



Aqua Turf Club

March 3, 2026

30th Annual ATCAVE -Wave of the Future

March 3, 2026

Program

Get the most from ATCAVE by earning Training Contact Hours (TCH) toward your Connecticut Treatment and Distribution System Operator Certification. Select from tracks in Water Quality and Treatment, Distribution and Storage, or Management.

SESSION A-1: WATER QUALITY AND TREATMENT

2.0 TCH

9:00 AM-11:00 a.m.

PFAS Rule Initial Monitoring

Aaron Medford, Environmental Analyst, Emerging Contaminants Unit, DPH Environmental Health Section

After a high-level presentation on the PFAS rule, this presentation will take a deeper dive into the initial monitoring requirements, using previously acquired data and how initial monitoring data will be used to establish compliance monitoring schedules.

Engineered for Impact: A Guide to GAC Design & Startup

Dana Bartoletta, Calgon Carbon Corporation

Granular activated carbon (GAC) filtration is considered a best available technology for contaminants such as per- and polyfluoroalkyl substances (PFAS), volatile organic compounds (VOCs), and taste and odor (T&O) compounds. More utilities are considering adding GAC filtration into their treatment process due to its multi-contaminant barrier properties, so understanding how to design and commission GAC filters is essential to success. Pressure vessel design is frequently underemphasized, with design decisions often driven by capital cost and not considering long-term impacts on performance, hydraulics, and maintenance. Although most engineers know the key media design parameters, many overlook the key equipment design components. With respect to commissioning, fresh GAC requires rinsing due to temporary increases in pH and soluble metals. Although startup rinsing is not new, the volume of rinse water required is typically glossed over and should be accounted for when designing GAC treatment systems. This presentation will provide industry professionals with valuable information regarding GAC vessel design and operational best practices to decrease rinse water requirements.

Tackling Emerging Contaminants in a Complex Groundwater Source

Megan Olson, Tighe & Bond

When PFAS contamination was discovered in the Grafton Water District's Worcester Street Well following a replacement well and pump station upgrade, the District initiated an on-site pilot study to better characterize this critical source. What appeared to be a straightforward PFAS treatment problem revealed a highly variable and challenging water quality profile—marked by elevated manganese, high natural organic matter, and rapidly shifting PFAS concentrations.

Pore Surface Diffusion Model to Predict PFAS Breakthrough

Matthew O'Dowd, Kleinfelder

Scott Grieco, Kleinfelder

Kleinfelder evaluated two Massachusetts water treatment plants for PFAS removal using predictive modeling with AdDesignS and the Shiny-GAC optimization add-on tool. The goal was to optimize operations and reduce costs while maintaining compliance with PFAS regulations. The study modeled existing media capacity using site-specific parameters and historical data for PFAS of concern. Quarterly running annual averages (RAAs) for PFOA and PFOS stayed below regulatory limits when GAC was replaced on a schedule for compliance within the PFAS6 limit.

SECTION B-1: DISTRIBUTION AND STORAGE

2.0 TCH

9:00 a.m. to 11:00 a.m.

Tools for Water Systems to Prepare for Upcoming MDBPR Change

Amy Anderson George, Arcadis

James Collins, Arcadis

The National Drinking Water Advisory Council has recommended major updates to the US EPA's Microbial and Disinfection Byproducts Rule (MDBPR), including a new federal requirement for a numeric minimum disinfectant residual in all distribution systems. This anticipated regulatory shift will require public water systems to adopt more rigorous monitoring, operational, and compliance strategies to ensure public health protection and regulatory alignment.

Reactivation of the Housatonic Wellfield

Michael Kapareiko, Weston & Sampson Engineers

Dennis Fields, Aquarion Water Company

The Aquarion Water Company's Housatonic Wellfield in Shelton, CT is one of the highest capacity wellfields in New England. The Wellfield was constructed in the 1950s and had a reported initial capacity of 24 million gallons per day (MGD), but was deactivated circa 2002 due to high operating costs. A recent CTDEEP Diversion Permit condition requires reactivation of the wellfield to support the transfer of approximately 12.56 MGD of potable water to lower Fairfield County. Prior to reactivating the Wellfield, Weston & Sampson and SB Church inspected and redeveloped each of the existing wells in preparation for a simultaneous 10-day pumping test to support a new safe-yield determination for the eight production wells and obtain CTDPH Well Water Quality and Quantity approval. This presentation will review the challenging logistical steps required to discharge over 14,000 gallons per minute (20.3 MGD) into the Housatonic River. The unique analytical methods utilized to demonstrate water-level stabilization and obtain CTDPH approval of a projected maximum safe yield using alternative methodology will also be presented.

Strategies to Reduce Unknowns and LCRI Compliance Risk

Erica Walker, Arcadis

The upcoming Lead and Copper Rule Improvements (LCRI) sets a 10-year annual replacement rate based on the number of lines utilities classify as lead (LSLs), galvanized requiring replacement (GRR), and unknown in the fall of 2027. This leaves utilities little time to quality control and advance service line inventories before being saddled with a challenging compliance goal. In this session, we will present case studies from utilities across the U.S., including Connecticut, who were able to significantly reduce unknown services, evaluate GRRs, and locate LSLs.

Growth and Resilience: New Era of Water Storage in Waterbury

Ryan Neilan, Apex Companies

Steven Ignatowich, Apex Companies

In 2022, Waterbury CT confronted two issues in their boosted service zone at the northern border of their distribution system. Their 1.5 million gallon (MG) welded steel storage tank required extensive repairs and population projections indicated more water would be required to service a growing population. To address these issues, Apex assessed the City's storage needs by designing two 1.0 MG prestressed concrete tanks to increase storage capacity, create redundancy, and make the City's water system resilient to future growth.

SESSION C-1: MANAGEMENT

2.0 TCH

9:00 a.m. to 11:00 a.m.

Non-Revenue Water Reduction Challenges and Technologies

Lou Rossetti, Orbis Intelligent Systems

This proposed presentation explores the critical challenges facing water utilities today—drought and source water restrictions, aging infrastructure, and an aging workforce—and how these issues contribute to the growing problem of Non-Revenue Water (NRW). With U.S. utilities losing billions of gallons of treated water daily due to leaks, and facing decades-long timelines for infrastructure replacement, innovative and cost-effective solutions are urgently needed. The session highlights emerging trends and technologies, including smart water systems, acoustic and satellite leak detection, and regulatory shifts aimed at improving water conservation. A comparative analysis of valve-based and hydrant-based leak detection methods is provided, emphasizing ease of deployment, cost, and long-term sustainability. Attendees will gain insights into proactive strategies for NRW reduction and workforce adaptation, equipping them to make informed decisions in a rapidly evolving industry landscape.

Dam EAP Exercises: An Essential Component of Dam Safety

Barry Parfitt, Wright-Pierce

In Connecticut, many dams are required to maintain and regularly update a written Emergency Action Plan (EAP), including conducting exercises every two years. These exercises are vital for ensuring readiness and coordination among dam owners, emergency responders, and local communities. This presentation will explore the three primary types of EAP exercises—tabletop, functional, and full-scale—and provide practical guidance on how each can be effectively implemented to enhance dam safety and emergency preparedness.

Optimizing Water Supply Sources for Cost Efficiency

Lauren Bergman, CT Water Company

David Bergman, University of Connecticut

The Connecticut Water Company (CWC) serves more than 100,000 customers statewide through a mix of small and large systems supplied by both groundwater and surface water sources. Three of its largest systems, located adjacent to one another, draw from 12 sources, each with distinct production costs and daily capacities. At present, only two of the systems are interconnected, and transfers primarily flow in one direction. Source costs, driven by electricity and chemical usage, and production capacities, limited by safe yield and regulatory constraints, vary significantly across the 12 sources.

A linear optimization model was developed in Excel to identify the least-cost allocation of production among the 12 sources under multiple interconnection scenarios: the current configuration, interconnections between previously separate systems, and full integration of all three systems into a single operating unit. Each scenario was evaluated under both current and projected future demands. Results demonstrate that supply optimization improves cost effectiveness under all tested conditions, including the existing interconnection.

Emergency Turbidity Reduction, Lessons from Hurricane Helene

Michael Meeks, CDM Smith

Tropical Storm Helene struck western North Carolina on September 27, 2024, dropping over 24 inches of rain. Severe erosion caused heavy solids loading in the Burnett Reservoir, Asheville's primary drinking water source, overwhelming the North Fork Water Treatment Plant's filtration system. To restore potable water, CDM Smith and Ahtna were contracted to install an emergency pretreatment system within 20 days. This included barges, pumps, piping, and 13 modular Dissolved Air Flotation (DAF) tanks with chemical dosing providing 25 MGD capacity. This presentation discusses the challenges of maintaining continuous operations under variable water quality, shifting flow demands, and dynamic weather conditions.

SESSION A-2: WATER QUALITY AND TREATMENT

2 TCH

1:00 p.m. to 3:00 p.m.

Kleinfelder's New England PFAS Treatment Regional Survey

Kirsten Ryan -Kleinfelder

In early 2023, Kleinfelder performed a survey of New England community water system managers to gather data on PFAS treatment implementation including type of treatment and capital and operational costs. The cost data gathered supported national policy advocacy. Three years later, many more systems are up and running; and with EPA MCL compliance on the horizon, many others are in process. We will present an update on the 'state of the New England states' relating to PFAS media type, capital and operation costs, as well as lessons learned.

Lower Cost Method for PFAS Removal

Jim Hill, Reginal Water Authority

Regional Water Authority (RWA) will describe a novel way to remove long chain PFAS compounds at a lower life cycle cost (patent pending) from both groundwater and surface water sources.

P Regulating Engineered Soil from Water Treatment Residuals

Sherwin Gormly, Reginal Water Authority

William Henley, Reginal Water Authority

This study (Phase I) took RWA BUD compliant sludge, created soil/sludge mixes and demonstrated their robust treatment of P(bioavailable phosphorus), low overall runoff P concentration potential and the potential for their use as engineered soil. This use covers multiple water quality inputs as well as robust plant growth in the soil media.

The test was intended to be a simple and represents a bioassay for vascular plant growth as well as P uptake in residual engineered soils, while following an operationally simple, inexpensive and repeatable batch test protocol.

The purpose of this study was primarily directed toward supporting the continued beneficial use designation (BUD) and creating a targeted, appropriate and circular economy viable use model for RWA water treatment plant treatment residuals. This work is important for developing a distinct and separate recycle path for drinking water solids, separate from wastewater solids use, which may be critical to their use and continued economic viability in the circular economy.

MOPO at the West Parish Filters

Jacob Cantor, Hazen and Sawyer

The Springfield Water and Sewer Commission (Commission) is performing modifications to their existing infrastructure to prepare a project site for the construction of a new, 65 MGD Water Treatment Plant. The Commission engaged in extensive planning to relocate critical utilities while maintaining operations at their existing treatment facilities. The presentation reviews these planning efforts, including hydraulic analysis and construction sequence development, and how they allowed the project team to adapt to issues during construction.

SECTION B-2: DISTRIBUTION AND STORAGE

2.0 TCH

1:00 p.m. to 3:00 p.m.

Highlights of the Lead and Copper Rule Improvements (LCRI)

Cindy Sek, Supervising Environmental Engineer, Lead and Copper Rule Implementation Unit, DPH Drinking Water Section

High level overview of the requirements of the Lead and Copper Rule Improvements (LCRI). Topics will include: Development of a lead service line inventory and replacement plan; changes to the lead action level and tap monitoring requirements and lead testing in schools and childcare facilities.

Getting the Lead Out: Tracking Orthophosphate Effectiveness

Alexa Persich, H2M Architects & Engineers

In 2022, the Village of Garden City detected elevated lead levels in its drinking water, exceeding the EPA's 15 ppb action level under the Lead and Copper Rule (LCR). In response, the Village implemented corrosion control using orthophosphate, reducing lead solubility by forming a protective film on pipes. Since treatment began, lead concentrations have steadily declined compared to baseline data, confirming orthophosphate's effectiveness in stabilizing water chemistry and limiting lead release from service lines. The Village adopted the enhanced sampling protocol under Lead and Copper Rule Improvements (LCRI), utilizing both 1-liter first-draw and 5-liter sequential flush samples. This approach revealed that service lines are the primary lead source, as 5-L samples showed higher levels as opposed to household plumbing. Extended 10-minute flush samples at first showed elevated lead levels, however consistently returned non-detect results post-treatment, demonstrating flushing as an effective mitigation step. Combining orthophosphate treatment and enhanced sampling, has strengthened regulatory compliance and public health protection, ensuring a sustainable reduction in lead levels.

Horizontal Directional Drilling for Water Main Crossings

Kristen Chan, Tighe & Bond

This presentation will present an overview and lessons learned from a recent case study in Winchendon, Massachusetts, where a trenchless technology was utilized to cross structures along a major water transmission main. We will explore the unique design and construction coordination required for horizontal directional drilling to complete multiple stream crossings, along with lessons learned that can be applied to future projects. Attendees of the presentation will learn about available trenchless technologies, understand what is required for a successful design, and explore potential alternatives and applications on complex infrastructure crossings.

Map It Like It's Hot: GPS Accuracy in Action

Mark Henke, H2M architects + engineers

The Water District recently completed a comprehensive update of their GIS dataset, successfully verifying and enhancing the spatial accuracy of hundreds of system and hydrant valves. This presentation outlines the methods, technologies, and outcomes of the project, which aimed to strengthen the District's water infrastructure data for improved operational efficiency and long-term planning.

SECTION C-2: MANAGEMENT

2.0 TCH

1:15 p.m. to 3:15 p.m.

From Data to Action: AI for Water Asset Management

Chuck Krohg, VODA.ai

As utilities face growing pressure to maximize performance and stretch limited resources, many are turning to artificial intelligence and machine learning to support more informed infrastructure decisions. This session will explore how data-driven risk modeling is being used to guide capital planning, leak detection deployment, and overall system reliability efforts.

Making SCADA Data Work

Themba Chirambo, Aquarion Water Company

Making SCADA Data Work: A Practical Approach to Cloud Analytics in Water Utilities Water utilities are under growing pressure to enhance operational efficiency, meet regulatory standards, and maximize asset performance. While SCADA systems generate extensive process data, converting this raw information into actionable insights remains a key challenge. This presentation showcases a case study on transforming SCADA Historian data into meaningful analytics using Aveva Insight. It explores how water treatment and distribution data was integrated into the cloud to enable real-time dashboards, predictive alerts, and informed decision-making. Key technical topics include: - Architecting historian-to-cloud data pipelines - Visualization techniques for large-scale datasets - Customizing KPIs for water utility operations Attendees will gain both a technical blueprint for implementing historian-driven analytics and a strategic perspective on how these solutions deliver measurable value across utility operations.

Presentation: Drinking Water Section Update

Christopher Roy, Section Chief, DPH Drinking Water Section

An overview of recent and potential changes impacting water systems in Connecticut. Topics will include: general drinking water updates, regulatory updates and process updates

How the MDC Modernized Hydrant Management with GIS

James Wysor, The Metropolitan District Commission

Matt Skehan, The Metropolitan District Commission

The Metropolitan District (MDC) maintains more than 12,000 fire hydrants. For decades, flushing and maintenance were managed with paper hydrant cards. Maintainers received a stack of cards each morning, went to the field, and returned them for manual filing at the end of the day. The process was familiar but time-consuming, hard to track, and prone to data gaps and errors.



30th Annual ATCAVE Registration-Wave of the Future March 3, 2026

Name: _____ Email: _____

Company: _____ Phone: _____

Please circle sessions registering for:

Morning Session

A1: Water Quality & Treatment (9:00am) B1: Distribution & Storage (9:00am) C1: Management (9:00am)

Afternoon Session

A2: Water Quality & Treatment (1:00pm) B2: Distribution & Storage (1:00pm) C2: Management (1:00pm)

Full Day Price Includes AM & PM Session & Lunch

\$195.00 Member Price

\$195.00 Utility Member Price

\$250 Non Member Price

½ Day (either morning or afternoon session) Includes Lunch

\$150.00 Member Price

\$150.00 Utility Member Price

\$200 Non Member Price

Lunch Ticket Only \$55.00

Exhibitor Ticket \$55.00

Student Ticket- Complimentary

Total Fee: _____

Online Registration can be found at: [Home | 30th Annual ATCAVE](#)

Payment Options:



Credit Card: Secured payment link will be send for credit card payments



Check: Please make checks payable to CTAWWA and mail along with this form to;

CTAWWA, P.O. Box 330472, West Hartford CT 06133

☐ Check here if you have a disability and require accommodations to fully participate. You will be contacted by CTAWWA

Attendee Cancellation Policy: Written notification is required and must be received by Feby 27th. A 25% service fee will be retained on all cancellations. No refunds will be given after February 27th.

Email registration to longoctawwa@gmail.com

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