

LIST OF HANDOUTS

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- NASDA Priorities
- AWWA Priorities

Facilitated Discussion on New CMS Requirements for Building Water Quality Management Plans

- CDC – Water and Healthcare-Associated Infections

Early Bird Session

- Principles of LEAN

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- DWPD – DWSRF Infographic
- DWPD – 2018 EPA Drinking Water Training Schedule
- DWPD – Partnerships Case Study

- WSD – Products & Services

- OECA – Drinking Water Compliance Resource Center

EPA's Collaborative Oversight Program

- Subject-Specific SDWA Implementation Analysis

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- SDWIS Prime & CMDP Highlights

PFAS, Health Advisories, and Emerging Contaminants

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Lessons Learned from States' LCR Initiatives

- MA LCR and Lead in Schools Assistance Program Summary
- VA LSL Replacement Rebate Program



WE NEED A FARM BILL.

GOOD FOOD. MORE JOBS. CONSERVATION. THRIVING COMMUNITIES.
THESE ARE ALL THINGS WE CAN GET BEHIND.

As the chief agriculture officials in their states, members of the National Association of State Departments of Agriculture (NASDA) see first-hand the changing dynamics, increasing challenges, and new opportunities in agricultural production across the country and have a deep appreciation for the important contribution agriculture makes to our nation's security and economy.

THE FARM BILL IMPACTS EVERYONE.

Agricultural producers, the rural economy, and communities of every size rely upon a forward looking, and fully funded Farm Bill. NASDA calls for enhanced investment in American agriculture that provides producers the tools they need to succeed. The Farm Bill is also vital to providing consumers access to the safest, highest quality and affordable food supply, which is essential for our nation's economy and security.

Our next Farm Bill must remain unified – securing a commitment to American agriculture and the critical food and nutritional assistance programs for those who need them the most.

PRIORITIES

- Animal Disease
- Trade Promotion
- Specialty Crops
- Invasive Species
- Conservation
- Research
- Food Safety

OUR PRIORITIES FOR THE NEXT FARM BILL:

ANIMAL DISEASE PREVENTION

A proactive, multi-faceted animal disease program is needed to safeguard animal agriculture, promote sustainable economic development and prevent catastrophic events that could threaten our nation's food supply.

Expanding on the authorization for the National Animal Health Laboratory Network, and modeled after the aforementioned invasive species programs, this program will bring together the federal government with states, industry, universities, and other agricultural stakeholders to reduce the impact of high-consequence animal diseases, provide rapid detection and response capabilities, develop disease prevention and mitigation technologies, support a vaccine bank infrastructure, prevent the entrance and spread of foreign animal diseases into the U.S., and identify & support critical research needs.

More on our priorities



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TRADE & EXPORT PROMOTION

The Market Access Program (MAP) promotes American-grown and produced food and ag products that are in competition with heavily subsidized foreign products. For every \$1 invested in export market development programs, \$24 is returned in export revenue. This means significant positive effects for farmers & ranchers like increased income and more American jobs in the farm and food sector. Funding for the Market Access Program (MAP) should be increased from \$200M to \$400M to better promote America's food and ag products in demand across the globe.

SPECIALTY CROP BLOCK GRANTS

The Specialty Crop Block Grant (SCBG) Program provides important tools to enhance specialty crop production, while also advancing foods with critical health benefits to the American people. To the extent additional funding is available, funding for the SCBG Program should be increased and Congress should ensure a flexible, locally responsive, and state-led program.

INVASIVE SPECIES

Invasive plants and pests are an often catastrophic threat to farmers and ranchers. To address this increasing threat, bold action is required. Building on the successes of the invasive species programs created by the 2014 Farm Bill, Congress should bring additional tools to bear on this serious economic threat. Funding for the highly successful "Plant Pest and Disease Management & Disaster Prevention" and the "National Clean Plant Network" should be increased to in order to provide additional tools for domestic invasive species issues. Enhanced funding and coordination of invasive species under the direction of the USDA Office of Pest Management Policy and involving other departments and agencies of the federal and state governments should be considered to strengthen programs and maximize the value of the federal funding.

CONSERVATION

Conservation programs provide financial and technical assistance needed to conserve our nation's natural resources and meet increasing regulatory demands. The next Farm Bill must make substantial investments in voluntary locally-driven, flexible, and efficient conservation programs. Additional investments are needed to continue targeted conservation, address water quality challenges and face regulatory pressures.

RESEARCH, EDUCATION AND ECONOMICS

Robust funding for agricultural research and extension programs, and infrastructure, particularly within our nation's many outstanding agricultural colleges and universities, is vital to ensuring producers remain competitive domestically and globally. The Farm Bill must also ensure adequate funding for research focusing on the safety and security of the food system and improving and protecting our natural resources.

FOOD SAFETY

The Food Safety Modernization Act (FSMA) is a landmark bill which has overhauled American food safety regulation from response-driven to preventive and farm-focused. Congress should address the variety of implementation challenges with the final FSMA rules. The next Farm Bill should provide resources to assist producers in complying with FSMA, especially via low-cost loans for infrastructure upgrades.



American Water Works Association (AWWA) Farm Bill Priorities

Overall Conservation Title Funding

- Funding for the conservation title should at the very least be maintained at current levels and the conservation policy gains in the Agricultural Act of 2014 should be maintained. With over \$6 billion in annual funding, keeping or increasing funding is vital to the continued success of these voluntary conservation programs that incentivize farmers to farm in a more environmentally sensitive way.

Source Water Protection Through Targeting of Agriculture Practices

- AWWA believes it's important for USDA to emphasize source water protection as part of their overall water quality and water quantity mission because of the public health concern when drinking water sources are contaminated by agricultural runoff. Drinking water concerns also have the highest potential for being regulated when public health is impacted.
- AWWA will seek to include language in the Administration Section of the Food Security Act of 1985 affecting all conservation programs that would do four things (language attached):
 1. Emphasize the importance of protecting sources of potable water.
 2. Authorize the Secretary to work with drinking water utilities and State Technical Committees to identify local priority areas in each state.
 3. Provide additional cost share and incentives for practices that have significant downstream water quality/quantity benefits but little on-farm benefit.
 4. Target 10% of Conservation Title funds to protecting sources of potable water.

Collaborative Approaches

Cooperative, collaborative, and innovative programs like the Regional Conservation Partnership Program (RCPP) are a critical component of the conservation title. RCPP, established in the 2014 Farm Bill, includes several provisions that offer additional, more targeted, tools to help

agricultural producers undertake source water protection and water quantity conservation practices in critical watersheds to protect local potable water sources. Practices are identified locally and can include, but are not limited to, nutrients and sediments. RCPP also encourages partnerships between agricultural producers and municipal entities such as water and wastewater utilities and non-governmental organizations to identify natural resource concerns, target priority areas and leverage resources to more effectively deliver outcome-based solutions. AWWA would like to see the following improvements made to RCPP:

- Increase mandatory funding for the program
- Specifically authorize source water protection as an eligible activity
- Give PL-566, The Watershed and Flood Prevention Program, the same flexibility as other donor programs within RCPP

SOURCE WATER PROTECTION THROUGH TARGETING OF AGRICULTURE PRACTICES

- (a) In general. —In carrying out any conservation program administered by the Secretary, the Secretary shall encourage water quality and quantity practices that protect sources of potable water (including protecting against public health threats) while mutually benefiting agricultural producers.
- (b) Collaboration with drinking water utilities and increased incentives. —In encouraging practices under subparagraph (a) the Secretary shall—
- (1) work collaboratively with drinking water utilities and State Technical Committees to identify local priority areas; and
 - (2) for water quality practices that primarily result in off-farm benefits, offer increased incentives and higher cost share rates to producers.
- (c) For each of the fiscal years 2019 through 2023, at least 10% of funds or acres of any conservation program administered by the Secretary shall be made available to protecting sources of potable water.

Water and Healthcare-Associated Infections

Importance of Developing and Implementing a Water Quality Management

Matthew J Arduino, MS, DrPH, FSHEA, M(ASCP)^{CM}
Office of the Director, DHQP
APIC 2017
14 June 2017

National Center for Emerging and Zoonotic Infectious Diseases
Division of Healthcare Quality and Promotion



Pathogens of Concern

- More than *Legionella* (see below); natural flora
- Microbiota of water, wet environments, and engineered water systems
- Gram-negative bacilli, gram-positive bacilli, fungi, and free-living amoeba
- Risk to general population generally low – some special populations exist (eg., cystic fibrosis, those with immune suppression, those with pre-existing lung damage, CVC, PD-catheters, etc)

1. Falkinham JO 3rd, Hilborn ED, Arduino MJ, Pruden A, Edwards MA.. Environ Health Perspect. 2015; 123(8):749-58. (https://ehp.niehs.nih.gov/1408692/?utm_source=rss&utm_medium=rss&utm_campaign=1408692)
2. Williams MM, Armbruster C, Arduino MJ. Biofouling 2013; 29(2):147-162 (<http://cid.oxfordjournals.org/content/56/1/36.long>)
3. CDC. From Plumbing to patients. (<https://www.cdc.gov/hai/prevent/water-management.html>)

Common Characteristics of Opportunistic Pathogens of Premise Plumbing (OPP)

- Infection Linked to Drinking Water Exposure (directly or indirectly)
- Persistence in Drinking Water
- Re-growth in Drinking Water Distribution Systems
- Disinfectant (Chlorine)-Resistance/Tolerance
- Biofilm-Formation
- Thermal-Tolerance
- Resistance to Phagocytosis by Amoebae
- Survival and Growth at Low Oxygen
- Can survive in low nutrient environments and produce persister cells
- Slow Growth

Falkinham JO, III. Common features of opportunistic premise plumbing pathogens. *Int J Environ Res Public Health* 2015; 12(5): 4533-4545. <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4454924/>

CMS Requirement to reduce *Legionella* Risk in Healthcare Facilities

DEPARTMENT OF HEALTH & HUMAN SERVICES
Centers for Medicare & Medicaid Services
700 Security Boulevard, Mail Stop C2-24-16
Baltimore, Maryland 21284-1809

CMS
CENTERS FOR MEDICARE & MEDICAID SERVICES

Center for Clinical Standards and Quality/Survey & Certification Group

Ref 56C17-30-*Legionella*C-05-016
REVISED 06.09.2017

DATE: June 02, 2017

TO: State Survey Agency Directors

FROM: Director
Survey and Certification Group

SUBJECT: Requirement to Reduce *Legionella* Risk in Healthcare Facility Water Systems to Prevent Cases and Outbreaks of Legionnaires' Disease (LD)
Original to Class 3 Provider Types: 400000

Memorandum Summary

- **Legionella Infections:** The bacterium *Legionella* can cause a serious type of pneumonia called LD in persons at risk. Those at risk include persons who are at least 50 years old, smokers, or those with underlying medical conditions such as chronic lung disease or immunosuppression. Outbreaks have been linked to poorly maintained water systems in buildings with large or complex water systems including hospitals and long-term care facilities. Transmission can occur via aerosols from devices such as showerheads, cooling towers, hot tubs, and decorative fountains.
- **Facility Requirements to Prevent Legionella Infections:** Facilities must develop and adhere to policies and procedures that inhibit microbial growth in building water systems that reduce the risk of growth and spread of *Legionella* and other opportunistic pathogens in water.
- **This policy memorandum applies to Hospitals, Critical Access Hospitals (CAHs) and Long-Term Care (LTC) Homes; this policy memorandum is also intended to provide general awareness for all healthcare organizations.**

Background

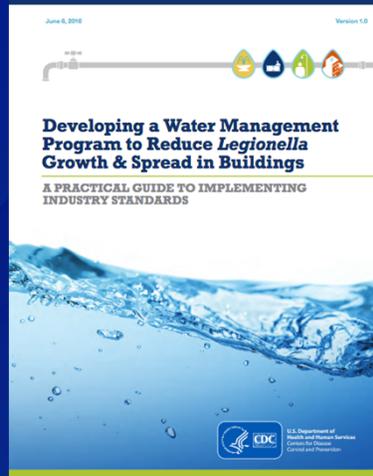
LD is a rare but sometimes fatal pneumonia, can occur in persons who inhale aerosolized droplets of water contaminated with the bacterium *Legionella*. In a recent review of LD outbreaks in the United States occurring in 2000–2014, 19% of outbreaks were associated with long-term care facilities and 11% with hospitals. The rate of reported cases of legionellosis, which comprises both LD and Pontiac fever (a milder, self-limited, influenza-like illness) has increased 286% in the US during 2000–2014, with approximately 5,000 cases reported to the Centers for Disease Control and Prevention (CDC) in 2014. Approximately 9% of reported legionellosis cases are fatal.

Facility Types:

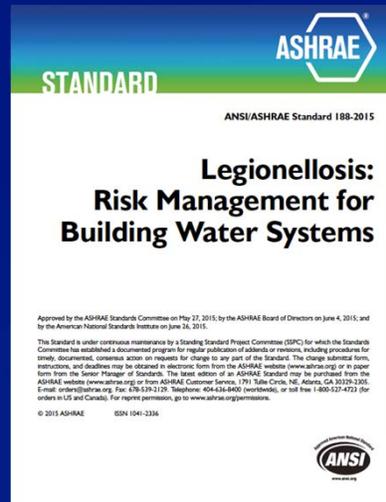
- Acute Care Hospitals: 5,534
- Critical Access Hospitals (≤ 25 beds): 1,343
- Longterm Care Facilities >15,000
- Awareness for other healthcare facilities

*In 2014 there were 15,600 nursing homes in the United States (<https://www.cdc.gov/nchs/fastats/nursing-home-care.htm>)

Legionella Toolkit



ASHRAE Standard 188-2015 and Guideline 12



Gaps

- Are there subsets of patients and uses that require the use of water that exceeds the requirements set for potable water
- Many of these opportunistic pathogens of premise plumbing are members of the HPC bacteria
- HPC counts may not be reflective of presence of Legionella or slow growing nontuberculous mycobacteria
- No direct association between presence of these OPP in Hospital water systems and patient outcomes; Only direct association with microbial contamination and water and patient outcomes is in hemodialysis
- Presence alone may not be sufficient alone to indicate transmission

CDC recommendations

- **Main messages are not about water treatment**
 - Keep hot water hot and cold water cold
 - Understanding your system
 - Understanding patient population and uses of water
- **Remediation is addressed in the 2003 Guideline for Environmental Infection Control in Healthcare Facilities.**
 - Heat shock
 - Hyperchlorination

Other Helpful Resources

- **Safe water in healthcare premises (HTM 04-01)**
<https://www.gov.uk/government/publications/hot-and-cold-water-supply-storage-and-distribution-systems-for-healthcare-premises>



Other Helpful Resources

- CDC Guideline for Environmental Infection Control in Healthcare Facilities (Available from: https://www.cdc.gov/hicpac/pdf/guidelines/eic_in_hcf_03.pdf)
- CDC Legionella Water Management Tool kit (Avaliable from <https://www.cdc.gov/legionella/maintenance/wmp-toolkit.html>)
- EPA. Technologies for Legionella Control in Premise Plumbing Systems (available from https://www.epa.gov/sites/production/files/2016-09/documents/legionella_document_master_september_2016_final.pdf)
- EPA. Mycobacterium Health Advisory (Available from <https://www.epa.gov/sites/production/files/2015-10/documents/mycobacteria-report.pdf>)
- UK Department of Health Safe water in healthcare premises (HTM 04-01) (Available from <https://www.gov.uk/government/publications/hot-and-cold-water-supply-storage-and-distribution-systems-for-healthcare-premises>)
- WHO Water Safety Planning Resources (Available from http://www.who.int/water_sanitation_health/water-quality/safety-planning/wsp-publications/en/)

Promoting Patient Safety, Healthcare Worker Safety, and Promoting Quality Care

For more information please contact Centers for Disease Control and Prevention

1600 Clifton Road NE, Atlanta, GA 30333
Telephone, 1-800-CDC-INFO (232-4636)/TTY: 1-888-232-6348
E-mail: cdcinfo@cdc.gov Web: www.cdc.gov

The findings and conclusions in this report are those of the authors and do not necessarily represent the official position of the Centers for Disease Control and Prevention.

National Center for Emerging and Zoonotic Infectious Diseases
Division of Healthcare Quality Promotion



PRINCIPLES OF LEAN

The five-step thought process for guiding the implementation of lean techniques is easy to remember, but not always easy to achieve:

1. Specify value from the standpoint of the end customer by product family.
2. Identify all the steps in the value stream for each product family, eliminating whenever possible those steps that do not create value.
3. Make the value-creating steps occur in tight sequence so the product will flow smoothly toward the customer.
4. As flow is introduced, let customers pull value from the next upstream activity.
5. As value is specified, value streams are identified, wasted steps are removed, and flow and pull are introduced, begin the process again and continue it until a state of perfection is reached in which perfect value is created with no waste.



National Drinking Water Data Trends

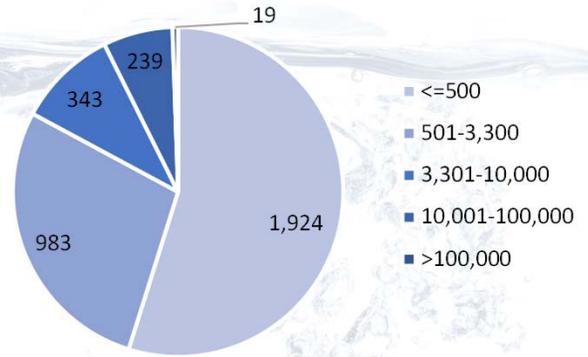
Improving the measures and protecting public health

In FY 2017 States reported to SDWIS approximately 3,500 community water systems (CWS) out of compliance with health based standards

7% of the CWSs had a health-based violation in FY 2017. Together, we can maintain and improve the high quality of drinking water delivered to the American people

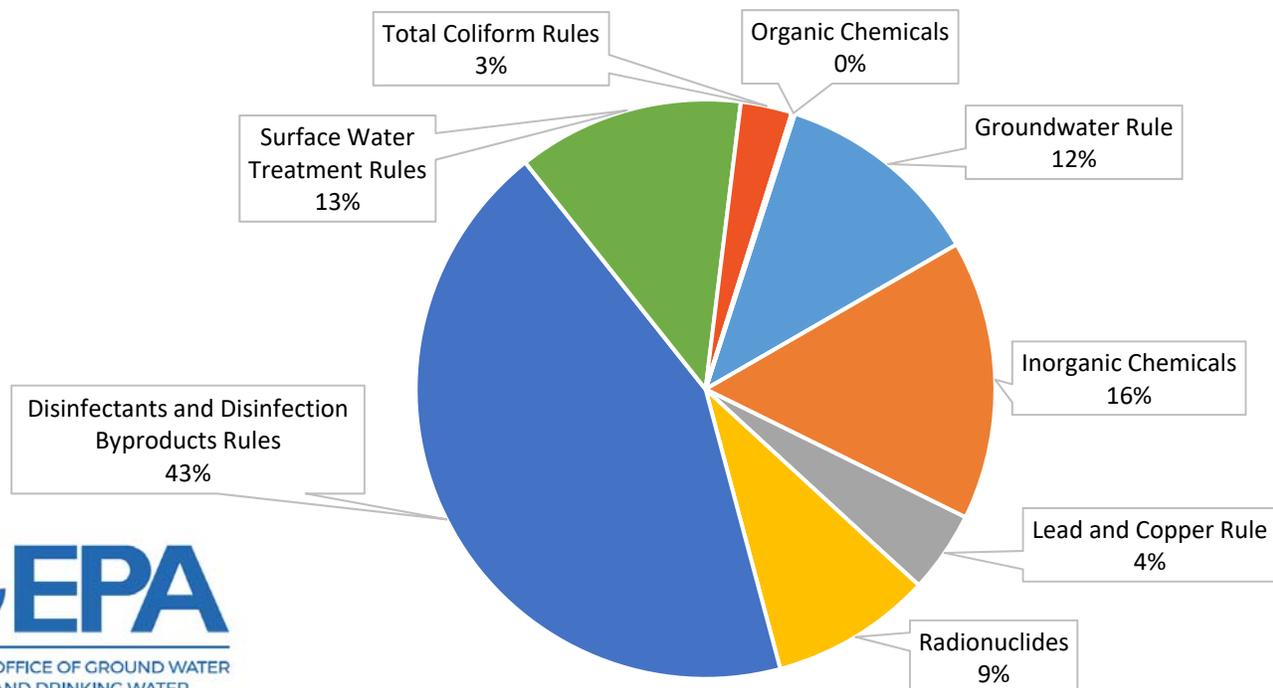
Of the approximately 3500 systems with health-based violations, more than half of those are systems serving 500 persons or less.

CWSs with HB Violation by System Size



Population Category	Number of Community Water Systems	Population Served by CWS	CWSs w/HB Violation	% CWSs w/HB Violation by System Size
<=500	27,535	4,627,120	1,924	7.0% of this system size
501-3,300	13,405	19,252,089	983	7.3% of this system size
3,301-10,000	5,002	29,288,281	343	6.9% of this system size
10,001-100,000	3,886	111,503,116	239	6.2% of this system size
>100,000	431	142,221,107	19	4.4% of this system size
Grand Total	50,259	306,891,713	3,508	7% of all CWSs

CWS with HB Violations by Rule Family, FY 2017



THE DRINKING WATER STATE REVOLVING FUND

Protecting America's Public Health for 20 Years

HOW IT WORKS

EPA funds state DWSRFs each year and states provide a **20%** match



Loan Terms:
Up to **20 years**

(for disadvantaged communities: 30 years or design life of project, whichever is less).

Repayments begin **1 year** after project completion



For every **\$1** from federal government, **\$1.87** has gone to help communities



WHO HAS DWSRFs?



WHO IS ELIGIBLE?



Publicly or privately-owned community water systems



Non-profit non-community water systems



WHAT TYPES OF PROJECTS?

- Drinking Water Treatment
- Pipe Installation/Replacement
- Source Water Protection
- Well Construction/Rehabilitation
- Storage
- & MORE...

\$35.4 BILLION

states leveraged EPA's \$19 billion into projects over the last 20 years



14,000

loans made to repair, replace and build infrastructure since 1997



1.6%

average DWSRF loan interest rate in 2017





2018 EPA Drinking Water Training Schedule

To view upcoming training on EPA's Drinking Water Training Page: www.epa.gov/dwreginfo/training

To provide feedback or suggestions for future training, please contact: OGWDWProtectionTraining@epa.gov

January

DATE & TIME	TRAINING
January 17 (COMPLETED)	<i>Revised Total Coliform Rule (RTCR) Conducting Assessments & Site Visits</i> Presented by: Office of Ground Water and Drinking Water
January 30 (COMPLETED)	<i>Alternative Disinfection: Dichlor and Trichlor</i> Presented by: Office of Research and Development and Office of Water

February

DATE & TIME	TRAINING
February 27 2:00p-3:30p	<i>Small System Funding</i> Presented by: Office of Research and Development and Office of Water

March

DATE & TIME	TRAINING
March 1 2:00p-3:30p	<i>Supporting the Water Workforce: Tools for Water System Operators</i> Presented by: Office of Ground Water and Drinking Water
March 7 2:00p-3:00p	<i>Drinking Water State Revolving Fund and Capacity Building in Action: Identifying and Prioritizing Systems for DWSRF Assistance</i> Presented by: Office of Ground Water and Drinking Water
March 8 2:00p-3:00p	<i>Consumer Confidence Report - Overview, Electronic Delivery, And Best Practices (Part 1)</i> Presented by: Office of Ground Water and Drinking Water
March 20 2:00p-4:00p	<i>US EPA Revised Total Coliform Rule (RTCR): Seasonal System Start-up Procedures</i> Presented by: Office of Ground Water and Drinking Water
March 27 2:00p-3:30p	<i>Water Security and Resiliency</i> Presented by: Office of Research and Development and Office of Water

April

DATE & TIME	TRAINING
April 10 2:00p-3:30p	<i>Reducing Lead in Drinking Water in Schools and Child Care Facilities: Case Studies Series</i> Presented by: Office of Ground Water and Drinking Water
April 12 1:30p-2:30p	<i>Focus on the Consumer Confidence Report Contaminant Table (Part 2)</i> Presented by: Office of Ground Water and Drinking Water
April 24 2:00p-3:30p	<i>Simultaneous Compliance: Considerations for Adjusting Treatment</i> Presented by: Office of Research and Development and Office of Water



May

DATE & TIME	TRAINING
May 17 2:00p-3:30p	<i>Lead and Copper Rule: Tiering Criteria and Developing a Sampling Pool</i> Presented by: Office of Ground Water and Drinking Water
May 29 2:00p-3:30p	<i>Harmful Algal Blooms and Cyanotoxins</i> Presented by: Office of Research and Development and Office of Water

June

DATE & TIME	TRAINING
June 14 1:00p-3:00p	<i>US EPA Revised Total Coliform Rule (RTCR) Training --- Monitoring Sampling Procedures and Sample Plan Development</i> Presented by: Office of Ground Water and Drinking Water
June 20 2:00p-3:30p	<i>Lead and Copper Rule 101: Part 1</i> Presented by: Office of Ground Water and Drinking Water
June 26 2:00p-3:30p	<i>PFAS: Analytics and Treatment</i> Presented by: Office of Research and Development and Office of Water

July

DATE & TIME	TRAINING
July 10 2:00p-3:30p	<i>Lead and Copper Rule 101: Part 2</i> Presented by: Office of Ground Water and Drinking Water
July 25 2:00p-3:30p	<i>Reducing Lead in Drinking Water in Schools and Child Care Facilities: Case Studies Series</i> Presented by: Office of Ground Water and Drinking Water
July 31 2:00p-3:30p	<i>Tank Management/Distribution System Optimization</i> Presented by: Office of Research and Development and Office of Water

August

DATE & TIME	TRAINING
August 22 3:00p-4:00p	<i>Lead and Copper Rule 101: Part 3</i> Presented by: Office of Ground Water and Drinking Water
August 28 2:00p-3:30p	<i>Water Reuse/Reclaimed Water</i> Presented by: Office of Research and Development and Office of Water

September

DATE & TIME	TRAINING
September 20 2:00p-3:30p	<i>Overview of EPA's Evaluation Templates for Optimal Corrosion Control Treatment</i> Presented by: Office of Ground Water and Drinking Water
September 25 2:00p-3:30p	<i>Tribal and Very Small Systems</i> Presented by: Office of Research and Development and Office of Water



October

DATE & TIME	TRAINING
October 4 2:00p-3:30p	<i>Overview of the Chemical Drinking Water Regulations (Part 1)</i> Presented by: Office of Ground Water and Drinking Water
October 9 2:00p-3:30p	<i>Reducing Lead in Drinking Water in Schools and Child Care Facilities: Case Studies Series</i> Presented by: Office of Ground Water and Drinking Water
October 23 2:00p-3:30p	<i>Monitoring and Compliance for the Chemical Drinking Water Regulations (Part 2)</i> Presented by: Office of Ground Water and Drinking Water
October 30 2:00p-3:30p	<i>Droughts and Flooding</i> Presented by: Office of Research and Development and Office of Water

November

DATE & TIME	TRAINING
November 7 2:00p-3:00p	<i>Radionuclides Rule</i> Presented by: Office of Ground Water and Drinking Water
November 27 2:00p-3:30p	<i>Sanitary Surveys</i> Presented by: Office of Research and Development and Office of Water
November 29 2:00p-3:30p	<i>Waivers and Reporting Requirements for the Chemical Drinking Water Regulations (Part 3)</i> Presented by: Office of Ground Water and Drinking Water

December

DATE & TIME	TRAINING
December 11 2:00p-3:30p	<i>Tools and Strategies</i> Presented by: Office of Research and Development and Office of Water
December 12 1:00p-3:00p	<i>RTCR: Reporting, Violations and Return to Compliance</i> Presented by: Office of Ground Water and Drinking Water

2018 Drinking Water Training Series

Small Systems Webinar Series

EPA's Office of Research and Development and the Office of Water continue to host monthly webinars to communicate current drinking water systems research along with compliance and implementation information. The webinars are providing EPA with invaluable information from the states on the problems that they are currently encountering in their day-to-day interactions. CEUS are available for this series and the webinars are recorded.

Drinking Water State Revolving Fund and Capacity Building in Action

The Drinking Water State Revolving Fund (DWSRF) and Sustainable Systems Teams at EPA are hosting a series of webinars quarterly throughout 2018 to highlight ways in which DWSRF set-asides and infrastructure project assistance can be used to build capacity at drinking water systems. Webinars will take place in March, May, August, and November. See the Training Page for current registration information.

Lead and Copper Series

EPA's Office of Water is hosting a three-part webinar series discussing the Lead and Copper Rule. These webinars will cover requirements before an action level exceedance, requirements after an action level exceedance, and compliance determinations and reporting requirements.

Reducing Lead in Drinking Water in Schools and Child Care Facilities

EPA is hosting a quarterly webinar series to highlight examples of efforts to reduce lead in drinking water in schools. These webinars will include a brief overview of lead in drinking water, best practices, lessons learned, challenges, and available resources. These webinars are being recorded and posted to EPA's Training Page.

Chemical Drinking Water Regulations

EPA's Office of Water is hosting a three-part training series discussing the chemical drinking water regulations, which includes the volatile organic compounds (VOCs), synthetic organic compounds (SOCs), inorganic compounds (IOCs), nitrates, and arsenic. The first webinar will provide a general overview of the rule requirements, the second webinar will review monitoring and compliance determinations, and the third webinar will cover waivers, reporting and record keeping requirements.

Asset Management Community Calls

EPA is hosting two Asset Management Community Calls in 2018 to discuss asset management resources and tools. These calls will take place in April and September. See the Training Page for current information.

LOWER RIO GRANDE PUBLIC WATER WORKS AUTHORITY

A Water System Partnership Case Study



Creating the Lower Rio Grande Public Water Works Authority (LRGPWWA)

In early 2005, LRGPWWA began to take form as five mutual domestic water associations began to meet regularly. The regular meetings helped them build relationships and discuss opportunities to work together as partners. In the first year, four of the associations signed a Memorandum of Understanding (MOU) that formalized their intention to work together as the Regional South Central Mutual Domestic Group.

LRGPWWA HIGHLIGHTS

Challenge Statement:

The mutual domestic water associations that started the LRGPWWA found their operations, maintenance, and capital improvement costs were unsustainable.

Partnership Features:

The LRGPWWA Partnership is an example of an Ownership Transfer partnership. The Authority, a new entity created, has legal standing to make decisions on behalf of all partnering systems. The Authority originally began with five partners and has grown to include nine systems serving 16 communities in Southern New Mexico.

Primary Benefits:

The partnering systems have seen multiple benefits including a larger pool of resources, improved working conditions, increased cost-efficiency, and better planning abilities. Community benefits have been lower rates, reliable access to safe drink water, and increased resiliency to consumer water demands.

Accomplishments:

The LRGPWWA worked to have state legislation passed that allowed the Authority to form and take advantage of economies of scale. The LRGPWWA Partnership has resulted in water systems, state offices, and technical assistance providers working together to provide safe and affordable water to their communities.

By 2009, the five original and founding associations had merged to form the LRGPWVA. By 2016, four additional domestic water associations joined the Authority.

Critical Drivers

- ◆ **Duplication of Efforts:** Each water system was conducting the same tasks, making similar purchases, and providing the same service to their consumers. This meant that all of the efforts associated with operations, maintenance, and capital investments were duplicated by each system.
- ◆ **Regulatory Requirements:** Two of the associations faced National Primary Drinking Water Regulation (NPDWR) compliance issues associated with the Arsenic standard. In addition, each of the water systems had to hold mandatory board trainings and meet reporting and audit requirements.
- ◆ **Unsustainable Funding and Source:** Some systems struggled with strained water rights or had declared service areas under threat from larger entities.

The associations realized that, to benefit from economies of scale, they needed to increase their number of connections and streamline duplicated efforts. A formal merger of the five associations was the most cost-effective solution to solve the associations' individual challenges.

Water System Partnerships as a Solution

Water systems across the country are facing a myriad of challenges, including technical, managerial, and financial capacity issues. Bringing systems together through partnerships (collaborative approaches in which they can pool resources, expertise, and experience) can help to reduce noncompliance issues, risks to public health and costs, and redundant workloads. Water system partnerships are informal or formal relationships that help water systems identify opportunities to leverage benefits that would be difficult to achieve independently.

In the Lower Rio Grande region, the partnering systems realized that a regional partnership that involved creating a new entity would offer them a range of opportunities to share costs and build internal technical, managerial, and financial capacity.

Building Blocks of Partnership

The 2005 MOU that created the Regional South Central Mutual Domestic Group allowed the water systems to formally work together but did not give them the legal standing necessary to discuss mergers. For the Authority to be able to function as a legal structure with the ability to facilitate a merger of the five founding associations, they needed state legislation to be revised. Their cooperation with local and state lawmakers helped to make the partnership possible.



TYPES OF PARTNERSHIPS

Informal Cooperation:

Coordination with other water systems, but without contractual obligations. Informal partnerships may consist of partners sharing equipment and creating mutual aid agreements for emergency response management.

Contractual Assistance:

Setup a contract with another water system or service provider where the contract and service ultimately remaining under the water system's control. This type of partnership may include a system purchasing water from another system, or contracting out operations and management to another water system.

Joint Powers Agencies:

Creation of a new entity designed to serve the water systems that form it. These partnered water systems may share system management, operators, or source water.

Ownership Transfer:

Merge or mutual transfer of an existing entity or newly create an entity. This type of relationship may be represented by one water system being acquired by another, or by being connected to another water system physically, financially, and managerially.

In **2009**, New Mexico passed [House Bill 185](#), creating the LRGPWWA and giving them the legal standing to discuss mergers with agencies. HB 185 allowed the water systems to formally create the Authority in spring 2010 by meeting the following legal organizational requirements:

- ◆ Duns Number acquired
- ◆ Federal Tax ID number acquired
- ◆ State CRS number acquired
- ◆ Permanent address established
- ◆ Bank accounts opened
- ◆ Initial Board of Directors appointed

By the summer of **2010**, the Authority had applied to the New Mexico Office of the State Engineer (OSE) for the Authority to transfer ownership and to combine and commingle the five founding associations' water rights. The application process included several important steps. First, the partnering systems approved the transfer. Second, the systems transferred the relevant legal documents to OSE. Third, the Authority permitted mutual use of the combined water rights.

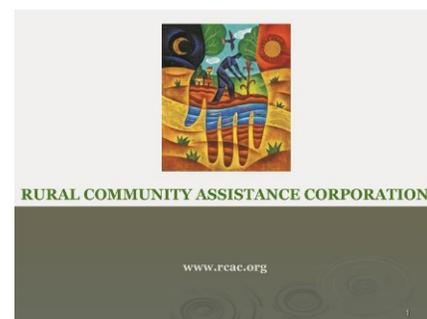
The Authority also needed to develop a plan to merge their water systems. The Authority contracted with the Rural Community Assistance Corporation (RCAC) in the fall of **2010** to create a draft merger plan which was reviewed and approved by the Board of Directors. The merger plan included three key components: a regional governance structure and associated documents, an administrative and managerial approach, and an operations and implementation strategy. In addition, the LRGPWWA proposed and adopted uniform rates and fees across the partners. By December 2010, the LRGPWWA was fully operational, with the following components:

- ◆ A Public Water System ID Number, issued by New Mexico Environment Department (NMED)
- ◆ Staff were hired with human resources policies and procedures in place
- ◆ A fiduciary policy and procedure in place
- ◆ Accurate, uniform rates and fees
- ◆ A plan for existing and future debt
- ◆ Documented combined assets

In **2011**, the founding mutual domestic water associations were dissolved and the Authority began preparing for its first board elections.

By **2012**, the Authority had grown by adding three additional systems to the partnership.

In the spring of **2013**, the first board elections were held, resulting in a single board for all partnering systems.



A KEY STEP: CREATING THE AUTHORITY'S GOVERNANCE DOCUMENT

The founding associations of the LRGPWWA created a contract with the Rural Community Assistance Corporation (RCAC) to develop a governance document for the new Authority. The document includes information on the structure of the Authority, the makeup of its Board of Directors, and its responsibilities. Each section of the document addresses hurdles that the water systems must overcome to create a partnership. RCAC collaborated with the founding associations to make sure that each system's needs were met during the development process. Working together on this document helped build trust amongst the water systems and fostered a collaborative consensus-building environment within the newly created Authority.

To learn more, access the document [here](#).

Best Practices and Successful Strategies

Key Players

The LRGPWWA successfully developed the Authority, in part, due to engagement with key players and outside partners.

- ◆ **State Partners:** The Authority partnered with the New Mexico OSE to establish the Authority's service area. With New Mexico OSE's help, it filed a service area plat with Doña Ana County and established LRGPWWA's Service Area. The New Mexico State Legislature was also a key partner to the Authority when it passed legislation that enabled the systems to merge.
- ◆ **Private Associations & Groups:** Through a Community Development Block Grant (CDBG) from U.S. Department of Housing and Urban Development (HUD), the Authority created a contract with RCAC to develop the merger plan.



Funding

The funds to initially facilitate and merge the associations came from a refinanced USDA Rural Development (RD) loan provided by the New Mexico Finance Authority Public Project Revolving Fund. Over the year, additional funding was secured for partnership projects from state loan and grant programs including the New Mexico Colonias Initiative, Special Appropriation Program, Water Trust Board, New Mexico Colonias Infrastructure Trust Fund (CITF), New Mexico Drinking Water State Revolving Loan Fund (DWSRLF), and New Mexico Finance Authority. In addition, the Authority has also used federal funding programs, such as USDA RD and HUD CBDG, to fund partnership projects. Since inception, the LRGPWWA has secured \$40M to fund 16 projects. The partnership allowed the water systems to focus on their mission of providing safe affordable water services and allowed them to invest time in identifying and accessing funding to support their efforts.



Realized Benefits

Water systems can realize significant benefits through partnering. The nine water systems that participate in the LRGPWWA currently serve 16 communities in three service areas covering 100 square miles. The Authority includes two wastewater collection systems, one wastewater treatment facility, approximately 5,000 drinking water connections, and 500 wastewater connections. It serves a population of 15,000. The partnership has helped provide:

- ◆ A larger service area and customer base resulting in increased representation at the county commission and state legislature, opportunities to access volume discounts, and more customers to share costs.
- ◆ One annual audit process, instead of nine.
- ◆ A larger pool of resources - staff, equipment, water rights, reserves – including 28 full-time specialized staff.
- ◆ The ability to provide employees with benefits, adequate pay, and oversight.
- ◆ The bandwidth to receive revenue from O&M assistance to neighboring systems.



The Authority has seen improved community relations, stable and efficient costs, and the ability to effectively plan for upgrades and improvements.



Learning from the LRGPWWA Partnership

The LRGPWWA found that key actions and conversations early in the partnership process created the conditions necessary for success.

Communication, Consensus, and Trust

Engaging a comprehensive, dedicated, and experienced team with a shared vision and strong leadership is critical to building any successful partnership. Once work is underway, it is important that short and long-term goals are established by consensus and that everyone on the team agrees with decisions. The Authority also found that third-party impartial facilitation enabled them to take action and to move the partnership forward.

Taking Action

The LRGPWWA Partnership is an example of coordinated efforts that helped multiple water systems address present and potential challenges. Key elements of the partnership development and implementation process included:

- ◆ Declaration of water rights and service areas
- ◆ Formal ownership change
- ◆ Restructured role of the Board
- ◆ Partnerships with the New Mexico OSE and RCAC
- ◆ Identifying and ensuring qualification for funding

Successful partnerships require time, planning, and resources. These efforts are rewarded by significant technical, managerial, and financial benefits to water systems.

INTERESTED IN LEARNING MORE ABOUT WATER SYSTEM PARTNERSHIPS?

Water system partnerships can help systems overcome challenges including aging infrastructure, increasing costs, declining rate bases, and limited technical and managerial capabilities. Partnerships provide opportunities to collaborate on compliance solutions, and operations and maintenance activities, which increase capacity and enable systems to provide safe and affordable water to their communities.

To learn more about water system partnerships like the LRGPWWA, visit the EPA's Water System Partnerships website:
<https://www.epa.gov/dwcapacity/water-system-partnerships>.

RESOURCES

To learn more about the LRGPWWA Partnership and water system partnerships, follow these links to online resources:

- [Lower Rio Grande Website](#)
- [EPA Water System Partnerships Website](#)
- [LRGPWWA Governance Document](#)
- [2009 NM House Bill 185](#)



Water Security Division Products and Services List

The U.S. Environmental Protection Agency’s (USEPA) Water Security Division (WSD) has developed a robust suite of products and services to improve the resilience of the water sector to all types of hazards. WSD resources can be found at epa.gov/waterresilience. Direct links to specific tools and resources are provided below.

Products are organized by topic: Assess Risks, Emergency Preparedness, Risk Communication, Laboratory Support, Mutual Aid and Assistance, Training and Exercises, Emergency Response and Recovery. The following product, Route to Resilience, incorporates the critical stages of resiliency and can assist water and wastewater utilities locate the appropriate services to fulfil their needs.



Route to Resilience (RtoR)

RtoR assists small and medium sized drinking water and wastewater utilities learn more about becoming resilient to all-hazards. The interactive desktop application guides utilities through five stops along the Route to Resilience – Assess, Plan, Train, Respond and Recover – and provides users with a custom report that highlights specific products and tools.

Assess Risks

Risk assessment tools can assist water and wastewater utilities in identifying potential threats and vulnerabilities.



- [Vulnerability Self-Assessment Tool \(VSAT\)](#) – VSAT assists utilities in assessing the potential impacts from both man-made and natural disasters and provides actions to enhance security and resilience.
- [Water Health and Economic Analysis Tool \(WHEAT\)](#) – WHEAT helps utility owners and operators to better understand the human health and economic consequences of potential disasters.
- [Water Quality Surveillance and Response System \(SRS\)](#) – SRS helps drinking water utilities detect and respond to water quality problems – including contamination – in their distribution system or source water.
- [Online Source Water Quality Monitoring for SRSs](#) – This document provides guidance for designing a real-time source water quality monitoring system to inform treatment process optimization, detect source water contamination and monitor long-term threats to source water quality.

Emergency Preparedness

Water and wastewater utilities can build resilience by planning for emergencies before they occur. WSD has developed both hazard-specific and generalized products to help utilities prepare for disasters.

- [Emergency Response Plan Guidance for Small and Medium Community Water Systems](#) – Small and medium utilities can use this guidance to assist in developing or revising their Emergency Response Plans (ERPs).
- [Flood Resilience Guide](#) – This easy-to-navigate guide helps drinking water and wastewater utilities understand local flooding threats and identify practical solutions to protect critical assets.
- [Drought Response and Recovery Guide](#) – This user-friendly guide and accompanying case studies help drinking water and wastewater utilities identify key



drought preparedness and response actions to address both short-term drought impacts and long-term drought resilience.

- [Power Resilience Guide](#) – This interactive guide assists water and wastewater utilities in identifying and implementing key actions to improve resilience to power outages.
- [Containment and Disposal of Large Amounts of Contaminated Water](#) – A guidance document that assists utilities in treating and handling contaminated water within their systems resulting from a contamination event.

Risk Communication

Communicating with the public prior to and during an emergency can help to mitigate public health and economic impacts.



- [Water Utility Public Awareness Kit](#) – This kit includes customizable print, web, and video materials that drinking water and wastewater utilities can use to inform customers about the value of water services, threats to water systems and actions that households can take to prepare for service disruptions.
- [Developing Risk Communication Plans for Drinking Water Contamination Incidents](#) – This document helps utilities develop and implement an effective Risk Communication Plan (RCP) to respond to drinking water contamination incidents.
- [Community-Based Water Resiliency \(CBWR\) Tool](#) – This downloadable tool allows utilities and community members to assess the community's resiliency to water service disruptions and describes tools and resources that can be used to enhance resiliency.

Laboratory Support

Laboratories provide vital emergency response services during a contamination incident.



- [Water Laboratory Alliance \(WLA\)](#) – WLA is a nationwide network of laboratories that serves the water sector. WSD has developed resources that help laboratories and utilities respond to water contamination events involving chemical, biological and radiochemical contaminants. Specific WSD products for laboratory support include:
 - [WLA Toolkit](#) – This document serves as an introduction to EPA resources – such as fact sheets, guidance documents and other tools – that may be beneficial to your laboratory or organization.
 - [WLA Response Plan](#) – This document outlines processes and procedures that can help individuals lead a coordinated laboratory response during water contamination incidents.
 - [Water Laboratory Continuity of Operations Plan \(COOP\)](#) – Laboratories can prepare for continued service during an emergency by developing a Continuity of Operations Plan, using available templates and instructions.
 - [Accessing Laboratory Support Tool](#) – An interactive guide that shows users how to obtain support at the local, state, regional and federal levels. It provides tips, references and a one-page summary resource.



- [Sampling Guidance for Unknown Contaminants in Drinking Water](#) – This document provides recommended procedures for the collection, storage, preservation and transportation of potentially contaminated water, as well as monitoring, detection and identification recommendations.
- The WLA also provides several free webinar trainings throughout the year covering these and many other resources. To learn what is currently available for registration, please visit this [WSD training page](#).
- [Guidance for Building Laboratory Capabilities to Respond to Drinking Water Contamination](#) – This document provides guidance for water utilities wishing to build laboratory capabilities for response to water contamination. It identifies contaminant classes of concern, lists analytical methods and provides information on the role of laboratory networks in responding to contamination.
- [Guidance for Building Field Capabilities to Respond to Drinking Water Contamination](#) – This document provides guidance to help water utilities plan for sample collection, water quality parameter testing and other field activities during the response to a contamination incident.

Mutual Aid and Assistance

During an emergency, “utilities helping utilities” can be an efficient way to access needed resources.

- [Water and Wastewater Agency Response Network \(WARN\) Resources](#) – WARNs provide water and wastewater utilities with the means to quickly obtain help – such as personnel, equipment, materials and associated services – from other utilities during an emergency. WSD has developed videos, guidance documents and model agreements to help water and wastewater utilities build or strengthen their mutual aid and assistance networks.

Training and Exercises

Training and exercises provide utilities with opportunities to learn more about resilience and practice response actions.



- [Water/Wastewater All Hazards Boot Camp Training: Emergency Planning, Response, and Recovery](#) – This interactive, computer-based training course provides users with the fundamentals of water sector resilience and resources for a comprehensive all-hazards program. The training is approved for operator continuing education credit in some states.
- [Tabletop Exercise \(TTX\) Tool for Water Systems](#) – This downloadable tool helps utilities plan and facilitate tabletop exercises using an all-hazards approach to emergency preparedness and response.
- [SRS Exercise Development Toolbox \(EDT\)](#) – This downloadable tool guides users through the steps of developing exercises with realistic contamination scenarios. Users enter information into the program, and the tool will generate documents for use in a discussion- or operation-based exercise.
- [WARN Tabletop Exercise Facilitator Guide](#) – This document provides instructions for planning, organizing and conducting a tabletop exercise to create or update a WARN operational plan or agreement.



Emergency Response

Water and wastewater utilities can use these tools to improve response to an emergency.



- [Incident Command System \(ICS\) Refresher Trainings](#) – Designed specifically for water and wastewater utility personnel, these recorded training webinars provide viewers with an overview of the ICS.
- [Water Quality Surveillance and Response Training](#) – A series of webinars that provide practical recommendations for improving a drinking water utility’s ability to detect and respond to a water contamination incident.

Recovery

Following an emergency, drinking water and wastewater utilities can use these resources to assist in recovery.



- [Water Utility Response On-The-Go \(OTG\) Mobile Website](#) – Utility personnel can access this mobile site from their smart phones. Response OTG enhances disaster response by providing easy access to severe weather information, key emergency contacts, emergency checklists, damage assessment forms and ICS resources.
- [Water Sector Incident Action Checklists](#) – These simple, concise checklists provide key actions to take before, during, and after a natural disaster, including drought, extreme heat and cold, tornadoes, wildfires, earthquakes, flooding, tsunamis, hurricanes, volcanic activity, cybersecurity and harmful algal blooms.
- [Water Contaminant Information Tool \(WCIT\)](#) – WCIT is a secure (registration required) database with information on over 800 drinking water and wastewater contaminants including pathogens, pesticides and toxic industrial chemicals. During a contamination incident, WCIT can aid in decision-making by providing vital contaminant information.

- [Federal Funding for Utilities in National Disasters \(Fed FUNDS\)](#) – Fed FUNDS is a collection of resources and information for federal disaster funding programs intended for water and wastewater utilities.
- [Public Assistance for Water and Wastewater Utilities in Emergencies and Disasters](#) – This short document provides information about water and wastewater utilities’ eligibility for disaster funds under the Federal Emergency Management Agency’s (FEMA’s) Public Assistance Grant Program.
- [Reimbursement Tips for Water Sector Emergency Response and Recovery](#) – This short document provides simple tips that drinking water and wastewater utilities can use to maximize reimbursement through local, state or federal level mechanisms.
- [Hazard Mitigation for Natural Disasters: A Starter guide for Water and Wastewater Utilities](#) – This user-friendly guide assists water and wastewater utilities on how to mitigate against the impacts of natural disasters and encourages collaboration with local mitigation planners to implement priority projects using FEMA or other funding sources.



Drinking Water Compliance Resource Center



The Drinking Water Compliance Resource Center* (DW-CRC) provides State drinking water administrators tools and resources for working with small systems in long-term non-compliance.

- **Successful strategies** – innovative approaches to addressing non-compliance that have worked in other States
- **Interactive SharePoint site** – a secure forum to discuss and share strategies, insights, and approaches with peers
- **Regulatory Approaches** – access to enforcement alternatives and state legislation language
- **Financial Development** – links to funding sources and applications, and information for budget planning and establishing rate structures
- **Technical Assistance** – assistance from conventional/non-conventional sources

EPA is conducting a 1-year pilot to assess the benefits of the DW-CRC!

JOIN TODAY!

During the pilot we will ask participating States Drinking Water Administrators and EPA to:

- Nominate a small community water system struggling with compliance
- Share lessons learned
- Identify/implement strategies to help put systems on the path to compliance
- Participate in quick pre/post pilot surveys to provide feedback on how we can improve the DW-CRC

Contact your EPA Region or Cassandra Rice (rice.cassandra@epa.gov, 202-564-4057) for more information.

*Formerly known as the “Potentially Intractable Resource Center”

Subject-Specific SDWA Implementation Analysis



The goal of a subject-specific implementation analysis (also known as a deep dive) is to improve compliance and public health protection by studying successes and challenges in a specific implementation area. EPA proposes to work jointly with state partners in this effort. The analysis would examine implementation challenges and solutions, share lessons learned, and identify opportunities for enhancing implementation (e.g. improved training, new reference materials). The effort will be coordinated by OGWDW, and EPA will work with interested state partners to select areas for analysis. As discussed below, topics that have been suggested include: DBPR and consecutive systems, Phase II/V waiver programs, and sanitary surveys.

EPA'S PROPOSED APPROACH

1. Coordinate with ASDWA to select a topic(s) that will be of mutual interest. EPA has developed three proposals for considerations by ASDWA and the states. EPA suggests DBPR and consecutive systems for the first topic as it provides the best combination of a defined challenge of appropriate scope, a critical implementation issue, and an area where the regulations provide flexibility for different approaches to be taken by the primacy agencies.
2. In partnership with ASDWA, identify EPA and state staff who may want to participate in the design group to help steer this effort.
3. Define the issues and challenges related to the topic area and review relevant SDWIS/Fed data.
4. Determine criteria for selecting states to study, with a goal of including states with a broad range of experiences to capture a wide variety of issues and lessons learned.
5. Invite states to participate.
6. Interview states and (possibly) public water systems to discuss current state implementation approach(es) and identify lessons learned. Review data, such as SDWIS/State compliance and enforcement data, relevant state records, tools and forms, and other documentation (e.g., SOPs). Meetings could be in-person, either at the state offices or as a group meeting in a central location, or as a phone interview (a contractor may be used to assist with this effort).
7. Based on this detailed analysis, in partnership with ASDWA, generate a list of general questions (~10) that would be used to understand how this issue impacts all state primacy agencies. Produce a report on findings of the review, in particular highlighting lessons learned and approaches used to address the root cause of the issues identified. Findings will be shared with all partners, state primacy agencies, and stakeholders (e.g. water systems). Depending on findings, EPA may develop/implement relevant training materials.

STRAWMAN PROPOSALS

Topic Area: Analysis of Stage 2 DBPR Implementation for Consecutive Systems

Why Focus on This Topic: The most recent data reported to SDWIS shows violations of the MCLs for total trihalomethanes (TTHM) and haloacetic acids (five) (HAA5) under the Stage 2 DBPR are the most common type of health-based violation, based on the number of CWSs in violation. Further investigation shows that while ~19% of CWS are consecutive systems they constitute ~43% of the health-based Stage 2 DBPR violations reported to SDWIS/Fed. The Stage 2 DBPR can be challenging for consecutive systems who often have little control over the treatment of their water, yet must comply with the MCLs for TTHM and HAA5.

Specific Areas to Investigate: How do wholesalers and consecutive systems communicate about and resolve issues? Does the seller alert the consecutive system when they detect certain DBP concentrations in their distribution system? Is

notification timely? Do states have additional requirements related to water quality (or other conditions) for water entering consecutive systems? What sort of technical assistance is being provided to consecutive systems for managing DBPs, disinfectant residuals, or coliform bacteria?

Possible Outcomes: Report on reasons for the violations and best practices that consecutive systems can undertake to minimize DBPs within their distribution systems, as well as strategies for working with their wholesale systems. Use of the operational evaluation level (OEL) to identify systems at risk of an MCL violation and best practices to help these systems avoid a violation. Provide communication tools and other training that states may have that can help consecutive systems share the water system issues with their consumers and wholesale systems.

Topic Area: Analysis of State Implementation of Phase II/V Waiver Program

Why Focus on This Topic: The Phase II/V Rule allows the primacy agencies to develop programs to grant monitoring waivers for many of the regulated contaminants and EPA has incomplete records on the status of these state-specific programs. The waiver programs vary widely. Waivers can either reduce or eliminate monitoring for a contaminant permanently (statewide waiver) or for 3, 6 or 9 years based on system-specific criteria that weigh use and susceptibility. Waiver programs define the criteria that must be met to be issued a waiver and the criteria for renewal. For example, the primacy agency may renew and update the waiver status based on previous sample results, completion of a vulnerability survey, information from sanitary surveys, or source water assessments.

Specific Areas to Investigate: Which states have waiver programs and which Phase II/V contaminants are included? Is implementation the same as when

the original state waiver program was approved by the Region? If not, how has the waiver program changed? How do primacy agencies track PWSS waiver status? Do states have useful electronic programs to track waivers that they could share? Do states require monitoring as part of the renewal process? What is the monitoring frequency and waiver renewal process for waived contaminants? Has the state developed GIS layers that could be relevant?

Possible Outcomes: Report on best practices for implementation of state waiver program for the Phase II/V contaminants. Provide electronic tools that states can share that they use track waivers, process waiver applications, and evaluate susceptibility in an area to a specific Phase II/V contaminant.

Topic Area: Sanitary Survey Program Implementation Analysis

Why Focus on This Topic: Sanitary surveys are a critical way for a primacy agency to evaluate a PWS' ability to deliver safe drinking water on a sustainable basis. They provide an important opportunity for the primacy agency to review, in person and comprehensively, a water system's condition, operations, and areas needing improvement. Further, the GWR ranks second in terms of health-based violations for CWS, and ~68% of these violations are the results of a failure to address a significant deficiency.

Since sanitary surveys are defined as comprehensive reviews of water systems, additional items (e.g., checking progress on addressing significant deficiencies, taking corrective actions under the GWR, or resolving sanitary defects under the RTCR; assisting with detailed reviews of sampling plans; training operators on water sample collection protocols) are often added to the process. In SDWIS/Fed, the current timely completion of community water system sanitary surveys ranges by state from 53 to 100 percent, although some states may not be reporting all of their completed surveys.

An additional challenge is evaluating the effectiveness of the sanitary surveys.

Specific Areas to Investigate: What impediments are preventing states from meeting the minimum survey frequency (every 3 to 5 years)? How are systems prioritized during sanitary survey scheduling? What training is provided for sanitary survey inspectors? How is the sanitary survey workload distributed among various personnel? What process does the state use to document significant deficiencies and track systems' progress towards addressing significant deficiencies? How are states handling other (i.e., not significant) deficiencies if water systems are not addressing them? What processes do states use to identify significant deficiencies consistently? Do states use the sanitary survey program to help identify and address potential longer-term compliance issues? If so, how do they follow up?

Possible Outcomes: Report on best practices for conducting sanitary surveys and trainings on how to incorporate the findings into an effective state SDWA program.

SDWIS PRIME & COMPLIANCE MONITORING DATA PORTAL (CMDP)

HIGHLIGHTS FOR 2018 ASDWA MEMBER MEETING

CMDP (Phase 1 of SDWIS Modernization)

Goals

The Compliance Monitoring Data Portal (CMDP) is a web application for drinking water utilities and laboratories to report sample results electronically to regulators to:

- Enable drinking water utilities and laboratories to report data electronically to primacy agencies;
- Reduce errors while increasing data accuracy, completeness, and timeliness; and
- Decrease the overall reporting and data management burden for primacy agencies, utilities, and laboratories.

Status

- 5 Primacy Agencies (UT, LA, RI, MT, NC) in Production (CROMERR compliant flow of lab/public water system data through CMDP to the primacy agency compliance system).
- 10 Primacy Agencies in Pre-Production (testing the flow of data from CMDP to primacy agency compliance system).
 - 5 of these Primacy Agencies (AK, AZ, CT, ID, Region 8) are targeted for Production over the next two months.
- 16 Primacy Agencies are testing CMDP in the CMDP test environment.
- 17 Primacy Agencies are in consultation phase.

SDWIS PRIME (Phase 2 of SDWIS Modernization)

Goals

- Update and centralize the technology used by the drinking water programs in order to reduce EPA and primacy agency compliance system operations and maintenance costs.
- Use modern decision support technology for determining noncompliance to national primary drinking water rules, allowing faster, less expensive compliance system changes for new drinking water rules.
- Improve the user experience and enable more efficient business processes, enabling primacy agencies to focus more on the business of regulating public water systems.

Status

SDWIS Prime version 0.8 tested with samples data by 40 primacy agencies (January through early March).

- Testing Goals:
 - 1st Test of the Business Rules Engine (BRE) integrated with the User Interface: Exercise, observe and evaluate LCR, GWR and RTCR compliance and oversight functionality in SDWIS Prime by loading compliance monitoring data taken between Jan 1, 2014 and July 31, 2017 for a subset of water systems.

SDWIS PRIME & COMPLIANCE MONITORING DATA PORTAL (CMDP)

HIGHLIGHTS FOR 2018 ASDWA MEMBER MEETING

- 1st Test of SDWIS Prime operating in the EPA computing environment.
- 1st Test of SDWIS Prime with primacy agency data available for testing (Note: This was performed using a limited, sample set of data from participating primacy agencies, not using a full migration of primacy agency samples data)
- BRE – User Interfacing testing feedback received will be evaluated, with needed adjustments being added to the requirements list.
- Testing also provided valuable information on SDWIS Prime performance in the EPA computing environment, with additional load testing planned in the months ahead.

Remaining Development

- Prime User Interface areas to be developed:
 - Sanitary Surveys
 - Enforcement
 - System Administration
 - Deficiencies / Site Visits
 - Samples management
 - Dashboards / Alerts
- Existing Prime User Interface areas, based on priority requirements resulting from community testing feedback.
- BRE build out and integration with the Prime User Interface for remaining drinking water rules.
- Prime – State application data exchange services.

Upcoming Milestones

- March 14-16, 2018 meeting of User Acceptance Testing Group (CT, IN, NH, NV, AK, PA, Region 7) and SDWIS Prime Team.
 - Goal of the meeting is to prioritize detailed requirements for remaining Prime development.
 - Revisions to upcoming milestones following the fine-resolution detailed requirements assessment will occur, including:
 - Prime user interface.
 - Data exchange solutions (data export to local repository, bulk data upload).
 - Future pilot group and community testing.
- July 8-12 ASDWA Data Management User Conference.

Perfluoroalkyl and Polyfluoroalkyl Substances (PFAS)

Frequently Asked Questions

What are PFAS?

Perfluoroalkyl and polyfluoroalkyl substances (PFAS) are a large group of man-made chemicals that have been used in industry and consumer products worldwide since the 1950s.

- PFAS do not occur naturally, but are widespread in the environment.
- PFAS are found in people, wildlife and fish all over the world.
- Some PFAS can stay in people's bodies a long time.
- Some PFAS do not break down easily in the environment.



How can I be exposed to PFAS?

PFAS contamination may be in drinking water, food, indoor dust, some consumer products, and workplaces. Most non worker exposures occur through drinking contaminated water or eating food that contains PFAS.

Although some types of PFAS are no longer used, some products may still contain PFAS:

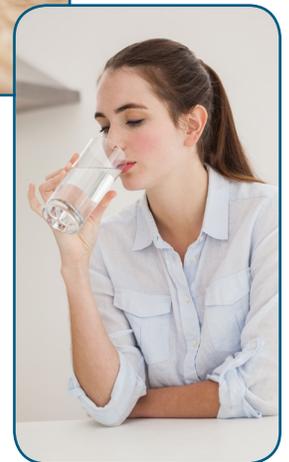
- Food packaging materials
- Nonstick cookware
- Stain resistant carpet treatments
- Water resistant clothing
- Cleaning products
- Paints, varnishes and sealants
- Firefighting foam
- Some cosmetics



How can I reduce my exposure to PFAS?

PFAS are present at low levels in some food products and in the environment (air, water, soil etc.), so you probably cannot prevent PFAS exposure altogether. However, if you live near known sources of PFAS contamination, you can take steps to reduce your risk of exposure.

- If your drinking water contains PFAS above the EPA Lifetime Health Advisory, consider using an alternative or treated water source for any activity in which you might swallow water:
 - » drinking
 - » food preparation
 - » cooking
 - » brushing teeth, and
 - » preparing infant formula
- Check for fish advisories for water bodies where you fish.
 - » Follow fish advisories that tell people to stop or limit eating fish from waters contaminated with PFAS or other compounds.
 - » Research has shown the benefits of eating fish, so continue to eat fish from safe sources as part of your healthy diet.
- Read consumer product labels and avoid using those with PFAS.



How can PFAS affect people's health?

Some scientific studies suggest that certain PFAS may affect different systems in the body. NCEH/ATSDR is working with various partners to better understand how exposure to PFAS might affect people's health—especially how exposure to PFAS in water and food may be harmful. Although more research is needed, some studies in people have shown that certain PFAS may:

- affect growth, learning, and behavior of infants and older children
- lower a woman's chance of getting pregnant
- interfere with the body's natural hormones
- increase cholesterol levels
- affect the immune system and
- increase the risk of cancer

At this time, scientists are still learning about the health effects of exposures to mixtures of PFAS.

How can I learn more?

You can visit the following websites for more information:

- **CDC/ATSDR:**
 - » CDC Info: <https://www.cdc.gov/cdc-info/>, or **(800) 232-4636**.
 - » www.atsdr.cdc.gov/pfc/index.html
 - » <https://www.cdc.gov/exposurereport/index.html>
- **Environmental Protection Agency (EPA):**
<https://www.epa.gov/chemical-research/research-and-polyfluoroalkyl-substances-pfas>
- **Food and Drug Administration:**
<https://www.fda.gov/food/newevents/constituentupdates/ucm479465.htm>
- **National Toxicology Program:**
<https://ntp.niehs.nih.gov/pubhealth/hat/noms/pfoa/index.html>

If you have questions about the products you use in your home, please contact the **Consumer Product Safety Commission (CPSC)** at **(800) 638-2772**.

List of Common PFAS and Their Abbreviations:

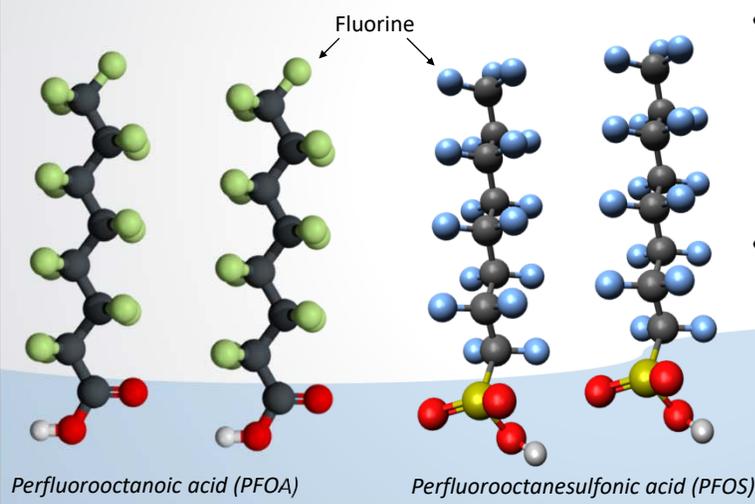
Abbreviation	Chemical name
PFOS	Perfluorooctane sulfonic acid
PFOA (or C8)	Perfluorooctanoic acid
PFNA	Perfluorononanoic acid
PFDA	Perfluorodecanoic acid
PFOSA (or FOSA)	Perfluorooctane sulfonamide
MeFOSAA (aka Me-PFOSA-AcOH)	2-(N-Methyl-perfluorooctane sulfonamido) acetic acid
Et-FOSAA (aka Et-PFOSA-AcOH)	2-(N-Ethyl-perfluorooctane sulfonamido) acetic acid
PFHxS	Perfluorohexane sulfonic acid

Per- and Polyfluoroalkyl Substances (PFAS)

Outline

- What are Per- and Polyfluoroalkyl Substances (PFAS)?
- How are PFAS used?
- What is EPA doing about it?

Per- and Polyfluoroalkyl Substances (PFAS)

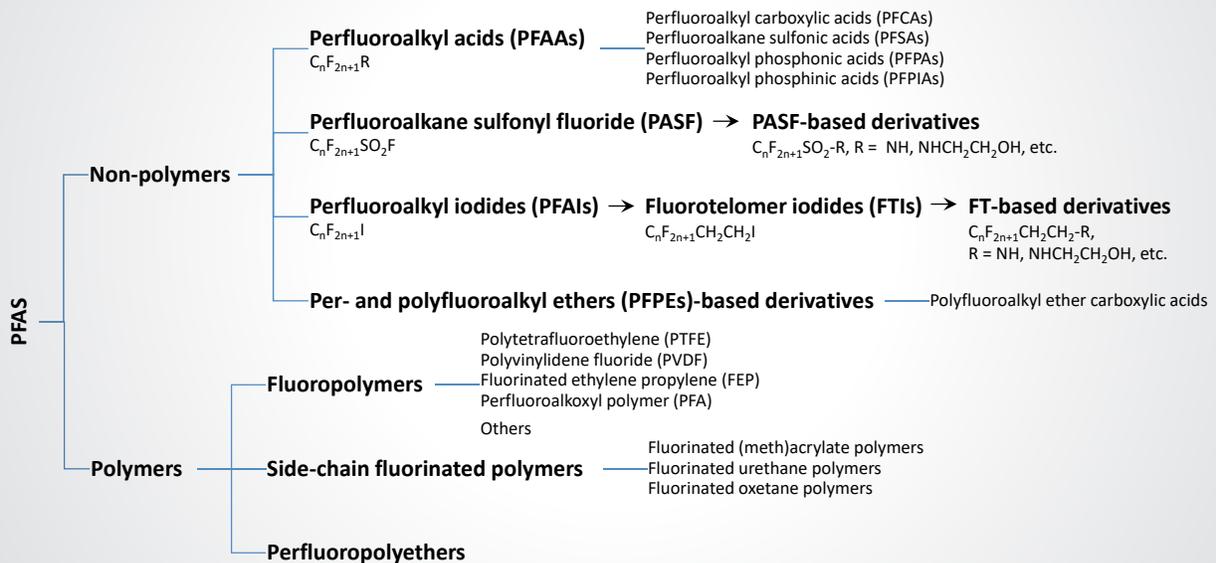


➤ **A class of man-made chemicals**

- Chains of carbon (C) atoms surrounded by fluorine (F) atoms
 - Water-repellent
 - Stable C-F bond
- Some PFAS include oxygen, hydrogen, sulfur and/or nitrogen atoms, creating a polar end

3

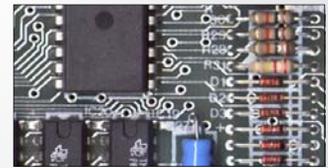
Thousands of Chemicals: More Than Just PFOA and PFOS



4

Used in Homes, Businesses & Industry

- Food contact surfaces such as cookware, pizza boxes, fast food wrappers, popcorn bags, etc.
- Polishes, waxes, and paints
- Stain repellants for carpets, clothing, upholstered furniture, etc.
- Cleaning products
- Dust suppression for chrome plating
- Electronics manufacturing
- Oil and mining for enhanced recovery
- Performance chemicals such as hydraulic fluid, fuel additives, etc.



5

Sources of PFAS in the Environment



- Direct release of PFAS or PFAS products into the environment
 - Use of aqueous film forming foam (AFFF) in training and emergency response
 - Release from industrial facility
- Landfills and leachates from disposal of consumer and industrial products containing PFAS
- Land where wastewater treatment plant biosolids was applied

6

Reasons for Concern

- Known or suspected toxicity, notably for PFOA and PFOS
- Resist decomposition in the environment and in human bodies
- Used by a variety of industries
- Found in a variety of consumer products
- Most people have been exposed to PFAS





Per- and Polyfluoroalkyl Substances (PFAS) and State Drinking Water Program Challenges

Who is ASDWA: The Association of State Drinking Water Administrators (ASDWA) represents the drinking water program administrators in the 50 states, the five territories, the Navajo Nation, and the District of Columbia. ASDWA’s members regulate and provide technical assistance and funding for the nation’s 160,000 public water systems, and coordinate with multiple partners to ensure safe drinking water.

PFAS Background: The understanding of potential drinking water impacts from PFAS has significantly increased over the past decade. This class of chemicals started to get publicity in 2001 & 2002 due to water contamination from the Washington Works Plant located outside of Parkersburg, West Virginia, on the West Virginia/Ohio border. The class-action lawsuit against DuPont due to water contamination at Little Hocking Water District and Lubeck Public Service District generated additional publicity. In 2006, DuPont and other manufacturers such as 3M, agreed to principally phase out the production of PFOA and PFOS.

Third Unregulated Contaminant Monitoring Rule (UCMR3): Due to escalating concerns, six PFAS compounds were included in EPA’s final UCMR3. UCMR3 monitoring occurred between January 2013 and December 2015 and included two to four quarterly samples at mostly large water systems throughout the country using EPA Method 537. As typical for the UCMRs, EPA regularly released the UCMR3 monitoring data, starting in late 2013.

EPA’s 2009 Provisional and 2016 Revised Health Advisories (HAs): In 2009, EPA established provisional health advisories (HAs) for PFOA at 400 parts per trillion (ppt) and for PFOS at 200 ppt; those two numbers were the benchmark at that time, even though an EPA health effects review was underway. Based on the provisional health advisories, national occurrence in UCMR3 for PFOA and PFOS, at the time, appeared to be relatively low (see table below). In May 2016, EPA released revised HAs for PFOA and PFOS, with the revised HA for both PFOA and PFOS set at 70 ppt, as well as an HA for the sum of PFOA and PFOS at 70 ppt. This numerical reduction significantly increased the number of water systems impacted.

UCMR3	UCMR 3	Detections at 2009 EPA HAs	2016 Revised HAs
PFOA	Perfluorooctanoic acid	117 out of 4,920 systems with 13 > HA level 400 ppt	70 ppt (individual and combined sum with PFOS)
PFOS	Perfluorooctanesulfonic acid	95 out of 4,920 systems with 95 > HA level 200 ppt	70 ppt (individual and combined sum with PFOA)
PFNA	Perfluorononanoic acid	No HAs, Low occurrence for all four with detections in 8-86 water systems	N/A for all four
PFHxS	Perfluorohexanesulfonic acid		
PFHpA	Perfluoroheptanoic acid		
PFBS	Perfluorobutanesulfonic acid		

HAs Versus Regulatory Standards Create Challenges: Use of HAs as guidance, versus a Safe Drinking Water Act (SDWA) regulation with an established Maximum Contaminant Level (MCL) creates challenges for state drinking water programs and public water systems. The HAs for PFOA and PFOS do not provide clarity on necessary actions for water systems to address the compounds, and how to communicate their actions and the associated health risks to the public.

State Regulatory and Oversight Challenges: States are having to make tough decisions about whether or how to implement HAs and address PFAS in drinking water in the absence of federal standards.

ASDWA – PFAS and Drinking Water

The table here shows the states that have proposed or established PFAS standards or guidelines that are lower or different than EPA’s HAs. These numbers demonstrate the variation in health risk goals and risk reductions among states in the absence of federal standards and are creating public confusion about what levels of PFAS are safe in drinking water.

State	Drinking Water Action	Compound	Level (ppt)
Connecticut	Action Level	Sum of PFOA, PFOS, PFNA, PFHxS, PFHpA	70
Minnesota	Health Based Guidance for Water Surrogate of PFOS HBV	PFOA	35
		PFOS	27
		PFHxS	27
New Jersey	Proposed Regulation Reg in Development	PFNA	13
		PFOA	14
North Carolina	Health Advisory	GenX	140
Vermont	Groundwater Quality Enforcement Standards	Sum of PFOA and PFOS	20

More PFAS Contamination Sites are Being Found:

The number of PFAS contaminated sites continues to grow. Over the past decade, PFAS contamination was found in many more locations than where the UCMR3 required water

systems to conduct monitoring. Initially, contamination was thought to be somewhat limited to the chemical manufacturing facilities but has now expanded to include military bases, fire-fighting foam application sites, storage, and disposal sites, manufacturing sites of fire-retardant materials, landfills, and many other locations, including some that appear to be caused by air deposition.

The Number of PFAS Being Manufactured Continues to Grow: The number of PFAS compounds that might be a cause of concern is thought to be in the hundreds and continues to grow. Since the phase-out of PFOA and PFOS, companies have shifted to “short-chain” PFAS such as GenX, which is now a significant concern in the Cape Fear Watershed downstream of a Chemours manufacturing plant in North Carolina. The increasing number of PFAS of concern is creating a host of data collection and analysis issues, as regulators and researchers are struggling to obtain enough robust health effects, analytical methods, and treatment data to make smart decisions.

ASDWA PFAS Recommendations to EPA and CDC

ASDWA’s January 12, 2018 letter to EPA and CDC includes the following recommendations:

- **Form a working committee** with ASDWA, EPA, CDC, and Department of Defense (DoD) leadership.
- **Develop a unified message and work with other stakeholders** to minimize the potential adverse effects to public health and the environment.
- **Directly engage with states** on any new federal actions and support current state efforts to consistently assess and address PFAS; and develop guidance for public water systems.
- **Conduct more health effects research and increase funding and support non-targeted analyses of drinking water** for known and unknown PFAS, and substitute compounds.
- **Develop rules or guidance for other media** (e.g., UIC, wastewater, soil leaching, air emissions).
- **Directly engage with stakeholders and industry** to assess and address the universe of known and unknown PFAS compounds, and evaluate fire-fighting foam and alternatives.
- **Address laboratory and sampling needs** for analytical methods and standards, lab vendors, standardization of lab results, and increase lab programs and capacity beyond UCMR3.

For more information and to see ASDWA’s full letter of recommendations to EPA and CDC, visit the ASDWA website or contact Deirdre Mason of ASDWA at dmason@asdwa.org or 703-812-4775.



January 12, 2018

Mr. Scott Pruitt, Administrator
U.S. Environmental Protection Agency
1200 Pennsylvania Ave., NW
Washington, DC 20460

Dr. Brenda Fitzgerald, Director
Centers for Disease Control and Prevention
and Administrator, ATSDR
1600 Clifton Road Atlanta, GA 30329-4027

Subject: State Drinking Water Program Recommendations to EPA and CDC on PFAS

Dear Administrator Pruitt and Director Fitzgerald:

The Association of State Drinking Water Administrators (ASDWA), which represents the 50 states, five territories, the Navajo Nation and the District of Columbia has serious concerns with the growing public health issues associated with Per- and Polyfluoroalkyl Substances (PFAS) in drinking water. ASDWA's members regulate and provide technical assistance and funding for the nation's 160,000 public water systems (PWS), and coordinate with multiple partners to ensure safe drinking water for our nation's 324 million residents.

ASDWA urges EPA and CDC to work in partnership with ASDWA and state drinking water programs, and with the Department of Defense (DoD) to address these growing public health concerns. Our primary recommendation is that a working committee be formed with ASDWA, EPA, CDC, and DoD leadership to work on the list of specific recommendations attached. Given the potential adverse public health implications from PFAS, ASDWA recommends that this group be established as soon as possible.

ASDWA's second urgent recommendation, following the development of a working committee of the pertinent agencies, is for the federal government to develop a unified message to the public and state regulators on what to do about PFAS, and to work in unison with other stakeholders, and in a timely manner, to minimize the potential adverse effects to public health and the environment from PFAS. Knowledge is continually evolving on a wide range of PFAS issues, and this new knowledge needs to be transferred to the public and state regulators in a coherent and cogent manner. Without this unified message and information, we're concerned that several sets of differing risk numbers will be communicated from each agency, which will cause confusion, delay, or worse, no action at all.

For example, three states (Minnesota, New Jersey, and Vermont) have proposed or established PFAS standards or guidelines that are lower than EPA's Health Advisories (HAs). These differences among states demonstrate the difficulty in calculating health risk goals and determining risk reductions without federal standards, and are creating public confusion about what levels of PFAS are safe in drinking water. In addition, EPA's FAQ document and HAs for PFOA and PFOS are unclear on PWS actions for susceptible populations which is causing some states to recommend that water systems issue "do not drink" public notices, while other states are interpreting EPA's HAs to recommend that water systems provide public notice without any explicit actions.

When EPA's 2016 HAs for PFOA and PFOS were combined with the occurrence data from the Third Unregulated Contaminant Monitoring Rule (UCMR3), state drinking water program administrators had to determine how to handle all the information on their own. The result has been some confusion on appropriate actions and a lack of consistent responses from state to state. As the number of PFAS

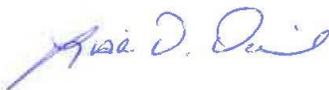
compounds and PFAS contaminated sites continues to grow, so will the complexity and urgency of this problem.

ASDWA and its members provide the enclosed table of recommendations for your respective agencies to implement to address our states' drinking water program challenges that are summarized below:

- Directly engage with states in the development of any new PFAS guidelines, health advisories (HAs), or minimum risk levels, and support current state efforts to ensure the ability of states to assess and address PFAS and the consistency of actions across states.
- Directly engage with states to develop guidance for PWS with clear recommendations to ensure more consistent response actions and protocols, explain the associated health risks with PFAS, and provide clear direction for consumers to reduce their risk from PFAS in drinking water and other identified pathways.
- Conduct more health effects research and develop consistent health effects determinations (risk levels) for known and unknown PFAS.
- Increase funding and support for non-targeted analyses of drinking water for PFAS and substitute compounds to ensure that any potential adverse impacts of new chemicals on groundwater and surface water are identified, and the associated health risks are understood.
- Develop rules or guidance to prevent PFAS from contaminating drinking water through other media (i.e., underground injection control, soil leaching, deposition from air emissions, and wastewater discharges).
- Directly engage with stakeholders and industry to assess and address the universe of known and unknown PFAS compounds that are being used and evaluate fire-fighting foam alternatives, to provide a knowledge base to state media programs for development of guidance and regulations, and to protect drinking water at the source.
- Consider bias and error in analytical methods and develop additional analytical methods for drinking water and other media, develop standards for branched and linear isomers, coordinate with lab vendors, develop guidance for standardization of lab results for PFAS analytes (i.e., acid form and/or different salt forms), and increase lab programs and capacity beyond UCMR3.

Resources for state drinking water programs that address PFAS contamination, in addition to traditional compliance oversight and enforcement for the Safe Drinking Water Act (SDWA) regulations, are already stretched thin. Your leadership in convening these agencies toward a unified solution and message is vitally and urgently needed. Thank you for your consideration of these recommendations. We look forward to discussing them in greater detail and to continue to coordinate with you on efforts to address PFAS in drinking water. If you have questions about these recommendations, please feel free to contact me at ldaniels@pa.gov or contact Alan Roberson, ASDWA's Executive Director at aroberson@asdwa.org.

Sincerely,



Lisa Daniels, ASDWA President and Director, Bureau of Safe Drinking Water Director,
Pennsylvania Department of Environmental Protection

cc: Maureen Sullivan, DoD

ASDWA Recommendations for EPA and CDC to Address State Drinking Water Program Challenges

Topic	<u>ASDWA RECOMMENDATIONS</u> EPA AND CDC MUST DEVELOP AND SUPPORT:	Associated Challenges	Purpose
States	Direct engagement with states to develop any new PFAS guidelines, health advisories, or standards	States have historically relied on EPA to develop standards and most states do not have the expertise to assess and address PFAS, though a few states have developed differing PFAS action levels	To ensure the ability of states to address PFAS and the consistency of actions across states
	Considerations for PFAS as an unfunded mandate	PFAS has added a significant state burden beyond existing SDWA requirements	To ensure the ability of states to address PFAS
PWSs	Direct engagement with states to develop PWS guidance with: <ul style="list-style-type: none"> • Clear recommendations and actions for pregnant women, infants, and other sensitive subpopulations (public notice versus “do not drink”) • Health risk messaging, including other possible exposure routes and mitigation options 	<ul style="list-style-type: none"> • There is a lack of federal leadership to ensure consistent state, PWS and public response actions and protocols and explain the associated health risks • EPA’s HA and FAQ documents are unclear on actions a PWS can take to help public consumers respond to health advisories 	<ul style="list-style-type: none"> • To ensure consistency between different federal and EPA programs • To provide clarity for decision making processes and actions • To reduce public confusion
Health Risks	<ul style="list-style-type: none"> • More health effects research on all PFAS compounds • Consistency between EPA health advisory levels and CDC minimum risk levels (MRLs) 	<ul style="list-style-type: none"> • Different states have set different health advisory levels and standards due to differing opinions among federal and state toxicologists • States are finding more PFAS compounds in source waters that may pose health risks 	<ul style="list-style-type: none"> • To avoid disparities and changes in future decision-making processes • To alleviate confusion by states, PWSs, and the public
Research and Development	Increased funding and support for EPA’s Office of Research and Development laboratories for non-targeted analyses of drinking water for PFAS and substitute compounds	<ul style="list-style-type: none"> • Only 20 to 30 of the thousands of PFAS compounds can be analyzed by commercial laboratories • New substitutes for PFAS and associated breakdown products are not fully understood 	To ensure that the potential adverse impacts to groundwater and surface water from new chemicals are understood and that drinking water is protected
Underground Injection Control	Specific guidance on under SDWA 40 CFR 144.12(a) on the authority to prohibit PFAS discharges into underground sources of drinking water that “may otherwise adversely affect the health of persons”	PFAS used in industrial and commercial settings are being discharged in large quantities to the groundwater via shallow subsurface systems under the Class V UIC program	To prevent the contamination of drinking water and the environment

Topic	ASDWA RECOMMENDATIONS EPA AND CDC MUST DEVELOP AND SUPPORT:	Associated Challenges	Purpose
Soil Leaching Standards	Guidance for bio-solids on maximum PFAS concentrations that will protect drinking water	Biosolids containing PFAS can contaminate drinking water in source water protection areas	To protect drinking water quality
Air Emissions	Assess the Clean Air Act for developing guidance or a rule aimed at preventing air emissions from contaminating drinking water with PFAS	Air emissions at sites in multiple states have contaminated the public and private drinking water supplies of tens of thousands of people	To protect drinking water quality
Wastewater Discharges	Assess the Clean Water Act for developing guidance or a rule aimed at preventing wastewater discharges from contaminating drinking water with PFAS	Wastewater discharges at sites in multiple states have contaminated the public and private drinking water supplies of hundreds of thousands of people	To address PFAS compounds at the source and protect drinking water quality
Source Water Protection/ Source Control	Convening a group of relevant stakeholders and industry to: <ul style="list-style-type: none"> • Include PFAS contents in product labeling • Identify current use of PFAS and non-PFAS products that replaced legacy compounds • Evaluate fire-fighting foam and alternatives that will be less likely to impact drinking water 	<ul style="list-style-type: none"> • It is difficult to assess the fate and transport and toxicity to human health and the environment without knowing which PFAS and other substitute compounds are being used • Fire-fighting foam has contaminated the drinking water supplies of many PWSs 	To proactively and directly engage with PFAS manufacturers and sellers of PFAS products to assess and address the universe of PFAS compounds being used and protect drinking water
Laboratories and Sampling	Efforts to ensure that all future HAs, guidance or standards explicitly include anticipated bias and error in drinking water analytical methods	Errors in lab results have led to incorrect determinations for health advisory level exceedances and associated response actions	To ensure accurate results and associated state and PWS response
	Additional PFAS analytical methods for drinking water, wastewater, and other media	It is difficult to determine the source of PFAS and require generators to limit discharges	To investigate and address PFAS compounds at the source
	Development of lab/standard grade PFAS standards that contain branched and linear isomers	Available lab standards do not include branched isomers for some PFAS compounds	To clarify isomer identification and differentiation
	Coordination with manufactures to ensure standards are consistent from one vendor to another	Certified standards from different vendors differ by as much as 20%	To ensure consistency among vendors
	Guidance for standardization of laboratory results	Acid forms and/or different salt forms of PFAS analytes are incorrectly listed and reported	To ensure accuracy, clarity, and consistency of sample results
	Ongoing laboratory programs, capacity, and sampling efforts to assess PFAS compounds at lower detection limits and in targeted smaller communities not included in UCMR3	<ul style="list-style-type: none"> • Lab accreditation is not supported after the UCMR • States are finding more PFAS compounds in source waters at lower detection limits and in smaller communities 	To ensure lab capacity to assess and address the occurrence of all PFAS compounds beyond the UCMR3



Massachusetts - Lead and Copper Rule and Lead in School Drinking Water Assistance Program Summary

MassDEP has been working closely and cooperatively with EPA to implement the Lead and Copper (LCR) rule. Among the agency's most remarkable actions are:

- The development of an informational survey for public water suppliers (PWS) relative to their lead service lines (LSLs) actions and consumer communications and transparency. This survey helped to identify an estimate of the existing LSLs locations in Massachusetts.
- After each LCR monitoring round, all public water systems (PWS) received a user friendly, comprehensive status and action plan that guide any and all follow-up actions.
- MassDEP is working diligently with PWSs that have exceeded the Lead Action Level (ALE) to ensure that they conduct all the required follow-up. The list of the PWSs with ALEs is posted on MassDEP's website at <https://www.mass.gov/files/documents/2016/08/wk/pb90.csv>
- As part of the LCR, PWSs are required to sample two locations from at least two schools/childcares facilities each monitoring period. These samples are not LCR compliance samples but are used as diagnostic samples to jumpstart or enhance school district education on lead in school drinking water programs.
- MassDEP also uses information from school sampling to evaluate the effectiveness PWS corrosion control treatment practices.
- MassDEP has expanded DWSRF eligibility to allow PWS who are rehabilitating water mains, to include as part of the loan, the cost to fully replace any encountered lead service lines (LSL), including the privately-owned portion of the LSL, up to the water meter.
- The Drinking Water Program (DWP) facilitates prompt reporting with electronic tools: monitoring data reporting via eDEP (<https://edep.dep.mass.gov/>) and school actions data reporting via the Lead Control Contamination Act (LCCA) Program Management Tool (<https://script.google.com/macros/s/AKfycbxP99K-Cd5B3ioE7nsw0peOEndcGrXwV6zJcS5iHxzGO55B1k/exec>).

Massachusetts - Schools, Lead Contamination Control Act

In 2016, MassDEP implemented a program offering free lead testing for publicly owned or operated schools. The Program provided technical assistance and laboratory analysis to 818 schools from 153 different communities. A total of 55,919 samples were collected from 31,832 fixtures. The key findings of this project are:

- Of the total samples analyzed, about seven percent exceeded the Action Level (AL) for lead only, one percent exceeded for both lead and copper, and 1 percent exceeded for copper only;
- First draw samples were more likely to exceed an AL than flush samples, with 13 percent of first draw samples exceeding an AL and four percent of flush samples exceeding an AL;
- Approximately 72 percent of participating school buildings had one or more fixtures exceeding the AL for lead or copper; whereas 28 percent did not have any AL exceedances.
- Per guidance provided by the Program, once schools received their sampling results, they were encouraged to shut off all fixtures with AL exceedances, and to communicate the results as well as short-term action plans to parents and staff.
- Actions taken to address elevated copper or lead levels included removing and replacing fixtures, using signage to indicate fixtures not intended to be used for drinking water, and implementing water line flushing programs.
- MassDEP developed guidance documents for Point of Use treatment devices and Flushing.

MassDEP's Assistance Program for lead in school drinking water is currently on Phase 2 (note: 60 percent of schools did not participate in Phase 1 of this voluntary program) and includes:

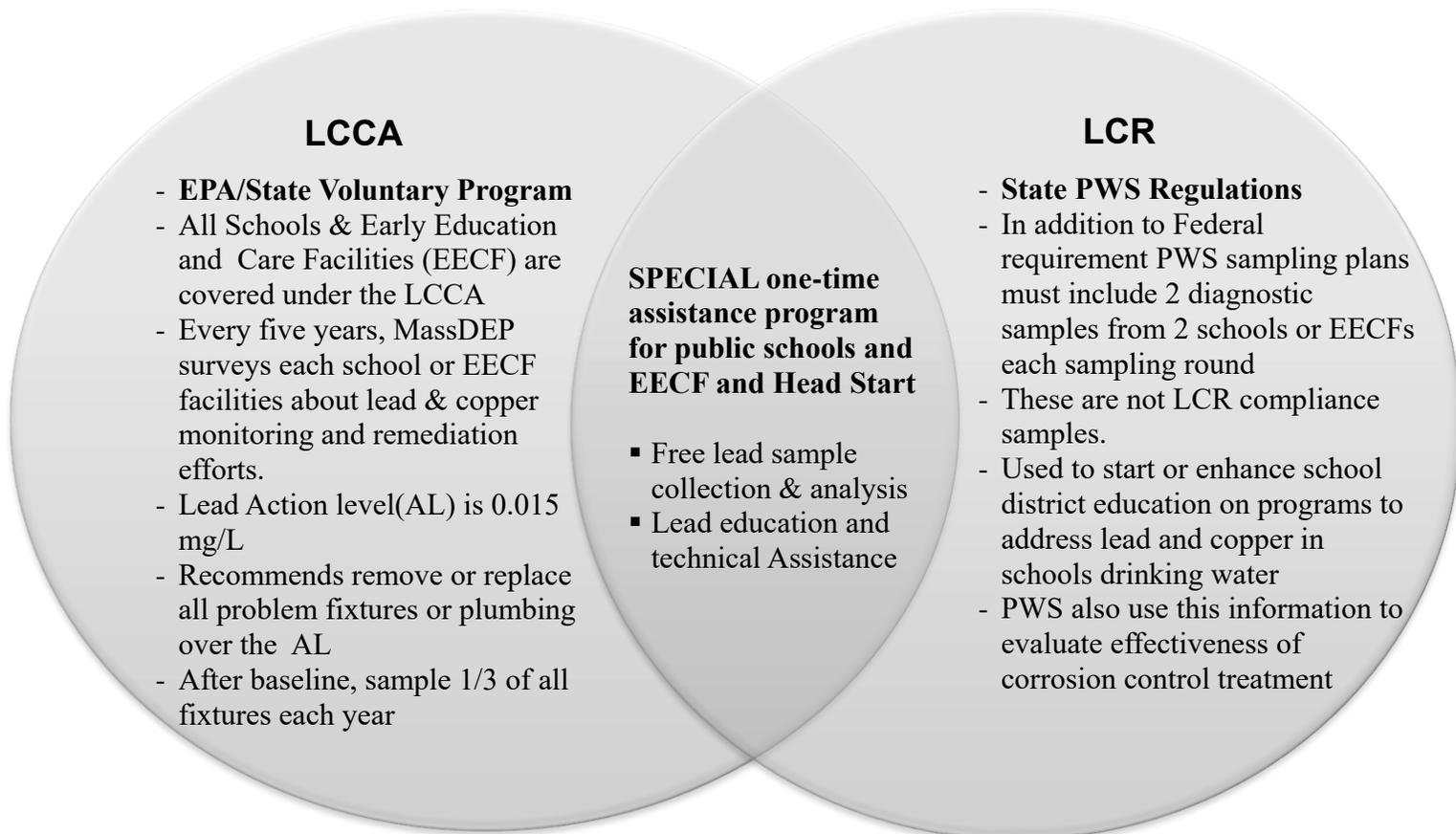
- Privately owned and operated Head Start and special education programs as a way to reach out to the most vulnerable population.



- Comprehensive user friendly web guide and tutorial for schools/daycare facilities to set up a lead and copper sampling program on their own (or to revamp what they already do, without MassDEP assistance. This was created with assistance from the University of Massachusetts (UMASS) Donahue Institute.
- Educational information via refrigerator magnets, posters and bookmarks for home daycare providers.

For more information about this initiative see: <https://www.mass.gov/assistance-program-for-lead-in-school-drinking-water>

LCCA & LCR IN MASSDEP DRINKING WATER PROGRAM



For more information on the Massachusetts Department of Environmental Protection Drinking Water Programs on Lead:

- Website: <https://www.mass.gov/lists/lead-in-drinking-water>
- Email: Program.director-dwp@state.m.us
- Phone #: 617-292-5770

APPENDIX D
Lead Service Line Replacement Rebate Program
Through the VDH

The Safe Drinking Water Act (SDWA) requires EPA to determine the level of contaminants in drinking water at which no adverse health effects are likely to occur with an adequate margin of safety. These non-enforceable health goals, based solely on possible health risks, are called maximum contaminant level goals (MCLGs). EPA has set the maximum contaminant level goal for lead in drinking water at zero because lead is a toxic metal that can be harmful to human health even at low exposure levels. Lead is persistent, and it can bio-accumulate in the body over time. In support of the MCLG the American Waterworks Association (AWWA) encourages communities to develop a lead reduction strategy that includes identifying and removing all lead service lines over time.

Beginning in 2017 the VDH/ODW implemented a lead service line replacement rebate program under the Water Supply Assistance Grant (WSAG) Program and/or the State Revolving Loan Fund (DWSRF) Program to support the goal of removing all lead service lines. This program was implemented to help defray the service line replacement costs as a cost sharing program to home/property owners and assist the waterworks in reducing potential risks related to lead exposure in drinking water to its customers.

The presence of a lead service line connecting a residence/home to the main in the street can lead to elevated lead levels in tap water, especially if that water sits stagnant for an extended period. While the service line from the meter to the residence is the responsibility of the property owner costs to replace this line may be as high as \$10,000 for each connection with average costs of \$3500 to \$3900. For many property-owners this is cost prohibitive and as a result service lines are not replaced. In Virginia there are thousands of lead service lines that would be eligible for replacement. For waterworks the challenge has been finding property-owners who wish to cooperate in service line replacements as partial line replacements are not recommended. The lead lines tend to be in older communities constructed prior to 1980s. The American Waterworks Associations has proposed a best practices goal for waterworks of replacing 10% of lead service lines each year in its *Get the Lead Out Program*.

These program guidelines and requirements have been developed by a stakeholders group, reviewed by the Waterworks Advisory Committee, underwent a 60 day public comment period, followed by a public hearing.

Eligibility:

1. Community waterworks or non-profit non-transient waterworks owners who have confirmed or suspected lead service lines (includes utility and/or customer portion of the service line). All lead pipes between the house (including entry point) and the main (including pig tails) would be eligible. The LSL includes pipe entry into the structure (up to and including a shut off valve) but excludes the premise plumbing. Galvanized service lines that are or were connected to lead service lines may be considered for funding. VDH reserves the right to fund pre-award costs.
2. Waterworks owners may be eligible to receive grant rebates of the lesser of the actual cost of replacement or \$5,000 per service line replaced for the private portion of the LSL replaced. Up to \$500 of the \$5,000 may be used for administrative/investigative work required to facilitate the LSL replacement. The LSL replacement must be a complete replacement if partial replacement has not taken place yet. Partial replacements are eligible if the action completes the replacement of the lead service line.

3. Waterworks owners must commit to providing the private/customers portion of the rebate directly to property owners or authorized third party within 30 days of receipt. VDH reserves the right to limit the \$500 per LSL funding to waterworks to a maximum of \$25,000.
4. In an effort to maximize access to the program VDH reserves the right to limit grant/principal forgiveness funding to a maximum of \$500,000 per applicant per funding year or 12 month award period. Agreements will be for a 12 month period with one 12 month renewal.
5. Residences, apartments, daycares, private schools, and other facilities where sensitive populations may be present are eligible.

Process and Timeline:

1. 3 Stakeholders group meetings via poly-com 6 locations statewide
2. Draft program guidelines were prepared in October 2016
3. A 60 day public notice and public comment period was held in January 2017
4. WSAG program guidelines were finalized March 1, 2017
5. First applications were received starting April 1, 2017
6. Awards were made June 2017
7. Disbursements were eligible after June 30, 2017
8. Confirmation of the following must be submitted with the disbursement request:
 - Completion of the lead service replacement (e.g. plumbing invoice to property owner or to the waterworks showing the address of the work and total cost of work)
 - Waterworks confirmation completion (e.g. copy of waterworks or final building inspectors report)
 - Waterworks payment confirmation of past rebates provided to the home owners or authorized third party to avoid any duplicate payments. Property addresses must be shown.
 - A running tally of all residences/addresses that had service line replacements done under this program to avoid any duplicate payments. Property addresses must be shown.
9. Waterworks are eligible to submit requests quarterly.