

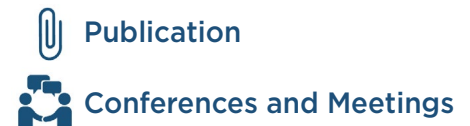
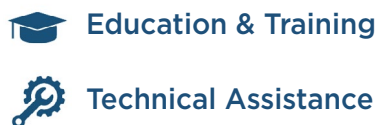
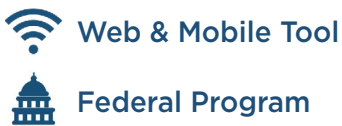
# Building Security and Resilience in the Water Sector

The Water and Wastewater Systems Sector **Critical Infrastructure Partnership Advisory Council (CIPAC)**, which is comprised of the Water Government Coordinating Council (WGCC) and Water Sector Coordinating Council (WSCC), works to plan, coordinate and implement programs to support security and resilience within the sector.

The WSCC consists of Water Sector associations who develop security and resilience policy and strategy in coordination with the federal and state agencies who comprise the WGCC.




**To learn how the Water and Wastewater Systems Sector CIPAC supports Water and Wastewater Systems visit [www.dhs.gov/cisa/water-and-wastewater-systems-sector](http://www.dhs.gov/cisa/water-and-wastewater-systems-sector)**

This document describes the collaborative role each organization within the Water Sector CIPAC plays in supporting water security and resilience and outlines the key materials and resources they have developed in support of their missions. These materials and resources educate the drinking water and wastewater sector about preparedness, response and recovery activities and equip the sector with tools for enabling and improving its efforts in these areas.






## U.S. Environmental Protection Agency (EPA) Water Security Division

Enhances the security and resilience of the water sector by providing innovative tools and exercises.

-  **Route to Resilience** uses videos and a user-friendly interface to guide the user through the process of building their resilience to all hazards.
-  **VSAT Web 2.0** enables water utilities to assess risk and resilience from natural hazards and malevolent threats to improve security and resiliency and to comply with America's Water Infrastructure Act (AWIA).
-  **Emergency Response Plan Template and Guidance** assists water utilities with developing an Emergency Response Plan in accordance with AWIA and outlines strategies, resources, plans and procedures that utilities can use to prepare for and respond to an emergency, natural or man-made.

## Office of Research and Development

Conducts applied, stakeholder-driven research and responsive technical support to help solve the nation's environmental challenges.

-  **Environmental Sampling and Analytical Methods (ESAM) Program** is a comprehensive program to facilitate a coordinated response following an intentional or accidental homeland security-related contamination incident.
-  **Water Security Test Bed (WSTB)** is a full-scale representation of a drinking water distribution system designed to support evaluations of water infrastructure decontamination, water treatment, cybersecurity and resiliency.
-  **Water Infrastructure Modeling Tools** focus on modeling of threats to water systems and detection of contamination events using EPANET, CANARY, TEVA-SPOT and more.



## American Water Works Association

### American Water Works Association (AWWA)

Provides multiple resources that build the foundation for a water utility's development of an all-hazards risk and resilience management strategy.



#### Utility Risk & Resilience Certificate Program

provides 10hr/1.0 CEU on water sector standards that represent minimum best practice, including G430, G440, J100 and Cybersecurity.



#### Water Sector Cybersecurity Risk Management Guidance & Assessment Tool

provides a critical baseline for determining which cybersecurity controls are most applicable to a utility's information and operations technology functions.



#### Water Sector Resource Typing Guidance

facilitates the development of resource types for water sector personnel, teams and equipment, enabling the development of mission-ready packages and expedited mutual aid requests and responses.



### Association of State Drinking Water Administrators (ASDWA)

Coordinates with EPA and other organizations to share water security information and conduct trainings and workshops targeted toward state primacy agencies.



Newsroom is an online resource that can be filtered to view the most current information and opportunities related to drinking water security.



Video Library can also be filtered to view ASDWA's most recent webinars related to drinking water security.



### Water Information Sharing and Analysis Center (WaterISAC)

Enhances the security of water and wastewater utilities by providing information and tools for prevention, protection, mitigation, response and recovery for all hazards.



Online library provides members with 24/7 access to approximately 10,000 resources covering a range of water security and resilience topics.



#### Semiweekly Security and Resilience Updates, semiannual Threat Analyses for the Water and Wastewater Sector and ad hoc Alerts

offer tailored information about threats to the sector and advice on protective and mitigating measures.



Cybersecurity Resources include monthly Water Sector Threat Briefings and the **15 Cybersecurity Fundamentals for Water and Wastewater Utilities.**



### ASSOCIATION OF METROPOLITAN WATER AGENCIES

### Association of Metropolitan Water Agencies (AMWA)

Works with federal agencies and the private sector to address security and sustainability challenges and informs its members about policies, initiatives and strategies to support resilient, sustainable utilities.



#### Insurance, Bond Ratings and Climate Risk Primer

explores how climate change is affecting the insurance industry's perception of water utilities' risk portfolios and how utilities can respond.






Sustainability & Security Report is a monthly, members-only newsletter that includes security and sustainability news relevant to the water sector.





## National Rural Water Association (NRWA)

The national and state rural water association emergency response network provides personnel, equipment and management services to the nation's 46,000 small and rural communities.

-  **NRWA Emergency Response Training** is designed for small and rural water system personnel to assist utilities in response to emergencies and includes classroom and in-field training.
-  **Workforce Resiliency: NRWA Apprenticeship Program** certifies water worker proficiency with an industry-led, nationally recognized, federally sanctioned credential with 4,000 hours of on-the-job training and 280 hours of classroom instruction.
-  **Cyber Security Data Breach Insurance** is an innovative and unique service designed to protect the customers of utilities that have suffered a cybersecurity data breach.



## National Association of Regulatory Utility Commissioners (NARUC)

NARUC members regulate investor-owned water utilities services, working with DHS and others on cyber, infrastructure and interdependency issues.

-  **Critical Infrastructure Security & Resiliency: Resiliency Through a Black Sky Event** provides resources focused on water utility response to a Black Sky event.
-  **Resilience in Regulated Utilities** is a paper that serves as a conversation-starter for policy-makers working throughout the utility sectors - particularly State commissions surrounding investments in utility resilience.
-  **WaterISAC Presentation to NARUC on Maintaining Security of our Water Utilities.**



## National Association of Water Companies (NAWC)




To effectively convey the leadership, proven compliance record and performance of regulated water and wastewater utilities in preparedness, resilience and security-related standards.

-  **The NAWC Cybersecurity Symposium** brings industry, regulators and federal partners together to discuss emerging threats, best practices and innovative solutions in the complex cybersecurity landscape.
-  **The NAWC Safety, Security & Environmental Committee** is an essential mechanism for educating regulated utilities about the development and implementation of forward-thinking methods to advance resilience.
-  **The NAWC Safety/Security Survey** measures the performance of regulated utilities against key safety and security metrics and allows for voluntary benchmarking.



## Rural Community Assistance Partnership (RCAP)

A national network of non-profit partners assisting rural and tribal communities with access to safe drinking water; sanitary wastewater; economic development and technical, financial and managerial capacity to improve quality of life.

-  **E-learning training modules and in-person training** educate utilities on topics including Compliance with AWIA, Security Practices, Risk and Resilience, Emergency Planning and Cybersecurity.
-  **Technical Assistance** in addressing risk and resilience assessments and emergency response plans, maintaining secure water infrastructure and minimizing service interruptions.
-  **Emergency Response Planning Guide for Public Drinking Water Systems.**







## Water Environment Federation (WEF)

Connects and enriches the expertise of water professionals, increases the awareness of the impact and value of water and provides a platform for water sector innovation.

 **[Emergency Planning, Response and Recovery e-book](#)** helps utilities develop an emergency response plan to recover from events such as infrastructure failure, natural disasters and man-made incidents.


 **[Safety, Health and Security in Wastewater Systems](#)** serves as an injury-reduction tool, providing procedures and guidelines for creating programs and ensuring the ultimate safety of employees.


 **[AccessWater.org](#)** is a library for online technical content including proceedings from WEFTEC and WEF Specialty Conferences, publications, e-books, technical reports, fact sheets and more.



## Association of Public Health Laboratories (APHL)

Strengthens laboratory systems serving the public's health in the United States and globally.

 **[A Freshwater Algal Toxin Guide for Public Health Laboratories](#)** provides resources for environmental public health laboratories considering implementation of freshwater algal toxin testing.

 **[Private Well Sampling and Testing - A Guide For Public Health Laboratories](#)** provides information on private well testing and protection measures along with federal, state and local resources for well owners and laboratories.




THE  
Water  
Research  
FOUNDATION

## The Water Research Foundation (WRF)

Advancing the science of water to improve the quality of life.

 **[WRF Synthesis Report on Resilience Topic.](#)**

 **[WRF Project 4319 - Business Continuity Plans for Water Utilities.](#)**

 **[WRF Project 4842 - Enhancement of Resilience to Extreme Weather and Climate Events: Proactive Flood Management.](#)**



This document was created in collaboration with EPA's partners who are working to build a more secure and resilient water sector.

To learn more about EPA's role in water sector resilience, visit [www.epa.gov/waterresilience](http://www.epa.gov/waterresilience).