduce a variety of contaminant violations. Naturally occurring metals such as arsenic, manganese, selenium and others can be released to drinking water by poor maintenance, biological activity, or poorly designed and miss-constructed water wells. Kansas drinking water staff evaluates the water system's infrastructure to avoid or correct these issues, hopefully returning systems to compliance. Indiana created a Coliform Remediation Program to assist small drinking water systems eliminate bacteria contamination. To date, 27 drinking water systems in Indiana have returned to providing bacteria free drinking water since the program began.

An important tool codified by Congress in the Water Infrastructure Improvement Act (WIIA, P.L. 115-436) is Integrated Planning. This approach allows water and wastewater facilities to work with state and federal agencies to make improvements to their treatment systems in a phased approach. This approach, supported by numerous Non-Governmental Organizations (NGOs) like the Water Environment Federation, municipalities, states, and EPA, allows municipalities to structure financing in a manner that is more affordable for their rate payers while making progress to correct non-compliance with water regulations by targeting projects that will have the most immediate impact in protecting public health and environment.

3) Funding for research and development for cost effective treatment technologies must be expanded.

As Congress continues its discussions on infrastructure funding, an important consideration is the needed research for cost effective technologies that can be implemented by not only the large, sophisticated systems but also the small and rural water and wastewater systems. One potential funding vehicle could be the Moving Forward Act of 2020 that has a goal to support the development and implementation of smart water technology to better manage and address the nation's long-term water infrastructure, manage shrinking drinking water resources and meet water quality needs. As currently proposed, this new program would create a \$500 million grants program providing local agencies with 75% federal assistance to purchase innovative smart water technologies. Projects eligible for assistance would include remote sensing, real time monitoring, storm water management, smart pumps, and pipe testing and the use of artificial intelligence to enhance operations.

While state of the art technology can be extremely helpful, it is also important to ensure there are treatment options that can be implemented by small systems. Recently, there has been development of modular filtration equipment funded by the Chickasaw Nation of Oklahoma that is easy to manufacture, install and operate and is showing very promising results in pilot tests evaluating the efficacy of the treatment for per- and polyfluoroalkyl substances (PFAS). The use of these treatment technologies that are easy to operate and maintain are critical for the Nation's small water systems to protect public health at a level comparable to larger water systems. Without additional investment in developing these technologies small systems will continue to struggle with treatment options.

With the various research capabilities that exist in the federal agencies, it is important that Congress fund the research of water and wastewater treatment technologies. The EPA Office of Research and Development (ORD) could work closely with states and water systems to identify treatment needs and focus their efforts on meeting the regulatory challenges facing all water systems, not only the larger systems that have highly trained operators. If low technology solutions could be identified, either new technology or old reliable, easy to operate technology utilized in a new way, smaller public water system may experience improved compliance.

4) Workforce training is needed.

One area of infrastructure that is often overlooked is the need for a properly trained workforce. As the nation has seen during the coronavirus crisis, the work of water professionals is critical to protect public health, both every day in every community in the Nation and especially during times of health emergencies. Unfortunately, the drinking water, wastewater, and stormwater management sectors are all facing substantial workforce replacement needs. The aging workforce and high rate of retirement in the sector are placing pressure on utilities and state agencies to find the next generation of workers. The U.S. Government Accountability Office estimated 30% to 50% of utility workers will retire over the next decade, taking with them tremendous professional knowledge and experience. According to the U.S. Bureau of Labor Statistics, there will be an estimated 75,000 to 80,000 jobs available within utilities over the next six years. These are permanent Science, Technology, Engineering and Mathematics (STEM) cluster jobs that do not require a bachelor's degree and pay family-sustaining wages. These are jobs that protect public health and the environment and should be viewed as other essential first responder jobs within communities. These jobs are in every city and county across the nation and are long-term careers that provide healthcare and retirement benefits. As our nation recovers from the coronavirus crisis, bringing the next generation of water professionals into careers in water will help communities with unemployment challenges, in addition to addressing current and future workforce needs in the sector.

Organizations like the National Rural Water Association (NRWA) and their state affiliate members are working with state Departments of Commerce and operator licensing agencies to develop apprenticeship programs that can be operated through vocational career technology schools or two-year community colleges. Other organizations are working to build a pipeline for military servicemen and women to the water sector when transitioning to civilian jobs. Additionally, some states have begun pursuing opportunities with correctional facilities to provide valuable job training for inmates that are preparing for reentry into society. If successful, these training opportunities could help fill the training gap. However, these programs are not inexpensive to operate and often are competing with traditional funding needs.

Another important aspect of workforce training is the education needed for existing operators to keep up with changing regulatory requirements and the needed technology to comply. Operators working in smaller facilities struggle with the need to leave their plants

unattended to attend training. They must work with operators in nearby communities to monitor and operate the plant during their absence. As more online training can be developed and delivered to operators at their facilities, more of them will gain additional knowledge. Organizations like Water Environment Federation make training available through webinars and states use a variety of online platforms. In Oklahoma, online training is being added on topics related to rule compliance and also on topics related to wastewater based epidemiology (sanitary sewer surveillance for the virus that causes COVID-19), how to request equipment and operation assistance during emergencies and other helpful topics related to day to day operation of facilities.

Finally, a workforce area that receives significantly less attention is that of the state and federal regulatory staff. It is essential that the regulators who are tasked with reviewing plant operation and data to determine compliance are adequately trained. While these employees enter their positions with a background in science, engineering, public health, sustainability, or other related education, they often have limited experience with water treatment processes. To ensure that state regulators, who are expected to provide technical assistance and guidance to water and wastewater systems are adequately trained, additional training dollars are needed for EPA and state agencies through the State and Tribal Assistance Grants like the Public Water Supply Supervision Grant, Clean Water Act Section 106 and 319 Grants.

Congress could assist in the funding of these vital programs designed to train water and wastewater operators through actions like the reauthorization and increase funding for programs like the EPA Water Workforce Development Grant program, which was created by this Committee in 2018 and included in S. 3591 last year. Additionally, Congress could support workforce development funding through the SRFs. Language could be included that allows for a small percentage of the SRF capitalization grant to be used for much needed training programs. This could be a voluntary SRF usage based upon a state's need. It would have the potential to be a significant funding source to help address water workforce development shortages.

5) Funding for infrastructure programs must be increased.

Several federal programs are structured to provide low interest loans and grants directly to publicly owned water and wastewater facilities for needed infrastructure including the SRFs, United States Department of Agriculture-Rural Development Program (USDA-RD), Department of Commerce Community Development Block Grants (CDBG), Indian Health Service, and the Water Infrastructure Finance and Innovation Act (WIFIA). Additionally, states and tribes have developed their own infrastructure funding programs and often work to combine the available funding sources into a funding package that is the most beneficial for the water and wastewater systems.

An example of these cooperative and collaborative funding programs is the Oklahoma Funding Agency Coordination Team (FACT). The FACT was formed after discussing the frustrations expressed by facilities that every funding agency required different forms and

the realization that many of the water and wastewater systems facing enforcement actions due to noncompliance did not know about the various funding options available to them. The Oklahoma funding agencies and technical assistance providers met and reviewed all preliminary documents, program requirements and created forms to be used by applicants that would meet each agency individual requirements. All funding agencies met with the Oklahoma FACT and came to an agree on report contents and requirements. Each quarter facilities are invited to meet with the FACT based on funding needs. All funders from state, tribal, and federal agencies and the Oklahoma Rural Water Association and Oklahoma Municipal League meet with the representatives from water and wastewater systems and their consulting engineers to develop the most beneficial funding package. Without the continued funding from Congress to the federal agencies and the SRFs, Oklahoma FACT cannot assist our systems in a manner that is cost effective and moves more quickly to increase public health protection.

There is a significant need for low interest or principal forgiveness loans for drinking water, wastewater, and stormwater utilities to develop a funding portfolio to pay for the costs of becoming more water resilient. The EPA's Drinking Water System Resilience and Sustainability Program, which was created in 2018 by this Committee, is one funding tool that if reauthorized with increased funding to help small and disadvantaged community water systems prepare for challenges related to climate change and extreme weather would be helpful. Additionally, the program could be expanded to include wastewater and stormwater infrastructure grants for small, medium, and disadvantaged communities also struggling to prepare their systems for the impacts of climate change and extreme weather events. Providing additional funding for stormwater controls, sources of drinking water are better protected which in turn reduces the amount and cost of treatment to meet drinking water standards.

Another potential funding opportunity for drinking water and wastewater utilities is the EPA Pilot Program for Alternative Water Source Projects Program, which was created by this Committee in 2018. Reauthorizing and increasing the program's funding would provide communities across the country with the tools they need to build climate resilience, improve water quality, and enhance drinking water supplies. These grants are important because they can be used for engineering and design, as well as, the construction, and final testing of alternative water source projects designed to meet water supply needs.¹⁰

As Congress contemplates a new drinking water infrastructure funding bill, important concepts to consider include:

- Increasing funding for the EPA's Assistance for Small and Disadvantaged Communities Grant Program;

¹⁰ "Alternative water source projects" means a project that provides alternative sources of water through conserving, managing, reclaiming, or reusing water, stormwater or wastewater.

- Codifying appropriations language to allow 20 percent of the Drinking Water State Revolving Loan Funds to be used for subsidy;
- Authorizing grant dollars to assist in the treatment of emerging contaminants, including per- and polyfluoroalkyl substances (PFAS);
- Authorizing annual funding for the EPA’s Water Infrastructure Resiliency and Sustainability Grant Programs;
- Establishing a grant program to increase resiliency and sustainability for mid-size drinking water systems, serving populations between 10,000 and 100,000, building on existing program and funding for small and disadvantaged communities;
- Amending the existing Voluntary School and Childcare Lead Testing Grant Program to make public water systems and some nonprofit organizations eligible grant recipients; and
- Extending authorization for the program through fiscal year 2022.

Reauthorization at the highest levels possible for both the Clean Water and Drinking Water SRFs is vital to the continuation of the improvement of infrastructure. Also, allowing for additional subsidy and longer loan terms can assist communities, especially disadvantaged and rural communities, to meet regulatory obligations and to protect public health. It would also be helpful if both SRFs allow for cost recovery related to the planning functions needed for infrastructure design and construction, asset management, maintenance and for the development of innovative technologies.

Through the SRFs, EPA provides capitalization grants to states to finance state-level revolving funds, which, in turn, make loans for drinking water infrastructure projects. SRF dollars are intended to provide low-interest loans to water systems to finance their water infrastructure projects. Water systems repay these loans to the state, and the interest from the loans ensures a revolving loan fund. A percentage of the funds can be provided as principal forgiveness or negative interest loans. Although it is important for states to have the ability to provide subsidy for disadvantaged communities or to use subsidies to encourage innovative or necessary projects, using large percentages of the capitalization grants for subsidy can impede program growth and impact the ability to borrow. Every dollar that is used for subsidy is a dollar that is taken out of the state revolution forever. Additionally, there are competing priorities for the limited subsidy available at the states, such as lead and aging infrastructure. Increasing the appropriations for the SRFs and ensuring required subsidy amounts aren’t unsustainably high can help to alleviate these issues.

Additionally, the following actions recommended by the Council of Infrastructure Financing Agencies (CIFA) could prove to be very useful to water and wastewater systems as they fund projects¹¹:

- Waive or eliminate the requirements to follow federal procurement processes to allow flexibility that meets all state procurement requirements such as “design build” construction delivery methods.

¹¹ <https://www.cifanet.org/economic-stimulus>

- Expedite construction projects by streamlining compliance procedures for Davis Bacon while maintaining the requirement for paying the federal prevailing wage.

The SRFs have proven invaluable to infrastructure funding projects across the United States. In Oklahoma, they have funded \$3.5 billion with CWSRF providing \$1.8 billion in funding and DWSRF providing \$1.7 billion in funding. Adding to the funding available through the capitalization grants, the leveraging of that funding through the issuance of bonds, and the state Financial Assistance Program (FAP), additional loans of \$1.3 billion have been made to water and wastewater systems. Finally, the state has awarded approximately \$35 million in emergency grants and \$63 million in Rural Economic Action Plan (REAP) grants.

The Oklahoma DWSRF plays an important role in addressing noncompliance and improving access to safe drinking water. In addition to funding 15 regionalization and 13 small and disadvantaged community projects in recent years, this program has funded critical sustainability work with small systems including the development of the following plans:

- operation and maintenance,
- financial management,
- emergency response,
- system mapping, and
- asset management.

Without the DWSRF funding small public water supply systems would be required to fund this work from their already tight budgets.

Drinking water systems are facing additional monitoring, reporting and treatment expenses in the very near future to comply with the new Lead and Copper Rule Revisions (LCRR). Completing the Lead Service Line (LSL) inventory will require significant resources both in worker time and potentially software, research, mapping, and other related tasks. In some public water supply systems, the current staff may not know the location of all lines or the materials of which they are made. Nationally, it is estimated that there are six to ten million LSL that will need to be replaced. In addition to the public lines, there are private service connections that will require replacement. The costs of these private connections will be especially challenging in low-income communities. It would be beneficial in protecting public health if federal funding sources like the SRFs could be modified to allow for the replacement of the private side of the LSL. Additionally, low-income areas, both rural and urban, would benefit from programs that allow the public water system to make replacements and the property owners to reimburse the public water system.

Balancing public health protection with the costs to consumers is critical, as there are significant laboratory costs that must be paid by water systems to comply with regulations. In the case of the LCRR, there is considerably more monitoring and laboratory analysis that is currently required. In addition to traditional lead and copper monitoring, there are requirements for sampling in schools and daycares. In Oklahoma, each lead sample costs between \$12 and \$21 depending on method and laboratory. Replacement of drinking fountains cost between \$400 and \$2,000. These are vital expenditures that must be made to protect the health of the nation's

children and funding must be made available at the federal, state, or local level. In many instances small, rural, and disadvantaged communities struggle to obtain this needed funding.

The recent positive regulatory determination by EPA to establish maximum contaminant levels (MCL) for perfluorooctanoic acid (PFOA) and perfluorooctanesulfonic acid (PFOS) in drinking water will significantly increase the cost of water treatment, laboratory analysis and disposal of treatment byproducts. Treatment costs will vary depending on amount of water to be treated, treatment method and waste disposal. According to the Michigan PFAS Action Response Team costs for drinking water PFAS analysis averages between \$300 and \$600 per sample¹². However, in many parts of the country, there is limited laboratory capacity to analyze all of the needed samples.

In addition to the impacts these new SDWA regulations have on drinking water facilities, wastewater facilities are also impacted. For example, the addition of additional phosphorus to the drinking water treatment process to minimize lead in drinking water, requires additional wastewater treatment. Often it is the same rate payers that must pay for both. Any additional funding Congress can provide through the SRF programs is extremely helpful for the water and wastewater systems and ultimately the customers they serve.

6) Funding for Public Water Supply Supervision (PWSS) must be increased.

While funding for the PWSS program increased by 4.2% in FY20 appropriations, the total funding gap for states' drinking water programs has increased by \$197 million since 2011, with an increase of only \$4.3 million in PWSS¹³ appropriations in FY20. Without adequate funding for EPA to fulfill their obligations and for states to meet their responsibilities, the protection of public health through drinking water programs is much more difficult. States face significant resources challenges every day to address all aspects of their drinking water and wastewater programs. In a [2019 Analysis of State Drinking Water Resource Needs](#), ASDWA estimated that 55 state and territorial drinking water programs currently have approximately 4,121 full-time employees (FTEs) and \$574 million from all funding sources available to implement their programs. In contrast, ASDWA estimated that 55 state and territorial drinking water programs need 7,518 FTEs and \$949 million in 2020 to effectively implement their programs. Drinking water programs need approximately 82 percent more FTEs and 65 percent more funding than they currently have to effectively implement their programs and ensure safe drinking water for the public in 2020. The resources needed is the highest in 2029 when states and territories are projected to need 8,268 FTEs and \$1.04 billion.

¹² [PFAS Response - Laboratory Testing \(michigan.gov\)](#)

¹³ "2019 Analysis of State Drinking Water Programs' Resources and Needs: Addressing Emerging Issues and State Specificity in Program Implementation," ASDWA, prepared by The Cadmus Group, July 2020. <https://www.asdwa.org/wp-content/uploads/2020/07/2019-Analysis-of-State-Drinking-Water-Programs-Resources-and-Needs.pdf>

In addition to regulatory functions, states are spending an exceptional amount of time and resources on non-regulatory but necessary functions. Some examples of how additional time and resources are being spent include PFAS, lead in schools, harmful algal blooms (HABs), emergency response planning, *Legionella*, manganese, water reuse, water use and conservation, and other non-regulatory activities as emerging issues not directly required by the SDWA, but necessary to ensure the delivery of safe drinking water. The past year has brought new challenges triggered by the COVID-19 pandemic. State water programs have taken on additional responsibilities in this time, including:

- Assisting with the development of continuity of operations plans for water systems, including coordination with state-level Water and Wastewater; Response Networks (WARNs) on operator coverage, emergency operation, and equipment and chemical supply issues due to the pandemic;
- Developing COVID-19 drinking water risk communication for the public and modifying “routine” drinking water public notices to clarify the connection or lack of connection to the coronavirus;
- Developing new forms and processes for tracking closed facilities and revising reopening system and building procedures;
- Developing and implementing remote work and oversight tools; and
- Modifying and updating operator training classes and licensing programs.

The ongoing impacts of the COVID-19 pandemic on states’ revenues has impacted water program funding. A survey of ASDWA’s members conducted in 2020 found several state water programs are facing budget reductions ranging from 5%-30% in 2021. Some state programs have implemented furloughs ranging from 10 days/year (3.8% salary reduction) to 1 day/week (20% salary reduction) over the last year. Water programs in Departments of Health report staff reassignments to work on COVID-related activities, leading to reductions of 30-50% of drinking water staff. While state water programs are funded by a combination of federal grants, fees, and state general revenue, states cannot increase fees to make up the loss of state general revenue funding because of the financial impacts to PWS systems including the increase in the percentage of their customers that can no longer afford to pay utility bills. Coupled with moratoriums that prevent water system cut offs, drinking water systems are incurring the cost of treatment and distribution without recovering costs. As a result of the financial impacts to water systems, state water programs have increased workloads and constricting budgets.

Implementation of the final LCRR adds to the on-going resource challenges. The potential fiscal impacts to state drinking water programs can be estimated by comparing the estimated staff hours from above to the current levels of Federal funding from the PWSS program. Using the national average loaded hourly rate for state employees of \$58.67 (salary plus benefits and overhead), full implementation of the final LCRR would cost the states \$49 million annually for drinking water programs.

An additional cost for implementation of this rule falls to the CWA programs. The increased usage of phosphate-based compounds to control lead leaching into drinking water will impact surface water quality, impact wastewater treatment, and potentially impact surface water quality caused by the increase in phosphorus which can lead to harmful algal blooms. This connection between the SDWA and CWA will create additional challenges for already resource challenged state agencies.

In addition to the 91 contaminants regulated under the SDWA, states have struggled with meeting both the regulatory requirements and additional actions to address non-regulated contaminants such as cyanotoxins and per- and polyfluoroalkyl substances (PFAS) over the past decade. While the FY21 increase of 5.4% to PWSS funding (to \$112 million) was a small step to closing the funding gap, the proposed LCRR would take 44% of current PWSS funding to fully implement. ASDWA, in partnership with the states, has organized 8 workgroups with members of nearly 30 states to aid in LCRR implementation. These workgroups are sharing resources across states and identifying and developing needed guidance and tools for LCRR implementation. State drinking water programs continue to adapt to stagnant resources and increasing demands by prioritizing threats to public health and implementing efficiency measures, but their ability to meet all demands and requirements is greatly compromised.

Managing the large volume of data needed to oversee drinking water program is foundational to making compliance determinations needed to protect public health. The Safe Drinking Water Information System (SDWIS), the federal drinking water data system, which is used by EPA and 46 states, has been undergoing a modernization effort for more than ten years. States have spent thousands of hours working with EPA to upgrade SDWIS to meet existing data management needs and to prepare for the addition of new drinking water regulations such as the LCRR

While the modernization efforts have been on-going, states have upgraded their own data systems to try to meet the data management responsibilities that are required to operate a drinking water program. Currently, Florida is in the process of spending \$100,000 to upgrade their system to use the now outdated SDWIS. Once SDWIS is modernized, additional costs will be incurred. States have different requirements to expend funds on information technology. This can cause additional delays and increased costs. While the timeline to modernize SDWIS and the costs are unknown, EPA and the states will need to invest millions of dollars in order to adequately operate and oversee drinking water programs. It is also important to consider that each new water and wastewater regulation requires a data management system that can accept the data from the new rule, automate compliance determinations and track compliance and enforcement data.

States work closely with the regulated community on many non-regulatory activities both routine and emergencies. States respond to numerous natural and manmade disasters each year. These disasters may be weather events like tornados, hurricanes, ice storms, wildfires, or industrial accidents. Some of these events are very localized and while every important to

the impacted communities there is limited state staff involved in the emergency response and technical assistance. With bigger widespread events there is a significant impact to states resources. For example, the Louisiana Drinking Water Protection Program estimated almost 4,845 staff hours and \$197,943 in expenditures for the response to Hurricane Laura in August 2020. In recent years, multiple states have had to respond to emergencies related to the brain eating organism, *Naegleria fowleri*. Louisiana spent more than \$1 million on direct response with additional resources spent to expand state regulations to require a disinfectant residual rule.

Many drinking water programs work collaborative with partners to assist small water systems improve their ability to operate and maintain their systems. In Oklahoma, the Governor created the Strategic Water Alliance that is made up of the Oklahoma Department of Environmental Quality, Oklahoma Water Resources Board, Oklahoma Rural Water Association and Oklahoma Municipal League. Funding from the DWSRF is paired with \$500,000 in state funds to provide provided technical, managerial and financial training to water systems, teach and complete water loss auditing and leak detection, repair leaks and provide at no cost to water systems an asset management tool to assist with operation and maintenance to improve compliance. In the last two years, Oklahoma has completed 211 water loss audits that have resulted in approximately nine billion gallons of real water loss identified with a savings of almost \$10 million each year. By continuing to reauthorize and fund the DWSRF program, states can continue this valuable work using the DWSRF set-asides.

Another important non-regulatory program that many states implement with the DWSRF set-asides or PWSS grants is the Area Wide Optimization Program (AWOP). This program provides tools and approaches to meeting drinking water treatment goals. Most importantly states provide hands on water treatment problem solving training to small and medium sized water system operators. The AWOP program is vital in helping systems become more sustainable. The continued federal investment in state drinking water programs allows for effective and efficient water system operation and extends the useful life of water infrastructure.

Thank you for the opportunity to come before you today to participate in this important conversation. I look forward to working with you, the federal agencies, and other stakeholders in a cooperative and collaborative manner as we work toward the same goals of strengthening our vital infrastructure.